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MUSEUM OF ZOOLOGY, UNIVERSITY OF MICHIGAN, NO. 75

# The Birds of Michigan

*by*

NORMAN A. WOOD

ANN ARBOR  
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The Miscellaneous Publications, which include papers on field and museum techniques, monographic studies, and other contributions not within the scope of the Occasional Papers, are published separately, and as it is not intended that they will be grouped into volumes, each number has a title page, and when necessary, a table of contents.

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# The Birds of Michigan

*by*

NORMAN A. WOOD

*To Priscilla -*

*Happy Birthday!*

*Norm*

*Oct 26, 1953*

ANN ARBOR

UNIVERSITY OF MICHIGAN PRESS

TO  
JESSE J. RICKS  
THIS BOOK IS DEDICATED  
IN GRATEFUL APPRECIATION  
BY HIS FRIEND  
NORMAN A. WOOD

## FOREWORD

Because of the friendship that has grown out of twenty-five years of association with Norman Wood in a museum and in the field and because he has been a continuing source of inspiration to me, I gladly accept the opportunity to write the Foreword to his book.

The influence of Norman Wood on the lives of scores of young men can never be adequately expressed. To many a youth of high-school and college age he has taught the lessons best learned by a critical study of nature. To many he has unveiled and demonstrated the peace and contentment, the tolerance and understanding which come to those who learn to feel at home in the woods and fields. To his associates he has given encouragement and inspiration by his unfailing faithfulness, unselfishness, and devotion to his work and to the institution he has served for fifty-one years. All in all he has well earned the title "naturalist."

A distinguished scholar has recently defined the free university as "an organ for the increase of knowledge, a fellowship united by a common faith in the intelligibility of the universe, and a common devotion to the pursuit of scientific truth conceived in the light of that faith." It is men like the author of this book who exemplify the authenticity of this definition. Steadily and patiently through all the years of his adult life he continued his studies, only interrupting his investigations to aid a student or a colleague, asking of life only that he be permitted to aid society in the way in which he could serve most effectively.

This book is a summary of every scrap of information Mr. Wood has gathered on a project he set for himself in his youth—the preparation of a compendium of all available information on the avifauna of Michigan. It is, indeed, to be considered a monument to a successful career.

ALEXANDER G. RUTHVEN  
*University of Michigan*  
*June, 1943*





## PREFACE

Mr. Wood wished to write a book which would be a fully documented account of the status of Michigan birds. With his many co-operators he had gathered so many data that they could be published in a single volume only by severely restricting that volume to an account of the distribution, relative abundance, and migration of Michigan birds. Consequently, unlike many state publications, his book has no colored plates, descriptions of plumages, or detailed accounts of habits. Mr. Wood was quite right in believing that such material was readily and conveniently available to the student and that duplication of it in this book would serve only to add unnecessarily to the book's bulk and price.

Mr. Wood has listed all species and subspecies of birds for which there are unquestionable Michigan records in historic time. He included no form unless at least one Michigan specimen had been examined by a qualified ornithologist. For the rarer species all known authentic records, published and unpublished, are mentioned, but for the more abundant birds it was possible to present only a selection of the most significant and representative records. The reader of this book should understand that it is a reference work, not a book to be read from end to end. As far as possible the account of each species was made self-sufficient and self-explanatory, regardless of repetition which might offend the reader of the book as a whole. The published literature through 1943 (the year of Mr. Wood's death) was covered as completely as possible. The scientific nomenclature, however, is corrected to date in accordance with the American Ornithologists' Union Check-List (1931) and its Supplements (1944-49).

We all greatly regret the delay in the publication of this book, but some of the delay will be understandable to those who have been faced with the problem of finding time from an already full schedule to prepare another man's work for publication.

After the author's death there arose many problems which he could doubtless have solved quickly, but which others could solve only by long checking or by fresh investigations.

It was for several years my hope to find time to give the manuscript the thorough checking and revision it deserved. That has proved impossible and further delay inadvisable,\* and I can only hope that what I have been able to do may have helped in some measure to fulfill the author's purpose.

To Mr. Wood's acknowledgments should be added a statement of our indebtedness to Arthur E. Staebler, who carried on the work of preparing the manuscript for the press after Thomas D. Hinshaw was called away by war service. I am very grateful to G. Reeves Butchart, of Cranbrook Institute of Science, for assistance in reading the proof.

JOSELYN VAN TYNE  
*Ann Arbor*  
*April 1, 1949*

\* July, 1950: Through a misunderstanding, the manuscript of Mr. Wood's book was sent to the printer with numerous changes installed that had not been approved. Unfortunately, a large number of these changes distorted the essential facts, thus necessitating an unusual number of corrections in the proof. Since the book had already been so greatly delayed, every effort was made to restrict corrections to those required by accuracy. Consequently the book will be found to contain many inconsistencies in style. These were allowed to remain, not because they were considered unimportant but only to avoid further delay in publication.

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# THE BIRDS OF MICHIGAN

## INTRODUCTION

THE last general work on Michigan birds was published in 1912 by Walter B. Barrows. His book is still standard for its general summaries of Michigan's physiography, climate, and plant and animal life as these are related to the avifauna. The reader unfamiliar with the state is referred to the Introduction of that book for a succinct geographical and biological background to the study of Michigan birds. The reader unfamiliar with Michigan species is referred for assistance in identification to the several excellent illustrated field guides published in recent years, among which may be mentioned Peterson's *Field Guide to the Birds*; for detailed accounts of bird habits, to A. C. Bent's invaluable series of United States National Museum Bulletins on the life histories of North American birds and to T. S. Roberts' book on the birds of the neighboring state of Minnesota, which includes many fine color plates and helpful keys.

In the following pages 334 forms (309 species) of birds are listed that have been positively known to occur in Michigan. Of these at least 202 are known to have bred at least once in the state.

The following twenty-four forms have been added to the list of Michigan birds since the publication of Barrows' book; three of these, however, the Western Grebe, the Gyrfalcon, and the Willow Thrush, he included in his hypothetical list.

Lesser Loon	<i>Gavia immer elasson</i> Bishop
Western Grebe	<i>Aechmophorus occidentalis</i> (Lawrence)
White-faced Glossy Ibis	<i>Plegadis mexicana</i> (Gmelin)
Gyrfalcon	<i>Falco rusticolus obsoletus</i> Gmelin
European Partridge	<i>Perdix perdix perdix</i> Linnaeus
Ring-necked Pheasant	<i>Phasianus colchicus</i> Linnaeus
Boreal Flicker	<i>Colaptes auratus borealis</i> Ridgway
White-throated Swift	<i>Aëronautes saxatalis saxatalis</i> (Woodhouse)
Arkansas Kingbird	<i>Tyrannus verticalis</i> Say
Western House Wren	<i>Troglodytes aëdon parkmanii</i> Audubon
Rock Wren	<i>Salpinctes obsoletus obsoletus</i> (Say)
Willow Thrush	<i>Hylocichla fuscescens salicicola</i> Ridgway
Sprague's Pipit	<i>Anthus spragueii</i> (Audubon)
Starling	<i>Sturnus vulgaris vulgaris</i> Linnaeus
Bell's Vireo	<i>Vireo bellii bellii</i> Audubon
Brewer's Blackbird	<i>Euphagus cyanocephalus</i> (Wagler)
Eastern Pine Grosbeak	<i>Pinicola enucleator eschatosus</i> Oberholser
Newfoundland Red Crossbill	<i>Loxia curvirostra pusilla</i> Gloger
Alaskan Red Crossbill	<i>Loxia curvirostra minor</i> (Brehm)*

\* Not "*Loxia curvirostra minor*" of Barrows; the form which he so listed must be known as *Loxia curvirostra neogaea* Griseom.

Bent's Red Crossbill	<i>Loxia curvirostra benti</i> Griscom
Nevada Savannah Sparrow	<i>Passerculus sandwichensis nevadensis</i> Grinnell
Cassiar Junco	<i>Junco hyemalis cismontanus</i> Dwight
Gambel's Sparrow	<i>Zonotrichia leucophrys gambelii</i> (Nuttall)
Dakota Song Sparrow	<i>Melospiza melodia juddi</i> Bishop

In addition, one other species, the European Goldfinch, is given in the hypothetical list.

The following nineteen forms, tentatively listed by Barrows, are excluded from the present work for lack of positive evidence:

Brown Pelican	Black-necked Stilt
White-fronted Goose	Franklin's Gull
American Eider	Atlantic Kittiwake
White-tailed Kite	Sabine's Gull
Mississippi Kite	Arctic Tern
Willow Ptarmigan	Royal Tern
Whooping Crane	Say's Phoebe
Purple Gallinule	American Magpie
Long-billed Curlew	Worm-eating Warbler
Avocet	

Most of these I have included, with what evidence there is, in the hypothetical list, but for the American Eider, Sabine's Gull, Arctic and Royal Terns, Say's Phoebe, and Worm-eating Warbler, as Swales (1913) pointed out, the evidence is wholly unsatisfactory. This is also true for the Whooping Crane and the Purple Gallinule, although Swales failed to question Barrows' inclusion of these.

In the following pages each form of bird is typically discussed as follows: scientific and vernacular names, a brief summary of the status in Michigan as a whole, the earliest published authentic report of its occurrence in Michigan, the detailed account of the status in Michigan under the headings of spring, summer, fall, and winter. For species that occur in both the Upper and the Lower Peninsula, the records for each season are divided under these subheadings. Records are arranged in what seems the most logical sequence: spring and summer records from the southern edge of the state northward; fall records from the northern edge of the state southward.

In order to make the account of each species usable separately for reference, places, persons, and references have been fully identified at each point of occurrence.

I hope no one will mistakenly assume that our knowledge of the distribution of even those species that are the most fully discussed in this book is complete and satisfactory. Many gaps in our knowledge will become ap-



parent on a careful reading of any one of the species accounts. Indeed, particular care was taken not to conceal such gaps by speculation, conjecture, and unconfirmed reports. This book will serve its author's purpose if it has presented clearly and accurately the status of our present true knowledge of the subject, thus providing a sound basis for further investigation of the Michigan avifauna.

## ACKNOWLEDGMENTS

In writing this account of Michigan birds, I have gone over all the available early literature pertaining to the state. The earliest bird records for Michigan were those of Father Marquette, who mentions seeing ravens, eagles, and pigeons in his travels about the Great Lakes in 1669-70. Following that date, many books were written by traders and travelers, most of whom mentioned the bird life, at least in passing. None of them, of course, knew the technical names of the birds they saw, and few were familiar with the species. Cadillac, in his 1702 report to France, described a few birds so that the reader can identify the species with certainty. Dr. Abram Sager, zoologist at the University of Michigan, had charge of the first natural history survey of the state, 1837-39. The region covered by the survey extended from Detroit north to Saginaw Bay and west to Jackson. Sager's list of Michigan birds (164 species), included in the report of the survey (1839), was the first published Michigan list. Sager's list was followed by those of Fox in 1854 (212 species), Manly Miles in 1861 (203 species), and Morris Gibbs, who in 1879 published the first annotated list of Michigan birds (309 species). In 1893 A. J. Cook published the first book on Michigan birds, recording (in the second edition) 336 species. These, with a quantity of both manuscript and published reports and specimens, were the basis for Barrows' well-known volume, which, until 1938, was the only single source for Michigan bird data. Josselyn Van Tyne then published a "Check List of the Birds of Michigan," which re-evaluated the older records and assembled the new. It is interesting to note that he listed the same number as Cook (336 species), whereas Barrows listed only 326. (The species listed by Van Tyne are not, of course, entirely the same 336 listed by Cook.) Dr. Van Tyne has kindly allowed me to use the results of his researches in preparing his check list as the basis for inclusion or exclusion from the following pages of doubtful species.

To the data in these lists and in the numerous published notes and articles on Michigan birds, I have added the results of my own sixty-year study of the area, supplemented by the data furnished by the many bird students that have so generously helped me in my work. Mr. O. M. Bryens, Dr. Karl Christofferson, and Mr. M. J. Magee, all of the Upper Peninsula,

have sent the Museum their records for many years, and it is to their work, supplemented by the studies of Leonard Wing and S. S. Gregory, Jr., that we are largely indebted for our knowledge of the avifauna of the Upper Peninsula. Similarly, we are indebted to G. A. Ammann for his detailed study of the Alicia, Saginaw County, area; to L. W. Campbell and Harold Mayfield for the Erie-Monroe County region; to Donald W. Douglass for the Sand Point, Huron County, neighborhood; to Miller Empey for Saginaw Bay; to Theodora Nelson for the Douglas Lake region; to Miles D. Pirnie and L. W. Walkinshaw for the Battle Creek area; and finally, to M. B. Trautman, particularly for his work in the Houghton Lake region. For hundreds of other records we are indebted to J. Claire Wood, B. H. Swales, and Percy A. Taverner, who studied Michigan birds for many years, especially those of the Detroit area.

I am deeply grateful to William G. Fargo, many years Honorary Curator of Birds, and Leslie D. Case, formerly Assistant in the Bird Division of the Museum of Zoology, who have helped in countless ways and contributed much valuable data secured in their field work in many sections of the state; to Bernard W. Baker, Edward M. Brigham, Jr., Walter E. Hastings, Lawrence H. Walkinshaw, and Dr. Frank N. Wilson, who allowed me to make selections for illustrations from their many fine photographs of Michigan bird life and who contributed their valuable and illuminating field notes; to Dr. Max M. Peet, A. D. Tinker, and Walter Koelz for the use of their collections, which are housed in the Museum of Zoology. The frequent occurrence of their names in the following pages is the best indication of the importance of their field work. I am especially indebted to Richard E. Olsen for his indispensable assistance both in the field and in the Museum during the final years of this undertaking.

In addition, I wish to thank the following for their generous help of various sorts: Durward L. Allen, F. M. and A. Marguerite Baumgartner, W. C. Beckman, C. T. Black, Alexander W. Blain, F. N. Blanchard, Homer L. Bradley, Pierce Brodkorb, Maurice G. Brooks, R. A. Brown, Victor H. Cahalane, B. R. Campbell, Winthrop N. Davey, David E. Davis, Laurence Dayton, Verne Dockham, Mr. and Mrs. Frank L. DuMond, Margaret Elliott, E. R. Ford, Ira N. Gabrielson, John L. George, F. C. Gillett, Margaret Gross, T. L. Hankinson, H. W. Hann, R. T. Hatt, C. J. Henry, Paul F. Hickie, Frank J. Hinds, L. Claire Hulbert, S. D. Knox, John N. Lowe, C. C. Ludwig, F. E. Ludwig, L. Will McLain, R. A. MacMullan, Donald J. Magoon, R. H. Manville, W. B. Mershon, Herbert J. Miller, R. E. Morrill, Edith Munger, Walter P. Nickell, Frank Novy, R. L. Patterson, O. S. Pettingill, Jr., F. W. Rapp, Jesse J. Ricks, J. C. Salyer, George B. Saunders, C. J. Spiker, A. E. Staebler, M. T. Sturgeon, Farley F. Tubbs, W. B.

Tyrrell, L. Whitney Watkins, Harold F. Wing, James H. Wood, and Walter C. Wood.

My sincere thanks are due to the editor, Josselyn Van Tyne, who has assembled and prepared the manuscript and superintended its publication, and to Thomas D. Hinshaw, who was of invaluable help during the early stages of the work.

I am also greatly indebted to Frederick M. Gaige, [formerly] Director of the Museum of Zoology, for furnishing many state bird records and for his interest and assistance in the preparation of the book.

The bibliography, compiled for me by Josselyn Van Tyne, includes only those titles from which data were actually used. It covers, however, all important records of Michigan birds which were judged to be authentic.

I owe much to Jesse J. Ricks, Ormond E. Hunt, and Alexander W. Blain for their generous support of the whole project.

NORMAN A. WOOD  
*University of Michigan*  
*Ann Arbor*  
*August 1, 1943*

GAVIIDAE  
 (LOONS)

*Gavia immer immer* (Brünnich)  
 Common Loon

In the Museum of Zoology there are several loons, now referred to *Gavia immer elasson*, which approach the measurements given by Louis B. Bishop (1921: 368-70) for *G. i. immer*. One, found drowned in fishermen's nets at Sebewaing, Huron County, on April 28, 1940, is definitely referable to the larger form.

*Gavia immer elasson* Bishop  
 Lesser Loon

Common migrant. Summer resident, fairly common in north; less common in south. Rare winter resident.

The species was first listed for Michigan by Kneeland (1857: 239-40).

Formerly listed as a very common resident in most regions of Michigan (Gibbs, 1879: 496), the numbers of this species had noticeably decreased in the south by 1912 (Barrows, 1912: 40-41).

SPRING.—Arrival is reported occasionally in March, usually in April.

Lower Peninsula.—L. W. Campbell (1940: 185) gave April 15 as the average and March 31 (1934) as the earliest date of arrival in the Toledo-Erie marsh area. The species has appeared in the Ann Arbor region by

March 8 (1908 and 1936), but dates in late March and early April are usual. Fifteen Lesser Loons, an unusually large number for the region, were observed near Ann Arbor by Paul F. Hickie and T. D. Hinshaw on April 12, 1936. In Kalamazoo County, individuals occasionally arrived in February, according to Gibbs (1889: 189), but for Vicksburg in that county F. W. Rapp (1931: 1) gave March 25 as the earliest arrival date in a period of 35 years. In the Gull Lake-Battle Creek area, Walkinshaw recorded arrival (1930-39) between April 1 and 23, usually in the first week of April. At Douglas Lake, Cheboygan County, the earliest date is April 16 (Blanchard and Nelson, MS of 1937).

Upper Peninsula.—Arrival has been recorded at McMillan, Luce County, from April 11 to 29 (Bryens); at Blaney, Schoolcraft County, from April 14 to May 29, commonly in the last two weeks of April (Christofferson); at Marquette, on April 28 in 1938 (2 specimens in U.M.M.Z.); at Copper Harbor, Keweenaw County, on April 29 in 1931 (N. A. Wood, 1933: 715); and on Isle Royale, on May 4 in 1930 (N. A. Wood).

SUMMER.—Eggs have been found from the beginning of May, young from the third week of May.

Lower Peninsula.—In the Ann Arbor region, Frank N. Wilson (1928: 177; 1929: 95) found 2 eggs on May 2 in 1928, and in 1927, 2 young that hatched between May 21 and 24; A. D. Tinker and T. D. Hinshaw observed an adult on a nest May 10, 1936; and Donal H. Haines recorded adults with young every season from 1938 to 1941. Breeding has also been reported from Portage Lake marsh, Jackson County, on July 19, 1936 (3 young noted by A. D. Tinker and R. E. Olsen); from Vicksburg, Kalamazoo County, by F. W. Rapp (1931: 1), who listed the species as a rare resident there; from Pleasant Lake, Barry County, on July 17, 1940 (nest with 2 eggs recorded by Pirnie, Huggett, and Walkinshaw, 1940: 91); from Kalkaska County, where eggs were collected on May 12 (Barrows, 1912: 41); from Shoepack Lake, Crawford County, on July 17, 1932 (adults with 2 young about one-third grown, noted by H. W. Hann); from near Mio, Oscoda County, on May 8, 1936 (nest with 2 eggs noted by Verne Dockham); from the Douglas Lake area of Cheboygan County, where a group of 11 was noted by F. N. Blanchard on July 22, 1937, and a nest with two eggs, by Theodora Nelson on July 19, 1932; from Cecil Bay, Emmet County, on May 4, 1937 (laying female, U.M.M.Z.); from the Fox (1939) and Manitou (1940) islands, Leelanau County, where the species is fairly common (a downy young seen on North Fox Island on July 1, 1939, by A. E. Staebler and L. D. Case); and from the Beaver Islands, Charlevoix County, from July 8 to 13, 1904 (several pairs, one with small young, reported by Barrows, 1904: 65).

Upper Peninsula.—It is usual to find at least one pair on each of the

lakes "having shores affording possible nesting sites" (A. R. Cahn, 1918: 489). There are breeding data from Les Cheneaux Islands, Mackinac County (adult with young reported by Van Tyne, 1923: 21); from McMillan, Luce County, where the species nests regularly and young have been reported by June 8 (Bryens); from Blaney, Schoolcraft County (1937, a pair on each lake, reported by Christofferson); from the Huron Mountains, Marquette County (young seen on June 13, 1925, by Christy, 1925: 208-9); from Houghton and Iron counties (young noted in August, 1914, by A. R. Cahn, 1918: 489). H. H. T. Jackson (1923: 480) found a nest with 2 eggs on June 16, 1918, at Bass Lake, Gogebic County. Two small downy young (U.M.M.Z.) were collected on Isle Royale, August 10, 1905 (Max M. Peet, 1909: 340-41), and the species was recorded there almost daily in 1929 and 1930 by N. A. Wood.

FALL.—Migration occurs mainly in September and October; stragglers are sometimes recorded until mid-November.

Upper Peninsula.—Two specimens (U.M.M.Z.) were collected at Bone Lake, Iron County, on November 4, 1935, and the species was seen in the Huron Mountains, Marquette County, November 3, 1932, by Tappan Gregory (1933: 9). Migrants have been reported at Blaney, Schoolcraft County, between September 10 and November 21 by Christofferson; and at McMillan, Luce County, between August 25 and October 15 by Bryens.

Lower Peninsula.—Walter E. Hastings noted 2 loons at Norwood, Charlevoix County, on November 21, 1910 (Van Tyne, 1925: 613). A specimen (U.M.M.Z.) was collected at Houghton Lake, Roscommon County, on October 26, 1939. An individual was reported at Vicksburg, Kalamazoo County, on October 25, 1900, by F. W. Rapp (1931: 1). The latest the species has been observed in the Ann Arbor region is November 17, but during open winters it has been recorded in December in some of the southern counties: in Berrien County (specimen in U.M.M.Z.) on December 25, 1938; at Three Rivers, St. Joseph County, on December 25, 1926 (Bryens, 1927: 35); in the vicinity of Battle Creek, on December 26, 1938 (Brigham and others, 1939: 37); and at Devil's Lake, Lenawee County, on December 18, 1933 (specimen in U.M.M.Z.).

WINTER.—A group of 7, reported January 15, 1932, from Lake Erie, near the Erie marsh, Monroe County (L. W. Campbell, 1940: 30), is the only definite winter record for Michigan.

*Gavia stellata* (Pontoppidan)  
Red-throated Loon

Rare transient and winter visitant. Recorded in summer from Chippewa County.

First authoritatively listed for Michigan by Gibbs (1879: 496).

Gibbs (1879: 496; 1885: 190; 1889: 188) found the Red-throated Loon common in the 1870's and 1880's, when it was seen in open spots on the rivers of Kalamazoo County some winters "in flocks of five to ten, sometimes more." For the period since the 1880's there are some 25 records (including 12 specimens, 9 in U.M.M.Z.). Since 1930 the species has been reported in Michigan every year except 1932 and 1937. In most instances only a single individual was noted, usually along the Great Lakes shores.

SPRING.—Migration apparently occurs in April and May. A specimen (U.M.M.Z.) was collected in the Ann Arbor region on April 15, 1880, and the species was also reported there on April 25, 1926; April 26, 1925; and April 29, 1917 (N. A. Wood and Tinker, 1934: 4). Frank N. Wilson photographed one (in breeding plumage) in the region as late as May 18 (1925). One was taken by J. Claire Wood (1905: 217) on Grosse Ile, Wayne County, on May 9, 1904. Gibbs (1885: 190) had not recorded this loon in Kalamazoo County later than April 25, but Barrows (1912: 42) recorded 8 or 10 taken in Berrien County during May (1904). A specimen (U.M.M.Z.) was collected at Saugatuck, Allegan County, by Durward L. Allen on March 24, 1939, and one (U.M.M.Z.) at Honor, Benzie County, by Frank Hoard on March 2 (1936—the earliest spring record for Michigan). Brodkorb recorded 1 at Whitefish Point, Chippewa County, on May 18, 1936, and a specimen (U.M.M.Z.) was collected at Marquette on May 17, 1941, by E. Tuomela.

SUMMER.—Two specimens (U.M.M.Z.) were collected at Whitefish Point, Chippewa County, 1 on June 4, 1930, by W. B. Tyrrell (1931: 131), 1 on July 14, 1931, by Allen F. Sherzer. A specimen (U.M.M.Z.) taken alive at Ann Arbor on July 13, 1940, by William Corson, had partly healed shot marks on the feet and was probably a delayed spring migrant.

FALL.—Specimens (U.M.M.Z.) were taken on Lake Superior, near Marquette, on October 5, 1930, and October 20, 1931; Christofferson reported 1 at Blaney, Schoolcraft County, on October 23 and 24, 1933, and collected 1 (U.M.M.Z.) at Sault Ste Marie, on October 18, 1920; B. D. Owens took 1 (U.M.M.Z.) at Grass Lake, Emmet County, in November, 1928; Pirnie reported 1 at Muskegon Lake, Muskegon County, on November 14, 1938; Walkinshaw and R. E. Olsen saw 1 at St. Joseph, Berrien County, November 5, 1933; 1 was taken at Point Mouillee, Monroe County, on November 11, 1904 (Blain, 1904a: 91; Swales and Taverner, 1905: 88); Miller Empey collected 1 near Freeland, Saginaw County, on December 14, 1934.

WINTER.—Frank Wharfield has a specimen (identified by Christofferson) taken at Seul Choix Point, Schoolcraft County, on February 15, 1934.

COLYMBIDAE  
(GREBES)*Colymbus grisegena holböllii* (Reinhardt)  
Holboell's Grebe

Uncommon transient, perhaps fairly regular. Has been reported from Isle Royale and Cheboygan County in summer and from 3 of the southern counties in winter.

First listed for Michigan by Sager (1839: 417).

SPRING.—This grebe is usually reported in April and May. It is sometimes found in large numbers on the Great Lakes.

Lower Peninsula.—Reported from Port Huron, St. Clair County (1 seen by Max M. Peet on May 2, 1937); from near Lovells, Crawford County (1, possibly a cripple, observed by Maurice G. Brooks and others on May 20, 1939); from Vanderbilt, Otsego County (1 observed by F. M. Baumgartner "about" April 28, 1936); from Munro Lake, Cheboygan County (3 seen by Blanchard and Nelson on April 24, 1937); and from Beaver Island, Charlevoix County (75 brought in by fishermen between May 2 and 14, 1929—N. A. Wood, 1931: 617). Bent (1919: 19) reported this grebe at Greenville, Montcalm County, on March 12, but was probably referring to a wounded frozen bird, not necessarily a spring migrant, found March 12, 1900, and reported by P. Selous (1900: 293) and Barrows (1912: 36).

Upper Peninsula.—There are reports from St. Ignace, Mackinac County (2 observed by R. E. Olsen and T. D. Hinshaw on May 4, 1934); from Copper Harbor, Keweenaw County, April 22, 1931 (specimen in U.M.M.Z., collected by N. A. Wood—1933: 714); and from Isle Royale, where the species was observed from May 10 to 20, 1937, by Laurence Dayton.

SUMMER.—Blanchard and Nelson (MS of 1937) saw an individual at Cheboygan on August 15, 1932. Several Holboell's Grebes were reported on Isle Royale on July 30, 1929, by N. A. Wood, and 2 on September 4, the same year, by Walter Koelz.

FALL.—Fall migration, to judge from the few records, occurs in the latter half of October.

Upper Peninsula.—A specimen (U.M.M.Z.) was collected near Marquette on October 27, 1930, and John N. Lowe saw 2 in the same locality 2 days later. Another specimen (U.M.M.Z.) was obtained on Sugar Island, Chippewa County, on October 15, 1925. J. B. Hendryx and L. J. Smits (letter, April 18, 1928) saw the species daily at Detour and Drummond Island, Chippewa County, and collected a specimen (U.M.M.Z.) on Drummond Island on October 21, 1927.

Lower Peninsula.—Single specimens (U.M.M.Z.) were collected at Pine Lake, Ingham County, on October 30, 1897, by T. L. Hankinson, and at St. Clair Flats, St. Clair County, on October 31, 1909. A few fall specimens are mentioned by Barrows (1912: 36) but without specific dates.

WINTER.—A specimen was taken near Capac, St. Clair County, on February 15, 1904 (Blain, 1904: 54). Two specimens (U.M.M.Z.) were collected in 1934, 1 on February 8, at Ann Arbor, by Godfrey Neff, 1 on February 11, near Northville, Wayne County, by Mrs. George W. Hill. Three or 4 individuals were seen in the Toledo-Erie marsh area between February 10 and 27 of the same year by L. W. Campbell (1940: 30-31).

*Colymbus auritus* Linnaeus  
Horned Grebe

Common transient. Rare in winter. Occasionally reported in summer. First recorded for Michigan by Sager (1839: 417).

SPRING.—Arrival is reported in April and May.

Lower Peninsula.—L. W. Campbell (1940: 185) gave April 6 to May 16 as the average period of arrival for individuals in the Toledo-Erie marsh area; on April 29, 1928, he recorded 22 Horned Grebes there. In Ann Arbor arrival is usually reported in April, but in 1939 was recorded on March 16, and in 1907 on May 12. Swales noted the species in the Detroit region from April 7 (1903) to May 17 (1916), usually in numbers from 1 to 10, but in 1903 (1904*b*: 85) he recorded 50 on April 27, 60 on May 4, and 12 on May 10. The species has also been reported from the Battle Creek area by Walkinshaw on April 13, 1930; from Vanderbilt, Otsego County, by F. M. Baumgartner "about" April 28, 1936; from Cecil Bay, Emmet County, by Blanchard and Nelson (MS of 1937) on April 29, 1937; and from Beaver Island, Charlevoix County, where N. A. Wood recorded 2 to 10 daily from May 2 to May 15, 1929, and collected several specimens (U.M.M.Z.).

Upper Peninsula.—In Chippewa County, Christofferson reported 4 Horned Grebes on April 26, 1928 (at Munuseong Bay), and N. A. Wood (1914: 59) saw 2 daily between May 23 and 27, 1914 (at Whitefish Point); Laurence Dayton saw 1 on May 12 and 14, 1937, on Isle Royale.

SUMMER.—Early writers listed the Horned Grebe as breeding at St. Clair Flats and along the Detroit River, but there are no definite nesting records or specimens taken in summer (see W. E. Saunders, letters of 1904 and 1906 in U.M.M.Z.; Barrows, 1912: 37; and Swales, notes in U.M.M.Z., 1910 to 1916, correcting earlier statements on this grebe's breeding status). Walter C. Wood (1937: 100) reported a pair of Horned Grebes at "Baltimore Bay" (Anchor Bay, near St. Clair Flats, St. Clair



County), on June 5, 1922. L. W. Campbell (1940: 31) recorded an individual seen during the summer in the Toledo-Erie marsh area. One was reported from Burt Lake, Cheboygan County, on August 9, 1921 (Fortner and Metcalf, 1929: 249). In the Upper Peninsula it has been reported from Seney, Schoolcraft County, on June 7, 1937 (2 seen by Christofferson), and on June 10, 1938 (an adult in breeding plumage seen by Brodkorb); from Grand Marais, Alger County, on July 8, 1903 (1 seen by Barrows—1912: 37); from the Huron Mountains, Marquette County, on June 15 (1 seen by Christy); from Copper Harbor, Keweenaw County, on June 9, 1931 (2 seen together by N. A. Wood—1933: 714).

FALL.—Migration is reported from late August to November, but chiefly in September and October.

Upper Peninsula.—The Horned Grebe was reported from Isle Royale between September 8 and October 1, 1929, by N. A. Wood; from the Huron Mountain region, Marquette County ("uncommon"), between September 29 and October 23 by S. S. Gregory, Jr. (1929: 172); from Blaney, Schoolcraft County ("a few"), from August 23 (1930) to October 5 (1937), by Christofferson; and from Detour and Drummond Island, Chippewa County ("common"), on October 24, 1927, by J. B. Hendryx and L. J. Smits.

Lower Peninsula.—A few specimens (Max M. Peet collection) were taken at Burt Lake, Cheboygan County, from late September to October 21 (1939), and 10 to 15 were seen there by Max M. Peet on September 2, 1941. At Hubbard Lake, Alcona County, one was seen on September 19, 1903 (N. A. Wood and Frothingham, 1905: 45), and several seen and others collected by J. Claire Wood (1913: 13) between October 14 and 18, 1912. The species has also been reported from Mason and Oceana counties on September 16 and 23, 1909 (2 seen—R. W. Chaney, 1910: 272); from the Charity Islands, Huron County, on September 27, 1910 (9 seen—N. A. Wood, 1911: 85); from Birchwood Beach, Berrien County, on September 8, 1917 (N. A. Wood, 1922: 6-7); from St. Joseph, Berrien County, on November 5, 1933 (by Walkinshaw); and from the Ann Arbor region, where it has been recorded from September 2 (1910) to November 20 (1910), but more generally in October. L. W. Campbell (1940: 185) gave October 30 to December 3 as the average period for fall migration in the Toledo-Erie marsh area.

WINTER.—The Horned Grebe has been found in winter in Tecumseh, Lenawee County, on February 15, 1934 (specimen in U.M.M.Z. collected by Wright); in the Ann Arbor region on January 10, 1902, February 19, 1899 (specimen in U.M.M.Z.), and February 20, 1904; in the Battle Creek area on December 22, 1931 (Kingsley and others, 1932: 58); at Pewamo,

Clinton County, on February 15, 1923 (specimen in U.M.M.Z. taken by G. Swindt); and at the mouth of the Tawas River, Iosco County, on December 31, 1937 (1 found dead by Karl F. Lagler).

*Aechmophorus occidentalis* (Lawrence)

Western Grebe

One record: a specimen (Grand Rapids Mus.) was taken at Fox Creek Station, Kent County, on February 17, 1917, by Fred Esbaugh (N. A. Wood, 1926: 555; Van Tyne, 1938: 2).

*Podilymbus podiceps podiceps* (Linnaeus)

Pied-billed Grebe

Common transient. Summer resident, common in south, less common in north. Rare in winter.

First listed for Michigan by Sager (1839: 417).

SPRING.—Arrival is reported from late March through April.

Lower Peninsula.—L. W. Campbell (1940: 185, 199) gave March 6 (1932) as the earliest date of arrival for individuals and April 4 as the average date for main flight. The earliest date for the Detroit vicinity is March 16 (1903), given by Swales. Arrival was reported in the Ann Arbor region as early as February 28 in 1937, March 4 in 1928, and March 5 in 1922, but it is usually reported there between March 12 and 31, and occasionally not until the first half of April. In Kalamazoo County, Gibbs (1889: 189) recorded an "occasional arrival as early as late February," but the earliest at Vicksburg, Kalamazoo County, is March 16 (1907), reported by F. W. Rapp (1931: 1); and at Gull Lake in the same county, Pirnie reported arrival on March 29 (1933), April 3 (1934), and April 6 (1937). Walkinshaw gave March 25 (1937) as the date of earliest arrival in Convis Township, Calhoun County.

Upper Peninsula.—Christofferson reported the Pied-billed Grebe at Munuscong Bay, Chippewa County, on April 8, 1929, and at Blaney, Schoolcraft County, on April 14 (in 1938, the earliest date of arrival there). N. A. Wood (1933: 715) reported it at Lake Fanny Hooe, Keweenaw County, on April 25 in 1931, and saw an individual on Lake Eva, Isle Royale, on May 10, 1930.

SUMMER.—Barrows (1912: 39) found the Pied-billed Grebe nested "abundantly in every suitable place" in Michigan. In southern Michigan it has continued to breed fairly commonly to abundantly. In some regions in the north, however, it is rare or apparently absent in summer; in others, notably in the Douglas Lake area of Cheboygan County, it has increased in numbers during the last decades. Nesting records extend from late April

to August in the Lower Peninsula and from June to early September in the Upper Peninsula.

Lower Peninsula.—There are breeding records from St. Clair Flats, St. Clair County (June 5, 1881, juvenile in M.C.Z.; June 17, 1902, 8 eggs in U.M.M.Z.); from Erie Township, Monroe County (June 20, 1934, an adult with 2 young, found by B. R. Campbell); from Ypsilanti, Washtenaw County (May 31, 1931, parent with young on its back, observed by H. W. Hann); from the Ann Arbor region (May 30, 1928, an empty nest which by June 7 contained 5 eggs, found by Frank N. Wilson—1929*a*: 243); from Leoni Township, Jackson County (April 30, 1939, 2 eggs found by Walkinshaw); from Chandler's Marsh, Ingham County (May 31, 1897, young birds just hatched, reported by Leon J. Cole—1897: 37, 39); from the Gull Lake area, Kalamazoo County (found nesting abundantly during the last decade by Pirnie); and from Vicksburg, Kalamazoo County (May 18, 7 eggs—F. W. Rapp, 1931: 1); from Spruce Lake, Barry County (June 15, 1930, 4 fledglings found by Walkinshaw); from the Douglas Lake region, Cheboygan County (very common; eggs on July 1 and 7; young hatched on June 26, July 4, and July 6; fledglings from July 2; nest with 3 eggs on July 25, 1938); from Indian River, Cheboygan County (July 25, 1938, 3 nestlings—in Max M. Peet collection).

Upper Peninsula.—There are records from Munuscong Bay, Chippewa County (several incomplete clutches of 3 to 6 eggs each, June 13 and 14, 1934, found by F. C. Gillett); from Seney, Schoolcraft County, in the summer of 1939 (reported by H. L. Bradley as breeding commonly and increasing in numbers); and from Isle Royale, where several broods (U.M.M.Z.) were reported August 18 to 25, 1904 and 1905 (N. A. Wood, Peet, and McCreary, 1906: 121; Max M. Peet, 1909: 340) and on August 18 to 27, 1924, by Fargo. Fargo also reported flocks totaling 22 birds (apparently all young) on Isle Royale, on September 2, 1924; and Peet (1909: 340) reported fledglings there in mid-September, 1905.

FALL.—Fall migration occurs usually in September and October, but frequently extends into November, occasionally even later.

Upper Peninsula.—Departure was reported from Washington Harbor (Max M. Peet, 1909*a*: 118), Isle Royale, on September 20, 1905, and from Tobin Harbor (N. A. Wood) on September 21, 1929. S. S. Gregory, Jr. (1929: 172), recorded this grebe as a common migrant from August 7 to October 21 in the Huron Mountains, Marquette County. At Blaney, Schoolcraft County, Christofferson reported main flight during the second and third weeks of October, giving October 26 (1931) as the latest date of occurrence there. Bryens gave October 23 (1932) as the latest date at

McMillan, Luce County; and Christofferson reported departure from Munuscong Bay, Chippewa County, by November 6 in 1929.

Lower Peninsula.—A Pied-billed Grebe was seen at Gun Lake, Barry County, on October 24, 1938, by Pirnie. Migrants are reported from the Gull Lake area, Kalamazoo County, usually in September, but Pirnie reported 15 seen there on October 31 (1935), and a specimen was collected at Vicksburg, Kalamazoo County, on November 27, 1925 (F. W. Rapp, 1931: 1). A specimen (U.M.M.Z.) was collected also at Norvell, Jackson County, on November 8, 1893. In the Ann Arbor region, migrants are usually reported in September and October, but the species has been recorded there three times in the first half of November (1911, 1917, and 1926) and once in December (December 8, 1918). In the vicinity of Detroit the latest date of occurrence is November 15 (1902), given by Swales. In Monroe County, Trautman and E. L. Wickliff reported 35 in the Erie marsh on September 13, 1932, and 60 in Point Mouillee Marsh on the following day. L. W. Campbell (1940: 185, 199) reported September 19 as the average date for main flights in the Toledo-Erie marsh area, but recorded individuals as late as December 1 (1931).

WINTER.—One or 2 individuals were noted in the vicinity of Wintergreen Lake, Kalamazoo County, during the winter of 1931-32 (Kingsley and others, 1932: 58; Pirnie and others, 1932: 58-59), and Walkinshaw saw the species there through January 3, 1932. A. D. Tinker and R. E. Olsen reported an individual on the Huron River near Ypsilanti, Washtenaw County, on February 10, 1935.

PELECANIDAE  
(PELICANS)

*Pelecanus erythrorhynchos* Gmelin  
White Pelican

Rare straggler and summer visitant.

First recorded for Michigan by Kneeland (1857: 240).

There are at least 14 definite records of this species for Michigan. In addition there are a number of records that lack the season or year of collection or that are otherwise incomplete. Barrows (1912: 68-69) has listed many of the incomplete records, as well as the definite records known to him.

Lower Peninsula.—D. B. Reynolds observed an individual near Ann Arbor on August 28, 1938. J. S. Wallace collected 2 specimens (U.M.M.Z.) in Wayne County in 1868. Swales (1902: 139), followed by Barrows (1912: 68), mentioned a specimen taken "about July, 1902" near the mouth of the Detroit River, Wayne County, but corrected this record in his notes (U.M.M.Z.), attributing it to Essex County, Ontario. Gibbs (1893a: 124)

mentioned a White Pelican, taken in St. Clair County, which he believed to be in the Museum of Zoology. The Museum has no record of this specimen, but 2 are known to have been taken in the county: 1 on Strawberry Island, May 29, 1908 (Taverner, 1908a: 328); and 1 near Port Huron, in late September, 1877 (Barrows, 1912: 69). Barrows also recorded 1 taken at Dorr, Allegan County, in September, 1892. Near Linwood, Bay County, Miller Empey saw a flock of 7 on August 21, 1938, and a flock of 12 on September 22, 1940 (Grace Martin, 1940: 111). N. A. Wood (1929: 113) recorded a specimen (U.M.M.Z.) secured by fishermen at Oscoda, Iosco County, on September 25, 1928, and 1 captured by R. L. McGrady at Muskegon on September 22, 1928. A flock of 6 was noted on Houghton Lake, Roscommon County, during the first week of August, 1938, by W. J. Craig and J. R. Satterfield, and in the latter part of the month, the same number (presumably the same birds) were seen there by M. L. Webb.

Upper Peninsula.—Christofferson found a White Pelican, which had been recently killed, at Raco, Chippewa County, on October 16, 1927. Barrows (1912: 69) recorded 2 shot at Indian Lake, Iron County, on October 31, 1905, and 1 in the spring of 1903 at Baraga, Baraga County. Kneeland (1857: 240) shot 1 on Keweenaw Point in the early 1850's.

SULIDAE  
(GANNETS AND BOOBIES)

*Morus bassanus* (Linnaeus)

Gannet

Three records: immature female (U.M.M.Z.) taken at Walker Lake, Livingston County, on October 19, 1911, by J. P. Case (N. A. Wood, 1912b: 43-44), listed in error as taken at Ann Arbor on October 18, 1911, by Bent (1922: 229); immature male (Miller Empey collection) taken at Tawas Bay near East Tawas, Iosco County, November 10, 1925 (Van Tyne, 1938: 2); an immature taken alive (though apparently injured) at Birmingham, Oakland County, by Mrs. Truman Miller on November 29, 1942, and given to the Cranbrook Institute of Science.

PHALACROCORACIDAE  
(CORMORANTS)

*Phalacrocorax auritus auritus* (Lesson)

Double-crested Cormorant

Uncommon transient, more common in fall than in spring. Several pairs breed on the Huron Islands, Marquette County. One winter record (Wayne County).

First listed for Michigan by Gibbs (1879: 495).

SPRING.—The spring records are almost all from coastal areas and, with two exceptions, refer to the month of May. J. Claire Wood (1908*a*: 325) reported this cormorant “sometimes in small flocks of seven or eight, but usually singly or in pairs” in the Detroit vicinity in March and April, 1892 to 1894; and Swales and Taverner (1907: 137–38) examined an April (1906) specimen, perhaps the one from St. Clair Flats, St. Clair County, referred to by Barrows (1912: 735). Other records are: 11 seen by Max M. Peet and Brodkorb at North Cape, Monroe County, on May 9, 1937; 1 (U.M.M.Z.) collected at Monroe, on May 12, 1941; 1 observed by Swales in Oakland County on May 3, 1902; the species reported by F. W. Rapp (1931: 1) at Vicksburg, Kalamazoo County, on May 6, 1928; 1 (Three Oaks Mus.) collected by N. A. Wood at Three Oaks, Berrien County, on May 1, 1919; 2 noted by N. A. Wood (1922: 8) at Birchwood Beach, Berrien County, on May 4, 1918; the species reported on the Saginaw River by N. A. Eddy on May 29, 1896 (Barrows, 1912: 67); 1 found dead by D. W. Douglass at Sand Point, Huron County, on May 23, 1931; 1 collected at Oden, Emmet County, in May, 1888 (Barrows, 1912: 735); 5 seen by A. Murie on Isle Royale on May 16, 1930.

SUMMER.—Van Tyne (1937: 381) found 2 nests, 1 with 1- or 2-day-old young, on the Huron Islands, Marquette County, on June 27, 1936. The young left these nests between August 10 and 20. On July 7, 1938, Christy found 7 nests at this spot; in June, 1940, Paul F. Hickie and Ben East noted several nests on the islands. Cormorants have been observed in summer in the region between the 2 peninsulas: 1 near St. Ignace, Mackinac County, June 13, 1931, by Leonard Wing (1940: 174); 1 (U.M.M.Z.) near Seul Choix Point, Schoolcraft County, July 7, 1939 (caught in fisherman's net); 1 near Germfask, Schoolcraft County, June 26 and July 2, 1940, by R. A. MacMullan; 1 near Cheboygan, July 16, 1935, by R. C. McClanahan (Blanchard and Nelson, MS of 1937); 1 at Beaver Island, Charlevoix County, on June 21, 1925, by N. A. Wood; 3 or 4 seen daily, June 11 and July 6 to 10, 1940, at South Manitou Island, Leelanau County, by A. E. Staebler and L. D. Case.

FALL.—Migration is reported from September 10 to November 27, but mainly in October and November.

Upper Peninsula.—The species has been noted rarely, singly or in pairs, in the Huron Mountain region, Marquette County, between September 25 and October 14 (S. S. Gregory, Jr., 1929: 172); 4 were taken at Munising, Alger County, on October 13, 1938 (1 skin was examined by Christofferson); 1 was recorded by Bryens at McMillan, Luce County, on October 2, 1932; and 5 by Farley F. Tubbs and Durward L. Allen at Eckerman, Chippewa County, on October 8, 1939.

Lower Peninsula.—Reports from: Houghton Lake, Roscommon County (specimen in U.M.M.Z., collected October 15, 1930); Cadillac, Wexford

County (November 13, 1897); and Tuscola County (October 12, 1898—Barrows, 1912: 67); the Charity Island vicinity, Huron County (1 seen, October 10, 1 collected, November 25, 1909—N. A. Wood, 1911: 86-7); Muskegon Lake, Muskegon County, where a specimen (U.M.M.Z.) was collected on October 8, 1941, by Pirnie; St. Joseph, Berrien County (September 25, 1938, 2 observed by Walkinshaw); Austin Lake, Kalamazoo County, where William E. Praeger collected a specimen from a flock of 5 on October 25, 1928; Gull Lake, Kalamazoo County, where Pirnie and Walkinshaw recorded the species as "quite a regular fall migrant" between September 10 (1938) and November 18 (1934); Lansing (November 27, 1937, 1 seen by F. M. Baumgartner); Jackson, where 2 specimens (U.M.M.Z.) were collected on October 20, 1911; Big Whitewood Lake, Livingston County, where a specimen (U.M.M.Z.) was collected on October 10, 1931; the Ann Arbor region, from September 18 (1930, specimen in U.M.M.Z.) to November 25 (1900—N. A. Wood, 1912: 161); the Detroit vicinity, from October 1 (1906, specimen examined by Swales) to October 31 (1915, specimen in U.M.M.Z.); and St. Clair Flats, St. Clair County, where a specimen was collected November 25, 1906 (Swales and Taverner, 1907: 137-38).

WINTER.—One record: a single bird observed on January 8, 1908, on Grosse Ile, Wayne County, by Swales (1908: 152; 1912: 126).

ARDEIDAE  
(HERONS)

*Ardea herodias herodias* Linnaeus  
Great Blue Heron

Common summer resident. Winter straggler in southern counties.

First listed for Michigan by Sager (1839: 416).

SPRING.—Migration occurs chiefly in the latter half of March and the first half of April.

Lower Peninsula.—L. W. Campbell (1940: 185, 199) gave April 5 as the average date for main flight in the Toledo-Erie marsh area and March 22 as the earliest date for arrival of individuals. In the Ann Arbor region, arrival has been reported as early as February 27 (1927) and March 4 (1902), but is usually reported in the second half of March. In the Battle Creek area, arrival was noted on March 13 in 1938 and on March 17 in 1935; dates in the fourth week of March are more usual (Walkinshaw). G. A. Amman recorded arrival at the Prairie Farm, Alicia, Saginaw County, on March 22, 1940.

Upper Peninsula.—Christofferson and Magee reported arrival on Sugar Island, Chippewa County, on March 24, in 1925; Bryens (1933: 34; and notes) gave March 29 (1932) as the earliest date for arrival at McMillan,

Luce County, and after April 5 as the more usual time; Christofferson reported arrival at Seney, Schoolcraft County, on April 2, 1940.

**SUMMER.**—The nesting period extends from early April to late July or early August; eggs are usually found from the last week in April through May.

**Lower Peninsula.**—L. W. Campbell (1940: 32) recorded one colony of 200 pairs and another of 32 pairs in Monroe County, and J. G. Bauer a colony of 500 birds in the vicinity of Blissfield, Lenawee County, in 1933. A colony of 350 (estimated) nests was found on Dickinson Island, St. Clair Flats, by Walter E. Hastings on May 15, 1921; 150 to 175 pairs have been reported breeding near St. Charles, Saginaw County, by Miller Empey and J. E. Swackhamer yearly since 1936. Observers have noted several small colonies in the Ann Arbor area; in the southwestern part of the peninsula, Pirnie, B. W. Baker (1939: 114), and Walkinshaw have reported numerous colonies of various sizes. In 1931 J. C. Salyer examined a colony of 201 nests near Scottville, Mason County. The species has been reported during the summer months, though without breeding evidence, from various localities between the Saginaw Bay region and the northern tip of the peninsula by many observers. Several colonies have been reported from a number of the smaller islands in the Beaver group, Charlevoix County, by W. I. Lyon (1927: 182; 1932: 30) and C. C. Ludwig (1940: 46-47). Blanchard and Nelson (MS of 1937) found a colony of "numerous nests" near Black Lake, Cheboygan County, in 1932. This colony had increased to "hundreds of nests" in 1940, according to H. H. Wilcox and T. W. Porter.

**Upper Peninsula.**—Van Tyne (1923: 22) counted 27 nests in a colony on Boot Island (in Les Cheneaux Islands), Mackinac County, on July 4, 1921; Roosevelt Hacken reported 2 colonies from Drummond Island, Chippewa County, in 1941, one with 14 pairs and the other with 15 pairs. In Chippewa County, Christofferson and Magee reported nesting groups at Neebish Island in 1916, at Sugar Island prior to 1916, and at Munuscong Bay in 1918. Christofferson also noted a colony of 100 nests at Covington, Baraga County, in 1926. The species appears to have an uneven nesting distribution in most of the peninsula. George H. Shiras 3d, who for many decades spent his summers in the Upper Peninsula, stated (1935: 125) that he had "rarely seen more than a pair of great blue herons with their young of the season about any of the small lakes," and that these had been "usually solitary in habits." This heron has been found during the summer in the Huron Mountain region, Marquette County, nearly every summer (S. S. Gregory, Jr., 1929: 174; Christy, 1925: 209), but it was not until the mid-1930's that nests and young were found (by Christy). Great Blue Herons were seen rather



rarely on Isle Royale in 1904, 1905, 1924, 1929, and 1930; no definite breeding data were secured (N. A. Wood, Peet, and McCreary, 1906: 122; Fargo, notes; and N. A. Wood, notes).

FALL.—Departure is reported mainly in October and November. The last Great Blue Herons in fall have been recorded in the Huron Mountain region, Marquette County, on October 16 (S. S. Gregory, Jr., 1929: 174); at Blaney, Schoolcraft County, mainly in October, but in 1934, as late as November 5 (Christofferson); in the Sault Ste Marie region, on November 9 in 1924 and November 22 in 1925 (Christofferson); at Wintergreen Lake, Kalamazoo County, on November 14, 1939 (Rysgaard, 1940: 19); and in the Ann Arbor region, usually in October, but in 1912, on November 25, and in 1913, on December 14. L. W. Campbell (1940: 185, 199) gave November 7 as the average date of departure for individuals, and October 20 as the average date of main flight, in the Toledo–Erie marsh area.

WINTER.—Stragglers have occasionally remained in the southernmost counties through the early part of winter and rarely until February. In early February, 1940, a Great Blue Heron (Cranbrook Institute of Science Collection) was taken as far north as Clare, by R. T. Hatt. Single individuals have been reported at Battle Creek on December 26, 1937 (N. T. Peterson and others, 1938: 55); near Homer, Calhoun County (1 seen almost daily until December 25 in 1940, by L. D. Case); at Litchfield, Hillsdale County, where a banded bird was recaptured on January 25, 1921 (F. C. Lincoln, 1924: 28); at Lansing on December 23, 1897 (T. L. Hankinson, 1898: 8); near Ann Arbor on December 19, 1939 (John L. George and others, 1940: 108); near Lake St. Clair, Macomb County, in February of the severe winter of 1903 (Swales, 1908: 153).

*Casmerodius albus egretta* (Gmelin)

American Egret

Uncommon postbreeding visitant in Lower Peninsula. Reported in spring from Wayne and Monroe counties. Not reported from Michigan between 1890 and 1925.

First listed for Michigan by Sager (1839: 416).

SPRING.—The species has been reported in Michigan once in late March and several times in April and May. C. L. Hubbs saw an American Egret at Flat Rock, Wayne County, on March 26, 1925. Records from the Toledo–Erie marsh area (L. W. Campbell, 1940: 33) include April 2, 1932; April 23, 1938; and May 18, 1939, when 3 birds were seen. N. A. Wood reported a single bird at Rockwood, Monroe County, on May 19, 1934.

SUMMER.—Although not known to breed in Michigan, a few American Egrets have been seen here in summer. Several have been noted in late May and June in the Toledo–Erie marsh area (L. W. Campbell, 1940: 33),

and on occasion, spring arrivals have been observed to remain in that area throughout the summer. Other summer records include a single bird seen by Walkinshaw in Convis Township, Calhoun County, on June 26, 1940, and 1 photographed by W. C. Beckman at Lake of the Woods, Van Buren County, on June 4, 1941. Frank L. DuMond (1938: 19) mentioned a possible instance of breeding near Middleville, Barry County, but this has not been confirmed.

FALL.—The postbreeding visitants arrive usually in late July and August and remain until the end of September. The species is usually recorded only as far north as the Saginaw Bay district, although in 1938 it appeared in Benzie, Charlevoix, and Cheboygan counties. Gibbs (1893: 74) stated that the species was "not uncommon occasionally in summer" and that he had seen it in July and repeatedly in August, generally south of Grand Rapids and Flint. Barrows (1912: 139) listed a number of records before 1890 but none later. In 1925 a specimen (U.M.M.Z.) was secured in August by John Monk in Dundee Township, Monroe County. A few scattered reports were received after 1925 for the southern counties, and in 1930 a general distribution was noted for most of that area. In that year the species was seen north to Delton, Barry County (August 28, by Walkinshaw); in Convis Township, Calhoun County (August 24, by Walkinshaw, 1930a: 557); at Pontiac Lake, Oakland County (August 26 to September 14, by W. B. Tyrrell, 1931a: 114); and in Manistee County (2 seen, August 7 to 9, by F. J. Hermann, 1931: 311). Miller Empey secured a specimen on August 11, 1931, and another on July 26, 1932, in the Saginaw Bay area. L. W. Campbell (1940: 33) reported a flock of 25 in the Erie marsh area in August, 1933, and Fargo saw a flock of 26 near Jackson on August 31, 1933. In 1939 Verne Dockham recorded 5 American Egrets in Arenac County on August 21, and D. W. Douglass and Max Wakeman recorded 2 in central Gladwin County on August 22. In the summer of 1938, an individual was noted near Pilgrim, Benzie County, on August 11 by Alma H. Prucha, 1 at Charlevoix on July 13 by Mrs. F. J. Fessenden, and 1 near Cheboygan in the first few days of August by O. S. Pettingill, Jr., Theodora Nelson, and others. The species was not reported between these northern localities and Montcalm and Gratiot counties to the south in 1938. Most of the American Egrets have migrated by the end of September, although a few are occasionally found in October. Walkinshaw saw 1 in Convis Township, Calhoun County, on October 13, 1938. L. Whitney Watkins and Fargo recorded 3 in Norvell Township, Jackson County, on October 17, 1938, and 1 there on October 26, 1933. In the Ann Arbor area, 2 were seen by N. A. Wood on October 1, 1938. In the Toledo-Erie marsh area, L. W. Campbell (1940: 185, 199) has found that the majority of the birds are present on the average

only between July 13 and September 24, but he has recorded individuals there as late as October 17 (1936).

*Leucophoyx thula thula* (Molina)  
Snowy Egret

Very rare late summer visitant.

First authoritatively listed for Michigan by Van Tyne (1936:322).

Michigan reports and specimens referred to the Snowy Egret prior to 1935 have been recently shown to refer either to the American Egret, *Casmerodius albus egretta*, or to the Little Blue Heron, *Florida caerulea caerulea* (Van Tyne, 1936:322; Fargo, 1937:200-201). Since 1935, however, several unquestionable records have been made. In the Erie marsh, Monroe County (Van Tyne, 1936:322; L. W. Campbell, 1940:34), Campbell collected an immature female (U.M.M.Z.) on August 10, 1935, and an immature male (U.M.M.Z.), 1 of 3 Snowy Egrets seen that day, on August 29, 1937. In 1938 he saw Snowy Egrets on August 6 (1), August 13 (2), and August 21 (4). In Norvell Township, Jackson County, L. Whitney Watkins, Fargo, and others observed an adult from August 2 to 8, 1936 (Fargo, 1937:200-201).

*Florida caerulea caerulea* (Linnaeus)  
Little Blue Heron

Uncommon postbreeding summer visitant north to Clinton County.

First authoritatively listed for Michigan by Taverner (1909:83).

The only unquestionable older record of the Little Blue Heron in Michigan concerns a "full plumaged bird in the normal dark [adult] phase," taken May 2, 1882, by W. S. Smith in Wayne County, near Detroit, and examined by Taverner (1909:83). With 1 exception, an adult noted in Monroe County on May 1, 1927, by Louis Klewer, other Michigan records refer to immatures seen in July, August, or September. L. W. Campbell (1940:34, 185) recorded these herons in the Toledo-Erie marsh area in 1924, 1930, and yearly from 1933 to 1939; as a rule he noted only 1 or 2 individuals a year, but in 1930, 1934, and 1939 he saw large numbers (85 in 1930) in the area. His records fall between July 4 (1935) and September 15 (1934). James H. Wood collected 2 specimens (U.M.M.Z.) in Erie Township, Monroe County, on July 25, 1934.

The Little Blue Heron was recorded in other Michigan counties in 1924, 1930 (when this heron was comparatively common in several counties), 1933, 1934, 1937, and 1938.

1924: Fargo saw 3 Little Blue Herons near Mud Lake, Henrietta Township, Jackson County, on August 11; F. W. Rapp observed several from August 20 to 22 near Kalamazoo.

In 1930 N. A. Wood and Tinker (1934: 5, and Wood's notes) saw 2 near Ann Arbor on August 25. On August 23, James H. Wood saw more than 100 near the mouth of the Huron River (Wayne and Monroe counties) and collected 2 (U.M.M.Z.); he also took 2 (U.M.M.Z.) near Concord, Jackson County, on August 21. Fargo reported that there were "a dozen or so" Little Blue Herons on a number of Jackson County ponds in August. Van Tyne saw 3 at Big Portage Lake, Jackson County, on July 28 and 30. In Barry County, N. A. Wood saw 2 on August 23 (at Middleville), and Walkinshaw (1930: 556-57; and letter) saw 18 on August 24 and 2 on September 7 (at Delton). W. B. Tyrrell (1931a: 114) found 7 near Pontiac, Oakland County, on August 26, and a group (5 on August 19; 14 on August 24) near Mt. Clemens, Macomb County. F. W. Rapp (1931: 7; and letter) noted 7 near Vicksburg, Kalamazoo County, on July 22.

In 1933 Walkinshaw saw 1 at Mud Lake, Convis Township, Calhoun County, on August 5, and Pirnie 1 on the Kalamazoo River in late July.

In 1934 Trautman noted 1 at Whitmore Lake, Washtenaw County, on August 12, and F. W. Rapp (1931: 7; and letter) saw 7 at Vicksburg, Kalamazoo County, on July 22. Walkinshaw recorded Little Blue Herons in Convis Township, Calhoun County, on July 24 (5), July 29 (8), August 12 (4), and August 16 (2).

In 1937 Frank Smith saw about 20 Little Blue Herons near Hillsdale on August 29.

In 1938 a specimen (U.M.M.Z.) was collected on August 4 at Ann Arbor by R. E. Stewart; 2 herons were seen August 7 to 12 near Jackson by Fargo; 3 seen August 18, in Convis Township, Calhoun County, by Walkinshaw; 1 seen in August near Bath, Clinton County, by D. F. Switzenberg.

*Butorides virescens virescens* (Linnaeus)  
Eastern Green Heron

Summer resident, common in the southern 3 tiers of counties, local northward to Cheboygan County.

First authoritatively listed for Michigan by Gibbs (1879: 493).

SPRING.—Arrival of individuals is reported in mid-April, but the majority arrive in late April and May. L. W. Campbell (1940: 199) gave May 2 as the average date of arrival for the greater numbers in the Toledo-Erie marsh area. The earliest date for Wayne County is April 26 (1908), when a Green Heron was shot by Swales. In the Ann Arbor region, arrival has been reported as early as April 13 (1916), but usually in the last week of April and the first week in May. The Ann Arbor date, March 19, 1904 (N. A. Wood, 1906: table), occasionally quoted, is now considered doubtful. For Vicksburg, Kalamazoo County, April 10 (1897) is the earliest (F. W. Rapp,

1931: 7); for Augusta, in the same county, April 17 (1938, reported by Walkinshaw). G. A. Ammann reported arrival at the Prairie Farm, Alicia, Saginaw County, on May 15, 1940. At Sand Point, Huron County, the Green Heron was "occasionally" seen "singly or in pairs," in May, 1931 and 1932; on May 19, 1933, a group of 6 was seen there by D. W. Douglass. A specimen was collected in Kalkaska County on May 2, 1898 (Barrows, 1912: 144).

SUMMER.—Nesting activity extends from early May to August. There are nesting data from the Ann Arbor region (nest with 4 eggs, May 14, 1938, and nest with 4 eggs in process of pipping, May 21, 1938, found by R. E. Morrill and R. A. MacMullan; nest with 5 eggs, May 15, 1922, and 1 with 6 eggs, May 25, 1919, found by Van Tyne); from the vicinity of Pontiac, Oakland County (a 5-egg set, June 23, 1901, and a deserted 6- or 7-nest heronry, June 29, 1902, found by Alexander W. Blain, Jr., and reported in Swales' notes; 12 Green Herons seen together, July 24, 1938, and a few observed all that summer, by R. E. Olsen); from Convis Township, Calhoun County (May 3, 1925, a nest with 3 eggs, young leaving the nest on June 11, reported by Walkinshaw); from the Gull Lake area, Kalamazoo County (nesting in May, but mainly in June and July, reported by Pirnie); from Vicksburg, Kalamazoo County (F. W. Rapp, 1931: 7; 1931a: 61), where nesting data extend from May 10 (1902, nest with 5 eggs) to July 21 (1929, nest with 4 eggs), and where a large colony (12 nests) was reported in 1929; from Berrien County, where the species was recorded as common (1917 to 1920—N. A. Wood, 1922: 9); from Grand Rapids, where 5 nests were found in a 1-acre tract (B. W. Baker, 1940: 114); from Hess Lake, Newaygo County (regular summer resident, 3 or 4 nests being found together there; May 28, 1922, a nest with 5 eggs reported by E. R. Ford); from White Cloud, Newaygo County, where 3 adults (U.M.M.Z.) were collected July 6, 14, and 16, 1941; from Baldwin, Lake County, where 2 specimens (U.M.M.Z.) were collected July 30, 1941; and from Arcadia, Manistee County, where a number were seen on August 7, 1930 (F. J. Hermann, 1931: 311). There are very few records from the Saginaw Bay district, but single individuals have been reported from Sand Point, Huron County, on July 10, 1908, and from Rush Lake, Huron County, on August 10, 1908 (N. A. Wood and Gaige, 1911: 279); from Charity Island, Huron County, on July 8, 1911 (N. A. Wood, 1912a: 181). Verne Dockham reported that the species nested every summer from 1931 to 1934 at the Gladwin Refuge, Gladwin County. It is also reported from Farwell, Clare County, where 2 specimens (U.M.M.Z.) were taken June 12 and 13, 1941; from eastern Leelanau County (single individuals noted, July 1, 2, 22, 1940, by R. T. Hatt); from Emmet County, Oden Fish Hatchery, where 3 immature males (one in U. of M. Biol. Sta. Collection) were taken on August 7, 1940; and from Mud Lake bog near Black

Lake, Cheboygan County, on July 14, 1941, when a nest with 5 young (1 in U. of M. Biol. Sta. Collection; 1 in U.M.M.Z.) was found by O. M. Root (1941:234) and O. S. Pettingill, Jr. The Keweenaw Point record (Kneeland, 1857:238) and other Upper Peninsula reports require confirmation; apparently no specimens have been collected in that region.

FALL.—Migration is reported in September and early October, rarely later. Departure was recorded from Betsie River, Benzie County, on September 14, 1934 (6 Green Herons observed by David E. Davis); from Vicksburg, Kalamazoo County, on September 21 (1928, latest date, reported by F. W. Rapp, 1931:7); from Paw Paw, Van Buren County, on September 20, 1938, when a specimen (U.M.M.Z.) was collected; from Three Rivers, St. Joseph County, on October 5, 1926, by Bryens; from Atlas Township, Genesee County, on September 29, 1901 (1 seen by Swales); from the Pontiac vicinity, Oakland County, on September 17, 1938, by R. E. Olsen; from Wayne County, as late as October 21 (1909) and November 5 (1905), by Swales; and from the Ann Arbor region, usually in September, though a specimen (U.M.M.Z.) was collected there on October 10 (1902). L. W. Campbell (1940:185, 199) gave September 15 as the average date of main flight in the Toledo-Erie marsh area, but has recorded individuals there as late as October 11 (1931).

*Nycticorax nycticorax hoactli* (Gmelin)  
Black-crowned Night Heron

Summer resident, common locally in the southeastern part of the Lower Peninsula. Recorded in winter in Wayne County.

First authoritatively listed for Michigan by Gibbs (1879:493).

SPRING.—Individuals occasionally arrive in late March or early April; the main flight occurs after the middle of April. L. W. Campbell (1940:185; 199) has recorded individuals in the Toledo-Erie marsh area as early as March 18 (1939), but gave April 7 as the average date of arrival for individuals in that area and April 21 for main flight. The species has occasionally been reported in the first week of April in the Ann Arbor area (April 4 in 1932 and 1939). G. A. Ammann saw 2 at the Prairie Farm, Alicia, Saginaw County, on April 2, 1940, and Maurice G. Brooks saw 1 along the Saginaw River in Bay County on March 17, 1939.

SUMMER.—Eggs of the Black-crowned Night Heron are occasionally found in early April, but more often in the latter part of April and early May. On April 16, 1916, J. E. Swackhamer found a breeding colony of 350 pairs east of the mouth of the Saginaw River, Bay County—the first definite breeding record for Michigan. Since that time numerous other heronries have been discovered in the southeastern part of the Lower Peninsula. L. W. Campbell (1940:35-36) and J. J. Stophlet examined a colony

of about 175 pairs in the Erie marsh; in 1938 and 1939 they found eggs as early as April 5; by the end of May there were newly hatched young and fledglings. A heronry at the North Shores Park, Monroe County, contained 50 birds in 1926 and 1927 (L. W. Campbell) and 20 occupied nests in 1929 (N. A. Wood). A. E. Staebler discovered a nesting colony of 30 birds in the Ann Arbor vicinity on April 13, 1936; on May 3 of the same year R. E. Morrill counted 20 nests in the colony, and the following year he counted about 150 birds present there on April 24. South of Ypsilanti, Washtenaw County, a 15- to 20-nest colony was observed by Edith Hoyle and Van Tyne on July 14, 1941, and at Edison Lake near the same town a small colony was discovered by T. L. Hankinson in 1930. Walter E. Hastings found a breeding colony of 183 nests with eggs on Harsen's Island, St. Clair County, on May 15, 1921. Miller Empey and J. E. Swackhamer reported a colony of about 240 pairs near Fish Point, Tuscola County, on June 12, 1934. Two other heronries have been reported by Empey and Swackhamer in Bay County: 1 in Frankenlust Township, where 200 to 300 pairs have nested since 1930; 1 in Kawkawlin Township, variously estimated to contain 450 to 575 pairs of birds yearly since 1934. A heronry discovered in 1916 by Swackhamer near Essexville, Bay County, was examined by Van Tyne and T. L. Hankinson on June 23, 1926, who found more than 100 pairs of birds there. This heronry was destroyed shortly afterward.

No nesting data have been reported from the western part of the peninsula, although both young and old birds have been seen there in late summer. In Jackson County, R. E. Olsen saw 20 adults and young at Portage Lake, on July 19, 1936. Pirnie reported frequent occurrence during July and August in the Gull Lake area, Kalamazoo County, and 3 individuals were seen near Delton, Barry County, by Walkinshaw on August 24, 1930.

FALL.—The southward migration occurs mainly in September and October. Durward L. Allen found a few Black-crowned Night Herons still present at Augusta, Kalamazoo County, on October 23, 1936. R. E. Olsen reported 15 at Portage Lake, Jackson County, on October 4, 1936, and Fargo saw 1 at Hillsdale, Hillsdale County, on November 23, 1924. Departure from the Ann Arbor area has been reported in late September and in October; a specimen (U.M.M.Z.) was collected there on October 26, 1908, by R. D. T. Hollister. J. C. Salyer secured a specimen (U.M.M.Z.) at Northville, Wayne County, on October 30, 1931. In the Toledo-Erie marsh area, L. W. Campbell (1940: 185; 199) has found individuals remaining until October 17 (average date) and once as late as December 8 (1928); September 25 is the average date for main flight from that area.

WINTER.—Two immature birds were seen from mid-January to January 26, 1941, on Grosse Ile, Wayne County, by M. T. Sturgeon (1941: 22).

*Botaurus lentiginosus* (Montagu)  
American Bittern

Common summer resident. Reported occasionally in winter.

First listed for Michigan by Sager (1839: 416).

SPRING.—Arrival is reported occasionally in March, but usually in April and the first half of May.

Lower Peninsula.—L. W. Campbell (1940: 185, 199) gave April 1 as the average date of arrival for individuals in the Toledo-Erie marsh area; April 17 as average for the main flight; March 19 (1938) as the earliest date for the area. Swales recorded arrival in the Detroit region regularly in April. This bittern was reported in the Ann Arbor area on March 5 in 1922, on March 22 in 1918, and 5 times during the last week of March, but it usually arrives there in the first half of April. Walkinshaw reported arrival in the Battle Creek area on April 3, 1938, and regularly reports it there in the first and second weeks of April. F. W. Rapp (1931: 6) reported arrival at Vicksburg, Kalamazoo County, on March 15 in 1927.

Upper Peninsula.—Christofferson recorded this bittern as common at Munuscong Bay, Chippewa County, and gave April 7 (1929) as the earliest date of arrival. Bryens found it rare at McMillan, Luce County, and recorded arrival in the first week of May (May 2 in 1937).

SUMMER.—Nests and eggs have been found from the first week in May to the last of June.

Lower Peninsula.—There are breeding data from Springfield Township, Oakland County (May 3, 1902, Bittern on nest, reported by J. Claire Wood, 1903: 58-69); from Pinckney, Livingston County (May 16, 1936, 6 eggs found by A. S. Hyde); from Convis Township, Calhoun County (May 10, 1936, a nest with 3 eggs, and May 15, 1938, a nest with 5 eggs, in which 4 nestlings were banded on June 9 by Walkinshaw); from the Gull Lake area, Kalamazoo County (common nesting reported by Pirnie); from Vicksburg, Kalamazoo County, where F. W. Rapp (1931: 6) reported eggs from May 6 (1899, nest with 3 eggs) to June 19 (1897, nest with 3 eggs); from the Prairie Farm, Alicia, Saginaw County (June 21, 1940, nest with 2 eggs, found by G. A. Ammann). In the vicinity of Sand Point, Huron County, young were noted July 8 to 14, 1908 (N. A. Wood and Gaige, 1911: 279), but from 1931 to 1933 (D. W. Douglass) few Bitterns were noted and no nesting evidence was found there. Two (U.M.M.Z.) were taken on June 16 and 17, 1941, at Grayling, Crawford County; and 1 seen on Scarecrow Island, Thunder Bay, Alpena County (July 13, 1933). This bittern is uncommon or only occasional in the northwest coastal counties of the peninsula, but Van Tyne (1925: 614) recorded 3 in the summer of 1923 in Charlevoix County, and N. A. Wood saw individuals on Beaver



Island on June 16, 1922, and June 23, 1925. Blanchard and Nelson (MS of 1937) recorded the species in many localities in the Douglas Lake area, Cheboygan County, and caught several fledglings there.

Upper Peninsula.—The species has been reported from Les Cheneaux Islands, Mackinac County (abundant—Van Tyne, 1923: 23); from Drummond Island, Chippewa County, where T. D. Hinshaw found half-grown young (U.M.M.Z.) on July 11, 1938; from Munuscong Bay, Chippewa County (very common; nest with 4 eggs, June 2, 1935; 10 nests with eggs, June 8 to 14, found by F. C. Gillett and Walkinshaw; downy young collected on June 26, 1934); from Whitefish Point, Chippewa County (common; nest found May 27, 1914—N. A. Wood, 1914: 61); from Blaney, Schoolcraft County, by Christofferson (nest with 4 eggs, June 8, 1935, and June 8, 1936); from Alger County (occasional—N. A. Wood, 1918: 5); from the Huron Mountain region, Marquette County, where it was reported as a rather uncommon summer resident by S. S. Gregory, Jr. (1929: 174), and Van Tyne; from Houghton and Iron counties (“very common in suitable swampy places”—A. R. Cahn, 1918: 490); from Copper Harbor, Keweenaw County (one seen on June 5, 1931—N. A. Wood, 1933: 716); from Isle Royale (not common; only 5 seen on the expeditions of 1904–1905 and 1929; July 18, 1905, a nest with 2 dead young reported by N. A. Wood).

FALL.—Migration is reported mainly in September and October.

Upper Peninsula.—The species has been last recorded in fall in the Huron Mountain region, Marquette County, on September 24 (S. S. Gregory, Jr., 1929: 174); and at Blaney, Schoolcraft County, in late September and early October—as late as October 26 in 1931 (Christofferson).

Lower Peninsula.—The last Bitterns were observed at Deckerville, Sanilac County, on October 17, in 1939, when 1 (U.M.M.Z.) was collected by D. W. Myers; at Vicksburg, Kalamazoo County, on November 18 in 1909 (F. W. Rapp, 1931: 6); at Portage Lake, Jackson County, on October 27, in 1935 (R. E. Olsen); in the Ann Arbor region on November 7 in 1914, though usually in mid-October; in the Detroit area on November 5 in 1904 (Swales), but usually in October. L. W. Campbell (1940: 185, 199) gave October 12 as the average date of departure for individuals from the Toledo–Erie marsh area, and September 24 for main flight; the latest date of occurrence there was November 6 (1932).

WINTER.—There are several winter records: an individual taken on December 11, 1897, at Hillsdale, Hillsdale County (C. Cass, 1898: 24); a crippled Bittern (Max M. Peet collection) taken by Gordon Maveal at Ypsilanti, Washtenaw County, on December 20, 1937; a crippled Bittern taken at Waterford, Oakland County, on January 1, 1903 (A. W. Blain,

Jr., 1903: 27); and individuals reported in the Erie marsh, Monroe County, on January 18, 1930, and February 18, 1933 (L. W. Campbell, 1940: 36). Near the same spot in the Erie marsh, Harold Mayfield (1942: 138) found a Bittern recently dead on March 1, 1942.

*Ixobrychus exilis exilis* (Gmelin)  
Eastern Least Bittern

Summer resident, common in southern tiers of counties and in Cheboygan County; rare and local in the Upper Peninsula.

First listed for Michigan by Sager (1839: 416).

SPRING.—Migration occurs principally in the latter half of May.

Lower Peninsula.—L. W. Campbell (1940: 185, 199) gave May 12 as the average date of arrival for individuals in the Toledo-Erie marsh area and May 16 for main flight; May 1 (1938) was the earliest occurrence of individuals in the area. N. A. Wood recorded arrival at South Rockwood, Monroe County, on May 19, 1934. At Strawberry Island, St. Clair County, 5 were recorded (2 in U.M.M.Z.) May 21 to 24, 1934, by R. E. Olsen and D. W. Douglass. The earliest arrival recorded at Detroit is May 7 (1916, reported by Swales). In the Ann Arbor region, arrival has been reported as early as April 25 (1914), April 29 (1904), and May 1 (1908, specimen in U.M.M.Z.), but more usually in the third and fourth weeks of May. A specimen (U.M.M.Z.) was collected at Portage Lake, Jackson County, on May 22, 1938. The species has been reported from the Battle Creek region on May 11 (in 1936 and 1939), but usually in the third and fourth weeks of May (Walkinshaw). The earliest date for Vicksburg, Kalamazoo County, is May 5 (1914), reported by F. W. Rapp (1931: 6). The species is rare at Sand Point, Huron County, but D. W. Douglass reported 1 there on May 21, 1931. One (U.M.M.Z.) was collected at Manistee, May 31, 1899.

Upper Peninsula.—In Schoolcraft County, Christofferson reported 1 seen at Blaney, on May 22, 1931, and 1 banded at Manistique on May 29 the same year.

SUMMER.—Nesting begins about the last week in May or the first week in June and continues (in the Upper Peninsula) through July.

Lower Peninsula.—On the St. Clair Flats, June 11 and 18, 1899, Swales found this bittern breeding rather abundantly. At Green Lake, in northwestern Oakland County, F. C. Hubel took a set of 5 eggs (U.M.M.Z.) on May 31, 1902. Breeding is commonly reported from Washtenaw County, where Walter Koelz (1916 to 1918) found 15 nests in a 2-acre patch of rushes; from Calhoun County, where Walkinshaw discovered eggs from May 26 (1932) to the last week in June. F. W. Rapp (1931: 6-7) has found nests in the vicinity of Vicksburg, Kalamazoo

County, between May 25 (1906, nest with 5 eggs) to June 7 (1896, nest with 4 eggs). There are several egg sets (June 1 to June 14) in the Museum of Zoology from Barry County. Near Grand Rapids, B. W. Baker (1940: 112-14) found a nest with 5 eggs on May 26. At Fish Point, Tuscola County, from June 7 to 11, 1926, N. A. Wood noted 8 individuals (1 in U.M.M.Z.). The species was first reported from the Douglas Lake, Cheboygan County, area by Fortner and Metcalf (1929: 249) in 1921 (August 9). Blanchard and Nelson (MS of 1937) reported it common there in the 1930's, recording nestlings from July 3 to July 30 and a fledgling on July 9. T. D. Hinshaw noted several of these bitterns at Barney Lake, Beaver Island, Charlevoix County, on July 14, 1937.

Upper Peninsula.—On June 18, 1922, Magee (1922: 176) and Christofferson found a nest with 5 eggs on Sand Island in Munuscong Bay, Chippewa County. At Blaney, Schoolcraft County, Christofferson discovered a nest with 5 eggs on June 28, 1931, and during that year, from May 22 to July 10, saw a total of 8 Least Bitterns; near Germfask in the same county, E. E. Crawford found 2 nest colonies in 1937. T. D. Hinshaw collected 2 specimens (U.M.M.Z.) on Drummond Island, Chippewa County, on August 13, 1938. An individual was seen on June 17, 1925, in the Huron Mountains, Marquette County (Christy, 1925: 209; S. S. Gregory, Jr., 1929: 174); Van Tyne, Christy, and W. P. Harris, Jr., saw 2 in the same area on June 27, 1936. A. R. Cahn (1918: 490) noted an individual in August, 1914, in the Houghton and Iron counties area.

FALL.—F. W. Rapp (1931: 6) reported departure from Vicksburg, Kalamazoo County, on October 5 in 1902. A specimen (U.M.M.Z.) was collected at Portage Lake, Jackson County, on September 2, 1938. In the Ann Arbor region, departure was recorded October 22, 1915, and on December 14, 1913, F. M. Gaige collected an injured Least Bittern (U.M.M.Z.) there. The latest occurrence at Detroit is September 20 (1908—Swales). L. W. Campbell (1940: 185, 199) gave September 3 as the average date of departure for individuals in the Toledo-Erie marsh area, and August 20 for main flight. Trautman and E. L. Wickliff observed 10 Least Bitterns at Point Mouillee marsh, Monroe County, on September 14, 1932.

*Ixobrychus neoxenus* (Cory)  
Cory's Bittern

The status of this bittern, as a color phase of the Least Bittern or as a distinct species, has not yet been settled. There are 2 Michigan records: a male (U.M.M.Z.) collected August 24, 1894, at Norvell, Jackson County (L. W. Watkins, 1895: 77; Van Tyne, 1938: 4); a male (Jesse T. Craven collection) taken at St. Clair Flats, St. Clair County, by Ernest Craven on May 14, 1904 (possibly the specimen listed by J. L. Childs, 1906: 73).

## CICONIIDAE

(STORKS)

*Mycteria americana* Linnaeus

Wood Ibis

One record: an immature collected near Monroe, June 19, 1910, by J. A. Peterson; examined and photographed by P. A. Taverner (1911: 256).

## THRESKIORNITHIDAE

(IBISES)

*Plegadis falcinellus falcinellus* (Linnaeus)

Eastern Glossy Ibis

One record: an adult female taken June 14, 1939, in Bay County on the west shore of Saginaw Bay by Miller Empey (1939: 183; and correction in letter); examined by Van Tyne.

Disturbance caused by drought and fires in the vicinity of the Florida breeding grounds in 1939 may account for this occurrence; the species was recorded the same year in Minnesota and New York. Because of this record the identification of the October 6, 1884, specimen of an immature Glossy Ibis, heretofore referred to the White-faced Glossy Ibis, is uncertain.

*Plegadis mexicana* (Gmelin)

White-faced Glossy Ibis

One definite record: an immature (U.M.M.Z.) collected October 15, 1916, near Jackson, by F. J. Miller.

An immature Glossy Ibis, collected October 6, 1884, at the mouth of the Rifle River, Arenac County, by N. A. Eddy (1885: 8-9), cannot now be found. It may be referable to either the White-faced or the Eastern Glossy Ibis.

## ANATIDAE

(SWANS, GEESE, AND DUCKS)

*Cygnus columbianus* (Ord)

Whistling Swan

Spring and fall transient, sometimes common; frequently winters locally in southern Michigan.

First listed for Michigan by Sager (1839: 416).

SPRING.—The northward movement occurs chiefly in the latter part of March and in April.

Lower Peninsula.—In the Toledo-Erie marsh area, L. W. Campbell (1940: 37, 200) has occasionally seen large numbers of swans, noting 2000 on March 27, 1937, and 5000 on March 30, 1930; he gave mid-March to

mid-April as the average period of the main flights in that area. Between 1000 and 2000 swans were seen by W. B. Tyrrell near Monroe on April 3, 1927, and Maurice G. Brooks noted a few there on April 30, 1939. Swales (1904b: 84), recorded the species as unusually abundant at times in the Detroit area and found it there as early as March 2 (1903) and as late as April 20 (1901). Arrival in the Ann Arbor area has usually been reported in the last week of March, although occasionally earlier (March 7 in 1903 and March 10 in 1939); one of the largest flocks reported from this area is one of 300 birds seen by Trautman on April 4, 1935. F. W. Rapp (1931: 6) recorded the species twice in the spring in the vicinity of Vicksburg, Kalamazoo County, April 9, 1929, and April 26, 1926. Two to three hundred swans were seen at Fish Point, Tuscola County, by Walter E. Hastings on April 8, 1930, and single birds were noted there by N. A. Wood on several occasions between May 3 and 8, 1926. Single specimens (U.M.M.Z.) have been taken at Pinconning, Bay County (May 14, 1929), and at Bar Lake, Manistee County (April 30, 1930).

Upper Peninsula.—F. C. Gillett saw 2 Whistling Swans at Munuscong Bay, Chippewa County, on April 13, 1933, and Van Tyne saw 5 there on May 1, 1933. Bryens has only 1 record from the vicinity of McMillan, Luce County, a single bird on McCormick Lake on May 18, 1937.

SUMMER.—Whistling Swans (possibly delayed migrants) have been found on a few occasions in summer in the Toledo-Erie marsh area. L. W. Campbell and Trautman saw 1 there on May 30, 1937. Campbell (1940: 37) recorded 2 there on May 24, 1936, 1 on July 17, 1936, 1 on May 26, 1939, and 1 on June 3, 1939.

FALL.—The southward migration takes place largely from the fourth week in October through the third week in November.

Upper Peninsula.—A single bird was reported from Isle Royale on September 25, 1930 (N. A. Wood). The only other fall record from the Upper Peninsula is apparently that of Christofferson, who reported a bird at Blaney, Schoolcraft County, on October 27, 1930.

Lower Peninsula.—Near Baldwin, Lake County, A. B. Chanel (1941: 21) saw a flock of about 100 swans on November 14, 1940; in the vicinity of Bitely, Newaygo County, G. A. Ammann saw several flying flocks totaling 900 or more birds on November 8, 1938. Three birds were shot and confiscated (2 in U.M.M.Z.) at Base Line Lake, Allegan County, on November 19, 1926, and a flock of 25 was observed on Otis Lake, Barry County, by Pirnie on October 24, 1939. The species is an irregular migrant at Gull Lake, Kalamazoo County; it has been seen there from October 25 (1932) to November 23 (1940), a maximum number of 80 being noted on November 14, 1935 (Pirnie, 1941: 30; and notes). Walkinshaw saw a

flock of 68 in Convis Township, Calhoun County, on November 1, 1934, and Fargo a flock of 37 near Jackson on November 16, 1930. The few Ann Arbor records include a total of 125 birds seen in 7 flocks on October 28, 1939, and 1 flock of 36 on November 14, 1941. About 500 swans were seen on Strawberry Island, Lake St. Clair, on November 15, 1936, and 200 on November 4, 1937, by Pirnie.

WINTER.—Three Whistling Swans were photographed on Platte Lake, Benzie County, by Collins B. Reed, the birds remaining in the vicinity from February 8 to March 10, 1939. During the winter of 1932–33, 4 swans were reported at Gull and Wintergreen lakes, Kalamazoo County, by Pirnie. Five swans were present at the St. Clair Flats, St. Clair County, until January 29 in 1906 (Swales, 1912: 127), and a small flock wintered at the western end of Lake Erie in 1905–6 (Swales and Taverner, 1907: 139). Observers have found the species regularly at Gibraltar Bay, Wayne County; R. E. Olsen recorded 30 there on January 30, 1936, 300 on January 31, 1937, and 200 on February 10, 1935.

*Cygnus buccinator* Richardson  
Trumpeter Swan

One authentic specimen: a male (U.S.N.M.), taken November 20, 1875, by W. H. Collins, at the St. Clair Flats, St. Clair County (Stejneger, 1882: 218).

*Branta canadensis canadensis* (Linnaeus)  
Common Canada Goose

Common transient. All records now confused by restocking and by presence of strays from domesticated flocks.

First listed for Michigan by Sager (1839: 416).

SPRING.—Migration apparently occurs in the Lower Peninsula in March and April; in the north, in April and May.

Lower Peninsula.—L. W. Campbell (1940: 200) gave March 4 to April 12 as the average period of migration through the Toledo–Erie marsh area. Swales (1908: 152–53) recorded many flocks in spring in the Detroit vicinity—in 1907, a flock of 42 as late as May 8. In the Ann Arbor region, occasional January and February flocks have been reported, and many flocks during March and early April—on April 7, 1940, a flock of 300. Fargo recorded a flock of 300 at Jackson on April 4, 1925, and Bryens (1940: 82) found the species at Three Rivers, St. Joseph County, from February 20 to March 27, 1927. In Berrien County, N. A. Wood (1922: 9) recorded a flock on April 29 and May 1; at Knickerbocker Lake, near Decatur, Van Buren County, G. A. Ammann observed a flock of about 300 on April 15, 1939. Pirnie (1935: 35) reported thousands from late March until well

into April in the Kalamazoo, Allegan, and Saginaw regions; Pirnie and H. L. Bradley saw more than 2500 near Saugatuck, Allegan County, on March 28, 1938. G. A. Ammann reported the species common at the Prairie Farm, Alicia, Saginaw County, from April 11 to 26, 1940. Two flocks, totaling 38 birds, were noted by D. W. Douglass at Sand Point, Huron County, on April 12, 1931; he noted several flocks of as many as 2 dozen birds during April, 1932, and 7 or 8 birds on May 10, 1932.

Upper Peninsula.—Christofferson occasionally reported the beginning of migration at Blaney, Schoolcraft County, in late March, but main migration in April and May, when he records many flocks of hundreds (a flock of 200 on May 27, 1937). F. C. Gillett reported more than 500 on April 13 and 20, 1933, at Munuscong Bay, Chippewa County. The species was reported as common in migration in Alger County (George H. Shiras, 3d, 1935: 104–12), and at Portage Lake, Keweenaw County (Kneeland, 1857: 238).

SUMMER.—We have no definite nest records of wild birds. According to Pirnie (1935: 259), “releases of full-winged Canadas raised by pinioned, captive stocks have now established regular breeding of this species in the wild in southwestern Michigan.” Van Tyne (1923: 22) recorded the Canada Goose at Hessel, Mackinac County, on June 25 and July 7, 1920 (probably delayed migrants or feral birds).

FALL.—Migration apparently begins in early September in the Upper Peninsula, but occurs mainly in October and early November; it extends from October to mid-November in the Lower Peninsula.

Upper Peninsula.—Max M. Peet (1909: 345) recorded a Canada Goose on Isle Royale on September 16, 1905. The species is recorded as a rare fall migrant in the Huron Mountains, Marquette County, though a large flock was seen there on November 1, 1914 (S. S. Gregory, Jr., 1929: 174); eastward, Christofferson has recorded a few Canada Geese in September at Blaney, Schoolcraft County, and flocks of many hundreds in the last half of October and the first half of November.

Lower Peninsula.—Trautman recorded 100 on October 17, and 70 on October 18, 1936, at Houghton Lake, Roscommon County. A very heavy flight was reported at Saginaw on October 29, 1927 (Mershon, 1928: 93). In the Gull Lake area, Kalamazoo County, migrants arrive as early as October 10, but on the average between October 15 and 25 (Pirnie). In the Ann Arbor region a few groups are seen in September (a flock of 15, September 25, 1921, was reported by N. A. Wood), but the majority arrive after the first week of October; N. A. Wood recorded 1000 there on October 20, 1907. L. W. Campbell (1940: 200) gave October 28 to November 28 as the average period of migration in the Toledo–Erie marsh area.

WINTER.—Swales (1908: 152-53; 1912: 126-27; and notes) recorded three flocks near the mouth of the Detroit River during the winters of 1905-6, 1907-8, and in December, 1908. This is the only early record. There are many records of winter occurrence in recent years, but none referring unquestionably to wild stock.

*Branta canadensis hutchinsi* (Richardson)  
Hutchins' Goose

Casual transient.

Reports indicate that a small "Canada Goose" occurs rarely in Michigan. A specimen (which cannot now be found) was taken late in 1925, or in January, 1926, at Guard Island, Monroe County, and examined by Sutton (1927: 559); it was definitely referable to this subspecies (Van Tyne, 1938: 4-5), as redefined by P. A. Taverner (1931: 37-39). G. A. Ammann, at the Prairie Farm, Alicia, Saginaw County, reported that "two distinctly smaller ones (always together) were noted in a flock of 120 [Canada Geese] feeding daily between April 19 and 26 [1940]."

*Branta bernicla hrota* (Müller)  
American Brant

Casual transient.

First listed for Michigan by Gibbs (1879: 494).

Apparently the only authentic Michigan specimens are 2 secured at Monroe by J. Boyse on November 8, 1888, and examined by G. N. Lawrence (R. B. Lawrence, 1889: 316). Pirnie reported that from March 13 to April 10, 1937, an unbanded, full-winged individual visited Wintergreen Lake at the Kellogg Sanctuary in Kalamazoo County and was photographed by Walkinshaw on March 14; also, from October 1 to 5, 1937, at the same place, "a single bird made trips to and from the fields with flocks of Mallards and Canadian geese." At Munuscong Bay, Chippewa County, Christofferson reported an American Brant in late October in 1927 and 1928, and 1 on October 24, 1929. Pirnie reported 1 there on October 20, 1929, and 1 "almost exactly a year later."

*Chen hyperborea hyperborea* (Pallas)  
Lesser Snow Goose

Regular transient; apparently less numerous in spring than in fall. Twice recorded in winter.

First listed for Michigan by Sager (1839: 417).

SPRING.—Migration has been reported mainly from late March to early May.

Lower Peninsula.—L. W. Campbell (1940: 39) has given only 2 records for the Toledo-Erie marsh area: April 21, 1934 (3 geese), and April 23,



1938 (1). On a few occasions, groups of 40 to 50 have been seen in flight over the Ann Arbor region, usually between late March and mid-April; L. Whitney Watkins saw a flock of 150 there on April 2, 1894 (Barrows, 1912: 112). Several adults and a small number of immatures (photographed by Pirnie) were noted at Wintergreen Lake, Kalamazoo County, from April 17 to May 6, 1940—the only spring record for the area. Two were seen March 28, 1938, by Pirnie and H. L. Bradley near Saugatuck, Allegan County. N. A. Wood noted a flock of 50 on May 6, 1926, at Fish Point, Tuscola County.

Upper Peninsula.—At Munuscong Bay, Chippewa County, Christofferson recorded a small flock on April 5, 1924, 35 on April 15, 1928, and more than 100 on May 4, 1926. F. C. Gillett saw 1 there on April 20, 1933, and Van Tyne saw several on May 1 and 3, 1933. Christofferson reported a few of these geese with a flock of Canada Geese at Sault Ste Marie, on March 17, 1927. Bryens gave 2 records for McMillan, Luce County: "common" from April 19 to 23, 1929, and 6 seen on May 1, 1931. Christofferson gave 1 record for Blaney, Schoolcraft County: 12 present on April 6, 1933.

FALL.—Migration is reported from mid-October to mid-November. According to Pirnie, this goose is found more regularly, and in greater numbers, inland than in coastal areas. In mixed flocks it is usually far outnumbered by the Blue Goose.

Upper Peninsula.—Christofferson reported flocks of 25 to 50 (200 on October 13, 1936) at Blaney, Schoolcraft County, from mid-October to early November. Bryens has noted fall migration at McMillan, Luce County, from mid-October to early November, usually in flocks of 50 or less, but he saw 549 on November 5, 1938, and 727 on October 15, 1940. At Munuscong Bay, Chippewa County, Christofferson recorded 40 on October 16, 1929, 10 on October 27, 1928, and 250 on November 1, 1929.

Lower Peninsula.—At Houghton Lake, Roscommon County, fall migration (usually flocks of under 25) has been reported from October 17 and 18 (1936), when a flock of 15 was noted and a specimen (U.M.M.Z.) collected by Trautman, to November 13 (1931), when 5 individuals were noted by F. C. Gillett. Pirnie saw 5 flocks there on October 21, 1930, at least 80 in 1 flock, 25 to 50 in the others. He recorded 50 there on October 30 in 1931, and Trautman 210 on October 31, 1937. Along the east coast, 130 Snow Geese were seen at Tawas Lake, Iosco County, on October 13, 1937 (Pirnie). On October 17, 1936, in the extraordinary flight of Blues and Snows through Michigan that season (Pirnie, 1940: 14), Miller Empey secured an adult female Snow Goose near Freeland, Saginaw County. On October 19 and 20, 1940, large numbers of both species came down the east

coast (Pirnie). In Berrien County, 80 Snow Geese rested on Lake Michigan at Union Pier on November 2, 1932 (Raz, 1935: 200). At the Kellogg Sanctuary, Kalamazoo County, 4 Snows were observed October 12, 1932, by C. J. Henry, and more than 5000 birds of both species (Blues and Snows) on October 14, 1936 (Pirnie); very few of either species were there by November 10, and none after November 28, when 1 Snow Goose was noted (Pirnie). On Crooked Lake, Barry County, 3 were shot between October 21 and 27, 1930 (Walkinshaw, 1931: 258-59). In the vicinity of Jackson, from October 13 to 15, 1936, a vast nocturnal flight of 17 flocks aggregating 3000 birds, many of which were Snows, was reported by Harold F. Wing; on October 14 Fargo reported about 1100 geese there, mostly Snows, and of these 80 to 90 per cent were immatures; on November 3, 1924, about 200 were seen there by Fargo. Numerous flocks of Snow Geese, containing from a few to several hundred, have been recorded in the Ann Arbor region from October 19 (1925) to November 10 (1915 and 1920). One was shot at St. Clair Flats, St. Clair County, on November 5, 1905 (Taverner and Swales, 1906: 219-20); and 1 was recorded by Pirnie on the east side of Anchor Bay in the same county, on November 18, 1936. L. W. Campbell (1940: 185) recorded the species in the Toledo-Erie marsh area on the average between October 24 and November 9 and gave October 13 (1937) and November 12 (1932) as the extreme dates for the area.

WINTER.—Brigham and others (1939: 37-38) recorded 2 Snow Geese in the Battle Creek and Gull Lake area on December 26, 1938. Miller Empey observed 1 on December 14, 1934, near Freeland, Saginaw County.

*Chen caerulescens* (Linnaeus)  
Blue Goose

Regular transient, apparently less numerous in spring than in fall. Reported in winter from Kalamazoo County.

First recorded for Michigan by Barrows (1912: 115), who reported 2 specimens taken by W. H. Collins in 1876.

SPRING.—Migration, which is very rapid through both peninsulas, occurs mainly from late March to mid-April in the Lower Peninsula and until early May in the Upper Peninsula.

Lower Peninsula.—In the Toledo-Erie marsh area L. W. Campbell (1940: 185) has recorded the Blue Goose, on the average, between April 8 and April 17; he reported a flock of 13 near Lakeside, Monroe County, on April 24, 1926. The species is rare in the Ann Arbor area; 2 were seen on March 16, 1929, and 2 on March 23, 1928; a flock of 58 was reported by Brodkorb on April 5, 1942. Small numbers of immatures were seen at Wintergreen Lake, Kalamazoo County, between April 17 and May 6, 1940,

and were photographed by Pirnie. F. W. Rapp (1931: 6) recorded the species at Vicksburg in the same county on March 31, 1928, and April 1, 1923. One was seen near Saugatuck, Allegan County, by Pirnie and H. L. Bradley on March 28, 1938, and a specimen was collected at Greenville, Montcalm County, on April 30, 1895 (Barrows, 1912: 116).

Upper Peninsula.—At Munuscong Bay, Chippewa County, 7 Blue Geese were seen by F. C. Gillett on April 20, 1933; in the same locality one group of 3, a second of 22, and a third of 25 were seen by Van Tyne on May 1 and 3, 1933. Bryens has noted this goose at McMillan, Luce County, as early as April 20 (1933) and as late as May 10 (1932), in numbers up to 60 (April 29, 1932). N. A. Wood (1933: 716) saw 2 at Copper Harbor, Keweenaw County, on April 28, 1931.

SUMMER.—One record: Brodkorb saw an immature Blue Goose at Seney, Schoolcraft County, on June 9, 1938.

FALL.—The southward migration takes place between mid-October and mid-November.

Upper Peninsula.—In the vicinity of McMillan, Luce County, Bryens has observed the Blue Goose from October 18 (1933) to November 1 (1931); on October 30, 1932, he estimated 250 birds in a flock that passed overhead there.

Lower Peninsula.—Two Blue Geese were shot on Crooked Lake, Emmet County, on October 22, 1922 (specimens in B. D. Owens collection, examined by Leonard Wing). Miller Empey collected several specimens in the Saginaw Bay area, including 1 (U.M.M.Z.) from Bay County on November 5, 1920. According to Pirnie, large numbers of Blue Geese and Snow Geese came down the west side of Lake Huron on October 19 and 20, 1940. He believes, however, that the 2 species in fall migration are found more regularly and in greater numbers in central Michigan than along the coasts. At Houghton Lake, Roscommon County, he saw a flock of 200 Blue Geese and 50 Snow Geese on October 30, 1931. The flock departed early that afternoon, and the following morning Pirnie recorded a second flock, of nearly 300. Trautman noted a flock of 200 in the same locality on October 26, 1938. Three flocks, totaling 450 birds, of which all but 20 were Blue Geese, were noted by G. A. Ammann in Newaygo County between October 30 and November 8, 1938. As many as 700 Blue Geese were reported at the Kellogg Sanctuary, Kalamazoo County, by Pirnie in mid-November, 1932. During the fall of 1936 Blue and Snow Geese stopped in Michigan in numbers, according to Pirnie (1940: 14), "far greater than seem to have been previously recorded." On October 14, 1936, more than 5000 birds of both species were seen at the Kellogg Sanctuary, 1 Snow Goose and 3 Blue Geese remaining there until November 28. In the vicinity of

Vicksburg, Kalamazoo County, F. W. Rapp (1931: 6) listed the species as rare, but found it common in 1925 from October 18 to November 1. A flock of about 100 seen near Jackson by Leonard Wing on November 1, 1931; in the Ann Arbor region the Blue Goose has been reported only a few times, but several were seen there by N. A. Wood on October 20, 1907. Pirnie observed 5 on the east side of Anchor Bay, St. Clair County, on November 18, 1936. L. W. Campbell (1940: 185) has given October 19 to November 11 as the average period of fall migration in the Toledo-Erie marsh area.

WINTER.—An immature Blue Goose arrived at the Kellogg Sanctuary in the fall of 1936, was subsequently banded and remained for 2 years (Pirnie). This bird is possibly the one seen by Brigham and others (1937: 58) in this area shortly before Christmas, 1936. Brigham and others (1939: 38) also reported observing 3 in the same area on December 26, 1938.

*Anas platyrhynchos platyrhynchos* Linnaeus  
Common Mallard

Summer resident; common in the south, less common in the Upper Peninsula. A few winter in southern Michigan, sometimes as far north as Cheboygan. Stray domesticated individuals confuse all records.

First recorded for Michigan by Sager (1839: 417).

SPRING.—The presence of wintering birds makes it impossible to ascertain exactly when migration begins, but there is an unmistakable northward migration of mated pairs as early as February, followed in March by large numbers of apparently unmated birds (Pirnie). March 5 to April 15 is the period of "marked migration" given for the Toledo-Erie marsh area by L. W. Campbell (1940: 40). At Munuscong Bay, Chippewa County, a few occasionally arrive as early as March, and large numbers during the first week in May (500 reported on May 1, 1928, and 200 on May 2, 1923), according to Christofferson and Magee.

SUMMER.—Barrows (1912: 78) believed the Mallard had formerly bred everywhere in Michigan, but by 1912 it was greatly reduced in numbers in many localities. Although there are present-day records from most sections, there are relatively few from the Upper Peninsula.

FALL.—Southward migration occurs chiefly in October and November.

Upper Peninsula.—Six were observed by A. Murie on Isle Royale on September 16, 1929. The species was reported as an uncommon fall migrant from October 1 to 15 in the Huron Mountains, Marquette County, by S. S. Gregory, Jr. (1929: 173). Christofferson and Magee reported several flocks of more than 100 each at Munuscong Bay, Chippewa County, on October 14, 1921.

Lower Peninsula.—During 26 days of collecting at Houghton Lake,

Roscommon County, from early October to late November, 1935 to 1940, Trautman noted an average of less than 50 Mallards a day, the maximum numbers occurring in mid-October (400 on October 18, 1936); all had usually left the area before November, but he recorded 100 on November 8, 1936. Mershon (1923: 64, 70) reported the Mallard as formerly very common in the Saginaw marshes and the Saginaw Bay area, but greatly reduced in numbers during the first quarter of the present century. The latest occurrence at Vicksburg, Kalamazoo County, is November 16 (1914—Rapp, 1931: 2). Herrick (1910: 76–77), however, was sure that Mallards migrating through Monroe on Lake Erie had not decreased in number, but were fully as numerous at the time of his writing as 20 years before. In Monroe County, Trautman and E. L. Wickliff noted 830 in the Erie marsh on September 13, 1932, and 580 in the Point Mouillee marsh the next day. L. W. Campbell (1940: 40) saw 5000 in the Erie marsh on November 19, 1939. In the whole Toledo–Erie marsh area, Campbell noted “marked migration” between August 27 and November 24.

WINTER.—The presence of Mallards regularly in southern Michigan in winter is indicated by the following representative records, but just what proportion refer to wild and semiwild stock is unknown. In the Toledo–Erie marsh area L. W. Campbell (1940: 39–40) noted 25 of this species on February 18, 1933, and he has reported hundreds and even thousands in winter there. At the mouth of the Detroit River, Wayne County, 200 (as against 5000 Black Ducks) were seen on January 30, 1938, by R. E. Olsen and A. D. Tinker. In the Ann Arbor region, only individuals or very small groups are ordinarily noted, but on February 2, 1936, at the Ford Dam, near Ypsilanti, Washtenaw County, there were 150, according to Olsen and Tinker. Many of them winter in the general vicinity of Battle Creek and the Kellogg Sanctuary, Kalamazoo County (Pirnie); on a single day’s count at Christmas time, a total of several hundred is quite common, and in 1938, 1700 were estimated (Brigham and others, 1939: 37–38). Records northward in the peninsula are few. Mallards in small numbers are apparently found at least occasionally in trout streams well north; in open spots on the North Branch and South Branch of the Au Sable River, Crawford County, for example, Trautman noted several of the species from February 5 to 7, 1935, 14 on February 7.

*Anas rubripes* Brewster\*  
Black Duck

Very common summer resident; common winter visitant in the Lower Peninsula.

\* Evidence given by Bent (1923: 64–68), Pirnie (1935: 12), Shortt (1943: 3–7), and others indicates that the characters commonly assumed to define 2 races of the Black Duck may be ascribed to age and “seasonal” variations.

First recorded for Michigan by Sager (1839: 417).

The species was formerly rare in Michigan (Gibbs, 1879: 494; 1885: 167), but increased in numbers (Herrick, 1910: 76-77; Pirnie, 1941*a*: 258, and others) until now it is the most abundant breeding duck in Michigan.

SPRING.—The presence of large flocks that winter in the Lower Peninsula makes it difficult to determine when the northward migration begins. Pirnie (1935: 270) stated that the migration period was about the same as that of other ducks—March 1 to April 15, on the average. In the Toledo-Erie marsh area, L. W. Campbell (1940: 41) noted a well-defined migration period from March 1 to April 20. In the Upper Peninsula, however, wintering is apparently rare, and the spring arrival—occurring commonly in early April—is more obvious. Christofferson reported arrival at Munuscong Bay, Chippewa County, as early as March 29 in 1929 (10 birds seen), but usually in the first 2 weeks of April. At McMillan, Luce County, Bryens noted individuals as early as April 14 (1935 and 1938), larger numbers during the third week of April; and at Blaney, Schoolcraft County, Christofferson reported arrival from March 28 (2 birds in 1938) and March 30 (10 birds in 1935), but usually in the first half of April. The species has been recorded on Isle Royale by May: May 2, 8, and 16, 1937, by Laurence Dayton, and May 4, 1930, by N. A. Wood.

SUMMER.—Nesting in the Lower Peninsula begins in mid-April, in the Upper Peninsula, 2 to 3 weeks later; young are occasionally found by the first week of May.

Lower Peninsula.—In Washtenaw County, N. A. Wood found a nest with 11 eggs on April 15, 1937, at Portage Lake, where the species nested commonly, and at Ann Arbor, saw an adult with 10 young on May 5, 1924. The species is also very common at Portage Lake, Jackson County; an adult with 7 young about a day old were noted there by May 11, 1941 (L. D. Case). It is also reported from Convis Township, Calhoun County (a number of nests found; nest with 11 eggs, April 25, 1936; 9 newly hatched young, May 23, 1937, reported by Walkinshaw); and from Yorkville, Kalamazoo County (very common; April 23, 1933, a fresh clutch of 10 eggs reported by Walkinshaw; April 28, 1940, a complete clutch of 10 eggs reported by Pirnie and Clarence Beal); from Fish Point, Tuscola County, where it was seen frequently during 1926, and a nest with 9 eggs was found on June 9, and downy young (U.M.M.Z.) taken June 8 and 10, by N. A. Wood and Walter E. Hastings; and from the Molasses River area, Gladwin County, where Pirnie (1935: 288) reported it as abundant. The species is common along the coasts of Alcona and Alpena counties; C. C. and F. E. Ludwig have banded a number of young there since 1933. Though apparently rare from 1909 to 1915 at Douglas Lake, Cheboygan County (N.

A. Wood, Smith, and Gates, 1916: 7-8), it became the most common duck of the region; adults with young have been found from May 28 (newly hatched) and May 30 (downy young—specimens in U.M.M.Z.) to August 5 (Blanchard and Nelson, MS of 1937). It is rare on the Charlevoix County mainland (Van Tyne, 1925: 614), but common and found breeding on several of the Beaver Islands (C. C. and F. E. Ludwig; T. D. Hinshaw and R. E. Morrill; and others), where several specimens (U.M.M.Z.) have been collected, and on other islands between the two peninsulas.

Upper Peninsula.—The Black Duck is especially common in the eastern half of the peninsula, from Drummond Island, Chippewa County (1938, T. D. Hinshaw and R. A. MacMullan) to Iron County. It is reported from Munuscong Bay, Chippewa County (numerous nests found by Christofferson and F. C. Gillett); from McMillan, Luce County, in 1937 (nest with 11 eggs on April 30, 9 young on May 26, reported by Bryens); from Blaney, Schoolcraft County (nests common; numerous broods from the first week in June or slightly earlier, reported by Christofferson); and from Seney, in the same county, where many broods were observed in the first half of June, 1938, by Brodkorb. At Whitefish Lake, Alger County, a single brood was noted in 1916 (N. A. Wood, 1918: 4); Shiras (1935: 103-4) attributed the small number of breeding ducks in the region to a general lack of food plants in the lakes and streams. In the Huron Mountain region, Marquette County, the species is rather rare, though a few broods were seen (S. S. Gregory, Jr., 1929: 173); young have been found in Houghton and Iron counties, where the Black Duck is more common than the Mallard (A. R. Cahn, 1918: 490). Reports from farther west and north are meager. At Copper Harbor, Keweenaw County, in 1931, N. A. Wood (1933: 715) noted only a single pair. On Isle Royale the species was not seen at all in summer on the 1904, 1905, 1924, and 1930 expeditions, and in 1929 on only 1 occasion (July 30—N. A. Wood).

In late summer large concentrations of these ducks occur regularly in marshes and other suitable places, as on the Potaganissing River, Drummond Island, Chippewa County (Pirnie, 1935: 170); at Munuscong Bay, in the same county (a flock of 200 on September 2, 1934, reported by Walkinshaw); and in the Erie marsh, Monroe County, where L. W. Campbell (1940: 41) reported 1000 on August 5, 1939.

FALL.—Migration occurs mainly in October and November. Some Black Ducks banded in southern Michigan go as far as 200 miles west, north, or east (Pirnie, 1941a: 258), though most take a generally south-easterly route.

Upper Peninsula.—A. Murie saw 2 on Isle Royale on October 5, 1929, and S. S. Gregory, Jr. (1929: 173), reported departure on October 11 from

the Huron Mountains, Marquette County. At Blaney, Schoolcraft County, Christofferson recorded migration chiefly from late September or mid-November to the end of November; it is not uncommon to find up to 25 or 50 there in mid-November, and a few remain occasionally throughout the winter. At McMillan, Luce County, Bryens rarely found the species after September, but in 1932 recorded it as late as October 23.

Lower Peninsula.—There are reports from Mason County: a flock of 10 on September 23, 1909 (R. W. Chaney, 1910: 272); from Fish Point, Tuscola County: 200 on September 26, 1934, and 500 the following day, seen by N. A. Wood and R. E. Olsen; from the Erie Marsh, Monroe County: 980 on September 13, 1932, and 970 the following day, observed by Trautman and E. L. Wickliff; and from the Toledo-Erie marsh area, where L. W. Campbell (1940: 41) noted a well-defined movement from August 18 to November 29.

WINTER.—In the southern counties the species is very common in open spots along the rivers and abundant along the western end of Lake Erie, but rare north of the Saginaw Bay region.

Lower Peninsula.—The species has been reported from the Erie marsh, Monroe County: December 17, 1938, 7000 seen by L. W. Campbell (1940: 41); from Gibraltar, Wayne County: 8000 on February 10, 1935, and 5000 on January 30, 1938, noted by R. E. Olsen and A. D. Tinker, who also reported 300 on January 30, 1938, and 1000 on January 15, 1939, at the Ford Dam, near Ypsilanti, Washtenaw County; from the Battle Creek area: 2000 on December 26, 1937 (N. T. Peterson and others, 1938: 55); from Freeland, Saginaw County: many seen on January 22, 1940, by Miller Empey. During the winter the flocks may move around considerably, as noted by Pirnie, who wrote from the Kellogg Sanctuary, Kalamazoo County, on January 8, 1934: "The last few days there has been a marked increase in Blacks . . . almost like a March flight."

Upper Peninsula.—Two records: 2 remained over the winter of 1931-32 at Blaney, Schoolcraft County; and on February 7, 1935, 1 (specimen sent to U.M.M.Z.), recently killed, was found by Christofferson near Seney in the same county.

*Anas strepera* Linnaeus  
Gadwall

Uncommon transient. Reported in summer from Monroe County, in winter from Kalamazoo County.

First recorded for Michigan by Sager (1839: 417).

The Gadwall was formerly regarded as a rare transient in Michigan, but recent reports have shown it to be somewhat more numerous.

SPRING.—The species has been reported from mid-February to mid-May.



Lower Peninsula.—In the Erie marsh, Monroe County, L. W. Campbell (1940: 186) reported a Gadwall as early as February 18 in 1933. Other records for the same area are: 8 noted on April 1, 1934, by L. W. and B. R. Campbell, and a group of about 300 on April 8, 1934, noted by Trautman, who stated that the species is not at all uncommon in the marsh. In 1934 at Gibraltar, Wayne County, R. E. Olsen and T. D. Hinshaw found 1 on March 14 and 2 on March 23. In the Ann Arbor region the species has been rare, but between April 3 and 25 (1934–37) a total of 21 was found along the Huron River system, Washtenaw County, by R. E. Olsen, Trautman, Van Tyne, T. D. Hinshaw, and others: on April 25, 1934, 4 recorded (at Ann Arbor) and 1 (U.M.M.Z.) collected (near Chelsea); April 18, 1936, 1; in 1937 (at Ann Arbor) 2 on April 3 and a flock of 13 the next day. F. W. Rapp (1931: 3) listed the Gadwall as rare at Vicksburg, Kalamazoo County, and gave April 21 (1929) as the earliest arrival date; Pirnie, at Gull Lake in the same county, found it fairly regular, though in very small numbers: he recorded 2 on April 7, 1937, 8 on April 9, 1936, and several on April 14, 1938. C. J. Henry saw a flock of 40 at Black Lake, Holland, Ottawa County, on April 28, 1934 (Pirnie).

Upper Peninsula.—One record: F. C. Gillett listed the Gadwall in a mixed flock of 300 ducks at Munuscong Bay, Chippewa County, on April 20, 1933.

SUMMER.—L. W. Campbell (1940: 42) reported 3 occurrences (1, 3, and 5 birds) in recent summers at the Erie marsh, Monroe County.

FALL.—The Gadwall has been recorded in fall from September 1 to mid-December.

Upper Peninsula.—Two records: one bird was shot on September 18 and another on October 16, 1930, in Alger County (Pirnie, 1935: 304).

Lower Peninsula.—At Vicksburg, Kalamazoo County, over a period of 35 years, this duck has been rare; it is recorded there from September 16 to November 11 (F. W. Rapp, 1931: 3); about Gull Lake, northward in the same county, Pirnie has reported it as fairly regular in very small numbers, occasionally as many as 20 and 25 in a group, from September 1 (1938) to mid-December. For the Ann Arbor region, there are 2 definite fall records: September 25, 1921, specimen examined by N. A. Wood; October 5, 1932, 2 specimens (U.M.M.Z.) collected by G. M. Ehlers. At Stockbridge, Ingham County, in 1916, 3 were shot by M. Ward on November 6. Taverner and Swales (1907: 138), recorded the species as very rare in southeastern Michigan; they collected 1 specimen in late October, 1906, on the lower Detroit River, Wayne County, and 2 on November 15, 1906, in the coastal marshes of Monroe County; 2 other specimens (U.M.M.Z.) have been collected in the latter area: November 8, 1917, and November 15, 1906.

Trautman and E. L. Wickliff observed 19 Gadwalls in the same locality as early as September 13 in 1932. L. W. Campbell (1940: 200) found the species present in the Toledo-Erie marsh area from September 29 through October 20 (average dates).

WINTER.—North of Augusta, Kalamazoo County, a flock of 25 Gadwalls was repeatedly seen from December 17, 1940, to January 15, 1941 (Pirnie); the 5 recorded by Brigham and others (1941: 121) near Battle Creek were possibly from this same flock.

*Anas acuta tzitzihoa* Vieillot  
American Pintail

Very common transient; casual summer visitant and resident; winter visitant in southern counties.

First listed for Michigan by Sager (1839: 417).

SPRING.—Because of wintering birds in southern counties, the beginning of the northward movement is not exactly known. Sizable flocks appear in the Lower Peninsula in late February and continue through March and early April, and occasionally to mid-May; in the Upper Peninsula migration occurs chiefly in late April and May.

Lower Peninsula.—In the Toledo-Erie marsh area (L. W. Campbell, 1940: 186, 200) recorded individuals from February 22 to May 10 (average dates) and larger numbers from March 6 to April 18 (average dates); L. W. and B. R. Campbell saw about 750 there on April 1, 1934, and John L. George saw 100 near Monroe on March 19, 1939. In the Detroit region Swales found spring migration to be fairly light; he recorded it from March 17 (2 shot in 1907) to April 18 (several seen in 1903); at North Channel, St. Clair Flats, St. Clair County, he listed several Pintails on May 25, 1902, that he believed to be late stragglers. In the Ann Arbor region the Pintail has been a very uncommon transient, present chiefly from early March through mid-April; but at the Portage Lake marsh, Jackson County, it has been noted in fair numbers. A. D. Tinker, R. E. Olsen, T. D. Hinshaw, and others, on several occasions between March 17 (1935) and April 14 (also in 1935), found flocks there of about 100 each, and in 1923 Fargo saw 6 Pintails as late as April 25. At Vicksburg, Kalamazoo County, F. W. Rapp (1931: 4) said that it was a common transient, present from March 21 to April 18. Pirnie and H. L. Bradley saw 250 near Saugatuck, Allegan County, on March 28, 1938. At Fish Point, Tuscola County, in 1926, N. A. Wood observed 1 on his arrival, April 24, 20 on the next day, and 100 to 200 on May 4 and for several days thereafter. Twenty were there on May 24, in 1936 (Tinker, Olsen, Trautman, and Hinshaw). Two or 3 together were noted at Sand Point, Huron County, a number of times until the last of May by D. W. Douglass in 1933, and on May 30,

1939, by Maurice G. Brooks. Three were at Beaver Island, Charlevoix County, on May 7, 1929 (N. A. Wood).

Upper Peninsula.—At Munuscong Bay, Chippewa County, first arrivals in 1933 were recorded on April 20 (F. C. Gillett); from at least May 1 (100 birds in 1933 by Van Tyne, almost all in pairs). Larger numbers were seen there daily (2 flocks of 200 each in 1933 by Christofferson), with the high point of 1200 (all in pairs) about May 18 or 19 in 1933 (Gillett). Walkinshaw noted 2 on May 29, 1934, at Whitefish Point, in the same county. Christofferson recorded the species from April 22 (1931) to May 18 (1930) at Blaney, Schoolcraft County (though it was often absent in spring); he also saw 35 on April 21, 1940, at Seney in the same county. On Isle Royale, 4 Pintails were seen on May 8, 1930, by N. A. Wood—the only spring record for the island.

SUMMER.—Nesting apparently begins in late April and early May.

Lower Peninsula.—At the Erie Marsh, Monroe County, L. W. Campbell recorded 12 on July 7, 1935, and later (1940: 43) reported that the species had been summering there fairly regularly and, according to L. Duvall, had been found breeding once (1936); R. E. Olsen, D. W. Douglass, and T. D. Hinshaw saw 8 Pintails there on June 20, 1934. On Charity Island, Huron County, N. A. Wood (1912*a*: 181) reported a brood of young, July 6, 1911, two of which (U.M.M.Z.) on July 29 could barely fly, and on Little Charity Island, James H. Wood found a female with nest and 6 eggs (U.M.M.Z.) on May 24, 1934. Herbert J. Miller reported a nest with 3 eggs and a nest with 11 eggs on Lone Tree Island, north of Sebewaing in the same county, on May 28, 1941. On several occasions from late May to July of various years, 1 to 3 Pintails were noted by N. A. Wood, Pirnie, Maurice G. Brooks, R. E. Olsen, and others, from Fish Point, Tuscola County, north to Sand Point, Huron County; but no definite breeding evidence was found. On the opposite side of the bay at Linwood, Bay County, Miller Empey and J. E. Swackhamer reported observing a nest with 12 eggs on May 31, 1930. On Gull Island, Thunder Bay, Alpena County, C. C. and F. E. Ludwig on June 23, 1941, banded 10 fledglings. In northern Lake Michigan, on Squaw Island in the Beaver group, Charlevoix County, Van Tyne on July 2, 1938, found what he thought to be 2 families—2 adult females and several fledglings (1 in U.M.M.Z.).

Upper Peninsula.—At Seney, Schoolcraft County, where, in 1938, Brodkorb reported what were apparently 3 pairs, and (on June 9) a nest with 7 heavily incubated eggs (U.M.M.Z.), H. L. Bradley in the following year found an adult female with 8 young at least 10 days old on June 8, and a nest with 7 eggs on June 16.

The Pintail has been seen during the nesting season in several other locali-

ties: at Thunder Bay, Alpena County (2 on June 9 and on June 10, 1922, by N. A. Wood), Gull Lake area, Kalamazoo County (one on July 30, 1936, by Pirnie), and Stony Lake, Napoleon Township, Jackson County (August 20, 1929, by Roger T. Peterson).

FALL.—Migration occurs mainly from the first or second week in September, through October.

Upper Peninsula.—On Isle Royale in fall the Pintail was apparently rare, for during several expeditions only one bird was seen (September 10, 1929, by N. A. Wood). Christofferson reported migration through Blaney, Schoolcraft County, between September 6 (8 birds in 1938) and November 1 (1931), and at Munuscong Bay, Chippewa County, from August 27 (2 in 1928) to October 15 (1927).

Lower Peninsula.—Migration (specimens in U.M.M.Z.) is well advanced by mid-September on Saginaw Bay, and at Fish Point, Tuscola County, N. A. Wood and R. E. Olsen reported 2000 on September 26, 1000 on the following day, and 100 on September 29, 1934. In the Gull Lake area, Kalamazoo County, Pirnie noted Pintails during September (September 25, *vide* Rapp, 1931: 4, at neighboring Vicksburg) and reaching their greatest abundance between October 1 and 20; they are also sometimes there in numbers in November, and, in 1939, up to 200 were noted during the first half of December. Specimens were collected at Waterloo, Jackson County, October 30, 1938, by Walter Koelz, and in the Ann Arbor region, where the Pintail is uncommon, on October 31, 1917 (U.M.M.Z.). Trautman found the species abundant (1335 on September 13) in the Erie marsh, Monroe County, in mid-September, 1932, and common until late October. Trautman also secured a specimen (U.M.M.Z.) as late as November 17, 1935, in Clay Township, St. Clair County.

WINTER.—In the Gull Lake (Kalamazoo County) area, flocks of 5, 10, 20, and up to 45 have been reported in late December and in January and February (Pirnie and others, 1932: 58-59; and notes). They move about considerably, and are present in any one place for short periods only (Pirnie). One or 2 groups have been reported in winter in the Ann Arbor region. The Pintail winters regularly at the sulphur spring in the Erie marsh, Monroe County (L. W. Campbell, 1940: 44); Van Tyne and T. H. Weller found more than 500 near there on February 26, 1933.

*Anas carolinensis* Gmelin  
Green-winged Teal

Uncommon transient; a few occur in summer and a very few breed. Reported in winter from Monroe and Calhoun counties.

First listed for Michigan by Sager (1839: 417).

The species was formerly reported as a common or even abundant

transient (Gibbs, 1879: 494; 1885: 167; A. J. Cook, 1893*a*: 39; and others), but during the last several decades it has been reported in large numbers from only a few localities, notably the Erie marsh, Monroe County (Phillips, 1923: 241; L. W. Campbell, 1940: 44).

SPRING.—The species has been noted in small groups of usually less than 10, mainly from late March to late April in the south, and from late April to late May in the Upper Peninsula.

Lower Peninsula.—In the Toledo–Erie marsh area, L. W. Campbell (1940: 186, 200) recorded individuals from March 6 to April 29 (average dates), larger numbers from March 16 to April 17 (average dates). In the Ann Arbor region arrival is occasionally reported by the third week of March, but more frequently in the last week of March and the first week of April. At Portage Lake marsh, Jackson County (R. E. Olsen, A. D. Tinker, Fargo, and others), a very few (10 or less) are seen each year between March 22 (10 in 1936) and April 28 (2 in 1935). The species was listed April 5, 1931, and April 7, 1935, in Calhoun County by Walkinshaw. Though at Vicksburg F. W. Rapp (1931: 3) found this teal “common” from March 29 (1908) to April 18 (1926), a few miles to the north in the Gull Lake area, Pirnie reported only “small numbers” in 1938. In the marshes near Saugatuck, Allegan County, Pirnie and H. L. Bradley saw 40 on March 28, 1938, and a flock of about 22 the next day. N. A. Wood noted the species on April 27, 1926, at Fish Point, Tuscola County; and a specimen (U.M.M.Z.) was collected in Huron County on April 5, 1911.

Upper Peninsula.—At Munuscong Bay, Chippewa County, Van Tyne recorded several pairs on May 1, 1933, and Christofferson, who, over a period of years had found no others there in spring, recorded 8 birds there on May 6, 1928. At Whitefish Point, Chippewa County, Walkinshaw recorded 2 on May 29, 1934. For Blaney, Schoolcraft County, Christofferson gave 2 records: April 23 and 24, 1931, 5 or more birds; and May 22, 1935, 1 male. The species was listed at Seney, in the same county, on May 4, 1940 (2 observed by Christofferson), and on May 7, 1937 (Walkinshaw).

SUMMER.—There are early breeding records (Gibbs, 1879: 494; A. J. Cook, 1893*a*: 39; Boies, 1897: 18; and others); but they lack details. Miller Empey and J. E. Swackhamer reported a nest with 10 eggs at Linwood, Bay County, on June 9, 1930.

Lower Peninsula.—As a summer visitant, the species has been observed regularly in every month in the Erie marsh, Monroe County (maximum of 75 birds on July 7, 1935, recorded by L. W. Campbell, 1940: 44), but on only a few occasions elsewhere. At Portage Lake marsh, Jackson County, July 19, 1936, a male and female were observed by A. D. Tinker and R. E. Olsen; and on August 29, 1929, 5 individuals by Roger T. Peterson. Pirnie

observed a male on June 18, 1939, and 1 on August 1, 1937, in the Gull Lake area, Kalamazoo County. F. N. Blanchard reported several birds found at the northern tip of the peninsula; 2 on August 17, 1931, at Cecil Bay, Emmet County; 1 on June 29, 1936, near Douglas Lake, Cheboygan County; and a female collected on August 27, 1937, by Theodora Nelson at Cheboygan.

Upper Peninsula.—At Hessel, Mackinac County, August 11, 1920, an individual was noted by Van Tyne (1923: 21); mating was reported by Christofferson at Munuscong Bay, Chippewa County, on June 6, 1926; and on Drummond Island, on July 30, 1938, a bird-of-the-year (U.M.M.Z.) well able to fly, was secured by T. D. Hinshaw. At Goose Island, Mackinac County, June 30, 1937, a downy young was banded by C. C. and F. E. Ludwig. At Seney, Schoolcraft County, 5 birds were noted by Pirnie on August 7, 1936, and from June 2 to 11, 1938, 1 to 5 were seen by Brodkorb almost daily, the birds nearly always in pairs and some of them exhibiting courtship behavior; the following year, H. L. Bradley reported "a female with five young observed on June 14, 1939, six males noted occasionally during the summer, and a juvenile female, captured and banded August 31."

FALL.—Migration is reported in both peninsulas from early September, but chiefly from late September until (in southern counties) early November.

Upper Peninsula.—The species was reported from Isle Royale on September 2, 1924 (5 seen by Fargo), and on September 4, 1904 or 1905 (Max M. Peet, 1909: 345; 1909a: 118); from the Huron Mountains, Marquette County, October 2, 3, and 20 (9 shot, reported by S. S. Gregory, Jr., 1929: 173; and notes); from Hartney's Lake, Alger County, on November 6, 1930 (1 caught, reported by Pirnie, 1935: 306); from Seney, Schoolcraft County, on September 25, 1936, when 1 (U.M.M.Z.) was collected there; and from Blaney, Schoolcraft County, where Christofferson reported a few seen from September 11 (1, in 1931) to October 19 (10, in 1930). At Munuscong Bay, Chippewa County, small groups of about 25 maximum were reported from September 5 (10 birds in 1927) to October 30 (1928); "many" were reported there on October 5, 1923; 1 was banded there on October 24, 1929, that was shot at Wellington, Missouri, on October 31 the same year (Christofferson). Three (U.M.M.Z.) were collected at Whitefish Point, Chippewa County, September 16 to 27, 1929.

Lower Peninsula.—There are reports from Benzie County, September 5, 1940 (2 seen by David E. Davis); from Muskegon, October 8, 1930 (Pirnie, 1935: 306); and from Alcona County, October 20 (J. Claire Wood, 1913: 14). From the shores of Saginaw Bay (Max M. Peet; N. A. Wood, 1911: 87-88; Pirnie, 1935: 306) there are a few specimens (U.M.M.Z.) collected

between September 14 (1910) and November 6 (1926 and 1932); Mershon (1923: 80) found this teal common there in November. At Vicksburg and the Gull Lake area, Kalamazoo County, the species has been reported from September 12 (1911) to November 4 (1907) by F. W. Rapp (1931: 3) and Rysgaard (1940: 19), and occasionally until November 15 (Gibbs, 1885: 167); in the same area, Pirnie (1935: 13) found the species "usually fairly common during the late September and early October flights," but later (1940, notes) spoke of "small numbers" only, with 16 (on October 26, 1938) the largest flock recorded. At Portage Lake and Waterloo, Jackson County, the species has been reported in fall in very small numbers, from September 2 (1 seen in 1931 by R. E. Olsen and Leonard Wing) to October 29 (2 specimens collected in 1938 by Walter Koelz). Departure is recorded in the Ann Arbor region in September (September 16, in 1917) and October (October 27, 1925, when 20 were seen). At Gibraltar and the mouth of the Detroit River, 30 were seen by Trautman on October 21, 1935, and 1 shot on November 29, 1928, that had been banded the preceding October 30 by Christofferson at Munuscong Bay. The species was recorded in the Monroe County marshes from September 13 and 14 (7 noted in 1932 by Trautman) to November 24 (1 shot in 1904, according to Swales). In the Toledo-Erie marsh area L. W. Campbell (1940: 200) gave September 19 to November 11 as the average period of fall flight.

WINTER.—Small numbers winter regularly at the sulphur spring, Erie marsh, Monroe County (L. W. Campbell, 1940: 44; and notes); L. W. and B. R. Campbell recorded a few there on December 29, 1935, and 9 that had wintered through at least February 16 in 1934. In the same vicinity, 1 was observed on February 26, 1933, by Van Tyne and T. H. Weller. Swales, in a list of winter birds of Wayne County (1904a: 83), mentioned a Green-winged Teal shot in early December, 1903, "off Fighting Island," but this may be an Ontario record. Individuals and once a group of 9 were reported in the Battle Creek (Calhoun County) to Wintergreen Lake (Kalamazoo County) area in late December of successive years (Kingsley and others, 1932: 58; Pirnie and others, 1933: 40; 1934: 44); and at Wintergreen Lake, 1 was noted on January 3, 1932, by Walkinshaw, and 1 on January 7, 1934, by Pirnie.

*Anas discors* Linnaeus  
Blue-winged Teal

Common transient and summer resident.

First recorded for Michigan by Sager (1839: 417).

From several sources it appears likely that this teal was formerly an abundant transient in Michigan as well as a common breeding bird in most areas (Gibbs, 1879: 494; 1885: 167; Barrows, 1912: 84; Mershon, 1923:

70-71; Phillips, 1923: 384-85), but specific early records are scarce. Even though apparently much reduced in numbers by 1912, the species was considered by Barrows to be the most plentiful summer duck of Michigan. According to records at hand, the period of reduced numbers of breeding birds continued until the early 1930's, at which time a marked increase was observed in some sections, notably in Cheboygan County and in certain areas in the eastern end of the Upper Peninsula. This duck is now a fairly common nesting species, known to breed in many counties, and it probably breeds in nearly all.

SPRING.—Migration is reported chiefly in April in the Lower Peninsula and in May in the Upper Peninsula.

Lower Peninsula.—L. W. Campbell (1940: 200) gave April 2 as the average date of arrival in the Toledo-Erie marsh area. Arrival is reported in the Ann Arbor region by the fourth week of March occasionally, in the first week of April commonly; a specimen (U.M.M.Z.) was collected there on March 21, 1933. In Jackson County, R. E. Olsen, A. D. Tinker, and T. D. Hinshaw saw 2 of the species (at Portage Lake) as early as March 17 in 1935; Fargo saw 7 on March 28, 1924; and R. W. Allen collected 3 specimens (U.M.M.Z.) on April 1, 1938. In Calhoun County, arrival was reported on March 30 in 1930; it is frequently reported there in the first week in April and occasionally later (Walkinshaw). Pirnie and H. L. Bradley reported 20 near Saugatuck, Allegan County, on March 28, 1938.

Upper Peninsula.—Christofferson reported 2 at Munuscong Bay, Chippewa County, on April 21, 1928. A few (up to 50), mostly in pairs, were seen there almost daily between May 1 and 13 in 1933 and 1934 (Van Tyne, R. E. Olsen, and T. D. Hinshaw); F. C. Gillett reported 800 there (all in pairs) in mid-May, 1934. Brodkorb reported a pair at Whitefish Point, Chippewa County, on May 14, 1936. At Blaney, Schoolcraft County, Christofferson recorded a few each spring, usually less than 15, arriving mainly during the first week of May, but in 1933, on April 20. Laurence Dayton reported the species on Isle Royale on May 8, 1937.

SUMMER.—Nests are found in southern counties in the last week of April, and broods by the third or fourth week of May; nests and broods are noted usually 2 to 3 weeks later in the Upper Peninsula.

Lower Peninsula.—A number of nests and broods have been found from Strawberry Island, St. Clair County, in the east, where R. E. Olsen and D. W. Douglass saw a nest with 6 eggs on May 24, 1934, to Wintergreen Lake, Kalamazoo County, in the west, where nesting was reported by Pirnie in 1938 and 1940. There is one record from Newaygo County: a nest with 12 eggs, found June 21, 1939; most of the eggs hatched about a week later (Ford, 1939: 72). On Lone Tree Island, Huron County, a nest with 10 eggs



was found May 28, 1941, by Herbert J. Miller; at Sand Point in the same county, Van Tyne recorded a pair on June 11, 1933. On Sulfur Island, Alpena County, a nest was recorded on July 14, 1933 (C. C. and F. E. Ludwig). There were no records from the Douglas Lake area of Cheboygan County between 1913 and 1929, but the species now nests there fairly commonly; small flocks and individuals have been noted and specimens taken on numerous dates throughout the summer; a brood of 9 large young and one of 7 newly hatched young were seen on August 10 at Cheboygan (Blanchard and Nelson, MS of 1937). A female in breeding condition was taken June 18, 1940, on North Manitou Island, Leelanau County (A. E. Staebler and L. D. Case).

Upper Peninsula.—The species is very common at Munuscong Bay, Chippewa County (Christofferson; F. C. Gillett and Walkinshaw), and numerous nests have been found there between June 4 (1935, nest with 10 eggs) and June 16 (1928, nest with 9 eggs that hatched July 8); on June 10, 1934, a nest with 11 eggs that hatched June 14, was found there. Two small downy young (U.M.M.Z.) were taken there by Van Tyne on June 25, 1934, and 2 fledglings by Max M. Peet on July 28, 1934. The species was observed August 3, 1914, near Whitefish Point, Chippewa County (N. A. Wood, 1914: 60), and an individual was seen in northwestern Luce County on June 26, 1932 (Leonard Wing, 1940: 174; and notes). Christofferson gave 2 breeding records for Blaney, Schoolcraft County: 10 young on June 1, 1931; and a nest with eggs, July 5, 1937. At Seney, in the same county, where this teal was the most abundant breeding duck, many egg sets were found from June 7 to 10 while many of the species were still seeking mates (Brodkorb; H. L. Bradley). There is 1 summer record for Mallard Lake, Iron County: single individual seen August 1, 1938, by John L. George and R. L. Patterson. Walter E. Hastings noted the species on Isle Royale, July 23, 1929, but found no evidence of breeding.

FALL.—Migration is mainly in September, but extends in the southern counties through early October and occasionally later. Late summer flocking may confuse fall migration records.

Upper Peninsula.—On Isle Royale a flock of 25 or 30, apparently transients, were noted on August 30, 1904 (N. A. Wood, Peet, and McCreary, 1906: 122); and 20 were seen there September 28, 1929, by Walter Koelz. S. S. Gregory, Jr. (1929: 173), reported migrants in the Huron Mountains, Marquette County, from September 4 to 27, and collected a specimen there September 6, 1934. At Blaney, Schoolcraft County, Christofferson reported migrants chiefly in September (a total of 65 in September, 1932) and into October (10 on October 6, 1932). At Munuscong Bay, Chippewa County, he reported migrants from mid-September (500 on September 11, 1924)

to October 6 (one observed in 1926). At Drummond Island, Chippewa County, Pirnie (1935: 170) reported a number gathering along the Potagannissing River in September, 1930.

Lower Peninsula.—In Benzie County, David E. Davis reported a flock of 13 on September 13, 1934. At Houghton Lake, Roscommon County, Trautman collected 2 (U.M.M.Z.) on October 1, 1938. At Bay City, migrants were abundant by September 23 (1883) according to Eddy (1884: 41). In the Gull Lake area the Blue-wing is one of the most common ducks in late summer and early fall; 15, 20, or 30 are commonly seen through September and into October; 25 were reported there as late as October 19, 1939, and 4 on November 4 in 1940 (Pirnie). At Portage Lake, Jackson County, A. D. Tinker and R. E. Olsen reported migrants on October 3 (50 in 1937) and October 27 (1 in 1935); and at Waterloo, Jackson County, Walter Koelz collected 1 on October 20, 1935. In the Ann Arbor region departure has been recorded as late as October 29 (1910). At St. Clair Flats, St. Clair County, D. H. Janzen collected 1 (U.M.M.Z.) on October 25, 1936. L. W. Campbell (1940: 45) reported large concentrations in the Erie marsh, Monroe County, August 22, 1936 (900), and September 13 and 14, 1932. For the Toledo-Erie marsh area as a whole, he gave (1940: 186, 200) September 30 as the average date for departure of the majority of the Blue-wings, and November 10 (1935) as the latest date for individuals. Trautman and E. L. Wickliff recorded 1140 of the species at Point Mouillee marsh, Monroe County, on September 14, 1934.

WINTER.—One report: single individual seen in the Erie marsh, Monroe County, by Duvall on February 15, 1934 (L. W. Campbell: 1940: 45).

*Spatula clypeata* (Linnaeus)  
Shoveller

Uncommon transient; local summer visitant and resident; local winter visitant.

First recorded for Michigan by Sager (1839: 417).

SPRING.—Arrival has been reported chiefly in April. The numbers seen are usually very small, up to a few dozen only.

Lower Peninsula.—L. W. Campbell (1940: 186, 200) found the Shoveller in the Toledo-Erie marsh area as early as March 6 (1932) and gave March 18 as the average date of arrival for individuals, late March and April as the usual period of main flight. The species is now regular, though very uncommon, in the Ann Arbor region; it appears there frequently in the fourth week of March, but sometimes not until early April. Numbers visit the Portage Lake marsh, Jackson County, where 2 were noted on March 22, 1936, 30 on April 14, and 20 on April 28, 1935 (R. E. Olsen, A. D. Tinker, Trautman, and T. D. Hinshaw), and 2 were noted by Walkinshaw as late

as May 20 (1937). F. W. Rapp (1931: 3) listed the species as a rare transient at Vicksburg, Kalamazoo County, from March 24 to April 15, and Pirnie and Walkinshaw find a few each spring in the Gull Lake (Kalamazoo County) to Battle Creek (Calhoun County) area, where the migration is "chiefly in April, with quite a number of birds still here in early May" (Pirnie, notes). At Birchwood Beach, Berrien County, N. A. Wood (1922: 8) saw an adult male on May 9 and 10, 1918; and in the marshes near Saugatuck, Allegan County, Pirnie and H. L. Bradley noted 10 on March 28, 1938.

Upper Peninsula.—At Whitefish Point, Chippewa County, Brodkorb noted 2 pairs on May 11, 1936. From Schoolcraft County Christofferson reported a single bird seen on May 1, 1936 (at Blaney). N. A. Wood found an adult male on Isle Royale on May 6, 1930.

SUMMER.—Max M. Peet has in his collection an adult female and 2 small downy young that he secured June 19, 1936, at Fish Point, Tuscola County, where 10 years earlier, from June 7 to 16, 1926, N. A. Wood had seen 1 to 2 of the species almost daily. Near Linwood, Bay County, Miller Empey and J. E. Swackhamer reported finding the species nesting on May 26, 1930, and H. W. Hann listed the Shoveller in the same county on May 30, 1932. From Seney, Schoolcraft County, H. L. Bradley reported a nest with 10 eggs on June 13, 1939 (all eggs hatched by June 30). The species has also been noted in summer, though without breeding evidence, at Portage Lake, Jackson County: H. W. Hann reported it on June 29, 1932; Tinker and Olsen saw 7 Shovellers and collected several specimens (U.M.M.Z.) on July 28, 1935; they also recorded an adult female there on June 28, 1936.

FALL.—Migration in the Lower Peninsula is reported from late August or early September through November and occasionally later. No fall records are on hand from the Upper Peninsula. Trautman collected a specimen (U.M.M.Z.) at Houghton Lake, Roscommon County, on October 26, 1939. F. W. Rapp (1931: 3) listed the Shoveller as a rare transient at Vicksburg, Kalamazoo County, from October 20 to December 25. About Gull Lake in the same county, Pirnie reported it present in small numbers from the first week in September through October, and in increased numbers usually sometime in November; 75 birds (November 25, 1937) were the maximum number observed at any one time. Stragglers remained into December, and some years more birds were present in December than in earlier months, according to Pirnie. For the Ann Arbor region fall records are very few; they extend from September 17 (1 bird seen in 1938 by R. E. Morrill) to November 5 (1916, U.M.M.Z.). Trautman saw 4 birds near Gibraltar, at the mouth of the Detroit River, on August 29, 1935, and a female (U.M.M.Z.) was collected there on October 26, 1906 (Swales and Taverner, 1907: 138—

39). Trautman and E. L. Wickliff found 30 on September 13, 1932, in the Erie marsh, Monroe County. L. W. Campbell (1940: 200) gave September 12 to October 24 as the average period for the main flight in the Toledo-Erie marsh area.

WINTER.—In the Battle Creek (Calhoun County) to Gull Lake (Kalamazoo County) area, 1 to 3 Shovellers were listed on 2 Christmas counts (Pirnie and others, 1934: 44-45; Brigham and others, 1939: 37-38), and 10 were listed on December 23, 1938 (Pirnie). Walkinshaw reported the Shoveller there in the winter of 1931-32, and Pirnie recorded 4 at the Kellogg Sanctuary near Battle Creek, from late December to mid-January, 1932.

*Mareca penelope* (Linnaeus)  
European Widgeon

Straggler.

First recorded for Michigan by Herrick (1902: 284).

Although it is possible that some of the European Widgeon seen in Michigan are escaped captives, the regularity with which small numbers have been reported recently along the Atlantic coast indicates a regular migration of wild stock.

This widgeon has been reported in spring from Monroe County: 3 March and April specimens (Herrick, 1902: 284); single individuals noted on April 1, 1934, and on April 23, 1938 (L. W. Campbell, 1940: 42); and from Jackson County: single individuals noted on April 4, 1925 (Leonard Wing and others, 1927: 39), and on April 14, 1935 (A. D. Tinker, R. E. Olsen, and T. D. Hinshaw), at Portage Lake. According to W. E. Clyde Todd, a male was taken at Erie, Monroe County, on October 25, 1936, and is now in the Carnegie Museum. All the above records refer to males; it is possible that females also occur in Michigan and are not noted because of their great similarity to the female of the Baldpate.

*Mareca americana* (Gmelin)  
Baldpate

Fairly common spring and fall transient. One breeding record, from Schoolcraft County. Winter visitant in southern counties.

First listed for Michigan by Sager (1839: 417).

SPRING.—The species is present in southern counties from late March to mid-April; in the Upper Peninsula, from late April through mid-May.

Lower Peninsula.—L. W. Campbell (1940: 200) gave March 15 to April 26 as the average period for the main flight in the Toledo-Erie marsh area; L. W. and B. R. Campbell recorded 500 in the Erie marsh on April 1, 1935. R. E. Olsen and A. D. Tinker saw 8 as early as March 7 (1937) at Rawsonville, Wayne County, and 10 near Hartland, Livingston County, as late as

May 1 (1938). In the Ann Arbor region the species has been for many years an uncommon transient (N. A. Wood and Tinker, 1910: 130; N. A. Wood, 1912: 161), seen in small numbers up to a few dozen only; first arrivals are occasionally reported as early as the first week in March, but usually in the latter half of March; the latest specimen (U.M.M.Z.) is dated April 21 (1912), but C. H. Westman saw a male (at Saline) as late as May 23 (1939). In the Portage Lake marsh, Jackson County, the Baldpate was the commonest duck on March 28 and April 11, 1937, when 300 were observed on each day (R. E. Olsen, A. D. Tinker, and T. D. Hinshaw); sizable flocks were reported (Frey, 1930: 552-53) on intermediate dates. John L. George saw 2 in the same area as late as May 20 (1939). At Vicksburg, Kalamazoo County, F. W. Rapp (1931: 3) recorded the species between March 29 (1908) and April 18 (1926), and in the Gull Lake area to the north in the same county Pirnie reported first arrivals in the latter half of March and usually found it common about April 1; specimens (U.M.M.Z.) were collected there April 16, 1881. The species has apparently not been recorded at Sand Point, Huron County, earlier than April 6 (D. W. Douglass); Van Tyne recorded 3 pairs there on April 7, 1933.

Upper Peninsula.—The Baldpate has been irregular in spring at Munuscong Bay, Chippewa County; it was first listed there in mid-May, 1934, when F. C. Gillett recorded 200, all in pairs. In Schoolcraft County, however, Christofferson found it fairly regular at Blaney, from April 20 (1937) to at least May 14 (1931), and he reported 14 on April 26, 1940, at Seney, in the central eastern part of the county.

SUMMER.—A few Baldpates have been summering rather regularly in Michigan. L. W. Campbell (1940: 43) has observed as many as 12 in the Erie marsh, Monroe County; R. E. Olsen, D. W. Douglass, and T. D. Hinshaw found 4 there together (2 males and 2 females) on June 20, 1934. On July 7, 1942, on Geddes Pond, Ann Arbor, a single male was observed by Van Tyne, George M. Sutton, and N. S. Potter, III. At Wintergreen Lake, Kalamazoo County, 2 adult males were noted frequently from June 22 to July 23, 1940 (Pirnie). In the Upper Peninsula at Seney, Schoolcraft County, Brodkorb saw 2 males and a female several times from June 2 to 9, 1938; in 1939 at the same place, H. L. Bradley on June 5 found a nest with 11 eggs, and on July 19, saw at close range an adult female with 7 young about 2 weeks old. Bradley's report seems to be the first authoritative breeding record for Michigan. R. A. MacMullan noted "at least five males and at least five females" at Seney, from June 23 to July 3, 1940.

FALL.—Individuals appear late in August in both peninsulas, and migration continues until October in the north, until November in southern counties.

Upper Peninsula.—On Isle Royale, Baldpates have been rare; a few have been found there between August 28 (1905) and September 5 (1904—Max M. Peet, 1909*a*: 118; 1909: 345) to October 10 (1929), when a specimen (U.M.M.Z.) was collected by Paul F. Hickie. S. S. Gregory, Jr. (1929: 173), recorded 5 Baldpates in the Huron Mountains, Marquette County, on September 27, 1927—the only record for the region. The species is also recorded from near Munising, Alger County (a few in early September, 1939—Pirnie, 1940*a*: 11); from Whitefish Point, Chippewa County (7 on August 25, 1937, recorded by A. D. Tinker and R. E. Olsen); and from Munuscong Bay, Chippewa County (1 on August 27; 15 on August 29; and 1 on October 8, recorded by Christofferson in 1928).

Lower Peninsula.—Trautman recorded 800 on October 1, 1938, at Houghton Lake, Roscommon County, and 1000 on October 2. At Wintergreen Lake, Kalamazoo County, Pirnie found it especially abundant throughout September, 1931, but recently less common; stragglers appear there in late August, and the species is commonest from September 10 to 30; ordinarily in November he recorded a small number only, but on November 7, 1932, there were "lots of . . . widgeon yet." In Jackson County, the species was seen as early as September 6 (1929) at Stony Lake, Napoleon Township (Roger T. Peterson), and a specimen (U.M.M.Z.) was collected by Brodkorb on September 13, 1936, at Portage Lake; "quite a number" of Baldpates were still present in Norvell Township, Jackson County, on November 1, 1933, and 3 on November 25, 1937 (Fargo). The species is uncommon in the Ann Arbor region; it has been recorded there from late September to early November; a specimen (U.M.M.Z.) was collected there on November 4, 1911. In the vicinity of the North Channel outlet, St. Clair County, Pirnie recorded 700 on October 11, 1938; Trautman recorded a few there and collected a specimen (U.M.M.Z.), on November 17, 1935; Pirnie saw the species there on November 18, 1936. One was shot near Detroit on November 24, 1904 (Swales). On September 13, 1932, 235 were present at the Erie marsh, Monroe County (Trautman and E. L. Wickliff). L. W. Campbell (1940: 200) has found the main flight beginning in the Toledo-Erie marsh area on September 13 and ending November 5 (average dates).

WINTER.—L. W. Campbell (1940: 43) recorded 2 Baldpates seen by W. Anderson in the Erie marsh, Monroe County, on December 25, 1939. For several years 2 to 12 were found in the last week of December in the Battle Creek (Calhoun County) to Gull Lake (Kalamazoo County) area (Pirnie and others, 1932: 58–59; 1933: 40; 1934: 44; Brigham and others, 1941: 121); near Augusta, Kalamazoo County, 2 Baldpates were observed with 24 Gadwalls on January 15, 1941 (Pirnie).

*Aix sponsa* (Linnaeus)  
Wood Duck

Summer resident, fairly numerous locally.

First recorded for Michigan by Sager (1839: 417).

In the last century, the Wood Duck as a breeding species was apparently very common and fairly well distributed (Gibbs, 1879: 494; N. A. Eddy, 1884: 41; A. J. Cook, 1893a: 41; Barrows, 1912: 88-89). Hunting, as well as reduction of breeding sites in many places, greatly decreased the population, but with legal protection it has increased steadily so that now the Wood Duck breeds in a number of areas in both peninsulas.

SPRING.—Migration is reported principally in late March and April in the southern counties, and in late April and May in the Upper Peninsula. Usually very few, but occasionally many dozens, are seen together.

Lower Peninsula.—The earliest arrival date at Petersburg, Monroe County, was March 15, according to Jerome Trombley (Bent, 1923: 171), and in the vicinity of Detroit, March 25 (1907), reported by Swales. In the Ann Arbor region, where the species is fairly common in spring, N. A. Wood saw a flock of 20 as early as February 17 (1890), but arrival has been mainly reported there in the last week of March and in the first half of April. In open winters Gibbs (1889: 189) recorded arrival in late February in Kalamazoo County, and F. W. Rapp later (1931: 4) recorded it there as a rare transient from March 21 to April 15.

Upper Peninsula.—The Wood Duck has been uncommon in spring at Munuscong Bay, Chippewa County (Christofferson saw a male there on May 2, 1928, that stayed for 10 days); at Blaney, Schoolcraft County, Christofferson noted a male on April 19, 1938, and has on other occasions reported arrival in late April.

SUMMER.—Nesting begins in southern counties before the first of April, and in the Upper Peninsula as early as the last week of April or the first week of May.

Lower Peninsula.—A nest with eggs was found in Oakland County in late April, 1904 (Blain, 1904a: 91). In the Ann Arbor region, nests were found each year until 1909; a female with brood of young was reported on April 25, 1909 (N. A. Wood and Tinker, 1910: 131), and another on July 6, 1902 (N. A. Wood). This duck doubtless nests in the Waterloo area of northeastern Jackson County, where numbers are noted in the summer (O. H. Clark). In Convis Township, Calhoun County, Walkinshaw found a nest on June 15, 1940, from which 10 young hatched, and a female with 8 fledglings on July 18, 1937. The Wood Duck is a common nesting species at many of the wooded streams in southwestern Michigan, including tributaries of the Muskegon River (Pirnie). From the Swan Creek Wildlife Ex-

periment Station near Allegan, Allegan County, where several summer specimens (U.M.M.Z.) have been collected, Durward L. Allen reported 30 to 50 Wood Ducks on August 9, 1938. At Sand Point, Huron County, N. A. Wood and Gaige (1911: 279) recorded flocks on August 10 and a few birds on August 22; specimens (U.M.M.Z.) were collected on both dates. Near Crystal Lake, Benzie County, David E. Davis recorded 11 fledglings on July 15, 1934. On Beaver Island, Charlevoix County, T. D. Hinshaw and R. E. Morrill observed several individuals and collected one (U.M.M.Z.) on July 16, 1937.

Upper Peninsula.—Nests or broods have been found sparingly in most of the counties, from Neebish Island vicinity, Chippewa County (nest with 14 eggs early in July about 1914, seen by Magee), to the Huron Mountains, Marquette County (regular breeder; broods found June 15 and 19, reported by Christy), and to Iron County (adults with 11 young on July 21, 1938, reported by John L. George and R. L. Patterson). As early as April 25 (1933) a pair nested near Blaney, Schoolcraft County (Christofferson); and by early July (1898) in Iron County (Kingsford, 1917: 335-36), a female was seen removing her brood from a cavity. There are no records from Isle Royale.

FALL.—Migration is reported mainly in September and October; the numbers seen are usually small, though in some places hundreds are not uncommon.

Upper Peninsula.—The species is a rare fall transient in the Huron Mountain region, Marquette County (S. S. Gregory, Jr., 1929: 173). At Blaney, Schoolcraft County, it is fairly uncommon; Christofferson has recorded it there in fall until mid-September usually, and in 1932 until October 26. It congregates by the hundreds at beaver ponds on Drummond Island, Chippewa County, in late August and September (Pirnie, 1935: 16, 18; and notes).

Lower Peninsula.—Pirnie recorded 300 at one time in early September, 1928, at the Indian River marsh, Cheboygan County, as well as large numbers on the tributaries of the Muskegon River (Pirnie, 1935: 16, 18; and notes). The species was common from September 1 to 23, 1883, in Bay County marshes—"probably the larger part raised in the immediate vicinity" (N. A. Eddy, 1884: 41)—and especially common in the Flint River marshes, "a great home of the woodduck" (Mershon, 1923: 60, 64-65). On Wildfowl Bay, Huron County, Pirnie took a specimen (U.M.M.Z.) on October 1, 1929. At Vicksburg, Kalamazoo County, F. W. Rapp (1931: 4) listed the species as a rare transient; he recorded it there from September 3 to December 6. In the Gull Lake area of the same county, Pirnie has found it rather common through September. This duck is a fairly common transient in the Ann Arbor region, where the latest departures are November 1, when a spe-



cimen (U.M.M.Z.) was collected in 1901, and November 2 (1919), when N. A. Wood observed 2 birds at Portage Lake, Washtenaw County. For the Detroit vicinity, Swales' records include 2 birds shot as late as November 19 (1904). On September 13, 1932, Trautman and E. L. Wickliff noted 20 at the Erie marsh in Monroe County. In the Toledo-Erie marsh area, L. W. Campbell (1940: 186, 200) has observed the departure of most of the birds, on the average, by October 13.

WINTER.—There are a very few current records of individuals seen in the southern counties in winter, but there is no assurance that they are of strictly wild stock.

*Aythya americana* (Eyton)  
Redhead

Uncommon transient; local winter visitant. Twice reported in summer. First listed for Michigan by Sager (1839: 417).

The species was formerly abundant in Michigan (N. A. Eddy, 1884: 41; Barrows, 1912: 90-91), but has been much reduced in numbers (Pirnie, 1935: 62).

SPRING.—The presence of wintering birds confuses the records for spring migration, but movement apparently begins in the latter half of March and continues through early April.

Lower Peninsula.—L. W. Campbell (1940: 200) gave March 14 to April 20 as the average period for main flight in the Toledo-Erie marsh area. In the early part of the century, Swales reported the species common or even abundant in the Detroit area from the middle of March to early April, and recorded 4 there as late as April 24 (1912). The species is usually reported in flocks of only a few dozen in spring, but L. E. Hicks recorded a large concentration on Lake St. Clair, April 12, 1937. Redheads, usually in limited numbers, but occasionally in fair-sized groups, are reported in the Ann Arbor region from late March to early April; a specimen (U.M.M.Z.) was collected there on March 23, 1912. At Whitmore Lake, Washtenaw County, in 1937, A. D. Tinker, R. E. Olsen, and T. D. Hinshaw noted 200 on April 4 and on April 11, and 4 as late as May 2. At Vicksburg, Kalamazoo County, F. W. Rapp (1931: 4) listed the species as rare; he recorded it there from March 15 to April 1. It is also rare (15 to 20 birds seen at a time) about Gull Lake in the same county (Pirnie, notes); Walkinshaw recorded it there as late as April 26 (1936). In 1929 N. A. Wood saw 1 or 2 birds frequently from May 3 to 9 on Beaver Island, Charlevoix County.

Upper Peninsula.—For Blaney, Schoolcraft County, Christofferson has given 1 record: 2 males and a female, April 25, 1936. On May 5, 1931, N. A. Wood (1933: 715) recorded 3 Redheads at Copper Harbor, Keweenaw County.

SUMMER.—Breeding was reported at St. Clair Flats, St. Clair County,

in 1879 by Collins (1880*a*: 61-62), and in 1882 by Langille (1884: 467; 1886: 34-35; 1892: 14-15). A juvenile (June 29, 1860) and 3 downy young (June, 1881) collected at the St. Clair Flats by Collins and now in the United States National Museum have been tentatively identified as Redheads. J. Claire Wood (1910: 37-38, footnote) recorded 4 nests there in 1908. Herbert J. Miller found 2 nests on May 28, 1941, one with 10 eggs (1 egg in U.M.M.Z.), on Lone Tree Island, Huron County, and the other with 3 eggs (9 eggs by June 4), at Fish Point, Tuscola County. Walter Koelz (notes, 1916-1918) reported "an adult male in the marshes one year during the early weeks in August" near Waterloo, Jackson County. Pirnie (1940*b*: 10; and notes) reported a male on June 3, 1936, near the Kellogg Sanctuary, Kalamazoo County, and also a female at Au Train Lake, Alger County, on September 8, 1939.

FALL.—In the Upper Peninsula, migration is reported from the first week in October to mid-November, and in the Lower Peninsula from October until late November, and occasionally into December. Banding records indicate an eastward or southward movement for many Redheads (F. C. Lincoln, 1934: 281-82; Pirnie, 1941*a*: 259).

Upper Peninsula.—A specimen was collected in Menominee County on October 2, 1932 (Pirnie, 1935: 308). At Blaney, Schoolcraft County, according to Christofferson, the species has appeared between October 2 (1931) and November 7 (1937), rather irregularly, and usually in small numbers, though in the fall of 1931, a total of 280 was counted. At Munuscong Bay, Chippewa County, Christofferson recorded a total of 100 between September 15 and November 14, 1927; he recorded the species there almost every fall—in smaller totals, but always on dates within the extremes given for 1927.

Lower Peninsula.—Redheads have occurred "for many years at such waters as Houghton Lake [Roscommon County], Gun Lake [Barry County], and Lake St. Clair, but evidently they fail to stop at most of our smaller lakes" (Pirnie, 1935: 21). A female was secured from a flock of 7 Redheads on October 18 at Hubbard Lake, Alcona County (J. Claire Wood, 1913: 14), and several specimens (U.M.M.Z.) were taken at Houghton Lake, Roscommon County, from October 9 (1935) to November 26 (1937). In 1883 in Bay County (N. A. Eddy, 1884: 41) the Redhead arrived in some numbers on September 23, was common by October 7, and abundant by October 14. Pirnie noted a flock of 15 at Wildfowl Bay, northwestern Huron County, as early as September 18 (1928); at the same place and at Fish Point, Tuscola County, several specimens were obtained from October 3 (Pirnie, 1935: 308) to November 6 (1927, specimen in U.M.M.Z.). R. W. Chaney (1910: 273) observed 4 at Upper Hamlin Lake, Mason County, as

early as September 26. In 1939 the species arrived at the Kellogg Sanctuary, Kalamazoo County, on September 30 (Rysgaard, 1940: 19); in that vicinity, the largest numbers (15 or 20, as a rule, seen at a time) have usually been present around October 20, but in 1940, the greatest total (31 birds) was recorded on November 6 (Pirnie). There are 3 records for the Ann Arbor region: October 11, 1906, October 18, 1908, and October 26, 1930. Swales saw "several" on September 21, 1904, at St. Clair Flats, St. Clair County, and noted that they were abundant from the middle of October through November. At the North Channel outlet, in the same county, Pirnie observed 12 on October 11, 1938. At Gibraltar Bay, Wayne County, and vicinity, Trautman found 600 on October 21, 1935. "When ice covers the feeding grounds of inland lakes and ponds in November, Lake St. Clair is one of the few Michigan lakes at which huge flocks of bluebills, redheads, and canvasbacks usually remain well into the winter" (Pirnie, 1935: 177). Sizable numbers of the species were taken in fall between 1885 and 1901 at the Monroe marshes, according to Phillips (1925: 175).

WINTER.—J. Butler (1913: 40) saw 2 Redheads near Detroit on December 25, 1912, and Swales found the species "fairly common" at Grosse Ile, Wayne County, through December 31, 1907. At Grosse Ile and at Gibraltar, A. D. Tinker and R. E. Olsen observed 10 Redheads on February 10, 1935; H. W. Hann listed the species on January 31, 1931, and February 20, 1932, also in Wayne County. Inland records are rare, but a flock of 15 was seen by C. J. Spiker on January 28, 1933, at Ypsilanti, Washtenaw County. In the Battle Creek (Calhoun County) to Gull Lake (Kalamazoo County) area, Redheads were noted on December 24, 1933 (Pirnie and others, 1934: 44) and on January 24, 1932 (Walkinshaw).

*Aythya collaris* (Donovan)  
Ring-necked Duck

Fairly common transient; summer resident in the Upper Peninsula and perhaps southward; winters locally in southern counties.

First recorded for Michigan by Sager (1839: 417).

This species may well be more common than reports indicate, since it is rarely found in large concentrations during migration, but rather in small scattered groups on most of the lakes and ponds of a given neighborhood. The Ring-neck is frequently in company with the somewhat similar Scaup Duck, so that, in a mixed flock, the two may be confused.

SPRING.—Individuals occasionally appear before mid-March, but the larger numbers arrive in late March and the first half of April in the Lower Peninsula, from the second week in April to the last of the month in the Upper Peninsula.

Lower Peninsula.—Trautman recorded 200 on the lower Detroit River, Wayne County, on April 19, 1936. Two specimens (March 15, 1908, and April 10, 1905) were taken at the St. Clair Flats, St. Clair County (Swales and Taverner, 1907: 139; and Swales' notes). In the Ann Arbor region, late March to mid-April is the main period of migration (as many as 300 were reported on Whitmore and neighboring lakes on March 31, 1935, by R. E. Olsen and A. D. Tinker), but individuals have been seen there in February, and a very late group of 3 pairs was seen near Saline on May 23, 1939, by C. H. Westman. At Portage Lake, Jackson County, R. E. Olsen, A. D. Tinker, and T. D. Hinshaw recorded 100 as late as April 14 (1935), and 20 on May 2 (1937). In the Battle Creek (Calhoun County) to Gull Lake (Kalamazoo County) area, individuals or small groups are seen during March, especially in the last week, but the species becomes more numerous during April (Pirnie and Walkinshaw, notes). F. W. Rapp (1931: 4-5) found it common at Vicksburg, Kalamazoo County, from March 17 to April 21. Pirnie and H. L. Bradley noted 25 near Allegan, Allegan County, on March 29, 1938. Arrival was reported on March 23, 1894, in Bay County, where N. A. Eddy (1897: 47) found the species to be very irregular. It has apparently been either very rare or absent entirely from the east shore of Saginaw Bay, where Museum of Zoology field parties of recent years have not listed a single occurrence in spring. In the northern part of the peninsula, at Munro Lake, Cheboygan County, a flock was noted on April 24, 1937, by Theodora Nelson; a specimen (U.M.M.Z.) was taken on Beaver Island, Charlevoix County, May 2, 1929.

Upper Peninsula.—Christofferson reported 6 Ring-necks on April 13, 1929, at Munuscong Bay, Chippewa County; Van Tyne, Max M. Peet, and P. S. Lovejoy saw one group of 5, and another of 3, there on May 2, 1933; and a male was collected by Peet the same day. The species has occurred only very irregularly in the McMillan, Luce County, vicinity from April 19 (4 in 1938) to May 17 (2 in 1928), with the largest number a flock of 27 on May 2, 1939 (Bryens). At Blaney, Schoolcraft County, Christofferson has reported arrival commonly in the third and fourth weeks of April, but in 1938, as early as April 11 (6 pairs); more than 20 have seldom been seen there at any one time, although a flock of 60 was noted on April 14, 1938. On Isle Royale, Laurence Dayton listed this duck on 4 days between April 30 and May 15, 1937.

SUMMER.—In the Upper Peninsula eggs have been reported by June 5, hatching by June 28, and broods seen thereafter until well along in September.

Lower Peninsula.—There are no actual breeding data for this peninsula. There are, however, the following reports of summer occurrences

(possibly accidental?): 3 pairs in Washtenaw County on May 23, 1939 (listed above with the spring records); a pair in June, 1896, at Baldwin Lake, Montcalm County (Barrows, 1912: 98). Pirnie (1935: 26; and notes) said the species was reported nesting at Houghton Lake, Roscommon County, but gave no nesting data.

Upper Peninsula.—In July, 1928, at Munuscong Bay, Chippewa County, Pirnie (1935: 26; and notes) saw several broods of nearly grown young; and on July 30, 1938, on Drummond Island in the same county, T. D. Hinshaw and R. A. MacMullan secured a juvenile (U.M.M.Z.) still unable to fly. Pirnie at Millecoquin Lake, Mackinac County, noted a group of 9, nearly grown, on August 8, 1936. Christofferson recorded a number of pairs (photograph, June 11, 1935, by Walkinshaw) regularly each summer for the past 10 years at Blaney, Schoolcraft County. At the same place Christofferson found a nest with 11 eggs on June 6, 1939, and observed several broods (3 in 1937, including an adult female with 8 young as early as July 28); on September 20, 1934, he banded 4 young there that he said could fly only 200 feet. At Seney, in the same county, Brodkorb saw a number of the species frequently in early June, 1938 (about 18 males on June 10); and in the following year H. L. Bradley found a nest with 9 eggs there on June 5, 8 young that had hatched June 28 or 29, and 6 other broods during July. At Mallard Lake, Alger County, Pirnie (1935: 26; and notes) found an adult with 10 young about two-thirds grown, on September 9, 1930.

FALL.—Migration in the Upper Peninsula occurs chiefly from very late September through the first week in November and in the southern counties to mid-November.

Upper Peninsula.—There is one record for Isle Royale: A. Murie saw 12 Ring-necks on October 11, 1929. Migration is apparently light in the Huron Mountains, Marquette County (Christy); S. S. Gregory, Jr. (1929: 173), recorded the species there on October 5 and 6. Particularly heavy flights have occurred recently at Blaney, Schoolcraft County, where Christofferson found the summer residents augmented by transients until there were 75 Ring-necks by September 9 (1937), 500 by September 15 (1936), 2000 by October 1 (1936), with flocks of 1000 to 3000 not unusual in October (3000 on October 15, 1934, and on October 20, 1940). Though nearly all had usually gone by November 1, numbers were occasionally seen until early November (1000 on November 6, 1940, and 500 on November 10, 1938); the latest individual noted stayed until November 14 (1938).

Lower Peninsula.—At least moderate numbers (300 on November 1, and 200 on November 8, 1936, according to Trautman) pass through Houghton Lake, Roscommon County, and specimens (U.M.M.Z.) have been collected

there from October 14 (1938) to November 9 (1935). Pirnie (notes, 1941) has stated that Ring-necks occur in large flights at Tawas Lake, Iosco County, and Muskegon Lake during early October. In the Gull Lake area, Kalamazoo County, Pirnie (1940, notes) found the species common in fall as well as in spring, "far outnumbering the Lesser Scaup during late September and the first half of October." Individuals were reported in the Gull Lake area by September 11 (1 in 1940), but larger numbers in late September; in 1940 there were 750 by October 20, the same number on November 4, 630 on November 8, 300 on November 13, after which the numbers dropped rapidly to 6 or so birds seen during the last week of November and in December (Pirnie). Fall records for southeastern counties are very few. A female was taken as early as September 5 (1916) near Waterloo, Jackson County (Koelz, 1923: 37), and a few Ring-necks were seen in the Ann Arbor region as late as November 18 (1922, specimen from Pleasant Lake, mounted by N. A. Wood). Near Detroit, a Ring-neck was shot on November 17, 1912 (specimen examined by Swales), and at Hillsdale, the species remained until November 26 in 1894 (Barrows, 1912: 98).

WINTER.—In the Gull Lake (Kalamazoo County) to Battle Creek (Calhoun County) area, the Ring-neck was seen in numbers up to 30 on several recent Christmas counts (Kingsley and others, 1932: 58; Brigham and others, 1941: 120–21) and remained there throughout at least one winter (1931–32—Pirnie and Walkinshaw, notes). In the Ann Arbor region 1 Ring-neck was observed on December 19, 1939 (John L. George and others, 1940: 108), 1 on January 6, 1929 (N. A. Wood and Tinker, 1934: 10), a pair noted almost daily from January 26 to 31, 1929 (R. E. and H. A. Olsen), and 2 individuals on February 13, 1934 (R. E. Olsen and James H. Wood). L. W. Campbell (1940: 47) saw 1 in the Erie marsh, Monroe County, on February 7, 1937.

*Aythya valisineria* (Wilson)  
Canvas-back

Uncommon transient; local winter visitant in southern counties.

First listed for Michigan by Sager (1839: 417).

Mershon (1923: 64) believed that the Canvas-back had become more common than formerly on the Saginaw River, and H. Herrick (1910: 77) described what may have been a temporary increase at Monroe. Many current authors, however, incline to the opinion that there has been a great decrease in numbers during the last few decades (see Pirnie, 1935: 23–24, 62; Trautman, 1940: 192).

SPRING.—Migrants are reported mainly from late February through March in southern counties, and somewhat later in the north.

Lower Peninsula.—On April 1, 1934, in the Erie marsh, Monroe County, L. W. and B. R. Campbell listed approximately 5000 Canvas-backs. For the Toledo-Erie marsh area as a whole L. W. Campbell (1940: 200) gave March 7 to April 7 as the average period for the main flight. At Gibraltar, Wayne County, A. D. Tinker, R. E. Olsen, T. D. Hinshaw, John L. George, and others noted fair-sized flocks during the first half of March (2000 on March 4, 1934; 1000 on March 14, 1934) that dwindled considerably in the latter part of the month (30 on March 15, 1936; 200 on March 21, 1942). Other observers, however, in the vicinity of Detroit, found groups of a few dozen in mid-April, and several individuals as late as April 19 (in 1903, reported by Swales). In the Ann Arbor region, the species is rare; it has been reported there as early as February 20 (1936, specimen collected by James H. Wood), and as late as April 12 (1908, 5 reported by N. A. Wood), but is usually seen there from late March to April 4 (1937, 100 seen by A. D. Tinker, R. E. Olsen, and T. D. Hinshaw). Two males were seen at Portage Lake, Jackson County, until April 14, 1935 (Tinker, Olsen, and Hinshaw). In the Gull Lake area, Kalamazoo County, first arrivals have been recorded during the last 2 weeks of March (March 18 in 1934, according to Walkinshaw) or the first week of April; very few remain after April 20 (Pirnie, notes). N. A. Wood listed the species at Fish Point, Tuscola County, on April 27, 1926, and saw 2 individuals on Beaver Island, Charlevoix County, on May 3, 1929.

Upper Peninsula.—Christofferson has few spring records from Munuscong Bay, Chippewa County: April 19 (200 Canvas-backs in 1922) to May 2 (200 in 1923). N. A. Wood (1933: 716) observed 3 individuals May 4, 1931, at Copper Harbor, Keweenaw County. Exact records are lacking from elsewhere in the north.

SUMMER.—A female (U.M.M.Z.) taken by D. W. Douglass on June 20, 1934, at the Erie marsh in Monroe County, as well as the female said to have been seen June 28, 1927, by Walter E. Hastings and W. B. Purdy on Beaver Island, Charlevoix County, may have been delayed transients. W. H. Collins (1880: 66) reported taking egg sets of the Canvas-back in 1880, at the St. Clair Flats, St. Clair County, but there is some possibility of an error in the identification, and the specimens cannot now be located.

FALL.—Migration is chiefly from mid-October until late November.

Upper Peninsula.—Christofferson, in the region of Blaney, Schoolcraft County, reported several groups as early as October 16 (1932, 50 at Pike Lake [also known as Milakokia Lake], Maackinac County), and as late as November 28 (1931, 250 at Gulliver Lake, Schoolcraft County). At Munuscong Bay, Chippewa County, where the same observer noted a total of about 715 Canvas-backs in the fall of 1927, they have been present from

October 8 (1927, 12 reported by Christofferson) until November 21 (1928, a specimen, reported by Pirnie, 1935: 308).

Lower Peninsula.—In 1936 Trautman saw 150 Canvas-backs on October 17, and 200 on October 18, at Houghton Lake, Roscommon County. Specimens were taken at Fish Point, Tuscola County, from October 8 (Pirnie, 1935: 308) to November 2 (1927, specimen in U.M.M.Z.). About Gull Lake, northeastern Kalamazoo County, fall migration apparently has been light (groups of 10 to 40 birds each, according to Pirnie); arrival has occasionally been reported from September 30 (Rysgaard, 1940: 19), but usually from mid-October. A few Canvas-backs have been seen there after November 10; a flock of 18 was reported on November 16, 1932 (Pirnie, notes). The rare fall records for the Ann Arbor region extend from October 23 (1937, 2 seen by Harold Mathiak) and November 9 (1934, specimen in U.M.M.Z.), to December 3 (1909, 1 bird shot from a flock, reported by N. A. Wood). Lake St. Clair and the Detroit River have Canvas-backs in numbers regularly from October (several on October 24 and 25, 1936) to December (Pirnie, 1935: 177; and notes). Swales said they arrived there by October 15 (several seen in 1902) and were common or even abundant in November. On October 21, 1935, Trautman noted 1000 in the Gibraltar Bay, Wayne County, vicinity. In the Toledo-Erie marsh area, L. W. Campbell (1940: 186, 200) gave October 15 and December 5 as the average dates of arrival and departure of individuals, November 9 to December 2 as the average period of the main flight.

WINTER.—Flocks of many hundreds, and sometimes several thousands, Canvas-backs have wintered on Lake St. Clair and the Detroit River (Swales and Taverner, 1907: 139; Swales, 1908: 152; J. Claire Wood, 1910: 37, footnote; E. S. Wilson, 1922: 250-51; and others). In the Gull Lake area, Kalamazoo County, numbers up to 18 were noted on most of the recent Christmas counts (Brigham and others, 1941: 121), only individuals after December; a specimen (U.M.M.Z.) was collected on January 6, 1932; a male was seen on January 22, 1939 (Pirnie, 1940a: 18), and an individual was reported on February 15, 1931, by Walkinshaw.

*Aythya marila nearctica* Stejneger and *Aythya affinis* (Eyton)  
Scaup Ducks

The 2 scaups are so similar that even some specimens are difficult of determination, and the 2 species are very rarely distinguishable in the field. Sight records are, therefore, here combined in a general account of the 2 species, and the separate accounts are based almost entirely on specimens. The Greater Scaup is possibly more common in Michigan than present records suggest.

These ducks are probably the most abundant transient ducks in Michi-



gan. Flocks of dozens, hundreds, and even thousands occur in suitable places everywhere inland as well as along the Great Lakes.

**SPRING.**—The main flight is usually recorded from late March through early May.

**Lower Peninsula.**—For the Toledo–Erie marsh area, L. W. Campbell (1940: 48, 200) gave 8000 as the average maximum number of scaups seen in a day in spring; on April 8, 1934, he recorded 20,000. The main flight occurs there on the average between March 9 (corrected from “April 9,” page 200) and May 17. Swales reported scaups in the Detroit region as early as March 2 (1907), but found them in their greatest abundance there from late April through early May. Most of the dates given for first arrivals in the Ann Arbor area by N. A. Wood and Tinker (1934: 11) fall between March 7 and March 30. Around Battle Creek (1931–39) Walkinshaw has recorded first arrivals between March 24 and April 13; Pirnie reports the main flight there in March and April. F. W. Rapp (1931: 4) has found scaups abundant in spring at Vicksburg, Kalamazoo County; his earliest spring record is March 15 (1928).

**Upper Peninsula.**—Bryens reports a few migrants yearly at McMillan, Luce County; they have arrived on dates ranging from April 22 to May 8. Christofferson reports scaups somewhat earlier at Munuscong Bay, Chippewa County, and at Blaney Park, Schoolcraft County, the dates for first arrivals at Munuscong Bay ranging from April 9 (1929) to April 29 (1928), and for Blaney, from April 13 (1938) to May 1 (1937 and 1942). In the Huron Mountains, Marquette County, scaups are uncommon; they are recorded there in spring from May 7 to June 5 (S. S. Gregory, Jr., 1929: 173). Scaups were recorded on Keweenaw Point on May 6 in 1931 (N. A. Wood, 1933: 716) and on Isle Royale on May 9 in 1937 (Laurence Dayton).

**SUMMER.**—Scaups have been reported occasionally in summer in both peninsulas: on the Detroit River, Wayne County (J. Claire Wood, 1905a: 130; Barrows, 1912: 94; Swales, notes); at the St. Clair Flats (Collins, 1880a: 62; J. Claire Wood, 1910: 38, footnote); at Wintergreen Lake, Kalamazoo County (1, on July 10, 1939, and 3 on June 3, 1936, reported by Pirnie); in Newaygo County (Ford, 1928: 497–98); in Mason County (several breeding pairs and a brood reported by Chaney, 1910: 273); at Douglas Lake, Cheboygan County (seen several times, usually in pairs, reported by Blanchard and Nelson, MS of 1937); at Mackinaw City, Cheboygan County (Leonard Wing, 1940: 174–75); at Seney, Schoolcraft County (H. L. Bradley); and on Isle Royale (Peet, 1909: 345; 1909a: 119).

**FALL.**—The main flight is usually recorded in late October and early November.

Upper Peninsula.—On Isle Royale a flock of scaups was reported by Max M. Peet (1909: 345) on September 1 (1905) and one by A. Murie on October 5 (1929). S. S. Gregory, Jr. (1929: 173), recorded scaups in the Huron Mountain region, Marquette County, from September 30 to October 12, but found them uncommon there. They have been recorded by Christofferson at Munuscong Bay, Chippewa County, from August 31 (1927) to November 6 (1927), and at Blaney Park, Schoolcraft County, from September 9 (1932) to November 22 (1930). Van Tyne (1923: 22) found them common in early September, 1918, on Les Cheneaux Islands, Mackinac County.

Lower Peninsula.—Walter E. Hastings reported "thousands" of scaups at Norwood, Charlevoix County, on November 21, 1910 (Van Tyne, 1925: 614). F. W. Rapp (1931: 4) found them common at Vicksburg, Kalamazoo County, from November 1 to 26. Rysgaard (1940: 19) recorded them at the Kellogg Sanctuary, Kalamazoo County, from October 13 to December 5 in 1939, noting maximum numbers on October 19. In the Gull Lake-Battle Creek area Pirnie reports that the fall flight begins in late September or early October, usually reaching its peak about October 20. In the Detroit area, Swales (notes) reported small flocks in late September and early October; scaups were usually common in late October and throughout November. For the Ann Arbor region, A. D. Tinker and N. A. Wood (1916: 124) gave late October and early November as the usual time of departure (latest date recorded: December 3).

WINTER.—Scaups winter regularly, sometimes in large flocks, in the Toledo-Erie marsh area (L. W. Campbell, 1940: 48), but in the Chicago region (which includes Berrien County, Michigan) they winter only uncommonly (Ford, Sanborn, and Coursen, 1934: 29). Elsewhere in southern counties they are irregular and usually uncommon in winter. Pirnie (1935: 177) reported that "Lake St. Clair is one of the few Michigan lakes at which huge flocks of bluebills . . . usually remain well into the winter."

*Aythya marila nearctica* Stejneger  
Greater Scaup Duck

Transient, common at times on such larger waters as Lake St. Clair, Saginaw Bay, Muskegon Lake, and Houghton Lake. Winter status unknown.

First listed for Michigan by Gibbs (1879: 494): "*Fuligula marila*."

SPRING.—There are 22 spring specimens of certain identification, collected from March 9 to May 1: 6 from Wayne County (chiefly the region around the mouth of the Detroit River), March 9 (1934) to April 19 (1895); 2 from Tawas Bay, Iosco County, April 24, 1934; 14 from Hough-

ton Lake, Roscommon County, April 26 (10 in 1928—Van Tyne, 1929: 103-4) to May 1 (1930).

FALL.—Specimens examined were collected between October 8 (1929) and November 10 (1910). A number were collected in Alger County in 1930, 1 on October 15, and 5 on October 20 (Pirnie, 1935: 309-10). Four specimens (U.M.M.Z.) are from Drummond Island, Chippewa County, October 20 (1928). Seven (October 18 to November 8) are from Houghton Lake, Roscommon County, where Trautman reported that the main flight began after mid-October and extended to the first or second week in November and that the Greater Scaup was "later by far than the Ring-neck, and apparently slightly later than the Redhead, Canvasback and Lesser Scaup." Other specimens are from: Prescott, Ogemaw County, October 15, 1930; Linwood, Bay County, October 8, 1929 (Pirnie, 1935: 309); Charity Island, Huron County, November 10, 1910; Fish Point, Tuscola County, November 8, 1932; Detroit River, Wayne County, October 20, 1936; St. Clair Flats, St. Clair County, 1 on October 10 and 7 on October 25, 1936. Pirnie has found the species in numbers at Lake St. Clair.

WINTER.—It is generally believed that a few scaups occasionally winter in Michigan, but there are apparently no specimens taken at that season.

*Aythya affinis* (Eyton)  
Lesser Scaup Duck

Very common transient; irregular summer visitant. Winter status unknown.

First listed for Michigan by Gibbs (1879: 494): "*Fuligula affinis*."

SPRING.—There are some 50 specimens, collected on dates ranging from March 8 to May 28: 9 from Wayne County (largely the region around the mouth of the Detroit River), March 9 (1934) to April 13 (1934); 2 from Strawberry Island and St. Clair Flats, St. Clair County, May 21 and 23, 1934; 22 from Washtenaw County, March 8 (1932) to May 10 (1901); 3 from Jackson County, March 31 (1894) to April 18 (1894); 1 from Wintergreen Lake, Kalamazoo County, April 28, 1933; 3 from Sand Point, Huron County, May 14 to 24, 1933; 1 from Lake Charlevoix, Charlevoix County, May 11, 1934; 8 from Beaver Island, Charlevoix County, May 3 (1929) to May 28 (1932); and 1 from Copper Harbor, Keweenaw County, May 6, 1931.

SUMMER.—Trautman collected a specimen at the mouth of the Detroit River, Wayne County, on August 29, 1935.

FALL.—The 40 specimens examined were taken from October 17 to November 15. Trautman and Pirnie reported the species as abundant at Houghton Lake, Roscommon County, and at Muskegon Lake, Muskegon County. Trautman recorded the main flight at Houghton Lake during the

last 2 weeks of October, but found the species there from early October into November. Twenty-seven specimens were taken there on dates ranging from October 17 (1936) to November 13 (1938). Other specimens are from: Muskegon Lake, Muskegon County, November 8, 1929 (several); Kalamazoo, October 29, 1887 (1); Washtenaw County, November 15, 1926 (1); Huron Point, Macomb County, October 24, 1936 (1); St. Clair Flats, St. Clair County, October 25, 1936 (1); mouth of the Detroit River, Wayne County, October 20, 1936 (2).

*Bucephala clangula americana* (Bonaparte)  
American Golden-eye

Common transient; regular winter visitant; summer resident in Wexford, Roscommon, Mackinac, and Chippewa counties.

First listed for Michigan by Sager (1839: 417).

SPRING.—The presence of wintering birds makes it difficult to determine exactly when the spring movement begins; it is recorded principally in March and April.

Lower Peninsula.—In the Toledo-Erie marsh area, L. W. Campbell (1940: 201) gave March 23 as the average date for the end of main flight. About Detroit, Swales found Golden-eyes "common" as late as April 18 (1904), observed 30 on April 20 (1908), and reported them "fairly common" on April 23 (1908). Stragglers have occasionally been seen, and specimens (U.M.M.Z.) collected, in the Ann Arbor region until the second and third weeks of April (April 19, 1939, 2 birds noted at Independence Lake by John L. George); and in Jackson County, through April 30 (1923), according to Fargo. Herbert Miller secured a specimen (U.M.M.Z.) at Fish Point, Tuscola County, on May 1, 1926. Museum of Zoology field parties (1931 to 1933) saw very few in April at Sand Point, Huron County, but D. W. Douglass noted 5 or more on a May 3 (1932) trip from there off shore to Charity Island. N. A. Wood listed the species on Beaver Island, Charlevoix County, on May 7, 9, and 10, 1929.

Upper Peninsula.—Christofferson and Magee reported flocks in the St. Mary's River rapids, Chippewa County, through April 21 (about 100 birds in 1923) and April 25 (50, the same year) and smaller numbers later. In 1931 at Copper Harbor, Keweenaw County, N. A. Wood (1933: 716) found the species uncommon after April 24. Laurence Dayton, after spending the winter (1936-37) on Isle Royale, noted the species there on April 22, when open water reappeared, and frequently thereafter until May 21.

SUMMER.—Nesting may begin by early May, since young have been found as early as June 5. At Lake Mitchell, Wexford County, E. R. Ford (1927: 116) discovered a female with 2 half-grown young on July 22, 1920.

Near Houghton Lake, Roscommon County, Pirnie (1935: 27; and notes) caught a duckling from a week-old brood in early June, 1932; and on June 7 or 8, 1940, near the southeast end of the same lake, Louie Dingeman found a nest with 12 eggs (U.M.M.Z.). Pirnie observed numerous juveniles at Millecoquin Lake, Mackinac County, on August 8, 1936; and Fargo wrote: "On June 5, 1930, on the north shore of Lake Huron between Cedarville and Hessel [Mackinac County] I found a female Golden-eye and six ducklings about the size of a quail." Apparently, numbers have nested at Munuscong Bay, Chippewa County, for Trautman reported that from June 23 to 29, 1926, he saw about 100 Golden-eyes daily, and found a brood of 11 young. Northward at Neebish Island in the same county, A. H. Boies (1897: 18) listed the species as breeding, but gave no details. Summer occurrences, without breeding evidence, have been reported from various localities: July 25, 1932, a male seen at the north end of Black Lake, Cheboygan County, and August 9, 1937, 3 Golden-eyes seen at Trailsend Bay, Emmet County (Blanchard and Nelson, MS of 1937); 3 adults noted at Whitefish Point, Chippewa County, in the summer of 1914 (N. A. Wood, 1914: 60); a male, June 2, 1938, at Seney, Schoolcraft County (Brodkorb); on Isle Royale, a "small flock" on August 23, 1924 (Fargo), and a flock of 15 in early September (F. M. and A. M. Baumgartner).

FALL.—Migration apparently extends from October through November.

Upper Peninsula.—At Siskowit Bay, Isle Royale, Golden-eyes were common in the fall of 1936 until the bay was closed by ice (Laurence Dayton). At Blaney, Schoolcraft County, Christofferson found the species regular in fall to November 7 (10 birds in 1937), November 8 (12 in 1935), and November 9 (2 in 1938); Bryens, at McMillan, Luce County, observed it usually from the third and fourth weeks in October to mid-November. Specimens (U.M.M.Z.) were collected at Munuscong Bay, Chippewa County, on October 20, 1928, and Pirnie (1935: 311) listed others from there and from Alger County.

Lower Peninsula.—At Houghton Lake, Roscommon County, in 1936, Trautman noted 40 on October 17, and 50 on both November 1 and November 8. Walter E. Hastings (Van Tyne, 1925: 614) found the species "very abundant" near Norwood, Charlevoix County, on November 21, 1910. At Charity Island, Huron County, the species was recorded from October 4, well into November, when 2 specimens (U.M.M.Z.) were collected (N. A. Wood, 1911: 88). At Vicksburg, Kalamazoo County, the species is common in fall and present from October 21 to December 18 (F. W. Rapp, 1931: 5); in the Gull Lake area in the same county they are very common in November (Pirnie, notes). In the Ann Arbor region the first arrivals are usually seen in late fall or early winter; a specimen (U.M.M.Z.) was taken at Pleasant Lake by Donal H. Haines on November 6, 1926, and 8

Golden-eyes were reported November 25, 1917, at Portage Lake by A. G. Ruthven and F. M. Gaige. The species has appeared on the Detroit River by the last of October or the first week of November; according to Swales it arrived there by October 30 or 31 (1904) and was "common" on November 11 (1901); and on the east side of Anchor Bay, St. Clair County, Pirnie observed as many as 2000, nearly all in one flock, on November 15, 1936. L. W. Campbell (1940: 201) gave November 17 as the average date for the beginning of main flight in the Toledo-Erie marsh area.

WINTER.—Numbers of Golden-eyes, usually in small groups, are found throughout the winter in most sections of Michigan. Trautman stated that "probably more of these birds winter on the open trout streams of Michigan than pass through it to winter south of Michigan."

Lower Peninsula.—At Gibraltar, Wayne County, R. E. Olsen and A. D. Tinker reported 1000 on January 30, 1938, but in the Ann Arbor region, only scattered individuals or small flocks of not more than a few dozen birds are usually recorded. Pirnie and other observers found large numbers wintering into December or January on the Kalamazoo and neighboring rivers (312 on December 22, 1931, reported by Kingsley and others, 1932: 58), and on Gull Lake. Some also winter on the Tittabawassee River near Freeland, Saginaw County (Miller Empey). Many groups are present on streams and outlets of lakes in the northern part of the peninsula, where a number of specimens (U.M.M.Z.) have been collected from January to March. Trautman counted 134 Golden-eyes on February 8, 1935, in a 5-mile section of the Pigeon River, Otsego County.

Upper Peninsula.—Wintering is fairly regular on the St. Mary's River, Chippewa County; in January and February, 1926, more than 100 birds were noted there by Christofferson and Magee. Near McMillan, Luce County, Bryens has observed individuals and very small groups on several occasions in winter, 2 on January 13, 1937, and 2 on February 9, 1934). Large numbers winter on the Indian River, near Manistique, Schoolcraft County; Christofferson reported 175 there on February 22, 1936, and E. E. Crawford reported 1000 to 1500 on March 3, 1937. The species is a regular winter visitant, December 28 to March 16, in the Huron Mountains, Marquette County, according to S. S. Gregory, Jr. (1929: 174), and perhaps elsewhere about the south shore of Lake Superior.

*Bucephala islandica* (Gmelin)  
Barrow's Golden-eye

Bernard DeBries collected a specimen at Black Lake, Ottawa County, on March 22, 1907 (Barrows, 1912: 99-100). According to Swales (notes) an adult male, very probably of this species, was shot on the Detroit River, Wayne County, about April 1, 1905, and mounted by Charles Campion.

*Bucephala albeola* (Linnaeus)  
Buffle-head

Fairly common transient. Local summer resident. A few winter in southern counties.

First listed for Michigan by Sager (1839: 417).

SPRING.—Arrival is reported from southern counties chiefly in the latter half of March and in April, from the Upper Peninsula, in the latter half of April.

Lower Peninsula.—L. W. Campbell (1940: 187, 201) gave March 26 to April 11 as the average period for main flight through the Toledo-Erie marsh area; May 14 (1939) as the latest date, and April 11 as the average date, of last stragglers. In the early part of the century, Swales (notes) and Barrows (1912: 101) found the Buffle-head an abundant spring transient about Detroit, where it arrived in the middle or latter part of March, and remained until late April, with stragglers until May; it was "very abundant" at the St. Clair Flats on March 14 and 16, 1903, and "abundant" at Detroit April 17 and 18, 1908. Transients in the Ann Arbor region have been reported from the latter half of March through April, but the species is not numerous there, seldom more than one or two dozen being recorded in a day; 20 were observed at Whitmore Lake on May 2, 1937, by R. E. Olsen, A. D. Tinker, and T. D. Hinshaw. The individuals and small groups that winter in the Battle Creek area confuse the time of arrival there, but Pirnie reports the species "especially common" in March. F. W. Rapp (1931: 5) listed the species at Vicksburg, Kalamazoo County, from March 21 to April 15, but found it "rare." In 1933 at Sand Point, Huron County, D. W. Douglass observed several Buffle-heads from April 8 (8 to 10) to April 27 (4); and at Douglas Lake, Cheboygan County, Theodora Nelson noted 2 on April 19, 1937.

Upper Peninsula.—F. C. Gillett saw "a few" on April 13, 1933, at Munuscong Bay, Chippewa County, where Christofferson has recorded transients in small numbers, mainly from April 11 (3 in 1929) to April 29 (10 in 1928); Van Tyne, Max M. Peet, and P. S. Lovejoy saw several there on May 3, 1933. Northwestward, at Whitefish Point, Chippewa County, Brodkorb noted 1 on May 10, and 7 on May 11, 1936. Bryens has reported very few at McMillan, Luce County, but at Blaney, Schoolcraft County, Christofferson has found its status to be much the same as at Munuscong Bay. At Copper Harbor, Keweenaw County, in 1931, N. A. Wood (1933: 716) saw a few and collected a specimen (U.M.M.Z.) on April 28, and observed others after May 24. On Isle Royale the Buffle-head was present on May 5, 1930 (2 seen by A. Murie) and on May 9, 1937 (Laurence Dayton).

SUMMER.—Compton (1914: 178) reported a few individuals present at Douglas Lake, Cheboygan County, during one or two summers. On North Manitou Island, Leelanau County, A. E. Staebler noted a male on June 19 and 23, 1940. S. E. White (1893: 222) recorded a flock of 8 on July 3, 1890, on Mackinac Island; and on Isle Royale a small flock was noted August 23, 1924, by Fargo, and another flock on August 28, 1929, by Walter E. Hastings.

FALL.—Departure is reported principally in the latter half of October and in November.

Upper Peninsula.—In the Huron Mountain region, Marquette County, S. S. Gregory, Jr. (1929: 174), recorded a flock of 13 on October 17, 1928. Migration at Munuscong Bay, Chippewa County, has been mainly from the third week in October to the second week in November, according to Christofferson. Pirnie recorded a heavy flight there in 1926 (a maximum of 2000 birds on October 20, 40 on October 31); but in most years he recorded only a few hundred during the entire fall. A moderate migration occurs also at Blaney, Schoolcraft County (Christofferson). Walter C. Wood (1905: 49) reported flocks of 500 or more at Les Cheneaux Islands, Mackinac County, between October 15 and November 15, 1903; and Milo Oliphant secured a specimen (U.M.M.Z.) in the county on November 15, 1933.

Lower Peninsula.—Walter E. Hastings saw 6 Buffle-heads in Charlevoix County on November 21, 1910 (Van Tyne, 1925: 614). At Houghton Lake, Roscommon County, where a number of specimens (U.M.M.Z.) have been taken, Trautman noted 12 on October 17, 40 on November 1, and 15 on November 8, 1936. Max M. Peet collected 5 there on November 6, 1938. J. Claire Wood (1913: 14) saw small flocks in Alcona County on October 14, and individuals until November 5. At Saginaw Bay, Pirnie (1935: 29) reported that this species had at times "made up the bulk of the November flights"; N. A. Eddy (1884: 41) recorded arrival there on October 23 (1883). A specimen was taken on Wildfowl Bay, Huron County, on October 23, 1929 (Pirnie, 1935: 312). An adult male was seen on September 5, 1932, at Wintergreen Lake, Kalamazoo County, according to Pirnie, who stated, however, that the average date of arrival is about October 15, and that the species becomes especially common there in November. Fargo reported 2 Buffle-heads on October 2, 1937, in Norvell Township, Jackson County. In the Ann Arbor region a few have been seen each fall, from about the last week in October to middle or late November; a specimen (U.M.M.Z.) was collected there on October 22, 1904. Buffle-heads have been found in the Detroit region by September 6 (Barrows, 1912: 101); a male and female were collected at Gibraltar, Wayne County, on October 4, 1895, though the main migration through the area occurred during the last week of October and through November, the species being reported "common"



there on November 29, 1901 (Swales, notes). Pirnie saw a flock of 1000 on November 15, 1936, on the east side of Anchor Bay, St. Clair County; and Swales noted 10 of the species on December 11, 1906, at Belle Isle, Detroit River. In the Toledo-Erie marsh area, L. W. Campbell (1940: 187, 201) gave October 19 (1935) as the earliest date, November 8, as the average date, for first arrivals; November 12 to 25 was the average period of main flight through the area.

WINTER.—Individuals and small groups are reported occasionally in southeastern counties, and more regularly in southwestern counties. R. E. Olsen and A. D. Tinker saw 4 Buffle-heads on February 20, 1938, at Gibraltar, Wayne County, and 2 on February 14, 1932, near Ann Arbor. Leonard Wing (1931: 131) took a female (U.M.M.Z.) February 17, 1929, that had been wintering near Jackson. H. W. Hann listed the species in Branch County on January 1, 1932. Pirnie wrote in 1941 that the species wintered "in small numbers at open places along the west coast of the State, at Gull Lake [Kalamazoo County], and occasionally on the rivers." Most of the recent Christmas-season counts for the Gull Lake-Battle Creek area have reported the species; Pirnie and others (1932: 58-59) recorded 32 on December 27, 1931. R. H. Wolcott (Barrows, 1912: 101) said in 1893, it was common every winter at Grand Rapids. Walkinshaw noted 3 at Benton Harbor, Berrien County, on February 25, 1934.

*Clangula hyemalis* (Linnaeus)  
Old-squaw

Abundant transient. Common winter resident. One summer record. First recorded for Michigan by Sager (1839: 417).

FALL.—A few individuals or small groups are sometimes noted in late September or early October; the main flight begins in middle or late November.

Upper Peninsula.—There are 2 fall records: 2 specimens (U.M.M.Z.) were collected at Drummond Island, Chippewa County, by P. S. Lovejoy on October 20, 1928; an individual was seen at McMillan, Luce County, by Bryens on November 10, 1929.

Lower Peninsula.—A specimen (U.M.M.Z.) was collected at Alpena by Walter Koelz on November 16, 1917; 3 (U.M.M.Z.) were taken at Houghton Lake, Roscommon County, by W. McCell on November 1, 1928. N. A. Wood (1911: 88) noted the arrival of the species at Charity Island, Huron County, on October 11. In the Detroit area, Swales (notes) and Taverner (1908: 207) listed the Old-squaw as an uncommon species. Taverner (1908: 207) recorded single specimens shot there on October 21 and 31 and recorded arrival there generally after the first week in November.

WINTER.—Large numbers winter on the western shore of the Lower

Peninsula, smaller flocks on the St. Mary's River, Upper Peninsula; few winter inland.

Upper Peninsula.—Christofferson and Magee have noted a few nearly every winter on the St. Mary's River at Sault Ste Marie. Christofferson also reported 9 at Blaney, Schoolcraft County, on February 10, and 12 on February 27, 1934; near Manistique in the same county he noted flocks of 25 to 50 in February, 1936, and E. E. Crawford found similar numbers there in March, 1937.

Lower Peninsula.—The largest concentrations of these ducks have been found on the western coast of this peninsula. Near Frankfort, Benzie County, more than 1500 were secured in a single haul of fish nets in December, 1934 (Cottam, 1939: 74). Near St. Joseph, Berrien County, Walkinshaw saw "thousands" on January 27, 1935, and 200 on February 25, 1934. Single individuals or small numbers have been reported from several inland localities and on the southeastern coast of the peninsula. Trautman saw 1 at Lovells, Crawford County, on February 16, 1935; Miller Empey reported a few at Freeland, Saginaw County, in early February, 1940; in the Ann Arbor area, where a few are occasionally observed, James H. Wood saw 6 on February 20, 1936; at Three Rivers, St. Joseph County, Bryens saw 1 in late January and early February, 1927; Walkinshaw saw 3 near Battle Creek on February 23, 1936; and M. Guy collected 1 (U.M.M.Z.) at Jackson on February 1, 1929. In the southeastern corner of Michigan, R. E. Olsen and A. D. Tinker saw 8 at Gibraltar Bay, Wayne County, on January 31, 1937, and B. R. Campbell collected 1 (U.M.M.Z.) in Erie Township, Monroe County, on February 10, 1934.

SPRING.—Departure from the south usually occurs by the middle of April, and from the northern end of Lake Michigan and the Upper Peninsula in early May.

Lower Peninsula.—An individual was seen by H. W. Hann at Pleasant Lake, Washtenaw County, on April 14, 1930; near St. Joseph, Berrien County, 1 was seen by A. W. Schorger (1926: 536) as late as May 5 (1926). In 1938 Durward L. Allen noted departure from the vicinity of Saugatuck, Allegan County, about April 14. Several specimens (U.M.M.Z.) were collected at Bayport, Huron County, by Pirnie on May 9, 1929. Numerous small flocks, totaling 150 birds, were seen at Sutton's Bay, Leelanau County, by J. B. Hendryx on April 15, 1928. Five to 10 of the species were seen daily at Beaver Island, Charlevoix County, during the first half of May, 1929, by N. A. Wood, D. Magoon, and James H. Wood. James H. Wood noted 500 there on May 18, 1925.

Upper Peninsula.—Seven were seen at Whitefish Point, Chippewa County, by Brodkorb on May 10, 1936. The species was present at Isle

Royale during the last week in April (East, 1936: 51) and as late as May 27 (1930—N. A. Wood).

SUMMER.—“A solitary male in summer plumage was observed at very close range near Hessel [Mackinac County], August 11, 1920. The bird seemed to be in good condition and flew readily when too closely approached” (Van Tyne, 1923: 22).

*Somateria spectabilis* (Linnaeus)  
King Eider

Although there have been a number of reports (Barrows, 1912: 105; E. S. Wilson, 1921: 454–55; Phillips, 1926: 119; Pirnie, 1935: 31; and data in U.M.M.Z.) of this species in Michigan in winter, the only authentic Michigan specimens known are 2 (U.M.M.Z.) from southwestern Michigan: an immature female, secured in November, 1911, at Gun Lake, Barry County, by W. E. Praeger (1922: 104); and an immature female found dead November 11, 1936, on the beach at Union Pier, Berrien County, by George F. Raz.

*Melanitta deglandi* (Bonaparte)  
White-winged Scoter

Common autumn transient on the Great Lakes and large inland lakes. A few sometimes stop on small lakes. Status at other seasons not known. First recorded for Michigan by Gibbs (1879: 495).

Although the White-wing is unquestionably the commonest of the three scoters, there are few exact records indicating abundance in Michigan. Only small numbers are usually reported. Phillips (1926: 17) states that “the spring migration of all the Scoters is extremely late, just as the autumn migration is exceptionally early. This applies perhaps even more to the White-winged Scoter.” But Michigan records on all 3 forms are too meager to make it possible to determine whether actual local conditions correspond with Phillip’s statement.

SPRING.—Four specimens (all males) have been collected at this season: 1 (U.M.M.Z.) at Grosse Ile, Wayne County, on April 19, 1882; 1 by Miller Empey, near Freeland on the Tittabawassee River, Saginaw County; 2 (U.M.M.Z) on the east side of Saginaw Bay, one on May 12, 1926, by N. A. Wood (at Fish Point, Tuscola County), the other on May 9, 1929, by Pirnie (at Bayport, Huron County). Northward in both peninsulas, records are lacking, but the species was listed on Isle Royale during the last week in April, 1935 (by Walter E. Hastings, *vide* East, 1936: 51), and on May 28, 1937 (Laurence Dayton).

SUMMER.—One record: an individual seen by A. Murie on Isle Royale, June 7, 1930.

FALL.—The species has been reported chiefly from early or middle October to late November.

Upper Peninsula.—Christofferson and Magee have found the species very irregular in fall along the St. Mary's River, eastern Chippewa County; U. J. Wile shot one (Max M. Peet collection) at Drummond Island in the same county, on October 16, 1933; L. J. Smits listed this scoter as sixth in abundance among the 12 species of ducks present on Drummond Island and at Detour, on October 24, 1927.

Lower Peninsula.—J. Claire Wood (1913: 14) saw a few White-wings in mid-October, 1912, at Hubbard Lake, Alcona County; and at Houghton Lake, Roscommon County, where Pirnie usually reported a few in October and November, Max M. Peet collected 1 on November 4, 1937, and 4 on November 6, 1938. Along the shores of Saginaw Bay, several specimens (U.M.M.Z. and Kellogg Bird Sanctuary Collection) were taken from October 14 (1929, at Sebewaing, Huron County) and October 16 (1940, at Pinconning, Bay County, by Pirnie) to November 6 (1927, at Fish Point, Tuscola County). Walkinshaw listed this scoter at South Haven, Van Buren County, on October 25, 1936 (several birds), and at St. Joseph, Berrien County, on November 5, 1933. In Kalamazoo County, it has been seen occasionally at Gull Lake (3 White-wings were reported there by Pirnie, October 12, 1932), and rarely at Vicksburg, where F. W. Rapp (1931: 5; and correcting letter) has only twice recorded it in fall (in late October). In Washtenaw County, E. D. Campbell shot 1 White-wing (U.M.M.Z.) out of 3 scoters present October 29, 1881, on First Sister Lake, west of Ann Arbor; and Trautman saw a White-wing on November 3, 1934, at Whitmore Lake. Pirnie states that some occur regularly in October and November on Lake St. Clair, but there are apparently only a few exact records for that region or for the Detroit area generally; several specimens were taken about the mouth and lower end of the Detroit River: October 8, 1935, 3 (from Celeron Island—U.M.M.Z.); November 11, 1904, 1 (Swales and Taverner, 1905: 88); November 22, 1906, 1 (Swales and Taverner, 1907: 139).

*Melanitta perspicillata* (Linnaeus)  
Surf Scoter

Transient (fall only?). Status little known; apparently like that of the White-wing, but the Surf Scoter is less common.

First listed for Michigan by N. A. Eddy (1884a: 5).

FALL.—As in the case of the other scoters, positive records refer mainly to the period from mid-October to late November, and almost entirely to the vicinity of Great Lakes shores.

At Alpena, Walter Koelz collected an individual (U.M.M.Z.) on Oc-

tober 23, 1917; and J. Claire Wood (1913: 14) examined 1 shot October 13, 1912, on Hubbard Lake, Alcona County. In mid-October, 1883, N. A. Eddy (1884a: 5; 1884: 41) obtained several fresh specimens (some from the Bay City market), 1 of which had certainly been taken in the vicinity, at the Saginaw River mouth. At Fish Point, Tuscola County, Max M. Peet collected 1 on October 30, 1932. Pirnie noted 1 at Gull Lake, Kalamazoo County, on November 15, 1931; 1 (U.M.M.Z.) was secured at Dead Lake, Washtenaw County, on November 21, 1887, by an unknown collector; and 1 was shot at South Lake in the same county on October 25, 1941, by Claude Ritz. In the Detroit area, single specimens were taken at the St. Clair Flats, St. Clair County, on October 13, 1904 (Swales and Taverner, 1905: 88), and on Sugar Island, Wayne County, on November 10, 1903 (J. Claire Wood, 1903a: 96).

*Oidemia nigra americana* Swainson  
American Scoter

Rare fall transient.

First listed for Michigan by Gibbs (1879: 495).

Barrows (1912: 106) stated that the species "undoubtedly occurs more frequently on the Great Lakes than most people suppose"; and it is probably often overlooked or misidentified, especially when present in a flock of the more common White-winged Scoter.

Roberts (1936, vol. 1: 274, 277) recorded groups seen on Isle Royale by Dart in June, 1905. At Houghton Lake, Roscommon County, a specimen (U.M.M.Z.) was collected October 26, 1938, by Trautman and W. Bebee; and at Hubbard Lake, Alcona County, several of the species were observed and 4 secured between October 14 and 20, 1912 (J. Claire Wood, 1913: 14). In Kalamazoo County a specimen (U.M.M.Z.) was taken on November 4, 1894 (at Long Lake by B. F. Sykes), and another (Chicago Nat. Hist. Mus.) about November 9, 1925 (at Kalamazoo by Benjamin O. Bush). About October 18, 1940, an immature female (Kellogg Bird Sanctuary Collection) was shot at Lake St. Clair (Pirnie). Other records are inexact in date or locality (Walter C. Wood, 1905: 49; Eddy, 1884a: 5; and 1884: 41; Barrows, 1912: 106). A. D. Tinker and R. E. Olsen recently reported an individual of this species found on January 15, 1939, on the Detroit River along the west shore of Grosse Ile, Wayne County.

*Oxyura jamaicensis rubida* (Wilson)  
Ruddy Duck

Very uncommon transient. Bred formerly at St. Clair Flats. Perhaps winters in southern counties.

First listed for Michigan by Sager (1839: 417).

The species was formerly a very common, or perhaps abundant, transient in Michigan (Gibbs, 1879: 495; A. J. Cook, 1893*a*: 45; Barrows, 1912: 109), but more recently very few have been reported, usually less than a dozen or two at a time, though occasionally several dozen.

SPRING.—The species has been present chiefly from mid-April to early May.

Lower Peninsula.—Small groups have been seen in late February about the lower end of the Detroit River, Wayne County (21 birds on February 20, 1938, were reported by R. E. Olsen and A. D. Tinker), and larger numbers during the latter half of April; 45 were recorded on April 19, 1936, by Trautman, and a specimen (U.M.M.Z.) was collected on April 30, 1881; at least a few have remained into early May (Swales recorded 6 on May 3, 1909). A few individuals and groups of a dozen or less are observed each spring in the Ann Arbor region from late March or from early April to the last week of April or to early May; 12 were seen on April 25, 1933, at Ypsilanti, by T. L. Hankinson. In Jackson County the species arrived in 1924 on March 28 (one individual noted by Fargo). At Vicksburg, Kalamazoo County, it has been listed as rare; it occurs there from March 18 to April 1 (F. W. Rapp, 1931: 5). Northward, in the Battle Creek area, Walkinshaw and Pirnie reported it as regular in small numbers (usually in groups of less than 20) and as arriving frequently during the third week of April. H. W. Hann saw "a few" Ruddy Ducks at Saginaw Bay, Bay County, on May 29, 1932.

Upper Peninsula.—Bryens recorded 2 Ruddy Ducks on April 23, 1933, at a small lake near McMillan, Luce County, and Laurence Dayton listed the species on May 16, 1937, on Isle Royale—the only definite spring records from north of Saginaw Bay.

SUMMER.—The species apparently formerly bred at the St. Clair Flats (Collins, 1880: 65–66; 1881*a*: 55; Langille, 1884: 472–73; 1886: 36; 1892: 15; Bent, 1925: 153–54). Collins collected an egg of the Ruddy Duck (U.S.N.M.) there on June 15, 1880 (Herbert Friedmann). Summer occurrences have been reported elsewhere in Michigan, but without nesting evidence: at Wintergreen Lake, Kalamazoo County, in 1931, 1932, 1939, and 1940, by Pirnie; at Blaney, Schoolcraft County, in 1933, by Christofferson; and at Seney, Schoolcraft County, on June 10, 1938 (a female), by Brod-korb.

FALL.—The species is reported from early October to mid-November. Information from the north is very meager. Christy reported a Ruddy Duck in the Huron Mountains, Marquette County, on September 30 (S. S. Gregory, Jr., 1929: 174). Several specimens (U.M.M.Z.) were taken on November 2 and 3, 1935, at Houghton Lake, Roscommon County, by H. L.

Bradley and A. J. Nicholson. N. A. Eddy (1884: 41) reported arrival in Bay County on October 27 in 1883. At Vicksburg, Kalamazoo County, F. W. Rapp (1931: 5) found it rare in fall, but present from October 3 to November 15. Northward, at Wintergreen Lake, in the same county, it is regular in fall, usually in numbers less than 20 (Pirnie). A few are noted in September in this area, but the majority are present from early or middle October (50 on October 21, 1938) to early November (Pirnie, notes; and Rysgaard, 1940: 19); in 1935, however, 45 were reported there as late as November 17 (Walkinshaw), and 50 on November 19 (Pirnie). There are a few fall records for the Ann Arbor region: on November 14, 1906, a flock of 10 or 12, from which 3 (1 in U.M.M.Z.) were collected, was reported at Four Mile Lake by Walter Thwaites; a specimen (U.M.M.Z.) was secured on the Huron River near Ann Arbor on November 18, 1932. Swales over a period of years received a number of reports of the species near Detroit throughout the fall, and 2 specimens (U.M.M.Z.) were collected in the region in late October. L. W. Campbell (1940: 51, 187, 201) found individuals in the Toledo-Erie marsh area as early as September 18 (1932), arrival of earliest individuals averaging October 9; he has recorded main flight in the area from October 20 to November 16 (800 on October 22, 1932).

WINTER.—Ruddy Ducks have been found wintering in the Toledo-Erie marsh area and in the Gull Lake-Battle Creek area. In the former locality L. W. Campbell (1940: 51) recorded 2 to 4 on several occasions during the winters of 1934-35 and 1935-36, and in 1931, he recorded a maximum of 99 on December 26. According to Pirnie and Walkinshaw, 2 or 3 were seen in the Gull Lake-Battle Creek area during the winters of 1931-32 and 1934-35. It should be noted, however, that a number of captive Ruddy Ducks were liberated in this region in 1931 and earlier.

*Lophodytes cucullatus* (Linnaeus)

Hooded Merganser

Uncommon transient, and local summer resident. A few winter locally in southern counties.

First recorded for Michigan by Sager (1839: 417).

The species was considered an abundant transient in Michigan by Gibbs (1879: 495) and A. J. Cook (1893a: 38), and a common one by Barrows (1912: 76). It is now apparently common only in the fall, and only at Blaney, Schoolcraft County, and about Wintergreen Lake, Kalamazoo County, where sizable flocks are seen on occasion.

SPRING.—Since a few winter in southern localities, it is not always easy to determine the date of transients' arrival, but noticeable movement occurs from mid-March in southern counties, and from about the first of April in

the Upper Peninsula. The number noted in a day has usually been under 20.

Lower Peninsula.—For the Toledo–Erie marsh area, L. W. Campbell (1940: 201) gave March 15 to April 16 as the average period of main flight. In the Detroit area, Swales reported the species almost every spring from the middle of March until late April or the first days of May, usually 1 or 2 individuals at a time, but on May 4, 1903, as many as 10. The species appears frequently by mid-March in the Ann Arbor region, usually in small numbers, but a group of 20 was observed on March 26, 1939. At Wintergreen Lake, Kalamazoo County, there are usually smaller numbers in spring than in fall, according to Pirnie, but he recorded a flock of 50 there on March 2, 1933.

Upper Peninsula.—In the eastern end of the Upper Peninsula, the species appears rarely in late March, usually in early April. In Schoolcraft County, Christofferson saw a pair on March 29 and 30, 1938, at Blaney, and 10 pairs on April 8, 1935, at Seney; he recorded 15 of the species on April 26, 1928, at Munuscong Bay, Chippewa County; during April, 1935, he noted a total of 60 at Blaney. On Isle Royale, Laurence Dayton recorded the species on May 3, 1937.

SUMMER.—Eggs have been found from late April; young from early June.

Lower Peninsula.—A few of the species summer at the Erie marsh, Monroe County, but have not yet been proved to nest (L. W. Campbell, 1940: 51). In Jackson County, Fargo observed an adult with 7 young on May 30, 1923. In Convis Township, Calhoun County, Walkinshaw found 7 fledglings on June 3, 1937. Near Saranac, Ionia County, F. H. Lord collected a set of 11 eggs (U.S.N.M., *vide* Swales, notes) on April 22, 1894, and about May 1, 1893, found a nest with 7 eggs (Lord, 1894: 48). The last 2 records are perhaps included among the egg dates for Michigan given by Bent (1923: 30). Pirnie writes that a few of the species have been seen in summer on the Kalamazoo River and on tributaries of the Muskegon River; he collected near Muskegon an addled egg from a nest occupied in July, 1930. At Sand Point, Huron County, N. A. Wood and Gaige (1911: 278) noted an individual on June 24, and a small flock on August 12, 1908. In 1940 at the Prairie Farm, Alicia, Saginaw County, G. A. Ammann found a female with a brood of 9 half-grown young (1 young collected), on June 13, and another brood of 6 nearly full-grown young on July 18. In Crawford County and eastward, during the summer and early fall of 1903, N. A. Wood and Frothingham (1905: 45–46) noted a number of adults, of which they collected some (U.M.M.Z.), and saw young by June 30. Blanchard and Nelson (MS of 1937) reported an individual near Cheboygan on August 19, 1933.



Upper Peninsula.—In Chippewa County, the Hooded Merganser has been recorded in summer on Drummond Island, where specimens (U.M.M.Z.) were collected July 30, 1938, and at Whitefish Point, where specimens (U.M.M.Z.) were also collected, and N. A. Wood (1914: 60) found it the "most common Merganser" of the area. In Luce County, it has been noted along the Tahquamenon River, below Newberry (in numbers, during August and September, according to Pirnie, 1935: 174; also near Newberry in the last week of May, 1934, 2 adults were seen behaving as if young were nearby, according to Walkinshaw), and at McMillan (2 seen June 3, 1934, by Bryens and Walkinshaw). Christofferson observed the species during the summer of 1932 at Blaney, Schoolcraft County. Northward, at Seney, a number have been found: a nest with 6 eggs on May 20 (1939, by H. L. Bradley), a female with 6 young on June 10 (1938, by Brodkorb), and 10 broods on a brood survey during the summer of 1939 at the Seney Migratory Waterfowl Refuge by Bradley. Broods were reported on June 15 (1916) at Whitefish Lake, Alger County (N. A. Wood, 1918: 4), and on July 20 in the Huron Mountain region, Marquette County (S. S. Gregory, Jr., 1929: 173); broods were also reported on June 4 (1937) on the west branch of the Escanaba River, Dickinson County (female and 9 ducklings noted by F. M. Baumgartner), and on July 19 and 20 (1904) in the Porcupine Mountains, Ontonagon County (N. A. Wood, Peet, and McCreary, 1906: 113). On Isle Royale the species has apparently been rare in summer; it was observed on only one (1905) of the several Museum of Zoology expeditions, when an individual was seen for several days in late July, and an adult female with 6 young on July 27 and 28 (McCreary, 1909: 82; Peet, 1909: 344-45; and N. A. Wood, notes).

FALL.—Migration, during which as many as 200 or 300 of the species have occasionally been reported in a day, is principally from mid-October to mid-November.

Upper Peninsula.—A few are found in fall in the Huron Mountain region, Marquette County; Christy listed the species there on September 30, 1927, and S. S. Gregory, Jr. (1929: 173; and notes), reported an individual shot on October 3 [year?], and another on October 7 (1930). At Blaney, Schoolcraft County, the main migration occurs during the last 2 weeks of October and the first week of November; Christofferson observed 50 of the species there on October 15, 1936, 150 on October 16, 1936, 300 on October 20, 1936, 300 on November 6, 1938, and 200 on November 7, 1938; he found stragglers there until mid-November, November 12 being a frequent latest date. Specimens were obtained in eastern Chippewa County from October 19 to 23 (Pirnie, 1935: 314).

Lower Peninsula.—Small flocks were seen through the third week of

October at Hubbard Lake, Alcona County (J. Claire Wood, 1913: 14), and several specimens were collected by Max M. Peet at Houghton Lake, Roscommon County, through November 13 (1938). From Saginaw Bay, specimens (U.M.M.Z.) have been secured through the first and second weeks of November (Pirnie, 1935: 314). Pirnie reported a few stragglers at Wintergreen Lake, Kalamazoo County, before October 15, the principal flight between this date and November 10, and usually small numbers until the end of November. The greatest numbers he reported were 21 on October 17, 1940, 30 to 50 on various dates between October 19 (1939) and November 19 (1940), 80 on November 13, 1938. A few of the species pass through the Ann Arbor region in fall, mainly in November. One was observed there on December 2, 1928, by N. A. Wood, and 1 (U.M.M.Z.) was collected there on December 4, 1927, by Van Tyne. On November 19, 1938, R. E. Olsen found 52 on a small pond near Pontiac, Oakland County; and about Detroit, from 1901 to 1912, Swales (1904a: 82; and notes) recorded the species almost every fall, from early October to December 3, but chiefly in November. L. W. Campbell (1940: 201) gave November 3 to December 2 as the average period for main flight through the Toledo-Erie marsh area.

WINTER.—Barrows' statement (1912: 76) that the species "often remains through the winter wherever open running water furnishes a supply of food," suggests that he had winter records from well north in Michigan. But there are none in the Museum of Zoology that indicate wintering north of Ottawa County. L. W. Campbell (1940: 51) has found as many as 60 and 75 of the species during late January in the Erie marsh, Monroe County; and R. E. Olsen and A. D. Tinker saw a few at Gibraltar Bay and at the lower end of Grosse Ile, Wayne County, on January 31 (1 in 1937) and February 10 (3 in 1935). In the Ann Arbor region, several were observed in January and February: 1 by N. A. Wood, on January 20, 1929; 5 by R. E. Olsen, on January 24, 1932; and 1 by Walter Koelz on February 6, 1917. In the Battle Creek area, the species was noted (usually in numbers under 12) on most of the recent Christmas-season counts (Brigham and others, 1941: 120-21), and through January 8 (1939, by Walkinshaw). At Grand Haven, Ottawa County, it was listed by Walkinshaw on February 11, 1940.

*Mergus merganser americanus* Cassin  
American Merganser

Common transient. Local summer resident\* south to Saginaw Bay. Winters commonly in the Lower Peninsula and sparingly in the Upper Peninsula.

\* Mergansers are fairly common in summer, but since the females of the 2 species of *Mergus* are too similar in appearance for easy identification in the field, the relative numbers of the two are not known.

First listed for Michigan by Sager (1839: 417).

SPRING.—Main flight is reported from early or middle March to early April in southern counties, and during April and May in the north.

Lower Peninsula.—In the Toledo-Erie marsh area, where the species is a regular winter resident, L. W. Campbell (1940: 201) gave March 29 as the average date for the end of main flight. The species, common during winter on the Detroit River and the St. Clair Flats, is usually still common there through March and April; about 500 were present near the mouth of the Detroit River on March 14, 1934 (R. E. Olsen and T. D. Hinshaw). It was "abundant" in the region from March 27 to 31 and "common" until April 9 in 1908; and at Belle Isle, north in the same river, it was "common" as late as April 18 in 1904 (Swales, notes). The species has a similar status in the Ann Arbor region, but it is less common there; R. E. Olsen, A. D. Tinker, and T. D. Hinshaw recorded 100 on March 14, 1934, on the Huron River, east of Ann Arbor, and 50 on April 4, 1937, on Whitmore Lake, but these numbers are above average. In the vicinity of Portage Lake, Jackson County, the same observers reported 100 on March 28, 1937, and 10 through April 29 in 1934. In Kalamazoo County the species has been present until April 21 at Vicksburg (F. W. Rapp, 1931: 2), though in much reduced numbers after March in the Gull Lake area (Pirnie). During April and the first days of May, 1931 to 1933, the species was common at Sand Point, Huron County; in 1932 about 100 were there on April 13, and several hundred on April 19 (D. W. Douglass).

Upper Peninsula.—Christofferson reported small numbers at Blaney, Schoolcraft County, by late March and in April and May. First arrivals were recorded in the Huron Mountain region, Marquette County, in the second week of April (S. S. Gregory, Jr., 1929: 172), and at Copper Harbor, Keweenaw County, at least 50 were reported on April 30 in 1931 (N. A. Wood, 1933: 715). On Isle Royale in 1937 Laurence Dayton noted the species on April 22 and regularly in May.

SUMMER.—Nesting may begin before the first of May; broods have been noted by early June, and young still unable to fly as late as the latter half of August.

Lower Peninsula.—The species has been reported nesting in Huron County on North and Heisterman's islands (Arnold, 1903: 71-72); a nest with 11 eggs was found on May 12 and a brood in early June. The several juveniles (U.M.M.Z.) collected on Charity Island by N. A. Wood (1911: 87) have since proved to be *Mergus serrator*. On June 27 and 29, 1939, R. E. Morrill noted a female and 1 downy young at Grand Lake, Presque Isle County. Several instances of nesting are known in the vicinity of Douglas Lake, Cheboygan County (N. A. Wood, Smith, and Gates, 1916: 7; Blanchard and Nelson, MS of 1937), where downy young were found by June

18 (1937) and young birds as late as August 20 (1915). On Gull [Bellow] Island, Leelanau County, a nest with 16 eggs was discovered on May 31, 1936, by F. M. Baumgartner; and on the Fox and Manitou islands (same county), broods (U.M.M.Z.) were noted in 1939 and 1940, respectively, by R. T. Hatt and by A. E. Staebler and L. D. Case. Adults with young were seen on the shore of Beaver Island, Charlevoix County, on June 22, 1937 (T. D. Hinshaw and R. E. Morrill).

Upper Peninsula.—In the eastern end of the peninsula, Christofferson and Magee have recorded a few instances of breeding, including an adult with 23 young at Rock River, Alger County, on July 20, 1920; Pirnie saw “numbers of half-grown young” on the St. Mary’s River at Munuscong Bay, Chippewa County, in July, 1928. There are breeding records for Whitefish Point in the same county (N. A. Wood, 1914: 59–60), and also for the Huron Mountain region, Marquette County (Christy, 1925: 209; S. S. Gregory, Jr., 1929: 172), where a downy specimen was secured on June 14, 1941. The species has nested commonly on Isle Royale; adults with young were found there in 1904 (N. A. Wood, Peet, and McCreary, 1906: 121), in 1905 (McCreary, 1909: 88, 92), in 1924 (Fargo, notes), and in 1929 (1 female with 39 half-grown young, seen on July 30 by A. Murie). Barrows (1912: 74) mentioned a few other nesting records from the north. Summer occurrences without nesting data have been reported in other localities: in the Erie marsh, Monroe County (L. W. Campbell, 1940: 52); at the mouth of the Detroit River, Wayne County (J. Claire Wood, 1905: 217); at Whitmore Lake, Washtenaw County, where 1 (U.M.M.Z.) was collected August 16, 1936, by Trautman; near Galesburg, Kalamazoo County, where Pirnie recorded 2 in July, 1937; and in Crawford County, in July, 1926 (Trautman).

FALL.—Migration is reported in northern counties from late October to early November and in southern counties during November.

Upper Peninsula.—F. M. and A. M. Baumgartner found the species common at Rock Harbor, Isle Royale, September 2 to 6, 1938. It has been present in the Huron Mountain region, Marquette County, until October 10 (S. S. Gregory, Jr., 1929: 172). During certain years, migration has been somewhat heavy in the vicinity of Blaney, Schoolcraft County; in 1936, Christofferson reported 100 birds there on October 16, 100 on October 30, and 50 on November 7; and in 1932, 150 on November 8, which remained there until November 14.

Lower Peninsula.—Trautman recorded the species at Houghton Lake, Roscommon County, from October 24 (1937), when 200 were seen, until the lake froze over; 2 (U.M.M.Z.) were collected there on November 12, 1938. At Gull Lake, Kalamazoo County, Pirnie found the species chiefly in Novem-

ber, and F. W. Rapp (1931: 2) reported it present at Vicksburg in the same county, from October 26 to December 18. In the Ann Arbor region, it has been noted on October 27 (1 in 1930, by A. D. Tinker), on November 6 (5 in 1937, by H. A. Mathiak), but more commonly by the first week in December. The species has been a common duck on the Detroit River and at the St. Clair Flats throughout fall, winter, and spring. Swales recorded it as fairly common in the general area on October 9 (1901), and common at the Flats from October 27 (1902); he listed 200 off Grosse Ile, Wayne County, December 13, 1908.

WINTER.—The species is common in the southern counties of the Lower Peninsula and is present, generally in small numbers, in the Upper Peninsula wherever open water exists.

Upper Peninsula.—Specimens have been taken from the vicinity of Marquette on February 29, 1936 (Max M. Peet collection), and on March 8, 1938 (U.M.M.Z.). Near Manistique, Schoolcraft County, E. E. Crawford reported more than 50 American Mergansers in late February and early March, 1937, and Christofferson saw 2 in the same locality on February 15, 1934.

Lower Peninsula.—A number of specimens (U.M.M.Z.) have been taken in the northern part of the peninsula: at Oden, Emmet County, by J. T. Wilkinson, on January 14, 1942; 4 from the Boardman River, Grand Traverse County, by F. Hoard, on January 25, 1935; 2 near Honor, Benzie County, by R. Joslin, on January 15, 1938; and 1 near Freeland, Bay County, by Miller Empey, on January 11, 1934. Gibbs (1889: 188) stated that the species was occasionally found in Kalamazoo County during the winter; in the Battle Creek area it has been reported in small numbers (up to 24) on nearly all of the recent Christmas-season counts (N. T. Peterson and others, 1938: 55). A few individuals are noted every year along the Huron River at Ann Arbor; on one occasion as many as 72 were reported there (John L. George and others, 1940: 108). R. E. Olsen and A. D. Tinker saw a flock of 450 at Gibraltar Bay, Wayne County, on February 10, 1935, and in the adjacent Toledo-Erie marsh area, L. W. Campbell (1940: 52) listed the species as a common winter visitor.

*Mergus serrator serrator* Linnaeus  
Red-breasted Merganser

Transient, common on the Great Lakes, fairly common inland. Summer resident\* south to Saginaw Bay, mainly along the Great Lakes. Winters irregularly and rarely north to Benzie County.

\* Mergansers are fairly common in summer, but since the females of the two species of *Mergus* are too similar in appearance for easy identification in the field, the relative numbers of the two are not known

First listed for Michigan by Sager (1839: 417).

SPRING.—Migration is reported from late March through April in southern counties, from late April through May in the Upper Peninsula.

Lower Peninsula.—L. W. Campbell (1940: 52, 201) noted 50 near the Erie marsh, Monroe County, on April 9, 1927; for the Toledo-Erie marsh area as a whole, he gave March 25 to May 9 as the average period of main flight. On the Detroit River, Swales observed 15 on March 26 (1909) and (usually) smaller numbers until May 10 (1911, a flock of 8); in 1908 the species outnumbered the American Merganser in that area (Taverner and Swales, 1908: 117; Taverner, 1908: 203). In the Ann Arbor region, where individuals have been found in winter, the species ordinarily arrives by late March or early April; usually very few are seen, but during some springs flocks of several dozen birds are found on most of the ponds and lakes, especially in early and middle April; small flocks are present until early May; a flock of 9 was reported on May 1, 1938, at Whitmore Lake, by R. E. Olsen and A. D. Tinker. At Portage Lake, Jackson County, Leonard Wing observed 100 on April 11 or 12, 1926. The species is apparently uncommon in Kalamazoo County; it is noted in small numbers at Vicksburg, from March 16 to April 1 (F. W. Rapp, 1931: 2), but northward about Wintergreen Lake, it is recorded chiefly in mid-April (Pirnie). There were at least 250 on April 15, 1939, at Benton Harbor, Berrien County (Pirnie), and 6 on May 1 at Warren Dunes (N. A. Wood, 1932: 8). Northward, near Saugatuck, Allegan County, there were 400 on March 28, 1938 (Pirnie and H. L. Bradley). Twelve were listed by R. E. Olsen at Sand Point, Huron County, on April 13, 1932. One (U.M.M.Z.) was taken on the Au Sable River at Lovells, Crawford County, on March 21, 1936.

Upper Peninsula.—At Sault Ste Marie, Christofferson and Magee observed 12 of the species on March 21, and 30 on April 21, 1923. Arrival at Blaney, Schoolcraft County, is not reported until late April or early May, when single pairs are noted (Christofferson). Throughout the middle 2 weeks of May, 1936, at Whitefish Point, Chippewa County, Brodkorb recorded the species almost daily, in flocks of 3 to 15 birds. The species was reported at Copper Harbor, Keweenaw County, on May 4 (1931, N. A. Wood, 1933: 715), on Isle Royale on April 29 (1937, Laurence Dayton), and was seen daily thereafter in both localities.

SUMMER.—Eggs and newly hatched young are usually found from June to mid-July.

Lower Peninsula.—Arnold (1903a: 75) saw a pair on Charity Island, Huron County, on May 20, 1903; several young (U.M.M.Z.) were collected there in August and September, 1910. (These birds were recorded by N. A.

Wood, 1911: 87, as American Mergansers, but proved to belong to the present species. Two of them, taken in the last week of August, were about half-grown, and still partly in the down.) On July 14, 1933, C. C., F. E., and C. A. Ludwig recorded 3 pairs and 3 nests on Sulfur Island, Thunder Bay, Alpena County. In Grand Traverse Bay this merganser was discovered breeding on Marion [Ford] Island, Grand Traverse County, by Van Tyne (1925: 614) in 1923, and on Gull [Bellow] Island, Leelanau County, Walter E. Hastings found 3 nests on July 6, 1931, 1 (U.M.M.Z.) with 18 eggs. On South Fox Island, Leelanau County, A. E. Staebler and L. D. Case found 4 eggs (U.M.M.Z.) on June 20 and young birds (U.M.M.Z.) on July 18, 1939. On Hat Island, Charlevoix County, an egg (U.M.M.Z.) was collected by C. L. Cass on July 1, 1896; on Mire Island downy young (Max M. Peet collection) were secured that had hatched on July 23, 1934. Breeding has also been reported from Douglas Lake, Cheboygan County (Compton, 1914: 178; N. A. Wood, Smith, and Gates, 1916: 7; Blanchard and Nelson, MS of 1937); on the north shore of Emmet County a brood of about a dozen was reported on June 28, 1937 (Blanchard and Nelson, MS of 1937).

Upper Peninsula.—In Mackinac County, nesting is reported on "the more isolated" of Les Cheneaux Islands (Van Tyne, 1923: 21; McGrew, 1916: 194) and on Round Island (S. E. White, 1893: 222). Christofferson has observed broods at Blaney, Schoolcraft County, including a brood of 9 young (with the adult female) on June 25, 1937. W. O. Doolittle (1913: 350-51) and Barrows (1912: 75) said that the species was common on Grand Island, Alger County. In Delta County it nested at Van's Harbor (Van Winkle, *vide* Barrows, 1912: 75) and on Gravelly, Sand, and Small islands in the north end of Green Bay (Lyon, 1932: 29-30). Shiras (1935: 114) photographed a nest with eggs at Gull Rock, near Marquette, and O. McCreary collected a half-grown young (U.M.M.Z.) on August 31, 1904, in the vicinity of the Porcupine Mountains, Ontonagon County. On Isle Royale, C. A. Davis (1890: 50) took a set of 11 eggs on June 4; on July 21, 1929, N. A. Wood saw an adult with 6 juveniles, and on September 24, 1929, he collected 2 immatures (U.M.M.Z.).

FALL.—On account of the fairly extensive overlapping of breeding and wintering ranges, casual early or late records of individuals may mean very little. The fall movement is principally from mid-October to mid-November.

Upper Peninsula.—Christofferson has listed a few of this species rather regularly in fall both at Munuscong Bay, Chippewa County, and at Blaney, Schoolcraft County, but seldom later than October; he recorded 30, however, at Blaney as late as November 6 in 1933.

Lower Peninsula.—At Houghton Lake, Roscommon County, Trautman

recorded the species from October 9 (4 birds in 1938) to November 12 (1938). In the frequent flocks of mergansers flying overhead (usually containing from 50 to 500 birds), as many as 200 Red-breasts were identified in a day. "The heaviest migration," he said, "occurred from October 20 until the lake froze over in November." Specimens (U.M.M.Z.) were taken there, as well as at Muskegon Lake, Muskegon County (November 8, 1929), and along the shores of Saginaw Bay (mainly in the last week in October and early November). Only a few are recorded southward; G. N. Rysgaard (1940: 20) reported a few at the Kellogg Bird Sanctuary, Kalamazoo County, October 22 to 26. On the east side of Anchor Bay, St. Clair County, Pirnie noted 15 on November 18, 1936.

WINTER.—Red-breasted Mergansers occasionally winter in small numbers as far north as Iosco and Benzie counties. A specimen was taken December 31, 1878, on the Detroit River, Wayne County (Swales, notes). The species has been observed only rarely in the Ann Arbor region; 3 individuals were recorded there on December 19, 1939 (John L. George and others, 1940: 108), and 4 on January 21, 1933 (Charles J. Spiker). A few (1 in 1931, 29 in 1940) were noted in the Battle Creek area on Christmas-census counts (Kingsley and others, 1932: 58; Brigham and others, 1941: 120-21). Specimens (U.M.M.Z.) were collected on December 20 (1929) at Bayport, Huron County; on January 1 (1938) at the mouth of the Tawas River, Iosco County; and on February 17 (1936) as far north as the Platte River, Benzie County (Salyer and Lagler, 1940: 213).

CATHARTIDAE  
(AMERICAN VULTURES)

*Cathartes aura septentrionalis* Wied  
Eastern Turkey Vulture

Regular summer resident north to Ogemaw County. Recorded twice in winter (in Calhoun County).

First recorded by Miles (1861: 222).

Friedmann (1933: 189) expressed the opinion that the breeding range of the western subspecies, *C. aura teter*, extended eastward as far as south-central Michigan, but a breeding specimen (U.M.M.Z.), recently collected in Allegan County, southwestern Michigan, is clearly *septentrionalis* (Stuewer, 1939: 183).

SPRING.—Arrival is reported principally in late March and early April.

Lower Peninsula.—L. W. Campbell (1940: 186, 201) gave March 29 as the average date for earliest arrivals and April 6 as the average date for the beginning of the main flight. In the Ann Arbor region, where a few are seen regularly each spring, the species arrives frequently by late March



(March 20, 1923, 1 noted by Walter E. Hastings; March 23, 1940, 1 by A. E. Staebler; March 26, 1938, 4 by H. W. Hann), but sometimes not until April. It is regular also in the vicinity of Battle Creek, arriving there by March 31 (1940), according to Walkinshaw. Durward L. Allen wrote on April 23, 1938, that about 12 vultures were then gathered about the game farm near Allegan, Allegan County. The species was recorded at the Prairie Farm, Alicia, Saginaw County, April 10, 1940, by G. A. Ammann. It was reported in spring, north of the known breeding range, near Gaylord, Otsego County, on May 7, 1939, by Robert L. Patterson. Verne Dockham recorded arrival in Ogemaw, Gladwin, and Oscoda counties during the last week of April and in early May (1929 to 1941).

Upper Peninsula.—At Whitefish Point, Chippewa County, 1 Turkey Vulture was shot and 1 was seen in early April (Magee, 1922*a*: 258).

SUMMER.—Eggs of the Turkey Vulture are found in late April and in May, nestlings in June. Jerome Trombley (Barrows, 1912: 255) reported it breeding regularly in Monroe County, and M. B. Mills (1897: 24) found two young near Britton, Lenawee County. Nests from Washtenaw County include one with 2 eggs discovered by J. Uphaus near Freedom on May 30, 1903 (Barrows, 1912: 255), and one with 1 egg in Augusta Township, by Russell Steere on May 5, 1934. In Livingston County near Howell, Walter E. Hastings found a nest with 2 eggs on April 26, 1925. On June 25, 1934, F. W. Rapp reported a nest with 2 young (which he banded), and 3 pairs of adults, near Vicksburg, Kalamazoo County. Walkinshaw (1941*a*: 42-43) recorded a nest with 2 young found on June 26, 1940, in Johnstown Township, Barry County. In Allegan County, S. E. White and E. Durfee collected 2 eggs in 1891 near Douglas (Barrows, 1912: 255), and F. W. Stuewer (1939: 183) collected (U.M.M.Z) a female and 2 eggs on May 22, 1939, near Allegan, Allegan County. Verne Dockham reported 2 nests from the vicinity of Prescott, Ogemaw County: 1 with 2 young, in June, 1926, and 1 with 2 eggs, on May 28, 1929. The Turkey Vulture has been reported from several localities in the north during the summer, but without evidence of breeding: a flock of 26 near Gladwin in late June, 1933 (Pirnie); an individual near Houghton Lake, Roscommon County, on July 20, 1939 (Van Tyne), and another on July 10, 1941 (Max M. Peet); a few each year, 1938 to 1941, in late summer in Oscoda County (Verne Dockham); 1 on South Manitou Island, Leelanau County, on June 13, 1940 (L. D. Case); and individuals on a number of occasions in the vicinity of Douglas Lake, Cheboygan County (Blanchard and Nelson, MS of 1937). The species has been reported in the Upper Peninsula from Delta County by E. Van Winkle (Barrows, 1912: 255); from Negaunee, Marquette County, by E. A. Doolittle (Barrows, 1912: 255); and from southern Gogebic County by H. H. T. Jackson (1923: 482).

FALL.—Migration is reported chiefly in late September and October.

Lower Peninsula.—Verne Dockham has seen individuals in Oscoda County as late as September 24 (1940) and September 29 (1939), and (since 1929) rather regularly in Ogemaw and Gladwin counties in the first and second weeks of October. In Kalamazoo County, F. W. Rapp (1931: 12) has recorded the species at Vicksburg only until September 7, but G. N. Rysgaard (1940: 20) recorded it at the Kellogg Sanctuary near Gull Lake, on September 28, 1939. In Calhoun County, Walkinshaw noted 20 on September 15, 1929, at Marshall; at Battle Creek on September 20, 1931, he banded one that was recovered at Plant City, Florida, on December 23, 1932 (Walkinshaw, 1930c: 251; 1932: 201; Lincoln, 1936: 39). In the Ann Arbor region the migration is apparently mainly in late September and October; rather large flocks are occasionally noted: 44 on October 5, 1930 (Walkinshaw, 1932: 201); 50 on October 12, 1930 (N. A. Wood); and 47 on October 25, 1926 (F. M. Gaige). In Genesee County a Turkey Vulture (originally reported as a different species) was collected on October 10, 1888 (Spicer, 1889: 43; Barrows, 1912: 747), and another was taken on October 15, 1929, by J. E. Swackhamer. F. N. Hamerstrom, Jr., saw 4 as late as November 30 (1941) near Wixom, southwestern Oakland County. In the Detroit area Swales noted a few until October; he examined a specimen taken on October 17, 1902, near Farmington, Oakland County. In the Toledo-Erie marsh area, L. W. Campbell (1940: 187, 201) gave October 3 as the average date for the end of the main flight, October 10 as the average date for the last stragglers.

WINTER.—Single birds were observed at Battle Creek by Walkinshaw (1930c: 251; and notes) on December 22, 1929, and January 29, 1939.

ACCIPITRIDAE  
(HAWKS)

*Elanoides forficatus forficatus* (Linnaeus)  
Swallow-tailed Kite

There are but 3 complete and unquestionable records of the Swallow-tailed Kite in Michigan: a pair collected by Charles Chittenden at Petersburg, Monroe County, on June 19, 1882 (J. Trombley, 1882: 250-51); an individual shot by Orrin Stimpson near Saline, Washtenaw County, on August 15, 1886 (examined by N. A. Wood); and a specimen (U.M.M.Z.) collected by Harold Burke 2 miles north of Ypsilanti, Washtenaw County, on October 4, 1924 (T. L. Hankinson, 1925: 130-31). The listing in Bent (1937: 53) of a second specimen collected at Ann Arbor on the same date as the one secured by Harold Burke appears to be an error.

A specimen was collected in Detroit by W. H. Collins in 1881, according to Swales (1903: 15) and Barrows (1912: 260), and in 1878, according to

Gibbs (1889a: 30), but the record (or records) cannot now be verified. Barrows (1912: 620) also mentioned a specimen taken by E. Arnold in Kalamazoo County in 1897.

*Accipiter gentilis atricapillus* (Wilson)  
Eastern Goshawk

Rare. Occasional records at all seasons, but status little known. Local summer resident from Roscommon County northward.

First authoritatively recorded for Michigan by Gibbs (1879: 490).

SPRING.—On April 24, 1927, the species was recorded at Ann Arbor (N. A. Wood and Tinker, 1934: 13), and on February 21, 1932, an adult was reported in Hartland Township, Livingston County, by A. D. Tinker and R. E. Olsen. At Whitefish Point, Chippewa County, several were shot during the May 1-3, 1914, flight (N. A. Wood, 1914: 63); and 1 was noted on May 8 and 1 on May 9, 1936 (Brodkorb). Shiras recorded the species as "common" in spring at Whitefish Lake, Alger County (N. A. Wood, 1918: 6). A specimen (S. S. Gregory, Jr., collection) was collected by C. F. Brandler at Channing, Dickinson County, on April 10, 1899; O. B. Warren (1895: 191) recorded an individual in Marquette County on March 27, 1894. At Copper Harbor, Keweenaw County, the species was a common migrant in late April, 1931 (N. A. Wood, 1933: 718).

SUMMER.—Nests have been found by the end of March; young by mid-May.

Lower Peninsula.—In the Houghton Lake State Forest, Roscommon County, on April 16, 1937, F. M. Baumgartner (1938: 523; and notes) found a nest that on May 21 contained a very small nestling and an addled egg; in the succeeding year, he found a nest about a mile to the south in the same county. South of Atlanta, Montmorency County, during the first week of April, 1939, A. S. Hazzard and J. W. Leonard saw a nest from which D. S. Shetter collected 3 (U.M.M.Z.) of the 4 nestlings on May 14. At the Fontinalis Club, near Vanderbilt, Otsego County, an adult male (U.M.M.Z.), apparently breeding, was secured on June 12, 1941, by C. Peterson. In Leelanau County in 1939 an adult was seen on South Fox Island on June 24, and another on North Fox Island on July 2 (A. E. Staebler and L. D. Case). Four fairly well-grown nestlings (U.M.M.Z.) were found on Beaver Island, Charlevoix County, on July 6, 1937, by T. D. Hinshaw and R. E. Morrill. Northward at Douglas Lake, Cheboygan County, a nest with 2 downy young was photographed on June 17, 1940 (Porter and Wilcox, 1941: 43-44).

Upper Peninsula.—Near McMillan, Luce County, Bryens (1941a: 35-42) in 1935 studied a nest that was under construction on March 31; it

contained 3 eggs on May 3 and 2 young on June 9. On May 20, 1938, near Blaney, Schoolcraft County, Christofferson found a pair nesting; he believed the same pair nested there again in 1939 and in 1940. The species has been noted in summer at Munuscong Bay, Chippewa County (an adult seen June 27, 1926, by Trautman); at Whitefish Point, Chippewa County, where a specimen (U.M.M.Z.) was collected July 31, 1912, and N. A. Wood (1914: 63) recorded single birds on July 9, August 5, and August 12, 1914; at Whitefish Lake, Alger County, where N. A. Wood (1918: 6) recorded 1, May 28, 1916; on July 15, 1938, at Mallard Lake, Iron County, and on August 5, 1938, at Imp Lake, Gogebic County (2 in each locality, recorded by John L. George and R. L. Patterson); at Copper Harbor, Keweenaw County, on May 16, 1931, 1 by N. A. Wood (1933: 718); and on Isle Royale, where one (U.M.M.Z.) was collected and another seen on July 26, 1905 (Max M. Peet, 1909: 349).

FALL.—O. B. Warren (1895: 191) reported a Goshawk shot in Marquette County on October 18, 1893. S. S. Gregory, Jr., collected 2 in the Huron Mountain region, of the same county, on September 26, 1933, and October 23, 1927. George H. Shiras 3d, reported the species "common" in fall at Whitefish Lake, Alger County, according to N. A. Wood (1918: 6). At Whitefish Point, Chippewa County, 1 to 4 Goshawks were observed by Fargo in the last 2 weeks of August and the first week of September, 1925. Bryens has several times recorded the species in fall at McMillan, Luce County. In southern counties the species has arrived by October, but more often in November or later. Walter E. Hastings collected a specimen at Norwood, Charlevoix County, on November 23, 1910 (Van Tyne, 1925: 617). In the Ann Arbor region a specimen (U.M.M.Z.) was collected on November 3, 1926; the species was also recorded there on November 10, 1928. A specimen (U.M.M.Z.) was collected by R. Kennedy in Jackson County, on October 21, 1926. Swales (1906: 100) recorded 1 shot near Orion, Oakland County, on October 24, 1905.

WINTER.—In a part of the Upper Peninsula, at least, the Eastern Goshawk apparently occurs in winter with fair regularity. Bryens (1941a: 41-42) has found it present at McMillan, Luce County, during most winters and has stated that it is more often seen there in winter than in summer. Christofferson has listed it during some winters at Blaney and at Germfask, Schoolcraft County. In the general vicinity of Germfask, E. E. Crawford found it "quite common" during the winter of 1935-36 (records from mid-November to mid-February), but noted only 1 (on November 5) during the following winter. In the southern half of the Lower Peninsula, the species is found only irregularly; in some years, as in 1906 (Barrows, 1912: 269), it is apparently fairly common. Individuals have been reported at

the Prairie Farm, Alicia, Saginaw County, on February 1, 1940 (G. A. Ammann); at Battle Creek on January 19, 1930 (Walkinshaw); in Hartland Township, Livingston County, on February 21, 1932 (R. E. Olsen and A. D. Tinker); at Ann Arbor on January 1, 1939 (R. E. Morrill), and February 8, 1933 (C. J. Spiker). Fargo collected 1 (U.M.M.Z.) at Parma, Jackson County, on December 21, 1926. In the Detroit area, L. J. Eppinger reported Goshawks "very plentiful" in January, 1907, most of them in mature plumage (R. Deane, 1907: 185).

*Accipiter striatus velox* (Wilson)  
Sharp-shinned Hawk

Common transient; rare summer resident; rare winter resident in southern counties.

First recorded for Michigan by Fox (1853: 160).

SPRING.—The northward migration is principally in April and May.

Lower Peninsula.—In the Toledo-Erie Marsh area L. W. Campbell (1940: 201) has noted the main migration movement occurring between the average dates April 10 and May 13. In the Detroit area Swales seldom observed more than 1 or 2 in a day in late April and the first half of May, although he saw 1 as early as March 17 in 1899 and 1 on March 31 in 1907. A few Sharp-shinned Hawks are seen in the Ann Arbor region yearly from late March to May. F. W. Rapp (1931: 12) has 1 record from the vicinity of Vicksburg, Kalamazoo County: an individual seen on March 22, 1925; Walkinshaw in the Battle Creek area listed the Sharp-shinned Hawk almost every year in spring in the 1930's, as early as April 3 in 1934, in other years in late April and early May. On the shore of Lake Michigan, Berrien County, N. A. Wood (1922: 13) observed large numbers of these hawks moving northward during the last of April, 1918. Large numbers of Sharp-shinned Hawks appear to follow the eastern coast of the peninsula. N. A. Wood observed a "great flight" of this species at Pointe Aux Barques, Huron County, on May 1, 1928, and for several days afterward. The birds were flying in a southwestern direction, presumably toward Sand Point, where D. W. Douglass observed the species to be "the commonest hawk" during April and May (1931 to 1933). Van Tyne observed a movement of hawks northwestward along the coast between Cheboygan and Mackinaw City on May 1, 1933.

Upper Peninsula.—Extensive flights of the Sharp-shinned Hawk have been observed at Whitefish Point, Chippewa County. In 1937 S. D. Knox recorded the species there in the second week of April; during the last week of the month he recorded as many as 150 a day, but toward the end of the month the numbers diminished rapidly. Brodkorb saw 128 there on May

12, 1936; N. A. Wood (1914: 63), "hundreds" between May 13 and June 3, 1914; and Walkinshaw, 10 on May 29, 1934. In 1931, N. A. Wood (1933: 713-14, 718) first recorded the species at Copper Harbor, Keweenaw County, on April 24, and in the period from May 5 to 17 he observed it migrating in hundreds toward the Canadian shore.

SUMMER.—Although this hawk has been seen throughout Michigan during the summer, only 3 nests have been found.

Lower Peninsula.—Edward Arnold found 2 nests with eggs in St. Clair County, May 26, 1899, and May 22, 1901 (Barrows, 1912: 264); and F. N. Blanchard discovered a nest with 4 young (Univ. Mich. Biol. Sta. Collection) at Douglas Lake, Cheboygan County, on July 4, 1923.

In addition, the species has been observed without proof of nesting on Grosse Ile, Wayne County, where Swales noted one bird on June 23, 1913, and another on August 14, 1914; in St. Clair County on August 10 and 12, 1892 (Swales); near South Lyon, Oakland County, where James H. Wood reported one carrying nest material on April 25, 1937; at Ionia, Ionia County, where J. B. Steere collected 1 (U.M.M.Z.) on July 20, 1878; and at Sand Point, Huron County, on June 9, 1933 (1 seen by Van Tyne and D. W. Douglass); in Roscommon, Crawford, and Otsego counties (Frothingham, 1906: 159); in Oscoda County (specimen taken at Red Oak on June 24, 1934, by A. D. Tinker; recorded also by N. A. Wood and Frothingham, 1905: 46); in western Montmorency County where Van Tyne (1925: 616-17) saw a female (U.M.M.Z.) carrying food on July 13, 1923; on North Manitou Island, Leelanau County, on June 20 and July 7, 1940 (single birds recorded by A. E. Staebler and L. D. Case); and a few in mid-July on Beaver Island, Charlevoix County (Barrows, 1904: 79).

Upper Peninsula.—A few Sharp-shinned Hawks were seen at Whitefish Point, Chippewa County, in July and early August by N. A. Wood (1914: 63); in Marquette County, the species was reported at McFarland by Leonard Wing (1940: 175) on July 5, 1932, and in the Huron Mountain region by S. S. Gregory, Jr. (1929: 176). N. A. Wood, Peet, and McCreary (1906: 114) saw the species in the Porcupine Mountains, Ontonagon County, in late summer, 1904, and Walter E. Hastings recorded it on Isle Royale on July 29, 1929.

FALL.—Migration in the north occurs from mid-August to early October and continues till mid-October in the southern counties.

Upper Peninsula.—A number of observers (N. A. Wood, Peet, and McCreary, 1906: 122; Peet, 1909a: 103, 108, 117; and 1909: 348; Fargo, 1924: 209) have listed the species as an abundant migrant on Isle Royale from mid-August to the third week in September. Bryens has observed the species frequently in late September and October at McMillan, Luce

County, noting 1 there as late as November 18, 1940. In contrast to the large numbers observed there in the spring, only small numbers have been reported at Whitefish Point, Chippewa County; Fargo saw only one or two daily in the first half of September, 1925.

Lower Peninsula.—Large numbers of Sharp-shinned Hawks have been noted at Muskegon during the fall. According to Frank Antisdale, thousands of these hawks passed there between September 8 and 27, 1929. In the vicinity of Vicksburg (F. W. Rapp, 1931: 12) and at Wintergreen Lake (Rysgaard, 1940: 20), Kalamazoo County, a few have been seen nearly every fall until mid-October. Fall migrants in the Ann Arbor and Detroit areas are limited, as in the spring; they are reported from the latter half of August to late October.

WINTER.—There is apparently but 1 strictly winter specimen, a male (Royal Ontario Mus. Zool.) secured in Isabella County on February 7, 1889, by J. A. Morden, but the species occurs in southern counties fairly regularly at this season. For the Detroit area Swales recorded 1, an adult female (U.M.M.Z.), taken at Detroit by Grant Rouse on December 15, 1895. In the Ann Arbor region (J. and C. Van Tyne, 1927: 34; R. E. and H. A. Olsen, 1931: 56) 1 or 2 birds have been recorded every few years in late December, January, or February. Northward in Hartland Township, Livingston County, R. E. Olsen noted 1 on January 21 and on February 6, 1934. Single birds have been recorded on Christmas-season counts in the Battle Creek area (Walkinshaw, 1927: 34-35; Pirnie and others, 1934: 44-45).

*Accipiter cooperii* (Bonaparte)  
Cooper's Hawk

Fairly common summer resident, perhaps only local northward. A few winter in southern counties.

First listed for Michigan by Sager (1839: 413).

SPRING.—Northward migration is reported chiefly from mid-April to mid-May.

Lower Peninsula.—The species was common during the hawk migration of April 27 to 30, 1918, at Birchwood Beach, Berrien County (N. A. Wood, 1922: 13). At Sand Point, Huron County, D. W. Douglass collected a specimen (U.M.M.Z.) on April 10, 1933, and saw several there in late April and early May (1931 to 1933). Several of the species "were among the migrating hawks at Cecil Bay, Emmet County, on April 29, 1937" (Blanchard and Nelson, MS of 1937).

Upper Peninsula.—Although individuals are occasionally reported in the eastern end of the peninsula in the last week of March (1 at McMillan, Luce County, on March 23, 1938, reported by Bryens; 1 in the vicinity of

Sault Ste Marie on March 28, 1920, and 1 on March 28, 1925, reported by Christofferson and Magee), the species arrives in the north mainly during the first 2 weeks of April. At Whitefish Point, Chippewa County, where heavy spring flights formerly occurred, only relatively small numbers now pass by. In 1937 these hawks arrived there on April 18, were at their maximum (55 birds) on April 23, and were gone by the end of the month (S. D. Knox). In 1936 Brodkorb, arriving there on May 8, learned that the main hawk flight had passed in late April, but he noted a maximum of 45 the next day and 16 as late as May 12. Knox and Brodkorb found this hawk to be outnumbered by the Sharp-shinned, by more than 6 to 1, and more than 3 to 1, respectively. The species was common at Copper Harbor, Keweenaw County, in 1931, arriving there on May 5 (N. A. Wood, 1933: 718).

SUMMER.—Barrows (1912: 267-68) stated that it nested "abundantly in most sections" of Michigan, but current northern records are very few. Egg sets are found principally in the last week of April and in May.

Lower Peninsula.—In Wayne and Oakland counties, where the Cooper's Hawk bred commonly (Blain, 1901: 184-86; Swales, 1903: 15), many nests with eggs were reported, mainly in late April and the first half of May. Several nests have been found each year in the Ann Arbor region, in 1 of which 4 nestlings 2 weeks old were banded on June 16, 1940, by R. L. Patterson. This hawk was formerly an abundant breeding species in the vicinity of Kalamazoo County (Gibbs, 1885: 135; 1889a: 68-69; 1894: 204), but it is now apparently only "rather common" (at Vicksburg, *vide* F. W. Rapp, 1931: 12); both writers have found eggs from the last week in April to the last week in May. At Big Rapids, Mecosta County, C. Karshner collected egg sets (U.M.M.Z.), 1 on April 23, 1899, and 1 on April 28, 1901. Breeding has been noted on several occasions in northern Cheboygan County, where nestlings were discovered on July 13 and 17 (Blanchard and Nelson, MS of 1937).

Upper Peninsula.—There are very few records for the peninsula. Christofferson saw a pair of Cooper's Hawks at their nest near Blaney, Schoolcraft County, on June 1, 1938. On Isle Royale, earlier expeditions had recorded only a few individuals, but breeding evidence was finally obtained on May 23, 1930, when N. A. Wood saw a Cooper's Hawk fly from a nest high in a birch tree.

FALL.—There are no Michigan records of concentrations or large flights in fall, though there are numerous records of single birds. At Whitefish Point, Chippewa County, a few of the species are reported in fall (Magee, 1922a: 258); in 1925 Fargo observed 1 to 3 every few days from August 18 until he left the vicinity on September 10. In the neighborhood of Sault



Ste Marie, Christofferson and Magee have noted the species in September and occasionally in late October (October 15, 1922, and October 23, 1921); Bryens, at McMillan, Luce County, has noted it until October 31 (1934) and November 3 (1929). Fall records from southern counties (all of single birds), though fairly numerous, are too scattered to indicate the time of fall flight. In the Toledo-Erie marsh area L. W. Campbell (1940: 54) records a noticeable migration from September 16 to November 7.

WINTER.—The Cooper's Hawk winters in small numbers in the southern counties, occasionally as far north as Saginaw County, and has been recorded once from the Upper Peninsula. In Wayne County, Swales (1903: 15) listed the species as rare in winter; J. Claire Wood (1910: 38) saw 1 there on January 1 and 3, 1909, and R. E. Olsen and A. D. Tinker saw 1 at Gibraltar on January 31, 1937. One specimen (U.M.M.Z.) has been taken in the Ann Arbor region (January 1, 1907), and individuals are seen there in late December, January, and February of each winter. An individual was seen in Jackson County on December 25, 1932, by Fargo and others (1933: 39) and 1 at Portage Lake in that county by R. E. Olsen and A. D. Tinker on January 17, 1937. In the Battle Creek to Gull Lake area 1 or 2 have been found during several of the recent Christmas-season counts (N. T. Peterson and others, 1938: 55), and a number have been reported there in January by Walkinshaw. A specimen (U.M.M.Z.) was taken at Dimondale, Eaton County, on December 20, 1928, by I. H. Sabin, and another seen at the Prairie Farm, Alicia, Saginaw County, on February 2, 1940, by G. A. Ammann. For a period of some 20 years at McMillan, Luce County, Bryens has but one winter record of the Cooper's Hawk: 1 seen on January 25, 1939.

*Buteo jamaicensis borealis* (Gmelin)  
Eastern Red-tailed Hawk

Fairly common transient. Summer resident, formerly abundant, now uncommon. A few winter in southern counties.

First listed for Michigan by Sager (1839: 413).

From both peninsulas there are occasional spring and fall reports of very light-colored individuals of this species—individuals that seem to have a rather strong tendency toward *B. j. krideri*. One example in the Museum of Zoology is an adult male taken October 12, 1927, at Augusta, Kalamazoo County, by I. H. Sabin.

SPRING.—Since a few Red-tails are found in winter in southern counties, the beginning of spring migration has not been exactly determined. Main flight seems to occur from mid-March to middle or late April, in the Lower Peninsula and from mid-April to early May in the Upper Peninsula.

Lower Peninsula.—At Detroit, Swales seldom saw more than 2 of these hawks at a time in spring, but on March 12, 1893, he recorded a flock of 6. In Kalamazoo County, Gibbs (1885: 149; 1889: 189; 1893*b*: 103) reported that Red-tails arrived "in full force by the first of March," but later F. W. Rapp (1931: 13) gave March 3 as the earliest date of arrival for individuals. At Sand Point, Huron County, D. W. Douglass recorded adults until April 29 (1931), immatures until mid-May. During the hawk flight occurring on the Leelanau Peninsula in April and early May, 1937, a number of specimens (U.M.M.Z.) were shot by local hunters. On April 29, 1937, a number of Red-tails were noted in the hawk migration at Cecil Bay, northern Emmet County, according to Blanchard and Nelson (MS of 1937).

Upper Peninsula.—Christofferson and Magee listed the species on April 5, 1921, at Whitefish Point, Chippewa County, and S. D. Knox found it to be the most numerous of the migrating hawks in that area in 1937. Knox noted 3 there on April 5, 37 on April 12, and a gradual increase to the period of greatest movement (150 to 200 from April 21 to 27, with a maximum of 450 to 500 on April 23 and 24); there was a rapid decrease in numbers thereafter, about 50 being recorded on May 4, and small numbers until mid-May. Although in 1914 many were shot by local hunters from May 1 to May 3, none was seen after May 11 (N. A. Wood, 1914: 63); in 1936 Brodkorb recorded 2 there on May 9, and none thereafter. Bryens and Christofferson at McMillan, Luce County, and Blaney, Schoolcraft County (respectively), recorded a few each spring. Red-tails appear fairly regularly at McMillan and Blaney in the first week of April, but sometimes not until the second week. Many were seen migrating at Copper Harbor, Keweenaw County, after May 4, 1931, though none was recorded at Isle Royale in May, 1930 (N. A. Wood, 1933: 714, 718).

SUMMER.—Eggs have been reported in the last few days of March, more usually in the first 2 weeks of April.

Lower Peninsula.—The Red-tailed Hawk formerly nested very commonly in southern counties (Swales, 1903: 15; Gibbs, 1884: 66-67; 1885: 149; 1893*b*: 102-4; Barrows, 1912: 273), but nesting is now much less common there. Swales (notes) and J. Claire Wood found a number of nests in the Detroit area in the early 1900's. Their records include one nest with 3 eggs found on April 6, 1902, another with 2 downy young and 1 egg on April 20, 1902, and a late nest with 2 newly hatched young on May 10, 1903. Nests are found regularly in the Ann Arbor region; E. H. Frothingham collected a nest with 3 eggs (U.M.M.Z.) there on April 8, 1901; J. W. Harris collected 2 (U.M.M.Z.), each with 2 eggs, April 19, 1895, and April 20, 1894. In Kalamazoo County, Gibbs (1884: 66-67) listed the species as a very common nesting bird; the earliest nest record of F. W. Rapp (1931: 13) for the

same area is March 26 (1897, nest with 2 eggs), and his latest, May 6 (1897, nest with 2 eggs). Walkinshaw has reported several nests from Calhoun County in the past decade, including 1 with 2 eggs on April 5, 1931, and 1 on April 29, 1940, with 2 young. Paul F. Hickie found a nest with 2 eggs on the Edwin S. George Reserve, Livingston County, on April 3, 1933; Swales and J. Claire Wood found a number of nests near Atlas, Genesee County, including 2, each with 3 eggs, on April 12, 1901. Breeding has been currently recorded in other localities in southern and central Michigan, but only infrequently in the northern part of the Lower Peninsula. A nest was noted June 13, 1940, on South Manitou Island, Leelanau County, by A. E. Staebler and L. D. Case.

Upper Peninsula.—Bryens and Christofferson wrote that some years at McMillan, Luce County, and Blaney, Schoolcraft County (respectively), they have found Red-tails nesting. Elsewhere in the peninsula, this species has been noted occasionally in summer, but without proof of breeding: an individual seen at Whitefish Point, Chippewa County, on August 9; several observed in northern Alger County in July (N. A. Wood, 1914: 63; 1918: 6); a few regularly in summer in the Huron Mountain region, Marquette County (S. S. Gregory, Jr., 1929: 176); a few in Dickinson County (Gaige, 1914: 80); 2 on June 30, 1938, at Mallard Lake, Iron County (John L. George and R. L. Patterson); several at Ironwood, Gogebic County (Leonard Wing, 1940: 175); several in the Porcupine Mountains, Ontonagon County (N. A. Wood, Peet, and McCreary, 1906: 114); and on Isle Royale in 1905 (Max M. Peet, 1909: 349) and 1924 (Fargo).

FALL.—The main flight is recorded in the Upper Peninsula during October, and in the south from mid-October to mid-November.

Upper Peninsula.—A specimen (U.M.M.Z.) was collected in the Huron Mountain region, Marquette County, on October 2, 1938; S. S. Gregory, Jr. (1929: 176), has recorded it there on October 4. Christofferson seldom sees any Red-tails after October 20 at Blaney, Schoolcraft County, but Bryens records a few regularly at McMillan, Luce County, through the third and fourth weeks of October, and occasionally until early November.

Lower Peninsula.—At Houghton Lake, Roscommon County, Trautman saw migrants from October 10 (1937 and 1938) to November 1 (1 in 1936). One was noted on October 12 near Oak Point, Huron County (N. A. Wood, 1911: 93). In the large hawk movements near Muskegon in September of 1928 and 1929, 2 Red-tails (U.M.M.Z.) were shot on September 18 and 27. Swales' notes indicate that the migration in the Detroit vicinity several decades ago was in some years rather extensive. He reported small flocks by early or mid-October, and main flight in late October. On October 17, 1912, he and Lynds Jones saw about 25 Red-tails in a mixed flock of hawks;

and in the large hawk flight of October 26, 1913, he observed at least 200 Red-tails (almost all immatures) pass by in a 3-hour period. His notes also state that J. Claire Wood saw a flock of 75 Red-tails near Detroit as late as November 19 (1912).

WINTER.—The Red-tail is known to occur with some regularity in winter in several localities in southern counties. In the Detroit area Swales (1903: 15; 1903a: 23; and notes) listed birds almost every year in late December, early February, and sometimes in January. A few are seen regularly throughout each winter in the Ann Arbor region, and specimens (U.M.M.Z.) have been collected. In the Battle Creek to Gull Lake area the species has been recorded on many Christmas-census counts, and Walkinshaw has reported it there in January and February. In Hartland Township, Livingston County, 1 (U.M.M.Z.) was taken on January 19, 1935, and in north-eastern Ingham County, 3 were recorded in January (P. F. English, 1934: 228). One (U.M.M.Z.) was collected also at Three Oaks, Berrien County, on February 5, 1920.

*Buteo lineatus lineatus* (Gmelin)  
Northern Red-shouldered Hawk

Uncommon transient and common summer resident in the southern third of Michigan. Status in the northern part little known; apparently uncommon there. Some winter in southern counties.

First listed for Michigan by Sager (1839: 412).

SPRING.—In southern Michigan the spring flights of the Red-shouldered Hawk extend mainly from mid-March to April or May, and in the Upper Peninsula from late April to May. In the south, however, the beginning of migration has not been determined exactly because of the presence of wintering birds.

Lower Peninsula.—L. W. Campbell (1940: 55) reported migrants in the Toledo-Erie marsh area from the second week in March to mid-April. Swales noted a gradual increase in the number of these hawks around Detroit (where a few wintered) from mid-March to some time in April. Spring flights were occasionally large, an exceptionally large flight occurring on March 11, 1891. According to Swales' notes, J. Claire Wood saw a relatively small flight of 20 (in Ecorse Township) on March 17, 1899. In the vicinity of Battle Creek, Walkinshaw records this hawk as appearing rather regularly by the first and second weeks of March; southwestward at Vicksburg, Kalamazoo County, F. W. Rapp (1931: 13) has noted it by March 3. G. A. Ammann recorded first arrival at the Prairie Farm, Alicia, Saginaw County, on April 10, 1940, and said it was common thereafter. D. W. Douglass recorded it at Sand Point, Huron County, from the last of April to the last

of May, 1931 to 1933. Theodora Nelson noted 4 Red-shouldered Hawks on April 29, 1937, at Cecil Bay, northern Emmet County.

Upper Peninsula.—The species is apparently somewhat irregular in its spring movements in the eastern end of this peninsula. Bryens has listed it regularly for many years at McMillan, Luce County, where it frequently arrives in numbers in the last week of April (69 on April 27, 1930, and a flock of 26 on April 27, 1938). At Whitefish Point the species is apparently rare, though S. D. Knox reported it there in 1937. At Copper Harbor, Keweenaw County, in 1931, many were observed from May 1 to 5 and a few on May 23 (N. A. Wood, 1933: 718). One (U.M.M.Z.) was taken at Watersmeet, Gogebic County, on March 24, 1930.

SUMMER.—Egg laying in southern Michigan takes place principally in April.

Lower Peninsula.—Swales (1903: 15) and Gibbs (1893*b*: 273-75) believed that the Red-shouldered Hawk was the most abundant nesting species of *Buteo* of the Detroit area and of Kalamazoo County. Swales reported over 100 nests found between 1886 and 1902 near Detroit, and north to Atlas Township, southeastern Genesee County, where J. P. Norris (1891: 1-9) and J. Claire Wood (1906*a*: 5) recorded several sets; R. B. Westledge (Gibbs, 1885: 150; 1893*b*: 273-75) collected 68 sets in a 6-year period in Kalamazoo County. Even though no such abundance is indicated nowadays, several nests are found and specimens collected each year in a number of southern localities, more particularly in Washtenaw (many nests yearly), Livingston, Calhoun, and Kalamazoo counties. Walkinshaw found a nest on May 3, 1931, at Prairieville, southwestern Barry County, and another (with 2 young that he watched leave the nest on June 24, 1934) at Grandville, Kent County. The northernmost nests recorded were found in Newaygo County (Ford, 1935: 18-19) and Mecosta County (4 eggs, April 26, 1896, U.M.M.Z.), but others may occur considerably farther north. Northward in midsummer the species has been noted at such localities as Red Oak, Oscoda County (1 bird, June 24, 1934, observed by R. E. Olsen and A. D. Tinker); Douglas Lake, Cheboygan County (N. A. Wood, Smith, and Gates, 1916: 10); and Beaver Island, Charlevoix County (1 on June 30, 1937, observed by T. D. Hinshaw and R. E. Morrill).

Upper Peninsula.—The species has been recorded at Hessel, Mackinac County (Van Tyne, 1923: 22); at McMillan, Luce County (Bryens); in the Porcupine Mountains, Ontonagon County (N. A. Wood, Peet, and McCreary, 1906: 114); and Isle Royale (Peet, 1909: 349; and A. Murie, who recorded 2 on June 13, 1930).

FALL.—The few records available indicate a principal movement from early September, in the Upper Peninsula, to October, in southern counties.

Upper Peninsula.—Bryens records flights at McMillan, Luce County, in the first 3 weeks of September (39 birds on September 8, 1938, and 21 the next day; 45 birds on September 14, 1940, and 57 on September 18, 1939); he rarely finds any of the species there after the third or last week of the month. Christofferson has twice recorded 1 of these hawks in the fall: on September 21, 1935, at Blaney, Schoolcraft County, and on September 15, 1923, at Munuscong Bay, Chippewa County.

Lower Peninsula.—F. Antisdale took several specimens (U.M.M.Z.) near Muskegon from September 16 to October 2, 1928. In the Detroit area, Swales and J. Claire Wood noted 150 Red-shouldered Hawks on what they considered an exceptionally early date, September 23 (1893, in Ecorse Township, Wayne County). The fall flight of the species there, though not well defined, seemed to occur chiefly in October; 1 of the few flocks seen by Swales passed southwestward on October 17 (25 birds in 1912). In the Toledo-Erie marsh area, L. W. Campbell (1940: 55) found the species fairly numerous between mid-September and mid-November.

WINTER.—Barrows (1912: 274) stated that many of this species "remain all winter, at least in the southern half of the State," but recent records are from the southernmost 2 or 3 tiers of counties. Swales (1903: 15; 1903a: 23; and notes; see also J. Claire Wood, 1910: 38) reported a few of the species each winter in the neighborhood of Detroit. In the Ann Arbor region, several are observed almost every winter, and specimens (U.M.M.Z.) have been collected there. There are few records for the Battle Creek area and Kalamazoo County (Pirnie and others, 1933: 40; Brigham and others, 1939: 37-38), but the species was listed there by Walkinshaw on February 8, 1931, and by Gibbs (1889: 189; and 1893b: 273).

*Buteo platypterus platypterus* (Vieillot)  
Broad-winged Hawk

Transient, occasionally common along the Great Lakes migration routes. Summer resident, rare in the south, less rare in the north.

First authoritatively listed for Michigan by Gibbs (1879: 491).

This species is relatively inconspicuous, and it may well be more common than available records indicate.

SPRING.—Transients are reported chiefly from the latter half of April to the latter half of May.

Lower Peninsula.—In the Detroit area Swales (1903: 15; and notes) found this hawk a fairly abundant migrant, and J. Claire Wood (Burns, 1911: 188, 224-25) reported 200 to 300 at a time. Both there and in the Ann Arbor region, arrival has been reported in the latter part of April and in early May. Although large numbers are rare in the Ann Arbor region, Van Tyne and N. S. Potter, III, observed 24 (a single individual, a flock of

10, and a flock of 13) on April 26, 1942. In 1918 a few Broad-wings were seen migrating along the shore of Berrien County during the last few days of April and on May 9 (N. A. Wood, 1922: 13-14). At Sand Point, Huron County (1931 to 1933), they were occasional in April and common in the hawk flights of May, and specimens (U.M.M.Z.) were collected (D. W. Douglass). Several (U.M.M.Z.) were also taken during the hawk flights of the latter part of April and the first few days of May, 1937, on the Leelanau Peninsula, and at least 15 were seen April 29, 1937, at Cecil Bay, northern Emmet County (Blanchard and Nelson, MS of 1937).

Upper Peninsula.—Christofferson, at Blaney, Schoolcraft County, and Bryens, at McMillan, Luce County, have reported arrival in their areas in late April (very seldom before the 20th of the month) and in the first week of May; 20 (the maximum number at any one time for the district) passed over Blaney on April 25, 1939. At Whitefish Point, Chippewa County, throughout April and May, 1937, S. D. Knox saw only 1 Broad-wing (on April 29), but in 1936 Brodkorb reported a flock of 26 there on May 9. Several specimens (U.M.M.Z.) have been collected, and transients reported there until the middle of May (N. A. Wood, 1914: 63), and in 1930, as late as June 11 (Tyrrell, 1934: 25). They were common from May 1 to 6 in a great hawk flight in 1931 at Copper Harbor, Keweenaw County (N. A. Wood, 1933: 719).

SUMMER.—Nesting begins about the last week of April or in early May.

Lower Peninsula.—Swales recorded the species in the Detroit area rather regularly throughout the summer, usually without breeding evidence; he gave, however, 1 definite record: a nest with eggs and a female taken at Highland Park, Wayne County, on April 29, 1893 (Swales, 1904c: 69). Other records from southeastern Michigan include: a nest with 3 eggs (U.M.M.Z.), April 19, 1895, and a nest, May 12, 1897 (N. A. Wood), both at Ann Arbor; a female on a nest in Jackson County, May 6, 1923 (Fargo). Gibbs (1884: 66) collected 2 eggs in Kalamazoo County on May 24, 1875. Three nearly hatched egg sets (U.M.M.Z.) were taken on May 31 and June 1, 1894, in Manlius Township, Allegan County; and a juvenile was secured in the same county, according to a letter of August 16, 1939, from Durward L. Allen. D. L. Allen, C. T. Black, and Walkinshaw found a nest with eggs on May 19, 1940, at Rose Lake, southeastern Clinton County; Herbert (1880: 79) recorded a set taken at East Saginaw on May 6, 1880; and Ford (1927: 116-17; and letters) has found the species breeding with some regularity in Brooks Township, Newaygo County (eggs were taken there on May 15, 1926, and May 20, 1928). Nesting has been reported at Douglas Lake, Cheboygan County (N. A. Wood, Smith, and Gates, 1916: 10), and in Emmet County (Widmann, 1902: 233; Barrows, 1912: 281).

Upper Peninsula.—The species is seen fairly regularly all summer in the Upper Peninsula. Among breeding records are an egg set secured in Chippewa County, May 16, 1901 (Burns, 1911: 188, 258), and a nest, with 2 young, observed by John L. George and R. L. Patterson on July 9, 1938, at Golden Lake, Iron County.

FALL.—Transients are reported principally from the last week in August to early October.

Upper Peninsula.—Several of the species were noted with a mass movement of small birds on Isle Royale on September 12, 1905 (Peet, 1909: 349–50), and 3 were noted there on September 18, 1929 (N. A. Wood). S. S. Gregory, Jr. (1929: 176), has reported the species in the Huron Mountain region, Marquette County, until October 12. At Whitefish Point, Chippewa County, Fargo saw a flock of 27 migrating southward on August 23, 1925. Bryens has noted the species regularly at McMillan, Luce County, through the second and third weeks of September. Christofferson has listed none at Blaney, Schoolcraft County, later than October 10 (1937).

Lower Peninsula.—In the extensive hawk flights of September, 1929, at Muskegon, 12 or more Broad-wings (U.M.M.Z.) were taken in late September (through September 27). At Wintergreen Lake, Kalamazoo County, the species was noted in 1940, from October 2 to 16 (Rysgaard, 1940: 20); but in the Ann Arbor region, only rarely have any Broad-wings been recorded after September 25 (1901, U.M.M.Z.). About Detroit, migration is not pronounced, but in September, 6 or 7 have occasionally been observed in a day by J. Claire Wood (Burns, 1911: 237); Swales saw the species there regularly in the latter part of September, sometimes in early October, and once until October 24 (1897, 2 in Ecorse Township). In the Toledo–Erie marsh area, L. W. Campbell (1940: 187) has recorded the species as late as November 8 (1930).

*Buteo swainsoni* Bonaparte  
Swainson's Hawk

Beebe (1933: 120) and others have reported this hawk in Michigan, but the reports are open to question, since the species in some plumages is readily confused with other members of the genus *Buteo* (Barrows, 1912: 277–78; N. A. Wood, 1934: 118). Tyrrell (1934: 25) reported 1 at Whitefish Point, Chippewa County, which is possibly the one referred to by Bent (1937: 236), but Tyrrell later stated (letter, 1936) that he had no specimen or memorandum to substantiate his earlier statement.

The only positive records are apparently those listed by Van Tyne (1938: 10), referring to 4 specimens in the Museum of Zoology: 1 (a male) from Manitou Island, Keweenaw County, May 1, 1931 (N. A. Wood, 1933: 719); 1 from Hessel, Mackinac County, October 13, 1908, collected by C.



Law (Taverner, 1909: 83); 1 from Black Lake, Presque Isle County, October, 1883 (N. A. Wood, 1897: 216); and 1 from Grand Rapids, taken about 1904 by Earl Moody.

*Buteo lagopus s.johannis* (Gmelin)  
American Rough-legged Hawk

Transient, occasionally common at points on the Great Lakes. Uncommon winter visitant from Saginaw County southward.

First listed for Michigan by Sager (1839: 412).

SPRING.—Migrants have been reported principally in March and April in southern counties, and from mid-April to mid-May in the Upper Peninsula.

Lower Peninsula.—At Detroit (where no pronounced flight of these hawks was recorded), Swales and J. Claire Wood saw 2 individuals as late as April 23 (1899). In the Ann Arbor region, 1 was noted by F. M. Gaige as late as March 31 (1935), and 2 were observed by H. W. Hann on April 2, 1932. Northward, at New Hudson, Oakland County, 1 was recorded by R. E. Olsen on April 18, 1937. In Berrien County the species was recorded from April 29 to May 28 and found to be the most common of the migrating hawks recorded there (N. A. Wood, 1922: 14). On the Prairie Farm, Alicia, Saginaw County, G. A. Ammann saw it almost daily in 1940, through April 22; at Sand Point, Huron County, D. W. Douglass observed a few in spring (1931 to 1933), but none after May 11 (1931). Several (U.M.M.Z.) were taken in the hawk flights on the Leelanau Peninsula in late April and the first few days of May, 1937.

Upper Peninsula.—The species arrives at Blaney, Schoolcraft County, mainly in the first and second weeks of April (Christofferson), and at McMillan, Luce County, mainly in the second week (Bryens). It is rarely observed at either place after the end of April, but Christofferson recorded 2 individuals at Blaney on May 19, 1939. In 1937 S. D. Knox recorded earliest arrivals (9) at Whitefish Point, Chippewa County, on April 19; 100 to 150 passed daily from April 21 to 27 (200 on April 23), followed by small numbers until mid-May; in 1936 Brodkorb noted 4 there on May 8, 30 on May 9, and 22 on May 11. In 1914, when the species was more common than it has been in recent years, hundreds were recorded there in mid-May (200 on May 16), numbers until June 3, and occasional individuals through July 6 (N. A. Wood, 1914: 63; and 1921a: 590-91). This hawk was abundant at Copper Harbor, Keweenaw County, from April 30 to May 6, 1931 (N. A. Wood, 1933: 713, 719).

FALL.—Southward migration (somewhat straggling) apparently ex-

tends from September to mid-November in the Upper Peninsula, and from early October to late November or December in the south.

Upper Peninsula.—On Isle Royale an individual was seen between September 2 and 6, 1938, near Rock Harbor (F. M. and A. M. Baumgartner), and 3 individuals on September 18, 1929, near Tobin Harbor (N. A. Wood)—the only fall records for the island. Trautman noted 1 in southern Houghton County on October 4, 1934. In the Huron Mountain region, Marquette County, 1 was observed on September 26, 1927 (Christy, notes; S. S. Gregory, Jr., 1929: 189), and 1 (S. S. Gregory, Jr., collection) was collected on October 10, 1934. Christofferson has usually seen the species by middle or late September at Blaney, Schoolcraft County, whereas at McMillan, Luce County, Bryens notes that it arrives rather regularly in the third week of October and that it departs ordinarily in the first 2 weeks of November. At Whitefish Point, Chippewa County, Fargo saw 2 individuals on September 4, and 1 on September 6, 1925. Christofferson collected 1 (U.M.M.Z.) at Sault Ste Marie on October 21, 1925, and Pirnie 1 (U.M.M.Z.) at Munuscong Bay, Chippewa County, on October 22, 1929.

Lower Peninsula.—Trautman noted a Rough-legged Hawk at Houghton Lake, Roscommon County, on 3 occasions: on October 24, 1937, November 8, 1936, and November 12, 1938. In southern counties, where the species occurs in winter, transients have been recorded in October and November, rarely earlier. Individuals have been noted at Vicksburg, Kalamazoo County, on September 25, 1924 (F. W. Rapp, 1931: 13); at Portage Lake, Washtenaw County, on September 23, 1919 (N. A. Wood); and at the mouth of the Detroit River, Wayne County, on September 18, 1932 (Walkinshaw). At Grosse Ile, where Swales (1903: 15) found the species more common in fall than in spring, he noted 1 Rough-leg as early as October 3 (1915), and on October 17, 1912, he saw about 40 of these hawks pass over in a 2-hour period.

WINTER.—L. W. Campbell (1940: 57) recorded 6 Rough-legs in the Erie marsh, Monroe County, on January 27, 1935. The species is fairly regular in winter about Detroit (Swales, 1903: 15; 1903a: 23; and notes), as well as in the Ann Arbor region (U.M.M.Z.), where it was formerly recorded as rare and irregular (N. A. Wood and Tinker, 1910: 132; N. A. Wood, 1921a: 590–91). During most winters, 1 or 2 individuals are recorded at Ann Arbor several times a season. One was noted in Jackson County on December 25, 1930 (Fargo and others, 1931: 56). Gibbs (1893b: 294–95) examined a specimen taken at Kalamazoo as late as December 22. G. A. Ammann found the species “fairly common” at the Prairie Farm, Alicia, Saginaw County, in the winter of 1939–40, listing it almost daily (4 on one occasion) until late April. On January 11 and 12,

1941, L. C. Hulbert (1941: 9) noted several between East Lansing and the vicinity of Saginaw.

*Aquila chrysaetos canadensis* (Linnaeus)  
Golden Eagle

Rare transient and winter visitant. Most records are for the months November to February.

First authoritatively recorded for Michigan by Gibbs (1879: 491).

Some of the literature on this species in Michigan quite certainly refers to the Bald Eagle, with which the Golden Eagle is often confused. There are, nevertheless, enough records (including 12 or more specimens) of the Golden Eagle to warrant the statement that it occurs in Michigan with moderate regularity. For the period between February and November there are a number of reports, but apparently very few specimens. The following account is based almost entirely on specimens.

Upper Peninsula.—A Golden Eagle (U.M.M.Z.) was shot at Northland, Dickinson County, in November, 1935; and 1 was taken by A. Moshimer in northern Luce County on May 11, 1939. An adult male (U.M.M.Z.) was found dead near Sheldrake, Chippewa County, in November, 1929, by H. Corsan.

Lower Peninsula.—In Kalamazoo County, where B. F. Sykes (Gibbs, 1898: 7) secured a specimen, C. J. Henry shot an immature on November 20, 1933, and observed another on February 3, 1934, at the Kellogg Bird Sanctuary. An adult male was taken near Ann Arbor on December 15, 1897 (N. A. Wood, 1898: 20), and 1 (U.M.M.Z.) near Ypsilanti on February 15, 1890. Two Golden Eagles were secured at Northville, Wayne County, in October, 1898, and December, 1901 (Purdy, 1898: 38; 1899: 77; 1902: 80)—the only specimens that Swales (1903: 15) knew of from the Detroit area. Another Golden Eagle was shot on November 15, 1926, on the Wallace Game Farm, Oakland County.

There is one summer specimen, an adult male, reported by Blain (1902: 210) in Eaton County on August 12, 1901.

*Haliaeetus leucocephalus washingtonii* (Audubon)  
Northern Bald Eagle

Uncommon summer resident north of Saginaw Bay and Muskegon County (also known to breed in Monroe County). Rare winter resident in the north. Rather regular visitant during the late fall, winter, and early spring along the shore of Lake Erie.

First authoritatively recorded for Michigan by Sager (1839: 412).

SPRING.—The species generally leaves the southern counties in March and appears in the Upper Peninsula in late March or early April.

Lower Peninsula.—L. W. Campbell (1940: 57) has reported the northward migration of these eagles in the Toledo–Erie marsh area between March 17 and April 16. W. Anderson reported 10 in the Erie marsh, Monroe County, on March 24, 1940. Occasionally, the birds are seen in the Ann Arbor area as late as May; an immature was seen there by John L. George on May 8, 1938, and an adult by Trautman on May 16, 1937.

Upper Peninsula.—Bryens at McMillan, Luce County, and Christoffer-son at Blaney, Schoolcraft County, have supplied the only records for the spring movements of the Bald Eagle in the Upper Peninsula. They have recorded arrival during the last few days of March or in early April, though Bryens has occasionally not recorded it until late April.

SUMMER\*—Young have been found from May to July. From the data now on hand it can be conservatively estimated that there are at least 50 breeding pairs of Bald Eagles in Michigan.

Lower Peninsula.—Monroe County: Herbert Miller observed a nest during April, 1941, in La Salle Township that had been in use at least 5 years; Maurice G. Brooks saw 2 young in a nest in Berlin Township on May 14, 1939. Huron County: 2 adult birds were seen on a nest on Heisterman Island (in Saginaw Bay) on February 9, 1942. Muskegon County: a nest has been noted for several years in Laketon Township; young were reared in 1938 (Baker, 1939*a*: 72–73), and the nest was reported still in use in 1941 by H. Burns. Newaygo County: a young bird in a nest in Croton Township on May 18, 1927, was banded by Ben East, but the nest has not been reported in recent years. Ogemaw County: O. DeWaard examined a nest on June 4, 1941, near Sage's Lake that had been in use at least 10 years. Iosco County: DeWaard reported a nest near Au Sable Point that contained 2 young in 1940 and 1 young in 1941, and a nest with young near Tawas Lake in late May, 1941. Benzie County: David E. Davis reported young in a nest near Crystal Lake in 1934, and again in 1940. Roscommon County: A. Henry examined a nest north of Lake St. Helen on May 16, 1941; and H. Tubbs examined 1, with 2 nearly full-grown young, west of Lake St. Helen on June 26, 1941. Crawford County: 14 miles east of Grayling, 2 young about 2 weeks old were found in a nest in late May (E. M. Brigham, Jr., 1939: 59–63); a second nest was reported by Walkinshaw (1939*e*: 71) near Lake Margrethe in June, 1938. Montmorency County: 2 nests were examined by W. J. Cronk in 1941, one in the northeastern part near Long Lake and the other near Turtle Lake; L. Sacks examined a nest the same year at West Twin Lake. Alcona County: Verne Dockham re-

\* During 1940 and 1941, the Michigan Department of Conservation attempted to locate all of the nests in use by Bald Eagles. With this information it is now possible to outline rather fully the nesting distribution in Michigan.

ported 2 nests in 1939, in the northwestern corner of the county within a quarter of a mile of each other; O. DeWaard found a nest in 1941 southeast of Curtisville. Leelanau County: in June, 1940, A. E. Staebler and L. D. Case reported a nest on South Manitou Island and 3 nests on North Manitou Island (2 with 2 young), and in 1939 a nest on South Fox Island. Antrim County: Walter E. Hastings noted 4 occupied nests between Elk Rapids and Torch Lake (village) on April 2, 1940. Charlevoix County: Hastings reported 1 nest south of Charlevoix and 2 nests between Charlevoix and Petoskey on April 2, 1940; on Beaver Island, J. E. McCann noted 2 nests in August, 1941; in 1938 Van Tyne found a nest on Gull Island (Beaver Island group). Emmet County: T. Koboski examined a nest on Sturgeon Bay in September, 1941. Cheboygan County: J. Adair reported a nest near Tower on August 21, 1941, and another on the west side of Black Lake on July 15, 1941; O. M. Root reported a nest with 2 young northwest of Black Lake on July 9, 1941; Blanchard and Nelson (MS of 1937) recorded a nest on Duncan Bay on August 16, 1937; A. E. Staebler reported a pair nesting at the mouth of the Maple River on Burt Lake from 1938 to 1940.

Upper Peninsula.—Mackinac County: A. McLean saw a nest a few miles southeast of Gould City on August 30, 1941, and another nest at Patterson Point (in the southwestern part of the county) on May 25, 1941. Schoolcraft County: Christofferson reported a nest near Port Inland in 1939 and 1940. Alger County: in July, 1941, L. J. Merwin examined a nest near Fish Lake. Marquette County: a nest in which 1 or 2 young had been raised each year from 1935 to 1941 was reported near Howe Lake (northwestern part of the county) by R. H. Manville in 1941. No recent information is available from Isle Royale; formerly, 6 nests were known there (Peet, 1909: 350; and N. A. Wood, notes of 1930).

The Bald Eagle nested in the Detroit area as late as 1904. J. Claire Wood (1904: 88) examined a nest with 3 eggs on Grosse Ile on March 13, 1904. Swales (1903: 16; and notes) recorded a nest on Elba Island at the mouth of the Detroit River in 1903 and another nest the same year at the mouth of the Clinton River in Macomb County. N. A. Wood (1922: 14) listed the Bald Eagle as a rare straggler in Berrien County, where he recorded one on June 8. An adult was seen by L. D. Case on June 28, 1942, at Portage Lake, Jackson County.

FALL.—The species leaves the Upper Peninsula by the middle of November and appears in the southern counties after the first of September.

Upper Peninsula.—Bryens at McMillan, Luce County, and Christofferson at Blaney, Schoolcraft County, generally record the Bald Eagle until the middle of November; Bryens saw 1 as late as December 4 in 1935.

Lower Peninsula.—N. A. Wood (1922: 14) saw the species in Berrien

County on September 3 and 10. In the Toledo-Erie marsh area L. W. Campbell (1940: 57) has noted that "a pronounced migration takes place" between August 31 and October 31.

WINTER.—The Bald Eagle is found wintering rarely in both the Upper and the Lower Peninsula. It is a regular winter visitant in Monroe County along the shore of Lake Erie.

Upper Peninsula.—O. DeWaard saw a single Bald Eagle southwest of Metropolitan, Dickinson County, on January 29, 1942. Bryens saw 1 at McMillan, Luce County, on February 19, 1930; Magee and Christofferson saw 2 between Eckerman and Emerson, Chippewa County, on January 12, 1925. In Schoolcraft County, E. E. Crawford reported 1 at Seney on February 14, 1937, and Christofferson saw 1 at Blaney on December 26, 1939.

Lower Peninsula.—One Bald Eagle was seen by J. W. Leonard early in February, 1941, near Lewiston, Montmorency County. In the Battle Creek area E. M. Brigham, Jr., and others (1937: 58) saw 1 on December 27, 1936, and H. W. Hann noted 1 near Ann Arbor on January 31, 1931. L. W. Campbell (1940: 57) listed this species as an uncommon permanent resident in the Toledo-Erie marsh area; he reported 8 there on February 28, 1937.

*Circus cyaneus hudsonius* (Linnaeus)  
Marsh Hawk

Common summer resident and transient. A few winter regularly north to Livingston County, and (rarely?) to Saginaw and Arenac counties.

First listed for Michigan by Sager (1839: 413).

SPRING.—In southern counties where a few winter, a gradual increase in the number of Marsh Hawks becomes noticeable in early March. In the Upper Peninsula the movement occurs principally in April. No large flights have been reported in Michigan.

Lower Peninsula.—Although L. W. Campbell (1940: 58) listed the Marsh Hawk as an abundant permanent resident in the Toledo-Erie marsh area, he noted a marked migration period between March 6 and April 28. In the vicinity of Detroit, April seems to be the period of greatest abundance (Swales); at Rockwood, Wayne County, Taverner saw 8 Marsh Hawks on April 12 (1908), according to Swales' notes. Among the dunes of Berrien County a number were migrating during the last 3 days of April, 1918 (N. A. Wood, 1922: 12). I. H. Sabin collected a specimen (U.M.M.Z.) as early as March 1 (1928) at Sand Point, Huron County (possibly a wintering bird); and 3 were seen there among other migrating hawks as late as May 1 (1931) by D. W. Douglass.

Upper Peninsula.—At both Blaney, Schoolcraft County (Christoffer-

son), and McMillan, Luce County (Bryens), the Marsh Hawk has arrived rather regularly in the first and second weeks of April, but sometimes in the last week of March. At Blaney in 1936 there were 5 Marsh Hawks on March 31 and 6 on April 2. Christofferson and Magee reported one at Sault Ste Marie, as early as March 3 (1927), and one shot (presumably at Munuscong Bay in the same county) on March 7 (1928) by H. Thorn.

SUMMER.—Eggs have been noted as early as mid-April.

Lower Peninsula.—Current nest records are fairly numerous for Washenaw, Jackson (Fargo, 1923: 305-7; Barnes, 1929: 128; Leonard Wing and others, 1930: 64), Calhoun, Kalamazoo (F. W. Rapp, 1931: 12), and Berrien (N. A. Woods, 1922: 12-13) counties. In Convis Township, Calhoun County, and vicinity, Walkinshaw has found 1 or more nests almost yearly since 1930; he recorded a nest with 3 eggs there as early as April 17 (1938), and a young bird able to fly that he caught and banded as it was leaving the nest on August 5, 1934. P. S. Baumgras (1942: 50) reported a 10-egg set in southeastern Clinton County, from which 7 young had hatched by June 11 (1941). At the Prairie Farm, Alicia, Saginaw County, in 1940 G. A. Ammann and Frank Martin discovered 4 nests (young left one of the nests on July 20 and another on August 12). Near Lovells, Crawford County, 1 or 2 individuals were seen frequently during the summer of 1931 (Leonard Wing and N. A. Wood) and a nest with 4 eggs was found on May 29, 1932 (Walkinshaw, A. D. Tinker, R. E. Olsen, N. A. Wood). Van Tyne (1925: 616) reported the species "numerous" in Charlevoix County in 1923. The species is "the hawk most frequently seen" in summer at Douglas Lake, Cheboygan County (Blanchard and Nelson, MS of 1937; see also N. A. Wood, Smith, and Gates, 1916: 9).

Upper Peninsula.—At Whitefish Point, Chippewa County, the Marsh Hawk was the most numerous of all the summer hawks in 1912 and 1914 (N. A. Wood, 1914: 63), and through much of the peninsula it was found to be "common on marshy edges" (Walkinshaw) from 1933 to 1935. Other reports (for the Huron Mountain region, Marquette County: Christy, 1925: 210; and S. S. Gregory, Jr., 1929: 176; for Copper Harbor, Keweenaw County: N. A. Wood, 1933: 718; and for Isle Royale: Peet, 1909: 348) indicate that the species is uncommon in the peninsula.

The species has been found nesting at Munuscong Bay, Chippewa County (4 eggs on June 2, 1935, reported by Walkinshaw); at Seney, Schoolcraft County (5 eggs on June 2, 1938, reported by Brodkorb); and at Sidnaw, Houghton County, where downy young (U.M.M.Z.) were secured on July 7, 1932, by Leonard Wing (1940: 175).

FALL.—Exact information on the fall migration is very meager, especially in southern counties, where the species occurs regularly in winter.

The movement apparently occurs chiefly in September and October.

Upper Peninsula.—On Isle Royale the species was seen until September 13 (Max M. Peet, 1909a: 109, 118; and 1909: 348); at Covington, Baraga County, on October 5 (1 bird in 1934, by Trautman); and in the Huron Mountain region, Marquette County, until October 2 (S. S. Gregory, Jr., 1929: 176). At Blaney, Schoolcraft County (Christofferson), and at McMillan, Luce County (Bryens), however, individuals have remained with considerable regularity through the third week of October, occasionally through the fourth week, and rarely later (November 13, 1940, at McMillan, reported by Bryens, 1940a: 125).

Lower Peninsula.—Trautman, in 26 field days on dates ranging from October 1 to November 28 (1935–1940) at Houghton Lake, Roscommon County, saw 1 or 2 individuals on each of 4 days (from October 10 to November 8). In the extensive hawk flight of September, 1929, near Muskegon, 11 Marsh Hawks (several in U.M.M.Z.) were shot by F. Antisdale and other wardens on September 27.

WINTER.—In the Detroit area, where Swales (1903: 15; and 1903a: 23) found the Marsh Hawk rather rare in winter, a few have since been observed and 2 specimens (U.M.M.Z. and Max M. Peet collection) taken. On recent Christmas-season counts and throughout the winter, 1 or 2 have been noted regularly and specimens (U.M.M.Z.) collected in the Ann Arbor region, in Jackson County (Fargo and others), about Battle Creek (Walkinshaw, Pirnie, and others), and in Kalamazoo County (F. W. Rapp, 1931: 12). At the Prairie Farm, Alicia, Saginaw County, in 1940, G. A. Ammann saw 1 on January 17 and thereafter; and along the shore of Saginaw Bay near Au Gres, Arenac County, Maurice G. Brooks, John L. George, Tudor Richards, and others identified 1 on January 24, 1941.

PANDIONIDAE  
(OSPREY)

*Pandion haliaetus carolinensis* (Gmelin)  
Osprey

Regular transient and uncommon summer resident. Recorded twice in winter.

First listed for Michigan by Sager (1839: 412).

SPRING.—Arrival is usually reported by the middle of April.

Lower Peninsula.—The earliest that L. W. Campbell (1940: 187) has noted the Osprey in the Toledo–Erie marsh area is April 11 (1937); he has given April 22 to May 6 as the average period of migration through the area. Swales (1903: 16) observed the species between late April and early May in the Detroit area, and listed it as a rare transient; in the Ann



Arbor area observers have reported it from April 1 (1907, 1 seen by N. A. Wood) to April 21 (1937, 1 seen by James H. Wood) and once as late as May 8 (1938, 1 by R. E. Stewart). N. A. Wood (1922: 14) saw an Osprey in Berrien County on May 12, 1920, and Walkinshaw has seen the species in the Battle Creek area between April 15 (1933) and May 2 (1930).

Upper Peninsula.—At McMillan, Luce County, Bryens has usually noted arrival in late April, but saw 1 Osprey as early as March 30 in 1929. Christofferson has reported arrival at Blaney, Schoolcraft County, in the last few days of April, and (with Magee) recorded 8 at Sault Ste Marie on April 6, 1925. At Whitefish Point, Chippewa County, S. D. Knox saw 2 on April 19 and 3 on May 10 (1937); at Copper Harbor, Keweenaw County, N. A. Wood (1933: 719) saw 1 on May 19 (1931).

SUMMER.\*—Dates of egg laying and hatching are lacking.

Lower Peninsula.—Frank Bishop examined a nest west of Bancroft, Shiawassee County, in August, 1941, from which young had been reared. N. A. Wood saw an Osprey at Fish Point, Tuscola County, on May 20 and June 6, 1926; N. A. Wood and Gaige (1911: 285) saw 1 in Huron County on June 14 and another on August 5, 1908. Walter Crowe reported 1 to 4 Ospreys at Big Bear Lake, Otsego County, during the summers of 1939 to 1942. In Charlevoix County, N. A. Wood reported the species on Beaver Island on June 15 and 16, 1922; on the mainland, Walter E. Hastings saw 1 (Van Tyne, 1925: 617) near Norwood on June 21, 1922. A. S. Warthin, Jr., found a nest, with 3 well-feathered young, north of Hetherton, Montmorency County, on July 9, 1923 (Van Tyne, 1925: 617). A pair of Ospreys was observed nesting at Douglas Lake, Cheboygan County, in the summers of 1920 and 1921, and at the north end of Burt Lake, from 1921 to 1927, 1929 to 1931, and again in 1935 (Blanchard and Nelson, MS of 1937).

Upper Peninsula.—Van Tyne (1923: 23) listed the Osprey as a fairly common summer resident on Les Cheneaux Islands, Mackinac County. In Chippewa County the species has been reported nesting on Sugar Island in 1924 and 1925 (Christofferson and Magee), at Munuscong Bay from 1920 to 1923, and from 1927 to 1929 (Christofferson and Magee), and near Vermilion, Whitefish Point in 1912 (N. A. Wood, 1914: 64). Bryens has occasionally seen Ospreys in the summer at McMillan, Luce County (2 seen on June 1, and 2 on July 24 in 1940); Christofferson noted 2 at Blaney, Schoolcraft County, almost daily in 1940. R. W. Beach reported a nest near Deer Park, Luce County, in August, 1941, that had been in use at least 4 years. A. M. Baumgartner found a nest near Corner Lake in the

\* The Michigan Department of Conservation has generously placed at our disposal the information they have secured on the nesting sites of the Osprey in Michigan.

extreme southeastern corner of Alger County on June 24, 1938, and P. J. Houlmont reported a nest west of Crystal Falls, Iron County, in 1941 that had been in use for 10 years. A nest at Thousand Island Lake, Gogebic County, was examined by L. Bloomquist in September, 1941. On Isle Royale, a nest was found by N. A. Wood in 1929; 1 by Ben East in 1930; and 1 with 3 young by G. F. Baggley in 1941.

FALL.—The Osprey is usually found in the Upper Peninsula until late September or early October and to late October or early November in the south.

Upper Peninsula.—The species was seen on Isle Royale until September 21 (Max M. Peet, 1909: 352), and 1 was noted at Lake Gogebic, Ontonagon County, on October 3, 1934 (Trautman). Ira N. Gabrielson recorded 1 in the Huron Mountains, Marquette County, on September 22, 1936, and F. M. Gaige (1914: 80) saw 1 at Brown Lake, Dickinson County, on August 19, 1909. Bryens has usually recorded the Osprey at McMillan, Luce County, until the middle of September (1 on September 19, 1927, and 1 on September 18, 1940). Christofferson has seen the species as late as October 3 (1937) at Blaney, Schoolcraft County, and October 20 (1928) at Munuscong Bay, Chippewa County.

Lower Peninsula.—N. A. Wood and Frothingham (1905: 47) listed the species from Oscoda County on September 15 and from Iosco County on September 21; F. W. Rapp (1931: 14) has recorded the species twice in the fall at Vicksburg, Kalamazoo County: on August 13, 1928, and October 1, 1897. Fargo saw an Osprey at Portage Lake, Jackson County, on September 1, 1932, and Walkinshaw noted 1 near Battle Creek on September 16, 1939. In the Ann Arbor area specimens (U.M.M.Z.) have been taken on September 9, 1905 (by W. Scharier) and on October 29, 1877 (collector unknown). Walkinshaw saw an Osprey at the mouth of the Detroit River, Wayne County, on September 18, 1932, and Swales reported 1 at Detroit on November 4 and 18, 1907. L. W. Campbell (1940: 187) has found the Osprey present in the Toledo-Erie marsh area on the average between August 26 and October 5, once (1936) as late as November 14.

WINTER.—Swales recorded an Osprey at Detroit on February 27, 1892, and Walter E. Hastings recorded 1 near Brighton, Livingston County, on January 2, 1929.

#### FALCONIDAE (FALCONS)

##### *Falco rusticolus obsoletus* Gmelin Gyrfalcon

One record: a female (U.M.M.Z.) was secured near Sault Ste Marie on January 21, 1932, by W. Welch (Magee, 1932: 216-17).

*Falco peregrinus anatum* Bonaparte  
Duck Hawk

Rare transient. Rare local summer resident in northern counties along the Great Lakes. Twice reported in winter (Wayne County).

First listed for Michigan by Sager (1839: 413).

SPRING.—Bent (1938: 65), speaking of the species in general, said that "there appears to be very little regularity in the seasonal movements of this species, as dates of arrival and departure vary greatly in any one locality," and this is particularly true in Michigan; the few spring records indicate a straggling migration from the second week in March to some time in May.

Lower Peninsula.—L. W. Campbell (1940: 59, 187) gave 12 spring records for the Toledo-Erie marsh area from March 19 to May 30. At Detroit the species was recorded twice in spring: 1 seen on March 9, 1908 (Swales, 1912a: 102), and 1 collected on March 25, 1904 (Blain, 1904: 54; Swales, 1905: 108). Taverner recorded 1 at Huronia Beach, above Port Huron, St. Clair County, on April 19, 1900 (Swales, notes). In the Ann Arbor region several Duck Hawks have been observed and 2 collected (1 in U.M.M.Z.) from March 10 (1884, 1 at Silver Lake, reported by N. A. Wood, 1912: 159) to April 16 (1 noted in 1934 by Brodkorb). An individual was present on May 6, 1926, at Fish Point, Tuscola County (N. A. Wood), and an immature female was collected by Miller Empey on May 17, 1936, northeast of Linwood, Bay County.

Upper Peninsula.—At McMillan, Luce County, Bryens recorded the species (1 on each date) on March 28 (1938); April 4 (1935) and 14 (1937); May 2 (1936), 16 (1933), and 23 (1934). A Duck Hawk shot on May 2, 1932, at Blaney Park, Schoolcraft County, by an unknown person, was sent to the Museum of Zoology by Christofferson. Whitefish Point, Chippewa County, an important spring concentration point for migrating hawks, has yielded few records of this species: Curren Hawkins reported that he shot 2 in the hawk flights of April, 1925 (Fargo); and the species was reported (1 seen on each occasion) on May 12, 1936, by Brodkorb, on May 14, 1937, by S. D. Knox, and on June 11, 1930, by Tyrrell (1934: 25).

SUMMER.—Eggs and young have been found in June and July.

Upper Peninsula.—On South Fox Island, Leelanau County, on June 20, 1939, A. E. Staebler and L. D. Case discovered a nest with 2 eggs (U.M.M.Z.) in the process of hatching. On Mackinac Island, in 1939, Walter P. Hill saw a nest, with the adults and 1 or more juveniles near by, on July 19, and in 1940 saw a Duck Hawk near the same nest site on May 31. On the "south shore of Lake Superior," E. A. Doolittle found full-fledged young in early July, 1906 (Barrows, 1912: 290), and (along the

Pictured Rocks, Alger County) Walter E. Hastings photographed a nest containing young in July, 1927. Davie (1889: 187) reported that "Mr. Norris has a set of 3 eggs taken April 14, 1876, at Michigumni [= ? Michigamme, Marquette County], Mich." This report can be verified and the data completed when the Norris collection, now in storage, can be examined. A Duck Hawk (U.M.M.Z.), banded as a nestling at Marquette by W. S. Feeney on June 25, 1939, was shot by a duck hunter the following October 24 near Toledo, according to L. W. Campbell (1940: 69). The species has been reported, though without nesting evidence, at McMillan, Luce County (4 times in July and early August, by Bryens); in the Huron Mountain region, Marquette County (several times by Christy, 1925: 211; and S. S. Gregory, Jr., 1929: 177); and at Golden Lake, Iron County (1 seen on August 20, 1938, by John L. George and R. L. Patterson).

Lower Peninsula.—Individuals (possibly migrants) have been noted in summer at Detroit on July 15, 1911 (1 taken, Swales, 1912*a*: 102), and on July 17, 1915 (1 seen at Grosse Ile by Swales); at Ypsilanti, Washtenaw County, on August 8, 1940 (M. T. Sturgeon, 1940: 92-93); and at Ann Arbor in August, 1880 (N. A. Wood, 1912: 159).

FALL.—The southward movement (chiefly in September and October) apparently extends from late August to November.

Upper Peninsula.—On Passage Island, Isle Royale, Albert Brown collected a specimen (U.M.M.Z.) on September 15, 1929; and at Whitefish Lake, Alger County, Shiras (1935: 105-6) saw an individual in October. Fargo observed 3 at Whitefish Point, Chippewa County, on August 20, 1925, and Bryens has seen the species at McMillan, Luce County, on a half-dozen occasions from September 25 (1928) to October 14 (1935).

Lower Peninsula.—In the hawk flights of September, 1929, near Muskegon, 2 specimens (U.M.M.Z.) were taken by Frank Antisdale on September 27. A specimen (U.M.M.Z.) was taken at East Tawas, Iosco County, in September, 1895, by Jack Sims; 1 individual was recorded on 3 occasions, and 2 specimens (U.M.M.Z.) were collected at Charity Island, Huron County, between September 20 and October 5 in 1910 (N. A. Wood, 1911: 94). Near Stony Lake, Jackson County, Roger T. Peterson noted 2 on August 29 and 1 on September 2, 1929; at Whitmore Lake, Washtenaw County, Trautman saw 1 on September 5, 1936. At Grosse Ile and about the mouths of the Detroit and Huron rivers (Wayne and Monroe counties) 12 birds have been reported and several taken between August 25 (1912, 1 seen at Grosse Ile by Swales) and September 14 (1932), but the majority in October (Swales, 1905: 108; 1912*a*: 102). In 1912 an extensive hawk flight occurred in the area on October 17, which included at least 4 Duck Hawks (observed by Swales and Lynds Jones). The species has been seen in the area until November 9 and 21 (1909, 1 noted on each date by Swales).

Trautman and E. L. Wickliff noted an individual at the Erie Marsh, Monroe County, on September 13, 1932, and R. B. Lawrence collected a female at Monroe in October, 1880. L. W. Campbell (1940: 187) has recorded individuals in the Toledo-Erie marsh area generally between the last of August and mid-October.

WINTER.—On January 20, 1931, 1 of 2 Duck Hawks that had been preying on pigeons in downtown Detroit for about a week was shot by Sergeant Max Wendlandt, who now has the mounted specimen; on January 21, 1940, an adult was observed at the Detroit Airport by John Kieran.

*Falco columbarius columbarius* Linnaeus  
Eastern Pigeon Hawk

Rare transient. May breed on Isle Royale and locally in the Upper Peninsula.

First recorded for Michigan by Sager (1839: 413).

SPRING.—Migration is reported chiefly from late March or early April until about mid-May.

Lower Peninsula.—L. W. Campbell (1940: 187) recorded this species in the Toledo-Erie marsh area from February 20 to May 31. In the Ann Arbor region an individual has been reported every few years on dates ranging from February 20 (1 in 1933, by Charles J. Spiker) and March 1 (1 in 1896, reported by N. A. Wood and Tinker, 1910: 132) to early May. There is one spring record for Berrien County: a specimen collected on April 30, 1918 (N. A. Wood, 1922: 14). At Fish Point, Tuscola County, on April 16, 1927, an adult male (Grand Rapids Mus.) was shot by E. A. Hyer.

Upper Peninsula.—The Pigeon Hawk has migrated fairly regularly through McMillan, Luce County (Bryens), from middle or late April (occasionally earlier) to mid-May, and through Blaney, Schoolcraft County (Christofferson), from April 30 (1938) to late May. F. M. Baumgartner saw an individual on April 8, 1937, along the west branch of the Escanaba River in northeastern Dickinson County. Christy (1925: 211) and S. S. Gregory, Jr. (1929: 177), stated that the species arrived in the Huron Mountain region, Marquette County, in late May.

SUMMER.—Immatures as well as adults have been observed and specimens (U.M.M.Z.) collected in midsummer on Isle Royale and in the Porcupine Mountains, Ontonagon County (N. A. Wood, 1905: 177; N. A. Wood, Peet, and McCreary, 1906: 114, 125; Max M. Peet, 1909: 351), so that Peters (1927: 21) and various other authors have included northern Michigan in the breeding range of the species. But positive proof of breeding in Michigan is lacking. Adults have been reported during the summer in the Huron Mountain region, Marquette County (S. S. Gregory, Jr., 1929: 177); at Blaney, Schoolcraft County, on August 11, 1936, and August 6,

1937 (Christofferson); at McMillan, Luce County, where several were reported in summer (May 22, 1929; June 30, 1936; July 6, 10, and 13, 1938) and where specimens (U.M.M.Z.) were collected on July 23, 1934, and July 30, 1932 (Bryens); on Beaver Island, Charlevoix County, on June 25, 1937 (T. D. Hinshaw).

FALL.—Transients, somewhat more numerous in fall than in spring, are reported principally from late August to mid-October.

Upper Peninsula.—Several specimens (U.M.M.Z.) have been collected on Isle Royale in early fall, and the species observed there almost continuously from the latter half of August to mid-September (N. A. Wood, Peet, and McCreary, 1906: 123; Max M. Peet, 1909*a*: 117). Max M. Peet (1909: 351; see also 1909*a*: 103, 108, 115, 117) reported that "flocks of 6 or 8 were quite common" during the "large wave of September 12," 1905. In 1929 another mid-September hawk flight occurred (at neighbouring Passage Island), during which 4 (U.M.M.Z.) of this species were shot (September 14 to 19). S. S. Gregory, Jr. (1929: 177), recorded the species in the Huron Mountain region, Marquette County, until September 30. Fargo collected a specimen (U.M.M.Z.) at Whitefish Point, Chippewa County, on August 26, 1927; and Christofferson noted transients at Blaney, Schoolcraft County, from late August (a group of 6 on August 31, 1939) to the latter part of September and once (1932) to October 6; he noted 31 there in September, 1935. At McMillan, Luce County, the species has usually remained through the second or third week of October and occasionally later (Bryens).

Lower Peninsula.—Two Pigeon Hawks were taken in late August (August 21 and 24) at Douglas Lake, Cheboygan County (Fortner and Metcalf, 1929: 249); and 8 (U.M.M.Z.) shot from September 22 to 27, 1929, in the hawk migration near Muskegon; another specimen (U.M.M.Z.) was collected there on October 17, 1928. On Saginaw Bay, a specimen (U.M.M.Z.) was taken at Point Lookout, Arenac County, on October 16, 1928; more than 12 of the species were seen and specimens (U.M.M.Z.) collected on Charity Island, Huron County, between August 30 and October 11 during the fall seasons of 1910 and 1911 (not 1915, as in N. A. Wood, 1929: 113; see also N. A. Wood, 1911: 94-95). Two specimens (U.M.M.Z.) taken at Ann Arbor, on October 28, 1929, and November 5, 1900, are among the few recorded there in fall. Swales (1902: 139; 1903: 16; and notes) and J. Claire Wood (1907*a*: 214) termed the species a rare transient in the vicinity of Detroit, where they recorded it (usually single individuals) only a few times, mostly in September, but from September 8 (1890) to October 28 (1900, 2 taken by C. H. Allis). Walkinshaw noted an individual at the mouth of the Detroit River on September 18, 1932, and Traut-

man saw another at Long Point, Erie Township, Monroe County, on September 9, 1934. L. W. Campbell (1940: 187) has recorded individuals in the Toledo-Erie marsh area until the latter part of October and once (in 1933) as late as December 16.

*Falco sparverius sparverius* Linnaeus  
Eastern Sparrow Hawk

Transient and summer resident, rather uncommon in the south, more common in the Upper Peninsula. A few winter in southern counties.

First recorded for Michigan by Sager (1839: 413).

SPRING.—Migration in the Lower Peninsula has been chiefly from March to early May, and in the Upper Peninsula from early April to early May.

Lower Peninsula.—Among the larger numbers noted by Swales about Detroit were 8 on March 22, 1890; 9 on March 26, 1893; and 7 on April 14, 1907. In Kalamazoo County and vicinity Gibbs (1885: 135; and 1893*b*: 101) reported arrival on March 15 or somewhat later, and F. W. Rapp (1931: 13) as early as March 6. In the spring of 1940 G. A. Ammann listed the species at the Prairie Farm, Alicia, Saginaw County, on April 23 and 25 only. In 3 spring seasons (1931 to 1933) at Sand Point, Huron County, D. W. Douglass saw only 2 Sparrow Hawks (during the second week in May, 1932). Four specimens (U.M.M.Z.) were taken in the hawk flight of the latter part of April and first few days of May, 1937, on the Leelanau Peninsula; and another (U.M.M.Z.) was secured on May 6, 1929, on Beaver Island, Charlevoix County.

Upper Peninsula.—At Blaney, Schoolcraft County (Christofferson), and McMillan, Luce County (Bryens), arrival has been irregular; it has been recorded occasionally during the last few days of March, and frequently during the second and third weeks of April. Eleven birds were seen at Whitefish Point, Chippewa County, on May 10, 1937 (S. D. Knox), and a few observed at Copper Harbor, Keweenaw County, on May 4, 1931, and thereafter (N. A. Wood, 1933: 719).

SUMMER.—Nesting activities are reported as early as March, though usually later, and young by late May and June.

Lower Peninsula.—Although Swales (1903: 16) termed the species an "abundant summer resident" at Detroit, his notes (U.M.M.Z.) for the same period indicate that he saw it rather uncommonly in summer. One of the few nests of which he had record was reported to him by Alexander W. Blain, Jr., as containing 5 young on May 23, 1902 (Grosse Ile, Wayne County). In recent years nesting has been only rarely discovered in the Ann Arbor region: the species occupied a nest box in a tower at Ypsilanti from (at least) 1937 to 1939 (Sturgeon, 1940*a*: 2-5; and R. E. Morrill).

F. H. Chapin collected a set of 5 eggs (U.M.M.Z.) near Richland, Kalamazoo County, on May 27, 1894, and another set of 5 eggs near Almena, Van Buren County, on May 25, the same year. F. W. Rapp (1931: 13) reported 2 nests in the vicinity of Vicksburg, Kalamazoo County: one with 4 eggs, on May 12, 1897, and the other with 3 eggs, on May 12, 1907. The species was reported common in midsummer, 1903, in Crawford County and vicinity, but without nesting evidence (N. A. Wood and Frothingham, 1905: 47). At Douglas Lake, Cheboygan County, the species was formerly the most common summer hawk of the region (N. A. Wood, Smith, and Gates, 1916: 10); Blanchard and Nelson (MS of 1937) reported it "rather frequently seen" there and noted several nests, as well as a downy young (collected in early July, 1935).

Upper Peninsula.—At Whitefish Point, Chippewa County, a nest was discovered on July 17 (N. A. Wood, 1914: 63-64), and another on May 29, 1934 (Walkinshaw). Bryens found the species nesting at McMillan, Luce County, on May 7, 1936. At Blaney, Schoolcraft County, Christofferson observed an adult feeding a fledgling on July 23, 1934. On July 1, 1938, John L. George and R. L. Patterson found a nest with 3 downy young at Golden Lake, Iron County. The species has been observed in midsummer, though without nesting evidence, on Drummond Island, Chippewa County (June to August, 1938, by T. D. Hinshaw and R. A. MacMullan); in Alger County, July 9, 1916 (N. A. Wood, 1918: 7); in the Huron Mountain region, Marquette County (S. S. Gregory, Jr., 1929: 177); at Brown Lake, Dickinson County (F. M. Gaige, 1914: 80); at Rapid River, Delta County, and at Ironwood, Gogebic County (Leonard Wing, 1940: 175); and on Isle Royale (Max M. Peet, 1909: 351).

FALL.—Transients have been reported mainly from the latter part of August to late September or early October.

Upper Peninsula.—The species is common or even abundant on Isle Royale in late summer and early fall (N. A. Wood, Peet, and McCreary, 1906: 123; Max M. Peet, 1909*a*: 103, 115, 117; and 1909: 351; Fargo, 1924: 209; and notes); in September, 1905, 30 were seen there at one time, and specimens (U.M.M.Z.) have been collected. In late August and early September, 1905, the species "considerably outnumbered all other species of raptors" on the island (Peet, 1909: 348, 351; and 1909*a*: 103). During the third week of August, 1909, the species was listed as common near Brown Lake, Dickinson County (F. M. Gaige, 1914: 80). In 1934 Trautman noted 4 in Marquette and Baraga counties on September 30, and 1 near Ewen, Ontonagon County, on October 2. At Blaney, Schoolcraft County (Christofferson), and McMillan, Luce County (Bryens), the species has usually remained through the second or third week of September,



occasionally later—until October 14 in 1931 at Blaney, and until October 11 in 1935 at McMillan.

Lower Peninsula.—The species was common (30 in one flock) on the shores of Higgins Lake, Roscommon County, on August 20 and for several days thereafter (Frothingham, 1906: 159). In Alcona County it was the most common hawk observed on September 19 and 20 (N. A. Wood and Frothingham, 1905: 47). Several were seen until September 19 at Charity Island, Huron County (N. A. Wood, 1911: 95); and in the hawk flights near Muskegon, 9 (U.M.M.Z.) were collected during the first week of September, 1928, and about 30 were shot (several specimens in U.M.M.Z.) during the last week of September, 1929. At Macatawa, northwestern Allegan County, many (at least 80 identified) migrated on August 30, 1904, according to Frank Smith (1904: 77-78; 1908: 41). For southern counties, where the species is found in winter, there is apparently little definite information on fall migration.

WINTER.—Both Swales (1903a: 23; 1903: 16; and notes) and J. Claire Wood (1910: 38-39) saw several every winter in the Detroit area. In Oakland County, A. S. Rodger collected 1 (U.M.M.Z.) on January 15, 1907 (near South Lyon), and F. D. Nicols secured 1 (U.M.M.Z.) on January 14, 1934 (in Bloomfield Township). Several specimens (U.M.M.Z.) have been collected in the Ann Arbor area, and the species has been observed there nearly every winter. One was noted near Brighton, Livingston County, by Trautman, on February 15, 1938, and another at Paw Paw, Van Buren County, by Walkinshaw, on January 27, 1935.

#### TETRAONIDAE (GROUSE)

##### *Canachites canadensis canace* (Linnaeus) Canada Spruce Grouse

Local permanent resident, rare south of the Straits of Mackinac, recorded recently south to Ogemaw and Iosco counties.

First recorded for Michigan by Sager (1839: 416).

The Spruce Grouse was formerly common or abundant in the coniferous forest of Upper Michigan, and as far south as the sources (in central Michigan) of the Manistee, Muskegon, and Au Sable rivers, according to Van Winkle (1892: 186), for Delta County; Boies (1897: 20), for Chippewa County; Eddy (1884: 41), for the North Branch of the Au Sable River; A. J. Cook (1893a: 67); Barrows (1912: 223); and specimens (U.M.M.Z.) collected in Luce and Chippewa counties. By the time of Barrows' writing (1912), the species was considerably reduced in numbers in certain sections, occurring very sparingly south to Roscommon County.

Upper Peninsula.—Newly hatched young have been found by June 17 (Marquette County), and young able to fly by June 27 (Schoolcraft County). Trautman recorded an adult in southern Houghton County on October 4, 1934. The species is considered rare in the Huron Mountain region, Marquette County (Christy, 1925: 210; S. S. Gregory, Jr., 1929: 176; and T. Gregory, 1932: 10), but has been observed there (usually 1 or 2 at a time) on a number of occasions during the past decade, and several specimens have been secured; on October 10, 1933, 2 flocks were noted and a specimen was collected by W. P. Harris. Near Republic, in southwestern Marquette County, Benjamin C. Jenkins discovered a covey on June 23, 1938, and southward at Floodwood, Dickinson County, A. G. Ruthven took a male (U.M.M.Z.) on July 12, 1915. In the files of the Museum of Zoology are relatively recent reports of the species from most of the western counties of the peninsula, but they lack confirmation. Since about 1935 both adults and young have been observed a number of times in Schoolcraft County, usually individuals or small groups, but sometimes groups of several dozen birds; on June 27, 1938, in the Cusino Game Refuge (in the extreme northwestern part of the county) Blaine Brannon and F. M. Baumgartner saw a hen with 7 young able to fly, thought to be about 2 weeks old; on September 29, 1940, near Seney, Walter E. Hastings and Mrs. Brannon photographed a group of 18 or 20; about 42 were noted on October 2, 1940, near Germfask, by Brannon and Adolph M. Stebler, and a somewhat smaller group shortly thereafter by Brannon and others. Numbers have been found and specimens (U.M.M.Z.) collected in the Lake Superior State Forest of northern Luce County (Leonard Wing, 1940: 175-76), where, according to J. Clark Salyer, the species was reported by Conservation Officers Thorson and Beach in October, 1933, as noticeably more abundant that year. R. E. Olsen (1935: 100; and notes) and A. D. Tinker recorded the species on 5 out of 19 field days in late August and early September, 1934 to 1938, in the neighborhood of Deer Park in this region; they recorded 20 on August 31, 1936, and collected a specimen (U.M.M.Z.); 15 on September 1, 1938; and 5 or less on the other 3 days. Several were observed in the vicinity of Whitefish Point, Chippewa County, in 1912 and 1914 (N. A. Wood, 1914: 62), and 2 males (Mich. Dept. Conserv. Collection) were shot there on October 4, 1939. In the same county, Laurence Dayton noted 1 on March 2, 1938, near Hulbert, and Trautman found a female with about 10 young on June 23, 1926, at Munuscong Bay. Howard P. Benson, B. H. Van Leuven, and others have reported the species as plentiful on Drummond Island, Chippewa County; in the summer of 1938 an adult female with at least 5 young (U.M.M.Z.) was noted there on July 19 (T. D. Hinshaw and R. A. MacMullan).

Lower Peninsula.—In Oscoda County, a Spruce Grouse was killed, according to Verne Dockham, on November 22, 1936, near Luzerne, and 2 others were killed on October 17, 1938, near Mio. In Crawford County the foot and tarsus of a Spruce Grouse, taken November 1, 1939, near Grayling, were identified by Donald W. Douglass. Southward in Roscommon County, a male was seen in the summer of 1914 by Max M. Peet, near Prudenville, and a female was noted on October 17, 1927, on the west side of Houghton Lake, by Walter E. Hastings. In the vicinity of the Ogemaw Game Refuge near Rose City, Ogemaw County, Blaine Brannon reported seeing several occasionally in 1927, 1931, and 1933. The species has been observed regularly in Iosco County since 1926 by Conservation Officers. Among these reports, which usually concern single birds seen, are: August 23, 1941, a covey of 5, photographed by Charles R. Brown and Arthur Leitz in the Silver Creek region of central Iosco County; and a female flushed by Leitz and George L. Egbert northwest of Oscoda, Iosco County.

*Bonasa umbellus umbellus* (Linnaeus)  
Eastern Ruffed Grouse

Permanent resident south of the range of the Canada Ruffed grouse (*B. u. togata*); now much less common than formerly.

First authoritatively listed for Michigan by Sager (1839: 416).

The only specimens of Ruffed Grouse in the Museum of Zoology from south of Saginaw Bay are from Kalamazoo, Barry, Jackson, Washtenaw, Livingston, and Oakland counties, and all are referable to *B. u. umbellus*.

From 1917 to 1920 this grouse was observed a few times on the dunes and in Warren Woods, Berrien County (N. A. Wood, 1922: 12). Gibbs (1885: 150) reported it still "an abundant resident" in Kalamazoo County, but Rapp (1931: 11) found it rare over a 35-year period at Vicksburg in the same county; Rapp recorded eggs from April 19 to May 31. In the 1920's and 1930's the Eastern Ruffed Grouse was fairly common in Calhoun County about Battle Creek. Walkinshaw observed it there annually and found nests or young at least every few years; he discovered a nest with 13 eggs on May 20, 1937, in the Spaulding Woods, Newton Township, and 12 young out of the nest on June 8, 1930, in Convis Township. Walkinshaw also reported several nests in Assyria Township, southeastern Barry County. A few of these grouse are still found regularly in favorable situations in Washtenaw County: Graham (1940: 313-14) heard 7 drumming on a quarter-section of land in the northern part of the county in the spring of 1939; H. W. Hann reported a nest at Base Lake on May 5, 1940; Fargo collected eggs (U.M.M.Z.) from a 13-egg set near Manchester on May 6, 1923; G. A. Ammann found a nest with 12 eggs at Half Moon Lake on

May 8, 1937. In the Detroit area Swales (1903: 14; 1903a: 23) had found this grouse "fairly abundant," but he did not record it there after 1906. Swales found it fairly common in Atlas Township, Genesee County, in 1905 and in Oakland County in 1902. Victor H. Cahalane flushed 1 near Pontiac, Oakland County, on March 29, 1932.

*Bonasa umbellus togata* (Linnaeus)  
Canada Ruffed Grouse

Permanent resident south to Oceana and Midland counties, sometimes very common.

First authoritatively listed for Michigan by Sager (1839: 416).

The Canada Ruffed Grouse is generally distributed throughout northern and central Michigan. Though not completely typical *B. u. togata*, specimens from northern counties are distinctly referable to that race. Specimens from central Michigan are on the borderline between *B. u. togata* and the more southern *B. u. umbellus*, but are nearer the former, according to determinations by Van Tyne and Brodkorb. The localities of the southernmost specimens of *togata* which they examined were as follows: near Pentwater, Oceana County (March 3, 1927); Reed City, Osceola County (February 20, 1940); north of Harrison, Clare County (October 20, 1930); and Midland, Midland County (November 22, 1926).

A. Leopold (1931: 155) reported that in general on the Great Lakes "the smaller the island and the further from shore, the less the probability of Ruffed Grouse." The species has not been recorded on Isle Royale (Fargo, N. A. Wood, and others); on the Beaver Islands, Charlevoix County (Van Tyne, T. D. Hinshaw, R. E. Morrill, and others); on the Fox and Manitou islands, Leelanau County (A. E. Staebler and L. D. Case); or on the Charity Islands, Huron County (N. A. Wood). It has been reported on Grand Island, Alger County (A. Leopold, 1931: 155); on Neebish Island, Chippewa County (Boies, 1897: 20); on Les Cheneaux Islands, Mackinac County (Van Tyne, 1923: 22); and on Round and Bois Blanc islands, Mackinac County (A. Leopold, 1931: 155). It apparently does not occur on Mackinac Island (S. E. White) nor on Drummond Island (A. Leopold, T. D. Hinshaw, and R. A. MacMullan), though the island is only a mile from the mainland.

The cyclic variation in abundance of the Ruffed Grouse, in its northern range "the most violently cyclic" of any game bird (A. Leopold, 1933: 59), is apparent in the greatly varying reports of abundance.

Eggs have been found from late May, young from early June. Chaney (1910: 273) reported a female with young in Mason County on June 30, 1909, and Widmann (1902: 233) noted young on July 13, 1901, in Emmet

County. In the Upper Peninsula nests or young have been recorded at Munuscong Bay, Chippewa County, on June 5, 1934 (eggs), by F. C. Gillett; at Whitefish Point, Chippewa County, on June 7 and 14, 1914 (eggs) and early August, 1912 (several broods of young), by N. A. Wood (1914: 62-63); at Manistique, Mackinac County, on June 25, 1933 (young), by Walkinshaw; at McMillan, Luce County (eggs from May 25; young from June 17), by Bryens, who found the species usually common there; at Blaney, Schoolcraft County (eggs from May 11; young from June 3), by Christofferson; in northwest Alger County on July 14, 1916 (young), by N. A. Wood (1918: 6); in the Huron Mountain region, Marquette County, on June 14, 1933 (eggs), by Christy; and near Brown Lake, Dickinson County, on July 13, 1909 (young), by F. M. Gaige (1914: 79-80).

*Tympanuchus cupido pinnatus* (Brewster)  
Greater Prairie Chicken

Permanent resident.

First recorded for Michigan by Sager (1839: 416).

The Greater Prairie Chicken was probably absent from all but the southernmost part of Michigan when the state was heavily forested, but with the clearing of the land in the nineteenth century, it evidently spread northward here, as in Wisconsin (A. Leopold, 1931: 161-64). Barrows (1912: 230) believed the species to have been formerly abundant in the southern half of the state, but, at the time he wrote, it had been reported as scarce and even absent for extended periods in a number of southern counties (see also: N. A. Wood and Tinker, 1910: 131, for Washtenaw County; Watkins, 1894: 934-35, for Jackson County; Stuart, 1919: 92, 95, for Calhoun County; Gibbs, 1885: 150, and 1889: 187, for Kalamazoo County).

It has, however, persisted in southern counties, locally and in small numbers. N. A. Wood saw 2 Prairie Chickens at South Lyon, Oakland County, on May 8, 1922; H. W. Hann heard booming at Lower Pettibone Lake, south of Highland, Oakland County, May 10, 1931; G. A. Ammann photographed a nest with 13 eggs west of Pinckney, Livingston County, on June 2, 1936; F. M. Gaige saw a flock in Sharon Township, Washtenaw County, on October 15, 1922. The species has been reported almost annually in the northern and central parts of Jackson County, 80 being seen in the Portage Lake marsh on November 15, 1931, by R. E. Olsen and A. D. Tinker, and a few in Leoni Township on May 5, 1940, by Walkinshaw. Walkinshaw noted the species regularly in the 1930's in Convis Township, Calhoun County. F. W. Rapp (1931: 11) reported it rare at Vicksburg, Kalamazoo County.

Northward in the Lower Peninsula, particularly north of the Grand and

Saginaw valleys, the Prairie Chicken seems to be rather generally distributed (Douglass, 1942: 171), except for a wide belt along the western side of the peninsula from about Van Buren County north to Leelanau County.

The species was thought to have been introduced at Saginaw (Phillips, 1928: 16) and in the eastern end of the Upper Peninsula (Bent, 1932: 263), but precise information is lacking. It has been found in the Upper Peninsula since the early 1920's (Magee, 1932: 216-17); the first specimen (U.M.M.Z.) collected there was obtained in October, 1925, at Chatham, Alger County, by Magee. The Prairie Chicken is now found in open areas in most of the peninsula from Drummond Island, Chippewa County, where a flock of at least 30 birds was flushed by T. D. Hinshaw and R. A. MacMullan on July 19, 1938, west to Calumet and Sidnaw, Houghton County, and Watersmeet, Gogebic County (Leonard Wing, 1940: 176; and other data). G. A. Ammann reported that the species was as common as the Sharp-tailed Grouse in the Seney marshes, Schoolcraft County, but very scarce at the western end of the peninsula, where the Sharp-tail is frequently seen. The Prairie Chicken has not been found on Isle Royale or on the islands between the 2 peninsulas, but a partial skeleton (U.M.M.Z.) was picked up by R. T. Hatt on the shore of Squaw Island (Beaver group), Charlevoix County, on July 3, 1938.

The size of the flocks noted depends on the time of year, the larger flocks being observed in fall and winter. Local movements and limited migrations occur in the north. August Rappi reports that they do not remain through the winter at Sidnaw, Houghton County, though in certain other northern localities they stay the year round; Magee (letter, January 8, 1933) wrote that they were present in the Sault Ste Marie region every year at all seasons.

Breeding.—Egg sets have been reported by May 5 (1929, 13 eggs at Vicksburg, Kalamazoo County, reported by Rapp, 1931: 11); fledglings by June 11 (1922, a covey of 10 in Calhoun County, reported by Walkinshaw); hatching by June 4 (1932, 10 nestlings at Blaney, Schoolcraft County, reported by Christofferson).

*Pedioecetes phasianellus campestris* Ridgway  
Prairie Sharp-tailed Grouse

Permanent resident on Isle Royale and in the Upper Peninsula, east to Luce and Mackinac counties.

The species was first definitely recorded in Michigan by N. A. Wood (1905: 177).

The Sharp-tailed Grouse apparently first reached the Upper Peninsula from Wisconsin about 1922 and has since spread eastward (G. B. Saunders,

*vide* Van Tyne, 1938: 11-12). Eastern records are confused by recent stocking. The species has also been introduced in the northern part of the Lower Peninsula and on Beaver Island.

This grouse has been noted on nearly every Museum of Zoology expedition to Isle Royale. In 1904 and 1905 several specimens (U.M.M.Z.) were collected and broods reported (N. A. Wood, 1905: 177; N. A. Wood, Peet, and McCreary, 1906: 122; Max M. Peet, 1909*a*: 119, and 1909: 347-48); in 1929 several flocks of 4, 5, and 10 birds were observed by Walter E. Hastings, Walter Koelz, and Adolph Murie; in 1930 N. A. Wood saw 1 grouse on May 31; and in 1934 and 1937, 3 specimens (U.M.M.Z.) were collected by Paul F. Hickie and V. Solyom.

Although there are several reports of Sharp-tails seen in Gogebic County, and a report of 1 shot in northeastern Baraga County shortly after 1922, apparently the first specimen (U.M.M.Z.) to be preserved was one found dead near Nestoria, Baraga County, by Leonard Wing (1940: 177) on August 21, 1931. Specimens (U.M.M.Z.) taken the next year include 4 from the northwestern extremity of Gogebic County in December by Day Barron, and 7 taken near Sidnaw, Houghton County, on July 9, 1932 (Leonard Wing, 1940: 177); others were taken on December 7 and 8, 1932, and on January 9, 1933 (also at Sidnaw), by August Rappi, who said the species was "quite common" there. It was listed in the fall of 1932 in the Huron Mountains, Marquette County, by T. Gregory (1933: 7-9); by December 30, 1932, numbers were present at Marquette, according to J. N. Lowe; and on July 4, 1932, 1 was noted as far east as Beaver Lake near the "Pictured Rocks" of Alger County (Leonard Wing, 1940: 177). In the first week of June, 1934, G. B. Saunders found 10 nests, each with 10 to 15 eggs (the first hatched on June 12), within a few miles of Ewen, Ontonagon County. Pirnie wrote on August 21, 1936, of seeing Sharp-tails east of Floodwood, northern Dickinson County, a few days before; and at McMillan, Luce County, Bryens trapped 2 in the winter of 1940-41, according to G. A. Ammann.

In the winter of 1937-38 the Department of Conservation trapped 51 birds at L'Anse, Baraga County, and released them at Trout Lake, southwestern Chippewa County (Ruhl, 1939: 222-23; 1941*a*: 426). The vanguard of the Sharp-tail movement may, however, already have reached the vicinity. In the same winter and in subsequent winters other releases were made on Drummond Island, Chippewa County (G. A. Ammann), as well as in 6 counties in the northern half of the Lower Peninsula (on Beaver Island, Charlevoix County, and in Cheboygan, Alpena, Kalkaska, Benzie, and Midland counties). In most cases the birds were obtained from the western part of the Upper Peninsula or from central Wisconsin, but those

released in Alpena County were secured near Edmonton, Alberta (Ruhl, 1941: 239; D. W. Douglass).

PHASIANIDAE  
(PHEASANTS AND QUAIL)

*Colinus virginianus virginianus* (Linnaeus)  
Eastern Bob-white

Permanent resident; has spread north in recent decades to the Straits of Mackinac, but is rare and local north of Newaygo and Gladwin counties.

First authoritatively listed for Michigan by Sager (1839: 416).

The northward spread of the Bob-white into Michigan followed the extension of land clearing and grain growing in the nineteenth century. At times the species has been very abundant, as in 1863 at Saginaw (Mershon, 1923: 7-9), but at other times very greatly reduced in numbers. After a period of relative scarcity, recovery has been steady since 1936, according to Ruhl (1937: 218; 1939: 253-54; 1941: 243), who expressed the opinion that the species is again common in suitable habitats, particularly in the 2 southern tiers of counties.

Among recent records are 25 Bob-whites seen on October 2, 1938, near Pontiac, Oakland County, by R. E. Olsen, and the same number on January 2, 1939, near Ann Arbor, by R. E. Morrill. In Jackson County, as many as 135 were counted on December 23, 1928 (Fargo and others, 1929: 46), and 25 pairs were found in a nesting census taken on July 6, 1929 (Leonard Wing and others, 1930: 63-64). The "nearly quail-less area" (A. Leopold, 1931: 32-33, 62) that apparently extends around the Wisconsin side of Lake Michigan as far at least as northwestern Indiana, seems to follow the Michigan shore line as well, but the data are scanty. Brodkorb took a downy male (Max M. Peet collection) on August 4, 1929, at Michilinda, Muskegon County. The species seemed to be uncommon along the shore of Berrien County from 1917 to 1920 (N. A. Wood, 1922: 12), but common northward in Mason County in 1909 (Chaney, 1910: 273). David E. Davis said that in Benzie County it was "common from 1931-33 and then vanished"; he saw one bird there on July 18, 1938, and heard several in July, 1940. Some were also seen in Charlevoix County in the summers of 1922 and 1923 (Van Tyne, 1925: 616). In Cheboygan County, at Douglas Lake, it was rare in 1911 (N. A. Wood, Smith, and Gates, 1916: 9) and in 1913 and 1914 (Compton, 1914: 178-80); at Duncan Bay (Cheboygan) 4 were noted May 29, 1937, by Theodora Nelson (Blanchard and Nelson, MS of 1937).

Fifteen were observed on September 27, 1934, at Fish Point, Tuscola County (R. E. Olsen and N. A. Wood). Miller Empey said on February



6, 1937, that at Freeland, Saginaw County, the severe winter of 1935-36 "killed them all," and that he had seen none since. Max M. Peet collected 1 on May 27, 1934, at Linwood, Bay County. J. C. Salyer discovered a covey of 7 on November 16, 1933, 10 miles north of Gladwin; and on a trip in late June and early July, 1926, Trautman saw the species as far north as West Branch, Ogemaw County. It was noted occasionally in summer in the early 1900's in Roscommon, Crawford, and Alcona counties (N. A. Wood and Frothingham, 1905: 46; Frothingham, 1906: 158).

Though there have been numerous reports of the planting in Michigan of the southern Bob-white, and of Bob-white from elsewhere, very few definite instances are known. Fargo stated that in Jackson County, Robert Kennedy released 46 Texas Bob-whites 10 miles southeast of Jackson in the summer of 1927, and W. R. Reynolds released 18 adults (from the Game Conservation Institute of Trenton, New Jersey) 6 miles south of Jackson in the spring of 1933. The result of these plantings is not certainly known. Chase S. Osborn wrote in 1933 that he had tried on numerous occasions to plant Lower Peninsula birds in Chippewa County; he knew that some of them had frozen to death and presumed that the rest had.

There were reports from the eastern end of the Upper Peninsula in 1928 and 1932, but these lack confirmation, as do earlier ones from Mackinac Island (S. E. White, 1893: 223) and from Keweenaw Peninsula (Kneeland, 1857: 237).

Breeding.—Nests and eggs have been found from late April to late September, but most commonly in June and July. Several sets of eggs (U.M.M.Z.) have been collected: a set of 14 at Ann Arbor on June 5, 1897, by N. A. Wood; a set of 11 at Brooklyn, Jackson County, on June 27, 1924, by W. L. Boyd; and a set of 6 at Hillsdale, on April 29, 1896, by C. L. Cass. In the vicinity of Battle Creek, Walkinshaw found 11 newly-hatched young on August 25, 1930, and has noted several nests there in July. At Vicksburg, Kalamazoo County, F. W. Rapp (1931: 11) has found nests from May 11 (1895, with 11 eggs) to July 24 (1898, with 9 eggs), and 1 nest as late as October 25 (1928, with 10 eggs). Near Caro, Tuscola County, E. Van Winkle (1891: 162) recorded a nest with 11 eggs that hatched on September 29 (1890).

*Perdix perdix perdix* (Linnaeus)  
European Partridge

Permanent resident in some counties in the southern part of the Lower Peninsula.

First liberated in Michigan by W. B. Mershon near Saginaw in 1911 (Yeatter, 1934: 15).

The European Partridge spread into southern Michigan in 1916 or 1917 from 2 separate colonies in Ohio and Indiana, where the species had been introduced shortly before; it has since rather slowly extended its range (Yeatter, 1934: 15 ff.; see also A. Leopold, 1931: 107, and 1933: 78, 93). The Lenawee County colony (from Ohio birds) spread into Hillsdale and parts of Monroe counties, and into Washtenaw County, where specimens (U.M.M.Z.) have been collected; a smaller colony in Cass and St. Joseph counties (from Indiana birds) spread into Berrien County (Ruhl, 1937: 165; and data in U.M.M.Z.). Numerous small-scale plantings have been made in the peninsula, including many by the Department of Conservation since 1928, north of the established colonies to Ottawa, Isabella, Arenac, and Huron counties, a few of which give some promise of persisting (Ruhl, 1941: 226 (map), 242; 1941a: 426).

*Phasianus colchicus* Linnaeus  
Ring-necked Pheasant

Extensively planted, and now established as a permanent resident in the Lower Peninsula; found only locally north of Bay City and Muskegon.

When Barrows wrote (1912: 237), this species was almost unknown in Michigan. Apparently it was first introduced at Holland, Ottawa County, by Arthur G. Baumgartel. He and his associates began liberations there and at other points in Michigan in March, 1895 (Baumgartel, 1895: 462, and letters; Phillips, 1928: 45; Lovejoy, 1929: 230; Ruhl, 1941a: 425-26).

Extensive plantings in many counties were begun by the State Game Farm at Mason about 1918 (D. R. Jones, 1927: 29; Lovejoy, 1929: 230). The distribution of birds and eggs on the mainland of Charlevoix County in 1918 and 1919 resulted in the species being fairly common in some parts of the county, mainly the western and central parts, by 1922 (August 5 to 31, N. A. Wood). Releases were evidently made in the Upper Peninsula as well, for Christofferson and Magee listed a few individuals in eastern Chippewa County almost annually from 1920 to 1929 (as many as 30 on February 24, 1929, 6 miles south of Sault Ste Marie). Bryens noted 2 at McMillan, Luce County, on January 23, 1924, and Christofferson noted 2 at Blaney, Schoolcraft County, on September 13, 1930, December 12, 1930, and February 4, 1931. Later records for the Upper Peninsula are lacking.

Ruhl's summary (1941: 242-43) gave the status of the species in Michigan at that time as follows: it is present in all favorable localities and is most numerous in the Lower Peninsula south of Bay City and Muskegon; it is common only locally in the northern half of the peninsula.

Breeding.—Eggs are laid in late April and May and most of the young

are hatched in late May and early June. At the Prairie Farm, Alicia, Saginaw County, in 1940, G. A. Ammann found first broods on May 21, and 1 as late as August 7. The average size of 20 complete clutches was 12.5. Near Pinckney, Livingston County, A. S. Hyde found a nest with 12 eggs as early as April 25, 1936. Several nests were found in the Ann Arbor region, including 2 with unusually large clutches: 21 eggs found by C. H. Westman in mid-May, 1942, and 20 eggs found by H. W. Hann on May 23, 1939.

## MELEAGRIDIDAE

## (TURKEYS)

*Meleagris gallopavo silvestris* Vieillot  
Eastern Turkey

Formerly a permanent resident north to Isabella and Bay counties. Extirpated before 1900.

First recorded for Michigan in a letter by Marquette in 1670.

The Eastern Turkey was apparently common in many areas of the Lower Peninsula until about 1875, but became increasingly rare thereafter. Because of the domestication of wild birds and the straying of domestic birds, it is quite likely that a few of the later records refer to feral stock.

A brood of wild turkeys was found in Monroe County as late as 1888 by Jerome Trombley (*vide* A. J. Cook, 1893a: 69), and a brood was taken at Plymouth, Wayne County, the same year by J. B. Purdy (*vide* A. J. Cook, 1893a: 69; and Swales, 1904: 43). A flock of 30 was noted about 1865, or 1867, and 3 turkeys were shot on November 19, 1875, in Lodi Township, Washtenaw County; 1 was shot by John A. Bortle at Ann Arbor on December 5, 1883. Henry Leeke shot the female of a pair he observed in Stockbridge Township, Ingham County, about 1892. In Calhoun County, where the wild turkey was still abundant in 1869 and "large flocks of half-breeds" were common (D. D. Hughes, *vide* J. A. Allen, 1871: 349-50), several birds were observed, and 2 shot, in the winter of 1873-74 (Walkinshaw, 1940: 28). There were still a few in Kalamazoo County in 1888, and apparently up to 1892 or 1893; a few in Van Buren County until 1892, and again a few in the winter of 1896-97 (F. H. Chapin, *vide* Barrows, 1912: 236-37; and Shuver, 1898: 15-16). Turkeys were recorded, usually as common or abundant, north to Allegan County (Barrows, 1912: 236-37; A. Leopold, 1931: 191, map), where W. S. Walkley and Rollo Sherman shot a number in 1882 (near Bravo) and 1884 (southwest of Fennville), and north to Grand Rapids, where a specimen (Grand Rapids Mus.) was taken about 1880. They were numerous up to the middle 1880's north to Isabella County, according to R. H. Wolcott, and north to the Kawkawlin River, Bay County, according to Mershon (1923: 34) and Eddy (1897: 48).

Wild turkeys were reported until the middle 1890's in both Van Buren and Bay counties, but the latest specimen (U.M.M.Z.) preserved was 1 shot in November, 1886, near Reece, Saginaw County (Mershon, 1923; frontispiece, 30-33). An attempt to introduce the species about 1905 on Grand Island, Alger County, far north of its normal range, apparently failed (Phillips, 1928: 10-11).

Several turkey bones (U.M.M.Z.) were found at the Younge Site, 9 miles north of Imlay City, Lapeer County, in an ash pit "of pre-Columbian times, probably not more than two or three centuries before the discovery of America" (Greenman, 1937: 21, 96-97).

## GRUIDAE

### (CRANES)

#### *Grus canadensis tabida* (Peters)

#### Sandhill Crane

Rare and local summer resident in central southern counties of the Lower Peninsula and in eastern counties of the Upper Peninsula. Reported once in winter (Jackson County).

First recorded for Michigan by Miles (1861: 229).

There are few definite data on the early status of the Sandhill Crane in Michigan. A. J. Cook (1893a: 53) described the species as "decreasingly common," and Barrows (1912: 150) thought it probable that it had nested in nearly every part of the state. Scattered reports indicate regular but local occurrence in small colonies or isolated pairs, for example, in Ingham County (Atkins, 1884: 45; 1884a: 6-7); in Shiawassee County (Brownell, 1892: 156); Delta and Schoolcraft counties (Van Winkle, 1892: 186); and near Battle Creek (Arnold, 1903b: 86-87).

SPRING.—Arrival is reported in southern counties from late February to the latter half of April; in the Upper Peninsula in early or mid-April.

Lower Peninsula.—The average date of arrival at Petersburg, Monroe County, was March 15, according to Trombley (W. W. Cooke, 1914: 12), but the only recent record for the county seems to be that of William Anderson (*vide* L. W. Campbell), who noted 4 flying over the Erie marsh, Erie Township, on March 24, 1940. Walter Koelz (1923: 37) reported regular arrival in northeastern Jackson County between March 5 and 20. Walkinshaw (1933: 99; notes) has recorded arrival in Calhoun County chiefly during the last week of March. From 1857 to 1883 Atkins (1884a: 6-7) recorded arrival in Ingham County between February 19 (1857) and April 12 (1865). N. A. Wood saw 2 unusually large flocks, 1 (about 15 cranes) in Sharon Township, Washtenaw County, on May 30, 1880 (N. A. Wood, 1921a: 590), and 1 (about 20 cranes) near Unadilla, Livingston County, on March

24, 1911 (N. A. Wood, 1912: 160; date given incorrectly by Ridgway and Friedmann, 1941: 21).

Upper Peninsula.—Sandhill Cranes have arrived at Blaney, Schoolcraft County (Christofferson), and at McMillan, Luce County (Bryens), frequently in the second and third weeks of April, but sometimes earlier; 2 were seen as early as April 2 in 1925 (Bryens, 1926: 367). Several birds observed as late as June 1 near the tip of Whitefish Point, Chippewa County, seemed to be still in migration (N. A. Wood, 1914: 61).

SUMMER.—Eggs have been found by mid-April and young by mid-May.

Lower Peninsula.—Nests have been found in Sharon Township, Washenaw County (2 eggs on May 5, 1940—Walkinshaw); Convis Township, Calhoun County (a nest almost yearly since 1931—Walkinshaw, 1933: 99–106; and notes); Johnstown Township, Barry County (2 eggs on April 23, 1941—Walkinshaw); Bath Township, Clinton County (several nests found since 1935 by C. J. Henry, Durward L. Allen, C. T. Black, Walkinshaw, and others); and Iosco Township, Livingston County (several nests found since 1934 by William Clay, H. K. Gloyd, Frank J. Hinds, and others). Wells W. Cooke (1914: 12) listed 3 nests (all reported by Arnold): 2 near Jackson (May 8, 1901 and May 5, 1902), and 1 in Summerfield Township, Monroe County (May 2, 1880). An adult was reported on Black River Island, Alcona County, on July 13, 1933, by C. C. and F. E. Ludwig.

Upper Peninsula.—The Sandhill Crane was recently found nesting in Hiawatha Township, Schoolcraft County, about 20 miles north of Manistique (2 eggs on May 9, 1937—Walkinshaw and E. E. Crawford). The species has been reported elsewhere in summer, though without nesting evidence: at Whitefish Point, Chippewa County (by N. A. Wood, 1914: 61; W. B. Tyrrell, July 5, 1930; and Brodkorb in mid-May, 1936); at McMillan, Luce County (Bryens); at Blaney, Schoolcraft County (Christofferson); and at Seney, Schoolcraft County (“young cranes” seen in 1939 by H. L. Bradley).

FALL.—Larger flocks have been noted in fall than in spring. Migration is reported chiefly from mid-September to mid-October in the Upper Peninsula and to late October in southern counties.

Upper Peninsula.—On October 8, 1931, about 13 miles north of Isabella, Delta County, Christofferson saw a flock of 23 and a flock of 9; and on the Seney marshes, Schoolcraft County, Eddy (1897: 47) noted 11 birds in “the latter part of September last” (September 25, 1895, *vide* Barrows, 1912: 151). At Blaney, Schoolcraft County (Christofferson), and at McMillan, Luce County (Bryens), the species has been observed somewhat less regularly (though in larger flocks) in fall than in spring. Apparently it leaves these localities during the latter half of September and early Octo-

ber; examples of the larger numbers seen migrating are (at McMillan): 14 on October 9 (1939) and 10 as late as October 18 (1935). In Chippewa County an immature male (U.M.M.Z.) was collected by Mrs. Curren Hawkins at Whitefish Point, on October 2, 1929, and 2 groups (of 4 and 5 birds) were seen by F. M. Baumgartner near Fibre on October 1, 1936.

Lower Peninsula.—George H. Davison took a specimen (Grand Rapids Mus.) in Ottawa County on October 23, 1909; and in the Corey Marsh, near Bath, southeastern Clinton County, D. F. Switzenberg observed a flock of 19 that “disappeared” by October 1 (1938), after remaining several days. Among groups noted by Walkinshaw in the Convis Township marsh, Calhoun County, are a flock of 16 on October 1 (1939), and a flock of 9 observed 3 times between October 20 and November 3, 1940. The gathering into flocks begins fairly early (Koelz, 1923: 37); at Mud Lake, Lyndon Township, Washtenaw County (close to Waterloo, Jackson County), 27 birds were seen by Walter Koelz on August 10 (1922) and a flock of about 30 by Carl Koelz “in late August” (1920). Later in the season, Orton H. Clark observed 20 birds in mid-October (1936, near Waterloo, Jackson County), and Donal H. Haines noted 10 on October 19 (1930, in Sharon Township, Washtenaw County) and 5 on October 24 (1937, west of Waterloo, Jackson County). Some years ago “large flocks of 100 or more” apparently visited Jackson County in October and November (L. W. Watkins, *vide* A. J. Cook, 1893a: 53).

WINTER.—An individual with an injured leg, but seen flying easily, apparently survived the winter of 1940–41 near Waterloo, Jackson County, according to William Parks and Mr. Really, local farmers who live adjacent to a crane marsh and know the species well. They saw this bird until sometime in February.

## RALLIDAE

### (RAILS)

#### *Rallus elegans elegans* Audubon

#### King Rail

Uncommon summer resident north to Saginaw Bay and Grand Rapids. Occasional in winter north to St. Clair and Kalamazoo counties, once (December 7) to Roscommon County.

First authoritatively listed for Michigan by Gibbs (1879: 493).

SPRING.—Arrival is frequently reported in the latter part of April, but more often in early May. L. W. Campbell (1940: 187, 201) gave April 22 as the average date for earliest arrivals, May 3 as average date for the beginning of the main flight. At Petersburg, Monroe County, the species has appeared by April 20 (1886), according to Jerome Trombley (*vide* W. W.

Cooke, 1914: 16). In the neighborhood of Detroit, where W. H. Collins collected a specimen (M.C.Z.) on April 15, 1875, Swales usually found King Rails shortly after the middle of April; he heard or saw several daily from April 16 to 23 (1911) in the marshes about Grosse Ile; and on April 18 (1903), he noted several at the North Channel of the St. Clair Flats, St. Clair County. In the Ann Arbor region, 1 or 2 of the species have been seen in spring every few years about the first week in May; Van Tyne took one (U.M.M.Z.) and saw another on May 3, 1938, and G. W. Smith took 1 (U.M.M.Z.) on May 4, 1910. Near Waterloo, Jackson County, Walter Koelz shot 1 as early as April 8 (1917). Walkinshaw listed the species about Battle Creek, Calhoun County, in the 1930's by May 3 (1931), May 11 (1939), and May 12 (1932). In Kalamazoo County, where Gibbs called it a "rare transient," F. W. Rapp (1931: 7) later termed it (at Vicksburg) a common summer resident and recorded its arrival by April 19; Walkinshaw listed it (in Ross Township) on May 11 (1936).

SUMMER.—Nests have been found by May 12, clutches by May 21, and broods by mid-June.

Barrows (1912: 153) considered this species "one of the less common rails" of Michigan (southern Lower Peninsula), though apparently more numerous on the eastern side, from Monroe County to Saginaw Bay, than elsewhere. It is now probably a "fairly common summer resident" in the Toledo-Erie marsh area (L. W. Campbell, 1940: 66-67); in the Erie marsh, in 1934, several downy young (U.M.M.Z.) were secured from 2 broods, 1 brood on June 20 and 1 (a brood of 12) on June 25. Since there are a number of older nest records from the vicinity of Detroit and St. Clair County, the species was certainly not rare there and was perhaps common, especially at the St. Clair Flats (Barrows, 1912: 153; Brownell, 1891: 78-79; J. Claire Wood, 1888a: 171-72). Its present status there is unknown.

The King Rail is thought to be rare in the Ann Arbor region; broods have been seen there on July 12 (1925) and July 21 (1918) by A. D. Tinker, and 2 downy young (U.M.M.Z.) were collected there on June 19, 1936, by Lewis P. Kivi. Near Hamburg, Livingston County, Walter E. Hastings found a nest with 10 eggs (U.M.M.Z.) on June 15, 1920. Walter Koelz said in 1918 that the species at that time bred commonly about Waterloo, Jackson County, and Watkins (1894a: 180) reported taking several nests at Fay Lake, Norvell Township, in the same county. C. L. Cass collected a 9-egg set (U.M.M.Z.) on May 21, 1894, in Hillsdale County, and H. W. Hann saw a family during the summer in 1930, and another in 1931, in Branch County. F. W. Rapp (1931: 7) says that the species is a common summer resident at Vicksburg, Kalamazoo County (nest records for May 12, 1906, and May 22, 1925). In Convis Township, Calhoun County, Walkinshaw dis-

covered an egg set in 1920 and another in 1923, but none thereafter. In Johnstown Township, Barry County, he found a nest with 3 eggs on June 15, 1930.

About East Lansing, Ingham County, this rail has nested regularly, though far less commonly than either the Virginia Rail or the Sora (Barrows, 1912: 153). This comparison agrees in general with that of Walkinshaw (1939*a*: 235-36), who found that only one-fifth of one per cent of all the rails he had discovered in April and May (therefore partly in migration season) in the south-central part of the Lower Peninsula were King Rails. Walkinshaw listed the species on June 24, 1934, at Grand Haven, Ottawa County, and Mershon (1923: 88) wrote that "once in a while we used to get king rail in the Saginaw marshes but they never were very plentiful." Although actual breeding records are lacking, Barrows (1912: 153) indicated that this rail bred at both Grand Rapids and Saginaw Bay.

FALL.—Southward movement, for which there are far fewer records than for spring, seems to extend through late August and at least part of September; individuals are recorded considerably later.

F. W. Rapp (1931: 7) observed the species at Vicksburg, Kalamazoo County, through October 10 (1929), and Walkinshaw collected an individual (U.M.M.Z.) in southeastern Kalamazoo County, on October 17, 1940. In Jackson County, R. E. Olsen and A. D. Tinker saw 1 at Portage Lake on September 8, 1935, and L. D. Case noted 1 at Skiff Lake (about 9 miles south of Jackson) on September 16, 1939. The few Ann Arbor region records indicate departure usually by the middle of September, but a specimen (U.M.M.Z.) was taken on October 9, 1937, by L. D. Case; 1 on October 15, 1916 (south of Ann Arbor), by N. A. Wood; and 1 (U.M.M.Z.) by N. S. Potter, III, on October 11, 1942. Swales only rarely observed the species in fall about Detroit—until October 1 in 1916 (2 at Grosse Ile) and until November 5 in 1905 (Barrows, 1912: 153). Trautman and E. L. Wickliff listed 2 on September 13, 1932, in the Erie marsh, Monroe County, and 2 the next day at Point Mouillee. In the Toledo-Erie marsh area L. W. Campbell (1940: 201, 187) has recorded the end of the main flight, on the average, by August 30, but individuals remain through September 26 (average date).

WINTER.—In the Erie marsh, Monroe County, one King Rail (U.M.M.Z.) was caught on February 8, 1934, in a trap set for minks (L. W. and B. R. Campbell, 1934: 122), and another seen on December 30, 1934 (L. W. Campbell, 1940: 66-67), perhaps the specimen (U.M.M.Z.) taken there by B. R. Campbell on the following day. One was taken near Detroit on February 6, 1907 (Swales, 1908: 153; and 1912: 127); 3 were caught on the St. Clair Flats, St. Clair County, in February, 1909 (J. Claire Wood, 1910: 36); and 1 near Port Huron, St. Clair County, on December 6, 1902 (Eppinger, 1903:



56). Boies (1897a: 8) reported 1 shot in a swamp in northern Hillsdale County, on December 11, 1896. F. W. Rapp (1931: 7; and notes) collected 1 at Vicksburg, Kalamazoo County, on February 6, 1909. Another (U.M.M.Z.) was taken near Prudenville, Roscommon County, on December 7, 1938 (Gower, 1939: 44).

*Rallus limicola limicola* Vieillot  
Virginia Rail

Summer resident, locally common in the Lower Peninsula and in Mackinac and Chippewa counties. One winter record (Monroe County). First recorded for Michigan by Sager (1839: 416).

SPRING.—Arrival is reported in the latter part of April or in early May.

Lower Peninsula.—In the Toledo–Erie marsh area individuals have arrived by April 26 on the average, and the main flight begins on the average by May 3 (L. W. Campbell, 1940: 187, 201). In the vicinity of Detroit Swales observed the species several times by the last week in April (April 25, 1911; April 26, 1912), but usually not until later. The earliest recorded arrival in the Ann Arbor region is April 11, when a specimen (U.M.M.Z.) was taken in 1918; N. A. Wood recorded another the same year, on April 18; but it is usually recorded there during the last 10 days in April. At Battle Creek it has appeared by April 17 (1938), usually becoming “most abundant during the very last days of April or the very first of May” (Walkinshaw, 1937: 465, 474; and notes). B. F. Sykes collected a specimen (U.M.M.Z.) on April 8, 1880, in Kalamazoo County, where “the rails [Virginia Rail and Sora] as a rule come with a rush . . . late in April” (Gibbs, 1902a: 180; 1885: 166; 1888: 85); at Vicksburg, however, F. W. Rapp (1931: 8) gave May 1 (1923) as the earliest record.

Upper Peninsula.—At Munuscong Bay, Chippewa County, a Virginia Rail was noted on May 7, 1934, by R. E. Olsen and at Spectacle Reef Light, northern Lake Huron, 1 was killed on May 14, 1886 (Barrows, 1912: 154–55).

SUMMER.—Eggs are usually laid in the south during the last 3 weeks of May, and in the Upper Peninsula from the third week of May to mid-June.

Lower Peninsula.—Swales (1892: 103; 1896: 142; and notes; see also Purdy, 1889: 141) recorded about 12 nests in southeastern Michigan (from St. Clair and St. Clair Flats, northward to southeastern Genesee County, and south to Wayne County); he recorded one as early as May 9 (1901, nest with 2 eggs near Clarkston, Oakland County), but the majority during the latter part of May and June. In the Ann Arbor region 1 or 2 nests have been found almost yearly; Van Tyne collected a downy young (U.M.M.Z.) as early as June 6 (1933). Walkinshaw (1937: 467) has found the species

nesting commonly in Calhoun County; he found 1 nest as early as April 30 (1922, with 1 egg) and 1 as late as July 31 (1920, with 7 eggs, which hatched a few days later). This rail breeds about Saginaw Bay (Mershon, 1923: 88), at Fish Point, Tuscola County, where a downy young (U.M.M.Z.) was collected in 1935, and presumably also in northwestern Huron County (1908—N. A. Wood and Gaige, 1911: 280). It was common the summer of 1940 on North Manitou Island, Leelanau County, where A. E. Staebler and L. D. Case took a nest with 8 eggs (U.M.M.Z.) on June 18. A specimen (U.M.M.Z.) was also collected on Beaver Island, Charlevoix County, on May 19, 1932, though without proof of breeding. Formerly believed to be rare at Douglas Lake, Cheboygan County (Compton, 1914: 178–80; N. A. Wood, Smith, and Gates, 1916: 8; Linsdale, 1936: 162), the Virginia Rail now "breeds regularly" there; in many other favorable localities in the vicinity it nests much more commonly than does the Sora (Blanchard and Nelson, MS of 1937).

Upper Peninsula.—In 3 seasons in this peninsula's eastern section in May and June, Walkinshaw (1939a: 235–36) observed 64 Yellow Rails, 48 Virginia Rails, and 24 Soras. The Virginia Rail is now reported as breeding in Mackinac County at Hessel (Van Tyne, 1923: 22), and at Nimmons Bay, near Hessel (2 nests with eggs found June 22, 1934, by F. C. Gillett); and abundantly at Munuscong Bay, Chippewa County (Walkinshaw, 1937: 467). Although not actually discovered nesting elsewhere, it presumably does so in the few other areas where it has been found in the nesting season: at Blaney, Seney, and Walsh, Schoolcraft County (Walkinshaw, 1937: 464; and notes; and Christofferson); in the Huron Mountain region, Marquette County (Christy, 1925: 209; and S. S. Gregory, Jr., 1929: 174); and in Houghton and Iron counties (common in August, 1914, according to Cahn, 1918: 491). None of the various Museum of Zoology expeditions has reported the Virginia Rail on Isle Royale in any season.

FALL.—Departure is recorded in the latter part of September or the first part of October.

Upper Peninsula.—At Huron Mountain, Marquette County, the species has been noticed until September 9 (S. S. Gregory, Jr., 1929: 174). Christofferson observed an individual on September 20, 1935, and another on September 24, 1938, both at Blaney, Schoolcraft County, and found 1 dead on October 12, 1925, at the canal locks at Sault Ste Marie, Chippewa County. Southward in the same county, at Munuscong Bay, Walkinshaw collected 2 on September 2, 1934.

Lower Peninsula.—This rail was noted twice in early September, 1910, on Charity Island, Huron County (N. A. Wood, 1911: 89), and at Fish Point, Tuscola County, on September 28, 1934, R. E. Olsen and N. A. Wood

saw a single individual. In Kalamazoo County it has been common until September 20 (Gibbs, 1885: 166), with a few still present through the first part of October (Rysgaard, 1940: 20), and perhaps considerably later (W. W. Cooke, 1914: 25; Bent, 1927: 300; and F. W. Rapp, 1931: 8). Departure from Calhoun County is reported mainly in the latter part of September and in early October (Walkinshaw, 1937: 465, 474); 2 specimens (U.M.M.Z.) were taken, 1 on October 20, 1935, at Waterloo, Jackson County, and 1 on October 26, 1938, at Portage Lake, Livingston County. One specimen (U.M.M.Z.) was collected on October 11, 1908, at Fair Haven, St. Clair County. In the Toledo-Erie marsh area L. W. Campbell (1940: 201, 187) recorded a very early migration; the main flight has ended there by September 7, and stragglers have left by September 20.

WINTER.—L. W. Campbell (1940: 67) and J. J. Stophlet observed a Virginia Rail in the Erie marsh, Monroe County, on January 30, 1937.

*Porzana carolina* (Linnaeus)

Sora

Summer resident, generally common in southern counties, less common in the north. One winter record (Monroe County).

First listed for Michigan by Kneeland (1857: 238).

SPRING.—Arrival is reported in southern counties principally in the latter part of April and early May; in the Upper Peninsula, by early May.

Lower Peninsula.—The species is a common transient in the Toledo-Erie marsh area from April 24 to May 14 (average dates), and individuals have been present there as early as April 10 (L. W. Campbell, 1940: 67-68, 187, 201). In the vicinity of Detroit Swales occasionally saw it by mid-April but usually not until late April or early May; in 1903 there was apparently a fairly early migration, for he found the Sora "quite abundant" on April 18 and 20 at the North Channel of the St. Clair Flats, St. Clair County. In central southern Michigan, Walkinshaw (1940a: 155) has noted arrival usually in late April or early May (as early as April 9 in 1929, and April 14 in 1938, both in Calhoun County). The species has arrived at Vicksburg, Kalamazoo County, by April 10 (1902, F. W. Rapp, 1931: 8); in 1918 it was noted in Berrien County on May 7 (N. A. Wood, 1922: 10). An individual was seen at Fish Point, Tuscola County, on May 12, 1926 (N. A. Wood).

Upper Peninsula.—At Blaney, Schoolcraft County, where Christofferson has not recorded the species every year, he saw it in 1935 by May 12. Walkinshaw (1940a: 155) observed it at Seney, in the same county, on May 6, 1937. A. Murie took a specimen (U.M.M.Z.) on May 5, 1930, at Lake Eva, Isle Royale.

SUMMER.—In southern counties nesting starts in early May, and eggs hatch during late May or early June; in the Upper Peninsula nesting is somewhat later.

Lower Peninsula.—In 1907 Swales (notes) wrote that in summer on Grosse Ile, Wayne County, this was “an abundant species and distributed all over the island marshes.” Swales (1896: 142; 1897: 32; and notes), Purdy (1889: 140–41), Langille (1892: 15), and others found numerous nests in the Detroit area and on St. Clair Flats, St. Clair County. The species may be common in summer in the Ann Arbor region, for several nests have been found there (as on May 5 and May 22, 1897—N. A. Wood) and a number of immatures and adults (U.M.M.Z. and Max M. Peet collection) taken. C. L. Cass collected a 10-egg set (U.M.M.Z.) on May 29, 1894, at Hillsdale. The species was found to be the most common rail in Kalamazoo County by Gibbs (1885: 166) and in the south-central part of the Lower Peninsula generally, by Walkinshaw (1939*a*: 235–36; 1940*a*: 153–54). At Carrollton, Saginaw County, G. F. Grant secured 3 eggs (U.M.M.Z.) from a set of 6 on May 20, 1905; and on Lone Tree Island, Huron County, C. C. and F. E. Ludwig found a nest with 7 eggs on July 15, 1933. On North Manitou Island, Leelanau County, L. D. Case collected a nonbreeding male (U.M.M.Z.) on July 8, 1940; and on Squaw Island (Beaver Islands group), Charlevoix County, in 1938, R. E. Morrill collected a female (U.M.M.Z.) on July 2, and an egg on July 4. On Beaver Island, the Sora was seen on June 16, 1922 (N. A. Wood). In the vicinity of Douglas Lake, Cheboygan County, where Fortner and Metcalf (1929: 249) and Linsdale (1936: 162) found very few Soras, the species is much less common in summer than the Virginia Rail, according to Blanchard and Nelson (MS of 1937), who reported that a nest with 9 eggs was discovered there on July 2, 1934.

Upper Peninsula.—From his observation of a total of 136 rails of all species in the eastern end of the peninsula, Walkinshaw (1939*a*: 235–36; 1940*a*: 153–54) concluded that the Sora was less common there than either the Virginia Rail or Yellow Rail.

The Sora has been found breeding in Chippewa County on Drummond Island, where a downy young (U.M.M.Z.) was collected on July 30, 1938; at Munuscong Bay (Magee, 1922: 176; Walkinshaw, 1940*a*: 157); in Schoolcraft County, at Seney (Walkinshaw, 1940*a*: 157), where it was noted commonly and Brodkorb found 2 nests in early June in 1938. It has been reported (without breeding data) in a number of other localities: at Steele's Creek, near Hessel, Mackinac County, where Van Tyne (1923: 22) reported it “fairly abundant in 1919”; at Whitefish Point, Chippewa County, in August, 1914 (N. A. Wood, 1914: 61); at Blaney, Schoolcraft County (2

seen July 28, 1933, by Christofferson); and west to the Porcupine Mountains, Ontonagon County (N. A. Wood, Peet, and McCreary, 1906: 113), where specimens (U.M.M.Z.) have been taken in summer.

FALL.—After the late summer gathering, which has been noted by various observers, migration is reported until late September or early October.

Upper Peninsula.—On Isle Royale a few were seen, and 5 specimens (U.M.M.Z.) collected, in late August and early September of 1904, 1924, and 1929 (N. A. Wood, Peet, and McCreary, 1906: 122; Fargo, notes; and other data); several were noted there by A. Murie as late as October 1 (1929). In Ontonagon County in 1934 Trautman saw 1 on October 2 near Matchwood and 2 the next day near Lake Gogebic. In the Huron Mountain region, Marquette County, the species, as a fall transient, is "sometimes common, Sept. 4-21" (S. S. Gregory, Jr., 1929: 174); R. H. Manville took 1 (U.M.M.Z.) there as late as September 30, 1941. In Alger County the Sora "was present in fair numbers every September" (Shiras, 1935: 106); and 8 miles east of Deer Park, northern Luce County, 1 was noted by R. E. Olsen and A. D. Tinker on August 28, 1938. Tinker also collected 1 at Whitefish Point, Chippewa County, on August 27, 1937. Christofferson usually found none at Blaney, Schoolcraft County, after September, but recorded 2 there on October 5, 1930, and banded 1 (presumably at Munuscong Bay, Chippewa County) on October 19, 1929.

Lower Peninsula.—At Grass Lake, Benzie County, David E. Davis saw an individual on September 6, 1940. Some years ago in the Saginaw River marshes Mershon (1923: 73-78) found this rail very numerous in early September and before the frosts of October; it was usually plentiful by the third or fourth of September, when there were "thousands . . . of rail," almost entirely Soras (Mershon, 1923: 83-86, 88). Even in more recent years he once took his bag limit of 50 rails (all Soras) there during a 2-hour period. Eddy (1884a: 4) also found Soras "plentiful" in the Saginaw Bay shore marshes, but all were gone by the first week in October. Though individuals may remain until considerably later, the Sora leaves southern counties principally "during the latter part of September or the very early part of October, depending upon the severity of the weather" (Walkinshaw, 1940a: 154-55; data and specimens in U.M.M.Z.). In the Toledo-Erie marsh area L. W. Campbell (1940: 201, 187) has reported main flight from August 30 to September 26 on the average, though individuals remain there as late as October 26.

WINTER.—According to L. W. Campbell (1940: 68), L. Duvall saw a Sora in the Erie Marsh on February 8, 1935.

*Coturnicops noveboracensis noveboracensis* (Gmelin)  
Yellow Rail

Transient, rare or generally overlooked; locally common in Calhoun and Schoolcraft counties. Two nest records (Oakland and Chippewa counties).

First listed for Michigan by Sager (1839: 416).

SPRING.—Arrival is sometimes reported in late March, but usually during the latter part of April and early May.

Lower Peninsula.—A specimen (U.M.M.Z.) was taken at Detroit on March 22, 1907 (see Taverner, 1908a: 327), and another collected (U.M.M.Z.) near there by A. Borek on April 22, 1911 (recorded by Swales, 1912b: 100, 238). N. A. Wood and A. D. Tinker saw 1 near Ann Arbor on April 19, 1925; Trautman collected 1 (U.M.M.Z.) at Portage Lake, Jackson County, on April 28, 1935; and N. A. Wood (1922: 10) found 1 dead (U.M.M.Z.) in Berrien County on May 6, 1920. Walkinshaw (1939a: 228) has seen the species in Convis Township, Calhoun County, as early as April 18 (1937), and he collected 2 (U.M.M.Z.) there, 1 on April 25, 1937, and 1 on April 30, 1933. Walkinshaw (1939a: 228) also observed this rail in the Corey marsh, Clinton County, on April 24, 1938, and April 29, 1937. E. A. Hyer recorded it at Fish Point, Tuscola County, on May 7, 1927 (Walkinshaw, 1939a: 228).

Upper Peninsula.—Walkinshaw (1939a: 228) in 1937 saw 12 Yellow Rails on May 6 in Manistique Township, and 3 on May 10 in Doyle Township, Schoolcraft County—the only spring records for this peninsula.

SUMMER.—It is not certain that the nest reported by Jerome Trombley (Barrows, 1912: 160) belonged to a Yellow Rail. The first positive Michigan nest record appears to be that of Walter E. Hastings, who on May 29, 1920, at Duck Lake, Highland Township, Oakland County, discovered and photographed a nest with 8 eggs. On a second visit to the site some days later, nest and eggs were found to have been destroyed. Although on neither occasion were Yellow Rails observed by Hastings, the distinctive markings of the eggs as shown in the photographs leave no doubt of the identification (Pl. IV, Fig. 2).

The only other Michigan nest was found with 10 eggs (nest and 6 of the eggs in U.M.M.Z.) at Munuscong Bay, Chippewa County, by F. C. Gillett on June 13, 1934 (Walkinshaw, 1937a: 310, 311; 1939a: 229–30). Gillett wrote on June 15, 1934: "The birds seem to be common here, and I would conservatively estimate that not less than fifty pairs are nesting on the [Munuscong Bay State] Park marsh," and Walkinshaw (1939a: 227–37) stated that "on the nesting area birds were usually flushed in pairs." The following June (1935), however, none was found in the marsh.

The species has been noted (without breeding evidence) in summer in

several other localities, such as Leoni Township, Jackson County (Walkinshaw); the Seney marshes of Schoolcraft County (abundant during May, 1937—Walkinshaw, 1939a: 227-37); 3 miles east of Shingleton, Alger County (some there in June, 1941, according to G. A. Ammann); and at Copper Harbor, Keweenaw County, where on June 9, 1931, a male (U.M.M.Z.) was collected—the first Upper Peninsula record (N. A. Wood, 1933: 717). In a total of 136 rails (Walkinshaw, 1939a: 235-36) in 3 seasons (May or June, 1934 to 1937) in the Upper Peninsula, there were more Yellow Rails than Virginia Rails or Soras.

FALL.—There are apparently no fall records from the Upper Peninsula. Departure is reported in the south in late September and early October. Walkinshaw collected 2 specimens (U.M.M.Z.) in Convis Township, Calhoun County, on September 17, 1936, and saw 1 there on September 22, 1940. At Portage Lake, Jackson County, Van Tyne and T. D. Hinshaw collected 1 (U.M.M.Z.) on September 30, 1936, and L. D. Case and A. E. Staebler saw 2 on October 4, 1936. A specimen (U.M.M.Z.) was collected near Kalamazoo by A. Françoise on October 1, 1890, and another (U.M.M.Z.) was taken at Ann Arbor, by J. Boyle, on September 29, 1908.

*Gallinula chloropus cachinnans* Bangs  
Florida Gallinule

Common summer resident, north to Saginaw Bay and Grand Rapids, and at Indian River, Cheboygan County.

First listed for Michigan by Sager (1839: 416).

SPRING.—Arrival has been reported principally in the latter part of April and in early May. In the Toledo-Erie marsh area L. W. Campbell (1940: 188, 202) found that March 20 (1934) was the earliest date (April 16, the average) for first arrivals; April 14 the earliest (May 1, the average) for the beginning of main flight. In the marshes near Detroit, Swales listed the species as early as April 15 (1903) and found it common usually in late April or early May. Late April or early May seems to be the usual time of arrival elsewhere in the southern counties. Walter E. Hastings noted an individual at South Lyon, Oakland County, on April 9 (1925); and J. Spiker observed 3 at Pleasant Lake, Washtenaw County, on April 14 (1933). Walkinshaw listed the species near Portage Lake, Jackson County, on April 28 (1935), and in Convis Township, Calhoun County, on April 29 (1940). At Vicksburg, Kalamazoo County, it has arrived by April 26 (1925—F. W. Rapp, 1931: 8) and in Berrien County by May 8 (1918—N. A. Wood, 1922: 10). One was noted also on Beaver Island, Charlevoix County, on May 7 (1929).

SUMMER.—Eggs are commonly found in May and June; downy young have been found from early June to mid-August.

Swales found the species abundant on Grosse Ile, Wayne County, as well as in the St. Clair Flats (J. Claire Wood, 1888: 43; Langille, 1884: 404; and 1892: 15; see also Gibbs, 1888: 87); they found nests with eggs (U.M.M.Z.) there from May to late June. The species probably breeds commonly in the Lake Erie marshes of Monroe County (Barrows, 1912: 161-62; L. W. Campbell, 1940: 68) and also commonly in the Ann Arbor region, where a number of egg sets and chicks (U.M.M.Z.) have been collected. Eggs or broods have been found in Jackson County at Norvell Township (brood on August 15, 1938, reported by Fargo), Portage Lake (adult with 4 young on July 28, 1935, reported by R. E. Olsen and A. D. Tinker), and in Leoni Township (3 eggs on May 12, 1940, reported by Walkinshaw). Several egg sets were found in Convis and Pennfield townships, Calhoun County (in the 1930's by Walkinshaw), as well as in Kalamazoo County (Gibbs, 1885: 166; 1893c: 35-36). At Vicksburg, Kalamazoo County, the species has been a common summer resident, according to F. W. Rapp (1931: 8), who discovered egg sets there from May 2 to June 13. It is said to breed at Grand Rapids, Kent County (Baker, 1940: 114), as well as in Chandler's marsh, Ingham County (plentifully—Barrows, 1912: 161-62). Although Barrows stated that the species is plentiful "about Saginaw Bay near the mouth of the [Saginaw] river," there are apparently no definite breeding records for this region or for any more northern region in Michigan except the vicinity of Burt Lake, Cheboygan County, where the gallinule was "apparently common" on August 9, 1921 (Fortner and Metcalf, 1929: 249), and several nests and broods (U.M.M.Z.) were found (in the Indian River marsh at Muskrat Landing) from 1930 through 1941 (Blanchard and Nelson, MS of 1937; and notes).

FALL.—Departure is recorded chiefly in the last half of September. Without offering data, Mershon (1923: 78) indicated that the species is numerous in the Saginaw River marshes in October. F. W. Rapp (1931: 8) listed it as present at Vicksburg, Kalamazoo County, until November 3 (1912); and at Norvell pond, Jackson County, Fargo noted 40 of the species, mostly immature, on September 22 and 30, 1933. The majority apparently leave the Ann Arbor region chiefly in the latter part of September, though an individual was still at Geddes Pond, Ann Arbor, on October 17 (1937—D. P. Duncan and H. A. Mathiak). R. E. Olsen observed 15 on September 11, 1938, near Pontiac, Oakland County. Swales found the species abundant at the St. Clair Flats, St. Clair County, from July 17 to 25 (1896) and on August 15-16 (1895); and at Grosse Ile, Wayne County, he noted 6 birds on September 10 (1910) and 1 as late as October 9 (1906). Main flight has usually ended in the Toledo-Erie marsh area by September 16 (latest date: October 6), but individuals have remained there until October 20 (L. W. Campbell, 1940: 188, 202).



*Fulica americana americana* Gmelin  
American Coot

Common transient. Local summer resident, common in some areas. Occurs occasionally in winter in the southern tiers of counties.

First recorded for Michigan by Sager (1839: 416).

SPRING.—Arrival is reported in southern counties from late March to late April or May.

Lower Peninsula.—In the Toledo–Erie marsh area, where individuals have been found in winter, main flight begins on the average on March 26, though once as early as March 16 (L. W. Campbell, 1940: 68, 202). Swales seldom saw the species about Detroit before the first week in April (April 4, 1902; April 5, 1903; April 3, 1904). In the Ann Arbor region a few appear by mid-March, considerable numbers in late March and April; at Whitmore Lake, Washtenaw County, R. E. Olsen saw 50 on March 30, 1930, Van Tyne and A. S. Warthin, Jr., about 500 on April 17, 1923. In the vicinity of Portage Lake, Jackson County, 100 were seen on April 11, 1937, and on April 19, 1936; 50 on May 2, 1937 (R. E. Olsen, A. D. Tinker, and others). In Kalamazoo County the species has been common in spring and present usually from mid-March (F. W. Rapp, 1931: 8; see also Gibbs, 1885: 166–67).

Upper Peninsula.—The species was reported (Christofferson) at Munuscong Bay, Chippewa County, April 12, 1929 (1 seen) and on April 27, 1928 (15 seen), and at Portage Lake, Keweenaw County, “about the last of April” (Kneeland, 1857: 238). On Isle Royale in 1937, Laurence Dayton saw the species on May 2 only.

SUMMER.—Eggs have been found usually in June or later, but a newly hatched young was once reported on May 26 (Lenawee County).

Lower Peninsula.—The species nests commonly in the Toledo–Erie marsh area, and several midsummer specimens (U.M.M.Z.) have been secured there (L. W. Campbell, 1940: 68–69). At the St. Clair Flats, St. Clair County, it has nested abundantly (Langille, 1884: 405; 1886: 33–34; 1892: 15; J. Claire Wood, 1888: 43; Swales, notes). According to Pirnie (1935: 176) the Flats even now “produce hundreds of Coots”; there are a few definite, current breeding records and specimens of downy young (Max M. Peet collection) from the area. In the Ann Arbor region the species formerly bred not uncommonly, and nests were often found several decades ago on the Huron River just below Ann Arbor. At present it is much less common there, some of its breeding grounds having been either flooded or drained; 2 egg sets (U.M.M.Z.) were discovered in the region in 1938: 1 on May 26, near Macon, Lenawee County (1 young and 3 eggs, later incubator-hatched); 1 on May 30, near Portage Lake, Livingston County (10 well-in-

cubated eggs, found by Lewis P. Kivi). In Jackson County, Roger T. Peterson saw the species (at Stony Lake, Napoleon Township) in 1929, and R. E. Olsen and A. D. Tinker saw it several times (at Portage Lake, Waterloo Township) in 1935 and 1936 (on July 28, 1935, 3 adults and 6 young). There seem to be few other breeding records for the southern counties (see Gibbs, 1885: 166-67; and 1888: 88; F. W. Rapp, 1931: 8). At Chandler's marsh, northwestern Ingham County, where T. L. Hankinson (1897: 27) considered his discovery of a nest unusual, he and L. J. Cole (Cole, 1897: 37-39) subsequently found a number of nests. On the St. Joseph River at Benton Harbor, Berrien County, W. P. Proctor examined a nest with 8 eggs on June 19, 1929. H. W. Hann found the empty shells of 3 or 4 eggs in a nest along the shore of Bay County on May 29, 1932. Without breeding evidence, individuals were observed at Fish Point, Tuscola County (1 on June 16, 1926); at Sebewaing, Huron County, where a specimen (U.M.M.Z.) was collected in July, 1930; and in the northwestern part of Huron County, in 1908 (N. A. Wood and Gage, 1911: 280). The species now seems to be common on the Indian River, Cheboygan County; in the 1930's several nests were found, and adults with young seen there by early July (Blanchard and Nelson, MS of 1937).

Upper Peninsula.—Nests with eggs were discovered at Munuscong Bay, Chippewa County, on several occasions: on July 13, 1925 (Christofferson); in 1934 and 1935 (F. C. Gillett, notes; Walkinshaw, 1937a: 311; and notes)—as many as 6 nests were found there on June 14, 1934, by Gillett. Brod-korb saw a few Coots in June, 1938, at Seney, Schoolcraft County, where, according to H. L. Bradley, many nested the following year. The species has been noted in summer without positive breeding data, at Deer Park, northern Luce County, where 4 birds were seen on June 21, 1932, by Leonard Wing (1940: 177; and notes); in Dickinson County in 1909 (Gage, 1914: 79); in Houghton and Iron counties in 1914 (Cahn, 1918: 491); and on Isle Royale in late August, 1904 (N. A. Wood, Peet, and McCreary, 1906: 122).

FALL.—Departure is reported principally from early or middle September to late October or early November.

Upper Peninsula.—On Isle Royale, A. Murie saw an individual on October 1, 1929, and in the Huron Mountain region, Marquette County, S. S. Gregory, Jr. (1929: 174), listed the species as a fairly common transient, present from September 4 to October 16. According to Christofferson, fall migrants have sometimes been numerous at Blaney, Schoolcraft County (100 on September 15, 1930), and apparently more numerous at Munuscong Bay, Chippewa County, in fall than in spring; at Munuscong Bay he noted 1000 on October 2 (1922), 300 on October 24 (1922), and some occasionally in early November.

Lower Peninsula.—In North Bay, Houghton Lake, Roscommon County, Trautman has found the species abundant throughout October, and until the first hard freeze in November. The larger numbers were there, he said, between October 9 and November 10; he recorded 500 on October 10 (1937) and 500 on November 10 (1935, "a rather warm season"). In Mason County the species was "rather common late in September" in 1909 (Chaney, 1910: 273), but in the Saginaw River marshes it was more common in October than in early September (Mershon, 1923: 76, 77); on the east shore of Saginaw Bay several specimens (U.M.M.Z.) were collected through October (Pirnie, 1935: 313) and to early November. The species has been a common transient at Vicksburg, Kalamazoo County, present from September 1 to November 16 (F. W. Rapp, 1931: 8); it was formerly exceedingly abundant in the county, and sometimes present much later (Gibbs, 1885: 166-67). One hundred, mostly immature, were noted September 30, 1933, on Norvell Pond, Jackson County (Fargo), and the same number on November 8, 1934, on Whitmore, and adjacent lakes, Washtenaw County (R. E. Olsen and H. W. Hann). At the St. Clair Flats, where Swales said they were "rather abundant" from October 25 to 27 (1902) and still present in smaller numbers in November, Pirnie (notes) observed 3300 on October 11, 1938. Trautman and E. L. Wickliff noted 2700 on September 13, 1932, in the Erie marsh, Monroe County. In the Toledo-Erie marsh area as a whole, October 19 is the average date for the end of main flight, December 11 the latest date (L. W. Campbell, 1940: 202).

WINTER.—Individuals, at least a few of which may be delayed migrants, have been noted in several southern counties. In the Erie marsh L. W. Campbell (1940: 69) recorded 2 on February 3, 1 on February 10, and 1 on February 12, 1934. The species was listed in Wayne County (January 31, 1931, by H. W. Hann); and at Ann Arbor, where 1 (U.M.M.Z.) was collected on January 16, 1937. In the Battle Creek to Gull Lake area several have been seen almost yearly on recent Christmas counts, as many as 13 on December 27, 1936 (Brigham and others, 1937: 58), a few in January (near Battle Creek by Walkinshaw), and 2 on February 23, 1932, near Gull Lake (by Pirnie). At St. Joseph, Berrien County, Walkinshaw noted 1 on January 27, 1935.

C H A R A D R I I D A E  
( P L O V E R S )

*Charadrius melodus* Ord  
Piping Plover

Summer resident on Great Lakes north to Cheboygan, Emmet, Schoolcraft, and Delta counties.

First authoritatively listed for Michigan by Gibbs (1879: 492).

SPRING.—Arrival is reported chiefly in late April and early May.

Lower Peninsula.—In the Toledo-Erie marsh area, where the species is listed as rare, it has appeared as early as April 8, though usually not until the last week of the month (L. W. Campbell, 1940: 69, 188, 202). Specimens were taken in 1896 and 1897 in Sanilac County on April 15, and in Ottawa County on April 23, 24, and 25 (Barrows, 1912: 216-17). At Fish Point, Tuscola County, N. A. Wood reported an individual on May 6, 1926. On Sand Point in 1933, 1 (U.M.M.Z.) was collected of 2 seen on May 8; 12 were seen on May 14, and the species was observed regularly and commonly after May 21 (D. W. Douglass); records from other years indicate a similar status.

Upper Peninsula.—Walkinshaw listed the species near Manistique, Schoolcraft County, on May 12, 1937.

SUMMER.—Egg sets have been discovered from about May 20 to July 20.

Lower Peninsula.—At Fish Point, Tuscola County, on June 7, 1926, a breeding pair (U.M.M.Z.) was taken by N. A. Wood; in Huron County, a downy young was banded July 11, 1937, on Lone Tree Island by C. C. and F. E. Ludwig; a nest with 4 eggs was photographed June 11, 1935, by Van Tyne on Sand Point, where the species was not uncommon in summer (D. W. Douglass and others); on Charity Island, a female and a set of 4 partly incubated eggs were collected in late May, 1903 (Arnold, 1903a: 74-75). On Black River Island, Alcona County, C. C. and F. E. Ludwig banded a downy young on July 13, 1933, and collected a plover about two-thirds grown (Max M. Peet collection) on July 11, 1934. Blanchard and Nelson (MS of 1937) have found this plover breeding regularly along the coast of Cheboygan and Emmet counties (see also Barrows, 1912: 216-17); among other records, they reported a nest of 4 eggs just hatching on July 19, 1937, near Cheboygan, and young observed several times from mid-July to mid-August. David E. Davis noted the species along the shore of Benzie County, where he banded 3 young on July 16, 1926, and where he caught 1 (at Point Betsie) on July 14, 1929. In Leelanau County, A. E. Staebler and L. D. Case collected specimens (U.M.M.Z.) on the Manitou islands (1940) and on South Fox Island (1939), where it was breeding commonly. On Beaver Island, Charlevoix County, in early July, 1904, Barrows (1904: 79) watched an individual that appeared to have a nest or young in the immediate vicinity.

Upper Peninsula.—On June 20, 1935, near Manistique, Schoolcraft County, Bryens and Walkinshaw (1936: 210) noted a flock of 9 adults and captured 2 downy young (1 in U.M.M.Z.); Christofferson reported seeing the species in the same vicinity on other occasions (June 12, 1937, 3 birds, and June 4, 1938, 10). On July 12, 1932, on Sand Island, southwest of

Escanaba, Delta County, Lyon (1933: 55; and other data) found an adult, and one chick which he banded.

FALL.—Little is known of the fall movement, which appears to occur very early and to come to a close in late August or early September.

Lower Peninsula.—Max M. Peet has in his collection 2 specimens that he secured on Duncan Bay, Cheboygan, on September 3, 1941. Walkinshaw noted a Piping Plover at Alpena, on September 1, 1935, and another at St. Joseph, Berrien County, on August 13, 1933. There is but 1 record for any season of the year from the Ann Arbor region: an individual observed by Trautman at Whitmore Lake on September 7, 1937. According to Barrows (1912: 216-17), 1 was taken at Forestville, Sanilac County, on November 24, 1903. L. W. Campbell (1940: 69, 188, 202) apparently found few of the species about the Toledo-Erie marsh area after late July or early August, but reported stragglers on occasion until early September.

*Charadrius hiaticula semipalmatus* Bonaparte  
Semipalmated Plover

Common transient.

First listed for Michigan by Fox (1853: 162).

SPRING.—This plover migrates through Michigan principally in the last 2 or 3 weeks of May and in early June.

Lower Peninsula.—In the Toledo-Erie marsh area L. W. Campbell (1940: 188, 202) recorded this plover as a common transient that appears as early as the last week of April, the larger numbers being present from May 12 to 31, on the average, and individuals being seen in summer. In Ecorse Township, Wayne County, Swales noted 25 of the species by May 12 (1906), and "over 100" on May 18, 1907. In the Ann Arbor region and in Jackson County, very small numbers (seldom as many as a dozen at a time) were recorded in May rather regularly in the 1930's, sometimes by the first week of May (the "April" 5, 1913, in N. A. Wood and Tinker, 1934: 18, is an error for "May"). In 1923 the species was listed (Fargo) in Jackson County on June 27. F. W. Rapp (1931: 11) knew of only 1 spring occurrence (May 19, 1928) at Vicksburg, Kalamazoo County, but Gibbs (1885: 151) had reported the species as remaining in that county "in abundance until May 25"; in Calhoun County in the 1930's Walkinshaw recorded it rather regularly in May. A. M. Baumgartner wrote that on May 21 and 23, 1937, near St. Johns, Clinton County, she photographed an assemblage of about 500 Semipalmated Plovers. The species was noted May 8, 1926, at Fish Point, Tuscola County, by N. A. Wood; and a specimen (U.M.M.Z.) was collected on May 13, 1939, in Bay County; from 1931 to 1933, at Sand Point, Huron County, D. W. Douglass found the species chiefly "in couples

or small groups'' and present mainly in the latter part of May. On May 24, 1936, also at Sand Point, approximately 50 of the species were counted by R. E. Olsen, A. D. Tinker, Trautman, and T. D. Hinshaw.

Upper Peninsula.—At Whitefish Point, Chippewa County, Brodkorb collected 1 (U.M.M.Z.) of 2 plovers seen on May 16, 1936, and saw 1 the next day; N. A. Wood (1914: 62) listed the species there on May 23, 1914. Christofferson reports observing 1 or 2 occasionally at Munuscong Bay, Chippewa County, mostly very late in May; he saw 8 on May 31, 1930, at Blaney, and 4 on June 4, 1938, at Manistique, Schoolcraft County.

FALL.—The species is reported in fall mainly in August and the first 2 or 3 weeks in September.

Upper Peninsula.—This plover was not found on Isle Royale by any of the Museum of Zoology expeditions until 1929, when N. A. Wood noted a group of 3 on August 27. In the Huron Mountain region, Marquette County, S. S. Gregory, Jr. (1929: 175), found the species a fairly common transient, present from August 7 to September 24. At Whitefish Point, Chippewa County, a specimen was collected on August 14, 1914 (N. A. Wood, 1914: 62), and on August 20, 1925, another (U.M.M.Z.) was collected from 3 seen (Fargo). Christofferson has found the species in August and September at Munuscong Bay, Chippewa County, and elsewhere along the coast line of the peninsula.

Lower Peninsula.—In northern Emmet and Cheboygan counties, the Semipalmated Plover has been common in August and has been seen from July 19 until September 10 (Blanchard and Nelson, MS of 1937; Fortner and Metcalf, 1929: 249). It has been found at this season in Benzie County (1 noted on August 19, 1934, by David E. Davis); in Mason County ("large flocks" on September 23, 1909—Chaney, 1910: 273); and in Roscommon County (on the shore of Houghton Lake, August 12, 1925, by Fargo). On Saginaw Bay it was noted on Charity Island, Huron County, on July 25, 1911, and a specimen (U.M.M.Z.) collected; it occurs there in larger numbers in August and sparingly to the end of September (N. A. Wood, 1911: 92; 1912*a*: 183–84); a specimen (U.M.M.Z.) was collected September 29, 1932, from Fish Point, Tuscola County. Gibbs (1885: 151) stated that the species became common in Kalamazoo County by August 20. Most other southern reports, however, indicate uncommonness. N. A. Wood (1922: 11–12) observed it once (September 9, 1917) on the shore of Berrien County; F. W. Rapp (1931: 11) observed it at Vicksburg, Kalamazoo County, on July 27 and August 6, 1928. At Portage Lake, Jackson County, reports extend from July 29 (1934, 12 seen by R. E. Olsen, A. D. Tinker, and T. D. Hinshaw) to September 14, 1939, when 1 (U.M.M.Z.) was collected there. About Ann Arbor, occasional individuals are seen to

mid-September; at Detroit 1 was seen on July 31, 1906, and a few noted in August and September (Swales, notes). Trautman took a specimen (U.M.M.Z.) on October 21, 1935, at Gibraltar, Wayne County; and (with E. L. Wickliff) noted 20 in the Erie marsh on September 13, 1932. In the Toledo-Erie marsh area as a whole L. W. Campbell (1940: 188, 202) recorded this plover to mid-November, finding it present in numbers on the average from July 28 to September 14.

*Charadrius vociferus vociferus* Linnaeus

Killdeer

Common summer resident. Has been reported in winter in southern-most tiers of counties.

First recorded for Michigan by Sager (1839: 416).

SPRING.—Arrival is reported in March and April, sometimes late February.

Lower Peninsula.—In the Toledo-Erie marsh area the Killdeer has been noted even in mid-February; on the average, earliest individuals arrive by March 2, and main flight begins by March 12 (L. W. Campbell, 1940: 188, 202). About Detroit (Swales) and Ann Arbor this plover usually appears in the first or second week of March and becomes common by late March or early April; occasionally an individual is found in the latter part of February. In Hartland Township, southeastern Livingston County, 30 were seen by R. E. Olsen, A. D. Tinker, and T. D. Hinshaw on April 4, 1937. The species has been reported frequently in early March near Battle Creek, Calhoun County, by Walkinshaw; in Kalamazoo County it has sometimes appeared in late February, becoming common by March 20 (Gibbs, 1885: 151; F. W. Rapp, 1931: 11).

Upper Peninsula.—First arrivals have usually reached Munuscong Bay, Chippewa County, and Blaney, Schoolcraft County (Christofferson), as well as McMillan, Luce County (Bryens), about the last week of March or the first week of April; there were 10 birds at Blaney, however, as early as March 15 in 1939 (Christofferson). In Keweenaw County the species was observed at Copper Harbor daily after April 24 in 1931 (N. A. Wood, 1933: 717), and on Isle Royale in 1937 on April 28, and regularly thereafter (by Laurence Dayton).

SUMMER.—In southern counties egg sets are common by late April, and in the Upper Peninsula by early May.

Lower Peninsula.—The species has been found to breed more or less commonly in many areas: about Ann Arbor, where specimens (U.M.M.Z.) have been collected and many instances of breeding recorded, including 2 nests, each with 4 eggs (April 20, and June 12), and 2 broods (May 18, and

May 19) recorded by H. W. Hann in 1932; in Convis Township, Calhoun County (often several records a year, in the 1930's, by Walkinshaw); in Kalamazoo County (Gibbs, 1885: 151; F. W. Rapp, 1931: 11); and at the Prairie Farm, Alicia, Saginaw County (April 26, 1940, a nest with 4 eggs that hatched on May 11 found by G. A. Ammann). Formerly rare in northwestern Huron County (N. A. Wood and Gaige, 1911: 282; N. A. Wood, 1912*a*: 183), the Killdeer is now apparently common there (D. W. Douglass, from 1931 to 1933). In 1933 C. C. and F. E. Ludwig banded a downy young on Black River Island, Alcona County, on July 13; on Sulfur Island, Alpena County, they found 10 pairs and banded 8 young on July 14, 1933. The Killdeer is now "an abundant breeding species" about Douglas Lake, Cheboygan County; eggs have been found there from June 24 to July 11 (Blanchard and Nelson, MS of 1937; see also N. A. Wood, Smith, and Gates, 1916: 9; Linsdale, 1936: 161). Breeding specimens (U.M.M.Z.) were taken on the Manitou (1940) and Fox (1939) islands of Leelanau County by A. E. Staebler and L. D. Case, and on Beaver Island, Charlevoix County (1937), by T. D. Hinshaw and R. E. Morrill. The species was common on the mainland of Charlevoix County in 1923 (Van Tyne, 1925: 615) and also on Little Traverse Bay, Emmet County, in 1901 (Widmann, 1902: 233).

Upper Peninsula.—Christofferson has found young by the last of May at Munuscong Bay, Chippewa County (4 on May 30, 1920; 1 on May 27, 1922); and at Blaney, Schoolcraft County, he saw several young on June 3, 1936. Bryens, at McMillan, Luce County, has found eggs in May, once as early as May 1 (1931, 4 eggs), and young by the end of May and early June. Although the species seems to be fairly well distributed over the whole peninsula, actual breeding records for the more western part are few. One of these concerns a chick (U.M.M.Z.) secured by Leo Anderson at Ironwood, Gogebic County, on June 1, 1933. Without nesting evidence, this plover has been found in summer at Whitefish Point, Chippewa County (rather uncommonly—N. A. Wood, 1914: 62); the Huron Mountain region, Marquette County (rarely—S. S. Gregory, Jr., 1929: 175; Christy, 1925: 210); Brown Lake, Dickinson County (2 birds—Gaige, 1914: 79); and on Isle Royale (a few individuals seen—Max M. Peet, 1909: 347).

FALL.—Flocking is of common occurrence in July and August; the southward movement in the Upper Peninsula occurs chiefly in August and September and averages a little later in southern counties.

Upper Peninsula.—At Blaney, Schoolcraft County (Christofferson), and at McMillan, Luce County (Bryens), numbers have been noted rather regularly throughout August and September and a few on occasion until the last week in October; at Blaney in 1932 as many as 150 were recorded on September 6, and 95 in the first part of October.



Lower Peninsula.—At Houghton Lake, Roscommon County, Trautman observed several individuals in early October, to October 10 (1 bird seen each year in 1937 and 1938). Flocks were frequent in Mason County (Chaney, 1910: 273) during September, 1909. In Kalamazoo County in 1939 the species apparently reached its "maximum abundance" on September 28 (at the Kellogg Sanctuary—Rysgaard, 1940: 20); it has usually been common in the county until early November, in mild winters until late December (Gibbs, 1885: 151; F. W. Rapp, 1931: 11). In Jackson County, 100 were noted October 3, 1937, at Portage Lake, by R. E. Olsen and A. D. Tinker, and a few on November 1, 1933, in Norvell Township by Fargo. In the vicinity of Detroit (Swales, notes) and in Washtenaw County, a few birds remain well into November and December or later; on November 20 in 1934, 20 were seen north of Ann Arbor by R. E. Olsen and H. W. Hann, and from September 9 to December 12, 1906, a flock of 10 was recorded at Portage Lake by N. A. Wood. In the Toledo-Erie marsh area (L. W. Campbell, 1940: 188, 202), large flocks are not uncommon in fall; on the average, main flight has ended by November 7, and the last stragglers have departed by November 23, though they sometimes remain until late in December.

WINTER.—A few of this species have been found in southern counties in December. Near Plymouth, Wayne County, J. B. Purdy (Swales, 1912: 128) noticed 1 bird on his farm in late December and throughout January, 1908. N. A. Wood and A. D. Tinker (1934: 18) recorded a flock of 10 at Portage Lake, Washtenaw County, as late as December 12 (1906) and 1 in the Ann Arbor region on January 30, 1921. Harold Mayfield and L. W. Campbell collected a male (U.M.M.Z.) in Erie Township, Monroe County, on December 12, 1943.

*Pluvialis dominica dominica* (Müller)  
American Golden Plover

Transient, mainly confined to the Great Lakes. Rare in spring; uncommon in autumn.

First listed for Michigan by Sager (1839: 416).

SPRING.—The few records are principally for April and May. In the Toledo-Erie marsh area L. W. Campbell (1940: 71, 188, 202) reported finding this species from mid-March to the end of May, the greater numbers, on the average, from April 12 to May 4. Since J. Claire Wood misidentified as a Golden Plover a Black-bellied Plover (U.M.M.Z.) that he secured in 1900, his May, 1894, Golden Plover sight record for Detroit (1908a: 327) is open to question. The only positive spring occurrence in the Ann Arbor region is that of April 20, 1890 (Swales, 1913a: 581), when N. A. Wood saw a flock of about 30 birds and collected specimens (U.M.M.Z.) near

Saline, Washtenaw County. Among the very few Jackson County records is that of Leonard Wing (1931: 132), George Wing, and Fargo, who observed an individual north of Jackson on May 10, 1925. One was seen and another (U.M.M.Z.) collected on May 12, 1935, by James H. Wood on Sand Point, Huron County. Among a flock of Black-bellied Plovers at Fish Point, Tuscola County, 2 Golden Plovers were noted by R. E. Olsen and A. D. Tinker on May 30, 1937.

FALL.—Movement seems to be chiefly in September and October.

Upper Peninsula.—F. M. Gaige reported seeing an individual at close range at Eagle Harbor, Keweenaw County, on September 15, 1937. In the Huron Mountain region, Marquette County, S. S. Gregory, Jr., secured 1 on September 27, 1929; at the same place in 1936 Ira N. Gabrielson saw 3 on September 25 and collected 1 the next day. Bryens reported a few at McMillan, Luce County, in September and October; Magee (1927: 115-16) and Christofferson recorded a flock of 16 at Sault Ste Marie on September 26, 1926.

Lower Peninsula.—An individual was collected on September 13, 1941, by Max M. Peet at Cheboygan; 1 (U.M.M.Z.) on August 24, 1933, by A. D. Tinker at Hammond, Presque Isle County; and 1 was found dead on September 23, 1909, in Mason County (Chaney, 1910: 273). Apparently formerly present in great flocks on Saginaw Bay (Mershon, 1923: 6), the species still frequents the area regularly, sometimes commonly; at Fish Point, Tuscola County, specimens (U.M.M.Z.) were taken by Max M. Peet, Walter E. Hastings, and N. A. Wood between September 17 and 30, 1925. Other specimens collected in the area include 4 (U.M.M.Z.) from Charity Island, Huron County, between September 9 and October 1, 1910 (N. A. Wood, 1911: 92), and 1 (Max M. Peet collection) as late as October 28 (on Fish Point, in 1933). In Kalamazoo County, Gibbs (1885: 151) found this plover present from early September to late October, often in large flocks, and usually abundant about September 28; 2 specimens (U.M.M.Z.) were collected there, September 16 and September 28, 1879; F. W. Rapp (1931: 10), however, has only 1 recent record from Vicksburg: September 27, 1929. In Jackson County, an individual was noted at Stony Lake, Napoleon Township, on September 1 and 2, 1929, by Roger T. Peterson; in 1930 flocks were seen at Portage Lake (a flock of 18 on October 5 by R. E. Olsen, H. W. Hann, and Walkinshaw); and north of Jackson, flocks of as many as 15, from which specimens (U.M.M.Z.) were collected, were noted from late September to October 17 (Leonard Wing, 1931: 132). At Portage Lake, in the same county, L. D. Case collected an individual (U.M.M.Z.) on October 24, 1935. A large flock was found feeding near Ann Arbor on October 1, 1890 (N. A. Wood, 1911: 92); the species has since been noted

there in late summer and fall only on rare occasions; the latest date was October 22 (1939), when 1 was shot and brought to the Museum of Zoology for identification. At Detroit an individual (U.M.M.Z.) was taken on September 13, 1908 (Taverner, 1908: 204, 207); southward at Gibraltar, Wayne County, another (U.M.M.Z.) was taken on October 2, 1895 (not October 12 as given in N. A. Wood, 1911: 92; and Swales and Taverner, 1907: 141). According to L. W. Campbell (1940: 71, 188, 202), Trautman, and others, this plover has occurred regularly in the Toledo-Erie marsh area from midsummer to late November, sometimes in flocks of 50 or more; the larger numbers are present there on the average from September 3 to October 17.

*Squatarola squatarola* (Linnaeus)  
Black-bellied Plover

Uncommon transient, found chiefly along the Great Lakes. Occasional individuals present in summer.

First listed for Michigan by Sager (1839: 416).

SPRING.—Arrival is reported in early May, the chief period of migration extending from mid-May to early June.

Lower Peninsula.—In the Toledo-Erie marsh area L. W. Campbell has found the majority of these plovers present on the average from May 12 to May 31, individuals, on the average, from May 6 to June 2; he has recorded individuals as early as April 17, and a few remain into summer. There are few records for other southern areas. On May 23, 1934, 10 were noted by R. E. Olsen and D. W. Douglass on Strawberry Island, St. Clair County; and on May 2, 1905, 1 was secured at Forestville, Sanilac County (Barrows, 1912: 208-9). The species is rare in the Ann Arbor region, but has been observed there in late May; C. J. Spiker saw 3 at Ypsilanti on May 23, 1932. It is also found in late May, though not commonly, at Portage Lake, Jackson County; several were seen there on May 19, 1932, by H. W. Hann, Walkinshaw, and others, and 3 on both May 20 and May 22, 1939, by John L. George (see also Frey, 1934: 519). At Fish Point, Tuscola County, in 1926, 10 were noted as early as May 6, flocks of 100 to 200 from May 20 to May 31, and small numbers in the first week of June. Transients occur at Sand Point, Huron County, at about the same time, but in much smaller numbers, according to D. W. Douglass, who observed the species there from 1931 to 1933. The species was observed on Thunder Bay, Alpena County, on June 10, 1922 (5 birds, by N. A. Wood); and at Duncan Bay, Cheboygan, as early as May 20 (1937—Blanchard and Nelson, MS of 1937).

Upper Peninsula.—In Chippewa County in 1923 Christofferson reported 7 in the vicinity of Sault Ste Marie on May 27, and 1 at Munuscong

Bay on May 31. At Whitefish Point, in the same county, several were observed, and 1 (U.M.M.Z.) collected, between May 24 and 28, 1914 (N. A. Wood, 1914: 62), and 3 seen on June 5, 1930 (Tyrrell, 1931: 131; 1934: 22-23).

FALL.—The species, more common in fall than in spring, is reported usually in late, rarely in early, August; the larger numbers are present in September, and a few linger until early October or somewhat later.

Upper Peninsula.—In the Huron Mountain region, Marquette County, the species has been reported as a rare transient from September 12 to October 3 (S. S. Gregory, Jr., 1929: 175; see also Christy, 1935: 268). It was noted in small numbers by Bryens at McMillan, Luce County, on a few occasions from September 10 (1930) to September 25 (1937), and by Christofferson in eastern Mackinac and Chippewa counties from August 18 (2 in 1929 at Brevort Lake, Chippewa County) through October. A specimen (U.M.M.Z.) was secured at Whitefish Point, Chippewa County, on September 30, 1929.

Lower Peninsula.—Blanchard and Nelson (MS of 1937) recorded small flocks in northern Emmet and Cheboygan counties after the first week in August—the largest flock consisting of 29 birds on August 14, 1935. Trautman observed an individual at Houghton Lake, Roscommon County, on October 1, 1938. The species is fairly common on Saginaw Bay from August 20 through September, and individuals are recorded into November (N. A. Wood, 1911: 91-92; Barrows, 1912: 208-9); 2 specimens (U.M.M.Z.) were collected there, October 7, 1910, and November 4, 1927. It appeared at Greenville, Montcalm County, as early as August 10 (1893—Barrows, 1912: 209) and in Calhoun County by August 14 (one in 1930, seen by Walkinshaw). This plover has been “rare and irregular” in Kalamazoo County, occurring as late as October 29 (Gibbs, 1885: 151); a specimen (U.M.M.Z.) was taken on that date in 1880. On rare occasions as many as 2 or 3 have been noted in a season in the Ann Arbor region, from August 21 (1935, U.M.M.Z.) to October 19 (1935, U.M.M.Z.), but on August 21, 1926, there were 20 at Whitmore Lake, according to Walter E. Hastings. In the Toledo-Erie marsh area, where a few remain during the summer, L. W. Campbell (1940: 72, 188, 202) has found the majority of the transients present between August 19 and October 6 (average dates), stragglers present until late November.

*Arenaria interpres morinella* (Linnaeus)

Ruddy Turnstone

Transient (chiefly coastal), uncommon in spring, rare in fall.

First listed for Michigan by Sager (1839: 416): “*Streptilas interpres*.”

SPRING.—Main flight is recorded in the latter half of May and in early June.

Lower Peninsula.—In the Toledo–Erie marsh area (L. W. Campbell, 1940: 72, 188, 202), individuals are recorded from early in May until mid-June, occasionally until later. The main flight (maximum of 100 in a day) occurs on the average from May 18 to June 3. In Wayne County on May 29, 1910, J. Claire Wood collected 2 specimens (U.M.M.Z.) in Ecorse Township, and Swales (1910c: 452–53; see also Swales and Taverner, 1907: 141–42) noted a flock of 30 on Grosse Ile. On Strawberry Island, St. Clair County, R. E. Olsen and D. W. Douglass collected 1 (U.M.M.Z.) of 3 Turnstones observed on May 22, 1934. Two Ruddy Turnstones were taken at Forestville, Sanilac County (Barrows, 1912: 217–19) on June 3, 1904. In the Ann Arbor region the species is uncommon; it has been observed there singly on May 24, 1933 and 1938, and May 25, 1925; 6 were recorded on May 26, 1935 (at Whitmore Lake, by R. E. Olsen and A. D. Tinker). At Portage Lake, Jackson County, it was noted May 15, 1938, by Walkinshaw; a specimen (U.M.M.Z.) was collected there by R. E. Stewart on May 22, 1938; and several birds were seen there each year on May 30 and 31, 1927 to 1930, by Edith K. Frey (1930: 552–53). In Kalamazoo County a specimen was secured on May 20 (Gibbs, 1879: 492; 1885: 151; Barrows, 1912: 217–19). On Charity Island, Huron County, where the species was reported common in late May and present to June 15 (N. A. Wood, 1911: 92–93; 1912a: 184), several specimens (U.M.M.Z.) were taken from May 20 (1 in 1911) to June 12 (1 in 1910). Small numbers (not more than 12 in a flock) have been reported elsewhere about Saginaw Bay: at Fish Point, Tuscola County; Lone Tree Island, and Sand Point, Huron County; and Tawas Bay, Iosco County. Sometimes Ruddy Turnstones have been fairly numerous in the region: they were common at the mouth of the Saginaw River on May 30, 1900 (Barrows, 1912: 218); at Fish Point on May 26, 1935 (150 birds noted by Trautman), and on June 4, 1926 (40 birds noted by N. A. Wood). Northward, at Mullet Lake, Cheboygan County, Walkinshaw observed an individual on May 28, 1934.

Upper Peninsula.—At Whitefish Point, Chippewa County, N. A. Wood (1914: 62) saw several birds and collected specimens (U.M.M.Z.) on May 29, 30, and June 1, 1914; Tyrrell (1934: 22) collected an individual (U.M.M.Z.) there on June 4, 1930, from a flock still present on the following day.

FALL.—Departure is recorded principally in late August and in early September.

Upper Peninsula.—Kumlien and Hollister (1903: 55) mentioned the species at Ontonagon “in the latter part of July,” and W. P. Harris, Jr., collected a specimen (U.M.M.Z.) in the Huron Mountains, Marquette County, on September 7, 1937. In Chippewa County, Boies (1897: 20; Barrows, 1912: 218) shot several on Neebish Island in the fall of 1894, and

Christofferson and Magee noted 3 at Sault Ste Marie in 1921: 2 on August 22 and 1 on August 31.

Lower Peninsula.—Blanchard and Nelson (MS of 1937) reported 1 to 3 seen on rare occasions along the north shore of Emmet and Cheboygan counties, from August 12 (1935) and August 13 (1931, 1 collected) to September 2 (1937). Along the island and mainland beaches of Huron and Tuscola counties this species has been recorded in very small numbers (flocks of 6 or less) on August 6 (1910), and rather regularly from about August 20 to the first few days of September (N. A. Wood and Gaige, 1911: 283; N. A. Wood, 1911: 92-93; 1912*a*: 184). Individuals (U.M.M.Z.) were collected at Point Lookout, Arenac County, on September 14, 1928 (1 by N. A. Wood), and at Fish Point, Tuscola County, on September 16, 1925 (2 by N. A. Wood), and on September 26, 1934 (1, the only one seen, by R. E. Olsen). In southern counties this wader was found at Union Pier, Berrien County, on August 30, 1933 (2 seen by Raz, 1935: 200); at Whitmore Lake, north of Ann Arbor, on August 20, 1935 (3 collected by Trautman); and at Oakwood, Ecorse Township, Wayne County, on September 1, 1910 (1 shot by J. Claire Wood, according to Swales). Though very uncommon in the Toledo-Erie marsh area (L. W. Campbell, 1940: 72, 188, 202), the Ruddy Turnstone has been present with some regularity from July to early October, main flight averaging August 15 to September 12.

SCOLOPACIDAE  
(SANDPIPERS)

*Philohela minor* (Gmelin)  
American Woodcock

Common transient. Summer resident, fairly common in the south, less common in the Upper Peninsula.

First recorded for Michigan by Sager (1839: 416).

SPRING.—Main flight in southern counties is reported during the latter part of March and in April; in the Upper Peninsula during late April and in May.

Lower Peninsula.—In the Toledo-Erie marsh area (L. W. Campbell, 1940: 72-73, 188, 202) individuals have arrived on the average by March 27 (though sometimes by mid-March), and main flight has begun on the average by April 8. According to Swales (1893: 79; and notes), in the Detroit area the species frequently appeared by late March, but was not common until late April or early May. In the Ann Arbor region it is usually first noted in the last third, though on occasion by the first week, of March; George Wallace (1931: 111-12) saw nearly a dozen individuals in a day there during the first week of April. F. W. Rapp (1931: 9) found

none in Vicksburg, Kalamazoo County, before April 6, and Walkinshaw (1941: 116; and notes) none in the Battle Creek area in the 1930's before mid-March; Gibbs (1885: 151), however, stated that in Kalamazoo County he had usually recorded the species in early March and "often in late February in open seasons."

Upper Peninsula.—Christofferson reported main flight at Munuscong Bay, Chippewa County, and Blaney, Schoolcraft County, in the latter part of April. The species was first seen in the Huron Mountains, Marquette County (Christy, 1925: 210; S. S. Gregory, Jr., 1929: 174), on May 30, and at Copper Harbor, Keweenaw County (N. A. Wood, 1933: 717), on May 15; in both localities it was apparently rare.

SUMMER.—Egg sets are found most commonly in the first 2 or 3 weeks of May, occasionally in late March and April and in early June.

Lower Peninsula.—According to Swales' notes, Jerome Trombley collected 5 sets of eggs (U.S.N.M.) in the vicinity of Petersburg, Monroe County, between April 16 (1885, nest with 3 eggs) and May 24 (1884, nest with 3 eggs). In the Detroit area, Swales recorded a number of egg sets between May 1 (1904, nest with 4 eggs found by Alexander W. Blain, Jr.) and May 25 (1891, nest with 4 eggs found by Swales). On March 27, 1918, G. A. Abbott found a nest with 3 eggs at Grosse Pointe. In the Ann Arbor region, N. A. Wood photographed a nest with 4 eggs on May 11, 1912, and G. A. Ammann found a nest with 4 eggs on June 11, 1936. L. D. Case and A. S. Hyde found a nest with 4 eggs at Portage Lake, Jackson County, on April 16, 1936. Walkinshaw has recorded a number of nests in Calhoun County, one with 2 young and 1 egg on April 22, 1935; another with 4 eggs on May 8, 1932; and a third with 4 eggs on May 19, 1935. F. W. Rapp (1931: 9) listed 2 mid-May nests from Kalamazoo County; N. A. Wood (1922: 10) listed a nest with 4 newly hatched young in Berrien County, on May 15, 1920. At Saginaw, Harriet H. Wright (Barrows, 1912: 177) examined 2 nests on May 14, 1906, one with 4 eggs and the other with 3 young; in Newaygo County, E. R. Ford (1935: 18) noted a brood of well-grown young on May 23, 1934. J. W. Leonard reported an adult on a nest in Otsego County in the first week of May, 1941, and another nest with 4 small young on May 13, 1941, in Montmorency County. In the Douglas Lake area, Cheboygan County, the species has been found to be very common recently ("since 1930, at least," according to Blanchard and Nelson, MS of 1937). The Woodcock was uncommon in this area in the early part of the century (N. A. Wood, Smith, and Gates, 1916: 8; Pettigill, 1936: 220).

Upper Peninsula.—On Les Cheneaux Islands, Mackinac County, the species was listed as not uncommon in summer (1917 to 1921) by Van

Tyne (1923: 22); in Chippewa County, young birds were seen (on Sugar Island) by Christofferson on June 22, 1924, and (near Sault Ste Marie) by Chase S. Osborn on May 20, 1921. Christofferson has seen adult Woodcocks during the summer months at Munuscong Bay, Chippewa County, and at Blaney, Schoolcraft County. N. A. Wood (1918: 5) listed the species as occasional in Alger County in the summer of 1916. S. S. Gregory, Jr. (1929: 174), recorded it as rare in summer in the Huron Mountain region, Marquette County.

FALL.—Main flight is reported in late August and in September in the Upper Peninsula, in September and early October in southern counties.

Upper Peninsula.—On Isle Royale, A. M. and F. M. Baumgartner saw a Woodcock in the first week of September, 1938, and Walter Koelz reported 1 on September 21, 1929. Trautman noted 2 near Lake Gogebic, Ontonagon County, on October 3, 1934, and Ira N. Gabrielson observed 1 in the Huron Mountains, Marquette County, on September 27, 1936. G. B. Saunders (Pettingill, 1936: 220) saw 10 near Three Lakes, Baraga County, on September 30, 1934. At Blaney, Schoolcraft County, and at Munuscong Bay, Chippewa County, Christofferson seldom found any after the middle of October.

Lower Peninsula.—According to Clyde M. Smith, Woodcocks are often abundant at Bellaire, Antrim County, in the first 3 weeks of October; he collected specimens (U.M.M.Z.) there on October 15, 1939. Max M. Peet took a specimen (Max M. Peet collection) in Iosco County on November 20, 1912. In Kalamazoo County (Gibbs, 1885: 151; F. W. Rapp, 1931: 9; Walkinshaw, 1941: 116) the species has usually departed in the middle or latter part of October. Formerly abundant in the Ann Arbor region in September and October, the Woodcock is now much less numerous; it has occasionally been noted there until late November; 2 were shot near Ann Arbor by Kitson Cobb on November 30, 1914. At Detroit, Swales (1893: 79; 1912: 128; and notes) found it most common during October; he examined an individual that was shot there on December 3, 1907. In the Toledo-Erie marsh area (L. W. Campbell, 1940: 188, 202), on the average, main flight has ended by October 9, and the last individuals have departed by October 12; stragglers have occasionally been found there until mid-November.

WINTER.—Gibbs (1889: 189) reported that the species was rare, but "observed during each of the winter months" in Kalamazoo County.

*Capella gallinago delicata* (Ord)  
Wilson's Snipe

Common transient. Regular, but local, summer resident (rare in southern counties). In winter, occasional in southern counties and casual north to Clare and Oscoda counties.



First listed for Michigan by Sager (1839: 416).

SPRING.—Arrival is reported chiefly in late March and April in southern counties, and in late April and May in the Upper Peninsula.

Lower Peninsula.—About the Toledo-Erie marsh area L. W. Campbell (1940: 73, 188, 202) has recorded individuals as early as mid-March, main flight on the average from April 11 to May 5. Arrival in the Ann Arbor area has been reported as early as March 6 (1934) and March 13 (1938), but usually during the first 2 weeks in April. Walkinshaw has recorded the species in the Battle Creek area during the last week of March and the first week of April (1930 to 1940); F. W. Rapp (1931: 9) gave March 21 in 1905, as his earliest record for Vicksburg, Kalamazoo County. The species was noted at Fish Point, Tuscola County, on April 24, 1926 (1 by N. A. Wood), and at Sand Point, Huron County, on April 23, 1931 (5 by D. W. Douglass); specimens (U.M.M.Z.) were taken on Beaver Island, Charlevoix County, on May 7, 1929 (2), and on May 10, 1932 (1).

Upper Peninsula.—The species usually arrives at Munuscong Bay, Chippewa County, and at Blaney, Schoolcraft County, by mid-April, occasionally earlier, according to Christofferson. At Munuscong Bay the species was fairly numerous in the first half of May, 1934; specimens (U.M.M.Z.) were collected there on May 9, and totals recorded of 100 on May 6, and of 20 and 25 until May 12 (F. C. Gillett, R. E. Olsen, and T. D. Hinshaw). At McMillan, Luce County, Bryens recorded an individual as early as April 7 (1940). The species was found from May 6 to May 12 at Copper Harbor, Keweenaw County (N. A. Wood, 1933: 717), where on several days it was seen in numbers; on Isle Royale it was listed by Laurence Dayton on April 29 and May 8, 1937, and by N. A. Wood (4 birds) on May 5, 1930.

SUMMER.—Eggs are found from late April to mid-June.

Lower Peninsula.—Walter Koelz (1923: 37) reported that the species probably bred yearly in the vicinity of Waterloo, Jackson County; he found a nest and eggs there in May, 1911. Roger T. Peterson wrote that the species bred during the summer of 1929 near Stony Lake, Napoleon Township, Jackson County, but he offered no exact data. In Convis Township, Calhoun County, Walkinshaw (1941: 116) found 2 egg sets, on May 8, 1932 (hatching occurred on May 15), and on May 19, 1935; on the edge of Battle Creek he found a 4-egg set on April 26, 1935. Gibbs (1885: 151) knew of at least 1 record in Kalamazoo County—a downy young (U.M.M.Z.) taken in early June, 1877, by B. F. Sykes. In Comstock Park, near the Grand River and on the north edge of Grand Rapids, Edward R. Ford discovered a nest with 4 eggs on May 5, 1923. Barrows (1912: 178) mentioned several other southern records but without exact data. In summer in the Douglas Lake, Cheboygan County, vicinity (Linsdale, 1936: 162; Blanchard and Nelson, MS of 1937), the species "has recently proved to

be very common in open and sedgy or grassy marshes''; a young bird still unable to fly was found there as late as July 29.

Upper Peninsula.—Walkinshaw wrote that in the Munuscong Bay area, Chippewa County, he found this snipe very common throughout the month of June, 1933 to 1935 (see also Leonard Wing, 1940: 177). At Munuscong Bay, F. C. Gillett discovered 2 nests in 1934: 1 with eggs on May 16 (young hatched June 1); 1 with young on June 5. A female taken July 3, 1914, by Frank Novy (N. A. Wood, 1914: 61-62) at Whitefish Point in the same county contained an egg about two-thirds developed. On June 11, 1935, near Seney, Schoolcraft County, Walkinshaw caught and banded a downy young.

FALL.—The main flight is reported from August to early November.

Upper Peninsula.—On Isle Royale, the Snipe was noted not uncommonly from mid-August to mid-October (N. A. Wood, Peet, and McCreary, 1906: 122; Peet, 1909: 345-46; 1909a: 119; and other data). It was recorded near Covington, Baraga County (October 5, 1934, 1 by Trautman); in the Huron Mountains, Marquette County (until October 29—S. S. Gregory, Jr., 1929: 175; T. Gregory, 1933: 6, 8); and at Blaney, Schoolcraft County (regularly from late August to late October and not uncommonly in the first part of November, by Christofferson).

Lower Peninsula.—Clyde M. Smith collected 6 (U.M.M.Z.) on October 15, 1939, at Bellaire, Antrim County, and J. Claire Wood (1913: 15) flushed 3 on October 25, 1912, at Lincoln, Alcona County. The species was seen on Charity Island, Huron County, from August 24 to October 8, 1910 (N. A. Wood, 1911: 89), and on Fish Point, Tuscola County, 1 (U.M.M.Z.) was collected on November 5, 1927, by Walter E. Hastings. The species was listed in Kalamazoo County, from July to November 20, and occasionally in winter (Gibbs, 1885: 151; F. W. Rapp, 1931: 9); and in Jackson County, 20 Snipe were seen (at Portage Lake) by R. E. Olsen and A. D. Tinker on October 3, 1927, and 1 (U.M.M.Z.) was collected (in Norvell Township) by L. W. Watkins on November 13, 1893. This snipe has occurred commonly in Washtenaw (Aldo Leopold, 1930: 190; 1931: 214) and Wayne (Swales' notes) counties, and specimens (U.M.M.Z.) have been taken there from July to mid-November. In the Point Mouillee marsh, in the northeastern extremity of Monroe County, 82 birds were noted by Trautman and E. L. Wickliff on September 14, 1932. In the Toledo-Erie marsh area (L. W. Campbell, 1940: 73, 188, 202) the main flight occurs on the average from August 10 to October 30, a few birds remaining there through November.

WINTER.—In the Ann Arbor region N. A. Wood has seen the species throughout the winter along the Hall Brook, in Lodi Township, Washtenaw

County; among other records is that of a specimen (U.M.M.Z.) collected by A. E. Staebler near Ann Arbor on February 14, 1936. Gibbs (1885: 151; 1889: 189) stated that in Kalamazoo County Snipe were taken throughout the winter in very mild seasons; F. W. Rapp (1931: 9) mentioned occurrences at Vicksburg in the same county on January 1 of both 1921 and 1923. Verne Dockham reported 1 in Clare County on the west branch of the Cedar River, east of Harrison, on February 24, 1935, and 1 near the Au Sable River at Mio, Oscoda County, on December 22 and 28, 1938, and on January 1 and 8, 1939.

*Numenius phaeopus hudsonicus* Latham  
Hudsonian Curlew

Rare transient.

First listed for Michigan by Gibbs (1879: 493).

SPRING.—Arrival is reported from the last week in April to the first week in June.

Lower Peninsula.—J. J. Stophlet saw 153 in the Erie marsh on May 30, 1934 (L. W. Campbell, 1940: 73-74). On the St. Clair Flats, St. Clair County, a "flock of perhaps 200" (1 specimen collected) was seen on May 25, 1902 (Swales, 1902: 139; Barrows, 1912: 204-7), and a flock of 130 on May 22, 1934 (on Strawberry Island, by R. E. Olsen and D. W. Douglass). At Forestville, Sanilac County (Barrows, 1912: 204-7), an individual was secured April 23, 1906. On Saginaw Bay this curlew has been observed 4 or more times: at Fish Point, Tuscola County, May 24, 1936, a flock of 25, reported by Trautman; at Sand Point, Huron County, May 26, 1931, a flock of about 100, and on May 26, 1932, one of about 90 (specimen in U.M.M.Z.), both reported by D. W. Douglass; and at Tawas Point, Iosco County, June 1, 1940, several Hudsonian Curlews photographed by Brigham (1940: 121). In Crawford County, about 10 miles northwest of Roscommon, Brigham noted 2 individuals on June 2, 1941, and photographed one of them.

Upper Peninsula.—At Whitefish Point, Chippewa County, N. A. Wood (1914: 62) saw a flock of about 25 on May 22, and Mrs. Curren Hawkins collected a specimen (U.M.M.Z.) on June 3, 1931. Jan Metzelaar (N. A. Wood, 1929: 113) secured a specimen (U.M.M.Z.) that had been shot May 30, 1925, at Newberry, Luce County. Christofferson stated that in 1931 he examined a specimen shot by Charles Duell near Manistique, Schoolcraft County, in the latter part of May, 1907.

FALL.—In the Upper Peninsula a specimen (U.M.M.Z.) was taken September 24, 1928, by Mrs. Curren Hawkins (N. A. Wood, 1929: 113) at Whitefish Point, Chippewa County. In the Lower Peninsula 2 were seen by Trautman at Fish Point, Tuscola County, on August 26, 1934; and 1

(Mich. State College) was collected at Saginaw in the fall of 1896 (Barrows, 1912: 204-7). L. W. Campbell (1940: 73-74, 188) listed this curlew in the Toledo-Erie marsh area on several occasions from July to the last week in September.

*Numenius borealis* (Forster)  
Eskimo Curlew

Formerly a rare transient.

This curlew, now virtually extinct, formerly occurred in Michigan in migration. The specimen collected October 28, 1879, "on the north marsh at Kalamazoo" by B. F. Sykes (Gibbs, 1879: 493; 1885: 166; Barrows, 1912: 207), was recently deposited in the Museum of Zoology as a part of the F. H. Chapin collection. W. H. Collins (Barrows, 1912: 207) listed the species as "quite common in Detroit markets spring and fall" and mentioned "two specimens taken at St. Clair Flats in the spring of 1883." The present location of these specimens is not known.

*Bartramia longicauda* (Bechstein)  
Upland Plover

Transient, more common in fall than in spring. Uncommon summer resident in Lower Peninsula; occurs in summer in Upper Peninsula.

First listed for Michigan by Sager (1839: 416).

SPRING.—Formerly abundant in Michigan, the Upland Plover has been rare since the late nineteenth century. In the last 10 years it has steadily increased in numbers. Movement takes place principally in the latter half of April and in May.

Lower Peninsula.—According to L. W. Campbell (1940: 74, 188) arrival in the Toledo-Erie marsh area has averaged May 4, the earliest date being April 17 (1932). J. B. Purdy wrote on May 3, 1909, that at Plymouth, Wayne County, "one bird made its appearance April 18th [1909] and two more on April 19th. . . . I have heard them quite often since." The species usually arrives in the third and fourth weeks of April (though occasionally earlier) in the Ann Arbor region, where specimens (U.M.M.Z.) have been collected, and 1 to 3 individuals are noted in spring almost every year. The Upland Plover has appeared at a similar time about Battle Creek, Calhoun County (rather regularly in the 1930's according to Walkinshaw, 1941: 115; and notes). Gibbs (1885: 166), referring to the period of former abundance, wrote that in Kalamazoo County the species "arrives in the latter part of April as a rule, but sometimes earlier." For 7 consecutive years in the Mio region of Oscoda County, Verne Dockham observed first arrivals between April 25 (1939) and May 12 (1935). Maurice G. Brooks observed 12 near Grayling, Crawford County, from May

19 to 21, 1939. Three specimens (1 in U.M.M.Z.) were collected by C. H. Westman at Waters, Otsego County, on May 15, 1938. The species was recorded on Beaver Island, Charlevoix County, by N. A. Wood on May 6, 1929, and in the Douglas Lake area, Cheboygan County, by Blanchard and Nelson (MS of 1937) on May 4 in 1937.

Upper Peninsula.—Christofferson (at Blaney, Schoolcraft County) and Bryens (at McMillan, Luce County) have found individuals on April 24 and 27 (1933, 2 on each day at Blaney), on May 4 (1934, 1 at McMillan), and a few times later. Walkinshaw listed the species at Seney, Schoolcraft County, on May 6, 1937.

SUMMER.—Egg sets have been found from the first week of May to the last of June.

Lower Peninsula.—In Detroit in 1942 Mrs. Dick Findlay found a nest that contained 1 egg on April 23 and 4 eggs May 2; she photographed the eggs on May 8. In 1939 in the same locality 6 nests with 4 eggs each were discovered from June 1 to "about July 1" (Klingersmith, 1939: 92-94). In the Ann Arbor region 1 or 2 individuals have been observed nearly every summer, and a nest was found in 1938 (west of Ypsilanti) by M. T. Sturgeon. Walter Koelz (1923: 38) stated that 2 pairs nested every year at Waterloo, Jackson County, but he supplied no data; Fargo listed the species in the county on June 11, 1924, and noted an individual at Jackson on July 6, 1934. In June, 1933, Walter E. Hastings photographed an adult on a nest near Luther, Lake County. According to data received from various investigators, the Upland Plover seems to be fairly well distributed in the vicinity of Crawford County. In Oscoda County, 8 miles southwest of Mio, a fledgling was found by Van Tyne on June 20, 1941; and at Red Oak, 9 miles northwest of Mio, on May 29, 1933, a nest with 4 eggs was found by Max Laage and photographed by Walkinshaw. In Kalkaska County west of Frederick (Crawford County), another nest containing 4 eggs was discovered on June 5, 1938, by Walkinshaw. In southeastern Otsego County, a third nest, with 4 eggs, was noted by Trautman on June 22, 1926. In the northeastern corner of Otsego County, Van Tyne (1925: 615) observed an adult with a week-old young on July 9, 1923. Blanchard and Nelson (MS of 1937) find that this species, having "clearly increased in abundance" about Douglas Lake, Cheboygan County, is now seen there "frequently"; they report a half-grown young photographed in that locality on July 3.

The Upland Plover doubtless breeds elsewhere than in the areas mentioned, since it has been found from late May to early July in numerous other localities: Calhoun County (Walkinshaw, 1930e: 290); Berrien County (N. A. Wood, 1922: 11); Ottawa County (near Allendale, a "pair" on May 19, 1939, that "acted as if resident"—G. A. Ammann); Bay County

(10 miles east of Bay City, 1 bird on June 18, 1939, that "acted as if nesting"—Ammann); and Iosco County (near East Tawas—Kittredge, 1925: 144). In the Upper Peninsula it was reported in Chippewa County (at Strongs, 2 on May 29, 1934, by Walkinshaw); in Luce County (at McMillan, 1 on June 24, 1940, by Bryens); in Schoolcraft County (at Blaney, 2 on both June 16, 1931, and May 22, 1932, by Christofferson); and in Delta County (at Rapid River, June 6, 1931—Leonard Wing, 1940: 177).

FALL.—The southward movement occurs chiefly in July and August.

Upper Peninsula.—Individuals were listed during the last week of July at Little Lake, Marquette County (Kittredge, 1927: 259), as well as at Ironwood, Gogebic County, and Rexton, Mackinac County (Leonard Wing, 1940: 177; and notes). Bryens has reported a few at McMillan, Luce County, in July and August, the largest number being 8 (on August 6, 1938). On Drummond Island, Chippewa County, on July 19, 1938, a flock of about 15 (1 in U.M.M.Z.) was flushed by R. A. MacMullan and T. D. Hinshaw.

Lower Peninsula.—During 6 consecutive years in the Mio region, Oscoda County, the species departed between August 2 (in 1937) and August 22 (in 1940), according to Verne Dockham. In northwestern Huron County, N. A. Wood and Gaige (1911: 282) saw it on August 3 in 1909 and several times thereafter. F. Martin writes that a flock of 11 was present from August 2 to 17, 1940, on the Prairie Farm, Alicia, Saginaw County. Three birds were at Three Oaks, Berrien County (Brodkorb, 1929: 397-98), on August 26, 1928. Gibbs (1885: 166) stated that in Kalamazoo County the species remained until October 15 and occasionally into November, but probably referred to wounded birds, since the species was extensively hunted at that time. Near Dixboro, Washtenaw County, an individual was seen by H. W. Hann on July 22, 1931. There is 1 report of early flocking: R. E. Morrill, on June 28, 1941, at the Wayne County Airport, 4 miles southeast of Wayne, found at least 50 Upland Plovers, and a slightly larger number 3 days later. At Detroit, Klingersmith (1939: 92-94) observed none in Redford Township after late July; Swales (1904b: 84; and notes) examined a bird shot in Hamtramck Township on October 20, 1902. In the Toledo-Erie marsh area (L. W. Campbell, 1940: 202), main flight has been noted on the average between July 11 and August 21, and a few birds remain through the first week of September.

*Actitis macularia* (Linnaeus)

Spotted Sandpiper

Common summer resident.

First listed for Michigan by Sager (1839: 416).

SPRING.—Arrival in southern counties is reported from late April to early May; in the Upper Peninsula during the first 2 weeks of May.

Lower Peninsula.—In the Toledo–Erie marsh area (L. W. Campbell, 1940: 75, 188, 202), individuals have been noted in mid-April, but the average date of arrival for individuals has been April 23, and for main flight, May 1. Arrival has been reported at Detroit (Swales) in the last week of April and in early May; at Ann Arbor frequently in mid-April, though usually later; at Battle Creek (Walkinshaw) and in Kalamazoo County (Gibbs, 1885: 166; 1895: 81–83; F. W. Rapp, 1931: 10) in the latter part of April or in early May. The species was seen on May 3, 1918, in Berrien County (N. A. Wood, 1922: 11); on May 8, 1879, at Grand Rapids (Gibbs, 1902: 10), on May 6, 1940, at the Prairie Farm, Alicia, Saginaw County (3 or 4, by G. A. Ammann); at Sand Point, Huron County, on April 30, 1932 (1, by D. W. Douglass), and on May 24, 1936 (50, by Trautman, T. D. Hinshaw, and others); and on May 1 near Douglas Lake, Cheboygan County (by Blanchard and Nelson, MS of 1937).

Upper Peninsula.—Arrival was reported at Munuscong Bay, Chippewa County, and at Blaney, Schoolcraft County, usually in the first week of May (by Christofferson); at Whitefish Point, Chippewa County, on May 9, 1936 (by Brodkorb); in the Huron Mountain region, Marquette County, on May 17 (S. S. Gregory, Jr., 1929: 175); and on the mainland of Keweenaw County by May 4 (sometimes 6 in a flock—N. A. Wood, 1933: 717). On Isle Royale first arrivals were noted on May 5, 1930, by N. A. Wood; on May 9, 1937, by Laurence Dayton.

SUMMER.—Nesting has been reported from mid-May to late July; eggs are most commonly found in late May and June.

Lower Peninsula.—In the Ann Arbor area R. E. Morrill found a nest with 4 eggs as early as May 16, 1936, and J. W. Harris collected 7 sets (U.M.M.Z.) of 3 to 5 eggs each between May 21 and 26 (1894 and 1895). Walkinshaw discovered a nest with 4 eggs near Battle Creek on May 14, 1931; N. A. Wood (1922: 11) listed the species as a common summer resident in Berrien County in 1917 and 1919. In Huron County, N. A. Wood and Gaike (1911: 282) found one nest with 2 eggs on June 16 and another with 4 eggs on June 29, 1908, and N. A. Wood (1912a: 183) estimated that 50 pairs of Spotted Sandpipers nested on Charity Island in 1911. The species was listed by Chaney (1910: 273) as a common breeder at Hamlin Lake, Mason County, in 1909; a set of 4 eggs (U.M.M.Z.) was collected in Mecosta County by Lewis Brackett on May 23, 1896; the species was recorded by Van Tyne (1925: 615) as numerous in Charlevoix County in 1923. A. E. Staebler and L. D. Case found a nest with 4 eggs on South Manitou Island, Leelanau County, on June 13, 1940; in the vicinity of Douglas Lake, Cheboygan County, Blanchard and Nelson (MS of 1937) stated that they found nests regularly from the third week in May to late July.

Upper Peninsula.—A. D. McGrew (1916: 194) estimated that 25 pairs of Spotted Sandpipers bred on Goose Island, Mackinac County, in the summer of 1916. N. A. Wood (1914: 62) saw adults with young at Whitefish Point, Chippewa County, on June 27 and July 10, 1914; at Blaney, Schoolcraft County, Christofferson found a nest with 6 eggs on July 6, 1926, from which 4 young hatched 2 days later; he banded 4 young there on June 19, 1937. S. D. Knox found a nest with 4 eggs in the northern part of Luce County on June 7, 1937; Walkinshaw found 1 with 2 eggs near Grand Marais, Alger County, on June 26, 1933; and N. A. Wood (1918: 6) saw an adult with 3 young near Onota, Alger County, on June 25, 1916. The species was listed as an uncommon summer resident in the Huron Mountain region, Marquette County (S. S. Gregory, Jr., 1929: 175); several young were seen on Mallard Lake, Iron County, by John L. George and R. L. Patterson in 1938. N. A. Wood (1933: 717) recorded the species from Copper Harbor, Keweenaw County, in 1931.

FALL.—Departure is recorded in August and September in the Upper Peninsula; in September and early October in the southern counties.

Upper Peninsula.—This sandpiper was common on Isle Royale in August and early September in 1905, and some were noted there until mid-September (Peet, 1909a: 117; 1909: 346); in 1929 it was noted there until September 20. In the Huron Mountains, Marquette County, S. S. Gregory, Jr. (1929: 175), found none of the species after September 6, but Ira N. Gabrielson saw 1 there on September 21 and 1 on September 27 in 1936. At Blaney, Schoolcraft County, and at Munuscong Bay, Chippewa County, Christofferson has regularly recorded a few a day until late August or early September; in 1936 at Blaney, he noted 1 on September 29 and 1 on the next day.

Lower Peninsula.—Blanchard and Nelson (MS of 1937) state that in the Douglas Lake area, Cheboygan County, "juveniles are still migrating south the second week in September." W. J. Howard collected an individual (U.M.M.Z.) in the Wilderness State Park, Emmet County, on September 20, 1934. On Charity Island, Huron County, N. A. Wood (1911: 91) found a few of the species daily until September 28. The species is noted occasionally as late as October in Kalamazoo County (Gibbs, 1885: 166; see also F. W. Rapp, 1931: 10), in the Ann Arbor region, and about Detroit (Swales). In the Toledo-Erie marsh area (L. W. Campbell, 1940: 75, 188, 202) late summer flocking has been recorded in July. The end of the main flight there has averaged September 10, last stragglers, September 22; a few have remained on occasion until October 14.



*Tringa solitaria solitaria* Wilson  
Eastern Solitary Sandpiper

Fairly common transient, more common in fall than in spring. Twice noted in summer (Livingston and Jackson counties).

First listed for Michigan by Sager (1839: 416): "*Totanus chloropygius*."

SPRING.—Main flight apparently begins in southern counties in late April, and in the Upper Peninsula in mid-May; it ends in late May.

Lower Peninsula.—In the Toledo–Erie marsh area (L. W. Campbell, 1940: 75, 188, 202), the Solitary Sandpiper has been present from the last week in April through May, main flight averaging May 5 to May 18. At Detroit, Swales saw the species from late April (6 birds on April 26, 1908) to the latter part of May. A few have been noted regularly in the Ann Arbor region from late April to the middle of May; on May 2, 1908, 5 (U.M.M.Z.) were seen by N. A. Wood near Ann Arbor. The species was listed on April 18, 1924, in Jackson County (Fargo), and from about April 25 to mid-May in Calhoun County (Walkinshaw, 1941: 116). Gibbs (1885: 166) and F. W. Rapp (1931: 10) found it "common" in Kalamazoo County. In Berrien County it was "rather rare," seen from May 6 to 9 only (N. A. Wood, 1922: 11). At Sand Point, Huron County, one was seen on May 2, 1931, and one on May 13, 1933, by D. W. Douglass; 10 miles northeast of Gaylord, Otsego County, 2 were recorded on May 7, 1939, by R. L. Patterson; on Beaver Island, Charlevoix County, it was found to be rather common on May 10, 12, and 15, 1929, by James H. Wood and N. A. Wood.

Upper Peninsula.—Christofferson (at Munuscong Bay, Chippewa County, and at Blaney, Schoolcraft County) and Bryens (at McMillan, Luce County) have recorded a few individuals from mid-May (rarely earlier), to the end of the month. N. A. Wood (1918: 6; 1933: 717) collected a specimen (U.M.M.Z.) at Whitefish Lake, Alger County, on May 25; he observed the species at Lake Fannie Hooe, Keweenaw County, on May 11, and collected 1 (U.M.M.Z.) there on May 18. In the Huron Mountain region, Marquette County, it has been rather common from May 17 to 26 (S. S. Gregory, Jr., 1929: 175; see also Christy, 1925: 210).

SUMMER.—An individual was listed on June 29, 1931, in Livingston County, by H. W. Hann, and 1 (U.M.M.Z.) taken July 5, 1934, at Portage Lake, Jackson County, by James H. Wood.

FALL.—Main flight apparently extends from about mid-July to mid-September.

Upper Peninsula.—The species has been noted on Isle Royale, where it is rather common in fall, from July 23 (1929, by Walter E. Hastings) to

September 15 (U.M.M.Z.; N. A. Wood, Peet, and McCreary, 1906: 122; Peet, 1909a: 109, 118; 1909: 346). It was observed about the Porcupine Mountains, Ontonagon County (N. A. Wood, 1905: 176; N. A. Wood, Peet, and McCreary, 1906: 113-14), from July 18 (1904) to August 20 (1935). It was noted near Trout Creek in the same county on October 4, 1934 (1 by Trautman); near Golden Lake, Iron County, on August 8, 1938 (1 by John L. George and R. L. Patterson); in Dickinson County from July 29 to August 24, 1909 (flocks of 12 to 15—Gauge, 1914: 79); in the Huron Mountain region, Marquette County, from July 21 to October 7 (S. S. Gregory, Jr., 1929: 175); and at Whitefish Lake, Alger County, from July 11 to 13, 1916 (N. A. Wood, 1918: 6). Bryens (McMillan, Luce County) and Christofferson (at Blaney, Schoolcraft County, and Munuscong Bay, Chippewa County) have found this species more numerous and more regular at this season than in spring; they record it from early or middle July to about September 20. At Blaney, Christofferson observed 1 to 5 birds frequently between July 15 and September 17, 1937. Specimens (U.M.M.Z.) were taken in Chippewa County at Vermilion (N. A. Wood, 1914: 62) on August 14, 1914(1), and on Drummond Island, July 29, 1938 (1, by T. D. Hinshaw).

Lower Peninsula.—Although in the Douglas Lake area, Cheboygan County, the Solitary Sandpiper seems to have been more common formerly than now (see N. A. Wood, Smith, and Gates, 1916: 9; Compton, 1914: 178-80), it is now recorded a few times each summer (U.M.M.Z.; Blanchard and Nelson, MS of 1937). R. T. Hatt noted an individual on South Manitou Island, Leelanau County, on July 11 and 12, 1940, and Van Tyne (1925: 615) found a flock of 15 at Boyne Falls, Charlevoix County, on August 16, 1923. The species was "frequent" in August in the vicinity of Crawford County (N. A. Wood and Frothingham, 1905: 46; Frothingham, 1906: 158); "common" after September 9 in Mason County (Cheney, 1910: 273); numerous in Manistee County on August 7, 1930 (Hermann, 1931: 311); and present on Charity Island, Huron County, from July 10 to September 24 (N. A. Wood, 1911: 91; 1912a: 183). It was rare in Berrien County (noted September 10 only—N. A. Wood, 1922: 11), but rather common in Kalamazoo County, occurring there from early August to October 2 (Gibbs, 1885: 166; F. W. Rapp, 1931: 10). At Lansing in 1906 it was common all through September, and a few were seen October 3 (Barrows, 1912: 193-95). This sandpiper is somewhat more numerous in the Ann Arbor, Detroit (Swales), and Toledo-Erie marsh (L. W. Campbell, 1940: 188, 202) areas in fall than in spring; it has been found in these regions from the first or second week of July to late September and the first week of October; in the Toledo-Erie marsh region main flight has occurred on the average from July 19 to September 3.

*Catoptrophorus semipalmatus inornatus* (Brewster)  
Western Willet

Rare transient.

A specimen was collected by J. J. Stophlet in the Erie marsh, Monroe County, on May 5, 1935 (L. W. Campbell, 1940: 75-76), and Jacob Reighard collected several specimens (examined by N. A. Wood, but not preserved) near Ann Arbor in May, 1889 (Barrows, 1912: 733). Other records are for July and August: an individual seen August 24, 1936, at Cheboygan, by Theodora Nelson and others; 1 seen August 20, 1925, at Michilinda, Muskegon County, by Praeger (1926: 379-80); 1 seen July 5, 1930, at South Haven, Van Buren County, by Black (1934: 100, corrected 1935: 447); 4 seen August 7, 1933, at Benton Harbor, Berrien County, by W. P. Proctor (Weston, 1934: 231-32); 2 seen at Union Pier, Berrien County, August 24, 1934, by Raz (1935: 200); 1 (U.M.M.Z.) collected of 3 observed on August 20, 1935, at Whitmore Lake, Livingston County, by Trautman.

*Totanus melanoleucus* (Gmelin)  
Greater Yellow-legs

Fairly common transient.

First listed for Michigan by Sager (1839: 416).

SPRING.—In southern counties the spring flight is reported principally from early or middle April to early May.

Lower Peninsula.—In the Toledo-Erie marsh area (L. W. Campbell, 1940: 76, 189, 202) the species has arrived by the middle of March, and has been present in numbers on the average from April 14 to May 8. At Detroit from 1891 to 1911 Swales recorded it in late April and early May, but only irregularly and in very small numbers. In the Ann Arbor region and in Jackson County (mainly at Portage Lake) it has often arrived in the first 2 weeks of April (specimens in U.M.M.Z.), and flocks are not uncommon there by the middle of the month. At Portage Lake, Jackson County, flocks of 15 to 30 have occurred from April 12 (1934, U.M.M.Z.) to April 29 (1934); on April 19, 1936, 80 birds were noted there by R. E. Olsen, A. D. Tinker, and T. D. Hinshaw. In the 1930's about Battle Creek, Walkinshaw (1941: 115; and notes) recorded this wader almost every spring by the middle or latter part of April. Gibbs (1885: 166) called it "not rare" in Kalamazoo County, but F. W. Rapp (1931: 10) has found only a few of the species there (from April 25 to May 7). At Fish Point, Tuscola County, in 1926, N. A. Wood observed a few from April 25 (10) to May 14 (1), the maximum being 20 on May 3; on Beaver Island, Charlevoix County, in 1929, James H. Wood and N. A. Wood noted flocks of 10 to 20 (U.M.M.Z.) from May 2 to May 10, and smaller numbers later (U.M.M.Z., May 14).

Upper Peninsula.—At Munuscong Bay, Chippewa County, in 1933 (Van Tyne and Max M. Peet), there were about 6 of the species on May 1, and several hundred on May 6; in 1934 (R. E. Olsen and T. D. Hinshaw), there were 300 on May 7. Christofferson has recorded a few there and at Blaney, Schoolcraft County, in late April and in May. Bryens recorded 10 at McMillan, Luce County, on April 28, 1938, and a flock of 12 there on May 11, 1940. At Whitefish Point, Chippewa County, Brodkorb noted several of the species almost daily during the second week of May, 1936 (maximum of 10 on May 10), and 2 on May 19. The species was rare in the spring of 1931 at Copper Harbor, Keweenaw County (N. A. Wood, 1933: 717), only 3 (1 in U.M.M.Z.) being seen (on May 11 and 12).

SUMMER.—L. W. Campbell (1940: 76; and notes) recorded a very few summer birds in the Erie marsh, Monroe County, among them a group of 25 on June 30, 1937, that was still present July 5.

FALL.—Southward flight, more protracted than spring, extends mainly from late July or early August through most of October.

Upper Peninsula.—On the several Museum of Zoology expeditions to Isle Royale, the species was found only twice: August 1, 1905 (1 seen—Max M. Peet, 1909: 370), and July 29, 1929 (listed by Walter E. Hastings). On October 4, 1934, 7 were observed by Trautman on the East Branch of the Ontonagon River, Ontonagon County. Christofferson records fair numbers in October, at a time when the migration appears to be already on the wane much farther south. At Munuscong Bay, Chippewa County, he reported seeing 50 on October 19 (1928) and 20 on October 24 (1929); and at Blaney, Schoolcraft County, he found only slightly smaller numbers in October and stragglers to mid-November (banding one there on November 17, 1935).

Lower Peninsula.—In the Douglas Lake area, Cheboygan County, a few have been observed on occasion in late summer, on July 24 and thereafter (Blanchard and Nelson, MS of 1937; see also N. A. Wood, Smith, and Gates, 1916: 8). The species has also been noted, usually very sparingly, in Manistee County (August 7, 1930—Hermann, 1931: 311); in Mason County (August 17, 1909—Chaney, 1910: 273); in Rosecommon County (2 on October 9, 1938, at Houghton Lake—Trautman); in northwestern Huron County (N. A. Wood, 1911: 90; N. A. Wood and Gaige, 1911: 282); and in Tuscola County (Fish Point, 50 on September 27, 1934—N. A. Wood and R. E. Olsen; 2 on October 1 and 2, 1933, specimens in Max M. Peet collection). In Kalamazoo County, where the species seems to be “not rare” (Gibbs, 1885: 166), Pirnie wrote (October 19, 1932) that in the vicinity of the Kellogg Bird Sanctuary the species was rather common (“one to twelve at most lakes visited”). In Jackson County and in the Ann

Arbor region, a few have been observed fairly regularly from early and middle July (July 15, 1928, 2 noted at Ann Arbor by A. D. Tinker) to late October (October 28, 1934, 6 seen at Portage Lake, Jackson County, by R. E. Olsen, A. D. Tinker, Trautman, and L. E. Hicks; October 30, 1917, 1 shot by F. M. Gaige), and rarely in early November. Swales had very few fall records for Detroit—all in October and including 1 as late as October 30 (1904, 1 shot). On September 13, 1932, Trautman listed 70 at the Erie marsh, southeastern Monroe County. In the Toledo-Erie marsh area as a whole (L. W. Campbell, 1940: 76, 189, 202), numbers have been present on the average from July 28 to October 2, some individuals remaining until late November.

*Totanus flavipes* (Gmelin)  
Lesser Yellow-legs

Common transient, more common in fall than in spring. Reported in summer in southern counties.

First recorded for Michigan by Sager (1839: 416).

SPRING.—Northward flight is reported in southern counties from the middle of April to the middle of May, and somewhat later in the Upper Peninsula.

Lower Peninsula.—In the Toledo-Erie marsh area (L. W. Campbell, 1940: 76-77, 189, 203) the species arrived by mid-March, main flight occurring on the average from mid-April to mid-May. Among other observations at Detroit, Swales noted "200 or more" on May 5, 6, and 10 (1906), and "100 or more" on May 12 (1906). In the Ann Arbor region, as well as in Jackson County (chiefly at Portage Lake), the species has been seen regularly by the middle of April, but a specimen (U.M.M.Z.) was collected north of Dexter, Washtenaw County, on March 24 in 1933. Groups of 20 or 30 are not uncommon there. On April 29, 1934, 60 were noted in the vicinity of Portage Lake, Jackson County, by R. E. Olsen, A. D. Tinker, and Trautman. The species seems to be at least fairly common about Battle Creek (Walkinshaw, 1941: 115; and notes) and in Kalamazoo County (Gibbs, 1885: 166; F. W. Rapp, 1931: 10). During several expeditions in Berrien County (N. A. Wood, 1922: 11) only 2 birds were observed (on May 9, 1918). On Saginaw Bay at Fish Point, Tuscola County, and at Sand Point, Huron County, this wader has been noted the last few days of April (30 birds on April 26, 1926, at Fish Point, by N. A. Wood) and well into May; at Sand Point, where it has been more common than the Greater Yellow-legs, it has been "generally present in two's or three's or small flocks up to a dozen" (D. W. Douglass, 1931 to 1933). At Cecil Bay, Emmet County, it was "migrating in some numbers" on May 4, 1937

(Blanchard and Nelson, MS of 1937) ; on Beaver Island, Charlevoix County, in 1929 it was found in flocks of 20 to 40 from May 2 to May 10 (James H. Wood and N. A. Wood) and in smaller numbers later.

Upper Peninsula.—In 1934 at Munuscong Bay, Chippewa County, where this species was apparently far less common than the Greater Yellow-legs, only a few (maximum of 20 on May 7) were observed by R. E. Olsen and T. D. Hinshaw between May 6 and 14; similar numbers of Lesser Yellow-legs were recorded there by Christofferson in other years, occasionally even in late April.

SUMMER.—L. W. Campbell (1940: 76–77) saw 12 Lesser Yellow-legs in the Erie marsh on June 21, 1936; 10 on June 25, 1934; and 25 on June 30, 1937. Swales saw an individual at Detroit on June 30, 1906. Evidence obtained from specimens (L. W. Campbell, 1940: 76–77) suggests that many of these summer birds are in poor condition.

FALL.—Southward flight, heavier and slower than the spring flight, occurs principally in July and August in the Upper Peninsula, and from July through September in southern counties.

Upper Peninsula.—On Isle Royale the Lesser Yellow-legs has been noted singly and in small flocks from July 26 to September 15 (U.M.M.Z.; N. A. Wood, Peet, and McCreary, 1906: 122; Peet, 1909a: 119; 1909: 346). Several birds were recorded near the Lake Superior shore of Ontonagon County on July 21 and (U.M.M.Z.) August 3, 1904 (N. A. Wood, Peet, and McCreary, 1906: 113), and also in Dickinson County (a flock of 8) on July 29, 1909 (Gaige, 1914: 79). At Blaney, Schoolcraft County, and at Munuscong Bay, Chippewa County, Christofferson found the species chiefly in July and August, though also later; at Munuscong Bay, Max M. Peet collected a specimen on July 29, 1934. Van Tyne (1923: 22) saw flocks at Les Cheneaux Islands, Mackinac County, in August (1918 and 1920) and found this species more common there than the Greater Yellow-legs.

Lower Peninsula.—The Lesser Yellow-legs has been observed in fall migration in the vicinity of Douglas Lake, Cheboygan County, from mid-July to September 11 (N. A. Wood, Smith, and Gates, 1916: 8; Blanchard and Nelson, MS of 1937) ; Charlevoix County (Van Tyne, 1925: 615) ; South Manitou Island, Leelanau County, July 31, 1940 (3 seen feeding, by A. E. Staebler) ; and Mason County (Chaney, 1910: 273). On Saginaw Bay, at Charity Island, 2 birds were noted on August 19 in 1910 (N. A. Wood, 1911: 90–91) ; at Fish Point, in 1934, flocks were found by N. A. Wood and R. E. Olsen from July 18 (100 birds) to September 29 (10 birds, one in U.M.M.Z.), and specimens (U.M.M.Z.) were taken by N. A. Wood on September 27, 1934, and September 28, 1925. The species occurs more or less commonly in Kalamazoo County from July 24 to October 6 (Gibbs, 1885:

166; F. W. Rapp, 1931: 10); in Calhoun County (Mud Lake, Convis Township, 50 birds seen August 12, 1934, by R. E. and H. A. Olsen); in Ingham County (flock of 11 on October 28, 1906—Barrows, 1912: 193); and in Jackson County (at Jackson, "some" in mid-July, 1933—Fargo; at Portage Lake, 30 on August 16, 1936, 30 on September 23, 1934, and 4 on October 28, 1934—R. E. Olsen, A. D. Tinker, and others). In the Ann Arbor region a specimen (U.M.M.Z.) was taken as late as October 28, 1917, by F. M. Gaige. Some years at Detroit, Swales found this wader common in August; he noted 50 on August 10 (1907), 100 on August 5 (1905), and saw a few in September to the last day of the month (1 in 1905). In the Toledo-Erie marsh area, L. W. Campbell (1940: 189, 203) found numbers of the species from early July to early October, and a few until early November.

*Calidris canutus rufa* (Wilson)  
American Knot

Uncommon transient, found chiefly along the Great Lakes; more uncommon in fall than in spring.

First listed for Michigan by Sager (1839: 416): "*Tringa cinerea*."

SPRING.—Main flight is reported from late May to early June. In the Toledo-Erie marsh area (L. W. Campbell, 1940: 77, 189, 203), where the species occurs in very small numbers only, it has been noted from mid-May to mid-June, groups being found there on the average from May 27, when 2 specimens (U.M.M.Z.) were collected in 1934, to June 1. Late June specimens taken at Forestville, Sanilac County (2 on June 20, 1903), and at Benton Harbor, Berrien County (1 on June 23, 1904), were examined by Barrows (1912: 181-82). On Sand Point, Huron County, D. W. Douglass and Max M. Peet saw 1 to 4 Knots several times and collected 3 specimens (1 in U.M.M.Z.) between May 23 and June 4, 1933; at the same place on May 24, 1936, Trautman (with A. D. Tinker and R. E. Olsen) saw 23 Knots, of which he collected 2 (1 in U.M.M.Z.). There are records of a few other observations (1926, 1930, 1931, 1932), similar in time and in numbers of birds, from elsewhere on Saginaw Bay, for example, Fish Point, Lone Tree Island, and the Bay County shoreline; Miller Empey collected 2 at Linwood, Bay County, on May 30, 1930; a specimen (U.M.M.Z.) was taken on Charity Island, Huron County, as late as June 12 (1912). Northward, at Cheboygan (Blanchard and Nelson, MS of 1937), another was secured on May 29, 1937. In the Upper Peninsula, at Whitefish Point, Chippewa County, Tyrrell (1931: 131) saw 2 Knots on June 5, 1930, and collected one of them.

FALL.—Blanchard and Nelson (MS of 1937) reported a specimen collected at Cheboygan on September 10, 1936. In Huron County 3 specimens (U.M.M.Z.) were taken at Oak Point on August 20 and 21, 1908 (N. A.

Wood and Gaige, 1911: 280-81); one (U.M.M.Z.) was taken and another seen on Charity Island on September 1, 1910 (N. A. Wood, 1911: 89), and 1 shot at Port Austin on September 4, 1899 (J. Claire Wood, 1900: 391). Trautman collected 2 (U.M.M.Z.) of 3 seen at Fish Point, Tuscola County, on August 26, 1934; and Miller Empey collected 1 at Linwood, Bay County, on September 29, 1915. In the Toledo-Erie marsh area L. W. Campbell (1940: 77, 189) has found individuals occasionally from mid-August to December 1 but on the average from mid-September to mid-November.

*Erolia melanotos* (Vieillot)  
Pectoral Sandpiper

Transient, common in Lower Peninsula; recorded only in Mackinac County in Upper Peninsula.

First listed for Michigan by Sager (1839: 416).

SPRING.—Arrival in southern counties is reported mainly from the second and third weeks in April to a corresponding time in May. In the Toledo-Erie marsh area L. W. Campbell (1940: 77, 189, 203) reported the species from the last week in March through May, main flight (a flock of 500 on April 9, 1933) averaging April 10 to May 8. At Detroit, Swales found Pectoral Sandpipers chiefly in late April and the first part of May: 25 on April 28, 1907; 12 on May 9, 1908; 20 on May 11, 1907; 8 on May 18, 1907. They have been common in spring in the Ann Arbor region: 3 reported on April 9 (1918, U.M.M.Z.), 75 on April 12 (1923), 100 on April 25 (1934), 200 in a single flock on April 30 (1890). In Jackson County, where their status is similar, Fargo found about 180 on April 27, 1924, and (mainly in the vicinity of Portage Lake) R. E. Olsen, A. D. Tinker, and Trautman observed 200 on April 29, 1934. Walkinshaw (1941: 116; and notes) recorded Pectoral Sandpipers in the Battle Creek area during several spring seasons in the 1930's. He listed these waders at Augusta, Kalamazoo County, on March 20, 1932; in the same county Gibbs (1885: 151) found them not rare but very irregular, whereas F. W. Rapp (1931: 9), at Vicksburg, called them rare. Three miles north of Linwood, Bay County, D. D. Law collected an individual (U.M.M.Z.) on May 11, 1939.

SUMMER.—L. W. Campbell (1940: 77) listed the species twice in the latter half of June in the Erie marsh, collecting a specimen (U.M.M.Z.) on June 21, 1936, and observing 6 on June 25, 1934.

FALL.—Movement seems to take place principally from mid-July to October. On Les Cheneaux Islands, Mackinac County (Van Tyne, 1923: 22), this species was "seen rather frequently during August of 1919 and 1920." Blanchard and Nelson (MS of 1937) reported it every summer (1934 to 1937) at several points in the Douglas Lake, Cheboygan County,



area, and collected specimens (U.M.M.Z.) there on August 6, 1934, and September 6, 1937. Clyde M. Smith took 3 specimens (U.M.M.Z.) at Bellaire, Antrim County, on October 15, 1939. On Saginaw Bay, this wader was observed in Huron County (N. A. Wood, 1912*a*: 182; N. A. Wood and Gaige, 1911: 281), on Charity Island on July 27, 1911 (1 in U.M.M.Z.), and at Oak Point on August 24, 1908. At Fish Point, Tuscola County, it was found from mid-September (1925, 4 specimens in U.M.M.Z.) to mid-October (100 birds on October 15, 1925; October 17, 1925, 2 in U.M.M.Z.) and to November 4 (1927, 1 in U.M.M.Z., by Walter Koelz). Barrows (1912: 182-83) reported "at least 300" near Lansing on August 19, 1897. In several southern counties the species has been observed more or less commonly from early July to sometime in October: in Kalamazoo County it was found to be not rare but irregular by Gibbs (1885: 151) and rare by F. W. Rapp (1931: 9); a specimen (U.M.M.Z.) was collected at Austin Lake, Kalamazoo County, on October 30, 1880; in Calhoun County at Mud Lake, Convis Township, 50 were seen August 12, 1934, by R. E. and H. A. Olsen; in Jackson County at Portage Lake numbers up to 20 were often reported from early July to mid-October at least, and 50 on October 3, 1937, by R. E. Olsen and A. D. Tinker; in the Ann Arbor and Detroit regions similar numbers were found; on October 22, 1918, 2 birds were taken at Ann Arbor by Max M. Peet. In the Toledo-Erie marsh area (L. W. Campbell, 1940: 77, 189, 203) the Pectoral Sandpiper has occurred from the first week in July to late November, main flight averaging July 18 to October 2.

*Erolia fuscicollis* (Vieillot)  
White-rumped Sandpiper

Uncommon transient.

First listed for Michigan by Miles (1861: 230): "*Tringa Bonapartii*."

SPRING.—Principal northward movement seems to take place in the latter part of May and in early June. In the Toledo-Erie marsh area (L. W. Campbell, 1940: 77-78, 189, 203) the White-rumped Sandpiper has occurred regularly in small numbers from mid-May to the latter part of June, main flight averaging from May 21 to June 7; a specimen (U.M.M.Z.) was collected there on May 30, 1936. In the vicinity of Detroit, specimens (U.M.M.Z.) were taken by Taverner (1, June 2, 1906; 1, May 24, 1908), and by J. Claire Wood (1, June 3, 1906). The species was recorded there (Swales and Taverner, 1907: 140-41; Taverner, 1906*a*: 335, 1908*b*: 328; J. Claire Wood, 1906*b*: 458-59; 1907*c*: 339-40; 1908*a*: 327) from May 20 (1906) to June 6 (1908) in numbers up to 6 and on occasion up to 40 and 50, according to J. Claire Wood; such abundance, however, was doubted by Swales and Taverner. The species has been found but rarely in the Ann

Arbor region (1 noted May 25, 1934, at Whitmore Lake, Washtenaw County, by Trautman); in Jackson County (listed May 22, 1924, by Fargo; May 25, 1932, 1 seen at Portage Lake by R. E. Olsen and H. W. Hann; June 11, 1934, 1 taken at Portage Lake by James H. Wood); in Kalamazoo County (1 taken May 14, 1879, at Kalamazoo); in Tuscola County (May 27, 1926, 1 seen at Fish Point by N. A. Wood); and in Alpena County (1 taken June 9, 1922, on Thunder Bay Island by W. E. Hastings).

FALL.—According to the little information available, the migration in fall occurs chiefly in August, September, and early October. Max M. Peet collected 5 between August 20 and September 1, 1941, at Duncan Bay, Cheboygan County. J. Claire Wood (1906*b*: 458–59; 1907*c*: 339–40) reported that in fall at Port Austin, Huron County, he had found the species present in “unvarying abundance.” In Miller Empey’s collection at Freeland, Saginaw County, there is a specimen that was taken in the county on September 18, 1901. F. W. Rapp (1931: 9; and notes) has a specimen that he collected at Vicksburg, Kalamazoo County, on October 2, 1929. Barrows (1912: 183–84) shot an individual in Chandler’s marsh, north of Lansing, July 29, 1897. At Detroit, J. Claire Wood (1909*a*: 427) recorded an individual “in August, 1908,” and collected 1 (U.M.M.Z.) on September 1, 1910. In the Toledo–Erie marsh area (L. W. Campbell, 1940: 189, 203) the species has been present in very small numbers from the last week in July to the middle of October, main flight averaging September 21 to October 11. Harold Mayfield collected a female White-rumped Sandpiper (U.M.M.Z.) in Erie Township, Monroe County, on August 28, 1943.

*Erolia bairdii* (Coues)  
Baird’s Sandpiper

Uncommon transient.

First listed for Michigan by Gibbs (1895*a*: 49).

SPRING.—Among the few spring reports in Michigan are those of L. W. Campbell (1940: 78, 189) from the Toledo–Erie marsh area, where he noted arrival on the average between May 22 and 26; he collected 2 specimens in the Erie marsh on May 30, 1936. R. E. Olsen and A. D. Tinker reported seeing 2 Baird’s Sandpipers at Whitmore Lake, Washtenaw County, on May 26, 1935. F. W. Rapp’s listing (1931: 9) at Vicksburg, Kalamazoo County, from April 15 to 19, 1925—considerably earlier than other data from the Great Lakes—appears to need support by specimens.

FALL.—Most records are for late August and early September.

At Whitefish Point, Chippewa County, in 1925, Fargo noted 3 individuals (1 collected) on August 15 and saw another on August 20. This is apparently the only fall record for the Upper Peninsula.

F. H. Chapin (Barrows, 1912: 184–85) found the species in Cheboygan,

Emmet, and Charlevoix counties in August and September and collected a specimen (U.M.M.Z.) at Charlevoix on September 6, 1879. According to Blanchard and Nelson (MS of 1937) and Max M. Peet, the species has been observed at Cheboygan by August 14 and 16 (1933, 3 birds secured—Blanchard and Nelson) and occurs in small flocks from that time until early September. Peet, collecting specimens there in 1941, found a few flocks of 4 and 5 each from August 20 to 22, several flocks of about 15 each on September 1, and similar numbers still present on September 3. On Saginaw Bay this wader was recorded by Eddy (1897: 47; see also Barrows, 1912: 184–85) as “tolerably common” in September. An individual was recorded there (at Charity Island, Huron County) as early as July 9 (N. A. Wood, 1912a: 182), but the species is usually noted there from August 23 (1910, U.M.M.Z.) to September 28 (1934, 2 in U.M.M.Z. from Fish Point, by R. E. Olsen); specimens (U.M.M.Z.) have been taken at Point Lookout, Arenac County; Charity Island, Huron County (N. A. Wood, 1911: 90); Oak Point, Huron County; and Fish Point, Tuscola County, where 6 birds (1 in U.M.M.Z.; 1 in Max M. Peet collection) were noted August 26, 1934, by Milton Trautman. The species was listed in Benzie County on August 19 and September 7, 1934, by David E. Davis; on the Ottawa County shore in late August of 1895 (1 bird in U.M.M.Z.) and of 1896 (Gibbs, 1895a: 49; Mulliken, 1896: 174); at Grand Rapids in late August, 1897, by R. H. Wolcott (Barrows, 1912: 184–85); and on the Berrien County shore on August 31 and September 5, 1917 (N. A. Wood, 1922: 10).

In southern counties, specimens (U.M.M.Z.) were collected at Kalamazoo on August 15, 1886, and September 6, 1885, by F. H. Chapin; 1 (Chicago Nat. Hist. Mus.) was collected at Harbert, Berrien County, by Chaney on August 20, 1907; and in Jackson County (chiefly at Portage Lake) specimens (U.M.M.Z.) were collected on August 4, 1938 (1 by R. E. Stewart), on September 13, 1936 (2 by Brodkorb), and on September 14, 1939 (1 by L. D. Case). In the Ann Arbor region Trautman collected specimens (U.M.M.Z.) at Whitmore Lake on September 4, 1935 (2), and on September 21, 1935 (1), and observed several on a mud flat at Ann Arbor on September 10, 1936. According to Swales (notes), J. Claire Wood’s records for Wayne County (1900: 390) are incorrect.

J. Claire Wood (1903b: 81; 1909b: 107; see also Taverner, 1908: 207) reported the species also in Ecorse Township in 1903 on August 6 (3 birds), and in 1908 from August 26 (“a flock of seventeen”—1 bird in U.M.M.Z.) to September 27 (2, September 23, in U.M.M.Z.). In the Toledo–Erie marsh area L. W. Campbell (1940: 78, 189, 203) has noted a few individuals from the last week in July to mid-October, the average for main flight (maximum of 12 birds in a day) being August 30 to September 25.

*Erolia minutilla* (Vieillot)  
Least Sandpiper

Common transient.

Gibbs' statement (1879: 492) that the species bred in Michigan was apparently an error.

First listed for Michigan by Sager (1839: 416): "*Tringa minuta*."

SPRING.—Main flight is reported from the middle to the latter part of May.

Lower Peninsula.—In the Toledo–Erie marsh area (L. W. Campbell, 1940: 78, 189, 203), individuals have arrived in the first week of May and remained until June 21 (1936, U.M.M.Z.), but main flight averages May 10 to May 25. Near Detroit, Swales noted Least Sandpipers from the first few days in May to about May 20; in 1907 he saw 50 there on May 11 and 100 on May 18. Smaller numbers have occurred in the Ann Arbor region rather irregularly in May (specimens in U.M.M.Z.), sometimes by the first week of the month, but usually not until the second or third week; 6 were observed May 26, 1935, at Whitmore Lake (Washtenaw County) by R. E. Olsen and A. D. Tinker. The species has also been irregular in Jackson County: R. E. Stewart collected an individual (U.M.M.Z.) at Portage Lake as early as April 21 (1938), and Fargo listed 20 birds there on May 6, 1924. About Battle Creek Walkinshaw listed the species during several spring seasons in the 1930's. In Kalamazoo County, where specimens (U.M.M.Z.) were collected in May, 1878 and 1879, Gibbs (1885: 166) found the species "not a rare transient." N. A. Wood collected a specimen (U.M.M.Z.) on Fish Point, Tuscola County, May 4, 1926; 10 or 20 were usually recorded there daily during May, 1926, and on May 20, 100 were recorded. At Sand Point, Huron County, 6 specimens (3 in U.M.M.Z.) were collected on May 13, 1935, by James H. Wood, and 100 observed on May 24, 1936, by Trautman. A specimen (U.M.M.Z.) was taken on Beaver Island, Charlevoix County, on May 19, 1932, by Victor H. Cahalane; first arrivals were noted at Cheboygan (Blanchard and Nelson, MS of 1937) on May 20, 1937, and the species was observed near Alpena (by N. A. Wood) as late as June 9 (1922).

Upper Peninsula.—At Whitefish Point, Chippewa County (N. A. Wood, 1914: 62), arrival was noted and a specimen (U.M.M.Z.) collected on May 21 in 1914.

FALL.—Principal movement apparently occurs from mid-July to late August or early September.

Upper Peninsula.—On Isle Royale an individual was recorded on August 28, 1 on September 4, 1904 (N. A. Wood, Peet, and McCreary, 1906: 122), and 5, of which 2 (U.M.M.Z.) were collected by N. A. Wood, on August 15, 1929. Other reports from the Upper Peninsula include: birds seen July

21 to August 3 in the Porcupine Mountains, Ontonagon County (N. A. Wood, Peet, and McCreary, 1906: 113); a flock of 15 or 20 on July 29, 1909, in Dickinson County (Gauge, 1914: 79); 2 specimens (U.M.M.Z.) collected August 10 and 19 at Whitefish Point, Chippewa County (N. A. Wood, 1914: 62); 7 birds seen on September 2, 1935, at Munuscong Bay, Chippewa County (by Walkinshaw); and several in August and September (1917 to 1921) about Les Cheneaux Islands, Mackinac County (Van Tyne, 1923: 22).

Lower Peninsula.—In the vicinity of Douglas Lake, Cheboygan County, this wader has been found from July 11 (Blanchard and Nelson, MS of 1937) to September 3 (1941, specimen from Cheboygan in Max M. Peet collection). It has occurred at Deer Lake, Charlevoix County, on August 22, 1922 (Van Tyne, 1925: 615); at Houghton Lake, Roscommon County, on August 12, 1925 (Fargo); at Lake City, Missaukee County, on August 31, 1935 (Walkinshaw); and along the shore of Mason County in September (Chaney, 1910: 273). On the mainland and islands of Huron County (N. A. Wood and Gauge, 1911: 281; N. A. Wood, 1911: 90; 1912*a*: 182) it was present in small numbers from the second week in July to late August; at Fish Point, Tuscola County (N. A. Wood and R. E. Olsen), it was common in mid-July, 1934 (July 17, 30 birds, several in U.M.M.Z.; and July 18, 50 birds). Walkinshaw listed the species at Plainwell, Allegan County, on September 5, 1937; F. H. Chapin collected 2 specimens (U.M.M.Z.) at Kalamazoo in August, 1884 and 1885; F. W. Rapp (1931: 9) found it rare at Vicksburg, Kalamazoo County, from July 24 to August 13; and Walkinshaw reported it at corresponding dates about Battle Creek. Fargo reported on July 20, 1933, that Least Sandpipers "have been there [a mile west of Jackson] in some numbers for a week or two." At Portage Lake, Jackson County, where ordinarily only a few have been found in fall migration, 50 were noted on July 29, 1934, by R. E. Olsen, A. D. Tinker, and T. D. Hinshaw. At Ann Arbor Max M. Peet secured an individual as late as October 15 (1918). The species has been common about Detroit (Taverner and Swales, 1907: 85; Swales, notes), and Swales observed it regularly in 1905, recording 40 on July 12, 125 on August 5, and 15 on September 5. In the Toledo-Erie marsh area (L. W. Campbell, 1940: 78, 189, 203), individuals have occurred in summer and until the first part of November, passing through in sizable groups from July 13 to September 7, on the average.

*Erolia alpina pacifica* (Coues)

Red-backed Sandpiper

Common transient.

First authoritatively listed for Michigan by Gibbs (1879: 492).

SPRING.—Main flight is recorded in the latter part of May.

Lower Peninsula.—In the Toledo–Erie marsh area L. W. Campbell (1940: 79, 189, 203) noted individuals from mid-April, but the greater numbers on the average from May 12 to May 27; several specimens (U.M.M.Z.) have been collected there in late May. Swales' several records from Detroit are for the latter part of May; they include 50 birds seen on May 18 (1907, 1 in U.M.M.Z.) and 10 birds seen by Taverner on May 30 (1906, 1 in U.M.M.Z.). There are a number of reports from the Ann Arbor region: on May 14, 1888; on May 13, 1923 (F. N. Wilson, 1926: 390); on May 17, 1925 (5); on May 12, 1933 (7); on May 19, 1935 (5); and on May 20, 1936 (2 in U.M.M.Z.). On May 6, 1924 (2 seen by Fargo), and almost annually in the past decade, very small groups have been found in Jackson County, once or twice a year in the last 3 weeks of May. Walkinshaw (1931a: 417) listed 3 birds near Battle Creek on May 10, 1931, and Gibbs (1885: 166) reported "small flocks" in Kalamazoo County in the latter half of the month. A. M. Baumgartner photographed about 500 Red-backs with about 500 Semipalmated Plovers, on May 21 and 23, 1937, near St. Johns, Clinton County. In recent years (as 1926, 1931–33, 1936–37) the Red-backed Sandpiper was found to be the most common of the spring shorebirds on Saginaw Bay (N. A. Wood, 1912a: 182) at such places as Fish Point, Tuscola County, and Sand Point, Huron County. At Fish Point in 1926 there were 20 birds (1 in U.M.M.Z.) on May 3, usually 100 or more daily from May 10 to the end of the month (500 on 3 days between May 20 to 28), followed by a sharp decline to June 5 (June 3, specimens in U.M.M.Z.). At Sand Point from 1931 to 1933 D. W. Douglass recorded a similar though somewhat smaller movement: arrival of 8 or 10 birds on May 7 (1933), about 110 birds on May 14 (1933), and a maximum of 300 on May 23 (1932). Unusually large numbers were observed by Trautman, R. E. Olsen, A. D. Tinker, and T. D. Hinshaw on May 24, 1936, when they noted 500 at Fish Point, and 2000 to 3000 on Sand Point. Northward on Thunder Bay Island, Alpena County, Walter E. Hastings collected specimens (2 in U.M.M.Z.) on June 9, 1922, and Theodora Nelson (Blanchard and Nelson, MS of 1937) took specimens (U.M.M.Z.) at Duncan Bay, close to Cheboygan, on May 20, 26, and 29, 1937.

Upper Peninsula.—This wader was recorded at Munuscong Bay, Chippewa County (by Christofferson), on May 29, 1922 (3 birds, 1 in U.M.M.Z.), and on May 29, 1928 (20 birds); at Seney, Schoolcraft County (by Brod-korb), on June 2, 1938 (1 noted).

SUMMER.—A specimen (U.M.M.Z.) was collected on June 17, 1934, in the Erie marsh, Monroe County. A flock of 20 was recorded at Oak Point, Huron County, on August 20, 1908 (N. A. Wood and Gaige, 1911: 281).

Nesting was reported by Oldfield (1891: 144) and Barrows (1912: 187), but there is no definite evidence of breeding in Michigan.

FALL.—Main flight is reported in October and early November. Trautman noted 8 at Houghton Lake, Roscommon County, on October 1, 1938, and 2 on October 17, 1936. The few recent occurrences from Saginaw Bay are from September 28 (1925, 2 birds in U.M.M.Z.) to November 4 and 5 (1927, 5 in U.M.M.Z.), all at Fish Point, Tuscola County. At Kalamazoo F. H. Chapin collected 2 specimens (U.M.M.Z.) on October 29, 1887. Several records from Portage Lake, Jackson County, refer to small flocks (up to 15 birds) from October 3 (1937, 15 birds by R. E. Olsen and Tinker) to October 28 (1934, 10 birds), and to a group totaling about 60 birds on November 9 (1938, 6 in U.M.M.Z., by R. E. Stewart). The species has been reported only rarely in fall in the Ann Arbor and Detroit regions; specimens have been collected there from September 28 (1907, U.M.M.Z., 1 collected near Ann Arbor; see N. A. Wood, 1912*a*: 182) to November 20 (1904, 1 taken at St. Clair Flats; see Blain, 1904*a*: 91). In the Toledo–Erie marsh area, where the species is numerous, L. W. Campbell (1940: 79, 189, 203) recorded Red-backs from late September to December 1 (1935, 1 in U.M.M.Z.), the main groups (maximum of 750 birds per group) averaging October 12 to November 4; Trautman listed 1 as early as September 9 (1934) and 2 on September 13 (1932) in the Erie marsh.

*Limnodromus griseus*  
Dowitchers

The species was first recorded in Michigan by Sager (1839: 416): "*Scolopax griseus*."

In Michigan, Dowitchers have been found with some regularity (singly or in very small flocks only) in mid-April, but chiefly in May and from early July to mid-October. They have been found in the following counties: Monroe, Wayne, Washtenaw, Jackson, Calhoun, Kalamazoo, Ingham, Eaton, Kent, Bay, Cheboygan, Mackinac, Chippewa, and Marquette (Gibbs, 1885: 151; Barrows, 1912: 179–80). Monroe County seems to be the only area for which there are more than 1 or 2 observations.

Because of the difficulty involved in field identification of the subspecies the following accounts are based almost entirely on specimens. There are a few sight records of relatively large flocks of Dowitchers:

F. C. Gillett saw 25 Dowitchers at Munuscong Bay, Chippewa County, on May 19, 1934. In the Erie marsh, Monroe County, L. W. Campbell found them more common in fall than in spring; he saw 20 there on July 7, 1935, and again 20 on August 10, 1935, and has recorded stragglers until September and mid-October (L. W. Campbell, 1940: 80, 189; letter).

*Limnodromus griseus griseus* (Gmelin)  
Eastern Dowitcher

Uncommon transient.

SPRING.—L. W. Campbell states (1940: 79–80) that May specimens have been taken in the Toledo–Erie marsh area. Spring specimens (U.M.M.Z.) were taken at Austin Lake, Kalamazoo County, on May 14, 1879, by B. F. Sykes, and at Munuscong Bay, Chippewa County, on May 18, 1934, by F. C. Gillett.

FALL.—Specimens (U.M.M.Z.) have been taken in fall from the first part of July to the middle of September: at Elliot Creek, Cheboygan, on August 27, 1937 (1, by Theodora Nelson); at Portage Lake, Jackson County, on September 13, 1936 (1, by L. D. Case); in Ecorse Township, Wayne County, on July 14, 1906, and August 26, 1905 (1 on each date, by Taverner); and in the Erie marsh, Monroe County (over a dozen specimens, by L. W. Campbell and others) from July 10 (1938) to August 21 (1933).

WINTER.—Harold Mayfield and L. W. Campbell collected a male Eastern Dowitcher (U.M.M.Z.) in Erie Township, Monroe County, on December 5, 1943.

*Limnodromus griseus scolopaceus* (Say)  
Long-billed Dowitcher

Eight specimens (U.M.M.Z.): 5 collected July 22 to August 12, 1934, and 2 collected August 10, 1935, in the Erie marsh, Monroe County, by L. W. and B. R. Campbell (1935: 81; L. W. Campbell, 1940: 79–80, 189); 1 collected September 10, 1939, near Linwood, Bay County, by Van Tyne. B. R. and L. W. Campbell have found the Long-billed Dowitcher of regular occurrence in fall, usually until September, occasionally until early October, in the Toledo–Erie marsh area.

*Micropalama himantopus* (Bonaparte)  
Stilt Sandpiper

Rare transient. Positive records for fall only.

First listed for Michigan by Kneeland (1857: 238).

The Stilt Sandpiper is perhaps less rare in Michigan than the actual records seem to indicate, since it may sometimes be confused with the similar and more abundant Lesser Yellow-legs.

SPRING.—Spring records are lacking. There are no Museum of Zoology specimens to support A. B. Covert's report (Barrows, 1912: 180–81) that he took 3 Stilt Sandpipers at Ann Arbor in the spring of 1877.

FALL.—Fall movement seems to take place principally in August and September. O. S. Pettingill, Jr., collected 2 specimens (1 in U.M.M.Z.)



on August 7, 1939, at Duncan Bay, close to Cheboygan. Van Tyne collected 1 near Linwood, Bay County, on September 10, 1939. On August 30 and 31, 1934, at Wintergreen Lake, Kalamazoo County, C. J. Henry and Farley F. Tubbs observed a total of 8 and secured several (2 in U.M.M.Z.). R. E. Olsen, A. D. Tinker, and T. D. Hinshaw noted 2 (1 in U.M.M.Z.) on August 16, 1936, at Portage Lake, Jackson County. In the Ann Arbor region Trautman reported 1 on July 17, 1934 (at Whitmore Lake), and 1 on September 10, 1936. In the Erie marsh, Monroe County, Trautman reported 40 on July 28 (1935, 1 in U.M.M.Z.), 36 or more on September 9 (1934, 2 in U.M.M.Z.), and 10 on September 13 (1932); in the Toledo-Erie marsh area as a whole (L. W. Campbell, 1940: 80, 189, 203) the species has been present fairly regularly but in very limited numbers from the first week of July to mid-October, the main flight (maximum of 40 birds at a time) occurring on the average from July 17 to September 19.

*Ereunetes pusillus* (Linnaeus)  
Semipalmated Sandpiper

Common transient.

First authoritatively listed for Michigan by Gibbs (1879: 492).

SPRING.—Main flight is reported in the latter half of May and in early June.

Lower Peninsula.—In the Toledo-Erie marsh area (L. W. Campbell, 1940: 80, 189, 203), individuals have arrived in the first week of May, the period of the main flight averaging May 20 to June 3; 2 specimens (Max M. Peet collection) were taken in the Erie marsh as late as June 17 in 1938. In the Ann Arbor region a few of these sandpipers are seen almost every year in May; on May 3, 1925, 3 were reported at Whitmore Lake by N. A. Wood, and on May 23, 1933, 25 were seen at Ypsilanti by C. J. Spiker; the species has sometimes been reported there in early June. At Portage Lake, Jackson County, where the species has been irregular, 2 specimens (U.M.M.Z.) were collected by James H. Wood as late as June 11 (1934). Gibbs (1885: 166) called this wader common in Kalamazoo County and stated that he had collected specimens from flocks there as late as June 1. Typical numbers found at Fish Point, Tuscola County, are 133 on May 26 (1935, by Trautman), 100 on May 27 (1926, by N. A. Wood), and 20 on June 1 (1926, by N. A. Wood). At Sand Point, Huron County, specimens (U.M.M.Z.) were taken from May 24 (1932, 1933, and 1936) to June 9 (1933); D. W. Douglass found the birds there every spring from 1931 to 1933, "chiefly in small groups of from four to fifteen, rarely singly or in couples." Walter E. Hastings collected 5 (U.M.M.Z.) on Thunder Bay Island, Alpena County, on June 9, 1922, and Van Tyne collected 1

(U.M.M.Z.) from a flock of 3 on Gull Island (Beaver group), Charlevoix County, on June 20, 1938; Blanchard and Nelson (MS of 1937) listed the species near Douglas Lake, Cheboygan County, on May 29, 1937.

Upper Peninsula.—A flock was seen at Whitefish Point, Chippewa County (N. A. Wood, 1914: 62), on May 29 and 30, 1914; 2 specimens (U.M.M.Z.) were taken there June 5 and June 7, 1930, by W. B. Tyrrell; and an individual was noted in the Huron Mountain region, Marquette County (Christy, 1925: 210; S. S. Gregory, Jr., 1929: 175) on June 3, 1925.

FALL.—Main flight in fall, somewhat heavier than in spring, is reported from mid-July to mid-September.

Upper Peninsula.—S. S. Gregory, Jr. (1929: 175), listed the species in the Huron Mountain region, Marquette County, on August 28, and N. A. Wood (1914: 62) saw it near Whitefish Point, Chippewa County, on August 17, 1914.

Lower Peninsula.—In the Douglas Lake area, Cheboygan County, Fortner and Metcalf (1929: 249) and Blanchard and Nelson (MS of 1937) recorded a few of the species on July 24, and in August. N. A. Wood (see Van Tyne, 1925: 615) noted this sandpiper at Deer Lake, Charlevoix County, on August 22, 1922; inland at Lake City, Missaukee County, Walkinshaw listed it on August 31, 1935. About Saginaw Bay, at Charity Island, Oak Point, and Sand Point, Huron County (N. A. Wood and Gaige, 1911: 281; N. A. Wood, 1911: 90; 1912a: 182; specimens in U.M.M.Z.), the species apparently has been uncommon in early July; it has appeared there by July 9, and a specimen (U.M.M.Z.) was collected July 10 (1911); it has been fairly common later, in August and September. At Fish Point, Tuscola County, an individual was taken (Max M. Peet collection) by Peet as late as November 6 (1932). On the Berrien County shore N. A. Wood (1922: 11) recorded flocks daily from August 27 to September 10, 1917. In Kalamazoo County Gibbs (1885: 166) found the species common, though at Vicksburg, F. W. Rapp (1931: 10; and notes) had only 2 records: July 24, 1928, and (a specimen) October 2, 1929. At Portage Lake, Jackson County, 4 of the species were noted on July 29, 1934, and 30 on August 16, 1936, by R. E. Olsen, A. D. Tinker, and T. D. Hinshaw; 2 (U.M.M.Z.) were collected there on September 11, 1938, by Brodkorb. The species is found not infrequently in the Ann Arbor region, but in small numbers; 8 were recorded there on July 23, 1919, by N. A. Wood, and 1 (Max M. Peet collection) was collected on September 19, 1938, by R. E. Morrill. At Detroit, Taverner and Swales (1907: 86) recorded moderately small numbers from late July until after mid-August; Swales (notes) listed 50 there on August 1 (1908) and about 45 on August 12 (1905). In the Toledo-Erie

marsh area (L. W. Campbell, 1940: 80, 189, 203), where some are found all summer, the main flight averages July 20 to September 24, stragglers remaining on occasion until the latter part of November.

*Ereunetes mauri* Cabanis  
Western Sandpiper

The status of this species in Michigan is little known. There are 6 definite records: L. W. Campbell collected a specimen (U.M.M.Z.) in the Erie marsh, Monroe County, on August 8, 1936. Trautman reported 2 individuals in the Erie marsh on September 13, 1932, and 1 on September 9, 1934; 2 at Whitmore Lake, Washtenaw County, on July 17, 1934, and 1 on August 20, 1935. Harold Mayfield collected a specimen (U.M.M.Z.) in Erie Township, Monroe County, on August 21, 1943.

*Tryngites subruficollis* (Vieillot)  
Buff-breasted Sandpiper

There are eight definite records: 2 specimens (1 in U.M.M.Z.) collected at Kalamazoo, September 17, 1875, by Gibbs (1879: 493); 3 specimens collected at Grand Prairie, Kalamazoo County, September 14, 1882, by B. F. Sykes; 1 specimen (at Hope College, Holland) collected in Ottawa County, September 7, 1896; a male (Max M. Peet collection) collected at Fish Point, Tuscola County, September 28, 1925, by Peet; a male (U.M.M.Z.) collected at Duncan Bay, Cheboygan County, August 18, 1931, by F. N. Blanchard; individuals observed at Whitmore Lake, Washtenaw County, one on July 29, 1934, the other, August 18, 1935, by Trautman; and 1 observed at Duncan Bay, Cheboygan County, September 9, 1936, by Theodora Nelson.

*Limosa fedoa* (Linnaeus)  
Marbled Godwit

Gibbs (1879: 492) reported that this species was "taken occasionally . . . along the edges of the great lakes." It was also listed for Michigan by various other authors (Barrows, 1912: 190; Sager, 1839: 416). There are, however, but 3 definite records: 2 (U.M.M.Z.) taken on the Detroit River, Wayne County, August 1, 1882, by H. E. Chubb; 2 (U.M.M.Z.) collected in the Erie marsh, Monroe County, 1 on September 9, 1934, by Trautman, and 1 on August 13, 1938, by L. W. Campbell (1940: 81-82).

*Limosa haemastica* (Linnaeus)  
Hudsonian Godwit

Rare transient.

Gibbs (1879: 492; see also Barrows, 1912: 191) listed this species for Michigan with the statement: "Two specimens secured." It is possible

that a specimen (U.M.M.Z.) collected by W. H. Collins at the St. Clair Flats, St. Clair County, "about 1879," is one of those referred to by Gibbs.

There are 4 definite records with adequate data, all from coastal points in May or September: 3 Hudsonian Godwits seen at Fish Point, Tuscola County, by N. A. Wood on May 7, 1926, and 2 (U.M.M.Z.) collected at Saugatuck, Allegan County, by H. L. Bradley on May 11, 1934; 1 (U.M.M.Z.) collected of 4 observed at Fish Point, Tuscola County, by Walter E. Hastings and N. A. Wood on September 17, 1925, and 1 noted in the Erie marsh, Monroe County, by Trautman on September 13, 1932.

*Crocethia alba* (Pallas)  
Sanderling

Transient, found chiefly on the Great Lakes; uncommon in spring and common in fall.

First authoritatively listed for Michigan by Gibbs (1879: 492).

SPRING.—Main flight is reported in the latter half of May and in early June. In the Toledo-Erie marsh area (L. W. Campbell, 1940: 82, 190, 203), where the species is only fairly regular in spring, main flight has averaged from May 18 to June 2. At Detroit (J. Claire Wood, 1909a: 427) this wader was reported on May 16, 1909. It has been noted only rarely in the Ann Arbor region: at Whitmore Lake, Washtenaw County, 1 on May 17, 1932, by H. W. Hann; 1 on May 23, 1935, by Trautman; and 3 on May 26, 1935, by R. E. Olsen. At Portage Lake, Jackson County, a male was collected by James H. Wood on June 11, 1934; and at Kalamazoo the species was listed by Walkinshaw on June 9, 1931. In 3 spring seasons (1931 to 1933) on Sand Point, Huron County, D. W. Douglass found Sanderlings irregularly from May 21 (1933) to June 3 (1933), "singly, in couples, or in flocks up to thirty." Northward, at Cheboygan (Duncan Bay) Blanchard and Nelson (MS of 1937) recorded the species in May. In the Upper Peninsula at Whitefish Point, Chippewa County, Tyrrell (1934: 22) saw a flock of Sanderlings and collected 1 (U.M.M.Z.) on June 5, 1930.

FALL.—Principal movement, considerably heavier in fall than in spring, takes place in August, September, and the first part of October.

Upper Peninsula.—S. S. Gregory, Jr. (1929: 175; and notes), collected 1 in the Huron Mountains, Marquette County, on September 13, 1935, and listed the species there as a regular fall transient, present from August 8 to September 28. East of Deer Park, Luce County, R. E. Olsen and A. D. Tinker noted 10 on August 30 and 1 on September 4, 1936. In several seasons at Whitefish Point, Chippewa County, the birds have been found sparingly from the latter part of August (10 seen on August 20, 1925, by

Fargo, and 13 on August 27, 1937, by Olsen and Tinker) to September 30, when 1 (U.M.M.Z.) was collected in 1929 by Curren Hawkins.

Lower Peninsula.—According to Blanchard and Nelson (MS of 1937), Max M. Peet, and W. J. Howard, the Sanderling has been present fairly regularly in August, September, and early October along the north shore of Emmet County and Cheboygan County; 2 (U.M.M.Z.) were taken at Wilderness State Park, Emmet County (September 17 and October 4, 1934); 1 (Max M. Peet collection) at Cheboygan on September 9, 1941; and 2 (on September 18, 1932, by Max M. Peet), at Burt Lake, Cheboygan County. In Mason County, Chaney (1910: 273) saw "large flocks . . . near Lake Michigan in September." On Saginaw Bay, where this transient was noted as early as July 19 (1911, U.M.M.Z., a flock of 13 on Charity Island), it has been common or even abundant some years from August to the second week of October, flocks of from "twenty to sixty" or more (in August and September) being not unusual (U.M.M.Z., from Huron and Tuscola counties; N. A. Wood and Gaige, 1911: 281; N. A. Wood, 1911: 90; 1912*a*: 183; Barrows, 1912: 189). Leon J. Cole (Barrows, 1912: 189) found it abundant in fall at Grand Haven, Ottawa County. Along the Berrien County shore in late August and early September, 1917 (N. A. Wood, 1922: 11), this species was the most common of the waders present; at St. Joseph 28 birds were noted on September 25, 1938, by Walkinshaw, and 2 as late as November 5 (1933) by Walkinshaw and R. E. Olsen. Inland records are rare; the species was reported from Portage Lake, Jackson County, on October 3, 1937 (1 seen by A. D. Tinker and R. E. Olsen), and from about Ann Arbor on August 26, 1899, 4 seen by C. L. Cass—Barrows, 1912: 189) and on September 4, 1935, (1, in U.M.M.Z., from Whitmore Lake collected by Trautman). J. Claire Wood (1909*a*: 427) recorded 2 (U.M.M.Z.) taken at Detroit on August 26, 1908; Barrows (1912: 189) mentioned an individual that was secured on the shore of Sanilac County as late as November 24 (1903). In the Toledo-Erie marsh area, L. W. Campbell (1940: 82, 190, 203) listed the species from early July to December 1, main flight averaging July 28 to October 13.

#### PHALAROPODIDAE

##### (PHALAROPES)

#### *Phalaropus fulicarius* (Linnaeus)

##### Red Phalarope

Seven definite records, of which 4 are from Monroe County, 2 from Sault Ste Marie, 1 from Livingston County. Monroe County (Barrows, 1912: 165-66; L. W. Campbell, 1938: 89, 93): 1 collected October 24, 1888, by R. Brandreth; 2 collected October 25, 1890, and October 15, 1894

(Michigan State College), by R. B. Lawrence; and 1 observed in the Erie marsh, November 23, 1940, by J. J. Stophlet and Harold Mayfield. Sault Ste Marie: 1 photographed (not preserved) October 29, 1923, by Christofferson; and 1 (U.M.M.Z.) collected October 20, 1930, by Magee. Whitmore Lake, Livingston County: a female (U.M.M.Z.) collected September 6, 1937, by Trautman (1938: 528-29).

*Steganopus tricolor* Vieillot  
Wilson's Phalarope

Uncommon local summer resident. Breeding records from Jackson and Huron counties.

First listed for Michigan by Kneeland (1857: 238).

SPRING.—Arrival is reported principally in May.

Lower Peninsula.—In the Toledo-Erie marsh area L. W. Campbell (1938: 90-91, 93; 1940: 83, 190) has found a very few of the species each year from late April through May; on May 30, 1936, he noted 4—his maximum for any 1 day in the area. In the Detroit region this phalarope has been several times observed and specimens (U.M.M.Z.) collected on dates ranging from May 5 to May 19 (Swales, Taverner, and J. Claire Wood, reviewed in L. W. Campbell, 1938: 90). Among the few inland records are the following: Portage Lake, Washtenaw County, May 29, 1937 (1 noted by D. P. Duncan); Portage Lake, Jackson County, May 15, 1938 (listed by Walkinshaw), and May 24, 1931 (female noted by H. W. Hann); Battle Creek, May 10, 1931 (female seen by Walkinshaw, 1931a: 417). In Kalamazoo County Gibbs (1885: 166; see also Barrows, 1912: 167-68) found the species an irregular transient; he recorded a flock of 15 or 20 on May 21, 1878; specimens (U.M.M.Z.) were collected there on May 21 and 23, 1878, and on May 16, 1879. On Saginaw Bay, at Fish Point, Tuscola County, N. A. Wood saw several birds (usually 1 to 4, but 8 on May 16) daily in 1926 from May 12 to May 18.

Upper Peninsula.—At Munuscong Bay, Chippewa County, in 1934, specimens (U.M.M.Z. and Max M. Peet collection) were taken by F. C. Gillett, Trautman, and Peet on May 17 (1) and on May 18 (1).

SUMMER.—The first positive record of nesting in Michigan is a specimen of a small downy young (U.M.M.Z.) collected by Roger T. Peterson (1929: 539) on June 25, 1929, near Stony Lake, Napoleon Township, Jackson County. Two to 5 birds (1 in U.M.M.Z.) were noted at Fish Point, Tuscola County, by N. A. Wood almost daily in the first half of June, 1926; on June 10, 1933 (U.M.M.Z.), at Fish Point, Van Tyne noted at least 4 pairs; on June 23, 1926, at Oak Grove, 3 miles northeast of Essexville, Bay County, Van Tyne and T. L. Hankinson found a female (U.M.M.Z.) that proved to be in

breeding condition. Evidence of breeding on Lone Tree Island, Huron County, was obtained on July 12, 1934, when 2 small young (Max M. Peet collection) were taken by F. E. Ludwig (C. C. Ludwig, 1940a: 49). A small flock of females was observed on the island at about the same time. At Bayport, Huron County, a female (U.M.M.Z.) was secured by A. J. Nicholson on June 12, 1934.

This species has also been observed in summer: on the St. Clair Flats, St. Clair County (J. Claire Wood, 1908a: 326-27); at Portage Lake, Jackson County, where specimens (U.M.M.Z.) were collected June 19, 1938 (2), and July 3, 1934 (1); at Chandler's marsh, near Lansing (a "pair" taken by T. L. Hankinson on June 21, 1897—Barrows, 1912: 167-68); and northward near Douglas Lake, Cheboygan County, where 2 adults and a full-winged juvenile were collected by F. J. Hinds July 11 and 13, 1934 (Blanchard and Nelson, MS of 1937). July records may refer to migrants. Three specimens were secured at Munuscong Bay, Chippewa County, in late June, 1934, by F. C. Gillett, Trautman, and Max M. Peet.

FALL.—A specimen was taken in Kalamazoo County, September 8, 1878 (Gibbs, 1885: 166). Two individuals were noted at Mud Lake, Convis Township, Calhoun County, July 22, 1934, by Walkinshaw; and 1 near Jackson, September 4, 1931, by Fargo. L. W. Campbell (1938: 93; 1940: 83) has recorded a few individuals between mid-July and late September in the Toledo-Erie marsh area.

*Lobipes lobatus* (Linnaeus)  
Northern Phalarope

Rare transient.

This species was included in several early lists (for example, Gibbs, 1879: 492), but the first verified Michigan record is a female (U.S.N.M.) taken by C. M. Butler in 1899 (Swales, 1913b: 111-12; 1918: 75; and notes).

SPRING.—Five records are for the month of May: in Erie Township, Monroe County, B. R. Campbell collected a female (U.M.M.Z.) on May 7, 1935, and L. W. Campbell saw 3 individuals on May 30, 1936 (L. W. Campbell, 1938: 91-93; 1940: 83, 190); 15 miles west of Detroit, F. N. Wilson (1923: 184-85) photographed 1 of 2 birds he observed on May 21, 1922; on Saginaw Bay, about 4 miles north of Linwood, Max M. Peet took a female on May 27, 1934, and Miller Empey a male on May 30, 1940.

FALL.—There are 6 records for August, September, and October: near Napoleon, Jackson County, an individual was seen by Roger T. Peterson (1930: 76) on September 6, 1929; at Forestville, Sanilac County, 2 (October 4 and 28, 1911) were collected by Albert Hirzel (Barrows, 1917: 336); on the Tiffin River, Lenawee County, the female cited above was col-

lected by C. M. Butler on September 14, 1899; in Erie Township, Monroe County, L. W. Campbell collected a male (U.M.M.Z.) on August 22, 1936, and Trautman collected 2 females on September 9, 1934 (L. W. Campbell, 1938: 91-93; 1940: 83, 190).

### STERCORARIIDAE

#### (JAEGER S)

#### *Stercorarius pomarinus* (Temminck) Pomarine Jaeger

Although Pomarine Jaegers have occasionally been reported in Michigan (Beebe, 1933: 120; see also N. A. Wood, 1934: 118), there is apparently only 1 Michigan specimen: a female (U.M.M.Z.), dark phase, secured January 7, 1941, by Emil Tormala, about 2 miles off Granite Point, north of Marquette. James L. Baillie, Jr. (letter, January 11, 1939), pointed out that the Pomarine Jaeger (M.C.Z.) taken May 30, 1879, on Fighting Island in the Detroit River (Collins, 1879: 24; Barrows, 1912: 47-48), and formerly listed for Michigan, was, in reality, an Ontario specimen.

#### *Stercorarius parasiticus* (Linnaeus) Parasitic Jaeger

Because positive identification in the field is difficult with this species, sight records are omitted here, but it is probably much less rare than would appear from the scarcity of verified specimen records, of which there are 3: an immature (Michigan State College) collected at Otter Lake, Lapeer County, September 28, 1897, by R. P. Stark (Barrows, 1897: 47); a female (U.M.M.Z.) collected at Point Mouillee, Monroe County, November 27, 1903, by an unnamed person and later received by L. J. Eppinger (Blain, 1903a: 94; Barrows, 1912: 48-49); and a female (U.M.M.Z.) collected at the mouth of the Sebawaing River, Huron County, November 3, 1933, by Norman Dutcher (Van Tyne, 1938: 18).

### LARIDAE

#### (GULLS AND TERNS)

#### *Larus hyperboreus hyperboreus* Gunnerus Glaucous Gull

Rare visitant.

Barrows (1912: 51) listed this species for Michigan, but knew of no specimen taken here and cited no definite Michigan record. The first Michigan specimen (U.M.M.Z.) was collected by Harold Mayfield in the Erie marsh, Monroe County, on March 20, 1943. There are several reliable



sight records of Glaucous Gulls in Michigan: 1, April 19, 1941, in the Erie marsh, Monroe County, by L. W. Campbell; 2, May 21, and 1, May 22, 1942, by Harold Mayfield, also in the Erie marsh; 1, April 3, 1937, at Ann Arbor, by Trautman; 1, February 15, 1929, at Manistee, by Pirnie; 1, November 1, 1938, at McMillan, Luce County, by Bryens; 1, May 19, 1936, at Whitefish Point, Chippewa County, by Brodkorb.

*Larus leucopterus leucopterus* Vieillot  
Iceland Gull

One Michigan specimen: an individual taken at Sault Ste Marie in 1901 by John Graham and now in the local high school collection (Barrows, 1912: 52). L. W. Campbell (1940: 84) recorded the species in southeastern Monroe County on February 17 and April 6, 1935.

*Larus marinus* Linnaeus  
Great Black-backed Gull

Rare visitant.

Barrows (1912: 52) referred to a record of a Black-backed Gull taken at Detroit in March, 1904, which was cited by Swales (1904a: 82), but Swales (notes) later considered the record unreliable. The first unquestionable Michigan specimen (U.M.M.Z.) was taken by Harold Mayfield and L. W. Campbell in the Erie marsh area, Monroe County, on February 27, 1943. There are a number of sight records of Black-backed Gulls for the same area: 1, January 17 (1937, by Mr. and Mrs. F. Stearns); 1, February 7 (1937, by L. W. Campbell and J. J. Stophlet); 6, March 15; 3, March 21; and 4, March 23 (1942, by Harold Mayfield); and 1, March 17 (1928, by L. W. Campbell). The report of 1 seen inland at Newberry, Luce County, on January 22, 1916 (R. Beebe, 1933: 120) seems doubtful.

*Larus argentatus smithsonianus* Coues  
Herring Gull

Common summer resident on the Great Lakes from Saginaw Bay northward; winters in small numbers wherever there is open water in the north and often in large numbers along the coasts of the southern counties; uncommon inland.

First listed for Michigan by Fox (1853: 163).

SPRING.—Herring Gulls leave southern counties in late March and early April and arrive in the Upper Peninsula in mid-March and later.

Lower Peninsula.—In the Erie marsh, Monroe County, L. W. and B. R. Campbell reported 500 Herring Gulls on April 1, and (with R. E. Olsen and A. D. Tinker) 300 on April 8, 1934. The gulls that spend the winter in the

Ann Arbor area leave in the latter part of March, though a few individuals have been reported in late April (1 by N. A. Wood on April 19, 1931; 1 by John L. George on April 23, 1938). Fargo saw 10 near Jackson on April 25, 1923, and N. A. Wood (1922: 7) listed the species as a common migrant along the coast of Berrien County from the last of April to the first of June, noting 100 there on April 30, 1920. Gibbs (1885: 190) stated that it was a common migrant in Kalamazoo County between March 1 and April 1; in the same area F. W. Rapp (1931: 1) saw it as early as March 5, 1904, and as late as May 6, 1928.

Upper Peninsula.—Christofferson, at Blaney, Schoolcraft County, and Bryens, at McMillan, Luce County, report the arrival of the Herring Gull in mid-March. The species apparently arrives in the vicinity of Sault Ste Marie in late March or early April; Christofferson and Magee recorded 75 on April 3, 1927. Laurence Dayton noted first arrivals on Isle Royale on March 29 (1937).

SUMMER.—The eggs are usually laid in May, and most of the young are full-winged by mid-July.

Lower Peninsula.—The southernmost nesting records of the Herring Gull in Michigan are from Little Charity Island, Huron County, where Miller Empey collected a set of 3 eggs (U.M.M.Z.) on May 26, 1929, and C. C. and F. E. Ludwig banded 8 young on July 17, 1940. Several colonies have been reported from the vicinity of Thunder Bay, Alpena County: C. C. and F. E. Ludwig banded 175 young on Scarecrow Island on July 13, 1933, and observed more than 2000 pairs on Sugar Island the following day. The Ludwigs also banded numbers of young on many of the small islands of the Beaver Island group, Charlevoix County, from 1933 to 1940; more than 500 were banded in 1940 and 800 in 1939. Walter E. Hastings reported a large colony on Bellow Island (also known as Gull Island) in Grand Traverse Bay, Leelanau County, in 1931; and the Ludwigs banded young gulls there in 1939 and 1940. A. E. Staebler found young of all sizes and many nests with unhatched eggs in a colony (1500 nests estimated) on South Manitou Island, Leelanau County, on June 8, 1940; on July 10 of that year R. T. Hatt visited the colony and found that all but a few of the young were able to fly.

Upper Peninsula.—Van Tyne (1923: 21) reported a colony of several hundred on Goose Island (Les Cheneaux Islands), Mackinac County, in which most of the young were fledged July 3, 1918. E. Van Winkle (Barrows, 1912: 54) stated that the gulls bred abundantly (1905) on middle and south Gull Islands and other islands in Green Bay near Escanaba, Delta County. A colony near Whitefish Point, Chippewa County, was reported to N. A. Wood (1914: 59); on the Huron Islands, Marquette County, Van

Tyne examined a colony of at least 1000 nesting pairs on June 27, 1936, and found eggs and young of all sizes. Herring Gulls have been found breeding on Isle Royale in large numbers by several observers; Max M. Peet (1909: 342) stated that they were "very abundant, their numbers being counted in places in thousands."

FALL.—The southward migration occurs from late September to mid-November.

Upper Peninsula.—The Herring Gull was recorded at Isle Royale daily from August 18 to September 21 (Max M. Peet, 1909*a*: 117). In the Huron Mountains, Marquette County, it has been seen in early October (Christy, 1935: 266) and as late as November 2 (1932; see T. Gregory, 1933: 9). Christofferson recorded it at Blaney, Schoolcraft County, as late as November 7 in 1936 (4 seen), November 10 in 1938 (2), and December 19 in 1939 (7).

Lower Peninsula.—Trautman saw 25 Herring Gulls at Houghton Lake, Roscommon County, on October 24, 1937. Chaney (1910: 272) stated that the migrants from the north arrived in Mason County in early September; N. A. Wood and Gaige (1911: 276-77) found the species common in northwestern Huron County after August 17. N. A. Wood (1922: 7) found it numerous in Berrien County after September 1; Gibbs (1885: 190) noted its migration in Kalamazoo County from late September to November, and F. W. Rapp (1931: 1) recorded it there as late as November 15, 1928. In the Ann Arbor region N. A. Wood has seen this gull as early as September 2 (1916) and September 7 (1910). Swales noted the species arriving in numbers in the Detroit area on dates ranging from the last of August to early October; in 1910 he recorded 35 on August 20 and 80 on September 24; in 1911, 75 on September 9; in 1913, 200 on September 24; and in 1916, 200 on October 6. Trautman listed a total of 40 from the Erie marsh on September 13 and 14, 1932, and 200 on September 9, 1934.

WINTER.—A few wintering birds are found in parts of the Upper Peninsula and the northern Lower Peninsula; numbers have been reported from lower Lake Michigan and western Lake Erie and a few inland.

Upper Peninsula.—Magee and Christofferson have indicated that a few Herring Gulls winter yearly in the vicinity of Sault Ste Marie; Christofferson reported that a few wintered near Manistique, Schoolcraft County, in the winter of 1931-32; and Bryens has 2 winter records from McMillan, Luce County: 1 Herring Gull seen on January 3, 1924, and 3 on January 9, 1932.

Lower Peninsula.—A specimen (U.M.M.Z.) was taken at Oden, Emmet County, by J. T. Wilkinson on January 14, 1942, and 1 (U.M.M.Z.) at Alpena by Walter Koelz on December 12, 1917. Van Tyne observed a flock

of more than 100 Herring Gulls near Hudsonville, Ottawa County, on January 9, 1940. In the Battle Creek area observers have reported a few to 24 every year (Walkinshaw, notes; Pirnie and others, 1935: 62; other data). During January, February, and March, 1938 to 1941, 100 to 250 were noted several times each year feeding at a refuse dump near Ann Arbor by A. E. Staebler. Swales (1904a: 82) listed the species as a common winter resident in the Detroit area; in the middle 1930's, R. E. Olsen and others saw 25 to 100 Herring Gulls in Gibraltar Bay, Wayne County, between January and March. L. W. Campbell (1940: 85) has found the species in the Toledo-Erie marsh area from December through March in numbers of 1000 or more.

*Larus delawarensis* Ord  
Ring-billed Gull

Common summer resident on islands about the northern end of Lakes Huron and Michigan; summer visitant elsewhere, mainly along the coasts. Some winter in southern counties and along the coasts north to the Straits of Mackinac.

First listed for Michigan by Sager (1839: 417).

SPRING.—Arrival in the south is reported chiefly in March, April, and May.

Lower Peninsula.—Since the Ring-billed Gull is present in southern counties at least occasionally both in winter and summer, the times of migrants' arrival and departure are much obscured. The species is common in spring in the Toledo-Erie marsh area, main flight beginning there on the average by March 20 (L. W. Campbell, 1940: 86, 203). About 100 Ring-bills were noted in Erie Township, Monroe County, on April 8, 1934 (L. W. Campbell, R. E. Olsen, and others). Fifty to 200 or more have been seen frequently in March at Gibraltar Bay, Wayne County (R. E. Olsen and A. D. Tinker; see also J. Claire Wood, 1908a: 324-25). A few are found regularly in Washtenaw and Jackson counties in spring, as many as 30 on March 7, 1937, near Ypsilanti, Washtenaw County (by Olsen, Tinker, and R. E. Morrill), and 1 as late as May 28, in 1939, at Portage Lake, Jackson County (by Maurice G. Brooks, R. L. Patterson, and others). The species appears to be less regular about Battle Creek (Walkinshaw), and along the shore of Berrien County (N. A. Wood, 1922: 7). D. W. Douglass and others have found this gull common about Sand Point, Huron County, in April and May, though less common than the Herring Gull.

Upper Peninsula.—Christofferson reported 2 Ring-bills at Munuscong Bay, Chippewa County, as early as April 17 (1927); Van Tyne and Max M. Peet saw several there on May 1 and 3, 1933. Bryens has reported a few individuals at McMillan, Luce County, almost every spring—frequently by mid-April and occasionally earlier.

SUMMER.—Eggs are found in June and early July. Lyon (1926: 247; 1927: 180-84; Lincoln, 1927: 11; 1939: 125) banded birds from 1926 to 1933, and C. C. and F. E. Ludwig have banded birds since 1939 in a colony on St. Martin's Shoals, St. Martin's Bay, Mackinac County. The temporary failure of this colony after 1933 (F. E. Ludwig) may bear some relationship to the subsequent finding of other colonies (1933 and later) in areas where no colonies had been found in recent years. For example, on Goose Island, several miles eastward, the Ludwigs found and banded 1744 chicks in 1937, but only a fraction of that number the following year, none in 1939 (the year when the gulls were again found in numbers on St. Martin's Shoals), and none thereafter.

In the northern part of Green Bay, Delta County, where Van Winkle (at Gravelly Island—1893: 114-15) had reported breeding, Lyon (F. E. Ludwig, notes) worked extensively in recent years and found no colonies until 1933; in that year, however, he located 2 small ones (on Gravelly and Small islands), and subsequently a third (on Snake Island).

From 1935 the Ludwigs found and banded downy Ring-bills on Mire Island, on Hat Island (in 1936), and Shoe Island (from 1937)—all outlying islands of the Beaver group, Charlevoix County, and all with relatively small colonies. Specimens of downy young (U.M.M.Z.) were later taken on Hat Island in 1937 by N. M. and W. B. Maddox, as well as on Squaw Island, another outlier (in 1938, by Van Tyne and R. E. Morrill).

On July 4, 1931, at Cecil Bay, northern Emmet County, Blanchard and Nelson (notes in U.M.M.Z.) found a nest with 2 eggs, which were pipped July 13. On Scarecrow Island in Thunder Bay, Alpena County, the Ludwigs have banded the species regularly since 1933 (when the colony was very small)—as many as 2405 chicks in 1937, but usually only about 1800 or 1900 a year.

Nonbreeding Ring-bills have been noted in midsummer at a number of other localities: the Straits of Mackinac, Munuscong Bay, and Sault Ste Marie (in late June, 1926, fairly common, but less common than the Herring Gull—Trautman); Douglas and Burt lakes, Cheboygan County (Blanchard and Nelson, MS of 1937); South Manitou Island, Leelanau County (4 immature birds, July 30 to August 1, 1940, by A. E. Staebler); and Benzie County (4 on June 13, 1936, by David E. Davis). About Saginaw Bay there were 100 at Fish Point, Tuscola County, on July 18, 1934 (R. E. Olsen and N. A. Wood), and some 100 (including both immatures and adults) regularly in June, 1934, at Sand Point, Huron County (D. W. Douglass; see also N. A. Wood and Gage, 1911: 277). Near Detroit Swales noted individuals on about 4 occasions in June (1904 to 1912 at the St. Clair Flats, St. Clair County, and on the Detroit River near Grosse

Ile, Wayne County). The observation of 150 immature birds on June 13, 1934, at North Cape, Erie Township, Monroe County (by D. W. Douglass and R. E. Olsen), is probably not unusual, in view of common summering in adjacent Lucas County, Ohio (L. W. Campbell, 1940: 86). Walkinshaw listed the species on July 3, 1932, at South Haven, Van Buren County.

FALL.—Although some Ring-bills are still in northern and central counties even in late October and November, most of them leave in late August, September, and early October.

Upper Peninsula.—Only very small numbers have been reported: Isle Royale (6 between September 2 and 6, 1938, by F. M. and A. M. Baumgartner); Lake Gogebic, Ontonagon County (1 on October 3, 1934, by Trautman); the Huron Mountain region, Marquette County (from mid-September to early October, according to Christy, 1935: 267; and notes; S. S. Gregory Jr., 1929: 189); Blaney, Schoolcraft County (uncommon; in 1932, 4 until November 14—Christofferson); Luce County (at Deer Park, 12 on August 28, 1934—A. D. Tinker and R. E. Olsen; at McMillan, 5 records only—Bryens); west of St. Ignace, Mackinac County (8 birds on September 8, 1934—Trautman).

Lower Peninsula.—Max M. Peet took a specimen on October 21, 1939, at Burt Lake, Cheboygan County. In 26 days' collecting at Houghton Lake, Roscommon County, from early October to late November (1935–1940), Trautman recorded the species on 15 days, to November 10 (1935). He found usually a dozen or more in a day during early October, and fewer as a rule thereafter, but recorded 30 on November 1 (1936). On Saginaw Bay the Ring-bill was noted on September 28, 1934 (50 at Fish Point, Tuscola County—R. E. Olsen and N. A. Wood), and on November 16, 1930 (Bayport, Huron County, one in U.M.M.Z.). It was common in migration also along the Lake Michigan shore, in Mason County (Chaney, 1910: 272). It seems to be uncommon in fall in interior southern counties (Kalamazoo, Jackson, and Washtenaw), but common from St. Clair Flats (100 on October 31, 1902—Swales) to the Detroit River, Wayne County (30 on August 29, 1935, at Gibraltar Bay—Trautman; see also Swales and Taverner, 1907: 136–37; J. Claire Wood, 1908a: 324–25), and to the Erie Marsh, southeastern Monroe County (600 on September 9, 1934—Trautman). In the Toledo-Erie marsh area L. W. Campbell (1940: 86, 203) has occasionally found flocks of 1000 in August and September and smaller numbers until November 28 (on the average), but sometimes much later.

WINTER.—The species has been recorded at Erie Township, Monroe County (January 10, 1937, 2 seen by L. W. Campbell); in the vicinity of Gibraltar Bay, Wayne County (150 on January 31, 1937, and 500 on February 10, 1935, by R. E. Olsen and A. D. Tinker); northward on the De-

troit River (several observed every 1 to 3 years—Swales, notes; Swales and Taverner, 1907: 136–37); in the Ann Arbor region (a few occasions such as on January 1, 1941, 9 seen by H. W. Hann); and in the Battle Creek to Gull Lake area (1 to 3 seen late in December, 1933 and 1934, by M. D. Pirnie and others, 1934: 44–45; 1935: 62; and on January 21, 1934, by Walkinshaw). One also was observed on Saginaw Bay at Tawas, Iosco County (January 24, 1941, by Maurice G. Brooks, John L. George, and others). A few banded birds have been recovered in winter along both coasts of the peninsula, according to F. E. Ludwig; northern records along Lake Michigan include Frankfort, Benzie County (February 27, 1931); Charlevoix (December 27, 1936); Sturgeon Bay, Emmet County (February 3, 1935); and the Straits of Mackinac (January 27, 1930). All of these birds had been banded as chicks in colonies on either Lake Michigan or northern Lake Huron.

*Larus philadelphia* (Ord)  
Bonaparte's Gull

Common transient. Local summer visitant along coasts.

First listed for Michigan by Sager (1839: 417).

SPRING.—Main flight is reported from mid-April to mid-May.

Lower Peninsula.—In the Toledo–Erie marsh area the species is common on the average from April 7 to May 11 (L. W. Campbell, 1940: 87, 203). About Detroit, flocks of 25 to 75 were seen by Swales, chiefly from mid-April to early May; on April 16, 1911, he saw a flock of 500. In the Ann Arbor region an individual was taken on March 23 (1932, by James H. Wood), and some flocks of as many as 25 to 50 have been found from the second week in April to early May; in 1934 at Geddes Pond, Ann Arbor, 50 were seen on April 20, and 40 on April 25 (R. E. Olsen, A. D. Tinker, Van Tyne, T. D. Hinshaw). One bird was noted at Portage Lake, Jackson County, as late as May 28 (1939, by Maurice G. Brooks and R. L. Patterson). Some have been reported in the latter part of April and in May in Calhoun County (Walkinshaw) and in Kalamazoo County (U.M.M.Z.; Gibbs, 1885: 190; and 12 birds on April 17, 1938, by R. E. Olsen). Along the coast of Berrien County there were about 300 in flocks on April 15 (1939, at Benton Harbor—Pirnie) and a few birds on May 1 (1920—N. A. Wood, 1922: 7); northward at Saugatuck, Allegan County, an individual was seen on March 28 (1938—Pirnie and H. L. Bradley). At Sand Point, Huron County, where the species has arrived within a few days after the melting of the ice (Manuel, 1930: 236), small numbers have been found somewhat irregularly by D. W. Douglass from April 13 (1932) through May (but as many as 100 on April 21, 1932), and occasional birds in summer by Manuel.

J. C. Salyer took an individual (U.M.M.Z.) on April 27, 1934, at Pine Lake, Charlevoix County, and Blanchard and Nelson (MS of 1937) recorded another on May 4, 1937, at Cecil Bay, northern Emmet County.

Upper Peninsula.—A few Bonaparte's Gulls have been reported in Chippewa County: at Munuscong Bay, 4 on May 3, 1933, by Max M. Peet, and 4, May 28 to 29, 1922, by Magee (1922:176); at Sault Ste Marie, several groups of 2 to 6 in May, 1924 and 1925, by Christofferson; and at Whitefish Point on May 22, by N. A. Wood (1914: 59). Christofferson saw 1, June 3, 1936, at Gould City, western Mackinac County.

SUMMER.—Uncertainty still exists regarding the nesting of Bonaparte's Gull in Michigan (Barrows, 1912: 56); no unquestionable record has yet been found. Nonbreeding birds have been noted in summer in the Erie marsh, Monroe County (June 6, 1934, U.M.M.Z.); at the St. Clair Flats, St. Clair County (200 to 250, nearly all immature, on June 18, 1899, by J. Claire Wood and Swales; 50 on June 27, 1913, by Jefferson Butler; see also Barrows, 1912: 56); at Sand Point, Huron County (several collected by C. G. Manuel, *vide* D. W. Douglass); on the shore of Bay County (June 5 to 28, U.M.M.Z.); in the Douglas Lake (Cheboygan County) vicinity (in late July and August—Blanchard and Nelson, MS of 1937); and at Munuscong Bay, Chippewa County (June 10, 1934, U.M.M.Z.). Some of these records may refer to late spring or early fall transients.

FALL.—Records indicate a movement that extends mainly from September to late November.

Upper Peninsula.—An individual was noted on Isle Royale on August 12, 1929, by Walter E. Hastings, and at Phoenix, Keweenaw County, on September 2, 1931 (U.M.M.Z.). Christofferson and Magee reported some almost every fall in Chippewa County, in the 1920's; at Sault Ste Marie in 1926, they saw 14 on August 18, and 30 on August 23; at Munuscong Bay in 1929, 23 in September, and 2 as late as October 23 (Christofferson).

Lower Peninsula.—Blanchard and Nelson (MS of 1937) recorded occasional individuals and small groups along the north coast of Emmet and Cheboygan counties not only in late July but also in mid-August (1910 to 1937), and Max M. Peet collected 2 birds at Burt Lake, Cheboygan County, on August 18, 1941. In several seasons at Houghton Lake, Roscommon County, Trautman saw the species frequently in October (100 on October 9 and 10, 1937), only a few after October 25, and none after November 12 (1938); he collected 1 (Max M. Peet collection) on November 7, 1937. Pirnie saw 300 near Tawas City, Iosco County, on November 18, 1937. On Saginaw Bay, where the species has been very numerous in fall (Eddy, 1884a: 5), and where a few were noted in late August and 200 on October 12, 1910 (U.M.M.Z.; N. A. Wood, 1911: 86), large flocks appeared (Sand



Point, Huron County) from November 12 (900 birds in 1929) to November 16 (1930). Along the Lake Michigan coast line this gull was reported very common at Hamlin Lake, Mason County, in early September (Chaney, 1910: 272), at Douglas, Allegan County, on October 17, 1926 (E. R. Ford), and south of South Haven, Van Buren County, on September 17, 1931 (Leonard Wing). At the W. K. Kellogg Bird Sanctuary, Wintergreen Lake, Kalamazoo County, where the species has been seen frequently in October, Pirnie saw a flock of 30 on November 2, 1932, a flock of 80 on November 12, 1932, and a flock of 20 on November 28, 1941. In the Ann Arbor region only very small groups have usually been noted, from August 20 (4 birds in 1909) to mid-November, but a sizable flock of about 60 was seen October 19, 1930, on Barton Pond, Ann Arbor, by R. E. Olsen. "Large numbers were migrating down the St. Clair River," St. Clair County, in mid-October (Swales, 1904b: 84); about Detroit some were observed by Swales (1912: 126; and notes) from mid-August (1896) to mid-December, but the larger numbers from late September to late November (50 to 200 seen in a day). Trautman discovered a flock of about 80 at Gibraltar Bay, Wayne County, on August 29, 1935.

WINTER.—L. W. Campbell (1940: 87) has found Bonaparte's Gulls not uncommon in the Toledo-Erie marsh area in December. Generally the birds depart when the bays freeze over about the end of the month, but about 300 Bonaparte's Gulls were seen there throughout the winter of 1931-32.

*Sterna forsteri* Nuttall  
Forster's Tern

Rare transient (apparently less rare in fall than in spring). Rare summer visitant. Perhaps bred formerly at St. Clair Flats.

First authoritatively listed for Michigan by Barrows (1912: 59-60).

The status of this species in Michigan is little known, since it is easily confused in the field with the Common Tern. It is probably more common, however, than the few records indicate.

SPRING.—Arrival is recorded during late April and May. In the Toledo-Erie marsh area, where the species occurs with some regularity, L. W. Campbell and Trautman (1936: 213-14; and L. W. Campbell, 1940: 87-88) recorded 4 individuals on May 27 and 2 on May 30, 1934 (specimens in U.M.M.Z. and Max M. Peet collection). On April 19, 1908 (date corrected from N. A. Wood and Tinker, 1934: 23), a male (U.M.M.Z.) was taken by Alvin Bond at Lombard's Lake in Lodi Township, Washtenaw County. The specimen collected May 24, 1884, at Long Lake, Kalamazoo County, referred to by Gibbs (1885: 190) as a Common Tern, is apparently the same

as the one that Barrows (1912: 59-60) identified as belonging to the present species.

SUMMER.—At the St. Clair Flats, Collins (1880: 65-66) collected adults and eggs (June 15, 1880) that he believed were of Forster's Tern. Swales reported finding a nest with 2 or 3 eggs in the same locality in 1899, but he collected no specimens and was not sure of the identification. At Whitmore Lake, Washtenaw County, 2 individuals were seen on June 14, 1935, by Trautman; and at Sand Point, Huron County, 1 (U.M.M.Z.) was collected on June 10, 1933, by D. W. Douglass from a large flock of gulls and terns.

FALL.—Departure is recorded in October. On October 8, 1941, a Forster's Tern (U.M.M.Z.) was taken by Pirnie from flocks of small terns at Muskegon Lake, Muskegon County; and on August 29, 1917, 2 (U.M.M.Z.) were secured at Harbert, Berrien County. It occurs throughout the summer in the Toledo-Erie marsh area; small numbers (as many as several dozen at a time) have been noted there until late October and occasionally until early November (L. W. Campbell and Trautman, 1936: 213-14; L. W. Campbell, 1940: 190).

The specimen of a juvenile taken on the lower Detroit River on September 10, 1890, and recorded as a "Forster's Tern" by Swales and Taverner (1907: 137), appears as a "Common Tern" in Swales' card records, as well as on page 60 of his personally annotated copy of Barrows' *Michigan Bird Life* (1912), and in the catalogue of the Museum of Zoology. This specimen is no longer in the Museum's collection.

### *Sterna hirundo hirundo* Linnaeus

#### Common Tern

Common summer resident on the Great Lakes, from western Lake Erie to near Sault Ste Marie, and about northern Lake Michigan. Transient in small numbers in the interior.

First recorded for Michigan by Sager (1839: 417).

SPRING.—Arrival in southern counties has been reported principally in late April and early May; in the Upper Peninsula, during the latter half of May.

Lower Peninsula.—In the Toledo-Erie marsh area L. W. Campbell (1940: 190, 204) has noted arrival of individuals during the last week of April, and the beginning of main flight on the average by May 1. Common Terns have appeared at a corresponding time in the Ann Arbor and the Detroit areas, although occasionally earlier (on April 12, 1908, a flock of 13 seen near Ann Arbor by N. A. Wood). Observers have found the species uncommon in the Jackson County region; Walkinshaw listed it there on May 9, 1935, and Fargo saw 6, May 21, 1924. Along the Berrien County

shore in 1918 N. A. Wood (1922: 7-8) saw a flock of 16 on May 14 and hundreds of Common Terns on May 16 and 17. On Lone Tree Island, Huron County, C. G. Manuel (1930: 236) found the earliest Common Terns about the first of May, and by about mid-June a breeding population of 2000 pairs. Several specimens (U.M.M.Z.) were collected on Beaver Island, Charlevoix County, on May 15, 1932, and Blanchard and Nelson (MS of 1937) found the species at Douglas Lake, Cheboygan County, as early as May 13.

Upper Peninsula.—Occasionally Christofferson and Magee have found the Common Tern along the Saint Mary's River, Chippewa County, by the middle of May. At Whitefish Point, Chippewa County, Brodkorb saw a flock of 6 on May 16, 1936. Christofferson, at Blaney, Schoolcraft County, and Bryens, at McMillan, Luce County, have reported arrival during the latter part of May.

SUMMER.—The species was found breeding on Grosse Ile in the Detroit River, Wayne County (a 5-nest colony on July 17, 1933, in which C. C. and F. E. Ludwig banded the 7 chicks present). Colonies have been noted also on the St. Clair Flats, St. Clair County, where 1500 nests were estimated by Van Loon (1922: 274-75; see also Cole, 1910: 164; J. Butler, 1912: 413-14; 1913a: 456); in Huron County on Lone Tree Island (2000 nests recorded by Walter E. Hastings, 1924: 41); occasionally on an island at Sand Point (1929 and 1930 by C. G. Manuel; and 1939 by R. L. Patterson, John L. George, and George Dick); and on the Charity Islands (N. A. Wood, 1912a: 180); at East Tawas, Iosco County (1941, by Walkinshaw and E. M. Brigham, Jr.); and on islands of Alcona County and of Thunder Bay, Alpena County (Lyon, 1926: 245; Max M. Peet collection). Although no Common Terns were seen on the Fox (in 1939) or Manitou (in 1940) islands of Leelanau County (A. E. Staebler and L. D. Case), colonies were reported: on Small and Sand islands, southwestern Delta County (Lyon, 1926: 244-48; and 1932: 29-30); on at least 5 of the Beaver Islands, Charlevoix County (U.M.M.Z.; Barrows, 1904: 66; Lincoln, 1924a: 39); on the north shore of Emmet County (in very small numbers—Blanchard and Nelson, MS of 1937); along the coast of Mackinac County (Lyon, 1926: 244-48; 1932: 29-30; Van Tyne, 1923: 21); and in Chippewa County on the St. Mary's River and about Drummond Island (Boies, 1897: 18; Lyon, 1926: 244-48; and Magee, 1922: 175).

In midsummer this tern occurs more or less regularly at places distant from its breeding localities: at Portage Lake, Washtenaw County (one or more every few years—N. A. Wood); along the shore of Berrien County (July 24, 1917—N. A. Wood, 1922: 7-8); along the shore of Charlevoix County ("numerous"—Van Tyne, 1925: 614); and in Cheboygan County

about Burt Lake, Douglas Lake, and Cheboygan (Blanchard and Nelson, MS of 1937).

FALL.—The southward movement occurs in late August, through September and, in the south along the shore lines, well into October.

Upper Peninsula.—According to Christofferson and Magee, this tern has usually departed from its nesting grounds in Munuscong Bay, Chippewa County, by August 20. At Blaney, Schoolcraft County, Christofferson has seen the species on a few occasions after mid-August (September 7, 1934, 25 birds seen); and at McMillan, Luce County, Bryens has recorded it until September 12 (1937).

Lower Peninsula.—In Benzie County, D. E. Davis saw a flock of 50 on August 29, 1940, and a flock on September 7, 1934. C. G. Manuel (1930: 236) found immatures on Lone Tree Island, Huron County, as late as November 10; at Fish Point, Tuscola County, N. A. Wood and R. E. Olsen saw 200 on both September 27 and 28, 1934; Wood collected 1 (U.M.M.Z.) there on October 17, 1925. N. A. Wood (1922: 7-8) observed hundreds on September 2, in Berrien County, and E. R. Ford found the species still present in Allegan County on October 17, 1926. A flock of 50 was reported in the Ann Arbor region by N. A. Wood on both August 30, 1937, and October 10, 1920. Jefferson Butler (1913a: 456) noted 2000 in late August on lower Lake St. Clair; Swales recorded a few present in the Detroit area until mid-October, and in 1916, as late as October 29 (20 seen). In the Toledo-Erie marsh area, numbers have been present usually until September 29 (once as late as November 17), and stragglers until December 4 (L. W. Campbell, 1940: 190, 204).

*Sterna albifrons athalassos* Burleigh and Lowery  
Interior Least Tern

Barrows (1912: 63-64) listed the Least Tern for Michigan, but cited no unquestionable record (see Swales, 1913: 32-33). The first Michigan specimen was taken by Harold Mayfield and L. W. Campbell in Erie Township, Monroe County, on July 10, 1943.

*Hydroprogne caspia* (Pallas)  
Caspian Tern

Local summer resident (Green Bay, Delta County; Beaver Islands, Charlevoix County; Alpena and Huron counties). Uncommon transient in the rest of Michigan.

First recorded for Michigan by Gibbs (1879: 495).

SPRING.—According to the rather limited data, the Caspian Tern arrives in the southern counties in late April and early May, and in the Upper Peninsula during the first half of May.

Lower Peninsula.—About the Toledo–Erie marsh area the species has been an uncommon transient, present in numbers from the third week in April to late May (L. W. Campbell, 1940: 90, 204). The only positive record known to Swales and Taverner for the Detroit region at any time of year was 1 or 2 birds shot on the St. Clair Flats on April 25, 1908 (Taverner, 1908*a*: 327). The Ann Arbor records are: 3 birds seen by C. J. Spiker on April 30, 1933; 1 by R. A. MacMullan and 3 by John L. George on April 27, 1939. At Portage Lake, Jackson County, Maurice G. Brooks saw 1 on May 28, 1939. On the shore of Berrien County, N. A. Wood (1922: 7) observed 2 on May 8, 1918, and occasionally thereafter. Wood found the species arriving at Fish Point, Tuscola County, in 1926 on April 27, and noted at least 40 there on May 10. Several specimens (U.M.M.Z.) were taken on Lake Charlevoix, Charlevoix County, by J. C. Salyer on May 11, 1934, and a few were noted on Beaver Island by N. A. Wood on May 10, 1929.

Upper Peninsula.—Walkinshaw reported this tern at Manistique, Schoolcraft County, on May 12, 1937; Christofferson has found it arriving at Blaney, Schoolcraft County, about the middle of May, his earliest date being May 11 (1936, 1 seen). Christofferson and Magee reported Caspian Terns at St. Ignace, Mackinac County, as early as May 10, 1924 (1 seen), and at Brimley, Chippewa County, on May 17, 1925 (12 seen). Bryens' only spring record from McMillan, Luce County, is an individual seen there on May 28, 1939.

SUMMER.—Eggs are usually found during the first half of June. There are colonies of long standing about Green Bay, Delta County (Van Winkle, 1893: 114–15; 1897: 33; Macoun, 1900–1904: 48; Barrows, 1912: 58), and the Beaver Islands, Charlevoix County (1896, egg sets in U.M.M.Z.; Barrows, 1904: 65–66). At Gravelly Island, Delta County (in the entrance to Green Bay, and locally called Gravelly Gull Island), since 1924, Lyon and his associates have found and banded several hundred downy young a season, but only a fraction of that number on other islands—Small and Sand islands, some 9 miles southwest of Escanaba (Lyon, 1926: 244–46; 1927: 179–84; 1932: 29–30; and 1933: 54–55). The colony on Shoe Island (also called Little Hat Island) in the Beaver Island group, Charlevoix County, has been “probably one of the largest in the United States,” according to Lincoln (1940*a*: 569), who estimated 600 pairs in July, 1923, and from 1000 to 1500 pairs in 1924. Several hundred chicks were banded there (occasionally a number also on neighboring Hat Island) almost annually since the early 1920's (Lincoln, 1924: 7; 1924*a*: 40; 1926: 240–44; Lyon, 1927: 182; and 1932: 29–30) and regularly since 1934 by C. C. and F. E. Ludwig,

who banded 782 downy young on July 1, 1936. A small breeding colony was found in 1938 northeast of High Island.

Walter E. Hastings collected several egg sets (U.M.M.Z.) on June 9, 1922, on Thunder Bay Island, Alpena County, Lake Huron. On Saginaw Bay the species has been noted at least occasionally in summer: in Huron County on Sand Point (specimens in U.M.M.Z. collected by Van Tyne and D. W. Douglass) and on Lone Tree Island (U.M.M.Z.; C. G. Manuel, 1930: 236). There were 15 to 18 pairs in 1939 on Charity Island, Huron County (Miller Empey and J. E. Swackhamer), where, in 1941, 16 chicks were banded by C. C. and F. E. Ludwig.

As with other gulls and terns, this species is present in midsummer at some distance from the known breeding colonies. It has been noted in the Erie marsh on June 13, 1934 (2 seen by R. E. Olsen and D. W. Douglass) and on July 7, 1935, by L. W. Campbell, who found it regularly in the Toledo-Erie marsh area in summer (L. W. Campbell, 1940: 90). David E. Davis saw 7 Caspian Terns in Benzie County on June 13, 1936; R. T. Hatt, A. E. Staebler, and L. D. Case saw small flocks (up to 6 birds) on the Fox and Manitou islands in Leelanau County in June and early July of 1939 and 1940, respectively. The species was seen on Fisherman's Island, Charlevoix County, in early August (Van Tyne, 1925: 613-14), and it has been found regularly on Douglas and Burt lakes, Cheboygan County, after mid-July (Blanchard and Nelson, MS of 1937).

In the Upper Peninsula the Caspian Tern has been seen during the summer at Les Cheneaux Islands (Van Tyne, 1923: 21), at Blaney, Schoolcraft County (a few birds nearly every summer by Christofferson), and twice at McMillan, Luce County (1 seen, July 31, 1936, and 1 August 2, 1931, by Bryens). A single bird was reported at Whitefish Point, Chippewa County, on July 16, 1914 (N. A. Wood, 1914: 59).

FALL.—The southward movement occurs in August and the first half of September, stragglers being noted in late September and early October.

Upper Peninsula.—N. A. Wood noted a single Caspian Tern on Isle Royale on October 2, 1929, and S. S. Gregory, Jr. (1929: 172), listed the species as present in the Huron Mountain region, Marquette County, during the early fall. Christofferson has observed it in numbers from 10 to 50 at Brevort Lake, Mackinac County: his records include 50 seen there on August 18, 1929; the same number on September 2, 1928; and 36 on September 16, 1927. Bryens saw 1 at St. Ignace, Mackinac County, on August 28, 1938, and 1 at McMillan, Luce County, on September 14, 1935.

Lower Peninsula.—N. A. Wood and R. E. Olsen noted 4 Caspian Terns at Fish Point, Tuscola County, on September 28, 1934; on the Lake Michigan shore of Berrien County, N. A. Wood (1922: 7) saw a few on Septem-

ber 9; and near South Haven, Van Buren County, Leonard Wing reported "many" on September 16, 1931. The only fall record from the Ann Arbor area is that of a single bird seen by N. A. Wood on September 5, 1915, and the only report from the Detroit region is that of Walkinshaw, who saw several at the mouth of the Detroit River on September 18, 1932. Trautman listed 40 Caspian Terns in the Erie marsh on September 9, 1940; L. W. Campbell (1940: 190, 204) has reported the end of main flight in the Toledo-Erie marsh area generally by the middle of September—September 28 the latest—and has observed individuals there as late as mid-October.

*Chlidonias niger surinamensis* (Gmelin)  
Black Tern

Summer resident, common only in the southeastern quarter of the state; breeds north, apparently locally, to Munuscong Bay, Chippewa County.

First recorded for Michigan by Sager (1839: 417).

SPRING.—Arrival in southern counties has been reported chiefly in very late April and in early May; in the north in late May.

Lower Peninsula.—In the Toledo-Erie marsh area individuals have been recorded by the last of April, the beginning of main flight averaging May 10 (L. W. Campbell, 1940: 190, 204). About Detroit the species seldom arrived until after the first week in May, but became common by May 15 or 20 (Swales). In the 1930's elsewhere in southern Michigan—Washtenaw County; Jackson County (Walkinshaw); Battle Creek (Walkinshaw)—small numbers were noted regularly by the last few days of April or the first 10 days of May. On Saginaw Bay at Fish Point, Tuscola County, there were 5 on May 16, 1926, and larger numbers almost daily thereafter; at Sand Point, Huron County, 2 were reported on May 15, 1932 (R. E. Olsen and A. D. Tinker).

Upper Peninsula.—At Munuscong Bay, Chippewa County, the Black Tern has arrived by May 16 (1926), but as a rule not before the last week of May (Christofferson and Magee). Christofferson recorded it at Blaney, Schoolcraft County, on May 24, 1932.

SUMMER.—Eggs have been reported by the second week in May, but more usually in the latter part of May and June.

Lower Peninsula.—The species nests commonly in the Erie marsh, Monroe County (L. W. Campbell, 1940: 90-91), and perhaps also along the Michigan side of the Detroit River (U.M.M.Z.). Collins (1878: 26), Langille (1892: 15), Walter C. Wood (1903: 28), Swales, and others discovered many nests and eggs in the St. Clair Flats. Earlier the species was not positively known to breed in the Ann Arbor region (N. A. Wood and Tinker, 1910: 130), but it has since been found to be rather common on vari-

ous lakes there during the breeding season, and nests were found by J. Van Tyne and by A. S. Warthin, Jr., in 1922 (Van Tyne, 1924: 169; and Trautman, 1939: 44-45). In Jackson County it has bred at Stony Lake, Napoleon Township (about 50 pairs in 1929—Roger T. Peterson), and Portage Lake (several nests found; 100 birds noted June 28, 1936, by R. E. Olsen and A. D. Tinker). Small nesting colonies have been seen in Calhoun County at Homer (downy young in U.M.M.Z.) and about Battle Creek (Walkinshaw, 1929: 102; and notes), in Kalamazoo County near Kalamazoo (Gibbs, 1903: 27; Walkinshaw, notes) and perhaps at Vicksburg (F. W. Rapp, 1931: 1). Apparently this tern has bred at Brooks Lake, Brooks Township, Newaygo County (a colony there regularly from 1922 to 1926—E. R. Ford), and commonly about Saginaw Bay, particularly at Lone Tree Island, Huron County, where 100 pairs were noted by C. C. and F. E. Ludwig in 1933, and at Linwood, Bay County (downy young in U.M.M.Z. taken July 8, 1934, by Miller Empey). It also breeds regularly in the Indian River marsh, Cheboygan County (Blanchard and Nelson, MS of 1937; Max M. Peet collection), and along the Crooked River near Alanson, Emmet County (1938-40, A. E. Staebler).

Upper Peninsula.—At Munuscong Bay, Chippewa County, Magee (1922: 176) and Christofferson (notes) discovered 5 nests in 1922, and a few others in later years; in June of both 1934 and 1935 Walkinshaw found no nests, but reported the species fairly common.

Without proof of nesting, the Black Tern has been observed in midsummer in other localities in Michigan: Fish Point, Tuscola County (U.M.M.Z.); Lake St. Helen, Roscommon County (U.M.M.Z.); Bird Island in Thunder Bay, Alpena County (10 birds on July 13, 1933—C. C. and F. E. Ludwig); Charlevoix (June 14, 1923—Walter E. Hastings, *vide* Van Tyne, 1925: 614); Drummond Island, Chippewa County (Potagannissing River system in July and August, 1938—T. D. Hinshaw and R. A. MacMallan); and the Lake Superior State Forest in northern Luce County (July 1, 1 bird—Leonard Wing, 1940: 177; and notes).

FALL.—Departure is recorded principally in August and early September, with some individuals remaining a few weeks longer.

Upper Peninsula.—At Munuscong Bay, Chippewa County, according to Christofferson, there were 50 immatures on August 8 (1928) and 6 on August 23 (1928), but none has been recorded there later than September 1 (1929). An individual was noted at Brevort Lake, Mackinac County, as late as September 5 (1927, Christofferson).

Lower Peninsula.—At Crystal Lake, Benzie County, David E. Davis saw a flock on September 4, 1934. In 1917 large numbers were feeding along the shore of Berrien County on September 2, and a few on Septem-



ber 4 (N. A. Wood, 1922: 8); at least 1 was reported at Vicksburg, Kalamazoo County, until September 26 (F. W. Rapp, 1931: 1). In the Ann Arbor region the departure of local colonies was believed to coincide generally "with the first cool period in August . . . usually between August 4 and 20" (at Whitmore Lake—Trautman, 1939: 44-45); 3 transients, however, were noted in the region on September 28, 1926. (The November 15, 1912, date in N. A. Wood and Tinker, 1934: 24, should have been placed in the Common Tern column for the same year.) About Detroit, Swales found quite a number in the first part of August (as many as 50 on August 13, 1915), seldom any after August 25, but a few occasionally until mid-September. In the Toledo-Erie marsh area L. W. Campbell (1940: 190, 204) has recorded numbers present usually until September 1 (once until September 24), and individuals as late as October 7.

ALCIDAE  
(AUKS AND MURRES)

*Uria lomvia lomvia* (Linnaeus)  
Brünnich's Murre

Flights in November and December, 1894, 1896, and 1907, resulted in a number of records in Monroe, Wayne, Oakland, Montcalm, and Kalamazoo counties (Barrows, 1912: 43-44, 734). Two specimens (U.M.M.Z.) were collected in Wayne County, 1896 and 1907; 1 specimen near Gull Lake, Kalamazoo County, in 1907, by G. W. Smith; and 1 (examined by Percy Selous) near Greenville, Montcalm County, on December 13, 1894.

*Plautus alle alle* (Linnaeus)  
Dovekie

Two records: an immature female (U.M.M.Z.) shot November 30, 1881, on the Detroit River, Wayne County, and secured by Collins (1882: 111); a female (U.M.M.Z.) collected November 14, 1939, on Stuart [also known as "Brace"] Lake, near Marshall, Calhoun County, by J. H. Coolidge and Hazen Hatch.

COLUMBIDAE  
(PIGEONS AND DOVES)

*Zenaidura macroura carolinensis* (Linnaeus)  
Eastern Mourning Dove

Summer resident, abundant in southern half of the Lower Peninsula; locally common northward, but there is no confirmed nest record from the Upper Peninsula. Winter resident, sometimes common in the southern third of the Lower Peninsula, rare and local north to Luce County.

First listed for Michigan by Sager (1839: 416).

SPRING.—The main flight is reported in southern counties during the latter part of March and early April; in the north, from late April to early May.

Lower Peninsula.—In the Toledo–Erie marsh area, L. W. Campbell (1940: 204) has observed the beginning of main flight as early as March 2, though on the average not until March 23. Swales (notes) recorded Mourning Doves in numbers in the Detroit area by the last week in March or the first week in April. R. E. Olsen saw a flock of 50 in Hartland Township, Livingston County, on April 4, 1937; Gibbs (1885: 150) stated that Doves arrived in Kalamazoo County usually about March 15. D. W. Douglass observed several small flocks on Sand Point, Huron County, between April 12 and May 23, whose behavior “strongly suggested migration” (1932 and 1933).

Upper Peninsula.—Bryens has reported arrival at McMillan, Luce County, in mid-April (April 12 in 1929 and 1930, and April 16 in 1924). On Isle Royale, in 1937, Laurence Dayton recorded Mourning Doves on May 17, 18, and 21.

SUMMER.—The nesting period in Michigan is known to extend from early April to early October.

Lower Peninsula.—Swales (1903: 14) listed the Mourning Dove as an abundant summer resident in the Detroit area; in the vicinity of Ann Arbor, T. D. Hinshaw found a nest (with 1 egg) as early as April 9 (1937), and Eli A. Gallup collected a young bird (U.M.M.Z.) about to leave the nest on April 27, 1941. In the Battle Creek area Walkinshaw found 2 young that left the nest on October 7, 1931. F. W. Rapp (1931: 12) found nests in the vicinity of Vicksburg, Kalamazoo County, from April 26 (1896, nest with 2 eggs) to August 16 (1898, nest with 2 eggs). G. A. Ammann listed the Mourning Dove as a common summer resident at the Prairie Farm, Alicia, Saginaw County, in the summer of 1940; N. A. Wood and Gaige (1911: 283) saw it occasionally at Sand Point, Huron County in 1908, and A. D. Tinker found a nest with eggs there on June 11, 1933. Chaney (1910: 273) noted only a “few pairs” in the summer of 1909 at Hamlin Lake, Mason County; Van Tyne (1925: 616) found it numerous locally in Charlevoix County in 1923. This dove was listed as rare in the Douglas Lake area, Cheboygan County, by N. A. Wood, Smith, and Gates (1916: 9), but it was found there in “all the more open situations” by Blanchard and Nelson (MS of 1937).

Upper Peninsula.—Boies (1897: 20) reported the Mourning Dove as occasional in summer on Neebish Island, Chippewa County. Magee and Christofferson (1922: 566) recorded a number of Mourning Doves in the

summers of 1921 and 1922 in the eastern part of the Upper Peninsula. T. D. Hinshaw and R. A. MacMullan listed the species as uncommon on Drummond Island, Chippewa County, in July, 1938. Brodkorb found it fairly common at Seney, Schoolcraft County, in the first half of June, 1938; Christofferson saw 6 there on June 7, 1937, and has recorded 1 or 2 each year on several occasions in June and July at Blaney, Schoolcraft County. Bryens has noted a similar status at McMillan, Luce County, in the past decade. Christy (1925:210) reported an individual on June 5 and 6 in 1925 in the Huron Mountain region, Marquette County. An individual was seen at Golden Lake, Iron County, by John L. George and R. L. Patterson on July 27, 1938; and 1 on Isle Royale by Walter E. Hastings on July 29, 1929 (N. A. Wood, 1930:267).

FALL.—The Eastern Mourning Dove leaves the Upper Peninsula by the end of September and the Lower Peninsula in late October.

Upper Peninsula.—An individual was seen at Whitefish Point, Chippewa County, by Fargo on September 1, 1925. At McMillan, Luce County, Bryens has usually recorded this dove until sometime in the latter half of September (a maximum of 60 birds on September 11, 1939) and occasionally later (1 as late as October 8, 1933, and 1 on November 14, 1939).

Lower Peninsula.—In Kalamazoo County, Gibbs (1905:73) found Mourning Doves "abundant" until November 1. Trautman saw about 100 at the Erie marsh, Monroe County, on September 9, 1934; L. W. Campbell (1940:204) has reported the end of the main flight in the Toledo-Erie marsh area usually by October 22, but once as late as November 16.

WINTER.—Regular and occasionally numerous in the southern third of the Lower Peninsula, rare northward.

Lower Peninsula.—In the Detroit area Swales (1903:14) noted a few individuals during the winter, and J. Butler (1912a:38) saw 62 there on December 24, 1911. In the vicinity of Ann Arbor a few individuals or small flocks have been reported nearly every winter and once a flock of 300 (by James H. Wood on January 21, 1936). A few have been found at Lansing (Barrows, 1912:252) and also about Battle Creek (E. M. Brigham, Jr., and others, 1939:37-38). At Vicksburg, Kalamazoo County, F. W. Rapp (1931:11-12) seldom observed the species in winter, but during the winter of 1935-36 he saw 6 flocks totaling 55 birds. G. A. Ammann saw 2 on January 17, 1940, at the Prairie Farm, Alicia, Saginaw County; Maurice G. Brooks saw 1 in northern Gratiot County on February 12, 1939; and Verne Dockham reported several near Fairview, Oscoda County, in February, 1941.

Upper Peninsula.—At McMillan, Luce County, Bryens saw 19 Mourning Doves on January 8, 8 on February 5, and 2 in early March, 1939.

*Ectopistes migratorius* (Linnaeus)  
Passenger Pigeon

Extinct. Formerly a very common summer resident. Last Michigan specimen collected in 1898.

First recorded for Michigan by Jacques Marquette (letter, 1670, *The Jesuit Relations*, 54: 189) and A. de la Mothe Cadillac (letter, 1702, Mich. Pioneer and Hist. Coll., 33: 135).

SPRING.—Definite information pertaining to the migratory movements of the species in Michigan is very meager. Gibbs (1902a: 178-79) stated that it arrived in Kalamazoo County between February 25 and April 3. E. S. Wilson (1934: 158) recalled that it arrived in Leelanau County in late April and immediately began nesting; E. T. Martin (Mershon, 1907: 93) made similar observations in the vicinity of Petoskey, Emmet County, where he found it starting to nest soon after the middle of March in 1878.

SUMMER.—The nesting period apparently extended from mid-March or early April to the last of June or early July.

Lower Peninsula.—There are several reports from old residents of southeastern Michigan that the Passenger Pigeon nested in Washtenaw and Wayne counties. Gibbs (1885: 150) found nests in Kalamazoo County; large nestings were noted in Van Buren County (Mershon, 1907: 58-59; 169-170) by Simon Pokagon in 1866 (northwestern part of county), by Sullivan Cook in 1869 (near Hartford), and by Ephraim Osborn in 1872 (near South Haven). Nesting was reported near Grand Rapids in 1858 or 1859, and near Stanton, Montcalm County, in 1874, by Ephraim Osborn (Mershon, 1907: 114, 117); and in Newaygo, Oceana, and Grand Traverse counties in 1876 by H. B. Roney (Mershon, 1907: 77). A nesting site (estimated to be 12 by 3 miles in extent) near Shelby, Oceana County, was visited in mid-April by Gunn (1876: 29-30). Ephraim Osborn (Mershon, 1907: 113) reported nesting near Manistee in 1868, and near Mount Pleasant, Isabella County, in 1869. E. S. Wilson (1934: 159) remembered a nesting site near Northport, Leelanau County, that was more than 22 miles long and 3 miles wide. The largest nesting recorded in Michigan occurred in 1878 near Petoskey, Emmet County. This nesting site was variously estimated to have been 28 to 40 miles long and 3 to 10 miles wide (Bent, 1932: 398; Mershon, 1907: 82), and from it probably several million pigeons were taken. In the same year there was a large nesting at the Manistee River in Kalkaska County said by E. T. Martin (Mershon, 1907: 94) to have been 28 miles long by 5 miles wide. Other nestings were reported at Boyne Falls, Charlevoix County (Mershon, 1907: 94); and near Burt Lake, Cheboygan County (Mershon, 1907: 93).

FALL.—According to M. H. Mitchell (1935: 82–83) the Passenger Pigeon apparently migrated southward in late September from Ontario. The only fall information for Michigan is apparently a letter written by J. B. Purdy to O. B. Warren (Mershon, 1907: 130–31) in which Purdy stated that the birds arrived near Plymouth, Wayne County, between September 1 and 15.

DISAPPEARANCE FROM THE STATE: E. S. Wilson (1934: 166) did not observe Passenger Pigeons nesting in Leelanau County after 1877. S. S. Stevens (Mershon, 1907: 63) stated that “the last nesting of importance in Michigan was in 1881, a few miles west of Grand Traverse. It was only of moderate size, perhaps 8 miles long.” In 1886, Stevens saw about 600 pairs nesting near Lake City, Missaukee County (Mershon, 1907: 63). William Brewster (1889: 285–86) was reliably informed that there had been a large flight of Passenger Pigeons in the spring of 1888 in the northwestern part of the Lower Peninsula. No large nesting was found that year, although Brewster and Jonathan Dwight saw scattered pairs of the birds nesting in the vicinity of Cadillac, Wexford County, and of Oden, Emmet County, in May. In a letter to Mershon (1907: 160), E. E. Brewster stated that a colony of less than 100 birds nested near Deerskin Lake, Iron County, in 1888; in the fall of that year F. W. Rapp (1931: 35) saw a flock of about 200 near Vicksburg, Kalamazoo County. A nest with 1 egg was collected by C. F. Clingman near Baldwin, Lake County, on June 18, 1889 (Coale, 1925: 138), and 2 birds were seen by L. Whitney Watkins (1894: 934) in Jackson County in mid-June, 1894. Twelve or more Passenger Pigeons were seen by Chase S. Osborn (Deane, 1897: 317) in eastern Chippewa County in 1896, and Simon Pokagon informed Mershon (1907: 222) that a small colony nested near the headwaters of the Au Sable River (presumably in Otsego County), in 1896, and L. Whitney Watkins and others (1897: 27) believed that the Passenger Pigeon was increasing slowly in Michigan in 1896. The last known authentic specimen collected in Michigan was taken in Dearborn Township, Wayne County, by Frank Clements (pseudonym of P. E. Moody) on September 14, 1898. The specimen, an immature male, is in the collection of J. H. Fleming (Moody, 1903*b*: 81), now incorporated in the Royal Ontario Museum of Zoology.

CUCULIDAE  
(CUCKOOS)

*Coccyzus americanus americanus* (Linnaeus)  
Yellow-billed Cuckoo

Summer resident, common in the south, much less common in the north.

First recorded for Michigan by Sager (1839: 415).

SPRING.—Chief movement in southern tiers of counties seems to begin

about the middle of May. Individuals have appeared in the Toledo-Erie marsh area by May 7, but the average date for individuals there has been May 15, and for the beginning of main flight, May 24 (L. W. Campbell, 1940: 190, 204). At Detroit Swales (1903: 17; and notes) listed several Yellow-billed Cuckoos almost every spring, usually by the middle of May or somewhat later, but in 1905 as early as May 7. A few are seen at about the same time each spring at Battle Creek (Walkinshaw) and at Ann Arbor. (The "April 17, 1906," date in N. A. Wood and Tinker, 1934: 24, should be "May 17, 1906," as in Tinker, 1910: 48.) The species has been noted at Vicksburg, Kalamazoo County, by May 20 (F. W. Rapp, 1931: 15) and was noted in Berrien County, by May 17, 1918, May 19, 1920, and May 22, 1919 (N. A. Wood, 1922: 15). At the Prairie Farm, Alicia, Saginaw County, G. A. Ammann listed first arrivals in 1940 on May 26; and at Sand Point, Huron County, D. W. Douglass recorded 1 or 2 on May 20, 1931, and 1 on May 29, 1932.

SUMMER.—Egg sets have been taken from mid-May to early September.

Lower Peninsula.—L. W. Campbell (1940: 92-93) listed the species in the Toledo-Erie marsh area as common, twice as common as the Black-bill. On North Cape, Erie Township, Monroe County, R. E. Olsen, D. W. Douglass, and others on June 13, 1934, noted 10 Yellow-bills, and on July 8, 1934, found 20 (as compared with only 2 Black-bills on the same day). Swales (1903: 17) considered the Yellow-bill a "common summer resident" (more common than the Black-bill) about Detroit, his notes indicating that he usually saw several Yellow-bills each summer, and that over a period of years he found several nests from June 20 (1895, nest with 3 young) to August 27 (1896, nest with 3 eggs); F. C. Hubel collected 2 eggs in Wayne County on June 3, 1899. Only a few nests have been discovered in the Ann Arbor region, where the species seems to be less common than the Black-bill. In Jackson County, L. Whitney Watkins collected 2 egg sets (U.M.M.Z.) at Norvell, June 5, 1894, and May 16, 1895. Leonard Wing and others (1930: 64) listed 1 nesting pair on a July 6, 1929, census near Jackson. At Battle Creek in the 1930's Walkinshaw (notes; see also Bent, 1940: 58, Plate 7) found several nests, including 2 in 1936. In Kalamazoo County, Gibbs and F. W. Rapp (at Vicksburg) considered the species less common than the "common" Black-bill (Gibbs, 1885: 135; Rapp, 1931: 15). In northwestern Huron County the Yellow-bill was found breeding on the mainland (U.M.M.Z.; N. A. Wood and Gaige, 1911: 285-86), as well as on Charity Island (N. A. Wood, 1912a: 184; see also 1911: 95-96); during the summers from 1931 to 1933 a few adults (U.M.M.Z.) but no nests or young were noted at Sand Point (D. W. Douglass and others). There seem to be no summer specimens from north of

Saginaw Bay except from Douglas Lake, Cheboygan County, where a very few of the species have been found on occasion at this season (Blanchard and Nelson, MS of 1937); on July 25, 1938, near Burt Lake, Cheboygan County, A. E. Staebler collected 2 nestlings (U.M.M.Z.) and an egg from the same nest. There is some evidence that the species breeds also in Oscoda County (occasional—N. A. Wood and Frothingham, 1905: 47); and on South Fox and North Manitou islands of Leelanau County (a few individuals in 1939 and 1940—A. E. Staebler and L. D. Case).

Upper Peninsula.—At McMillan, Luce County, Bryens has reported the Yellow-billed Cuckoo a few times in the summer, as on June 10, 1933, July 6, 1932, and July 17, 1934. Bent (1940: 64) listed Blaney, Schoolcraft County, and Sault Ste Marie in the breeding range, but according to Christofferson, neither he nor Magee has any Upper Peninsula records that can be considered unquestionable. In Iron County in 1938 the species was seen at James Lake (1 on June 30) and at Golden Lake (2 on July 15), by John L. George and R. L. Patterson.

FALL.—The only Isle Royale record for any season is that of an individual (U.M.M.Z.) taken at Tobin Harbor by A. Anderson (N. A. Wood, 1930: 267-68) on October 10, 1929. Christofferson saw a Yellow-billed Cuckoo at Blaney, Schoolcraft County, on September 9, 1932. On Charity Island the species was present in 1910 during August (September 1, specimen in U.M.M.Z.) and until September 10 (N. A. Wood, 1911: 95-96). A few have remained until late September and early October at Ann Arbor and also about Detroit, where Swales (1903: 17; and notes) observed 8 on September 1 (1905) and stragglers even in late October. In the Toledo-Erie marsh area, this cuckoo is "especially common . . . in late summer"; on the average, main flight ends September 12, and the last individuals leave by September 26, but stragglers occasionally remain until the last of October (L. W. Campbell, 1940: 190, 204).

*Coccyzus erythrophthalmus* (Wilson)  
Black-billed Cuckoo

Locally common summer resident.

First listed for Michigan by Sager (1839: 415).

SPRING.—Arrival has been reported from the last of April to the first half of June.

Lower Peninsula.—In the Toledo-Erie marsh area this cuckoo has appeared as early as April 30, arrival of individuals averaging May 12 and and slightly larger numbers averaging May 25 (L. W. Campbell, 1940: 190, 204). In southern counties it arrives occasionally in the first and second weeks of May, but ordinarily not before mid-May. (The "April 17,

1906," date of N. A. Wood and Tinker, 1934: 24, apparently should be "May 14, 1906," as in Tinker, 1910: 48.) Northward at Freeland, Saginaw County, Miller Empey collected an individual (U.M.M.Z.) on May 24, 1929.

Upper Peninsula.—At both Blaney, Schoolcraft County (Christofferson), and McMillan, Luce County (Bryens), a few of this species (seldom more than 2 or 3 in a day) have been recorded regularly each spring, from the last week of May or the first week of June, but often not until later.

SUMMER.—Eggs have been found from late May to mid-September, most commonly in June and early July. The data available indicate that the Black-billed Cuckoo is more common in Michigan than the Yellow-billed Cuckoo except about Detroit and southeastern Monroe County.

Lower Peninsula.—L. W. Campbell (1940: 92) stated that this species was outnumbered by the Yellow-billed Cuckoo by 2 to 1 in the Toledo-Erie marsh area; Swales (1903: 17) listed the Black-bill as a common summer resident in the Detroit area though less common than the Yellow-bill. Carlton F. Wells discovered 3 nests with eggs in the Ann Arbor area on May 23, 1941; Walkinshaw found a nest with 2 young in the vicinity of Battle Creek on June 22, 1940. In Kalamazoo County, Gibbs (1885: 135) and F. W. Rapp (1931: 15) listed the species as a common summer resident, Rapp recording nests from May 25 (1902, 1 egg) to June 30 (1914, 2 eggs). F. S. Shuver (1898: 17) found a nest with 4 eggs near Bangor, Van Buren County, on September 14, 1897; G. A. Ammann reported the species nesting at the Prairie Farm, Alicia, Saginaw County (nest with 4 eggs on June 17, 1940). N. A. Wood and Gaige (1911: 286) reported it as common in northwestern Huron County in 1908. In the summer of 1940, A. E. Staebler and L. D. Case listed it as common to abundant on North and South Manitou islands, Leelanau County; T. D. Hinshaw and R. E. Morrill found it common on Beaver Island, Charlevoix County, in 1937. Blanchard and Nelson (MS of 1937) reported a number of nests in the Douglas Lake region, Cheboygan County.

Upper Peninsula.—Van Tyne (1923: 23) found a nest with 2 young near Hessel, Mackinac County, on June 23, 1919. Both Bryens (at McMillan, Luce County) and Christofferson (at Blaney, Schoolcraft County) reported the species throughout the summer, seeing from 1 to 4 in a day. In Chippewa County, specimens (U.M.M.Z.) were collected from Whitefish Point in 1912 and 1914 (N. A. Wood, 1914: 64) and Drummond Island in 1938 (T. D. Hinshaw and R. A. MacMullan); in Dickinson County on July 1, 1909 (Gaige, 1914: 80); and at Menominee on August 9, 1940 (E. T. Hooper). S. S. Gregory, Jr. (1929: 178), recorded the species in the Huron Mountains, Marquette County, on June 16, 1925, and July 17, 1913, and Van Tyne saw several there in late June, 1936. John L. George and



R. L. Patterson saw 3 at James Lake on June 30 and 2 at Golden Lake on July 15, 1938, in Iron County.

FALL.—Main migration extends to mid-September.

Upper Peninsula.—On Isle Royale only one Black-bill (U.M.M.Z.) has been noted at this season (on September 12, 1929, by N. A. Wood). At both Blaney, Schoolcraft County (Christofferson), and McMillan, Luce County (Bryens), a very few have been observed each fall, usually through most of August, sometimes until the third week of September (3 on September 18, 1940, at Blaney). At Whitefish Point, Chippewa County, A. D. Tinker and R. E. Olsen saw 3 and collected 1 during the last week of August, 1931.

Lower Peninsula.—One Black-bill was seen in Iosco County on September 20 (N. A. Wood and Frothingham, 1905: 47); on Charity Island the species was noted until September 15 (1 in U.M.M.Z.) and September 20 (N. A. Wood, 1911: 96). In Kalamazoo County it was said to depart "in late September" (Gibbs, 1885: 135), although at Vicksburg it was not recorded by F. W. Rapp (1931: 15) after September 10. It has seldom been found after mid-September at Ann Arbor, at Detroit (Swales' notes), or in the Toledo-Erie marsh area, where the average latest date for small numbers has been September 1, and for individuals, September 14, though individuals have been noted there even a month later (L. W. Campbell, 1940: 190, 204).

TYTONIDAE  
(BARN OWLS)

*Tyto alba pratincola* (Bonaparte)  
Barn Owl

Known to breed in Washtenaw, Oakland, and Genesee counties.

First authoritatively listed for Michigan by Gibbs (1879: 490).

It seems likely that this southern species, formerly considered very rare in Michigan (Gibbs, 1893*b*: 296; 1898: 7; A. J. Cook, 1893*a*: 79; and other authors), spread northward here following the clearing of the land, as suggested for Ohio by Trautman (1940: 274). At the time of Barrow's writing (1912: 298-300) there were "between 20 and 30 records" for Michigan; by 1921 there were about 20 records for the Ann Arbor region alone (N. A. Wood, 1921*a*: 591).

Downy young have been found by March 10 (in 1942 at Ann Arbor, by Van Tyne), though usually not until May and June. In Washtenaw County, where 1 or more Barn Owls are observed almost every year, at least 5 nestings have been discovered (1929, 1936, 1937, 1941, and 1942), mostly near Ann Arbor but also southward near Bridgewater (1936). Walter E.

Hastings collected a set of eggs (U.M.M.Z.) near South Lyon, Oakland County, on April 8, 1916, apparently the first set to be taken in Michigan (N. A. Wood, 1921: 282). In Genesee County, where a specimen had been collected about 1897 (Barrows, 1912: 735), Ben East (1930: 4-7; other data) banded 4 nestlings on September 29, 1927 (near Geneseeville). Without evidence of breeding, this owl has been recorded in Michigan in Wayne County (Swales, 1905: 109-10; 1912: 128), westward to Kalamazoo County (Bryens, 1926a: 370; Rapp, 1931: 14) and Berrien County (Raz, 1935: 201), northward to Mason County (Leonard Wing), and in Ingham and Lapeer counties (Barrows, 1912: 299; East, 1930: 4-7).

STRIGIDAE  
(TYPICAL OWLS)

*Otus asio naevius* (Gmelin)  
Eastern Screech Owl

Resident, common in southern half of Lower Peninsula, rare north to Alcona and Cheboygan counties.

First authoritatively listed for Michigan by Gibbs (1879: 490).

About Detroit this owl was seen many times a year by Swales (1903: 16), and his notes include 2 breeding records: a nest with 5 young (by Alexander W. Blain, Jr.) on May 22, 1902, and a pair with 4 young (by Swales) on July 15, 1915. The species has been recorded regularly since 1880 in the Ann Arbor region, where it has nested commonly (specimens in U.M.M.Z.). It has bred in Jackson County (Leonard Wing and others, 1930: 63-64) and in Calhoun County (several breeding pairs each year in an Eckford Township tract, reported by Stuart, 1919: 94-95; 1919a: 300-301). It was considered one of the common owls of Kalamazoo County by Gibbs (1885: 135) and by F. W. Rapp (1931: 14); Rapp noted a nest with 6 eggs on April 10, 1914. There are other breeding records (U.M.M.Z.) for the southern 3 tiers of counties, and occurrence records northward. Because banding work has demonstrated that this is one of the most sedentary of the owls (Bent, 1938: 258, 262), it is probable that the species breeds in most localities where it occurs.

Swales observed individuals a number of times in St. Clair County (north to Port Huron on September 20, 1894) and in Atlas Township, southeastern Genesee County. N. A. Eddy (A. J. Cook, 1893a: 82) reported that the species was the most common owl at Bay City. In northwestern Huron County a few individuals were seen on August 8, 1908 (N. A. Wood and Gage, 1911: 285), on May 25, 1933 (1 in U.M.M.Z., collected by Van Tyne), and on May 30, 1937 (1 seen by R. E. Olsen and A. D. Tinker). One was observed at Houghton Heights, Roscommon County, on

November 6, 1938, by Trautman, and another (U.M.M.Z.) was taken at the Harrisville Hatchery, Alcona County, on September 13, 1941, by F. W. Potts. The species seems to occur rarely in a few places north to Douglas Lake, Cheboygan County (Compton, 1914: 178-80; N. A. Wood, Smith and Gates, 1916: 11; Blanchard and Nelson, MS of 1937), and to Alanson, Emmet County (2 specimens in U.M.M.Z.—taken in 1923 by B. D. Owens).

There are Upper Peninsula reports, though without confirmation, for Neebish Island, Chippewa County (Boies, 1897: 27), Houghton and Iron counties (Cahn, 1918: 493), and Portage Lake, Keweenaw County (Kneeland, 1857: 233).

By far the greater proportion of Michigan specimens and reports refer to the gray plumage phase.

*Bubo virginianus virginianus* (Gmelin)  
Great Horned Owl

Regular resident in the Lower Peninsula. Northern limit of range not known.

First listed for Michigan by Sager (1839: 413).

Michigan breeding specimens of Horned Owls identifiable to subspecies in the Museum of Zoology are all from southern counties; more northern specimens are either nestlings (north to Grand Traverse) too small to be thus identified, or older birds (from both peninsulas) whose hatching or breeding localities are uncertain.

Horned Owls, though less common than formerly (Barrows, 1912: 324), probably still nest in favorable situations in most areas of Michigan. In Wayne County, J. Claire Wood (1908*d*: 27-28) reported nests with eggs on March 1, 1904, March 15, 1903, and March 19, 1905 (all in Monguagon Township); nests with young April 13, 1902 (Dearborn Township), and April 17, 1898 (Monguagon Township); 1 young out of the nest May 6, 1906 (Gratiot Township). J. B. Purdy (1889*a*: 54) found a nest with 3 young in Wayne County on March 19, 1888. A downy young (U.M.M.Z.) was collected by E. Kief at Manchester, Washtenaw County, on March 5, 1891. Recent records from the Ann Arbor region include: 2 birds observed on a nest near Independence Lake on January 24, 1932, by R. E. Olsen; a nest with one young in the same locality found by G. A. Ammann on April 30, 1937; and 2 nestlings banded near Pinckney April 4, 1933, by Van Tyne and others. In Convis Township, Calhoun County, Walkinshaw (1941: 117) found a nest in use on March 12, 1933 (young found dead late in April), and a nest with 2 eggs February 16, 1941 (eggs hatched about March 13). Gibbs (1885: 135; 1894*a*: 8-11) described this owl as the "most abundant" of the hawks and owls in Kalamazoo County; between

1886 and 1893 he and others found 13 nests with eggs (February 20 to March 22), and 6 nests with young, 5 in April, 1 on February 23 (1891). F. W. Rapp (1931: 14) listed the Great Horned Owl as still common in Kalamazoo County (in the vicinity of Vicksburg); he recorded nests from February 17 (1897, 2 eggs) to April 4 (1897, 2 eggs). Three young out of the nest were observed near Saginaw on April 22, 1940, by G. A. Ammann and George Taack, and 2 nestlings near Alicia, Saginaw County, on April 9, 1941, by Frank R. Martin. D. W. Douglass photographed a young Great Horned Owl at Sand Point, Huron County, on May 6, 1933. In the Pigeon River State Forest in Otsego and Cheboygan counties, F. M. Baumgartner (1939: 279) reported estimates of 1 pair of Great Horned Owls to every 2 square miles. Specimens (U.M.M.Z.) of Horned Owls, all apparently referable to *Bubo v. virginianus*, have been taken at several points in the Upper Peninsula from Munuscong Bay, Chippewa County, westward to Ironwood, Gogebic County, chiefly between October and January. Northern breeding records of Horned Owls are listed in the account of *B. v. occidentalis*.

*Bubo virginianus occidentalis* Stone  
Montana Horned Owl

May be regularly resident on Isle Royale and in Upper Peninsula; occurs in winter in Upper Peninsula and (rarely) south to Ann Arbor. Some winter specimens from Chippewa County should perhaps be referred to *B. v. wapacuthu*.

First authoritatively listed for Michigan by Swales (1910a: 208).

The status of the Horned Owls in Michigan is little known. Since the species is somewhat migratory (Oberholser, 1904: 177; Bent, 1938: 321, 357; M. T. Cooke, 1941: 159), its occurrence in an area is not certain indication of residence there. There is no Michigan specimen of this subspecies which represents an unquestionable breeding record.

On Isle Royale, Laurence Dayton found 2 nests with young, probably of this subspecies, in May, 1937. Max M. Peet (1909: 352-53) observed adults and nearly full-grown young during his stay on Isle Royale, August 18 to September 16, 1905, and reported 3 immatures collected August 26, 1904. Adults and immatures (U.M.M.Z.) were also taken there in late August and mid-September, 1905, and late August, 1929. A juvenile (U.M.M.Z.) was taken in the Porcupine Mountains, Ontonagon County, on July 26, 1904 (N. A. Wood, 1905: 177); Christofferson found a nest with 3 downy young at Blaney, Schoolcraft County, on April 29, 1931; and a juvenile (U.M.M.Z.), "mostly covered with down, but able to fly" (N. A. Wood, 1914: 64), was collected at Whitefish Point, Chippewa County, on August 2, 1912.

A specimen (U.S.N.M.) was secured at Robbins, Ontonagon County, on January 5, 1906 (Swales, 1910a: 208). Others (U.M.M.Z.) were collected at Blaney, Schoolcraft County (1, on December 22, 1930); at Sault Ste Marie (1, on November 23, 1928); at Munuscong Bay, Chippewa County (several, in October, November, and December of 1927 and 1928); and at St. Ignace, Mackinac County (1, on March 1, 1919).

In the Lower Peninsula, specimens (U.M.M.Z.) were obtained west of Atlanta, Montmorency County (2, on October 10, 1937); in Tyrone Township, Livingston County (1, on March 1, 1934); and at Ann Arbor (2, on March 19, 1911).

*Nyctea scandiaca* (Linnaeus)  
Snowy Owl

Irregular and usually rare winter visitor.

First recorded for Michigan by Sager (1839: 413).

Heavy fall and winter flights of the Snowy Owl extending into the northern United States have occurred about every 4 or 5 years. Some of these flights have apparently been largely confined to the eastern states (Bent, 1938: 370), but Barrows (1912: 331-32) mentioned the flights of 1876-77, 1892-93, and 1901-2 (see also Swales, 1902: 138) as reaching Michigan. Deane (1906: 293-94) listed 39 Michigan records made during the winter of 1905-6. More records (592) were made in Michigan during the 1926-27 flight than in any other state (A. O. Gross, 1927: 484, Pl. 23). The flight of 1930-31 was apparently of much the same magnitude as that of 1905-6, A. O. Gross (1931: 511) listing 29 records for Michigan. A larger flight again occurred in the winter of 1941-42, when some 414 Snowy Owls were recorded here. Except for the extreme southern counties all of Michigan is included in the heavier flights. The areas of greatest concentrations appear to be in the southern and eastern part of the Upper Peninsula, and in the Lower Peninsula along the northwestern coast, the Saginaw River valley, and along the southeastern coast (see A. O. Gross, 1927: 484 ff.). The species has been reported only rarely from the southwestern part of the Lower Peninsula even in the years of abundance (F. W. Rapp, 1931: 15).

Christofferson and Magee have usually recorded the Snowy Owl's arrival in Chippewa County in the Upper Peninsula in late October or in November, and on 2 occasions in September (September 19, 1928; September 26, 1924). In southern counties it has usually been reported in the latter part of November or in December.

Departure from the Lower Peninsula is usually recorded by late March or early April, but the species is occasionally noted later; 1 was seen at

Lake St. Clair, Macomb County, by H. W. Hann and H. A. Olsen on April 13, 1931, and 1 was taken on Belle Isle, Detroit, on April 14, 1919 (E. S. Wilson, 1919: 569). A specimen (Grand Rapids Mus.) was secured at Grand Rapids on May 23, 1935, and one was shot on Lone Tree Island, Huron County, on June 11, 1931 (C. G. Manuel, 1931: 592). Christofferson and Magee have usually found the Snowy Owl in the vicinity of Sault Ste Marie until sometime in April and noted it at least twice in June (June 4, 1922, and June 10, 1924). N. A. Wood (1933: 720) recorded 1 from Manitou Island, Keweenaw County, on May 15, 1931.

A few Snowy Owls are reported from the state nearly every winter. Recent Lower Peninsula records include: 1 bird seen by Gordon Maveal at Lincoln Park, Wayne County, on January 20, 1937; 1 seen by James H. Wood at Dixboro, Washtenaw County, on December 29, 1933; and 1 reported from the Kellogg Bird Sanctuary, Kalamazoo County, by Pirnie on December 13, 1938. In the Upper Peninsula, Christofferson and Magee found at least a few Snowy Owls in Chippewa County every winter in the 1920's except 1921; Christofferson has reported the species from Blaney, Schoolcraft County, in 8 out of the 10 years from 1930 to 1940.

*Surnia ulula caparoch* (Müller)  
American Hawk Owl

Rare winter visitant south to Kalamazoo and St. Clair counties. One breeding record (Isle Royale).

First listed for Michigan by Sager (1839: 413).

The species has been noted once in fall in late September (on Lake Superior), but usually not until late October or November. Most records are for November and December, but there are 2 records for spring (March and April in Chippewa County), and a juvenile (U.M.M.Z.) in partial down was collected on Isle Royale on August 4, 1905 (O. McCreary, 1909: 92; Max M. Peet, 1909: 353).

Upper Peninsula.—Kneeland (1857: 233) reported the Hawk Owl as common near "Eagle River and Harbor," Keweenaw County, but he provided no detailed data. A Hawk Owl that alighted on a ship September 27, 1926, on the Michigan side of Lake Superior was banded and photographed by Christofferson (Magee, 1927: 115-16). Arthur Moshimer took a specimen (Miller Empey collection) in northwestern Schoolcraft County, near Melstrand, Alger County, on November 13, 1935. At Seney, Schoolcraft County, in the winter of 1935-36, E. E. Crawford recorded Hawk Owls between November 14 and the last week in February, 1 or 2 daily in December and January. Six specimens have been taken in Chippewa and Mackinac counties, from mid-October to December: at Sault Ste Marie a

specimen (U.M.M.Z.) was secured December 5, 1926, by Christofferson (Magee, 1927: 115-16); 2 other specimens were taken in Chippewa County, 1 on Neebish Island in 1894 (Boies, 1897: 27; Barrows, 1912: 333-34), and 1 at Detour on November 10, 1934 (by Basil Shannon); 3 specimens were taken in Mackinac County, 1 (U.M.M.Z.) on Marquette Island, November 17, 1910, and 2 near Trout Lake in 1896 (Barrows, 1912: 333-34). There are 2 spring records for Chippewa County; Christofferson trapped a Hawk Owl (Grand Rapids Mus.) at Munuscong Bay on March 17, 1928, and saw 1 at Sault Ste Marie (Magee, 1927: 115-16) on April 29, 1926.

Lower Peninsula.—On the Crooked River, northeast of Alanson, Emmet County, B. D. Owens collected a Hawk Owl (U.M.M.Z.) in the fall of 1927, sometime after October 15. About December 14, 1905, 1 (Taverner collection) was taken at Clare, Clare County. This owl is usually rare at Vicksburg, Kalamazoo County, but it was "common" there in the winter of 1906-7; that winter F. W. Rapp (1931: 15; and notes) examined 3 local specimens and observed 2 Hawk Owls in flight. Two November specimens (1905 and 1906) from Port Huron, St. Clair County, were reported by Barrows (1912: 333-34; see also Taverner, 1906: 108; and Swales, 1910b: 454).

The Michigan records on file list the following winters of occurrence: 1856-57 (Keweenaw County), 1894-95 (1), 1896-97 (2), 1905-6 (4, south to Clare and St. Clair counties), 1906-7 (1 in St. Clair County; "common" in Kalamazoo County), 1910-11 (1), 1925-26 (1), 1926-27 (3 or more), 1927-28 (2 or more), 1934-35 (2), and 1935-36 (3 or more, in Schoolcraft County).

*Strix varia varia* Barton  
Northern Barred Owl

Resident, formerly common, especially in southern counties, but now much reduced in numbers.

First listed for Michigan by Sager (1839: 413): "*Ulula nebulosa*."

The Northern Barred Owl is apparently a permanent resident wherever found in Michigan. Eggs are reported from mid-March to early May, and young by mid-April.

Lower Peninsula.—In the Detroit area J. Claire Wood collected a day-old bird (U.M.M.Z.) on April 16, 1906, and 2 nests, each with 2 eggs, 1 on May 5, 1908, 1 on March 31, 1907. Near Plymouth, Wayne County, J. B. Purdy (1889a: 54) took a set of 3 eggs on March 24, 1888, and E. Durfee a set of 4 eggs on March 14, 1888. The species has been observed rather regularly in the Ann Arbor area during the summer, and a nest with 3 young was found there by John L. George on May 1, 1939. F. W. Rapp (1931: 14) listed this owl as a common permanent resident in Kalamazoo County and recorded a nest with 3 eggs on March 30, 1896. There are

apparently no nest records for Jackson County, but Fargo has recorded 1 or 2 Barred Owls there almost yearly on his Christmas census counts (1926 to 1933). H. D. Ruhl (1926: 175) banded 3 large young in a nest near East Lansing, Ingham County, on May 9, 1925. There are fewer records for the northern part of the peninsula. F. R. Martin found a nest with 2 eggs on the Prairie Farm, Alicia, Saginaw County, on April 4, 1941; F. M. Baumgartner noted a nest with 4 young in the Pigeon River State Forest, southeastern Cheboygan County, in June, 1936. In eastern Charlevoix County, A. S. Warthin, Jr., saw an individual on June 23, 1923, and L. R. Dice collected a fledgling (U.M.M.Z.) on July 30, 1923 (Van Tyne, 1925: 617-18).

Upper Peninsula.—At McMillan, Luce County, Bryens has recorded 1 or 2 Barred Owls regularly during the spring and early summer, and at Blaney, Schoolcraft County, Christofferson collected a specimen (U.M.M.Z.) on March 18, 1943. N. A. Wood (1918: 7) saw 1 in Alger County at Whitefish Lake, on July 17, 1916; in the Huron Mountains, Marquette County, S. S. Gregory, Jr., collected a specimen on May 22, 1921, and 1 on July 29, 1922. Fall and winter specimens (U.M.M.Z.) were collected at Ironwood, Gogebic County, by L. C. Anderson on October 23, 1932, and January 4, 1933.

*Strix nebulosa nebulosa* Forster  
Great Gray Owl

Very rare winter visitant south through the northern counties of the Lower Peninsula and once to Saginaw County.

First listed for Michigan by Kneeland (1857: 233): "*Syrnium cinereum*."

The Great Gray Owl may be less rare than the actual records indicate, since it is easily confused with the similar and more common Barred Owl (Barrows, 1912: 310).

Upper Peninsula.—An individual was recorded at Trout Lake, Chippewa County, on November 11, 1897 (Barrows, 1912: 310); a specimen (Mich. State College) was collected near St. Ignace, Mackinac County, in January, 1894; and another (Grand Rapids Mus.) at Germfask, Schoolcraft County, on November 15, 1906. Six were reported between October 22 and November 1, 1922, from Chippewa County; 1 was shot in Luce County on November 8, 1922; and 1 was shot and brought into Sault Ste Marie on November 17, 1922 (Magee, 1923: 337). An individual was observed by Christofferson near Sault Ste Marie on March 31, 1927, which is apparently the most recent record for the Upper Peninsula.

Lower Peninsula.—A Great Gray Owl was shot by a Mr. Campbell near Elk Rapids, Antrim County, in the fall of 1893, and W. B. Purdy collected 1 (U.M.M.Z.) near Hillman, Montmorency County, about November



25, 1922 (N. A. Wood, 1923: 338-39). W. B. Tyrrell examined a mounted specimen that had been taken in Roscommon County in early January, 1928. The southernmost record is apparently that of a specimen taken near Saginaw by Fred Rounds on November 10, 1923, and mounted by Miller Empey.

*Asio otus wilsonianus* (Lesson)  
Long-eared Owl

Resident. Uncommon north of Saginaw.

First recorded for Michigan by Sager (1839: 413): "*Otus vulgaris*."

Eggs have been found from late March to late May (most commonly in early April), nestlings from late April to late May.

Lower Peninsula.—An exceptionally late set, of 4 eggs, was taken in Monroe County by Jerome Trombley on May 24, 1889 (Barrows, 1912: 301). Records from the vicinity of Ann Arbor, where this owl nests rather commonly, include: a nest with 5 eggs, March 30, 1904 (R. A. Brown, 1906: 169), 1 with 6 eggs, April 13, 1903 (A. D. Tinker, 1907: 83-84), and 1 with 5 young, May 19, 1939 (M. T. Sturgeon, 1940: 5-6). L. W. Watkins (1897: 9) found a nest with 5 young in Jackson County on May 25, 1896; and Walkinshaw discovered a nest with 3 young about 2 weeks old on April 27, 1933, in Johnstown Township, Barry County. Gibbs (1884: 67) recorded a nest with 6 eggs in Kalamazoo County on April 27, 1878. The Long-eared Owl has been found nesting as far north in Michigan as Eldorado, Crawford County, where 4 nestlings (U.M.M.Z. and Max M. Peet collection) were collected by R. Hess and J. Franson on June 26, 1934.

Upper Peninsula.—An individual was captured on a freighter on northern Lake Huron on July 30, 1921 (banded by Christofferson the following day); 1 (U.M.M.Z.) of 4 seen at Whitefish Point, Chippewa County, was collected on May 18, 1914 (N. A. Wood, 1914: 64); another (U.M.M.Z.) was taken there on July 6, 1937, by S. D. Knox. R. Mathews collected a bird of the year (U.M.M.Z.) on Drummond Island, Chippewa County, on August 9, 1938.

Banding records indicate that the species is migratory in at least the northern part of its range; an individual banded at Williamston, Ingham County, April 27, 1932, by P. F. English, was recovered in February, 1936, at Gladstone, Virginia (M. T. Cooke, 1941: 160; see also Bent, 1938: 168). Swales recorded this owl in the Detroit area in late December and in January and February of nearly every year. Blain Brannon and Walter E. Hastings collected a specimen (U.M.M.Z.) on November 14, 1933, at St. Helen, Roscommon County. Bryens and Fritz (1930: 45) recorded 1 at McMillan, Luce County, on December 2, 1929.

*Asio flammeus flammeus* (Pontoppidan)  
Short-eared Owl

Status little known. Most records are for fall and early winter. Four breeding records (Wayne, Oakland, Washtenaw [?], and Calhoun counties).

First listed for Michigan by Sager (1839: 413): "*Otus brachyotus*."

SPRING.—Because of the occurrence of the species in southern counties in winter, the exact dates of migration are not known. In the Toledo-Erie marsh area, the spring movement apparently takes place between late March and late April (L. W. Campbell, 1940: 96, 190, 204). Among larger groups found in the Ann Arbor region are a flock of 5 seen on April 4, 1909 (N. A. Wood and Tinker, 1910: 131-32), and another group of 5 on April 4, 1939, by Maurice G. Brooks, John L. George, and others. At Sand Point, Huron County, D. W. Douglass reported 1 to 2 individuals seen occasionally (1931 to 1933) between April 12 and May 2. In the Upper Peninsula, a specimen (U.M.M.Z.) was secured May 18, 1914, on Whitefish Point, Chippewa County (N. A. Wood, 1914: 64); and another captured April 21, 1940, near Newberry, Luce County, by George M. Rintamaki, and banded by Bryens.

SUMMER.—At Grosse Pointe Farms in the Detroit area J. Claire Wood (1907*b*: 97-98) found a nest with 2 downy young (U.M.M.Z.) on June 10, 1906. At Bloomfield Hills, Oakland County, R. T. Hatt and Zelner Dowling observed a nest with 6 young from June 18 to 28, 1936. Young birds just able to fly have been reported from the Ann Arbor vicinity on 2 occasions: May 30, 1903 (Barrows, 1912: 305), and June 25, 1907, when a specimen (U.M.M.Z.) was collected (not June 26, as in N. A. Wood, 1907*a*: 439). In Convis Township, Calhoun County, a nest with 1 egg was found by Mr. and Mrs. N. T. Peterson on April 23, 1936. Another nest with 5 eggs was found there on the same day by Walkinshaw (1941: 117-18). This owl has also been reported in summer, though without breeding evidence: at Chandler's marsh, Ingham County, on June 21, 1897 (Barrows, 1912: 304-6); at Pearl, Allegan County, on July 4, 1934 (Walkinshaw); on Charity Island, Huron County, on July 6 and 29, 1911 (N. A. Wood, 1912*a*: 184); at Lovells, Crawford County, in July, 1925 (a pair reported by Trautman); at Munuscong Bay, Chippewa County, on June 5 and 13, 1935 (Walkinshaw); at Whitefish Point, Chippewa County, on May 18 and June 10, 1914 (N. A. Wood, 1914: 64); and at Walsh, Schoolcraft County, on June 8, 1935 (Walkinshaw).

FALL.—Just when the fall movement begins is uncertain. There are considerably more records for this season than for spring, most of them falling in October, November, and December. On Isle Royale 2 Short-eared Owls were noted in mid-August in 1904 (N. A. Wood, Peet, and Mc-

Creary, 1906: 123) and 1 on September 10, 1929 (N. A. Wood). According to Trautman, Harry D. Ruhl collected 1 on October 1, 1934, 5 miles south of Sidnaw, Houghton County; Wallace R. Jennings took 1 (U.M.M.Z.) on October 27, 1933, at the mouth of the Au Gres River, Arenac County. The species was collected on September 26, 1910, on Charity Island, Huron County (N. A. Wood, 1911: 95), and on October 29, 1933 (Max M. Peet collection), at Fish Point, Tuscola County. Farther south, fall specimens (U.M.M.Z.) have been taken in a number of localities from Kalamazoo to Detroit. Several individuals are recorded every fall in the Ann Arbor region as well as about Detroit (Swales, 1902: 139; 1903: 16; J. Claire Wood, 1910: 39).

WINTER.—G. A. Ammann reported a Short-eared Owl at the Prairie Farm, Alicia, Saginaw County, on February 9, 1940. In Kalamazoo County the species was taken on January 16, 1887 (Gibbs, 1889: 189), and was listed (at Vicksburg) on December 29, 1927 (F. W. Rapp, 1931: 14). It has been noted sparingly in the Ann Arbor region every few winters; 5 were seen there on December 26, 1941, by Eli A. Gallup, Van Tyne, and N. S. Potter, III. About Detroit, Swales (1902: 139; and notes) found the species "abundant" during the fall and winter of 1901-2.

*Aegolius funereus richardsoni* (Bonaparte)  
Richardson's Owl

Very rare winter visitant in the northern half of Michigan.

First authoritatively listed for Michigan by Barrows (1912: 314).

Ten specimens have been collected in Michigan on dates ranging from late October to the first of May.

Upper Peninsula.—A specimen (U.M.M.Z.) was collected in the Huron Mountains, Marquette County, in the fall of 1910 by Hans Jansen (S. S. Gregory, Jr., 1929: 177). At Whitefish Point, Chippewa County, N. A. Wood (1914: 64) examined a dead bird about May 1, 1914. Four specimens have been collected at Sault Ste Marie: 2 males secured February 22, 1900, and January 28, 1902 (Barrows, 1912: 314; specimens since examined by N. A. Wood); an individual (Mich. State College) obtained by Magee 1923b: 326) and Christofferson, December 19, 1922; and 1 (Grand Rapids Mus.) by Christofferson, October 22, 1923. Christofferson (notes; Bent, 1938: 227) stated that several of the species were observed in the vicinity of Sault Ste Marie during the winter of 1922, until March 4, 1923.

Lower Peninsula.—A specimen (U.M.M.Z.) was collected on the Crooked River, near Alanson, Emmet County, in December, 1922, by B. D. Owens; 1, 2 miles northwest of Topinabee, Cheboygan County, on March 17, 1937, by J. A. Lauren (Max M. Peet collection); 1 in Oscoda County, near Comins,

on April 10, 1940, by Verne Dockham (specimen examined by Van Tyne, owned by M. K. Summers of Mio); and 1 near Freeland, Saginaw County, October 23, 1922, by Miller Empey (Empey collection).

*Aegolius acadicus acadicus* (Gmelin)  
Saw-whet Owl

Rare resident. Status in Michigan little known.

First listed for Michigan by Sager (1839: 413).

Lower Peninsula.—P. S. Baumgras (1942a: 211) found an adult and 7 young in a nest at the Swan Creek Wildlife Experiment Station, Allegan County, on May 1, 1942. W. A. Davidson found a nest with 4 eggs near Mud Lake, Oakland County (in 1888 or 1889—W. C. Brownell, 1891: 21), and J. A. Morden (1893: 25) found a nest with 6 young in Isabella County on May 5, 1892. Records for this peninsula in other seasons include: single birds seen by Swales (1904b: 84; and notes) in the Detroit area, April 10, 1903, April 22, 1906, May 7, 1907; 2 seen in the same area by L. J. Eppinger (1903a: 96), November 1 and 13, 1903; 1 seen by J. B. Purdy near Plymouth, Wayne County, December 1, 1903 (Swales notes). In 1939, J. O. Strong saw 1 near Detroit on November 4 and 1 on November 13. Specimens (U.M.M.Z.) have been taken in the Ann Arbor region on January 1, 1921; March 13, 1921; December 30, 1926; and December 27, 1936. The species has been recorded near Jackson in December of 1920 and 1921 and in February of 1922 (Walter Koelz, 1923: 38). G. F. Raz (1935: 201) recorded it twice in Berrien County: April 14, 1935, and June 10, 1932. Specimens (U.M.M.Z.) have been taken near Kalamazoo on November 18, 1882, and October 30, 1909. In the northern part of the Lower Peninsula specimens (U.M.M.Z.) were collected by Charles Campion near Clare, on October 18, 1906; by J. Adair near Onaway, Presque Isle County, on April 13, 1934; and by B. D. Owens near Alanson, Emmet County, in March, 1923.

Upper Peninsula.—Bryens (1941: 5-8) banded 4 young in a nest at McMillan, Luce County, on June 8, 1932. Two young-of-the-year (U.M.M.Z.) were collected on Isle Royale, 1 on August 30, 1905, by N. A. Wood and 1 on August 30, 1929, by Walter E. Hastings. Without breeding evidence the Saw-whet Owl has been recorded at Whitefish Point, Chippewa County, on August 6, 1912 (N. A. Wood, 1914: 64); in Ingallston Township, Menominee County, on January 10, 1940 (U.M.M.Z.) by R. Anderson; at the Huron Mountain Club, Marquette County, on February 23, 1941 (U.M.M.Z.), by D. M. Nason; at Mallard Lake, Iron County, on July 31, 1938, by John L. George and R. L. Patterson; and on Isle Royale, March 5, 1937 (U.M.M.Z.), by V. Solyon.

CAPRIMULGIDAE  
(GOATSUCKERS)*Caprimulgus vociferus vociferus* Wilson  
Eastern Whip-poor-will

Summer resident, locally common in the Lower Peninsula, rare in the Upper Peninsula.

First listed for Michigan by Sager (1839: 415).

SPRING.—Arrival is reported in southernmost tiers of counties in the middle of April, and in the Upper Peninsula in late April and early May.

Lower Peninsula.—In the Toledo-Erie marsh area, the Whip-poor-will has arrived by April 17, but the arrival of the earliest individuals averages April 30 and the beginning of main flight, May 8 (L. W. Campbell, 1940: 190, 204); Brodkorb and Max M. Peet noted a concentration of Whip-poor-wills and collected 7 specimens on North Cape in the Erie marsh on May 9, 1937. P. A. Taverner took a Whip-poor-will at Detroit on April 15, 1906, and Swales noted several there each spring, usually between April 29 and May 7 (Swales, 1903: 17; and notes). Arrival is usually reported in late April or early May in the Ann Arbor region, but 1 specimen (U.M.M.Z.) was collected there on April 23 (1900, by J. J. Ricks). In Kalamazoo County the species has appeared (at Vicksburg) as early as April 8 (F. W. Rapp, 1931: 16-17), though Gibbs (1885: 134) usually reported arrival there late in April. It was abundant on the dunes of Berrien County after April 20 (N. A. Wood, 1922: 16). In 3 spring seasons (1931 to 1933) at Sand Point, Huron County, D. W. Douglass saw the Whip-poor-will by April 30 and found it rather common in May; on May 9, 1932, he flushed 5 there. Blanchard and Nelson (MS of 1937) reported the species by April 29 at Douglas Lake, Cheboygan County.

Upper Peninsula.—At McMillan, Luce County (Bryens) and at Blaney, Schoolcraft County (Christofferson), arrival has been noted occasionally in the last few days of April, but usually during the first 2 weeks of May. In Keweenaw County in 1931 the Whip-poor-will was noted on May 26 and occasionally thereafter (N. A. Wood, 1933: 721).

SUMMER.—Eggs have been found from mid-May to early July, but most commonly in June.

Lower Peninsula.—The Whip-poor-will was said to have been an abundant summer resident in southern counties several decades ago (see Swales, 1903: 17, for Wayne County; Gibbs, 1885: 134, for Kalamazoo County), but there are very few definite breeding records. Swales provided no breeding data at all for the Detroit area. N. A. Wood found a nest near Ann Arbor in 1895 which contained 1 egg on May 19, and 2 on May 20. George M. Sutton collected a nestling (U.M.M.Z.) west of Pinckney, Liv-

ingston County, on August 5, 1936. In Convis Township, Calhoun County, Walkinshaw found a nest with 2 eggs on June 22, 1924; young left the nest on June 28. Apparently the Whip-poor-will breeds only rarely in Kalamazoo County; Rapp (1931: 16-17) found a nest with 2 eggs at Vicksburg on May 17, 1928. N. A. Wood (1922: 16) found the Whip-pour-will common in Berrien County (1917 to 1920). He collected 2 eggs (U.M.M.Z.) at Birchwood Beach, Berrien County, on June 1, 1918. Nests with fresh eggs have been found at Douglas Lake, Cheboygan County (Blanchard and Nelson, MS of 1937), between June 28 (1920) and July 9 (1931).

Upper Peninsula.—At Blaney, Schoolcraft County, Christofferson has noted the species regularly in summer, but has found only 1 nesting—a single egg, July 2, 1937.

Summer occurrences without definite breeding data have been reported in a number of areas: Oscoda County (N. A. Wood and Frothingham, 1905: 48); at Charlevoix and in Montmorency County in 1923 (Van Tyne, 1925: 619); on the Fox and Manitou islands, Leelanau County, 1939 to 1940 (A. E. Staebler and L. D. Case); in Delta County (Leonard Wing, 1940: 178); in Dickinson County (Gauge, 1914: 82); and on Isle Royale in July, 1905 (Max M. Peet, 1909: 356).

FALL.—Departure has been reported from the Upper Peninsula usually in mid-September, from the Lower Peninsula in late September or (rarely) in the first few days of October.

Upper Peninsula.—At Blaney, Schoolcraft County (Christofferson), and at McMillan, Luce County (Bryens), a few Whip-poor-wills have remained until mid-September rather frequently, and occasionally until a week or so later.

Lower Peninsula.—The Whip-poor-will was listed by Blanchard and Nelson (MS of 1937) at Douglas Lake, Cheboygan County, until September 11, and N. A. Wood secured a specimen (U.M.M.Z.) 8 miles east of Grayling, Crawford County, on September 9, 1903. In 1937 along the Au Sable River, about 15 miles west of Oscoda, Iosco County, F. M. Gauge heard at least 4 calling on September 8 and 9; Crystal Thompson reported hearing the species there that year as late as September 16. A Whip-poor-will was flushed on September 9, 1910, on Charity Island, Huron County (N. A. Wood, 1911: 97). In the Kalamazoo area F. H. Chapin collected a specimen (U.M.M.Z.) on September 17, 1881, and at Vicksburg, Kalamazoo County, F. W. Rapp (1931: 16-17) recorded the species as late as September 21. The latest fall record from the Ann Arbor region is that of a specimen (U.M.M.Z.) collected by N. A. Wood on September 26, 1914. About Detroit, Swales (1904b: 84) saw a few Whip-poor-wills each fall on rare occasions until October 5 and 6 (see also J. Claire Wood, 1906: 22).

The species seems to be very uncommon in fall in the Toledo–Erie marsh area and is not found there after September 26 (L. W. Campbell, 1940: 97, 190, 204).

*Chordeiles minor minor* (Forster)  
Eastern Nighthawk

Common summer resident.

First listed for Michigan by Sager (1839: 415).

SPRING.—Principal movement, in which usually only very small numbers are noted, begins about mid-May in southern counties, and in late May in the Upper Peninsula.

Lower Peninsula.—In the Toledo–Erie marsh area, the Nighthawk has appeared by May 2, earliest individuals averaging May 9 and the main flight May 17 (L. W. Campbell, 1940: 191, 204). In the Detroit (Swales, 1903: 17; and notes) and Ann Arbor regions it has been observed occasionally as early as the first week of May, though usually not until mid-May; on May 4, 1938, 12 were seen by Brodkorb in Ann Arbor. The Nighthawk has occurred at Vicksburg, Kalamazoo County, by May 13 (F. W. Rapp, 1931: 17); along the shore of Berrien County, flocks of 100 or more were migrating until May 31, 1918 (N. A. Wood, 1922: 16; and notes).

Upper Peninsula.—At Whitefish Point, Chippewa County, the Nighthawk arrived in 1936 on May 22 (Brodkorb); it has appeared at both McMillan, Luce County (Bryens), and Blaney, Schoolcraft County (Christofferson), rather regularly the fourth week of May—occasionally a few days earlier. It was noted in the Huron Mountain region, Marquette County, on May 23 (S. S. Gregory, Jr., 1929: 179), and on Isle Royale, Keweenaw County, on May 21 (in 1937, by Laurence Dayton).

SUMMER.—Eggs of the Nighthawk have occasionally been found in late May and late July, but are more commonly found in June and early July.

Lower Peninsula.—Jerome Trombley collected a set of 2 eggs at Petersburg, Monroe County, on May 27, 1886 (Swales' notes). In the Detroit area, Swales (1903: 17) noted the species as common, F. C. Hubel collecting a set of 2 eggs (U.M.M.Z.) there on June 4, 1900. The Nighthawk nests fairly commonly in the Ann Arbor area; R. E. Morrill found a nest with 2 young on June 9, 1936, and John L. George a nest with eggs on May 25, 1939. Walkinshaw photographed a nest with 2 eggs at Battle Creek on July 24, 1938. Gibbs (1885: 134) stated that the Nighthawk nested abundantly in Kalamazoo County; more recently F. W. Rapp (1931: 17) noted it as "rather rare" at Vicksburg in that county, recording an early nest with 3 eggs on May 22, 1889. N. A. Wood and Gaige (1911: 287–88) found it breeding in northwestern Huron County in 1908; they reported a nest with a single egg on June 20 and a young bird in another nest on August 3.

Chaney (1910: 274) recorded a nest with 2 eggs on July 2, 1909, and listed the Nighthawk as abundant in Mason County. N. A. Wood found a nest with 2 eggs on Beaver Island, Charlevoix County, on June 25, 1925. In the Douglas Lake region, Cheboygan County, Blanchard and Nelson (MS of 1937) have found nests with eggs from June 23 to July 21 and nests with young as early as July 1.

Upper Peninsula.—N. A. Wood (1914: 65) recorded 2 nests each with 2 young at Whitefish Point, Chippewa County, 1 on July 15, 1912, and 1 on July 8, 1914. At McMillan, Luce County, Bryens found a nest with 1 egg as early as June 15 (1935); at Sault Ste Marie, Christofferson and Magee found a nest with 2 eggs on June 18, 1924. At Blaney, Schoolcraft County, Christofferson has observed a few birds every summer, and recorded a nest with 2 eggs on June 22, 1933. N. A. Wood (1918: 8) listed the species as breeding in the vicinity of Deerton, Alger County, in 1916; at Brown Lake, Dickinson County, F. M. Gaige (1914: 82) found 2 downy young in a nest on July 1, 1909. The Nighthawk is listed as a common summer resident in the Huron Mountain region, Marquette County, by Christy (1925: 212) and S. S. Gregory, Jr. (1929: 179); it was recorded from Isle Royale in the latter part of the summers of 1904 and 1905 (Max M. Peet, 1909: 356-57), and in June, 1930, by N. A. Wood.

FALL.—The fall movement, more pronounced than the spring one, occurs chiefly in the latter part of August in the Upper Peninsula, and from late August to early September in the southernmost tiers of counties.

Upper Peninsula.—On Isle Royale the species has been reported as common in August, but apparently is absent after September 1 (N. A. Wood, Peet, and McCreary, 1906: 124; Peet, 1909: 356-57; 1909*a*: 117). "Loosely drawn-out bands" of Nighthawks were migrating at dusk at Kenton, Houghton County, on August 23, 1931 (Leonard Wing, 1940: 178-79). Similarly, at Golden Lake, Iron County, from about August 18 to September 2, 1938, an early evening flight (maximum of 80 birds at one time) was of frequent occurrence (John L. George and R. L. Patterson); at Brown Lake, Dickinson County (F. M. Gaige, 1914: 82), Nighthawks were more numerous in August than during the preceding months, a large flock being noted on August 24, 1909. S. S. Gregory, Jr. (1929: 179), recorded the species in the Huron Mountains, Marquette County, until September 15. At Blaney, Schoolcraft County (Christofferson), and at McMillan, Luce County (Bryens), individuals have been observed regularly until some time in the third and fourth weeks of August, and occasionally until early September; among the large numbers observed at one time were 23 on August 16, 1940, at McMillan and 50 on August 22, 1921, at Sault Ste Marie (Christofferson and Magee). On July 31, 1938, a loose flock of at least 21 passed rapidly and



steadily southwestward over Drummond Island, Chippewa County (Hinshaw and R. A. MacMullan).

Lower Peninsula.—Flocking has been reported at Douglas Lake, Cheboygan County, in mid-August (N. A. Wood, Smith, and Gates, 1916: 12; Blanchard and Nelson, MS of 1937), and a pronounced southward movement took place in Antrim and Otsego counties near Elmira through the last week of August, 1923 (Van Tyne, 1925: 619), and in Mason County from August 23 to September 9, 1909 (Chaney, 1910: 274). At Vicksburg, Kalamazoo County, F. W. Rapp (1931: 17) has found no Nighthawks after September 14. In the Ann Arbor region the migration seems to be mainly in late August (a flock of 16 to 18 migrating on August 20, 1941—A. E. Staebler) and early September; a few individuals are occasionally noted there after the middle of the month (September 18, 1937, specimen in U.M.M.Z.). The movement is somewhat similar in the Detroit area, where Swales (1903: 17; and notes) observed a flock of 50 on August 27 and on August 28 (both in 1908), and a flock of 36 working slowly southward on September 18, 1911 (at Grosse Ile). L. W. Campbell (1940: 97, 191, 204) recorded heavy migration in late August in the Toledo–Erie marsh area, where the main flight usually ends by September 11, and individuals have left by September 18, though stragglers have been recorded there until October 15.

APODIDAE  
(SWIFTS)

*Chaetura pelagica* (Linnaeus)  
Chimney Swift

Summer resident, common in many localities.

First listed for Michigan by Sager (1839: 415).

SPRING.—Arrival is usually reported in southernmost counties during middle and late April, and in the Upper Peninsula during the second and third weeks of May.

Lower Peninsula.—In the Toledo–Erie marsh area the species has appeared as early as April 10, but on the average, individuals arrive April 23 and the main flight begins April 26 (L. W. Campbell, 1940: 191, 204). The species arrived rather regularly at Detroit during the last week in April, according to Swales' notes. In the Ann Arbor region, as well as in Kalamazoo County (Gibbs, 1885: 134; F. W. Rapp, 1931: 17), it has sometimes appeared by mid-April, though usually not until the last week of the month. In three seasons (1931 to 1933) at Sand Point, Huron County, this swift was fairly common "from about the middle of May onward" (earliest arrival: May 4, 1932, 4 or 5 birds); each year some were still migrating until May 25 ("several dozen" in 1932—D. W. Douglass).

Upper Peninsula.—At Munuscong Bay, Chippewa County, and Blaney, Schoolcraft County (Christofferson), and also at McMillan, Luce County (Bryens), only seldom have any Chimney Swifts arrived before the end of the first week in May; frequently none has appeared until the third week. It is not unusual for hundreds to be noted there—as on May 7, 1927, at Munuscong Bay (Christofferson). In 1936 at Whitefish Point, Chippewa County, Brodkorb first observed the species on May 12; and in the Huron Mountains, Marquette County, S. S. Gregory, Jr. (1929: 179), recorded it by May 10. This swift was apparently rare at Copper Harbor, Keweenaw County, where it was not noted until May 31 in 1931 (N. A. Wood, 1933: 721).

SUMMER.—The eggs of the Chimney Swift are found in Michigan from early June to mid-July.

Lower Peninsula.—Swales recorded in his notes an early set of 4 eggs collected by Jerome Trombley near Petersburg, Monroe County, on June 7, 1886. The species was listed as a common summer resident in Berrien County by N. A. Wood (1922: 16), and as an abundant summer resident in Kalamazoo County by Gibbs (1885: 134). At Ann Arbor, Van Tyne saw an adult gathering nesting material on June 4, 1937. N. A. Wood and Gaige (1911: 288) found 2 nests, each with 4 eggs, in northwestern Huron County in 1908, 1 on July 15 and 1 on July 16. C. F. Karshner collected a set of 4 eggs (U.M.M.Z.) in Mecosta County on June 30, 1896; Chaney (1910: 274) listed the species as abundant about the towns in Mason County in 1909; and A. E. Staebler and L. D. Case listed it as common on the Fox (1939) and Manitou (1940) islands, Leelanau County. In the Douglas Lake area, Cheboygan County, Blanchard and Nelson (MS of 1937) have listed it as not very common.

Upper Peninsula.—Van Tyne (1923: 23) found the Chimney Swift fairly common on Les Cheneaux Islands, Mackinac County; in Chippewa County, N. A. Wood found 2 nests (at Whitefish Point), 1 with several young on August 2, 1912, and 1 with 6 eggs on June 24, 1914; and (on Drummond Island) T. D. Hinshaw and T. Seaman each collected a nestling (U.M.M.Z.) on July 31, 1938. Christofferson, at Blaney, Schoolcraft County, has noted fledglings by July 4 (1938) and found a nest with 3 eggs as late as July 19 (1940). N. A. Wood (1918: 8) observed 2 pairs daily through the summer at Whitefish Lake, Alger County, in 1916; in the Huron Mountain region, Marquette County, S. S. Gregory, Jr. (1929: 179), listed the species as a fairly common summer resident. Four to 6 Chimney Swifts were seen daily at Golden Lake, Iron County, by John L. George and R. L. Patterson in 1938; a few were seen in the latter part of the summer on Isle Royale in 1904 and 1905, and they presumably bred there (Max M.

Peet, 1909: 357; N. A. Wood). N. A. Wood saw a pair at McCargo Cove, Isle Royale, on June 1, 1930.

FALL.—Movement in the Upper Peninsula has extended chiefly until late August and early September, and in southernmost counties of the Lower Peninsula until the latter part of September and early October.

Upper Peninsula.—F. M. and A. M. Baumgartner observed a flock of 6 at Rock Harbor, Isle Royale, during the first week of September, 1938, and S. S. Gregory, Jr. (1929: 179), recorded the species in the Huron Mountains, Marquette County, until September 15. A "flock of some hundreds" that suddenly appeared on August 23, 1909, over Brown Lake, Dickinson County, and that shortly "disappeared to the southward," was obviously migrating (F. M. Gaige, 1914: 82-83). At Blaney, Schoolcraft County, and Munuscong Bay, Chippewa County (Christofferson), as well as at McMillan, Luce County (Bryens), Chimney Swifts have been seen regularly until late August or early September and occasionally until about mid-September.

Lower Peninsula.—In Convis Township, Calhoun County, a Chimney Swift was noted on October 5, 1941, by Walkinshaw (1941: 118). At Ann Arbor and also about Detroit (Swales, notes) the species has generally been found throughout September and frequently to the middle of October (12 at Ann Arbor on October 16, 1939, and an individual 2 days later). In the Toledo-Erie marsh area the main flight has ended on the average on September 23, but has continued as late as October 17 (L. W. Campbell, 1940: 191, 204).

*Aëronautes saxatalis saxatalis* (Woodhouse)  
White-throated Swift

One record: a male (U.M.M.Z.), taken at Hillsdale, in August, 1926, by Mildred A. Hawkes (Barber, 1927: 565).

TROCHILIDAE  
(HUMMINGBIRDS)

*Archilochus colubris* (Linnaeus)  
Ruby-throated Hummingbird

Summer resident, common in the Lower Peninsula, comparatively rare in the Upper.

First listed for Michigan by Sager (1839: 415).

SPRING.—Migrants have been reported in southern counties in late April, but mainly in mid-May; in the Upper Peninsula after the third week in May.

Lower Peninsula.—In the Toledo-Erie marsh area individuals have been reported as early as April 27; arrival of individuals averages May 12 and

the beginning of the main flight, May 16 (L. W. Campbell, 1940: 191, 204). About Detroit (Swales, 1903: 35; and notes) and at Ann Arbor, arrival has been reported usually in the first or second week of May, rarely in the last week of April. Usually very few of the species have been observed there in a day, but on June 5, 1907, there were 40 to 50, "probably a portion of a belated migration" (on Grosse Ile, south of Detroit). Arrival has been reported in Kalamazoo County usually by the second week of May, occasionally earlier (Gibbs, 1885: 134; F. W. Rapp, 1931: 17); in Berrien County by May 6 (N. A. Wood, 1922: 17); in Grand Rapids by May 8 (Gibbs, 1902: 10); at Sand Point, Huron County, by May 11 (1933, D. W. Douglass). On Charity Island, Huron County, about 30 at a time were observed in May, 1910 (N. A. Wood, 1911: 97; 1912*a*: 185).

Upper Peninsula.—Christofferson (at Munuscong Bay, Chippewa County, and at Blaney, Schoolcraft County) and Bryens (at McMillan, Luce County) have reported the Ruby-throated Hummingbird fairly regularly each spring, noting arrival generally in the fourth week of May—very seldom earlier. In the Huron Mountain region, Marquette County, this species has been found by May 31 (S. S. Gregory, Jr., 1929: 179); and at Copper Harbor, Keweenaw County, in 1931, on May 27 and regularly thereafter (N. A. Wood, 1933: 721).

SUMMER.—Nests and eggs are found from early June to early August.

Lower Peninsula.—Swales (1903: 35) listed the hummingbird as a fairly abundant summer resident in the Detroit area; he recorded a set of 2 fresh eggs on July 15, 1896. Just north of Detroit in Oakland County, Moody (1903: 83–84) found 2 nests in 1903, 1 with 1 egg on June 3, the other with 2 eggs on June 9. In the vicinity of Battle Creek Walkinshaw found one nest as early as June 1 (1930) and another as late as July 15 (1923). R. B. Westnedge (Barrows, 1912: 387–88) found nests in Kalamazoo County from June 3 (2 eggs, 1892) to July 26 (2 eggs, 1891). N. A. Wood (1922: 17) listed the species as a common summer resident in Berrien County; he found a nest with 1 egg there on June 1, 1918. In northwestern Huron County, N. A. Wood and Gaige (1911: 288) discovered a nest under construction as late as August 14, 1908; H. W. Hann found a nest in that area on July 2, 1932. Chaney (1910: 274) noted the species as fairly common about Hamlin Lake, Mason County, in 1909; in the Douglas Lake area, Cheboygan County, Blanchard and Nelson (MS of 1937) recorded 10 nests with eggs, most of them in July, and found 1 nest with 2 eggs as late as August 5.

Upper Peninsula.—One of the few breeding records from the northern part of the state is a nest and eggs found on June 21, 1931, at Mineral Springs, Mackinac County, by Lyle Miller (1934: 43). T. D. Hinshaw and R. A. Macmullan found the species uncommon on Drummond Island, Chippewa County, in the summer of 1938; N. A. Wood (1918: 8) found a pair

nesting near Whitefish Lake, Alger County, in 1916; and S. S. Gregory, Jr. (1929: 179), listed it as uncommon in the Huron Mountain region, Marquette County. John L. George and R. L. Patterson found a nest on August 15, 1938, at Golden Lake, Iron County. The species was listed as uncommon in the Porcupine Mountains, Ontonagon County, by N. A. Wood, Peet, and McCreary (1906: 116), and also on Isle Royale by Max M. Peet (1909: 357-58).

FALL.—Migrants are reported in the Upper Peninsula in August and early September, in southern counties usually in late September.

Upper Peninsula.—A few individuals were noted on Isle Royale, in late August and early September (N. A. Wood, Peet, and McCreary, 1906: 124; Max M. Peet, 1909: 357-58), and the species was found in the Huron Mountains, Marquette County, until September 8 (S. S. Gregory, Jr., 1929: 179). Bryens (at McMillan, Luce County) and Christofferson (at Blaney, Schoolcraft County, and at Munuscong Bay, Chippewa County) have seen a few hummingbirds rather regularly through early or middle September, and occasionally in the last week of the month. Relatively large numbers in Chippewa County were a group of 50 on Sugar Island, August 13, 1922 (noted by Christofferson and Miss McClinchy), and 10 birds at Whitefish Point, September 3, 1925 (seen by Fargo).

Lower Peninsula.—“Immense numbers” of hummingbirds (apparently several dozen) that had congregated in a woods near Ellsworth, Antrim County, were observed by Swales (notes) on August 17, 1903. In Kalamazoo County (Gibbs, 1885: 134) reported departure usually by September 25, though individuals occasionally remained a little later—until October 4, according to F. W. Rapp (1931: 17). In the Ann Arbor region and about Detroit (Swales, 1903: 35; and notes), several a day have been seen through most of September, and in 1914, Max M. Peet took a specimen (Max M. Peet collection) at Ypsilanti as late as October 1. Now and then on Grosse Ile (south of Detroit) there were 1 or 2 in October, to October 9 (1913, *vide* Swales). In the Toledo-Erie marsh area, where L. W. Campbell (1940: 99, 191, 204) recorded concentrations in the latter part of August, he has found the main flight ending on the average by September 13, though it has continued until September 23 (1932), and individuals have remained until early October.

ALCEDINIDAE  
(KINGFISHERS)

*Megaceryle alcyon alcyon* (Linnaeus)  
Eastern Belted Kingfisher

Common summer resident. Individuals occasionally winter on open rivers north to Iosco and Crawford counties.

First listed for Michigan by Kneeland (1857: 233).

SPRING.—Arrival is reported in the southern counties usually in late March or early April, in the Upper Peninsula usually after mid-April.

Lower Peninsula.—There is little definite information on dates of spring arrival of this species in southern counties where wintering is at least occasional. In the Toledo–Erie marsh area, L. W. Campbell (1940: 99, 204) has noted the beginning of the main flight (maximum of 8 birds in a flock) from March 25 to April 28, the average date being April 8. Gibbs (1885: 135) gave March 10 as the usual date of arrival in Kalamazoo County. N. A. Wood and Tinker (1934: 26) recorded arrival in Washtenaw County usually in March (1906 to 1930).

Upper Peninsula.—Somewhat north of the wintering range, Christoffer-son (at Munuscong Bay, Chippewa County, and at Blaney, Schoolcraft County) and Bryens (at McMillan, Luce County) have found Kingfishers arriving now and then in the second week of April (April 10, 1929, at Munuscong Bay, and April 8, 1929, at McMillan), but usually not until the latter half of the month. S. S. Gregory, Jr. (1929: 178), gave May 8 as the earliest date of arrival in the Huron Mountains, Marquette County, but a specimen (U.M.M.Z.) was secured at Golden Lake, Iron County, on April 27, 1941, and the species was reported at Copper Harbor, Keweenaw County, on April 25, 1931 (N. A. Wood, 1933: 720). In 1937, Laurence Dayton listed it on Isle Royale on April 26.

SUMMER.—Nests and eggs are usually found in May and June.

Lower Peninsula.—Swales (1903: 17) listed the species as an abundant summer resident in the vicinity of Detroit, and observers have reported it nesting every year in the Ann Arbor region. F. C. Hubel collected a set of 8 eggs (U.M.M.Z.) at Green Lake, Oakland County, on May 17, 1902, and Walkinshaw discovered nests nearly every year in the Battle Creek area in the 1930's, his earliest record being April 10 (1932, a nest under construction). Both Gibbs (1885: 135) and F. W. Rapp (1931: 15) listed the Kingfisher as common in Kalamazoo County, Rapp (at Vicksburg) recording nests from May 7 (1894, nest with 7 eggs) to June 4 (1902, nest with 2 eggs). Chaney (1910: 274) found the species common in the vicinity of Hamlin Lake, Mason County, in 1909, and noted fledglings by the last of June. Van Tyne (1925: 618) also listed it as common in Charlevoix County in the summer of 1923. A nest with 6 small young was found at Douglas Lake, Cheboygan County, on June 2, 1935 (Blanchard and Nelson, MS of 1937).

Upper Peninsula.—At Whitefish Point, Chippewa County, N. A. Wood (1914: 64) found a nest with 7 young on July 8, 1914. At Blaney, Schoolcraft County, Christoffer-son has reported 1 or 2 birds several times in summer (1932 to 1941). Brodkorb saw 12 to 15 a day at Seney, Schoolcraft

County, in June, 1938, and noted a nest with 4 small young on June 6. At McMillan, Luce County, Bryens found a nest with 7 young on July 2, 1933; in the northern part of the county, F. W. Braund found 4 nests in the second and third weeks of June, 1940, one nest with young, the others with eggs. In 1909, the kingfisher was recorded in the vicinity of Brown Lake, Dickinson County, by F. M. Gaige (1914: 80-81), who noted young birds there in late July. The species was listed in 1904 as a common summer resident on Isle Royale, occupied nests being found there on July 27 and 28 (Max M. Peet, 1909: 353-54).

FALL.—Departure is recorded from the Upper Peninsula in late September and in October, from southern counties in October and November.

Upper Peninsula.—On Isle Royale in 1905 the species was seen daily to September 16 (Max M. Peet, 1909a: 117). In the Huron Mountain region, Marquette County, it has been reported as late as October 21 (S. S. Gregory, Jr., 1929: 178); and at the Beechwood State Fish Hatchery, Iron County, in 1941, 3 specimens (U.M.M.Z.) were taken on October 14, 1 on October 25. Bryens has usually recorded departure from McMillan, Luce County, in the latter half of September, but Christofferson has recorded individuals at Blaney, Schoolcraft County, and at Munuscong Bay, Chippewa County, until well into October (until October 31 in 1934, at Blaney).

Lower Peninsula.—In the Toledo-Erie marsh area, L. W. Campbell (1940: 99, 204) has recorded the end of the main flight between September 16 and October 26 (average: October 9).

WINTER.—In southern counties individuals have occurred from mid-December to mid-February: about Detroit (J. B. Purdy, 1898: 38; Swales, 1903: 17; Freiburger, 1903: 28); in the Ann Arbor region (1 or 2 noted occasionally during most winters); in Jackson County (Harold F. Wing, 1941: 121); in the Battle Creek-Gull Lake area ("a few during the entire winter"—Bent, 1940: 126); in Kalamazoo County (Gibbs, 1885: 135); at Three Rivers, St. Joseph County (December 25, 1926, and February 6, 1927, reported by Bryens, 1927: 35; and notes). Wintering on streams considerably further north is indicated by a specimen (U.M.M.Z.) collected on January 1, 1938, by Karl F. Lagler on Van Etten Creek, Iosco County, and the record of an individual seen on February 6 and 7, 1935, by Trautman at Lovells, Crawford County.

## PICIDAE

### (WOODPECKERS)

#### *Colaptes auratus luteus* Bangs Northern Flicker

Common summer resident; casual winter resident in the lower half of the southern Peninsula.

First listed for Michigan by Sager (1839: 415).

Five Michigan specimens in the Museum of Zoology show evidence of hybridization with *Colaptes cafer*: 4 (1 collected in March, 1 in July, and 2 in September) have a trace of red in the malar stripe, and a fifth (an immature collected July 20, 1929) has a somewhat grayish throat.

**SPRING.**—Migration usually begins in the southern counties in the last few days of March, and arrival is reported in the Upper Peninsula after the middle of April. Data on the spring and fall migrations in the southern counties are confused by the presence of wintering birds.

**Lower Peninsula.**—For the Toledo–Erie marsh area L. W. Campbell (1940: 204) gave April 4 as the average date for the beginning of main flights. In the early 1900's Swales frequently recorded Flickers as common in the Detroit area after March 25, and abundant throughout April. R. E. Olsen has observed numbers still present in early May (20 on May 3, 1936, Livingston County, and 20 on May 2, 1937, Jackson County). D. W. Douglass noted during his studies at Sand Point, Huron County, 1931 to 1933, that migration first became apparent shortly before the middle of April and lasted for nearly a month. N. A. Wood observed hundreds of Flickers at Oak Point, northeast of Sand Point, Huron County, on May 1 and 2, 1928. The birds were flying in 2's and 3's in a southwestward direction towards Sand Point.

**Upper Peninsula.**—Christofferson occasionally records Flickers before the middle of April (March 30, 1932, 2 seen at the Seul Choix Light, south of Blaney; 1 seen at Blaney, April 12, 1938) in Schoolcraft County; and at McMillan, Luce County, Bryens noted 1 as early as April 5 (1938), usually after mid-April. N. A. Wood (1933: 721) listed the Flicker as a common migrant, noting several on April 23, 1931, at Copper Harbor, Keweenaw County.

**SUMMER.**—The Northern Flicker seems to breed throughout Michigan and generally in greater numbers than other species of woodpeckers. Eggs are usually found by the first week of May.

**Lower Peninsula.**—Two large sets of eggs (U.M.M.Z.) were taken by C. Karshner in Mecosta County on May 10 (8 eggs) and May 11 (12 eggs), 1896. Gibbs (1885: 135) reported the Northern Flicker as abundant and nesting in Kalamazoo County. It was the most numerous of the woodpeckers in Crawford County (N. A. Wood and Frothingham, 1905: 16); and on Beaver Island in 1937 (T. D. Hinshaw, R. E. Morrill), as well as on the mainland (Van Tyne, 1925: 619) of Charlevoix County. Blanchard and Nelson (MS of 1937) noted it commonly in semiwooded places in Cheboygan County and recorded several nests there in June and July.

**Upper Peninsula.**—Van Tyne (1923: 23) found the Northern Flicker "very common" on Les Cheneaux Islands, Mackinac County, and T. D.



Hinshaw and R. A. MacMullan took several adults and young (U.M.M.Z.) from Drummond Island, Chippewa County, in 1938. Christofferson has found Flickers nesting regularly at Blaney, Schoolcraft County, in the latter half of May and early June; at McMillan, Luce County, Bryens recorded a nest under construction on May 3, 1930. F. M. Gaige (1914: 82) found the Northern Flicker common in Dickinson County, and saw several nests there, 1 on July 1 with young nearly ready to leave the nest. Although listed as a rare summer resident at Copper Harbor, Keweenaw County (N. A. Wood, 1933: 721), the Flicker is a common breeding bird on Isle Royale in the same county (N. A. Wood, Peet, and McCreary, 1906: 123; Max M. Peet, 1909: 356).

FALL.—Southward movement begins in the first few days of September and ends by the middle of October.

Upper Peninsula.—F. M. and A. M. Baumgartner found Flickers "common to abundant" on Isle Royale from September 2 to 6, 1938, and Max M. Peet 1909a: 104) noted a marked increase in numbers there in the third week of September. Ira N. Gabrielson saw 12 between September 21 and 27, 1931, in the Huron Mountains, Marquette County, and Christofferson at Blaney, Schoolcraft County, recorded large numbers on several occasions (September 9, 1936, 25 seen; September 11, 1936, 20 seen; September 3, 1937, 50 seen). Christofferson has found a few in October in Schoolcraft County, and Bryens, at McMillan, Luce County, recorded 1 as late as November 11 (1928).

Lower Peninsula.—On the Charity Islands, Huron County, in 1910 the Flicker became common by September 9, but by October 2 only a few stragglers remained; 2 were seen as late as October 10 (N. A. Wood, 1911: 96). L. W. Campbell (1940: 204) gives October 7 as the average date of departure from the Toledo-Erie marsh area.

WINTER.—Swales (1903: 17; 1903a: 22) and J. Claire Wood (1910: 39) noted a few Flickers in the Detroit area, and observers regularly record them around Ann Arbor. Walkinshaw in the Battle Creek area noted 1 or more during the winters of 1930 to 1940; F. W. Rapp (1931: 16) has listed them as "scarce" in winter at Vicksburg, Kalamazoo County. In 4 successive years, 1928 to 1931, E. K. Studt listed 1 or 2 on his Christmas census lists at Pewamo, Ionia County, and on January 15, 1938, W. B. Mershon saw 1 at Saginaw.

*Colaptes auratus borealis* Ridgway

Boreal Flicker

Only 2 specimens (U.M.M.Z.) of the Boreal Flicker have been taken in Michigan: J. B. Steere collected 1 near Ionia, in October, 1876, and J. Claire Wood secured 1 in Ecorse Township, Wayne County, September 16, 1893.

Breeding specimens of Flicker from the Upper Peninsula and Isle Royale are *C. a. luteus* (Brodkorb, 1942: 50-51).

*Dryocopus pileatus abieticola* (Bangs)  
Northern Pileated Woodpecker

Uncommon resident (rare in the southern half of the Lower Peninsula, but recorded occasionally south to Livingston County).

First listed for Michigan by Sager (1839: 415).

Lower Peninsula.—Before the cutting of the forests this species was common in the Lower Peninsula; it is now rare in the south and considerably reduced in numbers in the north (J. A. Allen, 1868: 519; Eddy, 1884: 41; Barrows, 1912: 360). Among the older records are those of F. H. Chapin, who collected a female (U.M.M.Z.) and the set of 4 eggs on April 27, 1889, in Almena Township, Van Buren County, and of J. Smith, who collected an adult female (U.M.M.Z.) in Lodi Township, Washtenaw County, October 15, 1875. The species has been seen on 2 occasions in the more southern part of Michigan in recent years: George M. Sutton observed 1 on the Edwin S. George Reserve, west of Pinckney, Livingston County, on August 9, 1934, and Mrs. Maurice G. Brooks saw 1 near Silver Lake, northwestern Washtenaw County, on May 5, 1939. E. K. Studt (1930: 45; 1931: 56) reported 1 on each of 2 Christmas census counts (1929, 1930) at Pewamo, Ionia County. In 1934 Frank Bishop (1939: 15-16) recorded several in the northwestern sections of Clinton County, where on May 1, 1938, Miller Empey collected 4 eggs (see also G. Martin, 1939: 16). An individual was seen in central Saginaw County by F. R. Martin, January 22, 1941. Van Tyne (1925: 618) saw and heard a number on the mainland of Charlevoix County in 1923, and N. A. Wood recorded the species from Beaver Island, Charlevoix County, early in the summers of 1922 (1 seen) and 1929 (3 seen). Blanchard and Nelson (MS of 1937) believed it was becoming more numerous in Cheboygan and Emmet counties, where they heard and saw adults on many occasions during the summer months.

Upper Peninsula.—Although reduced in numbers, the Pileated Woodpecker is still found in most parts of the Upper Peninsula (Leonard Wing, 1940: 171, 173, 179). In Chippewa County, T. D. Hinshaw and R. A. MacMullan secured 2 immature males (U.M.M.Z.) on July 5, 1938, on Drummond Island, and R. E. Olsen and T. D. Hinshaw saw 1 and heard others in early May, 1934, at Munuscong Bay, where Trautman noted 2 in late June, 1926. Bryens and Christofferson (McMillan, Luce County, and Blaney, Schoolcraft County, respectively) recorded several individuals nearly every month during the 1930's, including numerous winter birds. E. T. Hooper took an adult male (U.M.M.Z.) August 28, 1940, near Hermansville, Menominee County; and near Brown Lake, Dickinson County, Gaige (1914:

81) saw several in late July and August and secured an immature male (U.M.M.Z.). In the Huron Mountains, Marquette County, during the last week of June, 1934, Van Tyne saw 1 individual, and found 2 nests that had been used that year. And in the western part of the Upper Peninsula, along the Gogebic-Iron county line, John L. George and R. L. Patterson found 3 individuals on July 31, 1938, and 1 on August 26, 1938. N. A. Wood (1933: 720) saw only 1 on Keweenaw Point in 1931; F. V. Hebard discovered a nest on the Point with 2 young on June 25, 1941 (near Eagle Harbor). This woodpecker has been recorded on a number of occasions on Isle Royale: in April and May, 1937, by Laurence Dayton; on May 9, 1930, by A. Murie; in June, 1930, by N. A. Wood (2); on August 18, 1929, by Walter E. Hastings (2); in September, 1929, by N. A. Wood (3). Max M. Peet (1909a: 105, 117) observed a number there in the latter part of August and September, and took several specimens (U.M.M.Z.), including an immature male and female.

*Centurus carolinus carolinus* (Linnaeus)  
Red-bellied Woodpecker

Uncommon and local resident north to Ionia County and (at least formerly) to Saginaw and Lake counties.

First listed for Michigan by Sager (1839: 415).

Apparently the Red-bellied Woodpecker was more numerous 50 years ago than it is now. Both J. A. Allen (1868: 519) and Gibbs (1885: 134-35) described it as not rare in Kalamazoo County; at the turn of the century Swales (1902: 139; 1905: 110) observed that the bird was becoming rare. In 1896 F. H. Chapin noted the species several times as far north as Eden Township, Lake County (Barrows, 1912: 367), but the most northern records in recent years are those of Studt (1928 to 1931) from Pewamo, Ionia County, where he listed one individual on Christmas lists in 1927 and 1929 and 2 in 1930. There are several records for the vicinity of Sault Ste Marie (Barrows, 1912: 367; Preece, 1924: 10; Bent, 1939: 245), but they lack confirmation. F. W. Rapp (1931: 16) listed the species as a rare permanent resident in Kalamazoo County, and a few are reported every year from other southwestern counties. N. A. Wood (1922: 16) found it rare in Berrien County. In Calhoun County, Walkinshaw found 2 on March 4, 1934, and 1 on December 1, 1934; Pirnie and H. L. Bradley observed 1 in Allegan County, March 28, 1938, and Durward L. Allen took 2 (U.M.M.Z.) in that county in the spring of 1939. In the Ann Arbor area Red-bellied Woodpeckers have been reported infrequently in recent years. Near Ann Arbor R. E. Olsen noted 1, December 1, 1929; R. L. Patterson 3 on October 28, 1939; and H. W. Hann 1 on May 7, 1934 (see also N. A. Wood and Tinker, 1910: 132, for early 1900 records); from Jackson County, Fargo and others

(1931: 56) listed 1 in their 1930 Christmas census, and 2 specimens have been taken in Livingston County, 1 by Van Tyne on February 19, 1933 (U.M.M.Z.), and 1 by R. E. Morrill on May 20, 1939 (Max M. Peet collection).

There are few actual nesting records for Michigan. Harriet H. Wright found a nest with young in June, 1907, near Saginaw, and J. B. Purdy took 5 eggs from a nest near Plymouth, Wayne County, on April 26, 1889 (reported by Barrows, 1912: 367, among other older records). Koelz (1923: 38) observed a male excavating a nest March 26, 1922, in a woods near Waterloo, Jackson County, where he had noted the species for at least 10 years; H. W. Hann saw an adult at a nest cavity east of Hartland, Livingston County, April 28, 1932, and at a second visit to the nest, on June 24, he discovered an adult was carrying food into the nest; Frank J. Hinds saw an adult and a juvenile at Wolf Lake, Kalamazoo County, on July 22, 1942.

*Melanerpes erythrocephalus erythrocephalus* (Linnaeus)  
Eastern Red-headed Woodpecker

Summer resident, common in the Lower Peninsula, uncommon in the Upper. Irregular winter resident (sometimes in numbers) in the south. First listed for Michigan by Sager (1839: 415).

SPRING.—Arrival is reported in the south in early April; in the Upper Peninsula, in early May.

Lower Peninsula.—L. W. Campbell (1940: 204) gave May 5 as the average date for the beginning of the main flight in the Toledo-Erie marsh area. Swales usually noted first arrivals in the Detroit area in the latter part of April and early May, but in 1902 numbers were present there by April 13. N. A. Wood (1922: 16) found the species common in Berrien County during the first 10 days of May (1918, 1919); during the 1930's, L. H. Walkinshaw recorded arrival in the Battle Creek area in late April and early May. Two specimens (U.M.M.Z.) were collected on Beaver Island, Charlevoix County, by Victor H. Cahalane on May 16, 1932.

Upper Peninsula.—Christofferson recorded arrival at Blaney, Schoolcraft County, after the first week in May (earliest date: 1 seen on May 8, in 1936 and in 1938). Bryens has seen the species at McMillan, Luce County, at a similar time (earliest date: May 10, in 1938); and S. S. Gregory, Jr. (1929: 178), saw 1 in the Huron Mountains, Marquette County, on May 21, 1921. Near Copper Harbor, Keweenaw County, N. A. Wood (1933: 720) saw a Red-headed Woodpecker on May 11, 1931.

SUMMER.—Nesting is reported from late May to late June.

Lower Peninsula.—In the Detroit area, Swales (1903: 17; notes) listed this woodpecker as an abundant summer resident and found nests from May 26 (1901, 2 nests, each with 5 eggs) to June 26 (1916, nest with young). In

the vicinity of Vicksburg, Kalamazoo County, F. W. Rapp (1931: 16) listed 2 nests, each with 5 eggs, one on May 22, 1898, and the other on May 26, 1897. A nest with young was observed in northwestern Huron County on June 23 (N. A. Wood and Gaige, 1911: 287), and on Charity Island, in the same county, an adult with 2 young was seen on July 17, 1911 (N. A. Wood, 1912a: 185). Chaney (1910: 274) noted a few pairs at Hamlin Lake, Mason County, in the summer of 1909; J. Van Tyne (1925: 618-19) listed the species as numerous in the vicinity of Vanderbilt, Otsego County, in 1923. Five to 8 Red-headed Woodpeckers were seen daily on South Manitou Island, Leelanau County, by L. D. Case and A. E. Staebler in June, 1940; on Beaver Island, Charlevoix County, a few were seen by N. A. Wood in June, 1925, and 2 specimens (U.M.M.Z.) were collected there by T. D. Hinshaw on June 22, 1937. Blanchard and Nelson (MS of 1937) and N. A. Wood, Smith, and Gates (1916: 12) found this woodpecker nesting occasionally (1911 to 1937) in the Douglas Lake area, Cheboygan County.

Upper Peninsula.—In Mackinac County, J. Van Tyne (1923: 23) saw several full-grown young (near Hessel) on August 6, 1920, and Christoffer-son saw 8 adults (near Gould City) on June 3, 1936. During the summer of 1914, the species was occasionally observed at Whitefish Point, Chippewa County, by N. A. Wood (1914: 65), and an adult was seen at its nest south of Deer Park, Luce County, by F. W. Braund on June 21, 1940. E. T. Hooper collected a specimen (U.M.M.Z.) near Menominee on August 12, 1940, and F. M. Gaige (1914: 81-82) found 2 pairs nesting at Brown Lake, Dickinson County, in early July, 1909. A Red-headed Woodpecker was seen in the Huron Mountains, Marquette County, by J. Van Tyne in late June, 1936, and another was seen at Imp Lake, Gogebic County, by John L. George and R. L. Patterson on August 9, 1938. Near Ironwood, Gogebic County, Leonard Wing (1940: 179; and notes) saw 2 on July 12 and 3 on July 15, 1932. N. A. Wood (1933: 720) found the species a rare summer resident at Copper Harbor, Keweenaw County, collecting a specimen (U.M.M.Z.) there on June 2, 1931.

FALL.—Southward movement is reported in September and October.

Upper Peninsula.—In 1929, A. Murie saw a Red-headed Woodpecker on Isle Royale on September 12 and another on September 22; Albert Brown collected a specimen (U.M.M.Z.) there on September 26. Magee (1923a: 121) observed an individual at Sault Ste Marie on November 5; Bryens has found migrants present at McMillan, Luce County, from the latter part of August to late September.

Lower Peninsula.—N. A. Wood (1911: 96) saw a few Red-headed Woodpeckers on Charity Island, Huron County, until the latter part of September in 1910. F. W. Rapp (1931: 16) recorded the species at Vicksburg, Kalamazoo County, until late October, and A. E. Staebler saw about 80 Red-headed

Woodpeckers on the Edwin S. George Reserve, near Pinckney, Livingston County, on September 21, 1941. Swales (notes) found them common in the vicinity of Detroit from mid-September to the end of October, and L. W. Campbell (1940: 204) gave September 14 as the average date for the end of main flight in the Toledo-Erie marsh area.

WINTER.—The Red-headed Woodpecker is found wintering occasionally in numbers as far north as Ionia County; Studt (1929: 47; 1931: 56) saw 10 at Pewamo, Ionia County, on December 26, 1928, and 22 on December 26, 1930. F. W. Rapp (1931: 16) listed several winter records from the vicinity of Vicksburg, Kalamazoo County, and Walkinshaw has observed Red-headed Woodpeckers in the Battle Creek region in 5 of the winters from 1930 to 1940. Purdy (1900: 174) reported that the species wintered occasionally near Plymouth, Wayne County, and Swales (1905a: 80) found the birds in "large numbers" on Belle Isle, Wayne County, in the winter of 1903-4. Records from the Ann Arbor area include: N. A. Wood collected a specimen (U.M.M.Z.) on January 10, 1920; J. and C. Van Tyne (1922: 28) saw 10 on December 26, 1921; and John L. George saw 6 on December 21, 1937.

*Sphyrapicus varius varius* (Linnaeus)  
Yellow-bellied Sapsucker

Summer resident, common except in the southern counties, rare in the southernmost 3 tiers of counties. Reported in winter from Washtenaw and Monroe counties.

First listed for Michigan by Sager (1839: 415).

SPRING.—Numbers of Yellow-bellied Sapsuckers are noted in the Lower Peninsula by April 10, and they reach the Upper Peninsula by the last week of April.

Lower Peninsula.—L. W. Campbell (1940: 204) gave April 10 as the average date for the beginning of the main flight in the Toledo-Erie marsh area. In Wayne County Swales found a considerable increase in numbers after the first week in April (25 recorded on April 12, 1908). In the vicinity of Ann Arbor earliest arrivals are seldom recorded before the first of April, and in Calhoun County Walkinshaw has recorded them only twice (April 2 and April 6) before April 10. Gibbs (1885: 134) gave March 29 to April 12 as the average dates of arrival in Kalamazoo County; F. W. Rapp (1931: 16), however, gives April 15 (1904) as the earliest date of arrival at Vicksburg in that county. D. W. Douglass recorded main flight at Sand Point, Huron County, in the second and third weeks of April (1931 to 1933).

Upper Peninsula.—Christofferson has usually noted the Yellow-bellied Sapsucker at Blaney, Schoolcraft County, in the third, occasionally in the second, week of April (as early as April 8 in 1931 and 1932). W. C. Beck-

man took 3 specimens (U.M.M.Z.) near Marquette on April 15, 1938, and James H. Wood took 1 (U.M.M.Z.) at Ironwood, Gogebic County, on April 12, 1932. At Copper Harbor, Keweenaw County, N. A. Wood (1933: 720) found the species rare in 1931.

SUMMER.—Eggs have been found by May 10, young by June 25.

Lower Peninsula.—The species is now only rarely found nesting in the southern 3 tiers of counties, but records indicate that it was formerly more abundant there. J. Claire Wood (1905*b*: 57–58) found 2 nests in Wayne County, 1 with 3 eggs (May 10, 1891), 1 with 4 eggs (May 19, 1903). Swales discovered 2 nests near Clarkston, Oakland County, 1 on May 9, 1901, 1 (with 6 eggs) on May 30, 1902. N. A. Wood found 2 nests, each with 2 eggs (1 nest in U.M.M.Z.), on May 13, 1896, a few miles west of Ann Arbor. In Hartland Township, Livingston County, R. E. Olsen found a nest on June 14, 1931, and A. D. Tinker collected a fledgling (U.M.M.Z.) on July 4, 1934. N. A. Wood, Smith, and Gates (1916: 11) recorded the species as common in the Douglas Lake region, Cheboygan County, and noted broods of young there in 1915 after July 1. In the same area Blanchard and Nelson (MS of 1937) found nestlings on June 25 and July 6 and 8.

Upper Peninsula.—In Chippewa County during the summer of 1938 Christofferson recorded a nest (at Munuscong Bay) from which the young left before July 20, and T. D. Hinshaw and R. A. MacMullan collected several adults and young of the year (U.M.M.Z.) on Drummond Island. In 1909 Gage (1914: 81) noted 2 nests in Dickinson County (July 2, nest with 6 young ready to leave; July 12, nest with 4 newly hatched young) and collected a number of fledglings (U.M.M.Z.). Walkinshaw found 2 nests with young near Bessemer, Gogebic County, June 29, 1933. The Yellow-bellied Sapsucker has been observed during the nesting period by Van Tyne in the Huron Mountains, Marquette County (June 21 to 27, 1936), and by N. A. Wood (1918: 8; 1933: 720) in Alger County (May 24 to July 27, 1916) and in Keweenaw County (April 22 to June 12, 1931).

FALL.—Departure from the Upper Peninsula is reported during the last 2 weeks of September and from southern counties by the end of the first week of October.

Upper Peninsula.—Specimens (U.M.M.Z.) have been taken on Isle Royale as late as September 13 (1905, by Max M. Peet) and September 27 (1929, by N. A. Wood). S. S. Gregory, Jr., collected a specimen in the Huron Mountains, Marquette County, on October 18, 1930. Bryens has usually noted departure in fall from McMillan, Luce County, in the third week of September, but has 2 records for October 3: 1927 and 1929.

Lower Peninsula.—In 1910 N. A. Wood (1911: 96) found considerable numbers of the species on Charity Island, Huron County, from September 21 to 29, after which he saw only a few (1 as late as October 9). There are

many specimens in the Museum of Zoology taken in the southern counties in late September, and several taken in October (October 10, 1882, in Kalamazoo County; October 9, 1932, in Jackson County; October 9, 1941, in Washtenaw County). L. W. Campbell (1940: 240) gave October 9 as the average date of departure of the majority of the Sapsuckers from the Toledo-Erie marsh area.

WINTER.—F. Novy saw a Yellow-bellied Sapsucker near Ann Arbor on January 27, 1914, and M. T. Sturgeon observed 1 in Ypsilanti, Washtenaw County, in the middle of February, 1941. Harold Mayfield saw 2 in Erie Township, Monroe County, on December 1 (1940), 1 on January 5 and 1 on January 10 (1941); L. W. Campbell saw 1 there on January 11 and 1 on February 9 (1941).

*Dendrocopos villosus septentrionalis* (Nuttall)  
Northern Hairy Woodpecker

Permanent resident on Isle Royale.

First recorded for Michigan by N. A. Wood (1905: 177): "*Dryobates villosus leucomelas*."

Isle Royale specimens are intermediate between *D. v. septentrionalis* and *D. v. villosus*, but more nearly approach *D. v. septentrionalis*. The distribution of the Northern and the Eastern Hairy Woodpeckers in Michigan is, however, not well understood. N. A. Wood found a nest of the Northern Hairy Woodpecker with small young on May 28, 1905, and several adult birds (U.M.M.Z.) have been taken during the breeding season. Max M. Peet (1909: 354) found the species rare throughout the island in 1905 (July 5 to September 22); Laurence Dayton recorded it (November 26, 1936, to May 25, 1937) as common in winter, less common in summer.

*Dendrocopos villosus villosus* (Linnaeus)  
Eastern Hairy Woodpecker

Common resident.

First recorded for Michigan by Sager (1839: 415).

Most of the winter specimens in the Museum of Zoology from the Upper Peninsula (including at least 20 from Gogebic County) are readily identified as *D. v. villosus*; the others, larger and somewhat whiter, are intermediate between *D. v. septentrionalis* and *D. v. villosus*, but are still referable to the more southern form.

No definite migration movement of Eastern Hairy Woodpeckers such as that noted in the New England states has been recorded in Michigan. Several Michigan observers have reported an increase in numbers in winter, but this increase may be only apparent, due to the greater ease with which the birds are seen in the winter. The relative scarcity of spring records of



these birds may well be the result of their early nesting season, during which they become wary and seclusive (see Leonard Wing, 1940: 179-80; Swales, 1903: 17; Bent, 1939: 24).

Lower Peninsula.—The species decreased in numbers, especially in southeastern counties, following the clearing of the forests. Swales (1903: 17) listed the Hairy Woodpecker as a common resident in Wayne County, and reported an early nest (with 4 eggs) found by J. B. Purdy near Plymouth on April 22, 1889, but nests are most commonly found in May. A nest with young was reported by R. E. Olsen in Livingston County on June 2, 1935, and Walkinshaw has recorded several nests with young near Battle Creek, Calhoun County, in the latter part of May. N. A. Wood (1922: 15) reported the species rare in the sand dune region, but more common in Warren Woods of Berrien County (1917 to 1920); he recorded a nest May 19, 1920. F. W. Rapp (1931: 15) listed the species as a common resident about Vicksburg, Kalamazoo County, and gave 1 nest record: April 25, 1896, nest with 5 eggs. The Hairy Woodpecker was listed as common in Crawford, Oscoda, and Iosco counties in the summer of 1903 (N. A. Wood and Frothingham, 1905: 47); as fairly common in Charlevoix County in the summer of 1923 (Van Tyne, 1925: 618); and as common in Cheboygan County (Blanchard and Nelson, MS of 1937). Specimens (U.M.M.Z.) have been taken on North and South Manitou Islands (1940), on South Fox Island (1939), and on Beaver Island (1937).

Upper Peninsula.—Van Tyne (1923: 23) found the Hairy Woodpecker uncommon during the summer on Les Cheneaux Islands, Mackinac County (1917 to 1921); T. D. Hinshaw and R. A. MacMullan secured several specimens (U.M.M.Z.) on Drummond Island, Chippewa County, in the summer of 1938; and N. A. Wood (1914: 64-65) listed this woodpecker as rather rare on Whitefish Point, Chippewa County (1914). At Blaney, Schoolcraft County, Christofferson records the species throughout the year and finds young by the end of June. F. M. Gaige (1914: 81) recorded the species daily in Dickinson County in the summer of 1909 and noted a nest with young on July 2. John L. George and R. L. Patterson listed this woodpecker in summer, 1938, in Gogebic and Iron counties, and Leonard Wing (1940: 179-81) found it in the western part of the Upper Peninsula in winter.

*Dendrocopos pubescens medianus* (Swainson)  
Northern Downy Woodpecker

Common resident.

First listed for Michigan by Sager (1839: 415).

Although the Downy Woodpecker is present in Michigan at all seasons, the winter population may be different from the summer population in a given locality. Leonard Wing (1940: 182-83) believes that there is an in-

flux of more northern birds into the Upper Peninsula in winter. Eggs are usually found in May or the first week in June in the Lower Peninsula, and a week or 10 days later in the Upper Peninsula.

Lower Peninsula.—The species is listed regularly on Christmas-census counts in the Lower Peninsula. N. A. Wood (1922: 15–16) found it breeding in Berrien County, and F. W. Rapp (1931: 16) listed it as a permanent resident in Kalamazoo County. Walkinshaw has recorded nests with young from May 30 to June 21 in the vicinity of Battle Creek, Calhoun County; Swales has noted several nests in Wayne County, 1 with 5 eggs on May 18, 1902, and 1 with 4 young on May 26, 1901. The species has been seen on Charity Island, Huron County, during the breeding season by N. A. Wood (1911: 96) and also in Crawford County and vicinity (N. A. Wood and Frothingham, 1905: 47). Specimens (U.M.M.Z.) have been taken in the summer from North Manitou and North Fox Islands, Leelanau County, and from Beaver Island, Charlevoix County. Van Tyne (1925: 618) found the species on the mainland in Charlevoix County, and Blanchard and Nelson (MS of 1937) listed it as common in the vicinity of Cheboygan County.

Upper Peninsula.—In Chippewa County T. D. Hinshaw and R. A. MacMullan secured several specimens in the summer of 1938 on Drummond Island, although on Whitefish Point observers noted the species only infrequently (N. A. Wood, 1914: 65; and others). Christofferson and Bryens (Blaney, Schoolcraft County, and McMillan, Luce County, respectively) have seen it throughout the year and have generally noted fledglings by the first of July. F. M. Gaige (1914: 81) found this woodpecker abundant in Dickinson County in 1909 and noted several nests with young in July. In the Huron Mountains, Marquette County, Ira N. Gabrielson observed a possible fall movement of the species in 1936, finding it "common" from September 21 to 23, but seeing only a few scattered individuals on the following 4 days. Leonard Wing (1940: 182–83), John L. George, and R. L. Patterson have observed the species in Iron and Gogebic counties during the summer, and N. A. Wood, Peet, and McCreary (1906: 115) found it present in the Porcupine Mountains, Ontonagon County, in July and August. Numerous specimens (U.M.M.Z.) have been taken from Isle Royale during the summer, and the species was observed on the island throughout the winter of 1936–37 by Laurence Dayton.

*Dendrocopos pubescens nelsoni* (Oberholser)  
Nelson's Downy Woodpecker

The majority of winter specimens from the Upper Peninsula are intermediate between *Dendrocopos pubescens nelsoni* and *D. p. medianus*, but 3 specimens in the Museum of Zoology are definitely referable to *D. p. nelsoni*:

a male taken at Whitefish Point, Chippewa County, May 20, 1936, by Brod-korb (1936: 455); a female taken near McMillan, Luce County, January 17, 1932, by Leonard Wing; and a female taken near Watersmeet, Gogebic County, January 30, 1932, also by Leonard Wing.

*Picoïdes arcticus* (Swainson)  
Arctic Three-toed Woodpecker

Resident. A few formerly ranged south to Washtenaw and Kalamazoo counties. The species is now rare in the Lower Peninsula and uncommon in the Upper Peninsula.

First recorded for Michigan by Kneeland (1857: 236).

Lower Peninsula.—Records indicate that formerly this woodpecker was more common in the southern counties. There are 2 Michigan specimens collected by Sudworth in the collection of the Roosevelt Wild Life Forest Experiment Station: a male from Kalamazoo County, November, 1883, and a female from Washtenaw County, November, 1880. A second Washtenaw County specimen, taken by M. L. Eaton in October, 1884, is now at the University of Nebraska (Wolcott, 1901: 94-95).

The most recent specimen from the southern part of Michigan is one (U.M.M.Z.) taken by F. L. Giddings near Tommy's Lake, Oakland County, November 7, 1920. Walter E. Hastings reported 3 individuals in the same county on December 6, 1920 (near South Lyon). Barrows (1912: 350) mentioned 3 specimens taken in St. Clair County by John Hazelwood. N. A. Wood and Frothingham (1905: 47) noted the species in summer in the vicinity of Crawford County, and more recently Trautman saw an individual on June 30, 1926, near Lovells. Van Tyne (1925: 618) did not find the species in Charlevoix County in 1923, though Walter E. Hastings had seen it there in 1910. Blanchard and Nelson (MS of 1937) made no mention of it as occurring in the summer in Cheboygan County, but Gunn (1881: 119-20) secured 5 specimens there (near the Black River) on May 9, 1880, and H. W. Wilcox took 1 (U.M.M.Z.—on the north shore of Burt Lake) on December 29, 1941.

Upper Peninsula.—The species is more frequent in this peninsula than in the south. There is some indication that it may be more abundant in winter than in other seasons: Magee (1923a: 121) found it "abundant" at Sault Ste Marie during the winter of 1922-23; and Bryens, who has noted several individuals every year near McMillan, Luce County, reported it as "common" there in the late fall of 1927. Specimens (U.M.M.Z.) have been taken in the late fall and winter in Marquette, Gogebic, Iron, and Baraga counties.

SUMMER.—There is 1 nesting record for Michigan. Walter E. Hastings found a nest June 15, 1941, in the Cusino Refuge, Schoolcraft County (4

miles east of Melstrand, Alger County), and watched the adults feed the young. It seems probable that the species nests in other parts of the Upper Peninsula, since it has been observed during the summer months and immature birds have been taken. N. A. Wood (1914: 65) secured a young male (U.M.M.Z.) from Whitefish Point in late July; Bryens (McMillan, Luce County) has summer records for May 25, 1929, and June 22, 1928, and Christofferson (Blaney, Schoolcraft County) has records for June 10, 1930, and June 17, 1932. Leonard Wing (1940: 182) found the species in the summer of 1932 in Gogebic and Houghton counties; N. A. Wood, Peet, and McCreary (1906: 115) saw them in the latter part of July in the Porcupine Mountains of Ontonagon County; and Trautman noted an individual near Covington, Baraga County, October 5, 1934. The species is also found on Isle Royale: Laurence Dayton recorded it throughout the winter of 1936-37 and as late as May 23, 1937 (when he left the island); it has been seen there in late August, 1904 (N. A. Wood, Peet, and McCreary, 1906: 123); in September, 1905 (Max M. Peet, 1909: 355); and September, 1938 (F. M. and A. M. Baumgartner).

*Picoïdes tridactylus bacatus* Bangs  
American Three-toed Woodpecker

Rare; recorded from the Upper Peninsula only.

First listed for Michigan by Kneeland (1857: 237).

There are 2 fall records from Isle Royale, and 3 fall and 2 winter records from the Upper Peninsula mainland. Isle Royale: a female (U.M.M.Z.) collected October 4, 1929, at McCargoe Cove by A. Murie; an individual seen September 4, 1938, at Lake Ritchie by F. M. and A. M. Baumgartner. Upper Peninsula: a specimen collected October 1, 1910, at Sault Ste Marie by C. E. Richmond (N. A. Wood, 1913: 272-73); a male collected November 24, 1910, at Amasa, Iron County, by C. F. Brandler (S. S. Gregory, Jr., 1923: 534); a female collected October 18, 1920, at Huron Mountain, Marquette County, by S. S. Gregory, Jr. (1921: 274-75); a female (U.M.M.Z.) collected December, 1920, in Gogebic County by B. R. Twombly; and an individual banded February 15, 1928, west of McMillan, Luce County, by Bryens (1929: 239-40).

TYRANNIDAE  
(TYRANT FLYCATCHERS)

*Tyrannus tyrannus* (Linnaeus)  
Eastern Kingbird

A common summer resident.

First listed for Michigan by Fox (1853: 161).

SPRING.—Eastern Kingbirds usually appear about the first of May in the Lower Peninsula and are numerous by the end of the first week; they

reach the Upper Peninsula by the middle of the month, becoming numerous by the end of the third week.

Lower Peninsula.—L. W. Campbell (1940: 204) reported the beginning of main flight in the Toledo–Erie marsh area in the first 10 days of May. In the Detroit area Swales (1903: 35) noted arrival by the third of May and occasionally by late April (1 seen April 27, 1889). In the vicinity of Ann Arbor observers have recorded the species as early as April 23 (1913—N. A. Wood and Tinker, 1934: 27) but generally after May 1. In Berrien County N. A. Wood (1922: 17) noted it on May 6, 1918, and in the vicinity of Battle Creek Walkinshaw regularly observed it, during the 1930's, in the first week of May. During three seasons (1931 to 1933) on Sand Point, Huron County, D. W. Douglass found the species by May 11 and recorded the main flight between May 15 and 20. There are few records to indicate the time of spring migration of the Eastern Kingbird in the northern part of the peninsula; G. A. Ammann noted 1 in central Saginaw County on May 7, 1940, and N. A. Wood saw 1 on Beaver Island, Charlevoix County, on May 15, 1929.

Upper Peninsula.—Christofferson noted arrival regularly by the middle of May near Blaney, Schoolcraft County, and Bryens reported the species common after May 20 at McMillan, Luce County. Brodkorb found Eastern Kingbirds "very common" in early June at Seney, Schoolcraft County, and at Whitefish Point, Chippewa County, he saw 1 as early as May 10 (1936). It was found to be "rather uncommon" in the Huron Mountains, Marquette County, by Van Tyne from June 21 to 27, 1936. Leonard Wing (1940: 182) recorded it from Rapid River, Delta County, in early June. N. A. Wood (1933: 721) noted arrival at Copper Harbor, Keweenaw County, on May 19 in 1931, and saw a few on the following days; on Isle Royale, he collected a female (U.M.M.Z.) on May 7 and recorded an individual on May 25 in 1930.

SUMMER.—The species begins nesting activities about the middle of May in the Lower Peninsula and by the first of June in the Upper Peninsula; recently fledged young are seen as late as the latter part of August in the north.

Lower Peninsula.—R. E. Morrill found a nest under construction near Ann Arbor on May 24, 1936; F. C. Hubel took a set of 4 eggs (U.M.M.Z.) in Oakland County, on May 30, 1898, and Walkinshaw gave May 20 as the average date for the beginning of nest construction in the vicinity of Battle Creek. In Huron County a nearly completed nest was found by D. W. Douglass on May 30, 1932 (on Sand Point) and 2 nests by N. A. Wood (1912a: 185—on the Charity Islands) in early July. G. A. Ammann observed 4 full-grown young July 8, 1938, in Duplain Township, Clinton County, and N. A. Wood and Frothingham (1905: 48) found the species

common in Crawford County and recorded a nest with 4 eggs on July 16. Van Tyne (1925: 620) listed it as common in Charlevoix County, where he noted 4 young leave a nest on July 4 and found eggs hatching in 2 other nests on July 13 and July 18. The species was noted as common in Cheboygan County by Blanchard and Nelson (MS of 1937); they found nests with eggs from June 20 to July 14 and young in the nests as early as June 26. Breeding adults (U.M.M.Z.) have been taken from North and South Manitou Islands, South Fox Island, and Beaver Island.

Upper Peninsula.—At McMillan, Luce County, Bryens recorded a nest with 4 eggs on June 9, 1933, and has noted adults feeding fledglings as late as August 23 (1927); Christofferson has found fledglings as early as June 15 (1939) near Blaney, Schoolcraft County. N. A. Wood (1914: 65) did not find the species very numerous in the vicinity of Whitefish Point, Chippewa County, but discovered a nest on June 30 and another on July 7. In Dickinson County, F. M. Gage (1914: 83) found 2 nests in 1909: the first on July 2, in which the young were nearly ready to leave, the second on July 24, containing 2 fresh eggs. John L. George and R. L. Patterson noted the species as common near Golden Lake, Iron County, in the summer of 1938. There is no satisfactory breeding record from Isle Royale for this bird.

FALL.—The meager amount of data available indicates that the species migrates south in August, usually leaving the Upper Peninsula before the end of the month and all but a few stragglers leaving the Lower Peninsula by the first few days in September.

Upper Peninsula.—An Eastern Kingbird was noted on Isle Royale by A. Murie on July 30 and 1 on August 6 (1929); the species was listed by Fargo as "not common" there from August 18 to 27, 1924, and 1 individual was seen as late as September 4 (1905) by Max M. Peet (1909a: 118). Christofferson has found the species most numerous in the vicinity of Blaney, Schoolcraft County, in the latter part of August; he observed 10 on August 16, 1936, and 6 on August 31, 1938. At McMillan, Luce County, Bryens has made similar observations; he recorded 11 on August 19, 1940, and has seen the species there as late as September 16 (1939).

Lower Peninsula.—N. A. Wood and Frothingham (1905: 48) found the species common in the vicinity of Crawford County until late August and absent after September 1. It was listed as "common and noted daily until September 5" in 1910 by N. A. Wood (1911: 97) on the Charity Islands, Huron County; in the Detroit area Swales (1903: 36) said it was seldom seen after September 1. L. W. Campbell (1940: 103, 204) has noted September 3 as the average date for the end of the main flight in the Toledo-Erie marsh area; he recorded a group of 75 seen at the Erie marsh on August 22, 1936.

*Tyrannus verticalis* Say  
Arkansas Kingbird

Very rare summer resident.

First recorded for Michigan by Christy (1925a: 173).

Lower Peninsula.—The species has been seen twice near Crystal Lake, Benzie County, by H. J. F. Gall: on June 2, 1935 (2 birds), and on September 8, 1940 (1 bird). R. E. Olsen and A. D. Tinker saw an individual on Sand Point, Huron County, May 30, 1937; Van Tyne (1933: 107–8) collected a male (U.M.M.Z.) near Lovells, Crawford County, on June 30, 1932; and A. E. Staebler took a female (U.M.M.Z.) on North Manitou Island, Leelanau County, on June 20, 1940. A nest with 3 young was found by C. Bazuin (1938: 125) on June 30, 1937, near Prairieville, Barry County.

Upper Peninsula.—Christy (1925a: 173) saw 1 bird on June 1, 1925, in the Huron Mountains, Marquette County, and Bryens observed 1 near McMillan, Luce County, on August 11, 1928.

*Myiarchus crinitus boreus* Bangs  
Northern Crested Flycatcher

Resident, common in the southern half of Michigan, but rare in the northern half. It has not been reported from Keweenaw Point or Isle Royale.

First listed for Michigan by Sager (1839: 413): "*Tyrannus intrepidus*."

SPRING.—The Northern Crested Flycatcher becomes common in the Lower Peninsula after the first week in May and reaches the Upper Peninsula about the middle of the month.

Lower Peninsula.—L. W. Campbell (1940: 204) has noted the beginning of main flight in the Toledo–Erie marsh area about May 8. N. A. Wood observed an individual near Rockwood, Monroe County, on May 4, 1934, and in the Ann Arbor region, arrival is usually noted by early May and occasionally by late April (2 seen April 20, 1938, by L. D. Case). This flycatcher was found on April 30 and throughout May in Berrien County, by N. A. Wood (1922: 17). Arrival was noted in the vicinity of Battle Creek (Walkinshaw's records from 1930 to 1940) and in Kalamazoo County (Gibbs, 1885: 133) on May 1 or somewhat later. G. A. Ammann noted an individual at the Prairie Farm, Alicia, Saginaw County, on May 7, 1940, and on Sand Point, Huron County, D. W. Douglass observed migration through the Point in the second week of May (1931 to 1933).

Upper Peninsula.—Bryens has recorded the species as early as May 18 (1933, 1 seen) near McMillan, Luce County, and at Blaney, Schoolcraft County, Christofferson observed 1 on May 23, 1938.

SUMMER.—Eggs have been found by early June, young by the middle of the month.

Lower Peninsula.—Gibbs (1885: 133), Kalamazoo County, and Swales (1903: 35), Wayne County, both listed this flycatcher as a fairly common summer resident, and Swales recorded a nest with 5 young and 1 egg, in the Detroit region on June 20, 1902. Near Ann Arbor, Geneva Smithe found a nest with 4 eggs on June 6, 1942. Walkinshaw recorded a nest with 6 eggs in Bedford Township, Calhoun County, on June 7, 1932, and another nest in the Kellogg Bird Sanctuary, Kalamazoo County, on June 4, 1933. In Branch County, H. W. Hann observed a pair of Crested Flycatchers carrying food to a nest on June 17, 1932. Van Tyne found a nest with 5 eggs (U.M.M.Z.) at Essexville, Bay County, on June 23, 1926. N. A. Wood (1912a: 185) noted the species on Charity Island, Huron County, in July, and with Frothingham (N. A. Wood and Frothingham, 1905: 48) he noted it occasionally in June, July, and early August in the vicinity of Crawford County. Near Grayling, Crawford County, Walkinshaw found a nest with eggs on June 23, 1938. Specimens (U.M.M.Z.) have been taken in late May and June from North Manitou and South Fox islands, Leelanau County, and from Gull, Trout, and Beaver islands, as well as on the mainland, Charlevoix County. Blanchard and Nelson (MS of 1937) have noted at least 2 nests in Cheboygan County: 1 (July 14, 1924) with 3 young, and 1 (July 7, 1931) with 4 young.

Upper Peninsula.—Christofferson has recorded this flycatcher at Blaney, Schoolcraft County, a few times each year (1934 to 1940) in June and July. Walkinshaw noted an individual at Munuscong Bay, Chippewa County, on June 9, 1934; Leonard Wing (1940: 182) saw the species in the Lake Superior State Forest in northern Luce County, on June 26, and at Rapid River, Delta County, on June 6; at Golden Lake, Iron County, John L. George and R. L. Patterson recorded an individual on August 1, 1938.

FALL.—Departure is recorded in the north in early September; in the Lower Peninsula in the middle of the month.

Upper Peninsula.—Christofferson has recorded the species as late as August 30 and September 2 (1937, 1 bird seen on each occasion). There are 2 specimens (U.M.M.Z.) taken in Menominee County: 1 by E. T. Hooper on August 16, 1940, and 1 by R. E. Olsen on August 24, 1940.

Lower Peninsula.—A single bird was seen September 2, 1934, near Red Oak, Oscoda County, by R. E. Olsen and A. D. Tinker, and in Hartland Township, Livingston County, 2 were seen by the same observers on September 15, 1935. F. W. Rapp (1931: 17) reported 1 as late as October 1 (1921) in the vicinity of Vicksburg, Kalamazoo County; a specimen (U.M.M.Z.), taken in Berrien County by H. B. Sherman, is dated September 5, 1917; and in the vicinity of Detroit, Swales (1903: 35) noted departure from September 10 to 15. L. W. Campbell (1940: 191, 205) gave August 25 as the average date for the beginning of the main flight in the Toledo-



Erie marsh area and observed stragglers there as late as September 17 in 1938.

*Sayornis phoebe* (Latham)  
Eastern Phoebe

Summer resident, common in southern counties. One winter record (Wayne County).

First listed for Michigan by Sager (1839: 413): "*Tyrannula fusca*."

SPRING.—Arrival is reported in the Lower Peninsula in the latter part of March or early April, and in the Upper Peninsula usually after the first of April.

Lower Peninsula.—L. W. Campbell (1940: 191, 204) has found individuals arriving in the Toledo–Erie marsh area in the third week of March, the beginning of main flight averaging March 29. Swales (1903: 36; and notes) noted earliest arrivals in the latter part of March in the Detroit region, and in the vicinity of Ann Arbor, observers generally recorded the species by the third week of March. Both F. W. Rapp (1931: 18) and Gibbs (1885: 133) recorded arrival by March 15 or a little later in Kalamazoo County, and G. A. Ammann found the Phoebe at the Prairie Farm, Alicia, Saginaw County, on April 9 (1940).

Upper Peninsula.—Bryens and Christofferson generally record the species by April 10 or a little later in their respective localities (McMillan, Luce County, and Blaney, Schoolcraft County), although Christofferson noted an individual in 1938 as early as March 29. Brodkorb saw 1 at Whitefish Point, Chippewa County, on May 8, 1936; N. A. Wood (1933: 721) noted first arrivals at Copper Harbor, Keweenaw County, on May 11 in 1931. The only spring (or early summer) record for Isle Royale is a specimen (U.M.M.Z.) taken by A. Murie on May 26, 1930.

SUMMER.—Nesting has been reported in southern counties on occasion in late April, but commonly in May and June; in the Upper Peninsula nesting records extend from late May to early July.

Lower Peninsula.—There are many nest records from southeastern Michigan. Van Tyne found 4 nearly completed nests near Ann Arbor on April 23, 1922, 1 of which had 5 eggs on April 28. Swales (1892a: 111) noted a nest with 6 eggs on June 12, 1892, near Detroit. N. A. Wood (1922: 17) recorded the species daily in Berrien County and found it nesting there; in the same county G. A. Ammann saw a nest with 5 eggs on May 16, 1939. Walkinshaw has found several nests in the vicinity of Battle Creek from April 16 (1932) to July 18 (1931). A nest with 5 eggs was taken near Big Rapids, Mecosta County, by C. F. Karshner on June 26, 1895, and the species was found "common and nesting everywhere" by N. A. Wood and Frothingham (1905: 48) in the vicinity of Crawford

County. N. A. Wood, Smith, and Gates (1916: 13), as well as Blanchard and Nelson (MS of 1937), noted the species as a very common summer resident in Cheboygan County.

Upper Peninsula.—Two adults (U.M.M.Z.) were secured on Drummond Island, Chippewa County, by T. D. Hinshaw and R. A. MacMullan in the summer of 1938; in the same county Walkinshaw saw an adult on a nest May 29, 1939 (at Munuscong Bay), and N. A. Wood (1914: 66) noted a pair nesting (at Whitefish Point) in 1912 and 1914. Christofferson has found nests in the vicinity of Blaney, Schoolcraft County, from May 14 (1938, 5 eggs) to July 9 (1936, 2 nests: 1 with 3 eggs, 1 with 5). F. M. Gaige (1914: 83) noted only 2 Phoebes during the month of July, 1909, in Dickinson County, but N. A. Wood (1918: 9) found them nesting in Alger County in 1916. Van Tyne saw several nests with young from June 21 to 27, 1936, in the Huron Mountains, Marquette County, and John L. George and R. L. Patterson found the species nesting along the Iron and Gogebic county line in 1938. N. A. Wood (1933: 721) listed it as a rare summer resident at Copper Harbor, Keweenaw County, in 1931.

FALL.—The fall migration seems to occur from August to late September in the Upper Peninsula and to the middle of October in the Lower Peninsula.

Upper Peninsula.—On Isle Royale, Max M. Peet (1909: 358) saw Phoebes throughout August and to the middle of September; N. A. Wood noted 1 there on September 20, 1929. N. A. Wood, Peet, and McCreary (1906: 116) found only 1 in the Porcupine Mountains, Ontonagon County (on July 26); Leonard Wing (1940: 182) observed the species at Bruce Crossing, Ontonagon County, on August 24 and at Kenton, Houghton County, on August 23. F. M. Gaige (1914: 83) found it more abundant in August than in July, near Brown Lake, Dickinson County, where he noted 8 on August 17. Christofferson seldom recorded it after the first of October at Blaney, Schoolcraft County, but has a record of 1 seen October 18, 1937.

Lower Peninsula.—N. A. Wood and Frothingham (1905: 48) saw the species in Alcona County on September 19 and in Iosco County on September 21. On the Charity Islands, Huron County, N. A. Wood (1911: 97) observed it from September 19 to October 8. Leonard Wing observed 10 Phoebes near South Haven, Van Buren County, from September 16 to 19, 1931, and Swales (1903: 36) gave October 10 as the average date of departure from Wayne County. L. W. Campbell (1940: 191, 204) in the Toledo-Erie marsh area has generally noted only stragglers after the last of September; he noted 1 as late as December 1 in 1934.

WINTER.—One winter record: an individual reported by Swales (1912: 128) on Grosse Ile, Wayne County, on February 13, 1909.

*Empidonax flaviventris* (W. M. and S. F. Baird)  
Yellow-bellied Flycatcher

Regular transient. May breed in the Upper Peninsula.

First listed for Michigan by Fox (1853: 160).

Because this species is difficult to identify in the field, this account is based chiefly on specimens.

SPRING.—Migrants are reported from mid-May in southern counties to the first few days of June in the Upper Peninsula.

Lower Peninsula.—Specimens have been taken: 1 (Adrian College Collection) on May 13, 1942, near Adrian, Lenawee County, by M. L. Peelle; 2 (Max M. Peet collection) on May 13, 1918, near Ann Arbor, Washtenaw County, by Max M. Peet; 1 (U.M.M.Z.) on May 23, 1918, near Ann Arbor, by Walter Koelz; 1 (U.M.M.Z.) on May 23, 1905, in Greenfield Township, Wayne County (Swales, 1905: 110); a number between May 19 and 30 (1918 to 1923) in Berrien County by N. A. Wood; 2 (U.M.M.Z.), May 28, 1883, and June 4, 1889, near Kalamazoo by F. H. Chapin; 2 (U.M.M.Z.), on May 28, 1932, and June 1, 1931, at Sand Point, Huron County, by D. W. Douglass; 1 (U.M.M.Z.) on May 28, 1932, on Beaver Island, Charlevoix County, by James H. Wood (the only record from the northern part of the peninsula).

Upper Peninsula.—Christofferson occasionally recorded this flycatcher in the last week of May at Blaney, Schoolcraft County (May 22, 1934; May 21, 1938), and at Whitefish Point, Chippewa County, N. A. Wood collected 2 specimens (U.M.M.Z.), on May 27 and June 3, 1914. He also collected 2 (U.M.M.Z.) at Copper Harbor, Keweenaw County, May 30, 1931, and 2 (U.M.M.Z.) on Isle Royale, May 24 and June 7, 1930.

SUMMER.—R. A. MacMullan collected 1 specimen (U.M.M.Z.) on Drummond Island, Chippewa County, on June 28, 1938, and at Whitefish Point in the same county N. A. Wood took 1 (U.M.M.Z.) on June 10, 1914. Leonard Wing (1940: 182-83) saw 1 in the Black River Highlands, Gogebic County, on July 11, 1932; O. McCreary collected 1 (U.M.M.Z.) on Isle Royale on July 14, 1905.

FALL.—Migrants are reported chiefly in August and early September.

Upper Peninsula.—On Isle Royale, O. McCreary collected 1 (U.M.M.Z.) of 2 Yellow-bellied Flycatchers noted on July 26, 1905 (Max M. Peet, 1909: 359). Walter E. Hastings took 2 (U.M.M.Z.) on Isle Royale in late August, 1929, and Peet collected 1 there on September 13, 1905. R. E. Olsen secured 1 (U.M.M.Z.) on the shore of Lake Superior at Deer Park, Luce County, on September 3, 1938; A. D. Tinker saw the species at Whitefish Point, Chippewa County, in late August in 1931.

Lower Peninsula.—Blanchard and Nelson (MS of 1937) have noted the

species in Cheboygan County between August 3 and 20; Max M. Peet collected specimens at Burt Lake, Cheboygan County, on August 30, 1940, and in Oscoda County, near Luzerne, on September 1, 1916. N. A. Wood and Gaige (1911: 289) saw 2 at Sand Point, Huron County, on August 18, 1908, and on Charity Island in the same county, N. A. Wood (1911: 97-98) recorded the species from August 29 to September 6 in 1910, collecting a specimen (U.M.M.Z.) there on September 6. Specimens (U.M.M.Z.) have also been taken in Jackson County (at Portage Lake, August 29, 1937), in Washtenaw County (at Portage Lake, September 6, 1919), and in Monroe County (in Erie Township, August 29, 1935, and September 5, 1936). Swales and Taverner (1907: 144) listed the species as a "more or less common and likely regular migrant in southeastern Michigan," but at least 2 of the specimens they collected and identified as *Empidonax flaviventris* are in fact *Empidonax virescens*.

*Empidonax virescens* (Vieillot)  
Acadian Flycatcher

Summer resident north to Saginaw County.

First listed for Michigan by Sager (1839: 413): "*Tyrannula acadica*."

Since the Acadian Flycatcher is not easily distinguished from the Alder and Least Flycatchers, both more common in Michigan than the Acadian, this account of its distribution in Michigan is based chiefly on specimens. There is no verified specimen from north of Saginaw County, though various workers have listed sight records from the north: N. A. Wood, Smith, and Gates (1916: 13) and Compton (1914: 178) in Cheboygan County; S. E. White (1893: 225) on Mackinac Island; and Max M. Peet (1909a: 105) on Isle Royale. (White reported that he collected "many specimens" on Mackinac Island, but these were not examined by a qualified ornithologist.)

SPRING.—The species migrates into the southern half of the Lower Peninsula during the last half of May; Swales (1903: 36) noted its arrival about the middle of the month in the Wayne County area. Specimens (U.M.M.Z.) taken in southeastern Michigan include 1 by D. C. Worcester, May 15, 1896 (Ann Arbor), 1 by A. D. Tinker, May 14, 1933 (Hartland Township, Livingston County), and 1 by Walter Koelz, May 20, 1919 (Waterloo, Jackson County). N. A. Wood (1922: 18) saw the species daily in Berrien County from May 10 to June 1, and secured several specimens (U.M.M.Z.) there; B. F. Sykes took 1 (U.M.M.Z.) at Kalamazoo, May 21, 1879. Swales collected 1 in Atlas Township, Genesee County, on May 30, 1905, and at the Prairie Farm, Alicia, Saginaw County, G. A. Ammann observed several between May 26 (when he collected a specimen) and June 14, 1940.

SUMMER.—Although Brownell (1887: 96-97) took what he believed were eggs of this species on May 10 (in Wayne County), this early date needs confirmation, since other available records indicate a much later nesting season (June and early July). Swales found 1 nest with 3 eggs as early as May 30 (1900), and a nest with 3 young on July 19 (1903). N. A. Wood (1922: 18) noted the species during July in Berrien County and took several specimens on July 7 and 18. Gibbs (1885: 134), in Kalamazoo County, and Swales (1903: 36), in Wayne County, noted it as a common summer resident; Max M. Peet took an adult male near Ann Arbor on June 12, 1917 (Max M. Peet collection); R. E. Olsen found a nest under construction in Hartland Township, Livingston County, on June 2, 1935; Fargo saw a nest with eggs near Jackson on June 10, 1923; and G. A. Ammann saw the species several times during the second week of June (1940) at the Prairie Farm, Alicia, Saginaw County.

FALL.—The Acadian Flycatcher migrates southward in August and early September. Swales (1903: 36) noted its departure in the "latter part of August" in Wayne County, and Gibbs (1885: 134) reported that it was "rarely seen after August 1" in Kalamazoo County, but in Berrien County, N. A. Wood (1922: 18) saw the species until September 10 (1917). Fall specimens (U.M.M.Z.) have been taken in Wayne County: 1 on August 18 (1906, by Swales), 1 on August 30 (1908, by Swales), and 1 on September 11 (1904, by Taverner). J. O. Strong collected 1 (U.M.M.Z.) in Hartland Township, Livingston County, on September 10, 1931, and Van Tyne took 1 (U.M.M.Z.) near Tompkins, Jackson County, September 13, 1930. H. B. Sherman secured specimens (U.M.M.Z.) in Berrien County: 1 on August 31 and 2 on September 5, 1917.

*Empidonax traillii traillii* (Audubon)

Alder Flycatcher

Summer resident.

First listed for Michigan by Sager (1839: 413): "*Tyrannula traillii*."

SPRING.—The species comes northward in the latter half of May and reaches the Upper Peninsula by the last of the month or early June.

Lower Peninsula.—In the Detroit region Swales (1903: 36) saw an Alder Flycatcher as early as May 6 in 1894, but usually noted the species after the middle of the month; in the vicinity of Ann Arbor various observers have recorded it between May 15 and 20. G. A. Ammann observed 1 on May 23, 1940, at the Prairie Farm, Alicia, Saginaw County. Walkinshaw usually recorded it (1930 to 1940) in the Battle Creek area by May 15, and Gibbs (1885: 134) noted it also as arriving in the middle of the month in Kalamazoo County. The only available data on the migration

of the species in the northern part of the peninsula are 2 specimens (M.C.Z.) collected by William Brewster near Oden, Emmet County, on May 28, 1888.

Upper Peninsula.—Christofferson has recorded the species from the eastern part of the peninsula in the last few days of May and in early June (6 seen at Munuscong Bay, Chippewa County, May 29, 1922; 1 seen at Blaney, Schoolcraft County, May 31, 1935). Brodkorb found it common at Seney, Schoolcraft County, from June 2 to 11, 1938. Leonard Wing collected 2 specimens (U.M.M.Z.) in Marquette County: 1 near Green Creek, June 8, 1931, 1 near Ishpeming, June 9, 1931; Wing (1940: 183) saw the species near Kenton, Houghton County, June 6 and 7, 1932. At Copper Harbor, Keweenaw County, N. A. Wood (1933: 722) saw 1 on May 29 and 1 on Isle Royale, June 7, 1930.

SUMMER.—Nesting is reported from most regions of Michigan; eggs are found from the second week in June to the middle of July or later.

Lower Peninsula.—Swales (1903: 36) listed this flycatcher as an abundant summer resident in the region of Detroit. Nests taken in southeastern counties include 1 (U.M.M.Z.) with 4 young in Erie Township, Monroe County, taken by T. D. Hinshaw and A. D. Tinker, July 8, 1934, and 1 (U.M.M.Z.) with 2 eggs and 1 young at Portage Lake, Jackson County, taken by Fargo (1928: 218-21) on June 27, 1927. Walkinshaw has found several nests in the vicinity of Battle Creek, from June 28 (1930, with 4 eggs) to July 17 (1932, also with 4 eggs), and F. W. Rapp (1931: 18) listed a nest with 4 eggs in the vicinity of Vicksburg, Kalamazoo County, on June 17, 1904. Leonard Wing noted the species as "common" in Crawford County during the summer of 1931, and Blanchard and Nelson (MS of 1937) found it nesting in Cheboygan County.

Upper Peninsula.—In Chippewa County, T. D. Hinshaw collected 2 (U.M.M.Z.) on Drummond Island on August 8 and 9, 1938; and in the vicinity of Whitefish Point, N. A. Wood (1914: 66) found it common during June and July. N. A. Wood (1918: 9) also noted it as not rare at Whitefish Lake, Alger County, in the summer of 1916, although in the Huron Mountains, Marquette County, Van Tyne found it "uncommon" in late June, 1936. In the western part of the peninsula this flycatcher was found in the Porcupine Mountains, Ontonagon County, by N. A. Wood, Peet, and McCreary (1906: 116) in late summer, and 2 (U.M.M.Z.) were collected July 22; it was seen by Leonard Wing (1940: 183) near Ironwood, Gogebic County, on July 19, 20, and 26 in 1932. The species has been encountered only rarely in the summer on Isle Royale: 1 was seen there by N. A. Wood on June 7, 1930, and 1 (U.M.M.Z.) was collected by O. McCreary on July 21, 1905.

FALL.—Departure is recorded in the Upper Peninsula by the end of August, in the southern counties by the first week of September.

Upper Peninsula.—Fargo saw 2 Alder Flycatchers on Isle Royale August 29, 1924, and at least 3 (U.M.M.Z.) have been taken there in late August, 1 in 1905, and 2 in 1929. Leonard Wing secured 1 (U.M.M.Z.) at the mouth of the Montreal River, Gogebic County, on August 26, 1931, and N. A. Wood (1918: 9) noted the species as common in Alger County during August (1, U.M.M.Z., collected August 11). Christofferson has not recorded it after the last of August at Blaney, Schoolcraft County, although he reported 1 at Munuscong Bay, Chippewa County, on September 5, 1928.

Lower Peninsula.—N. A. Wood (1911: 98) noted Alder Flycatchers in the fall on Charity Island, Huron County, between August 27 and September 6. L. D. Case took 1 (U.M.M.Z.) near Ann Arbor, Washtenaw County, on September 10, 1940, and L. W. Campbell secured a specimen (U.M.M.Z.) in Erie Township, Monroe County, on September 5, 1936. Swales (1903: 36) reported departure from the Detroit area between September 10 and 17 (he saw 8 on September 17, 1893). L. W. Campbell (1940: 191) gives September 1 as the average date for last stragglers in the Toledo-Erie marsh area, his latest record being September 19.

*Empidonax minimus* (W. M. and S. F. Baird)  
Least Flycatcher

Common summer resident.

First authoritatively listed for Michigan by Gibbs (1879: 488).

SPRING.—Arrival is reported in southern counties by early May (rarely in the last few days of April), and in the north a week or 10 days later.

Lower Peninsula.—L. W. Campbell (1940: 191, 205) has noted arrival of the earliest individuals in the Toledo-Erie marsh area on the average by May 5 (as early as April 30 in 1933) and has recorded main flight on the average between May 7 and 17. Swales (1903: 36) seldom recorded the Least Flycatcher before May 15 in the Detroit area, but collected a specimen (U.M.M.Z.) on April 30 in 1905. In the Ann Arbor region the species is regularly recorded in the first week of May. N. A. Wood (1922: 18-19) listed it as rare in Berrien County, where he noted first arrival on May 9; Gibbs (1885:134) noted arrival in Kalamazoo County between April 25 and May 5. G. A. Ammann saw 1 on May 7, 1940, at the Prairie Farm, Alicia, Saginaw County, and D. W. Douglass noted "small numbers" on Sand Point, Huron County, during the spring migrations (1931 to 1933) in the latter half of May. William Brewster collected 6 specimens (M.C.Z.) in the vicinity of Oden, Emmet County, between May 19 and 28, 1888.

Upper Peninsula.—On Whitefish Point, Chippewa County, N. A. Wood (1914: 66) first noted the species on May 22 and 26 in 1914, but Brodtkorb found it there as early as May 10 in 1936, and listed it as "fairly common"

thereafter. Christofferson has recorded the main flight at Blaney, Schoolcraft County, during the second and third weeks of May: in 1938 he noted 6 on May 7, 10 on May 14, and 15 on May 20; and in 1937, 8 on May 16, and 10 on May 23. N. A. Wood collected a Least Flycatcher near Deerton, Alger County, on May 30, 1916, and S. S. Gregory, Jr., took 3 in the Huron Mountains, Marquette County: May 19, 1921; May 20, 1921; May 23, 1932. The species was noted on May 26 and found common afterward at Copper Harbor, Keweenaw County, by N. A. Wood (1933: 722). Wood also observed it on Isle Royale from May 17 to June 15, 1930.

SUMMER.—Nesting is occasionally reported by the middle of May in southern counties, and by late May in the Upper Peninsula, but the species commonly nests in June.

Lower Peninsula.—John L. George discovered a nest near Half Moon Lake, Washtenaw County, on May 11, 1940, and at Horseshoe Lake in the same county H. W. Hann observed a pair on June 28, 1932, feeding a fledgling Cowbird. Leonard Wing and others (1930: 64) found 21 pairs nesting in Jackson County during the summer of 1929, and Gibbs (1885: 134) listed the species as an abundant summer resident in Kalamazoo County. N. A. Wood and Frothingham (1905: 49) noted it as common in Crawford, Ogemaw, and Oscoda counties during June and July and saw 1 nest with 2 fresh eggs on June 18, 1903. Near Mio, Oscoda County, Van Tyne found a nest with 4 eggs on June 14, 1941, from which the young hatched 2 days later. Specimens (U.M.M.Z.) were taken in June, 1940, from North and South Manitou Islands, and the species was seen on Beaver Island by N. A. Wood June 23 and 24, 1925. Blanchard and Nelson (MS of 1937) listed the species as "very common" in Cheboygan County, where they recorded 23 nests (1908 to 1937) and noted young as early as June 24.

Upper Peninsula.—The Least Flycatcher has been found in several localities in Chippewa County: 2 specimens (U.M.M.Z.) were taken in late June, 1938, on Drummond Island (R. A. MacMullan); a nest under construction was found on May 29, 1939, at Munuscong Bay (Walkinshaw); the species was noted as common after June 30 (1914) on Whitefish Point (N. A. Wood, 1914: 66). Bryens, at McMillan, Luce County, has recorded eggs and young from June 13 (1933, nest with 4 eggs) to August 17 (1936, adults feeding fledglings). F. M. Gaike (1914: 84) found the birds common in Dickinson County in 1909 and noted several nests in early July (3 young left a nest July 5), and N. A. Wood (1918: 9) observed this flycatcher daily in the summer of 1916 at Whitefish Lake, Alger County. Van Tyne also listed it as common in the Huron Mountains, Marquette County, from June 21 to 27, 1936, and John L. George and R. L. Patterson found it a "very common" summer resident in the vicinity of Golden Lake, Iron County, in the summer of 1938.



FALL.—The fall migration occurs in late August and early September in the Upper Peninsula and continues to the latter part of September in southern counties.

Upper Peninsula.—Max M. Peet (1909: 359–60; 1909*a*: 117) noted the species almost daily from August 20 to September 14 on Isle Royale in 1905; and in 1929, N. A. Wood observed it there as late as September 30. R. E. Olsen and A. D. Tinker saw 2 on August 22 and 2 on August 26, 1935, in the Porcupine Mountains, Ontonagon County; and eastward at Whitefish Point, Chippewa County, Fargo noted 2 on August 21, 1925. F. M. Gaige (1914: 84) observed the species commonly in Dickinson County during the last week of July and noted only a few in August (1 collected, U.M.M.Z., August 13, 1909). Christofferson, at Blaney, Schoolcraft County, has regularly recorded numbers in the third week of August (5 seen each day, August 15, 18, and 24, 1937) and stragglers until the last of the month.

Lower Peninsula.—N. A. Wood and Frothingham (1905: 49) listed this flycatcher as common in Oscoda, Alcona, and Iosco counties (September 12 to 21, 1903). On Charity Island, Huron County, N. A. Wood (1911: 98) found it occasional until September 21 in 1910. Gibbs (1885: 134) reported departure from Kalamazoo County in September; Swales (1903: 36) usually noted departure from the Detroit area by the first week in September, although in 1911 he observed relatively large numbers until mid-September (5 on September 12; 10 on September 13; 15 on September 14). Specimens (U.M.M.Z.) were taken near South Haven, Van Buren County, on September 18, 1931 (Leonard Wing), and at Harbert, Berrien County, on September 7, 1917. Trautman saw 11 Least Flycatchers in Erie Township, Monroe County, on September 9, 1934.

*Contopus virens* (Linnaeus)  
Eastern Wood Pewee

Common summer resident.

First listed for Michigan by Sager (1839: 413): "*Tyrannula virens*."

SPRING.—Arrival is reported in southern counties in early May and in the Upper Peninsula in late May.

Lower Peninsula.—L. W. Campbell (1940: 205) has given May 20 as the average date for the beginning of main flight in the Toledo–Erie marsh area. In the Detroit region (Swales, 1903: 36) and in the Ann Arbor area, earliest arrivals are usually noted in the first 2 weeks of May; A. D. Tinker reported 1 at Ann Arbor as early as April 28 (1916). N. A. Wood (1922: 18) first noted the species in Berrien County, where he listed it as rather rare, on May 7 (1918), and Walkinshaw has regularly recorded it during the past decade in the vicinity of Battle Creek between May 10 and 15. R. E. Olsen and A. D. Tinker saw 2 Eastern Wood Pewees in Hartland Township, Livingston County, as early as April 15 (1934). G. A. Ammann observed

1 at the Prairie Farm, Alicia, Saginaw County, on May 16, 1940, and D. W. Douglass reported arrival on Sand Point, Huron County, by May 19 (1931 to 1933). In the vicinity of Red Oak, Oscoda County, R. E. Olsen and A. D. Tinker saw an individual on May 30, 1934, and William Brewster collected 1 (M.C.Z.) at Oden, Emmet County, May 28, 1888.

Upper Peninsula.—There is relatively little information from the Upper Peninsula on the spring migration. Christofferson, at Blaney, Schoolcraft County, has noted Pewees in the last 10 days of May (1 seen May 22, 1933; 5 seen May 28, 1939). S. S. Gregory, Jr. (1929: 179), noted arrival in the Huron Mountains, Marquette County, on May 24. The only definite spring record from Isle Royale is an individual seen by N. A. Wood on May 16, 1930.

SUMMER.—The Eastern Wood Pewee nests in the latter part of May, throughout June, and occasionally in late July.

Lower Peninsula.—Records from Wayne County include a nest with 3 eggs (U.M.M.Z.) taken by F. C. Hubel on June 8, 1898, and 1 with 3 small young found by J. B. Purdy (1891: 28) on August 3. N. A. Wood (1922: 18) found a nest on June 11 in Berrien County, and F. W. Rapp (1931: 18) listed nesting dates from May 15 (4 eggs, 1904) to June 19 (4 eggs, 1904) for the vicinity of Vicksburg, Kalamazoo County. N. A. Wood and Gaige (1911: 289) noted a number of nests in northwestern Huron County in 1908 (1 on July 1 with 3 young; 1 on July 4 with 3 eggs). The species was recorded as a common breeder on Charity Island, Huron County, in 1911 (N. A. Wood, 1912*a*: 185), in Mason County by Chaney (1910: 275), and in Crawford and neighboring counties by N. A. Wood and Frothingham (1905: 48-49). The Pewee was reported "common" on the Fox (1939) and Manitou (1940) islands, Leelanau County, by A. E. Staebler and L. D. Case; and on Beaver Island (1937), Charlevoix County, by T. D. Hinshaw and R. E. Morrill. Van Tyne (1925: 620) said that the species occurred "rather sparingly" on the mainland of Charlevoix County in 1923, but in Cheboygan County, Blanchard and Nelson (MS of 1937) listed numerous nests and noted young in the nests from July 2 to 19 (1908 to 1937).

Upper Peninsula.—In Chippewa County the species was found on Drummond Island during the summer of 1938 by T. D. Hinshaw and R. A. MacMullan, and on Whitefish Point it was noted as a common summer resident in 1912 and 1914 by N. A. Wood (1914: 66). Christofferson recorded a nest near Blaney, Schoolcraft County, on July 20, 1938. F. M. Gaige (1914: 83-84) saw the birds only rarely in early July, 1909, in Dickinson County. Van Tyne saw Eastern Wood Pewees regularly in the Huron Mountains, Marquette County, from June 21 to 27, 1936. To the west at Golden Lake,

Iron County, John L. George and R. L. Patterson listed the species as a common summer resident in 1938. N. A. Wood, Peet, and McCreary (1906: 116) collected an adult female (U.M.M.Z.) on July 30, 1904, and found a nest on July 23 in the Porcupine Mountains, Ontonagon County.

FALL.—The fall migration occurs in August and the first week of September in the Upper Peninsula and 1 or 2 weeks later in southern counties.

Upper Peninsula.—Fargo reported 9 Pewees on Isle Royale between August 31 and September 3, 1924. S. S. Gregory, Jr. (1929: 179), indicated that the species remained in the Huron Mountains, Marquette County, until September 21, and he collected a specimen from that locality on September 4, 1934. F. M. Gaige (1914: 83–84) noted that Pewees became common in Dickinson County in late July, and they were still common when he left in late August (1909). One (U.M.M.Z.) was collected by E. T. Hooper on August 18, 1940, near Stephenson, Menominee County, and 2 were seen at Whitefish Point, Chippewa County, by Fargo, September 7 to 8, 1925. In the vicinity of McMillan, Luce County, Bryens usually records this flycatcher through the first week of September and occasionally later (1 seen September 13, 1940; 1, September 21, 1937).

Lower Peninsula.—N. A. Wood and Frothingham (1905: 48) listed the species as common in 1903 on September 6 in Crawford County, September 13 in Oscoda County, and September 21 in Iosco County. N. A. Wood (1911: 97) found it common and observed it nearly every day from August 17 to September 20 (1910) on Charity Island, Huron County. In Kalamazoo County, Gibbs (1885: 134) reported Pewees as common until September 15. Leonard Wing saw 10 on September 16, 1931, near South Haven, Van Buren County, and noted 1 on September 18 and 19. Swales (1903: 36) recorded departure from the Detroit region September 15 to 20; and L. W. Campbell (1940: 191, 205) gave September 18 as the average date for the end of main flight in the Toledo–Erie marsh area; but stragglers have been reported by Campbell as late as October 4 (1936) and by Swales as late as October 7 (3 in 1906).

*Nuttallornis borealis* (Swainson)  
Olive-sided Flycatcher

Summer resident south to Crawford County.

First listed for Michigan by Sager (1839: 413): "*Tyrannus inornata*."

SPRING.—Arrival is reported in the latter half of May.

Lower Peninsula.—In the Toledo–Erie marsh area, L. W. Campbell (1940: 191) has recorded this flycatcher from May 10 to 31. In the Ann Arbor region N. A. Wood and Tinker (1934: 29) noted first arrivals on May 1 in 1903, but usually recorded them about mid-May; Walter Koelz recorded arrival at Ann Arbor on May 4 in 1919. Trautman saw an Olive-sided Fly-

catcher near Ann Arbor on May 19, 20, and 24, 1938, and in Hartland Township, Livingston County, R. E. Olsen and A. D. Tinker saw 1 on May 16, 1937, and 2 on May 21, 1939. N. A. Wood (1922: 17-18) noted the species in the last week of May in Berrien County, and Gibbs (Barrows, 1912: 399) recorded it several times from Ottawa County (May 9, 1882; May 17, 1880; May 21, 1879; May 25, 1883). Specimens (U.M.M.Z.) have been taken: on Sand Point, Huron County (1 by D. W. Douglass, May 22, 1933); on Fish Point, Tuscola County (2 by N. A. Wood, May 29, 1929); and near Red Oak, Oscoda County (1 by Van Tyne on May 27, 1938; 1 by R. E. Olsen on May 30, 1934). Victor H. Cahalane took 1 (U.M.M.Z.) on Beaver Island, Charlevoix County, on May 23, 1932, and William Brewster secured 2 (M.C.Z.) near Oden, Emmet County, May 30, 1888.

Upper Peninsula.—Christofferson has recorded arrival at Blaney, Schoolcraft County, after the middle of May (1 seen May 16, 1940; 2 seen May 22, 1938). Walkinshaw took 1 Olive-sided Flycatcher (U.M.M.Z.) and saw 2 others May 29, 1934, on Whitefish Point, Chippewa County. N. A. Wood (1918: 9) noted 1 near Whitefish Lake, Alger County, on May 24; and both Christy (1925: 212) and S. S. Gregory, Jr. (1929: 179), found the species in the Huron Mountains, Marquette County, after May 29. N. A. Wood (1933: 722) saw individuals near Copper Harbor, Keweenaw County (1931, 1 on June 5) and on Isle Royale (1930, 1 on June 5 and 2 on June 7).

SUMMER.—The species has been found in the northern part of the Lower Peninsula and in most of the Upper Peninsula in the summer months, but only 2 nests have been reported.

Lower Peninsula.—N. A. Wood and Frothingham (1905: 48) noted this flycatcher in Crawford County on June 16 and in Oscoda County on June 18 in 1903. Blanchard and Nelson (MS of 1937) noted it as occurring regularly in the north-central area of Cheboygan County, and recorded a nest with 1 young near Burt Lake on July 9, 1928, found by A. O. Gross and Theodora Nelson.

Upper Peninsula.—Trautman observed an Olive-sided Flycatcher on its nest June 8, 1934, at Munuscong Bay, Chippewa County; in the same county in the vicinity of Whitefish Point, N. A. Wood (1914: 66) listed the species as common and collected 2 specimens (U.M.M.Z.) on June 25. Christofferson has noted the species at Blaney, Schoolcraft County, in June and early July, and N. A. Wood took 2 (U.M.M.Z.) near Deerton, Alger County, on June 20, 1916. Van Tyne saw 1 on June 22, 1936, in the Huron Mountains, Marquette County; S. S. Gregory, Jr. (1929: 179), listed the species as an uncommon summer resident there, but gave no nesting data. In Gogebic County H. B. Sherman secured a specimen (U.M.M.Z.) near Lindsay Lake, July 12, 1920, and Leonard Wing (1940: 183) observed the species near Ironwood July 18 to 20, 1932. In addition to his early June records

(mentioned under "Spring") from Isle Royale, N. A. Wood noted 2 on the island July 17, 1905.

FALL.—The Olive-sided Flycatcher migrates southward in late August and early September.

Upper Peninsula.—Max M. Peet (1909: 358-59) found the species on Isle Royale from July 17 to September 3, 1905. In 1924 Fargo noted it as "fairly common" on the island from August 18 to 27 and observed 3 on August 29. In the extreme western part of Iron County, John L. George and R. L. Patterson saw 10 on August 6, 1938, and S. S. Gregory, Jr., collected 1 in the Huron Mountains, Marquette County, on August 6, 1935. In 1909 F. M. Gaige (1914: 83) observed the species frequently in Dickinson County from July 29 to August 7 and noted 1 on August 14. Fargo saw 3 August 21, 1925, at Whitefish Point, Chippewa County, and Christofferson has recorded the Olive-sided Flycatcher into the latter part of August near Blaney, Schoolcraft County (1 seen August 29, 1935).

Lower Peninsula.—There are few fall records from southern counties. N. A. Wood (1911: 97) saw the species occasionally from August 18 to 31, on Charity Island, Huron County, and saw it on September 4 and 7 in Berrien County (1922: 17-18). Swales noted Olive-sided Flycatchers on Grosse Ile, Wayne County, on 2 occasions: in 1907 he saw 1 on September 7 and 9; in 1912 he observed 3 on August 21. B. R. Campbell collected a specimen (U.M.M.Z.) in Erie Township, Monroe County, on August 31, 1935, and in the Toledo-Erie marsh area, L. W. Campbell (1940: 191) found the species as late as September 12 in 1931.

## ALAUDIDAE

### (LARKS)

#### *Eremophila alpestris*

#### Horned Larks

Since the 3 races of Horned Larks found in Michigan in winter can be identified with certainty only by actual comparison of specimens, the following accounts are based largely on specimens. The Northern Horned Lark, a transient and winter visitant, is most numerous along the shores of the Great Lakes, where it seems at times to be more abundant than the resident Prairie Horned Lark. Walker and Trautman (1936: 151-55) believed that the Northern Horned Lark greatly outnumbered the Prairie Horned Lark during the winter in central Ohio. Hoyt's Horned Lark, a winter visitant, is much less common than either of the other forms. There is no mid-winter Michigan specimen of either the Hoyt's or the Northern Horned Lark in the Museum of Zoology.

*Eremophila alpestris hoyti* (Bishop)  
Hoyt's Horned Lark

Uncommon winter visitant.

Oberholser (1902: 812, 815) included Michigan in the winter range of Hoyt's Horned Lark, listing Grand Rapids among the localities represented by specimens he had examined. Barrows (1912: 410) mentioned 2 Hoyt's Horned Larks (P. A. Taverner collection) taken in Montmorency County in the fall of 1908; Taverner informs us, however, that only 1 of the 2 specimens referred to (collected November 18, 1908, by Albert Jones) is a Hoyt's Horned Lark, the other being a Northern Horned Lark. Near Ann Arbor, Brodkorb (1936: 455) and Max M. Peet collected 7 specimens (U.M.M.Z. and Max M. Peet collection), 5 on February 22, and 2 on March 11 in 1934.

*Eremophila alpestris alpestris* (Linnaeus)  
Northern Horned Lark

Transient and winter visitant, especially along the Great Lakes.

Max M. Peet collected a specimen (U.M.M.Z.) on Isle Royale on September 13, 1905, and N. A. Wood took 5 (U.M.M.Z.) there on September 26, 1929. S. S. Gregory, Jr., has 3 specimens in his collection taken in the Huron Mountains, Marquette County: September 26, 1919, October 2, 1928, October 9, 1924. A series (U.M.M.Z.) was collected on Charity Island, Huron County, by N. A. Wood and others from September 23 to October 6, 1910, and a series at Fish Point, Tuscola County, by various collectors from September 16 to November 6. Walter Koelz secured a specimen (U.M.M.Z.) near the western boundary of Washtenaw County, on October 16, 1922.

Brodkorb (1936: 455) took 7 Northern Horned Larks near Ann Arbor on February 22, 1934, and R. E. Olsen 1 (U.M.M.Z.) near Vassar, Tuscola County, on February 18, 1934.

Two specimens (U.M.M.Z.) have been taken in late spring, both at Whitefish Point, Chippewa County: Brodkorb secured 1 on May 22, 1936 (he saw several other Horned Larks at the time that he believed to be of this race); N. A. Wood (1914: 66) took 1 (apparently injured) on May 30, 1914.

*Eremophila alpestris praticola* (Henshaw)  
Prairie Horned Lark

Common summer resident. Winters in small numbers in the southern half of the Lower Peninsula.

SPRING.—The species apparently moves northward early in the spring. Swales reported a gradual increase in numbers of Horned Larks in the Detroit area in late February and early March. T. D. Hinshaw secured several

Prairie Horned Larks (U.M.M.Z.) in Tuscola County on February 25, 1934, possibly wintering birds. Specimens (U.M.M.Z.) have been taken in Crawford County by the middle of March and in Cheboygan County by the last week of March. Large numbers of Horned Larks, possibly migrants (25 seen on March 6, 1940; 200 on May 12, 1940), have been noted by Bryens at McMillan, Luce County.

Nesting season.—Fledglings able to fly have been found in the Lower Peninsula as early as the third week of March; young in the Upper Peninsula observed by mid-April.

Lower Peninsula.—The earliest record of fledglings is that of Purdy (1890: 138-39), who discovered 1 young in Wayne County on March 27. Swales (1903: 36) found the species nesting in the Detroit area in March and April, but recorded 1 set of eggs as late as June 19 (1895); he noted fledglings (1891: 149) in early April. R. E. Olsen found a nest with 3 newly hatched young in Waterford Township, Oakland County, on May 13, 1939, and in Jackson County, near Jackson, Leonard Wing collected 2 juveniles (U.M.M.Z.) on April 26, 1931. N. A. Wood (1922: 19) listed the Prairie Horned Lark as a rare summer resident in Berrien County, noting it only twice (May 17 and May 27, 1918) in 4 seasons there. F. W. Rapp (1931: 18) listed it as a permanent resident in the vicinity of Vicksburg, Kalamazoo County, and recorded an exceptionally late nest with 4 eggs on June 23, 1902. Van Tyne (1925: 621) observed the species to be a common resident in Charlevoix County; T. D. Hinshaw and R. E. Morrill collected several specimens (U.M.M.Z.) in late June and in July on Beaver Island, and many other specimens (U.M.M.Z.) have been taken by various collectors during the summer in several localities in the northern part of the peninsula.

Upper Peninsula.—The only definite nesting data for the Upper Peninsula is from Bryens, who recorded fledglings between May 16 and June 27 at McMillan, Luce County, and from Christofferson, who recorded a nest with 4 young April 10, 1925, at Sault Ste Marie and 2 young (able to fly), at Blaney, Schoolcraft County, June 2, 1931. Leonard Wing (1940: 183) collected several Prairie Horned Larks (U.M.M.Z.) at Ironwood, Gogebic County, and at Rapid River, Delta County, in early June, 1931; at Copper Harbor, Keweenaw County, N. A. Wood (1933: 722) secured 1 on May 28.

FALL.—There are no definite data available on the fall status of the Prairie Horned Lark in the Upper Peninsula. Bryens and Christofferson have recorded large flocks of 75 to 200 or more Horned Larks in the eastern part of the peninsula from late September to early November. In the Lower Peninsula a few specimens have been taken in the fall: Walter Koelz secured 1 (U.M.M.Z.) at Alpena on September 18, 1919, and various persons have collected others (U.M.M.Z.) on Fish Point, Tuscola County, from late September to early November.

WINTER.—Winter specimens have been taken in Wayne County on December 16, 1906 (in Grosse Pointe Township, by J. Claire Wood), on February 14, 1891 (at Highland Park, by J. Claire Wood), and on February 17, 1895 (in Ecorse Township, by Walter C. Wood). In the Ann Arbor region 8 specimens have been taken between December 31 (1907) and February 17 (1934), as well as a number in the last half of February. Leonard Wing took a series of specimens in Jackson in late January and early February, 1931, and other specimens were taken in the county on January 20, 1918 (at Waterloo, by Walter Koelz), January 23, 1894 (at Norvell, by L. W. Watkins), and February 9, 1919 (at Waterloo, by Walter Koelz). F. H. Chapin took 2 at Kalamazoo on February 6, 1886. In Livingston County, A. D. Tinker took 1 on February 11, 1934 (at Pleasant Lake) and 1 on February 17, 1935 (near Brighton). Trautman took 1 at Bailey, Muskegon County, on February 11, 1935.

#### HIRUNDINIDAE

#### (SWALLOWS)

#### *Iridoprocne bicolor* (Vieillot)

#### Tree Swallow

Common summer resident.

First listed for Michigan by Sager (1839: 416).

SPRING.—Northward movement occurs in the latter half of April in southern counties and in late April and early May in the north.

Lower Peninsula.—In the Toledo–Erie marsh area (L. W. Campbell, 1940: 108, 190, 205) the migration begins occasionally in mid-March, usually not until early April; it is commonly at its height from mid-April to mid-May. Tree Swallows were not usually recorded by Swales (1904: 37) at Detroit until the second or third week of April; in the Ann Arbor region they have frequently arrived in the last week of March (15 were observed there on March 25, 1932, by James H. Wood). In Kalamazoo County Gibbs (1885: 55) found them arriving from March 29 to April 12, the larger numbers from April 5 to 8; at Vicksburg, in the same county, F. W. Rapp (1931: 27) listed the species as early as March 22 (1905). D. W. Douglass listed it (1931 to 1933) as a common migrant at Sand Point, Huron County, between April 11 and 18. In 1937 at Douglas Lake, Cheboygan County (Blanchard and Nelson, MS of 1937), it arrived April 18 and was abundant by April 29.

Upper Peninsula.—At McMillan, Luce County, Bryens (1925: 145; and notes) has usually found the Tree Swallow by the second and third weeks of April, and sometimes even in the first week (April 4, 1928; April 6 of 1929 and 1930). Christy (1925: 214) and S. S. Gregory, Jr. (1929: 184), reported it in the Huron Mountain region, Marquette County, by May 7.



N. A. Wood (1933: 728), arriving on April 22, 1931, at Copper Harbor, Keweenaw County, found no birds of this species until May 13; on Isle Royale Wood noted a pair on May 31 and a single bird on June 3 in 1930.

**SUMMER.**—Eggs of the Tree Swallow are found in late May and in June.

**Lower Peninsula.**—Swales found this swallow a common resident in the Detroit area but recorded only 3 nests. In the Ann Arbor region, Van Tyne reported a nest with 6 eggs on June 4, 1926, and another with day-old young on June 17, 1924. F. W. Rapp (1931: 27) listed the Tree Swallow as a common summer resident at Vicksburg, Kalamazoo County, where he recorded nests from May 2 (1894, 6 eggs) to June 2 (1897, 5 eggs); Walkinshaw has recorded a few nests every year (1930 to 1940) from May 16 (1936, 1 egg) to June 29 (1930, 2 eggs) in the Battle Creek area. The species was listed as a common summer resident in Mason County by Chaney (1910: 276); nests have been found by Walkinshaw at West Branch, Ogemaw County (nest with 5 eggs, June 16, 1931), and at Lovells, Crawford County (nest with 6 eggs, May 29, 1933). A. E. Staebler and L. D. Case found it a common summer resident on the Manitou Islands, Leelanau County, in 1940; Van Tyne (1925: 624) noted 2 nests in Charlevoix County in which the eggs hatched on June 30 and July 4, 1923. Newly fledged young have been seen in the Douglas Lake region, Cheboygan County, by July 5 (Blanchard and Nelson, MS of 1937).

**Upper Peninsula.**—At Hessel, Mackinac County, Van Tyne saw young leave the nest July 1, 1919, and June 30, 1920, and found the species very common there. At McMillan, Luce County, Bryens has observed the species nest building as early as April 30 (1934) and has noted fledglings by June 24 (1932); in the vicinity of Blaney, Schoolcraft County, Christofferson has seen young flying as early as June 9 (1938) and found 1 nest with 3 eggs and 1 young as late as July 5 (1938). N. A. Wood listed the species as a common summer resident at Whitefish Point, Chippewa County (1914: 69), and at Whitefish Lake, Alger County (1918: 12), he found 2 nests on June 26 (1916). F. M. Gaige (1914: 87) noted young birds at Brown Lake, Dickinson County, in early July, 1909; both Christy (1925: 214) and S. S. Gregory, Jr. (1929: 184), listed the Tree Swallow as a common summer resident in the Huron Mountain region, Marquette County. A few were seen about Golden Lake in the summer of 1938 by John L. George and R. L. Patterson, and a few were found nesting in the vicinity of Copper Harbor, Keweenaw County (N. A. Wood, 1933: 728) in 1931.

**FALL.**—Main flight, heavier in fall than in spring, is reported from late July to mid-August in the Upper Peninsula, and from August to late September or early October in southern counties.

**Upper Peninsula.**—On Isle Royale flocks of a dozen were noted in 1905 (Max M. Peet, 1909: 369-70) on July 20, July 21, and August 1; and 2 in-

dividuals on August 16, 1929 (by N. A. Wood). The Tree Swallow was not recorded in the Huron Mountains, Marquette County (S. S. Gregory, Jr., 1929: 184), after July 30, but a specimen (U.M.M.Z.) was taken 5 miles north of Menominee on August 16, 1940. Near Blaney, Schoolcraft County (Christofferson), McMillan, Luce County (Bryens), and Munuscong Bay, Chippewa County (Christofferson), it has often been very common throughout July and part of August; numbers up to 500 were recorded near Munuscong Bay until August 10, 1928, and smaller numbers were found frequently through the third and fourth week of August. At Whitefish Point, Chippewa County, 25 were noted on August 23, and 50 on August 28 in 1931; near Deer Park, northern Luce County, 10 were listed on September 3, 1938, and 2 on September 5, 1936 (A. D. Tinker and R. E. Olsen).

Lower Peninsula.—In 1908 near Sand Point, Huron County, small numbers of Tree Swallows believed to be migrating were observed (N. A. Wood and Gaige, 1911: 295) from July 16 to August 10; most of the southbound flocks passed through, however, after August 13. Gibbs (1885: 55) reported the species "common till late September" in Kalamazoo County, where (at Vicksburg) F. W. Rapp (1931: 27) listed it as late as October 16. In the Ann Arbor region, as well as about Detroit (Swales, 1904: 37), the species is usually gone by middle or late September, though on occasion not until after the middle of October (Barrows, 1912: 549–51). In the Toledo–Erie marsh area (L. W. Campbell, 1940: 108, 190, 205), flocking has occurred by the last week in June; main flight, involving flocks of thousands, has extended from July or August to early October.

*Riparia riparia riparia* (Linnaeus)  
Bank Swallow

Common summer resident.

First listed for Michigan by Miles (1861: 226).

SPRING.—Arrival is reported in southern tiers of counties in the last 2 weeks of April, and in the Upper Peninsula in mid-May.

Lower Peninsula.—In the Toledo–Erie marsh area (L. W. Campbell, 1940: 109, 191, 205), individuals have appeared on occasion as early as mid-April, the main flight beginning, on the average, April 30. In the Ann Arbor region these swallows have been noted not infrequently in the second week of April, though usually not until the third or fourth week; a group of 50 was reported there on April 19, 1934, by T. D. Hinshaw. Gibbs (1885: 55) observed first arrivals in Kalamazoo County between April 12 and April 24, but Walkinshaw at Battle Creek (from 1930 to 1940) only once recorded arrival before May (on April 24, 1932). Gibbs (1902: 10) recorded arrival at Grand Rapids on May 8, 1879.

Upper Peninsula.—At Whitefish Point, Chippewa County, a specimen

(U.M.M.Z.) was collected in 1936 on May 14 (Brodkorb). Bryens, at McMillan, Luce County, and Christofferson, at Munuscong Bay, Chippewa County, and Blaney, Schoolcraft County, have observed the species occasionally in the first week of May, though usually not until mid-May or even later. N. A. Wood (1933: 728) recorded it near Lake Fannie Hooe, Keweenaw County, on May 18, 1931, and (in some numbers) thereafter; he observed it on Isle Royale, where it was apparently rare in all seasons, on May 16, 1930.

SUMMER.—Eggs are commonly found in late May and the first 3 weeks in June.

Lower Peninsula.—In the Detroit area Swales (1904: 37) listed the Bank Swallow as “abundant, breeds in large colonies along the river, and the St. Clair Flats.” J. W. Harris collected a set of 6 eggs (U.M.M.Z.) near Ann Arbor on June 10, 1892; R. D. T. Hollister took a set of 4 eggs (U.M.M.Z.) at Hamburg, Livingston County, on June 15, 1901; the species is found to nest very commonly in this general area. N. A. Wood (1922: 24) noted a small colony near Harbert, Berrien County, in late May, 1918. The species was noted by Gibbs (1885: 55) as a common breeding bird in Kalamazoo County, and F. W. Rapp (1931: 27) recorded a nest there with 4 eggs on June 2, 1902. A colony of 6 pairs was examined in northwestern Huron County by N. A. Wood and Gaige (1911: 295); 1 nest had 5 fresh eggs on June 18, 1908. Many nesting cavities were seen along the banks of the Au Sable River in Oscoda County during the summer of 1903 by N. A. Wood and Frothingham (1905: 51). Several specimens (U.M.M.Z.) were secured in June on South Fox Island (1939) and South Manitou Island (1940), Leelanau County, by A. E. Staebler and L. D. Case. On Beaver Island, Charlevoix County, N. A. Wood saw a few Bank Swallows in June, 1922, and June, 1925, and on the mainland of that county Van Tyne (1925: 624) found a nest with well-developed young in a colony of 4 or 5 pairs near Boyne Falls, June 27, 1923. Blanchard and Nelson (MS of 1937) recorded the species as common in summer about Douglas Lake, Cheboygan County.

Upper Peninsula.—Two small colonies, 1 with about 30 nests, were noted at Whitefish Point, Chippewa County, in 1914 by N. A. Wood (1914: 69). In Luce County Bryens has noted Bank Swallows starting their nest building activities as early as May 19 (1934) and May 21 (1933) and has seen nestlings by early July; F. W. Braund noted 2 colonies of about 40 birds each near Deer Park in the second week in June, 1940. Leonard Wing (1940: 183) saw the species at Rapid River, Delta County, on June 5 and 6, 1931; F. M. Gaige (1914: 87) examined a nest with 5 eggs on July 5, 1909, in a colony of 6 or 8 pairs near Brown Lake, Dickinson County. N. A. Wood (1933: 728) listed the species as a common summer resident about Copper Harbor, Keweenaw County, in the summer of 1931.

FALL.—Main flight is reported in July and August.

Upper Peninsula.—On Isle Royale the Bank Swallow was not observed in summer or fall during the Museum of Zoology expeditions, except on July 25, 1905, when an individual was noted by N. A. Wood (Max M. Peet, 1909: 370); Bryens usually recorded this swallow at McMillan, Luce County, until about the middle of August, and occasionally to the end of the month; at Whitefish Point, Chippewa County, Fargo listed it twice, August 16 ("many") and August 22 (30 birds), in 1925.

Lower Peninsula.—In northwestern Huron County in 1908 (N. A. Wood and Gaige, 1911: 295) the species was seen until August 24; in the Ann Arbor region it has occasionally remained as late as the third week in September. Swales (1904: 37; and notes) reported that flocks of thousands were not unusual at Detroit, especially in August, but he seldom found any of the birds there after the last week in August or the first week in September. In the Toledo-Erie marsh area (L. W. Campbell, 1940: 109, 191, 205), where flocks of thousands are present from mid-July to past mid-August, the departure date for main groups has averaged September 3, though individuals have been noted as late as the third week of September.

*Stelgidopteryx ruficollis serripennis* (Audubon)  
Rough-winged Swallow

Summer resident north to Luce and Schoolcraft counties.

First listed for Michigan by Miles (1861: 226).

SPRING.—Migrants are reported in southern counties chiefly in late April and the first part of May; the species has appeared in the Upper Peninsula before mid-May.

Lower Peninsula.—In the Toledo-Erie marsh area (L. W. Campbell, 1940: 110, 191, 205) the Rough-winged Swallow has been observed as early as mid-April, the beginning of the main flight (maximum of 100 birds in a day) averaging April 28. Swales (1904: 37; 1905: 113; and notes) seldom found this swallow in the Detroit area before the first of May. In the Ann Arbor region arrival has usually been recorded in the third or fourth week of April and sometimes in the second week; examples of numbers seen there are 5 birds on April 14, 1922 (by C. H. Van Tyne, II), and a flock of 30 on April 29, 1934 (by D. W. Douglass and Brodkorb); sometimes in spring the species has been found to be fairly abundant (N. A. Wood and Tinker, 1910: 134-35) in the area. Nearly every year in the 1930's Walkinshaw listed this swallow in the Battle Creek region in the third or fourth week of April. It was recorded on Saginaw Bay at Fish Point, Tuscola County, on May 4, 1926 (20 birds: 2 in U.M.M.Z.) and at Sand Point, Huron County, on May 15, 1935, when 4 specimens were taken (3 in U.M.

M.Z.) by James H. Wood and on May 25, 1932, when 1 (U.M.M.Z.) was taken by D. W. Douglass.

Upper Peninsula.—At McMillan, Luce County, Bryens has noted 1 or 2 birds at a time in spring; he recorded arrival there on May 7 (1941); May 14 (1929); May 17 (1930); and May 24 (1939).

SUMMER.—Eggs are commonly found from the last of May to the last of June.

Lower Peninsula.—In the Detroit area J. Claire Wood (1909c: 108) found a nest with 7 eggs on May 31, 1908. Near Clarkston, Oakland County, Swales and J. Claire Wood secured 3 sets of 5 eggs each, and 3 sets of 2, 6, and 7 eggs, respectively, on May 30, 1901; on May 31, 1902, in the same locality, they took 3 sets of 4, 5, and 7 eggs, respectively. N. A. Wood and Tinker (1910: 134–35) noted a pair of Rough-winged Swallows nesting near Ann Arbor in the latter half of May in 1905, in 1907, and in 1909. Walkinshaw banded 6 young in a nest near South Haven, Van Buren County, on July 8, 1932, and Barrows (1912: 553) mentioned a set of 5 eggs taken in Kalamazoo County on June 8, 1888. At Sand Point, Huron County, N. A. Wood and Gaige (1911: 295–96) found a nest with 7 eggs (U.M.M.Z.) on June 18, 1908, and David E. Davis banded 4 young in a nest near Frankfort, Benzie County, on July 3, 1929. A pair of Rough-winged Swallows were noted at their nest by Trautman at Lovells, Crawford County, on June 21, 1935; several of the species were seen and 1 (U.M.M.Z.) was collected on South Fox Island, Leelanau County, in late June, 1939, by A. E. Staebler and L. D. Case. At Douglas Lake, Cheboygan County, Blanchard and Nelson (MS of 1937) found a nest with 8 newly hatched young on July 1, 1937.

Upper Peninsula.—In Schoolcraft County, Christofferson saw 2 Rough-winged Swallows at Blaney on June 5, 1937, and at Seney, Brodkorb collected a pair and 7 eggs on June 5, 1938. Bryens, at McMillan, Luce County, saw these swallows every summer during the 1930's (generally 2 or 3 birds); F. W. Braund and Aldrich (1941: 98, 103), found 2 nests in the vicinity of Newberry, Luce County (1, with 5 eggs, on June 9, 1940; 1, with 6 eggs, on June 10, 1940).

FALL.—Information on fall migration is very meager; apparently this movement takes place principally in July. Bryens reported a few birds at McMillan, Luce County, in July (seldom more than 4 to 7 in a day, but on July 19, 1940, a flock of 10); usually he observed none there after the third week in July (July 22, 1939 and 1940). At Burt Lake, Cheboygan County, Blanchard and Nelson (MS of 1937) recorded 1 flock of 15 to 20 birds (several collected) on July 17, 1924. Rough-wings were not seen after August 1 at Sand Point, Huron County (N. A. Wood and Gaige, 1911: 295–96), nor after August 16 near Ann Arbor (1935, U.M.M.Z., specimen

by George M. Sutton). In the Toledo-Erie marsh area, L. W. Campbell (1940: 110, 191, 205) notes the disappearance of main groups (maximum of 8 birds in a day) of these swallows by July 27 on the average, and records individuals on occasion as late as the end of August.

*Hirundo rustica erythrogaster* Boddaert  
Barn Swallow

Common summer resident.

First listed for Michigan by Sager (1839: 416).

SPRING.—The main flight is reported in May.

Lower Peninsula.—In the Toledo-Erie marsh area (L. W. Campbell, 1940: 110, 192, 205), the main flight begins on the average on April 25. At Detroit Swales (1904: 37; and notes) recorded small numbers by the third week in April (15 on April 20, 1911), and larger numbers later (200 on April 27, 1912). In the Ann Arbor region the species arrived as early as April 7 in 1929, but there, as well as around Battle Creek (Walkinshaw, 1941: 120; and notes) and in Kalamazoo County (Gibbs, 1885: 55; and—for Vicksburg—F. W. Rapp, 1931: 26), the Barn Swallow has usually arrived in the second and third weeks of April. Gibbs found it common in Kalamazoo County by May 1. D. W. Douglass reported arrival (1 bird) at Sand Point, Huron County, on April 13 in 1933, but usually the species does not reach that area until the end of April; it is common there during the May flights of swallows.

Upper Peninsula.—At McMillan, Luce County (Bryens, 1940b: 60; and notes), the Barn Swallow has arrived nearly always in the last week or 10 days of April; and although it commonly arrives at Blaney, Schoolcraft County (Christofferson), at about the same time, it is frequently rather late there. Arrival was recorded on May 9 in the Huron Mountains, Marquette County (S. S. Gregory, Jr., 1929: 184), and on May 4 in 1931 at Copper Harbor, Keweenaw County (N. A. Wood, 1933: 727).

SUMMER.—Eggs are reported by late May, and nestlings have been found as late as the latter half of August.

Lower Peninsula.—In the Detroit area Swales (1904: 37) listed the Barn Swallow as an "extremely abundant summer resident." Nest records from Ann Arbor and vicinity include 1 with 5 eggs (U.M.M.Z.) found on May 27, 1936, and 1 the same year with 5 eggs on June 14. N. A. Wood (1922: 24) listed this swallow as a common summer resident in Berrien County; F. W. Rapp (1931: 26) recorded a nest with 2 eggs in the vicinity of Vicksburg, Kalamazoo County, as early as May 9 (1896) and another as late as June 11 (1902, nest with 5 eggs). The species was found breeding in northwestern Huron County (N. A. Wood and Gaige, 1911: 294-95) and on Charity Island (N. A. Wood, 1912a: 187). A. E. Staebler and L. D. Case found it breeding on South Fox Island (1939) and on North and South

Manitou islands (1940), Leelanau County. In Charlevoix County, Barrows (1904: 80) found the species abundant at St. James on Beaver Island in early July, 1904, and Van Tyne (1925: 624) listed it as numerous on the adjoining mainland in the summer of 1923. In the vicinity of Douglas Lake, Cheboygan County, Blanchard and Nelson (MS of 1937) have recorded eggs from June 24 to July 25, and nestlings as late as August 9.

Upper Peninsula.—In Mackinac County, Van Tyne (1923: 24) listed the Barn Swallow as an abundant breeder (on Les Cheneaux Islands, 1917 to 1921), and Christofferson banded 4 nestlings (near Gould City) on August 20, 1930. The earliest that Bryens has recorded the species nesting at McMillan, Luce County, is June 2 (1929). N. A. Wood (1918: 12) recorded 2 nests from northwestern Alger County in 1916: 1 in the process of construction, June 7, 1 with 4 young, June 25. In the Huron Mountains, Marquette County, both Christy (1925: 214) and S. S. Gregory, Jr. (1929: 184), listed the Barn Swallow as a common summer resident; in the last week of June, 1936, Van Tyne recorded both nestlings and full-winged young there. N. A. Wood (1933: 727) found 2 pairs nesting near Copper Harbor, Keweenaw County, in 1931; Max M. Peet (1909: 369) recorded 6 nests on Isle Royale in 1905, including 1, with 4 young nearly ready to leave, on August 17.

FALL.—The main flight is reported in the Upper Peninsula during August, and in southern counties during August and early September.

Upper Peninsula.—The species has remained in the Huron Mountain region, Marquette County (S. S. Gregory, Jr., 1929: 184) until as late as September 2. Bryens (1940*b*: 60; and notes) has recorded it at McMillan, Luce County, in the first week of September and occasionally until the middle of the month. A large flock, possibly migrant, was observed on August 7, 1912, at Whitefish Point, Chippewa County (N. A. Wood, 1914: 69).

Lower Peninsula.—Migrants were recorded at Douglas Lake, Cheboygan County, from August 4 to 14 in 1911 (N. A. Wood, Smith, and Gates, 1916: 16); and 2 specimens (U.M.M.Z.) were collected there by Max M. Peet on September 7, 1939. In 1911 flocks were reported on Charity Island, Huron County, from August 4 to the end of the month (N. A. Wood and Gaige, 1911: 294-95; N. A. Wood, 1911: 104). Gibbs (1885: 55) found the species common in Kalamazoo County until August 15, and F. W. Rapp (1931: 26) recorded individuals there (at Vicksburg) until September 16. Individuals are sometimes found in the Ann Arbor region, as well as about Detroit (Swales, 1904: 37; and notes), until the last few days of September. Swales' records include "immense numbers" at the St. Clair Flats on August 13 (1895), and 25 birds near Detroit on September 15 (1906). In the Toledo-Erie marsh area (L. W. Campbell, 1940: 110, 192, 205), flocking begins about

July 4; the main flight ends on the average by September 15; the last stragglers leave by late October.

*Petrochelidon pyrrhonota pyrrhonota* (Vieillot)  
Northern Cliff Swallow

Summer resident, formerly common, now local.

First listed authoritatively for Michigan by Gibbs (1879: 485).

SPRING.—A few Cliff Swallows occasionally appear in southern counties about mid-April and in the Upper Peninsula in late April, but the chief movement occurs in the latter part of May.

Lower Peninsula.—In the Toledo-Erie marsh area (L. W. Campbell, 1940: 111, 192, 205), this swallow has been noted as early as the last week in April, though usually not until the first part of May, and then in small numbers only. Swales (1904: 37; and notes) called the species "fairly common" at Detroit after May 1; on Strawberry Island in the St. Clair Flats, D. W. Douglass and R. E. Olsen collected 3 (U.M.M.Z.) from 25 observed on May 24, 1934. In the Ann Arbor region the species has arrived occasionally by the second week of April (April 11, 1899 and 1915), but ordinarily not until later in the month. In Kalamazoo County, where the species was formerly a very abundant breeder (Gibbs, 1885: 55), it arrived "generally from April 15 to 20"; F. W. Rapp (1931: 26) more recently stated that at Vicksburg, in the same county, he had found none before May 1. On the Berrien County shore, N. A. Wood (1922: 24) observed a few Cliff Swallows on April 29, 1918. At Fish Point, Tuscola County, in 1926, N. A. Wood noted 5 on May 4, 1 on May 25, and 1 on June 6; at Sand Point, Huron County, in 1933, D. W. Douglass recorded "a number" (1 in U.M.M.Z.) in the swallow migration of May 14, and 1 or 2 migrating on May 19. Maurice G. Brooks and others reported "a number" seen in a large flock of swallows near Standish, Arenac County, on May 21, 1939.

Upper Peninsula.—At McMillan, Luce County (Bryens), the Cliff Swallow has arrived occasionally in the last week of April, but more commonly in the first or second week of May. Christofferson also usually records arrival in early May at Blaney, Schoolcraft County (30 on May 7, 1937, and on May 15, 1938) and at Munuscong Bay, Chippewa County, but recorded 12 birds at Munuscong Bay as early as April 24 (1923); Brodkorb, present on Whitefish Point, Chippewa County, from May 8 to 23, 1936, noted 2 Cliff Swallows on May 21. N. A. Wood (1933: 727) recorded earliest arrivals at Fort Wilkins, Keweenaw County, on May 16, 1931.

SUMMER.—Eggs are usually laid in late May and the first half of June.

Lower Peninsula.—In the Ann Arbor region in the late 1800's, N. A. Wood knew of many large colonies that nested under the eaves of barns. Fargo stated (1941) that in the same period Cliff Swallows were abundant



in Jackson County and in southern Michigan generally, and that they nested plentifully on most of the barns. A similar abundance prevailed in Kalamazoo County (Gibbs, 1885: 55) and in other areas of Michigan (Barrows, 1912: 544-45).

There are recent records of breeding in a number of localities: near New Boston, Wayne County (29-nest colony on June 20, 1931, noted by Mr. and Mrs. N. T. Peterson); near Ypsilanti, Washtenaw County (nest, July 11, 1934, noted by Russell Steere); in Jackson County near Stony Lake, Napoleon Township (in 1929, by Roger T. Peterson); in Kalamazoo County at Vicksburg (in 1900, by F. W. Rapp, 1931: 26); in Newaygo County near Bishop, Garfield Township (in early June, 1934, a 20-nest colony that failed to return the next year, reported by Edward R. Ford); in Isabella County south of Clare, Clare County (40 or more nests occupied irregularly in the 1930's, reported by Miller Empey and N. T. Peterson); in northwestern Gladwin County (2 to 10 nests in 3 localities irregularly in the 1930's, reported by Mr. and Mrs. N. T. Peterson and Walkinshaw); and in extreme eastern Ogemaw County near the Londo lakes (5 or 6 pairs nest-building on May 30, 1932, reported by Empey, who collected a pair and nest). A small colony was found near Mio, Oscoda County, in 1940, as well as on June 17, 1941 (about 7 pairs nest-building) by Van Tyne. At St. James, Beaver Island, Charlevoix County, in late June, 1925, N. A. Wood saw the species daily and found 1 nest on June 22. In the Douglas Lake area, Cheboygan County, this swallow has nested in very small numbers (6-nest maximum in any year—Compton, 1914: 177; N. A. Wood, Smith, and Gates, 1916: 16; Stoner, 1923: 156; Linsdale, 1936: 162; and Blanchard and Nelson, MS of 1937). No occupied nests were reported from this area until the summer of 1942. On July 4, 1942, Max M. Peet examined a 15-nest colony and a 7-nest colony on adjacent farms near Topinabee, Cheboygan County; by August 18 the young were ready to leave the nests.

Upper Peninsula.—The Cliff Swallow was "rare" in summer on Les Cheneaux Islands, Mackinac County (Van Tyne, 1923: 24). A colony of 75 to 100 pairs was present regularly in the 1920's at Munuscong Bay, Chippewa County (Christofferson); and in the summer of 1927 Fargo counted 141 nests there. Northward at the mouth of the Charlotte River, in the same county, Walkinshaw was shown a colony of 8 nests on June 4, 1935. Nesting has been recorded also at McMillan, Luce County, by Bryens (a few pairs in various years since 1926); at Blaney, Schoolcraft County, by Christofferson (maximum of 30 pairs in June, 1938); 3 or 4 miles west of Kenton, Houghton County, where Leonard Wing (1940: 184; and notes) collected a nestling (U.M.M.Z.) and counted 13 nests on August 24, 1931, and 18 nests on July 9, 1932; at White Pine Mine, northwestern Ontonagon County (June 14, 1937, adults with young seen by Mr. and Mrs. Frank L.

DuMond). On Isle Royale, where the species has been rare, several nests were found on July 19, 1905 (Max M. Peet, 1909: 369). At other points about the island, N. A. Wood observed a few Cliff Swallows on August 6, 1905, and 2 together on August 14, 1929.

FALL.—Principal movement is reported in late July and August.

Upper Peninsula.—At McMillan, Luce County (Bryens), the species has remained nearly every year until the last week in August or the first week in September (September 2, 3, 5, 6) and (rarely) until the latter part of September; the largest number noted there in 1941 was 83 on August 25. Fargo stated that the resting flocks in the Munuscong Bay marshes (Chippewa County) in the 1920's were of "tremendous size," many times larger than the nest colony, and that "huge numbers" were of common occurrence in the Upper Peninsula in those days; Christofferson recorded 300 birds in that area on July 25, 1927, and on July 30, 1922.

Lower Peninsula.—Migrating flocks have been reported at Douglas Lake, Cheboygan County (N. A. Wood, Smith, and Gates, 1916: 16), from August 4 to 14; in Mason County (Chaney, 1910: 276) on August 31; at Sand Point, Huron County (N. A. Wood and Gaige, 1911: 294), on August 12, 1908. The species was recorded at Vicksburg, Kalamazoo County (F. W. Rapp, 1931: 26), until October 5 (1902). One of the few Ann Arbor region fall dates is September 1, 1908. In the Toledo-Erie marsh area (L. W. Campbell, 1940: 111, 192, 205) these swallows have been found in very small numbers only; they leave usually in August, though occasionally not until the middle of September.

*Progne subis subis* (Linnaeus)  
Purple Martin

Common summer resident.

First listed for Michigan by Sager (1839: 415).

SPRING.—Main flight is reported in late April and in May.

Lower Peninsula.—In the Toledo-Erie marsh area (L. W. Campbell, 1940: 111, 192, 205), the Purple Martin has been recorded as early as the last third of March, the main flight beginning on the average by April 23. Arrival has been reported occasionally in the Ann Arbor region (N. A. Wood and Tinker, 1934: 31; Leonard Wing, 1934a: 154; other data) in late March, but usually in the first half of April (25 noted April 7, 1935, by William H. Burt and Seth B. Benson). In Kalamazoo County (Gibbs, 1885: 55; Rapp, 1926: 375-76) the average date for arrival of individuals is April 8. At Atlas, southeastern Genesee County, a colony of 15 pairs was recorded by Swales (notes) on April 20, 1906. From 1931 to 1933 at Sand Point, Huron County, migrants were observed by D. W. Douglass as early as April 11 and 12 (1933), several times in late April, and in May.

Upper Peninsula.—At McMillan, Luce County (Bryens), the Purple Martin has frequently arrived the second week of April (April 9, 12, 13), but it more commonly appears the third week; the species is not common at McMillan, at Blaney, Schoolcraft County (Christofferson), or at Munuscong Bay, Chippewa County (Christofferson), until late April or early May. At Munuscong Bay 25 birds were noted by R. E. Olsen and T. D. Hinshaw on May 6, 1934. Christy (1925: 214; and S. S. Gregory, Jr., 1929: 184) mentioned seeing "a few" from May 24 to June 17 in the Huron Mountain region, Marquette County, where the species has been rare.

SUMMER.—Nesting begins in late April or early May; the young leave the nest in July.

Lower Peninsula.—In most areas in which suitable martin houses have been supplied, this swallow nests more or less commonly. It is a common breeder at Detroit (Swales, 1904: 37; and notes); Ann Arbor; Eckford Township, Calhoun County (F. A. Stuart, 1919: 92-95); and Kalamazoo County (Gibbs, 1885: 55; F. W. Rapp, 1926a: 550). At Vicksburg, Kalamazoo County, Rapp (1931: 26) found eggs from May 22 (1928) to June 24 (1929). In western Berrien County 2 colonies have been reported (N. A. Wood, 1922: 24); in northwestern Huron County, several pairs were noted in 1908 (N. A. Wood and Gaige, 1911: 294); from 1931 to 1933 D. W. Douglass found several colonies at Sand Point, Huron County. Walkinshaw recorded 4 nests at Gladwin on June 16, 1931. It was common on the Fox (1939) and Manitou (1940) islands, Leelanau County (A. E. Staebler and L. D. Case); Van Tyne (1925: 623-24) found only a few pairs on the mainland of Charlevoix County, but on Beaver Island several colonies were found in 1937 (T. D. Hinshaw and R. E. Morrill). Two colonies were recorded in Emmet County (Widmann, 1902: 235); and several in Cheboygan County (Compton, 1914: 177-80; Blanchard and Nelson, MS of 1937); nestlings (Max M. Peet collection) were collected in the latter county.

Upper Peninsula.—Many large colonies were found on Les Cheneaux Islands, Mackinac County (Van Tyne, 1923: 24), and more than 30 pairs at McMillan, Luce County; Bryens (1942: 75-76; and notes) has observed nest building at McMillan in early May and young out of the nests by the second week in July. At Blaney, Schoolcraft County, at least 6 houses were filled in 1937 (Christofferson). Christy (1925: 214) spoke of a flourishing colony at Marquette.

FALL.—Migrants are reported in late July or early August, but the main flight occurs in middle and late August.

Upper Peninsula.—Martins usually leave McMillan, Luce County (Bryens), in the last week or 10 days of August, although sometimes a few remain until the first week in September. Fifty to 100 Martins are frequently seen resting on telephone or telegraph wires at Blaney, Schoolcraft

County (Christofferson), in late July and through most of August; examples of migrants include 100 resting there on August 10 (1934), and 75 that left the Blaney martin houses on August 20 (1939). At Whitefish Point, Chippewa County, in 1931 A. D. Tinker and R. E. Olsen saw 25 on August 23, and 6 on August 28.

Lower Peninsula.—Migrating birds of this species were noted at Douglas Lake, Cheboygan County (N. A. Wood, Smith, and Gates, 1916: 16), in 1911 from August 1 to 11. Along a quarter-mile belt of land on the Lake Michigan shore at Macatawa, Allegan County (Frank Smith, 1908: 41-43), an estimated 10,000 passed southward in a steady stream on August 15, 1905. According to Gibbs (1885: 55) and F. W. Rapp (1926: 375-76; 1931: 26), Purple Martins have usually departed from Kalamazoo County in the last week or 10 days of August (average August 25), though sometimes in early September. At Portage Lake, Jackson County, A. D. Tinker and R. E. Olsen noted 100 on August 8 (1937) and 5 on September 8 (1935). About Detroit, where the species departs ordinarily "around September 1," Swales (1904: 37; and notes) listed as many as 20 to 30 Martins a day in August; on September 5, 1907, he recorded 300. In the Toledo-Erie marsh area (L. W. Campbell, 1940: 111, 192, 205), the main flocks (maximum of 500 birds on August 24) have left by September 1, on the average, though some individuals have been observed there until early October.

#### CORVIDAE

#### (JAYS AND CROWS)

#### *Perisoreus canadensis canadensis* (Linnaeus)

#### Canada Jay

Local resident on Isle Royale and in the Upper Peninsula; formerly south to Houghton Lake, Roscommon County. Winter visitant south to Oscoda County.

First listed for Michigan by Kneeland (1857: 235).

Nehrling (1896: 327-28) stated that in northern Michigan and Wisconsin, Canada Jays were "exceedingly numerous during winter near the lumbermen's camps," and that in the region of Lake Gogebic, Gogebic County, they had been found nesting as early as March 20, though most commonly in April. He supplied, however, no specific data. Full-winged young (U.M.M.Z.) still being fed by their parents have been found in various parts of the Upper Peninsula, as well as adult birds that were gathering moss, presumably for nest-building, for example, at McMillan, Luce County, on March 12, 1928 (Bryens, 1928a: 106-7). On Isle Royale, where this species is regular and more or less common the year round (N. A. Wood, 1905: 177; N. A. Wood, Peet, and McCreary, 1906: 124; McCreary, 1909: 84-87, 91, 95; Max M. Peet, 1909a: 117; 1909: 360-61), a nest (with young al-

most ready to leave) was finally discovered by Ben East (1936: 50-51) about April 30, 1935. In May, 1930, N. A. Wood noted 2 groups of Canada Jays on the island, each group containing several well-grown juveniles (specimens in U.M.M.Z.).

Upper Peninsula.—This jay has been recorded at every season, but chiefly in the colder part of the year, in nearly every county in the Upper Peninsula. Kneeland (1857: 235) found the species common at Portage Lake, Keweenaw County, in the winter of 1856-57; in the Porcupine Mountains, Ontonagon County, Max M. Peet (N. A. Wood, 1905: 177) recorded an individual on August 7, 1904. Southwest of Watersmeet, Gogebic County (but in Wisconsin near the state boundary), H. H. T. Jackson (1923: 484) took several specimens from small groups of adults and immatures in June. In the Huron Mountains, Marquette County (S. S. Gregory, Jr., 1929: 180; Tappan Gregory, 1933: 6; other data), the few records have been mainly late summer, fall, and winter ones, but on June 24, 1936, a family of 5 jays was noted there by Van Tyne and an adult and 1 full-winged juvenile (U.M.M.Z.) were collected. Van Winkle (1892: 186) termed the species "an occasional visitor" in Delta County, where he collected a specimen (U.M.M.Z.) on April 23, 1892. At McMillan, Luce County, Bryens (1928: 51; 1928a: 106-7; and notes) observed several Canada Jays frequently in the fall and winter of 1927-28 and 1929-30; northward in the valleys of Dawson Creek and the Two-hearted River, Luce County, J. C. Salyer saw 3 or 4 birds each day, October 9, 10, and 11, 1933. At Blaney, Schoolcraft County, and at Munuscong Bay, Chippewa County, Christofferson has found Canada Jays occasionally in all seasons. In Chippewa County, at Whitefish Point, this species has been recorded from May to midsummer (N. A. Wood, 1914: 66); a flock of about 30 birds, from which 5 (U.M.M.Z.) were collected, was found there by Tyrrell (1931: 131) from June 2 to 12, 1930. Specimens were also taken in the county in Pickford Township in September, 1919 (N. A. Wood, 1923: 338-39), and on the north shore of Drummond Island on November 20, 1938 (by Max M. Peet). R. H. Manville stated that on a single day in mid-February, 1941, as he was traveling by automobile from Huron Mountain, Marquette County, to St. Ignace, Mackinac County, he observed a total of 12 Canada Jays (1 to 3 birds at a time) along the road.

Lower Peninsula.—On the Sturgeon River, Cheboygan County, Gunn (1881: 120) noted a flock of 8 to 10 Canada Jays, from which he collected 1 bird-of-the-year on August 10, 1880. Barrows (1912: 415-16) said that the species had been "recorded repeatedly" south to Missaukee County, where (25 miles east of Cadillac) B. F. Sykes collected a specimen (U.M.M.Z.) in the summer of 1884. Eddy (1884: 41) found it usually "abundant about the logging camps" near the "south branch of the Pine [Arenac or

Alcona County?] and Rifle rivers" in November. More recent records refer to single birds: 1 seen near Grayling, Crawford County, on February 7, 1935, by Trautman; 1 (Max M. Peet collection) taken at Luzerne, Oscoda County, on July 11, 1914; 1 seen near Mio, Oscoda County, March 30, 1941, by Verne Dockham. In Peet's collection there is a pair taken a mile and a half northwest of Luzerne, Oscoda County, on August 16, 1915.

*Cyanocitta cristata bromia* Oberholser

Northern Blue Jay

Permanent resident, common except in the northern half of Michigan, which it largely deserts in winter. A considerable migration through Michigan takes place in spring and fall.

First listed for Michigan by Sager (1839: 414).

SPRING.—The Northern Blue Jay occurs in all sections of Michigan both winter and summer, but migrating flocks of some size have been reported at a number of points, in southern counties principally in the first half of May, and in the Upper Peninsula in the latter part of May and in early June.

Lower Peninsula.—In the Toledo-Erie marsh area (L. W. Campbell, 1940: 112) "a definite migratory movement occurs between April 29 and May 15," flocks of sometimes 200 or 300 birds being seen. Flocks have been reported at Detroit (maximum, 200 on May 6, 1901, and 200 on May 16, 1917, recorded by Swales); at Port Huron, St. Clair County (a large flight throughout the month of May, reported by Barrows, 1912: 413); at Ann Arbor (a compact, swift-moving, high-flying, northbound flock of about 20 on both May 1 and May 9, 1942, seen by Van Tyne); and in Berrien County (flocks of 20 to 30 birds in the second and third weeks of May, 1918 to 1920, reported by N. A. Wood, 1922: 19). At Sand Point, Huron County (D. W. Douglass, from 1931 to 1933), there were migrating flocks from the first and second weeks of May to June 8. These Sand Point flocks usually contained from 10 to 40 birds, but on May 15, 1932, A. D. Tinker and R. E. Olsen estimated that 200 were present on the Point. On South Fox Island, Leelanau County, A. E. Staebler and L. D. Case reported Blue Jays still in flocks (of 10 to 25 birds each) through June 23, in 1939.

Upper Peninsula.—A prominent concentration area for this species is Whitefish Point, Chippewa County, where large flocks have been noted in late May and early June; on May 29, 1934, about 250 birds were seen there by Walkinshaw; a few were noted before May 16, and large flocks in the first 4 days of June, 1914 (N. A. Wood, 1914: 66); from June 5 to 11, 1930, "hundreds if not thousands" were seen by Tyrrell (1934: 23). At McMillan, Luce County, Bryens (1940c: 21-22) has observed many flocks

passing northeasterly, chiefly in the last 2 or 3 weeks of May; he counted 44 jays on May 5 (1934), 692 on May 14 (1932), and 125 on May 31 (1930). Christofferson reported a spring movement in May at Blaney, Schoolcraft County. In 1934 he saw about 50 jays daily in the last half of May. At Copper Harbor, Keweenaw County (N. A. Wood, 1933: 722), the species was common in migration from June 1 to 10, 1931, when flocks of 30 to 50 birds were noted.

SUMMER.—Eggs are commonly found in May and early June.

Lower Peninsula.—Swales (1903: 36; and notes) listed the Blue Jay as a common resident in the Detroit area and found a nest with 4 eggs as early as April 29 (1900). The species nests commonly in the Ann Arbor region; the earliest nest reported there is one with 6 eggs, May 9, 1936, found by L. D. Case. A. S. Hyde collected a nest with 5 eggs (U.M.M.Z.) near Gregory, Livingston County, on May 16, 1936, and Fargo reported that 5 young left a nest at Jackson on June 18, 1936. In the vicinity of Vicksburg, Kalamazoo County, F. W. Rapp (1931: 18) has discovered nests from May 4 (1897, 1 with 5 eggs) to June 17 (1899, 1 with 4 eggs). Barrows (1912: 13) stated that nest-building activities at East Lansing were observed repeatedly in March and once in February, although fledglings were never seen before June 1. Blue Jays have been seen during late June on the Manitou (1940) and Fox (1939) islands, Leelanau County (by A. E. Staebler and L. D. Case), and also on Beaver Island, Charlevoix County (1937, by T. D. Hinshaw and R. E. Morrill). Van Tyne (1925: 621) noted the species as rather numerous in Charlevoix County in the summer of 1923; Blanchard and Nelson (MS of 1937) noted a similar status in the Douglas Lake region, Cheboygan County, where they recorded nestlings on July 4, 1925, and July 17, 1935.

Upper Peninsula.—Both Bryens and Christofferson list the Blue Jay as uncommon in their respective localities; Bryens found a nest with 4 young on June 22, 1941, at McMillan, Luce County, and Christofferson and Walkinshaw found a nest with 5 eggs on June 1, 1934, at Blaney, Schoolcraft County. N. A. Wood (1914: 66) noted a few pairs of Blue Jays at Whitefish Point, Chippewa County, in 1912 and 1914, and stated (1918: 9) that several pairs nested in 1916 in the vicinity of Whitefish Lake, northwestern Alger County. Christy (1925: 212) and S. S. Gregory, Jr. (1929: 180), listed it as a common summer bird in the Huron Mountain region, Marquette County; F. M. Gaige (1914: 84) saw several young, barely able to fly, near Jackson Lake, Dickinson County, on August 3, 1909. John L. George and R. L. Patterson saw 3 or 4 Blue Jays daily in the summer of 1938 at Golden Lake, Iron County; observers have seen the species commonly on Isle Royale during the summer months (Max M. Peet, 1909: 360; other data).

FALL.—The fall migration, somewhat less well defined than spring movement, takes place mainly in September and October.

Upper Peninsula.—On Isle Royale N. A. Wood noted a flock of 30 jays migrating on September 16, 1929. During most fall seasons at Blaney, Schoolcraft County, Christofferson has observed migrating flocks of 25 to 100 birds, chiefly in the latter half of September (100 on September 20, 1937, and 100 on September 21, 1941).

Lower Peninsula.—In October and November in Alcona County, J. Claire Wood (1913: 17) saw individuals and very small groups, most of them moving in a southward direction. Near the Gladwin State Game Refuge, in northwestern Gladwin County, J. C. Salyer found flocks of migrants on October 18, 20, and 23, 1933; on October 20, these flocks (of 10 to 25 birds each) passed "at intervals of every hour or so," flying southeastward. In the week of November 24 to 29, 1933, large flocks were still in the area. A flock of about 30 migrants was on Charity Island, Huron County (N. A. Wood, 1911: 98-99) from September 17 to October 11, 1910. Among other flocks reported is one of 40 birds seen over Watervliet, northern Berrien County, by G. A. Ammann on September 29, 1938. Swales listed 75 birds at Detroit on October 2, 1912; in the Toledo-Erie marsh area, L. W. Campbell (1940: 112) recorded a definite movement from September 13 to October 21, but the flocks were smaller than those he recorded in spring.

WINTER.—Present in most areas of Michigan throughout the winter, the Blue Jay nevertheless varies considerably in numbers from winter to winter and from place to place. In the Upper Peninsula at Sault Ste Marie, Magee (1916: 369) recorded small numbers at his feeding station in winter. At McMillan, Luce County, Bryens (1940c: 21-22; Bryens and Harriger, 1929: 46-47; other data) trapped over 100 jays at his station in the course of the winter of 1940-41, but found very much reduced numbers there during other winters. Eugene E. Crawford wrote of seeing flocks of "5 to 15 [Blue Jays] widely scattered through the woods" near Seney, Schoolcraft County, in the winter of 1936-37. Christofferson (1923: 29) recorded 15 birds at Munising, Alger County, on December 25, 1922. At Palmer, central Marquette County, O. B. Warren (1896: 83-84) found them regular and present in numbers at the lumber camps in winter; in the Huron Mountains in the same county, S. S. Gregory, Jr. (1929: 180), termed them "rather rare" in winter. On Isle Royale Laurence Dayton observed them rather regularly throughout the winter of 1936-37.

*Corvus corax principalis* Ridgway  
Northern Raven

Uncommon resident in Upper Peninsula; casual in Lower Peninsula.  
First authoritatively listed for Michigan by Fox (1853: 161).



The Northern Raven was formerly common throughout Michigan and probably nested here rather widely (Barrows, 1912: 417-20), but there are no definite early breeding records.

By the middle 1800's, the Raven was uncommon at all seasons in Michigan, but continued to be occasionally recorded. F. H. Chapin collected 1 (U.M.M.Z.) of 2 well-grown young of the year that he found at a nest near Almena, Van Buren County, on April 27, 1889 (not "April 26," as in Barrows, 1912: 418). On Isle Royale in 1904 and 1905 the species was observed in limited numbers (occasionally in flocks of 3 to 8), specimens were collected, and an unoccupied but long-used nest was examined on September 10, 1905 (N. A. Wood, Peet, and McCreary, 1906: 124; Max M. Peet, 1909: 361-62; 1909a: 118).

Upper Peninsula.—Recent records indicate that the Raven is still uncommon in the Upper Peninsula but that it occurs there rather regularly at all seasons. In Gogebic County in 1931 Leonard Wing (1940: 184) recorded the species on February 2 at Watersmeet, and in January and July at Ironwood. In the Porcupine Mountains, Ontonagon County, during a trip extending from August 19 to 26, 1935, R. E. Olsen and A. D. Tinker saw 2 or 3 daily (6 on August 21). Benjamin C. Jenkins noted about 15 in the Union Bay deeryard west of Silver City, Ontonagon County, on April 6, 1939. Southward around Ewen and Matchwood in the same county, F. M. Baumgartner found the species "fairly common" in the summer and fall of 1936 and 1937. In Ontonagon and southern Houghton County in early October, 1934, Trautman saw 1 or 2 Ravens daily (6 on October 3, along the east shore of Lake Gogebic). Near Golden Lake, western Iron County, John L. George and R. L. Patterson recorded the species regularly all summer in 1938 (a group of 9 on July 20). N. A. Wood (1933: 722) recorded 3 in Keweenaw County in May, 1931. The species was reported uncommon in the Huron Mountain region, Marquette County (Christy, 1925: 213; Tappan Gregory, 1933: 5, 7, 9; S. S. Gregory, Jr., 1929: 180), but along the highway between Marquette and Seney (eastern Schoolcraft County), Pirnie (1940b: 11) found it of frequent occurrence in early September, 1929. Near the Peter White Camp, Alger County, N. A. Wood (1918: 9) noted a small flock of 7 Ravens on May 27, 1916, and recorded them frequently there that summer. F. M. Baumgartner found the species at all seasons of the year (1936 to 1937) about the Cusino Refuge, northwestern Schoolcraft County, and at Blaney, Schoolcraft County, Christofferson has noted a few Ravens almost every year at one season or another. N. A. Wood (1914: 66-67) recorded the Raven frequently at Whitefish Point, Chippewa County, in the summer of 1912, but observed none at all there in 1914; Tyrrell (1934: 26)

took 1 specimen there on July 9, 1929, and Curren Hawkins 1 on October 27, 1929.

Lower Peninsula.—Recent records in the Lower Peninsula are few and scattered. Haugen (1940: 34–35) collected single specimens at Union Pier, Berrien County, on October 15, 1932 (U.M.M.Z.), and at Allegan on October 16, 1939. William Haines collected 1 (U.M.M.Z.) that had obviously been dead for several weeks, in the Ann Arbor region, on January 11, 1932.

*Corvus brachyrhynchos brachyrhynchos* Brehm  
Eastern Crow

Common summer resident. Winters in variable numbers in the southern 3 tiers of counties.

First listed for Michigan by Fox (1853: 162).

Crows apparently spread into Michigan in the middle decades of the nineteenth century. At Detroit Bela Hubbard (1887: 299–305) first saw them "in large quantities" in the fall of 1858, and again in "the winters" (meaning possibly November) of 1861, 1862, 1864, and 1865. He also saw them there in spring. Crows were not recorded at Ann Arbor until after 1850 (N. A. Wood, 1941: 18). Gibbs (1885: 119; 1895*b*: 137) said they were rare in Kalamazoo County as late as 1865, but became common there by 1875; by 1895 they were common, he believed, as far north as Mackinac Island. In the Upper Peninsula, Kneeland (1857: 235) had already listed them as rare at Portage Lake, Keweenaw County, but common on the Point and in the Ontonagon district, between August, 1856, and June, 1857.

SPRING.—Barrows (1912: 420 ff.) found that the spring migration extended ordinarily from late February to late April or early May.

Lower Peninsula.—In the Toledo–Erie marsh area, L. W. Campbell (1940: 112–13) reported the Crow as abundant in migration and as moving northward usually between February 23 and April 11; on 2 dates early in March he saw concentrations of as many as 5000 birds. John L. George made a 2-hour visit to the Wayne County mainland opposite the southern tip of Grosse Ile on March 19, 1939, and again on March 21, 1942; on each occasion he observed a straggling flock flying northward; on the latter date he saw 50 to 100 in the air at a time, and estimated that several hundred passed during the period of observation.

Upper Peninsula.—General arrival has been reported at McMillan, Luce County, by Bryens, and in Chippewa County and at Blaney, Schoolcraft County, by Christofferson, during the first 3 weeks of March; Christofferson recorded 75 Crows at Blaney on March 29, 1940. Brodkorb found the species "common and in flocks" at Whitefish Point, Chippewa County, May 8 to 23, 1936. At Copper Harbor, Keweenaw County, N. A. Wood (1933: 723)

observed 3 individuals on April 22, a flock of 20 on April 28 (1931) and larger flocks later. Laurence Dayton in the spring of 1937 listed the species daily after April 12 on Isle Royale.

**SUMMER.**—The Crow apparently breeds more or less commonly in nearly all parts of Michigan.

**Lower Peninsula.**—The reports include data from Detroit (Swales, 1903: 36; and notes); from Ann Arbor (U.M.M.Z.); from Kalamazoo County (Gibbs, 1885: 119; and eggs found at Vicksburg by F. W. Rapp—1931: 19— from April 5 to May 12); from Charity Island, Huron County (N. A. Wood, 1911: 99; 1912*a*: 186); from the Fox and Manitou islands of Leelanau County (A. E. Staebler and L. D. Case in 1939 and 1940; (U.M.M.Z.); from the islands of Charlevoix County (Barrows, 1904: 79; later data); and from the Douglas Lake area, Cheboygan County (N. A. Wood, Smith, and Gates, 1916: 13; Blanchard and Nelson, MS of 1937).

**Upper Peninsula.**—There are reports from McMillan, Luce County (fledglings found on June 7, 1939, by Bryens); from the Huron Mountains, Marquette County (Christy, 1925: 213; S. S. Gregory, Jr., 1929: 180). The species is apparently uncommon in summer at Whitefish Point, Chippewa County (N. A. Wood, 1914: 67), and on Isle Royale (Peet, 1909: 362; other data).

**FALL.**—Though a few Crows winter in Michigan, the majority migrate by late October or early November.

**Upper Peninsula.**—Max M. Peet (1909*a*: 105, 117) reported no Crows on Isle Royale after the middle of September, 1905. At McMillan, Luce County, Bryens has seen large numbers in the fall (434 on September 11, 1938, and 238 on October 6, 1941). He reported general departure by early November, though a few occasionally winter there. In 1926 Christofferson and Magee reported 1500 Crows on September 23 and 2000 on October 3 at Sault Ste Marie; they also noted a rather heavy migration there in other years. At Blaney, Schoolcraft County, Christofferson reported 500 on October 15, 1937.

**Lower Peninsula.**—In the Douglas Lake, Cheboygan County, area (Blanchard and Nelson, MS of 1937), large flocks, sometimes, as in 1926, flocks of hundreds, are present in midsummer after the nesting season. A migrating flock of 50 birds was recorded in the first part of October in Alcona County (J. Claire Wood, 1913: 17), and 1 of 100 birds on September 14 on Charity Island, Huron County (N. A. Wood, 1911: 99). In southern counties flocks of hundreds and even thousands are common in the fall. Groups at this season, especially in the southernmost tiers of counties, where they winter in far greater numbers than farther north, may represent local movements rather than migration. In the Toledo-Erie marsh area L. W. Campbell

(1940: 112-13) found no concentrations of Crows in the fall, but reported that the species was abundant there and migrated in long straggling flocks between September 7 and October 26 on the average.

WINTER.—Barrows (1912: 420 ff.) reported that "probably a few hardy individuals remain in all parts of the state even during severe winters."

Lower Peninsula.—Swales (1903a: 22; and notes) reported several roosts about Detroit. L. W. Campbell (1940: 112-13) mentioned a roost of thousands that had been used "for the past seven winters [1940] at least," found near Petersburg, Monroe County, by Max Kempker. On December 23, 1940, between Deerfield and Blissfield, Lenawee County, A. E. Staebler found a flock of about 1000 feeding in a field and adjoining woods. In the Ann Arbor region flocks of hundreds are not infrequent, especially near refuse dumps. On February 6, 1934, R. E. Olsen and N. A. Wood noted some 2000 in Washtenaw County, and at least 1000 in Livingston County. At Pewamo, Ionia County, Studt (1928: 51; 1929: 47; 1930: 45; 1931: 56) reported a few—a maximum of 91 at a time—on the yearly Christmas-season counts. R. E. Olsen, A. D. Tinker, and D. W. Douglass recorded 5 at Sand Point, Huron County, on February 18, 1934. On a 2-day trip northward from Ann Arbor in 1941 Maurice G. Brooks, John L. George, and others noted a flock of 130 on January 24 along the Saginaw Bay shore in Arenac County, and a single individual the next day near Hillman, Montmorency County.

Upper Peninsula.—Christofferson occasionally noted the species in winter at Blaney, Schoolcraft County; and at McMillan, Luce County, Bryens (Bryens and Harriger, 1929: 46-47) saw 3 on January 25, 1929, and 2 on January 17, 1932. The Museum of Zoology has no winter specimens from north of the Ann Arbor region (1942).

PARIDAE  
(TITMICE)

*Parus atricapillus atricapillus* Linnaeus  
Black-capped Chickadee

Common resident and transient.

First listed for Michigan by Sager (1839: 414): "*Parus palustris*."

SPRING.—Although recent banding operations (Lincoln, 1927: 84; U.M.M.Z. specimens; other data) prove that many Black-capped Chickadees remain in the same locality in Michigan, winter and summer, there are observational data to prove that others migrate. At Sand Point, Huron County, migration has been observed on several occasions: May 20, 1928, by Van Tyne (1928: 252); April 18 to May 23, 1932, by D. W. Douglass; and on May 30, 1939, by Maurice G. Brooks, John L. George, R. L. Patterson, and

others. The Chickadees flew northwest across the bay in the direction of the Charity Islands, and were usually in flocks of 12 to 24 birds, though there was a compact flock of more than 50 on May 20, 1928. Douglass, who was there from mid-April to late May in 1931 and 1933, saw in those years no more than 6 or 8 birds in a day. At Whitefish Point, Chippewa County, from May 14, 1914, to the end of the month, N. A. Wood (1914: 72; U.M.M.Z.) witnessed an extensive migration that on some days involved flocks of hundreds.

**SUMMER.**—This species has been found breeding commonly at most Michigan stations of report.

**Lower Peninsula.**—Breeding data include reports from Detroit (Swales, 1904: 42; and notes); the Ann Arbor region; Calhoun County (F. A. Stuart, 1919: 94–95; Walkinshaw, 1941: 120; and notes); Kalamazoo County (Gibbs, 1885: 6; F. W. Rapp, 1931: 32); Newaygo County (E. R. Ford, 1935: 21–22); and Douglas Lake, Cheboygan County (Compton, 1914: 177; Linsdale, 1936: 161; Blanchard and Nelson, MS of 1937). Egg sets have been found in Kalamazoo County from April 21 to June 5 (F. W. Rapp, 1931: 32). In 1931 a brood left a nest in Bedford Township, Calhoun County, by June 1 (Walkinshaw).

**Upper Peninsula.**—There are reports from McMillan, Luce County (Bryens), Dickinson County (Gauge, 1914: 90), and Isle Royale (N. A. Wood, Peet, and McCreary, 1906: 127; Max M. Peet, 1909: 381–82; 1909a: 99, 117). At McMillan, Luce County, Bryens reported fledglings on June 23 in 1929, June 27 in 1937, and June 30 in 1938. On Isle Royale in 1905 there were nestlings on July 7, and young that left the nest on August 11 (Max M. Peet, 1909: 381–82).

**FALL.**—Although a few Michigan records suggest that Chickadees observed at this season were actually migrating, there are no records so positive as the spring records cited above from Huron and Chippewa counties.

**WINTER.**—At this season the Chickadee is common as a rule throughout Michigan.

**Upper Peninsula.**—The species is common in the Huron Mountains, Marquette County (S. S. Gregory, Jr., 1929: 187; Manville, 1941: 240; U.M.M.Z.); at Ironwood and Watersmeet, Gogebic County (U.M.M.Z.); Blaney, Schoolcraft County (Christofferson; U.M.M.Z.); McMillan, Luce County (Bryens; U.M.M.Z.); Munuscong Bay, Chippewa County (Christofferson; U.M.M.Z.); and other localities (Leonard Wing, 1940: 185–86). Christofferson reported that about 50 Chickadees regularly visited his feeding station at Blaney, Schoolcraft County, in the winters of 1936–37 and 1937–38.

**Lower Peninsula.**—Winter specimens (U.M.M.Z.) have been taken in

many localities. In southern counties it is not unusual for observers to record 25 to 50 Chickadees in a day; even considerably larger numbers are sometimes seen, for example, 136 in Jackson County (Fargo and others, 1929: 46), and 150 in Washtenaw County (R. E. and H. A. Olsen, 1931: 56), on Christmas census trips.

*Parus carolinensis carolinensis* Audubon  
Carolina Chickadee

One record: an immature male (U.M.M.Z.) collected July 17, 1899, by Swales (1906a: 342; see also Barrows, 1912: 98), at Oakwood, Ecorse Township, Wayne County.

*Parus hudsonicus hudsonicus* Forster  
Hudsonian Chickadee

Fairly common transient, winter visitant, and possibly a local resident in the Upper Peninsula. Three times reported from the Lower Peninsula (Cheboygan, Ingham, and Monroe counties).

First listed for Michigan by Kneeland (1857: 233).

Only 2 or 3 definite Michigan records of the Hudsonian Chickadee were known to Barrows (1912: 698-701), but there are now a considerable number. Though there is still no completely unquestionable breeding record for Michigan, it is probable that the species nests, at least locally, in the Upper Peninsula. Young that were being fed by the parents were recorded at Whitefish Point, Chippewa County, on August 7 and 11, 1914, by N. A. Wood (1914: 72-73), and the species has been noted in a number of Upper Peninsula localities throughout the summer.

Upper Peninsula.—At Mamie Lake, Gogebic County, Klotz (1927: 427) collected 2 specimens from a flock of about 10 birds on July 12, 1926; at Norway Lake, northwestern Iron County, Walkinshaw observed 3 birds on June 28, 1933. In southern Houghton and Baraga counties Trautman saw 1 to 3 of the species on October 1, 4, and 5, 1934, and A. D. Tinker and R. E. Olsen recorded 10 near Hubbell, in northern Houghton County, on August 23, 1937. In the Huron Mountain region, Marquette County (Christy, 1929: 42-43; S. S. Gregory, Jr., 1929: 188; and notes), the species has been found a number of times in summer and fall, and specimens collected; Ira N. Gabrielson collected 2 of 4 observed September 24, 1936. John N. Lowe recorded "two groups" at Marquette on January 13, 1932. At Blaney, Schoolcraft County, a few have been noted at all seasons by Christofferson; and Leonard Wing (1940: 186) collected a specimen (U.M.M.Z.) there on July 29, 1932. Bryens (1928: 51; and notes) has found several about McMillan, Luce County, in spring, fall, and winter. North of McMillan, Walkinshaw saw a single bird on June 12 and 1 on June 18, 1935; Braund and

Aldrich (1941: 99) saw 1 in the same locality in June, 1940. In the vicinity of Deer Park, Luce County, small numbers up to 20 were observed by R. E. Olsen (1935: 100; and notes) and A. D. Tinker on all August and September trips (1934, 1936, 1938, and 1939), and they collected 3 specimens (U.M.M.Z.) on August 27, 1934. At Whitefish Point, Chippewa County (N. A. Wood, 1914: 72-73; Brodkorb, 1936: 455), Hudsonian Chickadees have been recorded and specimens (U.M.M.Z.) taken, on dates ranging from April 13 (1939, 3 seen by Laurence Dayton) to August 27 (1931, 1 taken by A. D. Tinker); on May 27, 1914, N. A. Wood noted large flocks on the Point and numbers on June 3. Brodkorb collected 6 specimens there on May 15 and 16, 1936. Christofferson and Magee have found a few (maximum of 12 at a time) in all seasons of the year at Sault Ste Marie and Munuscong Bay, Chippewa County.

Lower Peninsula.—In an evergreen forest south of Duncan Bay, Cheboygan County, an individual of this species was studied at close range by Theodora Nelson and others on July 15, 1933. Barrows (1921a: 119-20) recorded 2 at East Lansing between December, 1919, and mid-March, 1920. Harold Mayfield collected 1 (U.M.M.Z.) on Turtle Island, in Lake Erie, (which lies half in Michigan and half in Ohio) on November 6, 1943.

*Parus bicolor* Linnaeus  
Tufted Titmouse

Resident in the southernmost 2 or 3 tiers of counties. Apparently increasing in numbers and spreading northward. Recorded in winter as far north as Ogemaw and Charlevoix counties.

First authoritatively listed for Michigan by Gibbs (1879: 482).

Early Michigan records (see Barrows, 1912: 692-94) agree with Gibbs, cited above, who listed the Tufted Titmouse as an "accidental visitor." Gibbs (1885: 6) reported that it had been observed in Kalamazoo County by Mr. Syke [B. F. Sykes]. On May 12, 1880, Sykes collected a specimen (U.M.M.Z.) near there, at Almena, eastern Van Buren County, where F. H. Chapin also collected 2 (U.M.M.Z.) on March 6, 1892. Most of the early reports were for winter, but this does not necessarily indicate greater commonness in winter. At Vicksburg, Kalamazoo County, F. W. Rapp (1931: 32) found the Titmouse from October 16 to April 21 only (1896-1930), but it was common then. Walkinshaw (1941: 120; and notes) listed the species annually in Calhoun County about Battle Creek and Convis Township. In Eckford Township of the same county, F. A. Stuart (1919: 94-95) reported a nest box that was occupied by a pair on June 13, 1916. In the Ann Arbor region the species was still rather uncommon in 1910 (N. A. Wood and Tinker, 1910: 141), but it has increased in abundance as well as in regularity in all seasons (Koelz, 1923: 40; other data); 10 and 20 are not

unusual totals for Christmas-season field trips there (John L. George and Duncan, 1938: 55; Van Tyne, 1940: 108; George and others, 1941: 120). On May 24, 1908, A. D. Tinker (1908: 322-23) noted an adult, apparently feeding either nestlings or a brooding mate, at Ann Arbor; he also found a nest there in June of 1918. Northward, in Hartland Township, Livingston County, several Tufted Titmice are reported on nearly every field trip throughout the year; R. E. Olsen, A. D. Tinker, and others recorded 10 on both May 3, and August 2, 1936. Fred M. Kidd of Ionia reported (letter of April 25, 1933) an egg set collected May 13, 1898, on Belle Isle, Wayne County: "I have the record made at the time, and inasmuch as I caught the bird on the nest in the top of a small hollow blue-beach stub there was no mistake. . . ." At Detroit E. D. Campbell collected a specimen (U.M.M.Z.) on December 7, 1878, and Swales (1904: 42; 1905: 114; and notes) recorded a few Titmice every year and on January 1, 1903, counted 10 on Belle Isle. The same year (1903) he recorded 1 on March 1 and 1 on April 12, near Atlas, southeastern Genesee County. A northward increase and spread of the species is indicated in several reports. Percy Selous noted an individual at Greenville, Montcalm County, on February 23, 1900 (Barrows, 1912: 692-94). Studt (1929a: 116-17) reported that the Tufted Titmouse had become a common fall and winter bird at Pewamo, Ionia County, by 1929, and that it had been found singly there in May and June. For 3 late December counts at Pewamo, Studt (1928: 51; 1929: 47; 1931: 56) reported 5, 3, and 10 birds. The species is present in winter at Marne, Ottawa County (B. W. Baker, 1940a: 13). At Hess Lake, Brook Township, Newaygo County, E. R. Ford has seen it regularly since 1935; he observed an adult feeding a fledgling there on July 3, 1937. Verne Dockham recorded an individual near Prescott, Ogemaw County, in November, 1939. Mrs. F. J. Fessenden of Charlevoix wrote on January 7, 1937: "I am enclosing some [photographic] prints [U.M.M.Z.] as proof of titmice that are here for, I believe, the first time. There only seems to be one coming to feed, but several have been seen at one time, in November [1936]." The banding work of Mrs. Max Short (1933: 159-60) at Wayland, Allegan County, gives some indication of the irregularity of the Tufted Titmouse at any one locality in Michigan.

SITTIDAE  
(NUTHATCHES)

*Sitta carolinensis cookei* Oberholser  
White-breasted Nuthatch

Permanent resident, common in most southern counties, much less common in the north.



First listed for Michigan by Sager (1839: 415).

Actual nest records are comparatively few. Most of the recorded nests were found in May, a few in late April. Young have been found as early as May 4.

Lower Peninsula.—M. B. Mills (1891: 157) collected a 10-egg set in Lenawee County on April 26, 1891. In Oakland County (Mummery, 1903: 85-86) and in the Detroit area (Swales, 1904: 42) the White-breasted Nuthatch has been reported as an abundant resident. F. C. Hubel collected a set of 4 eggs (U.M.M.Z.) in Wayne County on May 2, 1902; Swales (notes) found a nest with 8 young on May 4, 1902, at West Utica, north of Detroit. At Ann Arbor J. W. Harris collected a nest with eggs (U.M.M.Z.) on April 29, 1896, and T. D. Hinshaw saw 3 almost fully grown young being fed by their parents on June 11, 1941. Since 1930 Walkinshaw has recorded this nuthatch regularly in Calhoun County. In Kalamazoo County both Gibbs (1889: 187) and Rapp (1931: 32) recorded it as a common permanent resident; Rapp gave 1 nest record: May 15, 1904, a nest with 7 eggs. Westnedge (1891: 4) recorded 5 nests with eggs in Kalamazoo County between 1887 and 1890, the earliest on April 27, the latest on May 27. N. A. Wood (1922: 33) listed this nuthatch as very rare in Berrien County (1917 to 1920), but in August, 1928, Brodkorb (1929: 398) found it common there. On the mainland and islands of northwestern Huron County in the summers of 1908, 1910, and 1911, it was rare (N. A. Wood and Gaige, 1911: 306; N. A. Wood, 1911: 110-11; 1912a: 188); D. W. Douglass also found it uncommon there in 3 successive springs (1931 to 1933); in Iosco and Crawford counties it was listed as frequent in the summer of 1903 (N. A. Wood and Frothingham, 1905: 53). Westward, in Mason County, it was found to be common in summer and abundant in late August and September (Chaney, 1910: 278). In the summer of 1940 A. E. Staebler and L. D. Case recorded this nuthatch only once (2 birds on July 3) on North Manitou Island, Leelanau County. In Charlevoix County it was noted once on the mainland: on July 1, 1923, by Van Tyne (1925: 626); twice on Beaver Island: on May 7, 1929, by N. A. Wood, and on May 24, 1932, by Victor H. Cahalane. It was uncommon in July of 1901 in Emmet County (Widmann, 1902: 237), but is apparently common at all times of the year near Douglas Lake, Cheboygan County (Compton, 1914: 177; N. A. Wood, Smith, and Gates, 1916: 20; Blanchard and Nelson, MS of 1937).

Upper Peninsula.—Christofferson has recorded a few White-breasted Nuthatches nearly every year at Munuscong Bay, Chippewa County, and at Blaney, Schoolcraft County. Bryens has found them common at McMullan, Luce County, and reported young out of the nest on July 29, 1935. N.

A. Wood (1918: 14) recorded a few in summer in Alger County; Walkinshaw observed 5 young with adults there on June 26, 1933. In Marquette County (S. S. Gregory, Jr., 1929: 187) and in Dickinson County (Gaige, 1914: 90), this nuthatch has been reported as only occasional, but near Golden Lake, western Iron County, 3 to 6 birds were seen daily in the summer of 1938 (John L. George and R. L. Patterson). The 2 reports from Isle Royale are for August 24, 1904 (N. A. Wood, Peet, and McCreary, 1906: 126) and August 5, 1929 (Walter E. Hastings).

*Sitta canadensis* Linnaeus  
Red-breasted Nuthatch

Common transient especially in autumn. Uncommon winter resident. Summer resident south to Wexford and (perhaps) Montcalm counties. Apparently somewhat irregular in all seasons.

First listed for Michigan by Kneeland (1857: 233).

SPRING.—Because the species occurs in all sections of Michigan in winter, and in all but the more southern counties in summer, definite migration records are few; these relate principally to May. In the Toledo-Erie marsh area, L. W. Campbell (1940: 115) has noted a light movement during most springs, chiefly around the first week of May. Swales (1904: 42; and notes) seldom found any of the species at Detroit after the middle of May, though Gibbs (1885: 7) mentioned occasional occurrence in Kalamazoo County as late as June 1. At Sand Point, Huron County, in the spring of 1931 and of 1932, D. W. Douglass found a few of the species present with some regularity until May 22 (1932), but none in the spring of 1933. In the Upper Peninsula at the tip of Whitefish Point, Chippewa County (N. A. Wood, 1914: 72), "flocks of migrating birds were seen on May 14 and later dates."

SUMMER.—The small amount of data available indicate that eggs are laid in May.

Lower Peninsula.—Gibbs stated (Barrows, 1912: 688-92) that the species was a summer resident in Montcalm and Wexford counties, but offered no exact data. William Brewster, however, collected several Red-breasted Nuthatches (M.C.Z.) in 1888 near Cadillac, Wexford County, including an incubating female taken on May 12, 1888. At East Lake, Kalkaska County (Dunham, 1904: 69), a pair was building a nest on May 10, 1899, that by May 17 contained 4 fresh eggs. Several specimens (U.M.M.Z.) have been taken in Crawford and Oscoda counties (N. A. Wood and Frothingham, 1905: 53; subsequent data) in July and early August. One was noted near Boyne Falls, Charlevoix County (Van Tyne, 1925: 626) on July 5, 1923, and the species was common in July on Beaver Island, Charlevoix County, according to Barrows (1904: 81). It was "met with in several

places" in July near the shore of Little Traverse Bay, Emmet County (Widmann, 1902: 237), where it was seen with fledged young on July 12.

Upper Peninsula.—On Les Cheneaux Islands, Mackinac County, Van Tyne (1923: 25) found the Red-breasted Nuthatch "fairly abundant" in summer (1917 to 1921). Several specimens (U.M.M.Z.) were collected in Chippewa County by R. A. MacMullan and T. D. Hinshaw in July, 1938, on Drummond Island and by N. A. Wood and others (N. A. Wood, 1914: 72) in July 1912 and 1914 on Whitefish Point. At Sault Ste Marie in the same county Christofferson noted a pair excavating a nest cavity on April 14, 1927; Bryens also noted nest construction, at McMillan, Luce County, on April 16, 1932. In the Huron Mountains, Marquette County, the species has been common in all seasons except winter (Christy, 1925: 216; S. S. Gregory, Jr., 1929: 187). It was present in July and early August, 1904, in the Porcupine Mountains, Ontonagon County (N. A. Wood, Peet, and McCreary, 1906: 120; U.M.M.Z.), and was found to be rather common on summer expeditions on Isle Royale (N. A. Wood, Peet, and McCreary, 1906: 126; Max M. Peet, 1909*a*: 105, 117; 1909: 381).

FALL.—Movement, apparently heavier than in spring, occurs chiefly from late August to late September or the first part of October.

Upper Peninsula.—The species was still present on Isle Royale on the day of N. A. Wood's departure, October 2, 1929. "Many" were noted at Whitefish Point, Chippewa County, by Fargo on August 16, 1925. On the islands and mainland of northwestern Huron County this nuthatch has become common about August 15 (N. A. Wood and Gaige, 1911: 306) and abundant in early September (N. A. Wood, 1911: 111). Specimens (U.M.M.Z.) have been taken in late August (August 28, 1878) in Kalamazoo County, and in the first and second weeks of September in Jackson and Washtenaw counties. About Detroit the species was at times listed by Swales (1904: 42; and notes) by late August (3 birds on August 22, 1908, at Grosse Ile), though usually not until early September. In the Toledo-Erie marsh area L. W. Campbell (1940: 115) has observed a few (sometimes only 1 or 2) about the first week of October.

WINTER.—As in other seasons, at any one locality in winter the Red-breasted Nuthatch has been irregular in numbers and often absent. S. S. Gregory, Jr. (1929: 187; U.M.M.Z.), found it uncommon in winter in the Huron Mountains, Marquette County; F. H. Chapin (Barrows, 1912: 688-92) termed it "a common winter resident in Mackinac, Alger, and Luce counties." At McMillan, Luce County (Bryens, notes; Bryens and Fritz, 1932: 59; Leonard Wing, 1940: 186; U.M.M.Z.), it has sometimes been fairly numerous, 20 and 24 being seen in a day, but many years it has not been seen at all in winter.

Lower Peninsula.—On January 9, 1938, near Waters, Otsego County,

C. H. Westman observed about 25 Red-breasted Nuthatches and collected 2 (U.M.M.Z.). Gibbs (1885: 7) listed them as occasional winter visitants in Kalamazoo County; Walkinshaw (1930*b*: 44-45) reported 1 in the Battle Creek area on December 22, 1929. In the vicinity of Ann Arbor, John L. George and D. P. Duncan (1938: 55) saw 8 on December 21, 1937, and R. E. Olsen and A. D. Tinker saw 15, January 25, 1934. Swales found them occasional in the Detroit area, noting 3 on December 25, 1912, 2 on December 23, 1903, and 3 on January 2, 1909.

CERTHIIDAE  
(CREEPERS)

*Certhia familiaris americana* Bonaparte  
Brown Creeper

Common transient. Summer resident south to Ottawa and Kent counties. Regular but not common winter resident.

First listed for Michigan by Sager (1839: 415).

SPRING.—Migrants are reported chiefly in the latter part of April and the first part of May.

Lower Peninsula.—L. W. Campbell (1940: 115, 205) gave April 24 as the average date for the end of main flight in the Toledo-Erie marsh area. About Detroit (Swales, 1904: 41; and notes) and apparently also in Berrien County (N. A. Wood, 1922: 33) the Brown Creeper usually remained until late April and at least occasionally until the middle of May; at Vicksburg, Kalamazoo County, no Creepers have been recorded by F. W. Rapp (1931: 32) after May 6. At Sand Point, Huron County (D. W. Douglass), from 1931 to 1933, the species was common in migration from about April 10 to mid-May.

Upper Peninsula.—Christofferson has recorded a few Brown Creepers every spring at Blaney, Schoolcraft County, during the last 3 weeks of April (2 seen on April 12, 1938; 1 on April 30, 1936). Bryens, at McMillan, Luce County, has noted 1 to 3 birds in a day and has recorded arrival usually in mid-April and once as early as March 17 (1 seen in 1933). S. S. Gregory, Jr., collected a specimen in the Huron Mountain region, Marquette County, on March 16, 1928. N. A. Wood (1933: 731) noted the species' arrival at Copper Harbor, Keweenaw County, on April 23, 1931; Laurence Dayton recorded it almost daily on Isle Royale in 1937 between April 12 and May 15.

SUMMER.—Eggs of the Brown Creeper have been found in June, but there are few definite nest records from Michigan.

Lower Peninsula.—According to A. J. Cook (1893*a*: 145), Jerome Trombley stated that the Brown Creeper bred in Monroe County; Barrows

(1912: 681-83) said that W. A. Gunn found a pair building a nest in Ottawa County on May 19, 1879, and that Owen Durfee found the species breeding near Grand Rapids. F. A. Stuart (1919: 94-95) observed a pair in a nest box on June 13, 1916, in Eckford Township, Calhoun County, and both Barrows (1912: 681-83) and Gibbs (1885: 7) indicated that the Brown Creeper had been found a few times in other southern counties. One bird was seen in Hartland Township, Livingston County, by A. D. Tinker, R. E. Olsen, and H. A. Olsen on July 13, 1930; 1 was seen on July 30 and 1 on August 6, 1908, in northwestern Huron County by N. A. Wood and Gaige (1911: 305-6); N. A. Wood collected 1 (U.M.M.Z.) in Oscoda County on July 2, 1903. In the vicinity of Douglas Lake, Cheboygan County, N. A. Wood, Smith, and Gates (1916: 20) recorded it on 3 occasions in late July, 1911, and Blanchard and Nelson (MS of 1937) stated that it had been "reported a few times."

Upper Peninsula.—At Whitefish Point, Chippewa County, N. A. Wood (1914: 72) collected a nest and 4 eggs (U.M.M.Z.) June 5, 1914. T. D. Hinshaw collected 2 specimens (U.M.M.Z.) on Drummond Island, Chippewa County, on July 2, 1938, and at Munuscong Bay in the same county, Trautman saw 2 adults and 4 young on June 27, 1926. Bryens saw 1 at McMillan, Luce County, on July 28, 1934, and Leonard Wing (1940: 186) saw the species in the northern part of the county on June 26 to 28, 1932. Christy (1925: 216) and S. S. Gregory, Jr. (1929: 187), listed the species as rather uncommon in the Huron Mountain region, Marquette County; Gaige (1914: 90) saw it but "rarely" in Dickinson County between July 10 and August 9, 1909; and Max M. Peet collected 3 specimens (U.M.M.Z.) in the Porcupine Mountains, Ontonagon County, in mid-July, 1904 (N. A. Wood, Peet, and McCreary, 1906: 120). Leonard Wing (1940: 186) recorded the Brown Creeper from Ironwood, Gogebic County, between July 13 and 25, 1932, and a few birds were noted in late summer (1904 and 1905) on Isle Royale (Max M. Peet, 1909: 381).

FALL.—Among the various records at hand for this season there are only a few that seem to be particularly indicative of the southward movement, which may occur principally from about mid-September to mid-October or later. On Charity Island, Huron County (N. A. Wood, 1911: 110), only a few birds were seen in the first part of September, and as many as 20 on September 26. In the Ann Arbor and Detroit (Swales, 1904: 41; and notes) areas the species has reappeared in fall from the second and third weeks of September to early October. A flock containing some 15 to 30 birds was observed by F. M. Gaige at Manchester, Washtenaw County, on October 26, 1926. For the Toledo-Erie marsh region, L. W. Campbell

(1940: 115, 205) gave October 11 as the average date for the beginning of the main flight.

WINTER.—At this season the Brown Creeper apparently occurs in all areas of Michigan. On Isle Royale during the winter of 1936–37 Laurence Dayton saw an individual on December 30. Leonard Wing (1940: 186–87) recorded it at Ironwood, Gogebic County, and at McMillan, Luce County; Bryens and Fritz (1932: 59; 1933: 39) noted it at McMillan. Christofferson and Magee have found it at several localities in the eastern end of the peninsula.

Lower Peninsula.—Frederick M. Baumgartner wrote (February, 1938) that he had noted the species “at all seasons in a few of the dense cedar and balsam swamps in and near the Pigeon River [State] Forest,” Cheboygan and Otsego counties. Gibbs (1885: 7; 1889: 188; U.M.M.Z.) often found it all winter in Kalamazoo County, even in “severest weather.” Other reports indicate that it occurs regularly in small numbers throughout southern counties.

## TROGLODYTIDÆ (WRENS)

### *Troglodytes aëdon* House Wren

First listed for Michigan by Fox (1853: 161).

The large series of House Wrens in the Museum of Zoology indicate that 2 subspecies occur in Michigan. Breeding specimens from the Upper Peninsula and from the northern tip of the Lower Peninsula (*Troglodytes aëdon parkmanni*) are readily separable from those taken in the rest of the Lower Peninsula. The latter seem to show no important variation from freshly taken Atlantic Coast specimens of *Troglodytes aëdon aëdon*, although Oberholser (1934: 86–96) described a third form, *Troglodytes domesticus* [*aëdon*] *baldwini*, to which he referred most southern Michigan specimens.

These wrens cannot be identified to subspecies in the field, but sight records from the Lower Peninsula indicate the time of arrival and abundance of the species.

SPRING.—Swales (1904: 41; and notes) noted House Wrens in the Detroit area by the latter part of April or early May; he recorded 10 on May 1, 1913. Arrival is usually reported in the Ann Arbor area in the last week of April, occasionally earlier; an individual was seen there by L. D. Case on April 14, 1938. N. A. Wood (1922: 32), in Berrien County, and Walkinshaw, in Calhoun County (1930 to 1940), have recorded arrival in the latter part of April, and Walkinshaw noted an individual on April 16,

1938. The species was seen at the Prairie Farm, Alicia, Saginaw County, on May 4, 1940 (1, by G. A. Ammann), and at Bay City on April 24, 1894, and April 21, 1896 (Barrows, 1912: 673). D. W. Douglass observed it at Sand Point, Huron County, usually after the first week in May (1931 to 1933).

FALL.—There are few fall records. N. A. Wood (1911: 110) saw 3 House Wrens on Charity Island, Huron County, the second week in September. Swales (1904: 41) noted 10 House Wrens near Detroit on September 8 and September 23, 1912, and usually recorded a few in the early days of October, listing 1 on October 13, 1907.

*Troglodytes aëdon aëdon* Vieillot  
Eastern House Wren

Common summer resident in the Lower Peninsula.

SPRING.—Specimens (U.M.M.Z.) have been taken in late April and early May: 1 by Swales, in Wayne County, on May 5, 1907; 1 by F. H. Chapin, near Kalamazoo, on April 21, 1883; several in 1918 and 1920 by N. A. Wood in Berrien County, between April 29 and early May.

SUMMER.—Nesting is reported from mid-May to mid-August. At Ann Arbor Van Tyne found a completed set of 6 eggs on May 24, 1944. Near Quincy, Branch County, L. S. Miller (1926: 399) recorded an exceptionally late nest, from which the young left on September 7. N. A. Wood (1922: 32) found this wren breeding in Berrien County, and Gibbs (1885: 7) noted it as a common summer resident in Kalamazoo County, where F. W. Rapp (1931: 31) found a nest with 6 eggs as early as May 11 (1902, in the vicinity of Vicksburg). Walkinshaw reported nests in Calhoun County between May 24 (1940, nest with 6 eggs) and August 17 (1934, 4 young leaving the nest). N. A. Wood and Gaige (1911: 305) noted several nests and broods of young in northwestern Huron County (nest with 7 young, June 27; nest with 2 young, July 31), and Chaney (1910: 278) listed the species as a common breeding bird in Mason County. The Eastern House Wren has been found breeding as far north as South Manitou (1940) and South Fox (1939) islands, Leelanau County, where L. D. Case and A. E. Staebler secured several June specimens (U.M.M.Z.).

FALL.—A number of specimens (U.M.M.Z.) have been taken in the first 3 weeks of September: 1 by N. A. Wood, on Charity Island, Huron County, September 9, 1910; 1 by F. H. Chapin, at Kalamazoo, September 19, 1885; several by N. A. Wood, in Berrien County, in the last week of August, 1917; 1 by Leonard Wing, near South Haven, Van Buren County, September 19, 1931; and 1 by J. Claire Wood, near Detroit, on September 22, 1906.

*Troglodytes aëdon parkmanii* Audubon  
Western House Wren

Common summer resident in the Upper Peninsula and the northern tip of the Lower Peninsula.

First recorded for Michigan by Oberholser (1934: 95).

SPRING.—Migrants are reported in the southern counties by late April or early May, in the Upper Peninsula by the first week of May.

Lower Peninsula.—Three specimens (U.M.M.Z. and Max M. Peet collection) have been taken in the Lower Peninsula: 1 by C. L. Hubbs near Ann Arbor on April 26, 1938, 1 by Max M. Peet near Ann Arbor on May 11, 1935, and 1 by C. J. Henry in Calhoun County on May 13, 1934.

Upper Peninsula.—At Blaney, Schoolcraft County, Christofferson has occasionally reported arrival by the first week of May: he recorded 1 wren on May 2, 1938, and 1 on May 4, 1939. Brodkorb saw 1 at Whitefish Point, Chippewa County, on May 20, 1936. On Isle Royale N. A. Wood recorded 1 on May 22, and collected 1 (U.M.M.Z.) on May 29, 1930.

SUMMER.—Eggs are found from late May to mid-July.

Lower Peninsula.—Barrows (1904: 81) found the species well-distributed on the Beaver Islands, Charlevoix County; a number of specimens (U.M.M.Z.) were secured there in 1937 (T. D. Hinshaw) and 1938 (Van Tyne and R. E. Morrill). Widmann (1902: 237) listed the species as common in Emmet County in the early part of July. It was also common and nesting in the vicinity of Douglas Lake, Cheboygan County (Blanchard and Nelson, MS of 1937). At Burt Lake, Cheboygan County, Max M. Peet collected 2 specimens, July 6, 1932, and July 17, 1933; A. E. Staebler collected 2 (U.M.M.Z.) on July 22, 1938.

Upper Peninsula.—Van Tyne (1923: 25) listed the species as a common nester on Les Cheneaux Islands, Mackinac County; at Whitefish Point, Chippewa County, N. A. Wood (1914: 72) saw a few individuals and found a nest on July 18. Christofferson has discovered several nests at Blaney, Schoolcraft County, between May 24 (1938, 1 with 7 eggs) and July 17 (1937, 1 with 6 eggs). S. S. Gregory, Jr. (1929: 187), recorded the species as an uncommon summer resident in the Huron Mountains, Marquette County. A few pairs nested at Whitefish and Silver lakes, Alger County (N. A. Wood, 1918: 14), and young of the year were seen at Brown Lake, Dickinson County, on July 13 (Gauge, 1914: 90). John L. George and R. L. Patterson saw a few of the species in the vicinity of Golden Lake, Iron County, in the summer of 1938; N. A. Wood, Peet, and McCreary (1906: 120) secured 2 specimens (U.M.M.Z.), 1 on July 24 and 1 on July 25, in the Porcupine Mountains, Ontonagon County. N. A. Wood (1933: 731) listed the species in summer at Copper Harbor, Keweenaw County, and



Walter E. Hastings recorded an individual on Isle Royale, July 27, 1929.

FALL.—Departure is recorded in late August and the first half of September.

Upper Peninsula.—Fargo saw an individual on Isle Royale, August 27, 1924; R. E. Olsen collected a specimen (U.M.M.Z.) at Little Girl's Point, Gogebic County, September 14, 1940, and Leonard Wing (1940: 187) collected 3 (U.M.M.Z.) at Bruce Crossing, Ontonagon County, on August 24, 1931. At Whitefish Point, Chippewa County, Fargo recorded 1 on August 26, 1925; and near Deer Park, Luce County, R. E. Olsen collected 2 specimens (U.M.M.Z.): 1 on September 3, 1938, 1 on September 5, 1936. On a few occasions Christofferson has recorded House Wrens at Blaney, Schoolcraft County, after the middle of September: 2 on September 21, 1936, and 1 on September 26, 1932.

Lower Peninsula.—One record: a specimen (U.M.M.Z.) secured by L. D. Case near Ann Arbor on September 8, 1938.

*Troglodytes troglodytes hiemalis* Vieillot  
Eastern Winter Wren

Transient. Summer resident in the Upper Peninsula and in the Lower Peninsula, south rarely to Kent County and once to Jackson County. Reported in winter from Calhoun, Washtenaw, and Monroe counties.

First authoritatively recorded for Michigan by Sager (1839: 415).

SPRING.—Migration is mainly in April, but early arrivals are reported in the Lower Peninsula by the second week, and in the Upper Peninsula by the last week, of March.

Lower Peninsula.—L. W. Campbell (1940: 116, 192) has found this wren in the Toledo-Erie marsh area from March 9 (1929) to May 23 (1926), but has noted it most commonly in April. It has been listed as a fairly abundant transient in the vicinity of Detroit (Swales, 1904: 41) and in the Ann Arbor region between the second week in March and the second week in May. It was seen occasionally in late April and early May in Berrien County by N. A. Wood (1922: 32) and reported in the vicinity of Vicksburg, Kalamazoo County, from mid-April to early May by F. W. Rapp (1931: 31). Two specimens (U.M.M.Z.) were secured at Kalamazoo: 1 by B. F. Sykes, on March 28, 1879, and 1 by F. H. Chapin, on March 30, 1880. At Sand Point, Huron County, D. W. Douglass collected a specimen on April 10, 1933; he observed (1931 to 1933) 1 to 2 birds daily from mid-April to early May.

Upper Peninsula.—Brodkorb saw a Winter Wren at Whitefish Point, Chippewa County, on May 8, 1936; Christofferson noted 1 at Blaney, Schoolcraft County, on March 22, 1938, and recorded 7 there on April 21,

1938. Arrival was recorded on Isle Royale by Laurence Dayton on April 18, in 1937.

SUMMER.—Nesting is reported in late June and July.

Lower Peninsula.—An adult male (U.M.M.Z.) was collected by Van Tyne at Grass Lake, Jackson County, on July 4, 1926; L. J. Cole noted this wren during the summer months in the vicinity of Grand Rapids (Barrows, 1912: 677), and a nest was found there by E. W. Durfee. Chaney (1910: 278) observed several pairs in western Mason County, and N. A. Wood and Frothingham (1905: 53) reported an individual near Roscommon, on July 1. In Charlevoix County, Van Tyne (1925: 626) heard the birds frequently in June and July; Barrows (1904: 81) also reported them singing on Beaver Island (same county) during the second week of July. A nest with 5 eggs was discovered at Douglas Lake, Cheboygan County, on July 15, 1915, by N. A. Wood, Smith, and Gates (1916: 19-20).

Upper Peninsula.—Van Tyne (1923: 25) found the Winter Wren breeding on Les Cheneaux Islands, Mackinac County, and noted a nest with 5 eggs on Boot Island on July 22. In Chippewa County R. A. MacMullan collected 2 specimens (U.M.M.Z.) on Drummond Island, June 17, 1938, and at Whitefish Point, N. A. Wood (1914: 72) listed the Winter Wren as a common summer resident. Christofferson has frequently observed it at Blaney, Schoolcraft County, during the summer, and Van Tyne found singing males common in the Huron Mountains, Marquette County, in the last week of June, 1936. The Winter Wren was seen and heard throughout July by F. M. Gaige (1914: 90) at Brown Lake, Dickinson County, and 1 was seen at Sidnaw, Houghton County, by Walkinshaw on June 28, 1933. N. A. Wood recorded the Winter Wren as a summer resident at Copper Harbor, Keweenaw County (1933: 731), and observed it on Isle Royale in May and the first half of June, 1930.

FALL.—The Winter Wren apparently migrates southward in September and October, leaving the Upper Peninsula by the third week of October and the south by the end of October or by early November.

Upper Peninsula.—Max M. Peet (1909: 380-81) noted this wren on Isle Royale until the middle of September, and N. A. Wood collected 2 (U.M.M.Z.) there in 1930: 1 on September 10, and 1 on September 19. Ira N. Gabrielson secured a specimen in the Huron Mountains, Marquette County, on September 23, 1936, and saw 2 others on September 26 at the same place. Gaige (1914: 90) recorded departure from Brown Lake, Dickinson County, by August 12; Christofferson has noted the species at Blaney, Schoolcraft County, generally until the middle of October, and Bryens found it at McMillan, Luce County, as late as October 26 (1935).

Lower Peninsula.—On Charity Island, Huron County, N. A. Wood

(1911: 110) collected 2 specimens (U.M.M.Z.): 1 on August 29 and 1 on September 13; he saw several Winter Wrens there daily between September 19 and October 8. One was seen in Keller Township, Berrien County, on October 15, 1938, by G. A. Ammann, and 1 (U.M.M.Z.) was collected near Anderson, Livingston County, on November 7, 1935, by A. S. Hyde. Observers have reported the species in the Ann Arbor area from mid-September to late October, and Swales (1904: 41) noted it in the vicinity of Detroit at a similar time, recording 10 on September 30, 1906; 3 on October 21, 1906; and 1 on November 4, 1911. In the Toledo-Erie marsh area L. W. Campbell (1940: 192) has recorded the species from mid-September to early November, and, in 1934, on December 9.

WINTER.—Walkinshaw saw 1 in Convis Township, Calhoun County, on January 1, 1936, and N. A. Wood recorded 1 at Ann Arbor on December 30, 1923. L. W. Campbell collected 2 specimens (U.M.M.Z.) in Erie Township, Monroe County: 1 on December 25, 1936, and 1 on January 23, 1937.

*Thryomanes bewickii bewickii* (Audubon)  
Bewick's Wren

Rare summer resident north to Kent, Jackson, and Washtenaw counties. First authoritatively listed for Michigan by Gibbs (1879: 483).

This wren was formerly thought to be gradually extending its range northward (Barrows, 1912: 483), but at least since the beginning of the twentieth century its status has apparently remained unchanged.

SPRING.—Bewick's Wren arrives about the middle of April. Several specimens (U.M.M.Z.) have been taken in spring: F. H. Chapin secured 1 at Kalamazoo on April 8, 1879; Van Tyne took 1 at Ann Arbor on April 25, 1928; and Walter Koelz (1923: 40) secured 1 near Waterloo, Jackson County, on April 30, 1922. Two Bewick's Wrens were seen by Walter Koelz at Waterloo on April 16, 1925, and 1 was reported by A. D. Tinker at Ann Arbor on April 18, 1924. The earliest spring arrival record is that of Raz (1935: 201), who saw a Bewick's Wren at New Buffalo, Berrien County, on March 31, 1934.

SUMMER.—The northernmost nest record is that of Cole (1905: 8-10) who found a nest at Grand Rapids on May 16, 1894 (which was deserted before eggs were laid). N. A. Wood (1923: 338) watched a pair nest and successfully raise the young at his home in Ann Arbor during May, 1922, and recorded a specimen taken by Walter Koelz near Waterloo, Jackson County, on May 23, 1920. Koelz secured a second specimen (U.M.M.Z.) from the vicinity of Waterloo on May 12, 1923. Gibbs (cited above) collected a specimen at Kalamazoo on May 5, 1877.

FALL.—Two records: Walter Koelz saw a Bewick's Wren at Waterloo on

August 14, 1938, and Raz (1935: 201) reported 1 at Union Pier, Berrien County, on September 15, 1932.

*Thryothorus ludovicianus ludovicianus* (Latham)  
Carolina Wren

Rare resident north to Livingston and Barry counties; also reported from Huron, Roscommon, Muskegon, and Benzie counties.

First listed for Michigan by Fox (1853: 161).

L. W. Campbell (1940: 117) listed the species as a permanent resident in the Toledo-Erie marsh area, and information available indicates a similar status in the southeastern counties of the Lower Peninsula. Campbell saw an individual in Erie Township, Monroe County, on January 23, 1938, 6 on January 13, 1940, and several on February 4, 1940. Swales (1912: 129) saw 1 at Detroit on January 16, 1911, and 1 on December 5, 1911; in the vicinity of Ann Arbor, Van Tyne (1926: 117) observed 1 from January 6 to 9 and collected 1 (U.M.M.Z.) on January 16, 1926. Leonard Wing (1931: 133) noted 1 at Jackson on January 7, 1924, and Fargo and others (1928: 51) saw 2 there on December 24, 1927.

The Carolina Wren has been reported from other localities in the spring and fall: Jerome Trombley (Barrows, 1912: 669) observed 3 at Petersburg, Monroe County, on April 16, 1890. A. D. Tinker saw 1 near Hamburg, Livingston County, on March 24, 1928; Walkinshaw has found the species in Calhoun County on April 2, 1932, April 27, 1938, and September 1, 1932; in Barry County on September 11, 1932. One of the northernmost records is that of Trautman, who reported seeing a Carolina Wren at Houghton Lake, Roscommon County, on October 10, 1938.

SUMMER.—Fledglings have been found in the latter part of May, and newly hatched young as late as mid-July. L. W. Campbell saw 2 adults and 3 young in Erie Township, Monroe County, on May 25, 1934, and mentioned (1940: 117-18) a nest found near North Cape, Monroe County, by J. J. Stophlet in late June that contained 5 small young on July 17; Swales and Taverner (1907: 147) collected an adult (U.M.M.Z.) near Detroit on August 11; A. D. Tinker (1909: 434) observed a Carolina Wren in full song near Ann Arbor on June 6, and on June 20 found a nest there with 5 small young and 1 egg. The nest (U.M.M.Z.) was later collected by N. A. Wood. On Sand Point, Huron County, N. A. Wood and Gaige (1911: 304) saw 5, including juveniles, during the latter part of August, 1908; Wood (1912a: 188) also secured 1 on July 25 and heard 1 on July 28, 1911, on Charity Island in the same county. Brodkorb (1926: 249-50) saw 1 on June 30, and 1 on July 25, 1924, near Duck Lake, Muskegon County; D. E.

Davis (1931: 276-77) observed 2 in the vicinity of Frankfort, Benzie County, on August 11, 1930.

*Telmatodytes palustris dissaëptus* (Bangs)  
Prairie Marsh Wren

Summer resident, common south of the Saginaw Bay region in the Lower Peninsula, less abundant to the north; rare and local in the eastern part of the Upper Peninsula. Recorded in winter in St. Clair and Monroe counties.

First recorded for Michigan by Sager (1839: 415).

SPRING.—Arrival is usually reported in the Lower Peninsula during the last week in April or in early May, in the Upper Peninsula by mid-May.

Lower Peninsula.—L. W. Campbell (1940: 205) has reported the beginning of main flight in the Toledo-Erie marsh area during the first week in May. Max M. Peet collected a specimen (U.M.M.Z.) in Erie Township, Monroe County, on April 23, 1933, and Swales saw several of the species at the St. Clair Flats, Macomb County, on April 18, 1903. Arrival is reported in the Ann Arbor area in late April (April 20, 1915, J. E. Bassett) and early May (5 seen by John L. George, May 8, 1938), as well as in the vicinity of Battle Creek (April 28, 1938; May 7, 1936, Walkinshaw). F. W. Rapp (1931: 31) saw a Prairie Marsh Wren at Vicksburg, Kalamazoo County, on April 25, 1914, and D. W. Douglass collected 1 at Sand Point, Huron County, on May 5, 1931.

Upper Peninsula.—Christofferson reported 1 at Blaney, Schoolcraft County, on May 1, 1940, and 2, May 22, 1938.

SUMMER.—Nests with eggs have been reported from mid-May (southern counties) to mid-July (Cheboygan County).

Lower Peninsula.—Swales (1904: 41) listed the species as an abundant summer resident in the Detroit area; F. C. Hubel took a set of 6 eggs (U.M.M.Z.) at Loon Lake, Oakland County, on June 8, 1900, and Brownell (1891a: 21) secured several sets at Mud Lake, in the same county on June 3, 1890. C. L. Cass collected several sets of eggs in Hillsdale County during the latter part of May (6 eggs on May 23, 1894; 7 eggs on May 25, 1895), and N. A. Wood (1922: 33) secured a specimen in Berrien County on June 2, 1920. In Kalamazoo County Gibbs (1885: 7) noted the species as a common nesting bird and F. W. Rapp (1931: 32) recorded a nest with 6 eggs on May 15, 1898. R. E. Olsen and N. A. Wood found 2 nests (1 with 2 eggs and 1 with 4 eggs) at Fish Point, Tuscola County, July 17, 1934; they recorded 50 wrens on that day and 100 on the following day. N. A. Wood and Gage (1911: 305) saw several of these wrens and collected 1 in northwestern Huron County on July 22; Chaney (1910: 278)

found them "apparently not common" at Hamlin Lake, Mason County. In the Maple River Marsh, Burt Lake, Cheboygan County, Blanchard and Nelson (MS of 1937) recorded several nests with eggs or young during July (1 on July 28, 1930, with 5 small young).

Upper Peninsula.—Several specimens (U.M.M.Z.) have been taken in the eastern part of this peninsula: 1 on Drummond Island, Chippewa County, by R. A. MacMullan, on July 11, 1938; 1 in Munuscong State Park (in the same county) by Van Tyne, on June 29, 1933; and 1 at Seney, Schoolcraft County, by Brodkorb, on June 10, 1938. H. L. Bradley found several nests with eggs in Schoolcraft County during late July, 1939, and Christofferson reported 2 of the species at Blaney, in the same county, on June 8, 1939. Apparently the westernmost record for the Upper Peninsula is that of Leonard Wing (1940: 187), who saw several near McFarland, Marquette County, on June 10, 1931.

FALL.—Departure is generally recorded in the latter part of September and early October, though a few individuals are found until mid-October or even later.

Upper Peninsula.—Two fall records, both from Chippewa County: Walkinshaw saw "a few" at Munuscong State Park on September 1 and 2, 1934; Christofferson and Magee saw 1 at Sugar Island on October 1, 1922.

Lower Peninsula.—At Fish Point, Tuscola County, N. A. Wood and R. E. Olsen saw 5 of these wrens on September 27, 1934, of which Wood collected 1 (U.M.M.Z.). F. W. Rapp (1931: 32) found the species at Vicksburg, Kalamazoo County, on November 6, 1912, and F. H. Chapin collected a specimen (U.M.M.Z.) in that county on October 4, 1882. James H. Wood secured 1 (U.M.M.Z.) at Sharps Lake, Jackson County, on October 16, 1935; near Ann Arbor, Swales saw 1 on October 14, 1895, and N. A. Wood and J. J. Ricks collected 1 (U.M.M.Z.) on October 14, 1903. Swales also reported several at Grosse Ile, Wayne County, on October 4, 1908, and Trautman recorded numbers in Erie Township, Monroe County: 15 on September 9, 1934, and a total of 45 on September 13 to 14, 1932. Although he has frequently observed individuals until early October, L. W. Campbell (1940: 192, 205) has recorded the end of main flight from the Toledo-Erie marsh area, on the average, by mid-September.

WINTER.—The species has been reported in winter, once from St. Clair County and on numerous occasions from Monroe County. Henry Sampier (1885: 149) recorded an individual near Algonac, St. Clair County, during the winter of 1884-85. L. W. Campbell (1932: 352-53; 1940: 118) has observed the species on several occasions in winter in the Toledo-Erie marsh area: January 22 and 23; February 3, 4, and 18 (1928 to 1938).

*Cistothorus platensis stellaris* (Naumann)  
Short-billed Marsh Wren

Local summer resident, fairly common in the south, less abundant in the north. Recorded once in winter (Washtenaw County).

First listed for Michigan by Gibbs (1879: 483).

SPRING.—Arrival in the southern counties is occasionally reported in late April, more often during the first week of May, and in the Upper Peninsula about mid-May.

Lower Peninsula.—In the Toledo-Erie marsh area L. W. Campbell (1940: 205) has usually found the species common by the middle of May. T. D. Hinshaw reported 1 at Ann Arbor on May 5, 1936, and A. E. Staebler saw 1 on the Edwin S. George Reserve, near Pinckney, Livingston County, on May 10, 1942. Walkinshaw has recorded arrival in Calhoun County in late April and early May; he noted an individual in Bath Township, Clinton County, on April 24, 1938. One to 3 of the species were seen almost daily during May on Sand Point, Huron County, by D. W. Douglass (1931 to 1933), and 1 (U.M.M.Z.) was collected on Beaver Island, Charlevoix County, May 17, 1932, by Victor H. Cahalane.

Upper Peninsula.—Brodkorb saw several of the species at Whitefish Point, Chippewa County, on May 11, 1936. Christofferson has generally recorded arrival at Blaney, Schoolcraft County, by mid-May (2 seen on May 12, 1937). S. S. Gregory, Jr., collected a specimen in the Huron Mountains, Marquette County, on May 23, 1932; A. Murie saw several, and collected 1 (U.M.M.Z.) on Isle Royale, May 25, 1930, and observed 2 or 3 more on June 1, 1930—apparently the only records for the island.

SUMMER.—Nesting is recorded in June and July, occasionally in August.

Lower Peninsula.—Swales (1904: 41) listed the species as an uncommon summer resident in Wayne County; Purdy (1892: 162) noted 2 small breeding colonies in the county (near Plymouth) and Durfee (1890: 156) found 2 nests, 1 with 3 eggs, and 1 with 7 eggs, on July 6, and a third nest, with 6 eggs, on August 13. In the vicinity of Ann Arbor (N. A. Wood, 1912: 160-61), J. W. Detwiller discovered a breeding colony on June 20, 1870. F. M. Gage also found a colony there and collected a nest with 8 eggs (U.M.M.Z.) on June 22, 1907. Gibbs (1885: 7) reported the species as a rare breeding bird in Kalamazoo County; but in adjacent Calhoun County, Walkinshaw (1935a: 364; 1936a: 86) found 11 nests, the majority in June, a few in July and August, and 1 with 7 young on September 12, 1935. At Fish Point, Tuscola County, R. E. Olsen and N. A. Wood observed 50 individuals on July 17 and 18, 1934. A number of specimens (U.M.M.Z.) were taken from North and South Manitou islands, Leelanau County, in the latter part of June, 1940, by L. D. Case and A. E. Staebler;

on Beaver Island, Charlevoix County, a few were seen and specimens (U.M.M.Z.) collected by T. D. Hinshaw and R. E. Morrill in June, 1937. Blanchard and Nelson (MS of 1937) found the species in several localities in the vicinity of Douglas Lake, Cheboygan County; they noted a nest with 2 eggs there on July 27, 1931.

Upper Peninsula.—The species has been found in several localities in Chippewa County: a number of specimens (U.M.M.Z.) were taken on Drummond Island by T. D. Hinshaw and R. A. MacMullan in July, 1938; 1 specimen (U.M.M.Z.) was secured by Van Tyne and 1 by Max M. Peet at Munuscong Bay in late June and July, 1934; and the species was seen from the last week in June to the first of August at Whitefish Point by N. A. Wood (1914: 72). Brodkorb found this wren "rather common" at Seney, Schoolcraft County, in early June, 1938; Leonard Wing (1940: 187) saw it at McFarland, Marquette County, on June 10 and again July 4 to 5. J. E. Lescelius collected a nest with 3 eggs near the Sturgeon River, Baraga County, on July 23, 1933, and Leonard Wing (1940: 187) saw the species at Ironwood, Gogebic County, on July 12 and 22. It was also seen in the vicinity of Sidnaw, Houghton County, and Bessemer, Gogebic County, during late June, 1933, by Walkinshaw and A. Dowding.

FALL.—Departure is recorded from the Upper Peninsula during September, and from the south in late September or early October.

Upper Peninsula.—R. E. Olsen collected a specimen (U.M.M.Z.) near Deer Park, Luce County, on September 8, 1939; Walkinshaw saw several wrens in the Munuscong State Park, Chippewa County, on September 1 and 2, 1934. Christofferson has generally recorded the species at Blaney, Schoolcraft County, until mid-September; he noted 3 there as late as September 28 in 1931. A specimen (U.M.M.Z.) was taken near Hessel, Mackinac County, by A. D. Tinker on September 4, 1930.

Lower Peninsula.—A specimen was collected on Charity Island, Huron County, by N. A. Wood (1911: 110) on September 16, 1910. F. W. Rapp (1931: 31) has recorded the species in the vicinity of Vicksburg, Kalamazoo County, on September 2 (1910) and October 7 (1908); L. D. Case secured a specimen (U.M.M.Z.) at Portage Lake, Jackson County, on September 29, 1940. The species was recorded at Ann Arbor on September 10, 1911 (N. A. Wood, 1912: 160-61), and a specimen was collected there on September 14, 1935, by Max M. Peet. L. W. Campbell (1940: 192) has generally observed the species in the Toledo-Erie marsh area until the middle of September, and recorded 1 wren as late as October 16 (1938).

WINTER.—One winter record: L. D. Case and A. E. Staebler collected a specimen (U.M.M.Z.) near Ann Arbor on January 15, 1938.



*Salpinctes obsoletus obsoletus* (Say)  
Common Rock Wren

A specimen (U.M.M.Z.) of the Rock Wren was taken October 10, 1910, by J. Claire Wood, in Monguagon Township, Wayne County (Van Tyne, 1942: 52).

## MIMIDAE

## (MOCKINGBIRDS AND THRASHERS)

*Mimus polyglottos polyglottos* (Linnaeus)  
Eastern Mockingbird

Rare summer resident; recorded north to Isle Royale, but most records are for the southern half of the Lower Peninsula. Recorded in winter from Monroe, Calhoun, and Barry counties.

First listed for Michigan by Sager (1839: 413).

SPRING.—L. W. Campbell (1940: 192) has generally observed the Mockingbird in the Toledo–Erie marsh area by the second week in May. Frank L. DuMond saw 1 at East Grand Rapids, on May 20, 1933, and Miller Empey collected 1 near Freeland, Saginaw County, on April 10, 1928. Walter P. Hill observed 1 on Mackinac Island between May 6 and 8, 1925.

SUMMER.—Nesting is reported from June to mid-August. J. Claire Wood (1911a: 69–70) collected young about ready to leave the nest (U.M.M.Z.) in Ecorse Township, Wayne County, on August 13, 1910. Fargo saw 1 near Jackson on July 18, 1934, and Walkinshaw reported 1 at Battle Creek on June 1, 1931. Three nests have been recorded in the southwestern part of Michigan: Mr. and Mrs. N. T. Peterson examined a nest with 1 egg in Bedford Township, Calhoun County, in late July, 1927; Curtis Lawrence and Pirnie (1939: 91–92) found a nest with 4 eggs near Hickory Corners, Barry County (3 eggs hatched on June 11; after these young were fledged, a second nest of 4 eggs was unsuccessful). A few miles south of Benton Harbor, Berrien County, W. P. Proctor noted a pair during the latter part of June, 1927, and found their nest, with 4 young, on July 4; he observed them in that vicinity until August 18.

FALL.—A specimen (U.M.M.Z.) was taken at Isle Royale on September 26, 1929, by N. A. Wood (1930: 267). John N. Lowe (1926: 248–49) observed a Mockingbird at Marquette from October 5 to 9, 1925. In the Lower Peninsula an individual was seen at Hickory Corners, Barry County, by Mr. and Mrs. N. T. Peterson, on November 2, 1939, and one at Jackson by Fargo on October 16 and 19, 1937.

WINTER.—Curtis Lawrence and Pirnie (1939: 91–92) observed a Mockingbird at Hickory Corners, Barry County, on January 1, 1939, and frequently thereafter throughout the winter and spring. Walkinshaw, E. M.

Brigham, Jr., and others saw 1 in Battle Creek, from November 26, 1937, to April 1, 1938. Mr. and Mrs. N. T. Peterson observed 1 there on January 30, 1940, and 1 at Camp Custer, west of Battle Creek, on several occasions between January 30 and mid-March, 1935. One was found at Temperance, Monroe County, by L. W. Campbell (1940: 119-20) and Van Tyne on February 12 and 26, 1933.

*Dumetella carolinensis* (Linnaeus)  
Catbird

Summer resident, common in the south, less common in the Upper Peninsula. Reported in winter from Ingham, Washtenaw, and Monroe counties.

First recorded for Michigan by Sager (1839: 413): "*Orpheus felivox*."

SPRING.—Arrival is reported in the Lower Peninsula in the last week or 10 days of April and in the Upper Peninsula about the middle of May.

Lower Peninsula.—L. W. Campbell (1940: 205) usually reported main flight in the Toledo-Erie marsh during the first week in May. Swales (1904: 41) found the species in the Detroit area by late April, and recorded 1 on April 14 (1891). The species is also reported by late April in the Ann Arbor region, where 15 were noted by R. E. Morrill on April 28, 1938. N. A. Wood (1922: 32) found the Catbird in Berrien County, after the first of May; G. A. Ammann noted it at the Prairie Farm, Alicia, Saginaw County, on May 8, 1940. D. W. Douglass observed it the most commonly at Sand Point, Huron County, during mid-May (1931 to 1933).

Upper Peninsula.—Christofferson has recorded the Catbird at Blaney, Schoolcraft County: 1 seen on May 14, 1932, and 1 on May 19, 1939. From the extreme western part of the peninsula, at Ironwood, Gogebic County, L. C. Anderson collected 1 (U.M.M.Z.) on May 18, 1933.

SUMMER.—Eggs have been found in mid-May and after mid-August, but nesting is reported chiefly from the latter part of May to mid-July.

Lower Peninsula.—Swales (1904: 41) listed the species as a common summer resident in the Detroit region, and found several nests there in 1889: 1 with 4 eggs on May 26, 1 with 4 eggs on July 12, and 1 with 5 eggs on June 17. From the same locality J. Claire Wood (1905e: 423) recorded a nest with young on June 6. In the Ann Arbor area Thomas Weller found a nest with 1 egg, on May 16, 1934. N. A. Wood (1922: 32) saw the species daily during the summer (1917 to 1920) in Berrien County, and H. W. Rapp (1931: 30-31) recorded nests in the vicinity of Vicksburg, Kalamazoo County, between May 11 (1897, nest with 2 eggs) and July 7 (1897, nest with 1 egg). In the northwestern part of Huron County (1910), N. A. Wood and Gaige (1911: 304) discovered several nests (1 with 3 eggs, June 30; 1 with 1 egg, August 20); N. A. Wood (1912a: 187-88) found a

nest in July, 1910, on Charity Island, in the same county. Walkinshaw noted a nest with 3 young at Higgins Lake, Roscommon County, on July 3, 1937. Van Tyne (1925: 626), in Charlevoix County, and Widmann (1902: 236), in Emmet County, found the species uncommon but fairly well distributed. Blanchard and Nelson (MS of 1937) have listed a number of nests from the vicinity of Douglas Lake, Cheboygan County, between June 24 (2 nests with 4 eggs) and August 8 (nest with 2 young and 2 eggs).

Upper Peninsula.—Van Tyne (1923: 25) listed the Catbird as very uncommon on Les Cheneaux Islands, Mackinac County, but found a nest with 1 young on June 26 (near Hessel). Brodkorb saw a few Catbirds at Seney, Schoolcraft County, in early June, 1938, and Walkinshaw observed 1 north of Seney on June 26, 1933. George H. Shiras, 3d (N. A. Wood, 1908: 14) observed a pair nesting at Whitefish Lake, Alger County, during the summer of 1915; Christy (1925: 216) recorded an individual in the Huron Mountains, Marquette County, on June 14. F. M. Gaike (1914: 90) noted the species frequently during the month of July near Brown Lake, Dickinson County; John L. George and R. L. Patterson recorded it at Golden Lake, Iron County, on July 20, 1938. N. A. Wood (1933: 731) recorded an individual at Copper Harbor, Keweenaw County, on May 21, and listed the species as a rare summer resident there.

FALL.—Departure is recorded during the early part of October.

Upper Peninsula.—On Isle Royale Max M. Peet (1909: 380) saw a Catbird on September 12, 1905; in 1929 N. A. Wood collected 2 specimens (U.M.M.Z.) there on September 12. Bryens has observed the species at McMillan, Luce County, until middle or late October (1 seen on October 14, 1939; 1 on October 23 and 26, 1937).

Lower Peninsula.—Trautman saw a Catbird at Houghton Lake, Roscommon County, on October 9, 1938; in the fall of 1910 N. A. Wood (1911: 110) observed only 1 on Charity Island, Huron County (on August 16). F. W. Rapp (1931: 30–31) recorded the species in the vicinity of Vicksburg, Kalamazoo County, on October 5, 1902, and N. A. Wood collected a specimen (U.M.M.Z.) at Ann Arbor on October 7, 1903. Swales found 5 at Grosse Ile, Wayne County, on October 7, 1916, and 1 on October 13, 1907; Trautman recorded 6 on September 9, 1934, in Erie Township, Monroe County. L. W. Campbell (1940: 192) has generally reported departure from the Toledo–Erie marsh area by the second week in October, but recorded 1 Catbird as late as October 30 in 1932.

WINTER.—C. C. Ludwig frequently saw 1 at his home in Lansing between December 26, 1941, and January 8, 1942. Van Tyne (1926: 117; and notes) saw 1 in Ann Arbor on December 26, 1925; other observers noted the species on several later dates, the latest being January 19 (1926,

J. O. Kirby). Van Tyne observed 1 on January 21, 1927, and 1 on February 4, 1940 (with L. W. Campbell) in Erie Township, Monroe County.

*Toxostoma rufum rufum* (Linnaeus)  
Eastern Brown Thrasher

Summer resident, common in the south, less common in the Upper Peninsula. Recorded in winter from Clinton, Washtenaw, and Calhoun counties.

First recorded for Michigan by Sager (1839: 413).

SPRING.—Arrival is rarely reported in the Lower Peninsula before mid-April; in the Upper Peninsula it is reported during the latter part of April or in early May.

Lower Peninsula.—L. W. Campbell (1940: 206) noted the beginning of main flight in the Toledo-Erie marsh area after the third week in April. Swales recorded first arrivals at Detroit generally by mid-April, and noted a single Thrasher on March 31, 1908. The species has usually arrived at Ann Arbor in mid-April, occasionally earlier (April 1, 1921, 1 noted by A. D. Tinker; April 3, 1929, 1 noted by Walter Koelz). N. A. Wood (1922: 32), in Berrien County, and Walkinshaw, in Calhoun County, reported arrival in the latter part of April; F. W. Rapp (1931: 31) recorded the species at Vicksburg, Kalamazoo County, on April 3, 1913. D. W. Douglass found it the most numerous at Sand Point, Huron County, during the middle of May between 1931 and 1933 (the maximum of 7 on May 12, 1933). In the northern part of the peninsula, N. A. Wood saw 1 on Beaver Island, Charlevoix County, May 13, 1929.

Upper Peninsula.—Both Christofferson (at Blaney, Schoolcraft County) and Bryens (at McMillan, Luce County) have found the species chiefly during the first week or 10 days of May, rarely by late April (1 seen on April 28 in 1938 and 1941 by Christofferson). Brodkorb listed an individual at Whitefish Point, Chippewa County, on May 14, 1936, and Lawrence Dayton 1 on Isle Royale, May 4, 1937.

SUMMER.—Nesting is reported between mid-May and early July.

Lower Peninsula.—Swales listed 2 nests in 1889 from the Detroit area: 1 on June 23 with 2 eggs; and 1 on July 1 with 3 young. In the Ann Arbor area nests with fresh eggs are found chiefly in the latter part of May (May 25, 1937, 1 with 5 eggs by L. D. Case; May 26, 1941, 1 with 4 eggs by John L. George). C. L. Cass collected a set of 5 eggs (U.M.M.Z.) near Hillsdale, on May 15, 1895, and F. W. Rapp (1931: 31) reported a nest with 4 eggs from the vicinity of Vicksburg, Kalamazoo County, on April 27, 1896. A nest with 4 eggs was found near O'Brien Lake, Alcona County, by W. C. Beckman on May 22, 1942; 2 nests have been reported from the

vicinity of Red Oak, Oscoda County: 1 with 4 eggs on May 31, 1941, by Van Tyne, and 1 with 2 eggs on June 21, 1932, by Walkinshaw. Van Tyne (1925: 626) found the species occasionally in Charlevoix County. Blanchard and Nelson (MS of 1937) listed it as common in the vicinity of Douglas Lake, Cheboygan County, and recorded 17 nests over a period of several years between June 2 and July 17.

Upper Peninsula.—A Brown Thrasher was seen at Whitefish Point, Chippewa County, by N. A. Wood (1914: 72) on August 6; at Seney, Schoolcraft County, 1 was seen by Brodkorb on June 11, 1938. In Schoolcraft County at Blaney, Christofferson noted 1 nest with 4 eggs on May 16, 1938, and 1 with 4 eggs on May 22, 1932. Leonard Wing (1940: 187) recorded the species at Rapid River, Delta County, on June 5 to 7. F. M. Gaike (1914: 90) believed 2 pairs nested in the vicinity of Brown Lake, Dickinson County, where he found 1 nest with 4 eggs on July 11. The species has been listed as uncommon in the Huron Mountains, Marquette County, by S. S. Gregory, Jr. (1929: 187), and only 2 individuals were seen at Golden Lake, Iron County, during the summer of 1938 by John L. George and R. L. Patterson.

FALL.—Departure is recorded in September and early October.

Upper Peninsula.—R. E. Olsen and A. D. Tinker saw 5 Thrashers near Deer Park, Luce County, on September 2, 1936. Bryens recorded the species at McMillan, in the same county, on August 20, 1936, and Christofferson saw a Thrasher at Blaney, Schoolcraft County, on September 25, 1937.

Lower Peninsula.—A specimen (U.M.M.Z.) was taken at McKinley, Oscoda County, on September 18, 1903, by J. E. Reighard; N. A. Wood (1911: 110) noted the arrival of migrants on Charity Island, Huron County (where no Thrashers are found in summer) on September 15, 1910, and last departures on September 30. F. W. Rapp (1931: 31) reported the species at Vicksburg, Kalamazoo County, on October 7, 1908; in the vicinity of Ann Arbor, L. D. Case collected a specimen (U.M.M.Z.) on September 25, 1937, and N. A. Wood also took 1 (U.M.M.Z.) there on September 27, 1906. Swales (1904: 41) indicated that the species left the Detroit area in late September or early October. L. W. Campbell (1940: 192) has found individuals in the Toledo-Erie marsh area until the early part of November.

WINTER.—This species has been found in the winter as far north as St. Johns, Clinton County, where G. Martin (1940a: 62) observed an Eastern Brown Thrasher from December 15, 1939, to January 6, 1940. Van Tyne saw 1 at Ann Arbor on December 20, 1919. Mr. and Mrs. N. T. Peterson saw 1 at Battle Creek, on January 30, 1935; they trapped and banded 1, presumably the same individual, on February 7, 1935.

TURDIDAE  
(THRUSHES)*Turdus migratorius migratorius* Linnaeus  
Eastern Robin

Common summer resident. Winters in small numbers in the southern third of Michigan and occasionally in the Upper Peninsula.

First listed for Michigan by Sager (1839: 413).

SPRING.—There is a surprising lack of definite recorded data for such a common and well-known bird. Apparently migration occurs chiefly in the latter part of March and in early April.

Lower Peninsula.—In the Toledo-Erie marsh area, L. W. Campbell (1940: 206) reported the beginning of main flight during the first week in March. Swales (1904: 42) noted arrival in the Detroit area between the latter part of February and late March. R. E. Olsen and A. D. Tinker saw about 500 in Hartland Township, Livingston County, on March 31, 1935, and with T. D. Hinshaw they also observed about 500 at Portage Lake, Jackson County, April 14, 1935. On Sand Point, Huron County, D. W. Douglass observed the greatest numbers during mid-April (1931 to 1933). One Robin was seen by Maurice G. Brooks at Tawas City, Iosco County, March 17, 1939.

Upper Peninsula.—Christofferson has found the Robin arriving at Blaney, Schoolcraft County, about the middle of March (1 seen March 10, 1940; 3, March 15, 1939) and has recorded larger numbers during April (20 seen April 5, 1940; 15, April 12, 1937; 40, April 25, 1941). Laurence Dayton noted first arrivals on Isle Royale during the spring of 1937 on April 22, and recorded the species almost daily thereafter.

SUMMER.—Nesting is reported from early April to the last of July, but chiefly in May, June, and the early part of July.

Lower Peninsula.—Swales found a nest with 4 eggs near Detroit on April 29, 1890; observers in the Ann Arbor area have reported nests with egg sets as early as April 14 (1938, by T. D. Hinshaw) and April 15 (1936, by Brodkorb). In the vicinity of Vicksburg, Kalamazoo County, F. W. Rapp (1931: 34) recorded a nest with 2 eggs on April 3, 1898. N. A. Wood and Frothingham (1905: 53) found the species to be one of the most abundant in Crawford, Alcona, Iosco, and Oscoda counties from mid-June to the latter part of September. Van Tyne (1925: 627) found it commonly in the open and cultivated regions of Charlevoix County. Blanchard and Nelson (MS of 1937) have listed it as breeding abundantly during June and July in the vicinity of Douglas Lake, Cheboygan County.

Upper Peninsula.—The Robin was found to be well distributed in the Upper Peninsula, though most abundant in the towns and around farms

(Leonard Wing, 1940: 187-88). N. A. Wood (1914: 73) found a nest with 3 young at Whitefish Point, Chippewa County; Christofferson at Blaney, Schoolcraft County, and Bryens, at McMillan, Luce County, have noted fledglings by the early part of June and occasionally in late May. At Whitefish Lake, Alger County, N. A. Wood (1918: 15) recorded the species as common; at Brown Lake, Dickinson County, F. M. Gaige (1914: 91) also listed it as common and found 2 nests (each with 3 young about to leave), 1 on July 2 and 1 on July 23. S. S. Gregory, Jr. (1929: 188), found the species an abundant summer resident in the Huron Mountains, Marquette County; at Golden Lake, Iron County, John L. George and R. L. Patterson found it to be a common breeding bird. It is a common summer resident at Copper Harbor, Keweenaw County (N. A. Wood, 1933: 733), but apparently uncommon on Isle Royale; 1 nest was noted on the island July 11 (Peet, 1909: 386).

FALL.—Departure is recorded in the north during the latter part of September and early October, and in the Lower Peninsula chiefly during October.

Upper Peninsula.—Max M. Peet (1909a: 117) listed the species daily on Isle Royale between September 6 and 21, and it was recorded there as late as October 1 (1929) by N. A. Wood. Trautman recorded 55 Robins at Lake Gogebic, Ontonagon County, on October 3, 1934, and the following day saw 60 in southern Houghton County. A large flock was reported by Ira N. Gabrielson from the Huron Mountains, Marquette County, on September 24, 1936, and 200 Robins were seen by R. E. Olsen and A. D. Tinker near Deer Park, Luce County, on September 2, 1936. Christofferson has recorded much larger numbers at Blaney, Schoolcraft County, in fall than in spring; he noted the chief migration from the last week in September to the middle of October, but noted stragglers until the latter part of November; typical numbers recorded are 500 on September 21 (1939), 300 on October 12 (1940), 500 on October 12 and 13 (1937), and 100 on November 1 (1940).

Lower Peninsula.—At Lincoln, Alcona County, J. Claire Wood (1913: 20) saw about a dozen in the last few days of October; Trautman recorded 60 at Houghton Lake, Roscommon County, on October 10, 1938, and the same number on November 6, 1938. One was seen at West Branch, Ogemaw County, on November 20, 1941, by R. E. Morrill; large flocks were noted at Hamlin Lake, Mason County, during the latter part of September by Chaney (1910: 279). N. A. Wood (1911: 112) found the species common on Charity Island, Huron County, from October 1 to October 11. Swales (1904: 42) recorded departure from the Detroit area in late October and early November. L. W. Campbell (1940: 206) has found that all but a few

stragglers and the winter residents have left the Toledo-Erie marsh area by the first week in November.

WINTER.—Individuals are recorded rarely and irregularly in the Upper Peninsula; small numbers are found every winter in the southern tiers of counties.

Upper Peninsula.—John N. Lowe recorded a Robin at Marquette during the early part of January, 1932, and saw a few there every winter; E. E. Brewster noted several (Barrows, 1912: 723) at Iron Mountain, Dickinson County, in the winter of 1908-9. Magee photographed a Robin at his home in Sault Ste Marie, Chippewa County, on February 9, 1928, and with Christofferson noted 1 at Pickford, in the same county, on February 17, 1925. Bryens saw a Robin at McMillan, Luce County, on January 3 and 4, 1941; Christofferson recorded 5 at St. Ignace, Mackinac County, on December 30, 1926.

Lower Peninsula.—The basis for a report that N. A. Wood had seen a flock of 1000 Robins in a swamp near Ypsilanti, Washtenaw County (J. Butler, 1912: 412), is not known, and there seem to be no definite well-authenticated records of concentrations in Michigan in winter. In the Toledo-Erie marsh area, L. W. Campbell (1940: 123) recorded "a few" Robins each winter, 1926-39, except the winter of 1930-31. Swales (1904: 34) regularly noted a few in the Detroit region, and one to several are recorded in the Ann Arbor area every winter. F. W. Rapp (1931: 42) noted the Robin frequently in January and February in the vicinity of Vicksburg, Kalamazoo County.

*Turdus migratorius nigriceps* Aldrich and Nutt  
Black-backed Robin

A specimen (U.M.M.Z.), taken by Brodkorb (1942a: 432) at Whitefish Point, Chippewa County, on May 12, 1936, proved to be of this subspecies, which was first described in 1939. This is apparently the only Michigan record.

*Hyllocichla mustelina* (Gmelin)  
Wood Thrush

Common summer resident in the Lower Peninsula (irregular in the northern counties); rare and local in the Upper Peninsula and on Isle Royale.

First recorded for Michigan by Sager (1839: 413).

SPRING.—First arrivals are recorded in the southern counties during the last few days of April or in early May, in the Upper Peninsula by the middle of May.

Lower Peninsula.—L. W. Campbell (1940: 192) gave April 28 (1932)



as the earliest, May 2 as the average, date of arrival in the Toledo-Erie marsh area. At Ann Arbor individuals have usually been reported in late April or early May (occasionally earlier—1 was seen on April 14 in 1938 by L. D. Case) and larger numbers during the second week of May (6 on May 7 and May 10, 1939, reported by John L. George). N. A. Wood (1922: 34) in Berrien County and Walkinshaw in Calhoun County have recorded arrival in early May. F. W. Rapp (1931:33) recorded the species from the vicinity of Vicksburg, Kalamazoo County, on April 18, 1926. G. A. Ammann observed it at the Prairie Farm, Alicia, Saginaw County, on May 9, 1940, and D. W. Douglass saw it on Sand Point, Huron County, on May 9 and 11, 1932. A specimen (M.C.Z.) was collected at Cadillac, Wexford County, by Jonathan Dwight, May 14, 1888.

Upper Peninsula.—Bryens at McMillan, Luce County, recorded 1 Wood Thrush on May 15 (in 1925 and 1929).

SUMMER.—Nesting is reported chiefly in the latter part of May and in June.

Lower Peninsula.—Swales recorded a number of nests from the vicinity of Detroit: on May 18, 1902, 3 nests with 1, 2, and 3 eggs, respectively; on June 2, 1901, several new nests without eggs, 4 nests with 4 eggs each, 4 nests with 3 eggs each, 4 nests with 1 egg each, and 1 nest with 3 young. John L. George reported a nest near Ann Arbor on June 27, 1940, with 3 young about ready to leave. The species was listed (N. A. Wood, 1922: 34) as a common summer resident in Berrien County, and a nest with 3 eggs was found there on May 26. F. W. Rapp (1931: 33) has seen nests in the vicinity of Vicksburg, Kalamazoo County, between May 18 (1902, nest with 3 eggs) and June 4 (1903, nest with 3 eggs). G. A. Ammann recorded a nest with 4 eggs at the Prairie Farm, Alicia, Saginaw County, on June 1, 1940. Chaney (1910: 278) saw and heard the species occasionally at Hamlin Lake, Mason County, and N. A. Wood and Frothingham (1905: 53) listed it as common in Oscoda County, on July 4 and 15. It is apparently uncommon and local in Charlevoix County; R. H. Wolcott (Barrows, 1912: 708) reported it from the county, but neither Barrows nor Van Tyne (1925: 627) found it there. The species is irregular in Cheboygan County (Root, 1942: 113-14); it was reported from the vicinity of Douglas Lake in the county by N. A. Wood, Smith, and Gates (1916: 20) in 1911 and 1912; F. N. Blanchard (Root, 1942: 113-14) found a nest with 3 young there on July 4, 1930; in 1941 O. S. Pettingill, Jr., found a nest with 1 young on July 2, and Root saw 4 adults there.

Upper Peninsula.—Bryens has recorded the Wood Thrush at McMillan, Luce County, several times during summer months (June 10, 1933; July 15, 1929; and with Walkinshaw, on June 3, 1932). Van Tyne saw 1 and heard several in the Huron Mountains, Marquette County, during the last

week of June, 1936. A fledgling (U.M.M.Z.) was collected by A. G. Ruthven at Brown Lake, Dickinson County, on July 8, 1909. John L. George and R. L. Patterson saw 4 Wood Thrushes at James Lake, near Elmwood, Iron County, July 21, 1938, and A. Murie reported seeing 1, on Isle Royale, June 13, 1930.

FALL.—General departure is reported during the first half of September, but stragglers are frequently found in late September and occasionally in October.

Upper Peninsula.—One definite fall record: a Wood Thrush seen by Bryens at McMillan, Luce County, on September 1, 1924.

Lower Peninsula.—Chaney (1910: 278) observed the species at Hamlin Lake, Mason County, until September 18, and F. W. Rapp (1931: 33) recorded it at Vicksburg, Kalamazoo County, as late as September 7, 1928. At Kalamazoo, B. F. Sykes collected a specimen (U.M.M.Z.) on September 18, 1879, and N. A. Wood (1922: 34) found the species in Berrien County until the early part of September. A few specimens (U.M.M.Z.) have been taken in the vicinity of Ann Arbor the latter part of September: September 16, 1931, by J. Burzan; September 20, 1895, by D. C. Worcester; and September 21, 1908, by T. Mast. Swales (1904: 42) found that usually even the stragglers had left the Detroit area by the first of October, although he recorded 3 Wood Thrushes there on October 19, 1902. L. W. Campbell (1940: 206) in the Toledo-Erie marsh area reported departure of the majority of the Wood Thrushes usually by the end of the first week in September.

*Hyllocichla guttata faxoni* Bangs and Penard  
Eastern Hermit Thrush

Common transient. Summer resident south at least to Montcalm and Ottawa counties. Recorded in winter from Kalamazoo, Wayne, and Monroe counties.

First recorded for Michigan by Gibbs (1879: 482): "*Turdus pallasii*."

SPRING.—First arrivals are frequently reported in the latter part of March, main flight in April and early May.

Lower Peninsula.—L. W. Campbell (1940: 206), in the Toledo-Erie marsh area, and Swales, in the Detroit area, recorded the species most frequently during April and early May. Swales noted 10 Hermit Thrushes on April 6 (1909); 20 on April 9 (1908); 15 on April 23 (1909); and 1 as late as May 14 in 1907. In the vicinity of Ann Arbor, Trautman saw 1 on March 21, 1938; R. E. Morrill 1 on March 23, 1935. The species was recorded in Berrien County by N. A. Wood (1922: 35) until May 10 or 11, and by F. W. Rapp (1931: 34) at Vicksburg, Kalamazoo County, as late as May 20 in 1929. In the past decade Walkinshaw has usually found the species in Calhoun County in early April, but occasionally not until after

the middle of the month. G. A. Ammann noted it at the Prairie Farm, Alicia, Saginaw County, on April 24, 1940. Van Tyne collected a specimen (U.M.M.Z.) at Sand Point, Huron County, on April 7, 1933, and D. W. Douglass recorded at least 100 there on April 30, 1933.

Upper Peninsula.—Bryens at McMillan, Luce County, has generally recorded the Hermit Thrush in mid-April (April 15, 1932; April 14, 1938); Christofferson has also usually noted it in mid-April at Blaney, Schoolcraft County, but recorded 1 there on April 3 in 1938. Brodkorb saw the species at Whitefish Point, Chippewa County, on May 11 and 17 in 1936, and W. C. Beckman collected a specimen (U.M.M.Z.) in the Huron Mountains, Marquette County, on April 15, 1938. The species was seen on Isle Royale between April 21 and 25, 1937, by Laurence Dayton, and 2 (U.M.M.Z.) were collected there by A. Murie on May 9, 1930.

SUMMER.—Nesting is reported from the middle of May to early August, but chiefly during June and July.

Lower Peninsula.—R. M. Gibbs and W. A. Gunn (Barrows, 1912: 718, 721) found a nest with 3 fresh eggs in Ottawa County on May 20, 1879. Gibbs (1885a: Vol. 24, p. 6; and Barrows, 1912: 721) found a nest near Howard City, Montcalm County, on June 10, 1882, and Mrs. N. T. Peterson found a nest near Rosebush, Isabella County, on May 28, 1937. R. E. Olsen recorded a nest with 4 young at Lovells, Crawford County, on June 17, 1931, and (with A. D. Tinker) found a nest with 4 eggs near Red Oak, Oscoda County, on May 30, 1934. Barrows (1904:81) listed the species as common on Beaver Island, Charlevoix County, during the second week of July, and Widmann (1902: 237) recorded it as common in Emmet County. In the vicinity of Douglas Lake, Cheboygan County, Blanchard and Nelson (MS of 1937) have found a number of nests between June 5 and August 5, the majority in late June and July.

Upper Peninsula.—T. D. Hinshaw and R. A. MacMullan observed 10 Hermit Thrushes in a day on Drummond Island, Chippewa County, during late June and July, 1938; at Munuscong Bay, in the same county, Christofferson found 2 nests, each with 3 eggs, on July 20, 1927. In the northern part of this county on Whitefish Point, N. A. Wood (1914: 73) listed the species as a rather rare summer resident; he noted a nest with 3 eggs there on July 28; W. B. Tyrrell also found a nest with 3 eggs at this locality on July 8, 1929. Bryens discovered a nest with 1 young at McMillan, Luce County, on July 6, 1937; Christofferson and Walkinshaw recorded 2 nests, with 4 eggs each, at Blaney, Schoolcraft County, 1 on May 31, 1934, 1 on June 1, 1934. The species was frequently observed at Brown Lake, Dickinson County, by Gaige (1914: 91), who collected 2 specimens (U.M.M.Z.) there in early August. Van Tyne found it common in the

Huron Mountains, Marquette County, in late June, 1936, and a nest with 4 eggs was found there by McClintock (1910: 409-18) on July 24. Walkinshaw photographed a nest with 4 eggs near Sidnaw, Houghton County, on June 28, 1933; N. A. Wood noted the species as a common summer resident at Copper Harbor, Keweenaw County (1933: 732), and collected a specimen (U.M.M.Z.) on Isle Royale, May 31, 1930.

FALL.—The southward movement is reported in the Upper Peninsula in late September and early October, chiefly during October in the south.

Upper Peninsula.—Max M. Peet (1909a: 117) observed the species on Isle Royale from August 22 to September 14, and N. A. Wood noted it there until October 2 in 1929. Trautman recorded 3 individuals at Sidnaw, Houghton County, on October 1, 1934, and 9 at Covington, Baraga County, on October 5, 1934. Ira N. Gabrielson recorded 10 in the Huron Mountains, Marquette County, between September 22 and 26, 1936. At McMillan, Luce County, Bryens has regularly noted the species until mid-October and sometimes later (October 25, 1934; October 27, 1930).

Lower Peninsula.—Three Hermit Thrushes were noted at Lincoln, Alcona County, by J. Claire Wood (1913: 20) on October 7, and 1 on October 19. At Houghton Lake, Rosecommon County, 9 were seen by Trautman on October 18, 1936, and 1 on October 24, 1937. N. A. Wood (1911: 112) found hundreds on Charity Island, Huron County, between September 29 and October 5, none after October 7. F. W. Rapp (1931: 34) recorded the species at Vicksburg, Kalamazoo County, from September 14 (1923) to October 16 (1930); Swales (1904: 42; and notes) saw it in the Detroit area from late September to early November, observing the greater numbers in the first part of October (25 on October 8, 1911; 15 on October 15, 1912; 20 on October 15, 1908). L. W. Campbell (1940: 192, 206) reported Hermit Thrushes in the Toledo-Erie marsh area chiefly from September 29 to October 31, the greater numbers between October 3 and 24.

WINTER.—Pirnie (1940a: 18) recorded 1 at the W. K. Kellogg Bird Sanctuary, northeastern Kalamazoo County, on January 1, 1940, and Swales (1906b: 26) saw 1 at Detroit on December 8, 1905. L. W. Campbell (1940: 124-25) has frequently observed the species at North Cape, Monroe County, in winter (5 on December 17, 1938, 1 on January 13, 1940) and collected 2 specimens (U.M.M.Z.) there, 1 on December 25, 1936, and 1 on January 10, 1937.

*Hylocichla ustulata swainsoni* (Tschudi)  
Olive-backed Thrush

Common transient. Summer resident south to Kalkaska and Wexford counties; common in the Upper Peninsula.

First authoritatively recorded for Michigan by Gibbs (1879: 482).

SPRING.—Arrival is reported in southern counties chiefly during the first three weeks of May, and in Upper Peninsula, usually about mid-May.

Lower Peninsula.—N. A. Wood recorded the species at Rockwood, Monroe County, on May 2, 1934; Swales found it in the Detroit area between April 30 (1903, several seen) and June 9 (1907, 1), noting the greatest numbers in mid-May (10 on May 16, 1909; 12 on May 18, 1909). In the Ann Arbor region R. E. Morrill saw an Olive-backed Thrush on April 30, 1940, and A. D. Tinker reported 6 there on May 25, 1924. The species was noted as abundant by N. A. Wood (1922: 35) in Berrien County May 6 to 12, 1919, and after May 15 in 1918. It was recorded by F. W. Rapp (1931: 33) at Vicksburg, Kalamazoo County, from May 6 (1938) to May 20 (1929). G. A. Ammann collected a specimen at the Prairie Farm, Alicia, Saginaw County, on May 15, 1940; William Brewster and Jonathan Dwight secured several specimens (M.C.Z.) at Cadillac, Wexford County, on May 14, 1888.

Upper Peninsula.—Bryens has observed the species at McMillan, Luce County, in mid-May or somewhat later (1, May 16, 1925; 1, May 21, 1936); Christofferson has also noted it in mid-May at Blaney, Schoolcraft County. One was seen at Whitefish Point, Chippewa County, by Brodkorb on May 13, 1936. The species was recorded on Isle Royale by Laurence Dayton on May 6, 1937; N. A. Wood saw 1 there on May 4, 1930, and 10 on May 29, 1930.

SUMMER.—Nests with eggs have been found in early June and late July, but the chief nesting period is between mid-June and mid-July.

Lower Peninsula.—Barrows (1912: 716) provided several apparently reliable records from the northern part of the peninsula: J. H. Deming found a nest with 4 eggs in Wexford County in June, 1875, and W. H. Dunham discovered a nest with 3 eggs near the Manistee River, Kalkaska County, on June 5, 1899. On Beaver Island, Charlevoix County, N. A. Wood saw the species on June 22, 1925; in Cheboygan County, Blanchard and Nelson (MS of 1937) recorded 1 young collected at the Maple River, Burt Lake, on August 1, 1927, and R. M. Strong found a nest with 3 eggs near Douglas Lake on July 22, 1916.

Upper Peninsula.—Van Tyne (1923: 25) listed the species as a common summer resident on Les Cheneaux Islands, Mackinac County; in Chippewa County, T. D. Hinshaw and R. A. MacMullan secured several specimens (U.M.M.Z.) on Drummond Island in late June and early July, 1938, and N. A. Wood (1914: 73) recorded the species as common at Whitefish Point, observing 1 young just able to fly on August 15. Christofferson discovered a nest with 2 eggs in the same county near Raco (west of Sault Ste Marie)

on July 13, 1924. N. A. Wood (1918: 14) listed the species as abundant at Whitefish Lake, Alger County; S. S. Gregory, Jr. (1929: 188), noted the species as a common summer resident in the Huron Mountains, Marquette County. An adult and a nest with 3 eggs (U.M.M.Z.) were collected at Brown Lake, Dickinson County, by F. M. Gaige on July 23, 1909, and at least 15 Olive-backed Thrushes were noted daily in 1938, in the vicinity of Golden Lake, Iron County, by John L. George and R. L. Patterson. Leonard Wing (1940: 188) found a nest with 4 eggs, July 18, 1932, northeast of Ironwood, Gogebic County; Walkinshaw photographed a nest with 3 eggs, on June 27, 1933, near Three Lakes, Baraga County. The species was seen in the Porcupine Mountains by O. McCreary who found a nest with 2 eggs there on July 26 (N. A. Wood, 1905: 178); the species was also noted at Copper Harbor, Keweenaw County, by N. A. Wood (1933: 732) as a common summer resident. Max M. Peet (1909: 384-85) mentioned a nest with 3 young discovered on Isle Royale, on July 8, and 2 fledglings, August 3 (1905).

FALL.—Migrants are reported in the Upper Peninsula chiefly from late August until mid-September and in the south, until late September.

Upper Peninsula.—Max M. Peet (1909: 384-85) listed the Olive-backed Thrush as one of the most abundant thrushes in fall on Isle Royale (from mid-August to mid-September). Ira N. Gabrielson collected a specimen in the Huron Mountains, Marquette County, on September 21, 1936; R. E. Olsen and A. D. Tinker noted 2 Olive-backed Thrushes at Deer Park, Luce County, on August 31, 2 more on September 2, and collected 1 (U.M.M.Z.) on September 5 (1936). Fargo recorded "very many" at Whitefish Point, Chippewa County, on both September 1 and 3, 1925, and Christofferson saw 1 at Blaney, Schoolcraft County, on September 26, 1936, and 3 on September 29, 1937.

Lower Peninsula.—Chaney (1910: 278) has recorded the Olive-backed Thrush as a very common transient after mid-September at Hamlin Lake, Mason County; N. A. Wood (1911: 112) observed great numbers on Charity Island, Huron County, between September 4 and 10 and again between September 28 and October 7. The species was noted in Berrien County on August 29 (N. A. Wood, 1922: 35); 1 Thrush was seen in Oakland County by R. E. Olsen on October 2, 1938, and a specimen (U.M.M.Z.) was secured near Ann Arbor by F. L. Davis on October 2, 1905. Swales recorded numbers of Olive-backed Thrushes at Detroit in September: 10 on September 6, 1911; 20 on September 13, 1911; 12 on September 27, 1908; and 1 as late as October 6 in 1907. In the Toledo-Erie marsh area L. W. Campbell (1940: 206) has observed the species most frequently from September 1 to 25.

*Hylocichla minima minima* (Lafresnaye)  
Gray-cheeked Thrush

Uncommon transient.

First authoritatively recorded for Michigan by Gibbs (1885: 6).

SPRING.—The species is found in southern counties chiefly during mid-May, in the Upper Peninsula during late May.

Lower Peninsula.—L. W. Campbell (1940: 125, 192) has listed the species as a common transient in the Toledo–Erie marsh area, where he has recorded it regularly during the middle of May. In the vicinity of Detroit, Swales (1904: 43) found it from late April (April 26, 1904, 1 seen) to the latter part of May. It has also been reported regularly in late April in the Ann Arbor region (1 seen by A. D. Tinker on May 4, 1936, and 1 by T. D. Hinshaw on May 26, 1934); 5 specimens in the collection of Max M. Peet were taken there between May 14 (1936) and May 17 (1939). N. A. Wood (1922: 34–35) observed the species in Berrien County on May 3 and collected single specimens (U.M.M.Z.) there on May 13, 14, and 19. Wood also recorded the species at Fish Point, Tuscola County, throughout the last half of May, and D. W. Douglass noted it at Sand Point, Huron County, between May 12 (1933) and May 25 (1931).

Upper Peninsula.—N. A. Wood (1914: 73) found the Gray-cheeked Thrush in small numbers at Whitefish Point, Chippewa County, between May 20 and 30 and took a specimen (U.M.M.Z.) at Copper Harbor, Keweenaw County, on May 27, 1931 (N. A. Wood, 1933: 732).

FALL.—The species is apparently more common in the fall than in the spring. It is reported in both peninsulas in September, and in southern counties occasionally also in early October.

Upper Peninsula.—On Isle Royale, Max M. Peet (1909: 384) noted the species first in 1905 on September 5, and listed it as abundant from September 12 to September 21 (when he left the island); in 1929 N. A. Wood collected a specimen (U.M.M.Z.) there on September 16 and observed the species until September 24. S. S. Gregory, Jr., shot a Gray-cheeked Thrush in the Huron Mountains, Marquette County, on September 14, 1921; A. D. Tinker secured 1 at Deer Park, Luce County, on September 2, 1938, and R. E. Olsen took 1 (U.M.M.Z.) in the same locality on September 6, 1939. Bryens has observed the Gray-cheeked Thrush at McMillan, Luce County, during the latter part of September: 2 on September 16, 1929, and 1 on September 25, 1934; Magee banded 1 at Sault Ste Marie on September 12, 1932.

Lower Peninsula.—N. A. Wood (1911: 111–12) recorded the species on Charity Island, Huron County, from September 14 to October 7, and listed

it as very common from September 28 to October 2. A specimen (Grand Rapids Mus.) was taken in Kent County on September 29, 1937, and 1 (U.M.M.Z.) was collected near Kalamazoo by F. H. Chapin on September 15, 1884. A Gray-cheeked Thrush was seen near Pontiac, Oakland County, by R. E. Olsen on October 10, 1938. Several fall specimens (U.M.M.Z.) have been taken near Ann Arbor; N. A. Wood took 2 there, 1 on September 15, 1919, and 1 on October 2, 1908. Swales noted 12 Thrushes in the Detroit area on September 27, 1908, and 5 on October 5, 1907; Trautman saw 2 in Erie Township, Monroe County, on September 9, 1934. In the Toledo-Erie marsh area as a whole, L. W. Campbell (1940: 192) has observed the species from September 8 (1935) to October 7 (1934).

### *Hylocichla fuscescens*

The species was first authoritatively listed for Michigan by Gibbs (1879: 482).

Michigan records of the species (Barrows, 1912: 712-14; and others) were formerly referred to the Veery (*Hylocichla fuscescens fuscescens*), but all the summer specimens in the Museum of Zoology have been recently identified as Willow Thrushes (*H. f. salicicola*), which is therefore considered the breeding form in Michigan. Ten specimens taken in spring and one taken in fall have been identified as *H. f. fuscescens*. Since the two forms cannot be satisfactorily separated in the field, all sight records have been referred in the following accounts to the Willow Thrush, though some spring and fall records may, of course, actually refer to the Veery.

### *Hylocichla fuscescens fuscescens* (Stephens)

#### Veery

Transient; exact status uncertain.\*

The 10 spring specimens (U.M.M.Z.) were taken as follows: in the Ann Arbor region, 1 on April 28, 1918, by H. B. Sherman; 1 on May 9, 1903, by N. A. Wood; 1 on May 9, 1926, by Walter Koelz; 1 on May 18, 1895, by D. C. Worcester. In Greenfield Township, Wayne County, 1 on May 3, 1907, by Swales. At Kalamazoo, 1 on May 3, 1880, by F. H. Chapin. In Warren Woods and at Birchwood Beach, Berrien County, 1 on May 7, 1919, and 2 on May 14, 1918, by N. A. Wood. In Montcalm County, 1 on May 24, 1883, by Gibbs.

The single fall specimen in the Museum of Zoology was taken in Greenfield Township, Wayne County, on August 28, 1906, by Swales.

\* See *Hylocichla fuscescens*, above.



*Hylocichla fuscescens salicicola* Ridgway  
Willow Thrush

Common summer resident.\*

First recorded for Michigan by Van Tyne (1938: 29).

SPRING.—The species usually arrives in the southern counties the first week of May and reaches the Upper Peninsula about the middle of the month.

Lower Peninsula.—The earliest date for arrival of individuals in the Toledo-Erie marsh area is April 28, the average, May 5; the earliest date for the beginning of main flight is May 2, the average, May 11 (L. W. Campbell, 1940: 192, 206). In the Detroit area Swales noted several Willow Thrushes on April 23, 1901, and 3 on April 29, 1905; he usually observed greater numbers in early May (10 on May 4, 1912). The species is regularly reported in the Ann Arbor area in late April or in early May, though N. A. Wood saw an individual there as early as April 13 in 1916. In Hartland Township, Livingston County, R. E. Olsen and others saw 20 Willow Thrushes on May 3, 1936. During the 1930's, L. H. Walkinshaw usually recorded arrival in Calhoun County after the first week in May, but Gibbs (1885: 6) noted arrival in Kalamazoo County between May 1 and May 10. F. H. Chapin took a specimen (U.M.M.Z.) near Kalamazoo on May 4, 1883.

Upper Peninsula.—Christofferson noted an individual at Munuscong Bay, Chippewa County, on May 16, 1929, and another at Blaney, Schoolcraft County, on May 16, 1933. Bryens has recorded the species at McMillan, Luce County, usually about the middle of May or a little later (May 16 in 1931; May 19 in 1939 and 1940; May 21 in 1938).

SUMMER.—Nests with eggs have been recorded from the third week of May to mid-August, but the chief nesting period extends from late May to the first half of July.

Lower Peninsula.—Swales (1904: 42) listed the Willow Thrush as an abundant summer resident in the Detroit area and recorded several nests in 1901: May 22, a nest with 4 eggs; May 23, a nest with 2 eggs and another with 3 eggs; June 2, a nest with 4 young. Barrows (1912: 713) reported that the species had been found nesting in Monroe, Lenawee, and Hillsdale counties; N. A. Wood recorded 2 nests near Ann Arbor on May 24, 1904, 1 with 3 thrush eggs and 1 Cowbird egg, 1 with 4 thrush eggs and 2 Cowbird eggs. Wood (1922: 34) also noted a nest in Berrien County on May 25, 1919. Gibbs (1885: 6), as well as F. W. Rapp (1931: 33), listed the species as an uncommon summer resident in Kalamazoo County; Rapp noted a nest near Vicksburg on May 27, 1895. In Oakland County a nest with 5 eggs

\* See *Hylocichla fuscescens*, above.

(U.M.M.Z.) was collected by F. C. Hubel on May 26, 1900, and in Huron County a nest with 2 eggs was noted by N. A. Wood and Gaige (1911: 307) on August 17, 1908. L. D. Case and A. E. Staebler collected a number of specimens (U.M.M.Z.) on the Fox (1939) and Manitou (1940) islands, Leelanau County, in June and early July; Staebler collected 4 eggs (U.M.M.Z.) on South Fox Island, June 17, and 4 half-grown young (U.M.M.Z.) on North Fox Island, July 1. A number of specimens (U.M.M.Z.) were also taken in late June and early July on Beaver Island and neighboring smaller islands of Charlevoix County, by R. E. Morrill in 1937, and by Van Tyne in 1938; on the mainland in the same county Van Tyne (1925: 627) listed the species as a common summer resident. Widmann (1902: 237) listed it as common in Emmet County, and Blanchard and Nelson (MS of 1937) recorded a number of nests in the vicinity of Douglas Lake, Cheboygan County, between June 16 (nest with 2 young and 1 egg) and July 22 (nest with 2 eggs).

Upper Peninsula.—The species was noted as a common summer resident on Les Cheneaux Islands, Mackinac County, by Van Tyne (1923: 25), and was seen occasionally on Drummond Island, Chippewa County, by T. D. Hinshaw and R. A. MacMullan. Christofferson discovered a nest with 4 eggs on June 9, 1940, at Blaney, Schoolcraft County, another nest with 4 eggs on June 14, 1932. Bryens recorded a nest with 3 eggs at McMillan, Luce County, on June 13, 1937, and Leonard Wing collected a specimen (U.M.M.Z.) at Rapid River, Delta County, on June 6, 1931. F. M. Gaige (1914: 90-91) frequently observed the species at Brown Lake, Dickinson County, and A. G. Ruthven collected a fledgling (U.M.M.Z.) there on July 8, 1909. An individual was seen at Golden Lake, Iron County, by John L. George and R. L. Patterson on June 30, 1938, and a specimen (U.M.M.Z.) was collected by Leonard Wing (1940: 188) at Ironwood, Gogebic County, on July 18, 1932. A fledgling (U.M.M.Z.) was collected in the Porcupine Mountains, Ontonagon County, by O. McCreary on July 22 (N. A. Wood, Peet, and McCreary, 1906: 121). The species was listed as very common on Isle Royale in July and August, 1905 (Max M. Peet, 1909: 383-84).

FALL.—Departure is reported in late August and September.

Upper Peninsula.—Max M. Peet (1909a: 118) listed the species on Isle Royale from August 24 to September 14 in 1905. Bryens recorded it at MacMillan, Luce County, until August 29 in 1934, August 31 in 1929, and September 3 in 1935.

Lower Peninsula.—N. A. Wood (1911: 111) observed the species on Charity Island, Huron County, on September 3, 5, and 7 (1910). H. B. Sherman collected a specimen (U.M.M.Z.) in Berrien County on August 30, 1917, and A. D. Tinker saw an individual near Ann Arbor on September 7,

1913. Swales (1904: 42) reported departure from the Detroit area in the latter part of September, and L. W. Campbell (1940: 192) reported departure from the Toledo-Erie marsh area, on the average, by early September.

*Sialia sialis sialis* (Linnaeus)  
Eastern Bluebird

Common summer resident. Recorded in winter from Washtenaw, Wayne, Kalamazoo, and Monroe counties.

First listed for Michigan by Sager (1839: 413): "*Sialia Wilsonii*."

SPRING.—Arrival is reported in southern counties during the first half of March, and in the Upper Peninsula in late March or early April.

Lower Peninsula.—Main flight begins on the average in the Toledo-Erie marsh area on March 12, the earliest date being February 20, 1939 (L. W. Campbell, 1940: 206). Swales recorded Bluebirds in the Detroit area by mid-March or earlier (50 on March 6, 1893; 30 on March 13, 1902); observers have noted them in the Ann Arbor region in February and early March (early records include: 3 seen February 14, 1915; 2 February 21, 1920; and 5 on February 22, 1918), but larger numbers were reported later in the month (30, on March 29, 1939, by John L. George). In the 1930's L. H. Walkinshaw found the species arriving in Calhoun County occasionally in late February, more usually in early March. Flocks of 10 to 25 birds were noted on Sand Point, Huron County, by D. W. Douglass between mid-April and late May (1931 to 1933).

Upper Peninsula.—There are few spring reports from the northern part of the state. Bryens recorded the species at McMillan, Luce County, in late March or early April (1 on March 25, 1928; 1 on April 2, 1925; 2 on April 12, 1936).

SUMMER.—Although nests with eggs or young have been reported from early April to early August, the chief breeding period is in May, June, and early July.

Lower Peninsula.—Swales recorded a number of nests in the vicinity of Detroit, chiefly in May and early June (May 2, 1891, nest with 5 eggs; May 26, 1889, nest with 4 young; June 8, 1889, nest with 2 eggs). Van Tyne found 2 nests, each with 4 eggs, in the Ann Arbor area, 1 on April 18, 1923, 1 on July 27, 1926. A few nesting pairs were noted in Berrien County by N. A. Wood (1922: 35), and an exceptionally early nest with 4 eggs was found by F. W. Rapp (1931: 34) at Vicksburg, Kalamazoo County, on April 4, 1898. G. A. Ammann observed a pair nesting at the Prairie Farm, Alicia, Saginaw County, on May 26, 1940, and N. A. Wood and Gaige (1911: 307) found a few pairs nesting in northwestern Huron County in 1908. Chaney (1910: 279) listed the species as rather common in Mason County;

N. A. Wood and Frothingham (1905: 54) recorded it as very common and breeding in Oscoda County. In Charlevoix County, Barrows (1904: 81) noted a few pairs of Bluebirds on Beaver Island, and Van Tyne (1925: 627) found the species common on the mainland. Nests with eggs have been recorded in the vicinity of Douglas Lake, Cheboygan County (Blanchard and Nelson, MS of 1937), from June 29 to July 11 and nests with young from July 4 to July 25.

Upper Peninsula.—Van Tyne (1923: 25) listed the Bluebird as a common breeder on Les Cheneaux Islands, Mackinac County, and N. A. Wood (1914: 73) found a nest with 3 young about ready to leave on June 25 at Whitefish Point, Chippewa County. Bryens has observed fledglings at McMillan, Luce County, usually after the middle of June (June 13, 1934; July 8, 1941); Christofferson has recorded a number of nests from the vicinity of Blaney, Schoolcraft County, in June and July (June 11, 1941, nest with 5 eggs; July 19, 1933, nest with 4 eggs). The species has been observed in the vicinity of Whitefish Lake, Alger County (N. A. Wood, 1918: 15); at Brown Lake, Dickinson County (F. M. Gaige, 1914: 91); and also in the Huron Mountains, Marquette County (S. S. Gregory, Jr., 1929: 188). John L. George and R. L. Patterson saw 10 Bluebirds in southwestern Iron County on July 21, 1938. N. A. Wood (1933: 733) recorded the arrival of a flock at Copper Harbor, Keweenaw County, on May 26, 1931; he listed the species as an occasional resident there. On Isle Royale Max M. Peet (1909: 386) found a nest and 3 newly-fledged young August 18, 1905.

FALL.—The species leaves the Upper Peninsula in early October and the Lower Peninsula usually by mid-October.

Upper Peninsula.—Max M. Peet (1909a: 104) observed migrants on Isle Royale during late August and on September 11 and 12. In 1934 Trautman recorded the species at Sidnaw, Houghton County (22 on October 1), at Trout Creek, Ontonagon County (23 on October 4), and near Covington, Baraga County (18 on October 5). At Deer Park, Luce County, R. E. Olsen and A. D. Tinker observed 12 Bluebirds on September 1, 1936, and 25 on August 31, 1938. Christofferson has recorded considerable numbers at Blaney, Schoolcraft County, noting 45 on September 21, 1937; 50 on September 26, 1937; and 4 on October 22, 1930.

Lower Peninsula.—A flock of 12 was seen near Lincoln, Alcona County, by J. Claire Wood (1913: 20) on October 8, and 3 individuals were noted at Houghton Lake, Roscommon County, by Trautman on October 10, 1938. F. W. Rapp (1931: 34) recorded the species at Vicksburg, Kalamazoo County, on November 6, 1911, and Leonard Wing saw 12 near South Haven, Van Buren County, on September 19, 1931. Swales found large numbers in the vicinity of Detroit during October, but noted only a few after the end

of the month. Some of his records are as follows: 30 on October 3, 1907; 12 on October 7, 1906; 50 on October 8, 1911; and 25 on October 19, 1909. L. W. Campbell (1940: 192, 206) has noted that most of the Bluebirds have left the Toledo-Erie marsh area by the middle of October, although he has regularly found a few present until the first few days of November.

WINTER.—F. W. Rapp (1931: 34) observed the species at Vicksburg, Kalamazoo County, on February 16, 1911; Swales (1904: 42-43) saw 1 at Detroit on December 8, and L. W. Campbell reported 1 at North Cape, Monroe County, on December 5, 1937. Bluebirds have been seen several times during the winter at Ann Arbor: 1 on December 21 by Duncan and Wadsworth (1936: 71); 1 on January 5, 1933, by T. D. Hinshaw; 6 on January 15, 1936, by James H. Wood; and 1 on February 3, 1931, by N. A. Wood.

SYLVIIDAE  
(GNATCATCHERS AND KINGLETS)

*Polioptila caerulea caerulea* (Linnaeus)  
Blue-gray Gnatcatcher

Summer resident north to Huron and Newaygo counties.

First listed for Michigan by Sager (1839: 413): "*Culicivora coerulea*."

SPRING.—Arrival is reported in late April or early May. L. W. Campbell (1940: 192) usually recorded the gnatcatcher in the Toledo-Erie marsh area during the last week in April; Swales noted it in the Detroit vicinity in late April or early May (12 on April 30, 1912; 12 on May 2, 1912) and occasionally observed individuals in mid-April (1 seen on April 14, 1906). The species has twice been recorded before the middle of April in the Ann Arbor area: a specimen (U.M.M.Z.) collected by A. E. Guenther on April 4, 1895, and 2 seen by Walter Koelz on April 8, 1917. The species is reported there, however, more commonly in the latter part of the month. N. A. Wood (1922: 34) observed the Blue-gray Gnatcatcher in Berrien County on May 6, 1919, and Walkinshaw has recorded it in Calhoun County (1930 to 1940) in late April or early May. F. W. Rapp (1931: 33) listed it from the vicinity of Vicksburg, Kalamazoo County, as early as April 9 in 1923; Barrows (1912: 706) reported that the species was rarely noted in Ingham County before the last few days of April. Swales saw 5 Gnatcatchers in Atlas Township, Genesee County, on April 21, 1906, and D. W. Douglass found the species at Sand Point, Huron County, in late April or early May, noting the larger numbers in mid-May.

SUMMER.—The Blue-gray Gnatcatcher has been found nesting chiefly in late May and the first half of June. Occasionally nests have been reported in early May; Swales found a nest under construction at Detroit on

May 4 (1912), and listed (1904: 42) the species as a common summer resident there. J. Claire Wood (1909c: 108) discovered a nest with 5 eggs in the Detroit area on May 31, and more recently M. L. Hundley (1940: 86) found a nest with 3 eggs there on June 18. H. W. Hann recorded a nest under construction near Ann Arbor on May 10, 1939; in Calhoun County, near Marshall, C. E. Coles (1876: 31) found a nest with 4 eggs on June 7 and discovered 25 additional nests in the area the same year. H. L. Cutler (1899: 153-54) reported that the species nested commonly at Saranac, Ionia County, and Mulliken (1893: 94) found a nest with young near Grand Rapids on June 17. Barrows (1912: 706) stated that the species generally nested in late May or early June but mentioned 2 early nests: 1 under construction near East Lansing, Ingham County, on May 8, 1897; and 1 with 4 eggs, found by R. M. Gibbs near Kalamazoo, on May 5, 1877. The species was observed nesting after mid-May in Genesee County (Spicer, 1887: 38), and a nest under construction was reported from Brooks Township, Newaygo County, by E. R. Ford on June 3, 1938. In Huron County N. A. Wood and Gaige (1911: 306-7) observed the species in late June and July, and collected several specimens; at Sand Point in the same county, D. W. Douglass found a nearly completed nest on June 3, 1933. There are a few scattered reports of the Blue-gray Gnatcatcher as far north as Mackinac County, but no specimens from north of Huron County are on record.

FALL.—The species apparently departs in late August and early September. N. A. Wood collected a specimen at Portage Lake, Livingston County, on August 24, 1935; L. D. Case secured 1 (U.M.M.Z.) near Ann Arbor on August 28, 1941. L. W. Campbell (1940: 192) has usually recorded the species in the Toledo-Erie marsh area until the first few days of September, on one occasion (1934) noting it as late as September 30.

*Regulus satrapa satrapa* Lichtenstein  
Eastern Golden-crowned Kinglet

Common transient. Summer resident south to Charlevoix County, locally common in the Upper Peninsula. Irregular in winter.

First listed for Michigan by Fox (1853: 161).

SPRING.—Main flight is reported from mid-March through April.

Lower Peninsula.—L. W. Campbell (1940: 128) has found the species in the Toledo-Erie marsh area between April 2 and May 17. Swales (1904: 42) recorded it somewhat earlier in the Detroit area (from early March to the first of May). Numerous winter records make it difficult to determine the beginning of migration in the Ann Arbor area; a specimen (U.M.M.Z.) was collected there as late as May 10 (1918) by Walter Koelz. N. A. Wood (1922: 34) listed the species as not very common in Berrien County;

he recorded it there in late April (1920) and in May (1918). F. W. Rapp (1931: 32-33) found it common in the vicinity of Vicksburg, Kalamazoo County (extreme dates: April 7, April 21). The species was seen at Fish Point, Tuscola County, from the last of April to May 9, 1926, by N. A. Wood; D. W. Douglass noted migrants at Sand Point, Huron County, until April 25, May 12, and May 11 (1931 to 1933).

Upper Peninsula.—At McMillan, Luce County, Bryens has noted 1 to 5 Golden-crowned Kinglets daily from mid-March to late April or occasionally early May. W. C. Beckman collected a specimen (U.M.M.Z.) near Marquette on April 14, 1938, and Laurence Dayton observed the species on Isle Royale between April 13 and 23, 1937.

SUMMER.—The few nest records available indicate that the species breeds in the latter half of June and in July.

Lower Peninsula.—Four or 5 Golden-crowned Kinglets were seen and 1 (U.M.M.Z.) collected on North Manitou Island, Leelanau County, on June 19, 1940, by A. E. Staebler; in Charlevoix County, Van Tyne (1925: 626) collected 1 (U.M.M.Z.) of 2 birds he observed behaving as if they had a nest nearby. The species has been seen on several occasions in the bog areas in the vicinity of Douglas Lake, Cheboygan County (N. A. Wood, Smith, and Gates, 1916: 20; Blanchard and Nelson, MS of 1937), and a recently fledged bird was collected by Max M. Peet near Cheboygan on August 20, 1941.

Upper Peninsula.—Several specimens (U.M.M.Z.) were collected on Drummond Island, Chippewa County, by R. A. MacMullan and T. D. Hinshaw in July and early August, 1938; at Whitefish Point in the same county fledglings were noted on July 10, and a nest with 7 eggs was found on July 13, 1914 (N. A. Wood, 1914: 73). Christy (1925: 216) listed the species as a common summer resident in the Huron Mountains, Marquette County, and Gaike (1914: 90) observed 2 birds at Brown Lake, Dickinson County, on July 23, 1909. Four Golden-crowned Kinglets were seen by John L. George and R. L. Patterson at Golden Lake, Iron County, on June 30 and 4 on July 21, 1938; nestlings were secured in the Porcupine Mountains, Ontonagon County, on July 2, and adults were seen there throughout the month of July and in early August (N. A. Wood, Peet, and McCreary, 1906: 120). On Isle Royale in 1905, Max M. Peet (1909: 382-83) recorded young birds in early July and a nest with 8 eggs on July 21; he regularly noted flocks of 15 to 20 Golden-crowned Kinglets there during the summer.

FALL.—The fall migration occurs mainly in late August and September in the Upper Peninsula and in September and October in the south.

Upper Peninsula.—Max M. Peet (1909a: 118) recorded the species almost daily on Isle Royale from late August until September 21. Ira N.

Gabrielson saw Golden-crowned Kinglets every day in the Huron Mountains, Marquette County, between September 22 and 27, 1936; R. E. Olsen and A. D. Tinker recorded 50 on August 28, 1934, and 100 on the following day at Deer Park, Luce County. Fargo saw 2 at Whitefish Point, Chippewa County, on September 4, 1925; R. E. Olsen and A. D. Tinker listed the species as common in that locality on August 27, 1931. Bryens has noted the species at McMillan, Luce County, from the latter part of August to early November and occasionally later (November 9, 1938; November 25, 1940).

Lower Peninsula.—In Crawford County N. A. Wood and Frothingham (1905: 53) saw several of these kinglets on September 6, and R. A. MacMullan collected 3 specimens (U.M.M.Z.) near Lovells on November 4, 1939. Verne Dockham found the species in Oscoda County from September 18 to October 28, 1935. In Alcona County J. Claire Wood (1913: 20) observed 20 Golden-crowned Kinglets on October 7 at Lincoln, 20 on October 16, and 10 on October 19 at Hubbard Lake. Chaney (1910: 278) recorded the species at Hamlin Lake, Mason County, on September 23; on Charity Island, Huron County, N. A. Wood (1911: 111), first noted the species on September 20, and recorded hundreds on September 29. F. W. Rapp (1931: 32–33) noted migrants in the vicinity of Vicksburg, Kalamazoo County, during October; Swales (1904: 42) also indicated that the species was the most abundant in the Detroit area in October; J. Claire Wood (1906: 23) observed more than 100 there on October 15. The species has been noted in the Toledo–Erie marsh area by L. W. Campbell (1940: 128) from the first of October to early November.

WINTER.—The Golden-crowned Kinglet winters occasionally in small numbers in the Upper Peninsula, frequently and rather numerous in southern counties.

Upper Peninsula.—Laurence Dayton observed several Golden-crowned Kinglets on Isle Royale, December 13 and 20, 1936. A specimen (U.M.M.Z.) was taken by Leonard Wing (1940: 189) at Ironwood, Gogebic County, on January 22, 1932; 1 (U.M.M.Z.) was secured by F. F. Tubbs near Lake Gogebic, Ontonagon County, on January 29, 1935; and an individual was seen by Leonard Wing (1940: 189) at McMillan, Luce County, on January 18, 1932.

Lower Peninsula.—W. H. Burt collected a specimen (U.M.M.Z.) near Lewiston, Montmorency County, on December 28, 1940; Walkinshaw has occasionally observed the species in Calhoun County in the winter (January 4, 1931; January 17, 1932). In Kalamazoo County, where Gibbs (1885: 6) listed it as an occasional winter visitant, F. H. Chapin collected a specimen (U.M.M.Z.) on December 24, 1884. In the Ann Arbor area observers fre-



quently report the species in winter: R. E. Morrill saw 10 Golden-crowned Kinglets on January 2, 1939, and John L. George observed 11 there on December 20, 1938. Swales recorded rather large numbers of these kinglets in the vicinity of Detroit in 1902: 12 on February 20; 20 on December 25; and 20 on December 30.

*Regulus calendula calendula* (Linnaeus)  
Eastern Ruby-crowned Kinglet

Common transient; 1 definite nesting record (Chippewa County) and 1 winter record (Monroe County).

First authoritatively listed for Michigan by Gibbs (1879: 482).

SPRING.—The species is recorded from mid-April to mid-May in the Lower Peninsula, and to late May in the Upper Peninsula.

Lower Peninsula.—L. W. Campbell (1940: 193) has observed the Ruby-crowned Kinglet in the Toledo–Erie Marsh area between mid-April and mid-May; Swales (1904: 42; and notes) listed it as a common transient in the Detroit area at the same time, recording the larger numbers during late April and early May (April 30, 1912, 10 seen; May 1 and 2, 1912, 15 seen each day; May 12, 1907, 10 seen). The species has been reported similarly in the Ann Arbor area, occasionally before the middle of April (April 7, 1940, 3 seen by H. W. Hann and John L. George; April 8, 1918, 11 seen by Walter Koelz); Koelz collected a specimen (U.M.M.Z.) there as late as May 20 in 1927. N. A. Wood (1922: 34) saw dozens of Ruby-crowned Kinglets daily in Berrien County in late April and the first half of May (1918). The species was usually recorded in Calhoun County by L. H. Walkinshaw during the 1930's in the third week of April; an unusually early Ruby-crowned Kinglet was noted in Hartland Township, Livingston County, by A. D. Tinker, T. D. Hinshaw, and R. E. Olsen on April 4, 1937. N. A. Wood collected a specimen (U.M.M.Z.) at Fish Point, Tuscola County, on May 17, 1926, and D. W. Douglass observed the species at Sand Point, Huron County (1931 to 1933), from mid-April to mid-May. The only definite record from the northern part of the peninsula is a specimen (U.M.M.Z.) taken by James H. Wood on Beaver Island, Charlevoix County, on May 3, 1929.

Upper Peninsula.—Christofferson has observed Ruby-crowned Kinglets at Blaney, Schoolcraft County, in late April and early May (2 on April 22, 1932; 8 on April 30, 1938; and 4 on May 5, 1937); Bryens has recorded the species similarly at McMillan, Luce County (1 on April 18, 1934; 2 on May 12, 1929; and 1 on May 23, 1937). It was listed as common at Whitefish Point, Chippewa County, by Brodkorb between May 8 and 18, 1936, and 2 individuals were observed near Munising, Alger County, by Christofferson

on May 27, 1937. N. A. Wood (1933: 732) found the species at Copper Harbor, Keweenaw County, from May 4 to May 21, 1931. It was reported from Isle Royale on May 8, 1937, by Laurence Dayton and on May 14 and 17, 1930, by N. A. Wood, who collected a specimen (U.M.M.Z.) on the latter date.

**SUMMER.**—The Ruby-crowned Kinglet is reported only from the Upper Peninsula during the summer. S. E. White (1893: 229) reported a nest with 4 young on Mackinac Island, Mackinac County, which he ascribed to this species, but it was probably the nest of the Golden-crowned Kinglet (see Barrows, 1912: 705). The only authentic nest record for Michigan is that of Christofferson (1925: 593-94): with Magee and W. J. Breckenridge, Christofferson found a nest (U.M.M.Z.) with at least 6 young on Sugar Island, Chippewa County, on July 4, 1925. Christofferson saw an individual at Munuscong State Park in the same county on June 6 (1927) and 1 on June 3 (1928). Walkinshaw and Bryens observed a Ruby-crowned Kinglet at McMillan, Luce County, on June 9, 1935; John L. George and R. L. Patterson noted 2 at Golden Lake, Iron County, on June 29, 1938; and Max M. Peet collected a specimen (U.M.M.Z.) in the Porcupine Mountains, Ontonagon County, on July 14, 1904.

**FALL.**—Departure is recorded in September in the Upper Peninsula and in late September and early October in southern counties.

**Upper Peninsula.**—Specimens (U.M.M.Z.) of the Ruby-crowned Kinglet have been taken on Isle Royale from August 17 (1904, 1 by Max M. Peet) to October 1 (1929, 1 by N. A. Wood); in 1905 small flocks of 5 to 6 birds were observed there (Peet, 1909: 383) between September 5 and 9, and numerous flocks of 25 to 30 birds were noted on September 12. R. E. Olsen and A. D. Tinker saw 10 Ruby-crowned Kinglets at Deer Park, Luce County, on both August 29 and 30, 1934. Bryens has recorded this kinglet at McMillan, Luce County, regularly in September, once on August 11 (1928, 1 seen), and occasionally in the latter part of October (October 22, 1935, and October 27, 1929). Christofferson has reported the species at Blaney, Schoolcraft County, at a similar time; he noted 8 birds on July 25, 1930, that may have been summer residents there, and saw 6 at Munuscong State Park, Chippewa County, on October 3, 1929.

**Lower Peninsula.**—The Ruby-crowned Kinglet was observed as a common transient in Mason County after September 18 by Chaney (1910: 278); it was first noted on Charity Island, Huron County, by N. A. Wood (1911: 111) on September 19, and he observed them in large numbers from September 26 to 29 (1910). F. H. Chapin collected a specimen (U.M.M.Z.) near Kalamazoo, on October 1, 1879; A. D. Tinker and R. E. Olsen saw 2 Kinglets at Portage Lake, Jackson County, on October 27, 1935, and Olsen recorded 20 near Pontiac, Oakland County, on October 10, 1938. The spe-

cies is reported in the Ann Arbor area only in small numbers, but specimens (U.M.M.Z.) have been taken there from late August (1 on August 27, 1895, by D. C. Worcester) to mid-October (1 on October 18, 1938, by L. D. Case). The notes of Swales indicate that he occasionally recorded large numbers of the Ruby-crowned Kinglet in the Detroit region; he listed it as common on September 25, 1904; recorded 25 on October 3, 1911; 200 on October 8, 1911; and 2 on October 29, 1910.

WINTER.—There is 1 definite winter record: L. W. Campbell (1940: 128–29), with several other observers, saw a Ruby-crowned Kinglet in southeastern Monroe County, on February 26, 1932.

MOTACILLIDAE  
(PIPITS)

*Anthus spinoletta rubescens* (Tunstall)  
American Pipit

Common transient.

First listed for Michigan by Sager (1839: 415).

SPRING.—The American Pipit arrives in Michigan in April or during the first three weeks of May.

Lower Peninsula.—L. W. Campbell (1940: 193) has reported the species from the Toledo–Erie marsh area during the first 3 weeks in May. Swales (1904:41) listed it as an irregular, sometimes common, transient in the Detroit area; with J. Claire Wood he observed 100 there on April 7, 1901, and 200 on May 10, 1903. Observers usually report this pipit in the Ann Arbor area between mid-April and mid-May, but a flock of 200 was seen as early as March 22 in 1935 (Trautman), and arrival was recorded there on March 31 in 1918 (N. A. Wood and Tinker, 1934: 36). Thirty birds were found by R. E. Olsen and A. D. Tinker near Battle Creek, Calhoun County, on May 12, 1935, and the species was reported from Jackson, in 1939, by Mrs. E. K. Frey on April 2 (6 seen) and April 9 (2). N. A. Wood observed the species and collected several specimens (U.M.M.Z.) between May 9 and 19, 1926, at Fish Point, Tuscola County.

Upper Peninsula.—N. A. Wood (1914: 72) recorded a flock of 20 American Pipits at Whitefish Point, Chippewa County, on May 21, 1914, and a single bird on June 3; Walkinshaw saw 2 there on May 29, 1934. Bryens has noted the species at McMillan, Luce County, throughout most of May, finding the greatest numbers during the middle of the month (70 on May 14, 1941, and on May 19, 1938). At Copper Harbor, Keweenaw County, N. A. Wood (1933: 731) listed the species as a common transient in 1931, first observing it there on May 15 (a flock of 20); Laurence Dayton found it on Isle Royale on May 2, 1937.

FALL.—The chief period of migration in the fall is from late September

to early October in the Upper Peninsula and to mid-October in the Lower Peninsula.

Upper Peninsula.—Max M. Peet (1909: 379–80) recorded large flocks, of 20 to 200 birds, daily on Isle Royale between September 19 and 21 in 1905. A single specimen (U.M.M.Z.) was collected at Gogebic Lake, Gogebic County, on September 20, 1940, by R. Bohland; Trautman saw 130 American Pipits near Sidnaw, Houghton County, on October 1, 1934, and 200 near Matchwood, Ontonagon County, on the following day. S. S. Gregory, Jr. (1929: 187), collected a specimen in the Huron Mountains, Marquette County, on September 26, 1919, and listed the species as a rare fall migrant there between September 24 and October 17. Bryens has recorded the American Pipit at McMillan, Luce County, from the early part of September to early November, noting the largest numbers there in late September and early October (150 birds seen on September 25, 1928, and 200 on October 6, 1924). Christofferson has made similar observations at Blaney, Schoolcraft County, although in 1932 he recorded a flock of 50 as late as November 5.

Lower Peninsula.—Numbers of American Pipits were recorded by J. Claire Wood (1913: 19) at Lincoln, Alcona County, during October: 30 to 200 daily in early October; 15 on October 21; and 3 on October 29. The species was found on Charity Island, Huron County (N. A. Wood, 1911: 109–110), during the latter part of September: 20 on September 19; 15 on September 23; 50 on September 24; 1 on September 25. N. A. Wood collected specimens (U.M.M.Z.) on Fish Point, Tuscola County: 2 on October 16, 1925, and 2 on November 5, 1927. C. W. Gunn (1881a: 69) saw flocks of American Pipits near Grand Rapids, Kent County, on October 18. R. E. Olsen and A. D. Tinker saw 40 American Pipits at Portage Lake, Jackson County, on September 23, and 30 on October 7. A large flock was seen near Ann Arbor on October 10, 1908, by F. M. Gaige; one of the latest seasonal records from this locality is that of a specimen (U.M.M.Z.) taken by Gaige on October 30, 1917. Swales (1904: 41) indicated that this pipit was rarely found in the Detroit area after November 1; in 1903 Swales recorded "hundreds" there on October 21, but noted only a few by October 24. In the Toledo–Erie marsh area, L. W. Campbell has observed the species from mid-September to mid-November.

*Anthus spragueii* (Audubon)  
Sprague's Pipit

One record: an adult male (U.M.M.Z.) in breeding condition collected by Trautman and Van Tyne (1935: 457–58) on June 26, 1935, near Lovells, Crawford County.

BOMBYCILLIDAE  
(WAXWINGS)*Bombycilla garrulus pallidiceps* Reichenow  
Bohemian Waxwing

Irregular winter visitant.

First listed for Michigan by Kneeland (1857: 234).

The species has been reported in the Upper Peninsula from the early part of November to early April and in the Lower Peninsula from mid-November to early March.

Upper Peninsula.—Bryens has recorded Bohemian Waxwings at Mc-Millan, Luce County, on several occasions in recent years; he saw 2 on November 17, 1938; 4 between February 17 and March 2, 1939; and 1 on April 4 and 5, 1941. Christofferson has observed them in a number of localities in the eastern part of the peninsula. He recorded 15 on November 9, 1931, and 20 on December 19, 1932, at Hermansville, Menominee County; more than 50 on January 2, 1933, at Sault Ste Marie (with Magee); and 20 on December 22, 1930, at Munising, Alger County. At Marquette, in 1923, J. N. Lowe saw 2 on March 12, 8 on March 13, and 4 on March 14.

Lower Peninsula.—The Bohemian Waxwing has not been found so regularly in the southern counties as in the Upper Peninsula. Allan Herbert (1880: 79) reported "large flocks" in Saginaw County from mid-November to the last of February, and N. A. Eddy (1884: 41) twice saw a few individuals in Bay County during the winter of 1883-84. Gibbs (1889: 187) listed this waxwing as a very rare winter visitant in Kalamazoo County; W. A. Brotherton (1904: 29) noted a flock near Rochester, Oakland County, in November, 1903. More than 1000 Bohemian Waxwings were observed near Waterloo, Jackson County, by Walter Koelz (1923: 39) on February 19, 1920, and about 150 on the next day. A flock of 18 was noted at Ann Arbor by N. A. Wood and several other observers from mid-January to March 14, 1922. The species has not been reported from the southern part of the peninsula since 1923, when a number of specimens (U.M.M.Z.) were collected at Waterloo, Jackson County, by Walter Koelz on February 10.

*Bombycilla cedrorum* Vieillot  
Cedar Waxwing

Common summer resident and transient. Winter visitant, rare in the Upper Peninsula, common but irregular in southern counties.

First listed for Michigan by Sager (1839: 414).

SPRING.—The species is very irregular in its movements; it arrives in

Lower Peninsula localities between mid-March and mid-May. It is generally recorded in northern counties by late May.

Lower Peninsula.—L. W. Campbell (1940: 129–30) has stated that Cedar Waxwings appear in the Toledo–Erie marsh area “sometimes in early March, while in other years, the greater part of May passes before they are found.” Swales (1904: 37; and notes) usually observed the species in the Detroit area in mid-March or later, recording the larger numbers in April (in 1917: 40 on April 14; 30 on April 15; 15 on April 29); but in some years, he saw only a very few in April (1907: 1 on April 2; several on April 3 and 4; 2 on April 30). N.A. Wood observed 50 Cedar Waxwings near Ann Arbor on March 20, 1919; in the years between 1930 and 1940 that Walkinshaw did not record Cedar Waxwings in the winter in Calhoun County, he has found them arriving there in mid-May or later. D. W. Douglass recorded arrival on Sand Point, Huron County, on May 28, 1931 (15 to 20 birds noted), and in the 2 succeeding years he noted arrival in mid-May.

Upper Peninsula.—Christofferson has found the Cedar Waxwing at Blaney, Schoolcraft County, in late May or early June (2 seen on May 27, 1941; 16 on June 1, 1938); he recorded a flock of 150 at Brevort Lake, Mackinac County, on June 12, 1928. Bryens has generally found Cedar Waxwings at McMillan, Luce County, in the latter part of May; in 1941 he noted 1 to 3 between March 15 and 24, but did not see any again that year until May 22. Magee reported 6 at Sault Ste Marie on May 15, 1933. N. A. Wood (1933: 728) saw 2 individuals at Copper Harbor, Keweenaw County, on May 13, 1931, and flocks of 25 to 50 on June 9 and 10. Wood also found the species on Isle Royale; he collected 1 specimen (U.M.M.Z.) there on May 7, 1930, and noted other Cedar Waxwings on June 6.

SUMMER.—The main nesting season extends from late June to the end of August, but nests have been reported from early June to mid-September.

Lower Peninsula.—Swales (1904: 37; and notes) listed the species as a common summer resident in the Detroit area, recording nests chiefly between June 9 (1896, nest with 4 eggs) and August 10 (1902, 3 nests, each with 4 eggs). An exceptionally late nest (with 1 young and 2 eggs) was found near Ann Arbor by F. H. Test on September 17, 1941. Walkinshaw discovered a nest under construction in Calhoun County on June 5, 1932, and in the vicinity of Vicksburg, Kalamazoo County, F. W. Rapp (1931: 27) found Cedar Waxwing nests from June 18 (1897, nest with 5 eggs) to August 11 (1900, nest with 5 eggs). The species was listed as a common nesting bird in northwestern Huron County in 1908 by N. A. Wood and Gage (1911: 296), who noted several nests there between June 29 (nest

with 4 eggs) and August 6 (nest under construction). N. A. Wood (1912*a*: 187) observed a nest under construction on Charity Island, Huron County, on July 25, 1911; Chaney (1910: 276) listed the Cedar Waxwing as very common in Mason County; N. A. Wood and Frothingham (1905: 51) also found it very common in midsummer and late summer (1903) in Crawford, Oscoda, Alcona, and Iosco counties. As many as 50 Cedar Waxwings were seen in a day on Beaver Island, Charlevoix County, by T. D. Hinshaw and R. E. Morrill during the summer of 1937. In the vicinity of Douglas Lake, Cheboygan County, the species was listed as the most abundant and widely distributed bird in the region (N. A. Wood, Smith, and Gates, 1916: 17), and a total of 194 nests were found there between 1933 and 1938 by F. J. Hinds.

Upper Peninsula.—In Mackinac County the species was noted as a common breeder (1917 to 1921) on Les Cheneaux Islands by Van Tyne (1923: 24); in Chippewa County at Whitefish Point, a nest with 4 eggs was found July 8, 1914, and the species was observed daily during July and the first half of August in 1912 and 1914 (N. A. Wood, 1914: 69). Bryens has recorded nests of the Cedar Waxwing at McMillan, Luce County, from early June to late July (June 8, 1941, nest with 5 eggs; July 22, 1931, nest with 5 eggs); Christofferson has made similar observations at Blaney, Schoolcraft County, noting 1 nest with 4 young about ready to leave on September 5, 1933. At Brown Lake, Dickinson County, Gaige (1914: 87) saw a few of the species and found a nest with 3 newly hatched young on July 19, 1909; in the Huron Mountains, Marquette County, S. S. Gregory, Jr. (1929: 184), recorded the species from late May to mid-September. At least 8 Cedar Waxwings were seen daily at Golden Lake, Iron County, by John L. George and R. L. Patterson in the summer of 1938; numbers were seen in the Porcupine Mountains, Ontonagon County, by N. A. Wood, Peet, and McCreary (1906: 118), a nest under construction being recorded there on August 2. Cedar Waxwings were found to be very common on Isle Royale (Max M. Peet, 1909: 370-71); 5 to 20 birds were seen every day, and at least 14 nests were discovered on 2 of the small islands in Rock Harbor.

FALL.—Records indicate that the species usually migrates southward between the last of August and mid-October.

Upper Peninsula.—A flock of 20 or more Cedar Waxwings was observed on Isle Royale by F. M. and A. M. Baumgartner, in the first week of September, 1938; the species was recorded there until September 20 (1905) by Max M. Peet (1909*a*: 117). R. E. Olsen and A. D. Tinker found 10 to 30 Cedar Waxwings during the last week in August, 1935, in the Porcupine Mountains, Ontonagon County; and in the Huron Mountains, Marquette

County, Ira N. Gabrielson saw 1 on September 25, 1936. In the region of Deer Park, Luce County, R. E. Olsen and A. D. Tinker counted 50 on both August 28 and 29, 1934, and 100 on September 1, 1936. Christofferson has usually reported numbers during the last of August and early September at Blaney, Schoolcraft County (50 on August 29, 1940; 75 on September 18, 1938), and occasionally in October (50 on October 1, 1940; 22 on October 12, 1940). Bryens has noted a very similar status for the species at McMillan, Luce County, but recorded it in 1936 as late as November 7. At Whitefish Point, Chippewa County, Fargo saw 23 Cedar Waxwings on August 30, 1925; R. E. Olsen and A. D. Tinker listed the species as common there in the last week of August, 1931.

Lower Peninsula.—Trautman found over 30 Cedar Waxwings at Houghton Lake, Roscommon County, on October 10, 1938, and the same number on November 6, 1938. Chaney (1910: 276) noted large flocks in Mason County after the last of August; in Van Buren County, near South Haven, Leonard Wing observed 12 to 30 each day between September 16 and 19, 1931. The species has been reported in the Ann Arbor area from mid-September to mid-November; typical records are: 5 seen September 13, 1919; 20 on October 28, 1916; and 30 on November 10, 1912. Swales (1904: 37) stated that the species usually left the Detroit area in mid-October, although in 1908 he recorded them throughout October and until the latter part of November (3 seen on November 29).

WINTER.—The Cedar Waxwing is rare in winter in the Upper Peninsula, and rather common but irregular in winter in the southern part of the Lower Peninsula.

Upper Peninsula.—Barrows (1912: 556) reported that the Cedar Waxwing frequently wintered in some numbers at Marquette. Bryens has 1 winter record for McMillan, Luce County: 16 birds seen there on February 2, 1935.

Lower Peninsula.—Gibbs (1885: 86) sometimes found large flocks of Cedar Waxwings in Kalamazoo County during January, February, and occasionally March; F. H. Chapin collected a specimen (U.M.M.Z.) near Kalamazoo on December 31, 1879. The species is frequently recorded on Christmas-census counts, 40 being recorded by E. M. Brigham, Jr., and others (1940: 108) in Calhoun County on December 24. In the Ann Arbor area where observers generally report the species every year, R. E. Olsen noted a flock of 14 birds on January 1, 1935, and M. T. Sturgeon saw 35 there on January 24, 1940. L. W. Campbell collected 2 specimens (U.M.M.Z.) in Erie Township, Monroe County: January 10, 1937; and February 4, 1940.



LANIIDAE  
(SHRIKES)*Lanius excubitor borealis* Vieillot  
Northern Shrike

Rare winter visitant.

First listed for Michigan by Sager (1839: 413).

Northern Shrikes are found in the Lower Peninsula from the latter part of October to mid-March, and in the Upper Peninsula from mid-October to mid-April. Since the Migrant Shrike, *L. ludovicianus migrans*, is now known to winter at least rarely in southern counties (Van Tyne, 1940a: 35), it is possible that some of the sight records in this account actually refer to that species.

Lower Peninsula.—L. W. Campbell (1940: 130) recorded a Northern Shrike near the Erie marsh, Monroe County, January 15, 1939. Swales (1904: 38) listed the species as an irregular winter visitant in the Detroit area from November 1 (1901) to March 15 (1903); J. Claire Wood collected 2 specimens (U.M.M.Z.) there in late October (October 22, 1905; October 24, 1909). The species is occasionally reported at a similar time in the Ann Arbor region (1 bird seen by Walter Koelz on November 7, 1921; 1 by R. E. Olsen on January 5, 1930; and 1 on February 24, 28, and March 3, 1939, by R. E. Morrill). George F. Raz reported 1 at Union Pier, Berrien County, on December 9 and 25, 1936. Walkinshaw (1935: 63) found 1 in Calhoun County on December 25, 1934. Gibbs (1885: 69) listed the species as an irregular transient and occasional winter visitant in Kalamazoo County from November to March; F. H. Chapin collected a specimen (U.M.M.Z.) there on March 6, 1880. A Northern Shrike (U.M.M.Z.) was secured on Charity Island, Huron County, October 7, 1910, by N. A. Wood (1911: 104), and 1 was seen at Lincoln, Alcona County, on October 29 by J. Claire Wood (1913: 19). Verne Dockham reported in 1941 that 8 to 10 were seen every winter at Mio, Oscoda County. John L. George saw 1 near Alpena on January 24, 1941, and collected 1 (U.M.M.Z.) on the following day near Hillman, Montmorency County. D. W. Douglass observed 1 on January 16, 1941, near the Pigeon River in southern Cheboygan County.

Upper Peninsula.—Bryens, at McMillan, Luce County, and Christoffer-son, at Blaney, Schoolcraft County, have reported the species between the latter part of October and mid-April. Bryens saw 2 Northern Shrikes on October 19, 1927, and 2 on January 5, 1941; he collected 1 (U.M.M.Z.) on March 10, 1934, and saw 1 on April 14, 1940. Typical records by Christoffer-son are: 1 seen on November 6, 1940; 2 on November 17, 1938; 4 on March 15, 1940; 2 on April 4, 1933.

*Lanius ludovicianus migrans* Palmer  
Migrant Shrike

Summer resident in small numbers in the Lower Peninsula; rare in the north; not recorded from Isle Royale or Keweenaw Point.

First authoritatively listed for Michigan by Gibbs (1879: 486).

SPRING.—The Migrant Shrike is generally found in southern counties in the latter part of March, in the Upper Peninsula during April.

Lower Peninsula.—L. W. Campbell (1940: 193) has found individuals in the Toledo-Erie marsh area generally during the last week in March; Swales (1904: 38) found that the species arrived in the Detroit area after March 15. Occasionally more than 1 or 2 birds are seen: 10 were reported by Swales from the Detroit area on April 13, 1896; near Ann Arbor, 3 were noted by Trautman on March 25, 1934, and 4 by John L. George, on March 29, 1939. Mid-March was given as the time of arrival for the species in Kalamazoo County by Gibbs (1885: 69), and it was recorded in the vicinity of Vicksburg, Kalamazoo County, by F. W. Rapp (1931: 27) on March 21 in 1897. In the years 1930-40 Walkinshaw noted arrival in the Battle Creek area between mid-March (March 17, 1940) and mid-April (April 12, 1931).

Upper Peninsula.—Bryens has generally observed the Migrant Shrike at McMillan, Luce County, the middle of April or somewhat later. He found the species as early as April 8 in 1925 and collected a specimen (U.M.M.Z.) there on April 19 in 1932. On Whitefish Point, Chippewa County, S. D. Knox secured a specimen of the Migrant Shrike (U.M.M.Z.) on April 12, 1937.

SUMMER.—Nests with fresh eggs have been reported from the third week in April to late June.

Lower Peninsula.—Swales (1904: 39; and notes) listed the species as a common summer resident in the vicinity of Detroit and recorded several nests from that area, including one with 7 eggs on May 5, 1901, and another with 5 eggs on May 13, 1902. F. C. Hubel collected a nest with 6 eggs (U.M.M.Z.) there on April 29, 1897, and M. L. Hundley (1940: 87) found 2 nests during the summer of 1940 in Southfield Township, Oakland County. In the Ann Arbor area a number of nests have been reported or collected; a nest with 7 eggs (U.M.M.Z.) was taken on May 2, 1903, by R. D. T. Hollister, and 2 nests were found by L. D. Case on May 25, 1937, 1 with 5 eggs, 1 with 5 nestlings. Gibbs (Barrows, 1912: 564) discovered a number of nests with fresh eggs in Kalamazoo County (April 18, 1878; April 27 and 30, 1879; and June 22, 1878), and F. W. Rapp (1931: 27) noted nests near Vicksburg in the same county between April 23 (1905, nest with 5 eggs)

and June 17 (1897, 5 eggs). E. R. Ford reported a nest with 5 eggs near Grand Rapids on May 5, 1923, and N. A. Wood and Gaige (1911: 296) saw the species frequently at Rush Lake, Huron County, in the late summer. Four nestling Migrant Shrikes (U.M.M.Z.) were collected by N. A. Wood near Butler Bridge, Oscoda County, in early July (N. A. Wood and Frothingham, 1905: 51).

Upper Peninsula.—During the summer of 1932, Leonard Wing (1940: 189) recorded the species from St. Ignace, Mackinac County, on June 20; from Munuscong Bay, Chippewa County, on June 21; and from Ironwood, Gogebic County, on July 12 and 26. Christofferson has 2 breeding records from the vicinity of Sault Ste Marie, Chippewa County: a nest with 4 nestlings on June 22, 1922; 2 fledglings on June 21, 1923.

FALL.—Bryens saw a Migrant Shrike at McMillan, Luce County, on October 26, 1929—the only definite fall record for the Upper Peninsula. In the Lower Peninsula, Swales (1904: 38) found this shrike in the Detroit area generally until the latter part of October; in 1892 he recorded 1 as late as November 19. Van Tyne (1925: 624) saw 3 (1 collected) during the first week of August, 1923, in Charlevoix County. J. J. Stophlet saw 1 at North Cape, Erie Township, Monroe County, on November 26, 1939, but in the Toledo-Erie marsh area as a whole, L. W. Campbell (1940: 193) has generally found the species departing by the middle of August.

WINTER.—The Migrant Shrike has been found wintering in the southern part of the Lower Peninsula on several occasions (Van Tyne, 1940a: 35): Swales (1903a: 21) indicated that he had seen the species twice, a single bird each time, in late February near Detroit. J. Claire Wood collected a Migrant Shrike (U.M.M.Z.) at Grosse Pointe Farms, Wayne County, on December 2, 1906, and Van Tyne and L. W. Campbell secured a specimen (U.M.M.Z.) near Erie, Monroe County, on February 4, 1940.

STURNIDAE  
(STARLINGS)

*Sturnus vulgaris vulgaris* Linnaeus  
Starling

Common resident in Lower Peninsula; abundant in the south, less common farther north.

First recorded for Michigan by R. Beebe (1925: 106).

EARLIEST APPEARANCES OF THE STARLING IN THE STATE.—Following its first appearance in Michigan (in the southeast during the spring of 1924), the Starling spread throughout most of the Lower Peninsula before 1928; and by 1931, it had been recorded at widely separated points in the Upper Peninsula.

Lower Peninsula.—R. Beebe (cited above) saw 2 Starlings at Belle Isle, Wayne County, on May 10, 1924, and Swales (notes), probably referring to Beebe's observation, also recorded 2 seen there at that time. The same year, Swales himself saw a small flock near Ann Arbor in August; Claude H. Van Tyne, II, saw 10 Starlings there on September 14 and J. Van Tyne collected a specimen from the flock on September 17 (C. H. Van Tyne, II, 1924: 214). In November, 1924, Walter E. Hastings noted a small flock near Milford, Oakland County; F. W. Rapp examined a specimen brought to him on December 16, 1924, at Vicksburg, Kalamazoo County, and has recorded the species continuously present in that region since that time. Fargo identified a specimen found at Jackson on December 29, 1924. In 1925 Walter E. Hastings (1928: 218-19) found a Starling's nest in Oakland County, and the following year he discovered nests also in Genesee and Livingston counties. On June 3, 1927, Hastings saw a small flock at Baldwin, Lake County, and also recorded Starlings in more northern counties, namely, Charlevoix (on June 10 and 11), Cheboygan (on July 10), and Grand Traverse (on July 30).

Upper Peninsula.—Fargo and C. F. Walker (1928: 218) seem to have been the first to record the Starling there. They saw a flock of 79 near Sterlingville, Chippewa County, on September 2, 3, and 7, 1927. Bryens (1929b: 104-5) found a nest near McMillan, Luce County, on May 28, 1928, and Christofferson reported a flock of 10 at Munuscong Bay, Chippewa County, on November 9, 1928. H. E. Larsen (1931: 188) saw 7 Starlings near Quinnesec, Dickinson County, on April 14, 1931; and Leonard Wing (1940: 189) noted the species at the following times and places: Bruce Crossing, Ontonagon County, on August 24, 1931; western end of Gogebic County on August 25, 1931; McFarland, Marquette County, on July 5 and 6, 1932; and Lake Superior State Forest, Luce County, on June 27, 1932.

PRESENT STATUS.—The Starling apparently now occurs throughout Michigan.

Lower Peninsula.—The data available are insufficient to indicate the extent of migration in the Lower Peninsula. An extensive migration (flocks of 7 to 14 birds) was observed on May 18, 1933, by D. W. Douglass at Sand Point, Huron County. L. W. Campbell (1940: 131-32) has noted an apparent migration in the Toledo-Erie marsh area between late February and early April, and from mid-July to early November. And Trautman saw 1100 Starlings in the Erie marsh on September 13 and 14, 1932. Numbers of Starlings are found in the south in the winter; T. D. Hinshaw and L. D. Case recorded more than 500 near Ann Arbor on January 19, 1938, and on December 22, 1931, Mrs. A. F. Kingsley and others (1932: 58) found more than 300 in the Battle Creek area. John L. George and Maurice G.

Brooks saw flocks, sometimes numbering as many as 25, in Roscommon, Otsego, Clare, and Arenac counties in late January, 1941. Although the species is known to nest in practically every town and city here, detailed nest records are few. In recent years nests have been reported from areas some distance from human habitations; for example, A. E. Staebler and L. D. Case found 3 nests in the wilder parts of South Manitou Island, Leelanau County, in mid-June, 1940. The main nesting period apparently extends from the latter part of April to mid-July.

Upper Peninsula.—By the 1940's Christofferson found the Starling nesting every year at Blaney, Schoolcraft County; in 1941, he found a nest with 5 eggs on May 1. Brodkorb listed the birds as very common at Seney, Schoolcraft County, in the first half of June, 1938; J. Van Tyne saw a flock of 20 in the Huron Mountains, Marquette County, in late June, 1936, and John L. George and R. L. Patterson saw 8 Starlings at Golden Lake, Iron County, on July 29, 1938. It seems quite certain that there is a spring and fall migration in this peninsula. Christofferson regularly records the species at Blaney by mid-March or very soon thereafter; he saw 50 there, for example, on March 23, 1938. At McMillan, Luce County, Bryens has occasionally noted large numbers in the fall (650 seen on September 11, 1938; 1350 seen on September 12, 1939). Christofferson saw 1 at Blaney on February 17 and 18, 1937; and Bryens saw 4 on January 1, 1941, and 1 on January 2, 1935.

VIREONIDAE  
(VIREOS)

*Vireo griseus noveboracensis* (Gmelin)  
Northern White-eyed Vireo

Only a single specimen of the White-eyed Vireo has been taken in Michigan. A. D. Tinker (1929: 120) collected an adult female (U.M.M.Z.) near Ann Arbor on May 13, 1928. There is also a sight record: 1 seen May 10, 11, and 12, 1885, at Petersburg, Monroe County, by Jerome Trombley. Barrows (1912: 575) incorrectly ascribed to N. A. Wood the report of 1 seen at Ann Arbor in 1881.

*Vireo bellii bellii* Audubon  
Bell's Vireo

In the Museum of Comparative Zoology, Harvard University, Van Tyne (1925a: 277) found a specimen of Bell's Vireo, taken at Detroit, May 26, 1885, collector unknown. The specimen bore a label of the C. K. Worthen Collection (later acquired by William Brewster). The authenticity of the data was questioned by Swales and Wood (1925: 449-50), but Van Tyne

and Outram Bangs re-examined the specimen and concluded that there was no reason to reject the record.

*Vireo flavifrons* Vieillot  
Yellow-throated Vireo

Uncommon summer resident in the southern third of Michigan; status northward unknown.

First listed for Michigan by Sager (1839: 414).

SPRING.—Arrival is reported between the last of April and the middle of May. In the Toledo-Erie marsh area, L. W. Campbell (1940: 193) has usually noted arrival about May 9, but recorded an individual on April 27 in 1935. Swales (1904: 38) reported arrival between May 1 and 10 in the vicinity of Detroit. Several specimens (U.M.M.Z.) have been taken in April in southeastern Michigan: 1 in Wayne County on April 26, 1908, by J. Claire Wood; 1 in Washtenaw County, April 25, 1904, by N. A. Wood. The species was also taken (U.M.M.Z.) in Berrien County and observed there from May 14 to 30 by N. A. Wood (1922: 24-25). In the 1930's L. H. Walkinshaw recorded arrival about the middle of May in the Battle Creek area, although Gibbs (1885: 69) indicated that they arrived in Kalamazoo County between April 25 and May 8. G. A. Ammann saw a Yellow-throated Vireo at the Prairie Farm, Alicia, Saginaw County, on June 1, 1940, and D. W. Douglass collected 1 (U.M.M.Z.) at Sand Point, Huron County, May 14, 1931.

SUMMER.—There are a few nest records for Michigan north to Newaygo County. Swales (1904: 38) indicated that the species was a summer resident in southeastern Michigan but did not record any nests. At least 3 nests have been reported from Washtenaw County; N. A. Wood observed a nest under construction near Ann Arbor on May 13, 1906; H. W. Hann found a nest near Ann Arbor on June 15, 1932, with the adults apparently feeding young; and at Base Line Lake, John L. George discovered a nest on May 14, 1938. Walkinshaw reported a nest with 1 egg on June 15, 1930, in Barry County. E. R. Ford noted this vireo as a "fairly common summer resident" in Brooks Township, Newaygo County, and recorded nests with incubating birds from May 29 (1935) to June 27 (1935—young left this nest on July 15). The northernmost record for Michigan is a specimen shot by Jacob Reighard near the bank of the Au Sable River in Alcona County on September 20 (1903—N. A. Wood and Frothingham, 1905: 51). The specimen was examined by N. A. Wood, but it was not preserved. There are several sight records from the northern parts of the state: Frank J. Hinds saw 1 near Douglas Lake, Cheboygan County, on August 2, 1933; Bryens and Christofferson reported it from the eastern Upper Peninsula in recent years;

and Fargo observed the species on Isle Royale in 1924. Inasmuch as no specimens have been taken from north of Alcona County, these records need confirmation.

FALL.—The Yellow-throated Vireo apparently migrates in the latter part of September. On Charity Island, Huron County, N. A. Wood (1911: 105) saw an individual on September 19 and another on the following day. Walkinshaw observed 1 in Calhoun County on September 22, 1935, and Gibbs (1885: 69) indicated that the species remained in Kalamazoo County until late September or October. Swales (1904: 38) said that it usually departed in early September from the Detroit area, but he saw individuals several times in the latter part of the month (1 on September 23, 1899; 2 on September 26, 1907). Two specimens (U.M.M.Z.) were taken by R. E. Stewart, September 11, 1938, at Portage Lake, Jackson County, and 1 (U.M.M.Z.) by Walter Koelz near Grass Lake, Jackson County, on September 6, 1931.

*Vireo solitarius solitarius* (Wilson)  
Blue-headed Vireo

Uncommon transient; very rare summer resident in the north.

First authoritatively listed for Michigan by Gibbs (1879: 485).

SPRING.—This vireo is found in southern counties in the first 2 weeks of May and in the Upper Peninsula by the third week.

Lower Peninsula.—Flight through the Toledo-Erie marsh area (L. W. Campbell, 1940: 193) and the Detroit region (Swales, 1904: 38) has been recorded during the first 2 weeks of May, though Swales reported 1 shot by Taverner in Ecorse Township, Wayne County, as late as June 8 (1907). In the Ann Arbor region the earliest record is April 25 (1913); N. A. Wood (1922: 25) noted this vireo infrequently in Berrien County and secured several specimens (U.M.M.Z.) there from May 3 to 25. Gibbs (1885: 69) listed the species as "not common" in Kalamazoo County, but F. W. Rapp (1931: 28) noted it as a "common spring migrant" there (in the vicinity of Vicksburg). D. W. Douglass observed it on Sand Point, Huron County, in the middle part of May (1931 to 1933) and secured a specimen (U.M.M.Z.) there on May 19, 1931.

Upper Peninsula.—Christofferson commonly records the species in the second week of May in the vicinity of Blaney, Schoolcraft County (2 on May 6, 1940; 2 on May 9, 1940). This vireo has been reported from Whitefish Point, Chippewa County, by N. A. Wood (1914: 70) who saw 1 there on May 25, and by Brodkorb who found it "not rare" from May 8 to 23, 1936. S. S. Gregory, Jr., has a specimen he took in the Huron Mountains, Marquette County, on May 19, 1921, and N. A. Wood collected 1 (U.M.M.Z.) on Isle Royale, May 23, 1930.

**SUMMER.**—The Blue-headed Vireo is occasionally seen in the north during summer, and there are 3 definite nest records.

Lower Peninsula.—E. M. Brigham, Jr. (1942: 67), found a nest with 4 Blue-headed Vireo eggs and 3 Cowbird eggs on June 13, 1942, near East Tawas, Iosco County. Frank J. Hinds saw an individual near Douglas Lake, Cheboygan County, on July 7, 1936. O. S. Pettingill, Jr., and Theodora Nelson observed 2 adults feeding 3 nestlings near Indian River, Cheboygan County, on June 30, 1941.

Upper Peninsula.—Leonard Wing (1940: 189) with N. A. Wood found a nest in Luce County, 26 miles north of Newberry. The nest was under construction when first discovered, on June 26, and on July 3 both adults and the nest with 4 eggs were collected (U.M.M.Z.). N. A. Wood (1914: 70) saw a Blue-headed Vireo on July 8 at Whitefish Point, Chippewa County, and F. M. Gaige (1914: 88) collected 1 (U.M.M.Z.) on July 28, 1909, in Dickinson County—the only one of the species he observed there. Barrows (1912: 573) said that O. B. Warren saw the species all summer near Palmer, Marquette County. Walkinshaw noted 1 at Three Lakes, Baraga County, June 27, 1933; N. A. Wood, Peet, and McCreary (1906: 118) saw this vireo occasionally in the Porcupine Mountains, Ontonagon County, and collected 2 (U.M.M.Z.) there on July 27.

**FALL.**—This vireo is found migrating in September and early October.

Upper Peninsula.—Max M. Peet (1909: 372) recorded the species from Isle Royale twice: he collected 1 (U.M.M.Z.) of 2 observed on August 30, and saw 1 on September 12. N. A. Wood saw 1 there on October 1, 1929. Christy observed this vireo in the Huron Mountains, Marquette County, as late as October 4 (1927), and N. A. Wood, Peet, and McCreary (1906: 118) reported 2 on August 5 in the Porcupine Mountains, Ontonagon County. In the eastern part of the peninsula, Christofferson has made a few scattered fall records in the vicinity of Blaney, Schoolcraft County: 1 bird on August 18, 1938; 2 on September 9, 1934; 1 on October 17, 1937.

Lower Peninsula.—One or 2 Blue-headed Vireos were occasionally seen on the Charity Islands, Huron County, by N. A. Wood (1911: 105) from September 23 to October 2. Specimens (U.M.M.Z.) have been taken in southwestern Michigan by F. H. Chapin (1, October 10, 1883, at Kalamazoo) and by Leonard Wing (1, September 18, 1931, at South Haven, Van Buren County). N. A. Wood secured 1 (U.M.M.Z.) at Portage Lake, Washtenaw County, on September 26, 1906, and in the Detroit area, Swales recorded the species in late September and frequently into October (6 seen October 1, 1913; 1, October 18, 1911). L. W. Campbell (1940: 193) gave September 22 as the average date of departure from the Toledo-Erie marsh area, but recorded 1 as late as October 27 in 1934.



*Vireo olivaceus* (Linnaeus)  
Red-eyed Vireo

Common summer resident.

First listed for Michigan by Sager (1839: 414).

SPRING.—Arrival is reported in southern counties in the first week of May and in the Upper Peninsula by the middle of May.

Lower Peninsula.—In the Toledo-Erie marsh area, L. W. Campbell (1940: 193, 206) has reported individuals as early as May 5 (1938), and has found the main flight beginning about May 17. In the Detroit area, Swales (1904: 38) noted this vireo in the first week of May, but listed 1 April record (April 28, 1895, 1 seen). Observers regularly record it in the first 10 days of May in the Ann Arbor region. N. A. Wood found the species very common in Berrien County (1917 to 1919) and secured specimens (U.M.M.Z.) there from May 10 to early June (see also Brodtkorb, 1929: 398). Gibbs (1885: 68) indicated that this vireo arrived in Kalamazoo County by April 25 or somewhat later, but F. W. Rapp (1931: 27) gave the first week in May for the vicinity of Vicksburg, in the same county; Walkinshaw also noted its appearance in the Battle Creek area during the first week of May (1930 to 1940). G. A. Ammann saw the Red-eyed Vireo on May 11, 1940, at the Prairie Farm, Alicia, Saginaw County, and N. A. Wood observed it on Beaver Island, Charlevoix County, on May 13, 1929.

Upper Peninsula.—Christofferson has noted the species in the latter part of May at Blaney, Schoolcraft County (8 on May 18, 1933; 2 on May 20, 1937); and Bryens has recorded it at McMillan, Luce County, by May 15 (4 seen, 1938). S. S. Gregory, Jr., collected a specimen in the Huron Mountains, Marquette County, on May 23, 1932, and N. A. Wood secured 1 (U.M.M.Z.) on Isle Royale on May 26, 1930, noting the species as common after that date.

SUMMER.—The species is found nesting in June and into late July.

Lower Peninsula.—Swales (1904: 38) listed this vireo as a common summer resident in the Detroit area, and in his notes he recorded a nest with 4 young on June 12, 1889. F. W. Rapp (1931: 27) listed the species as a common summer resident in the vicinity of Vicksburg, Kalamazoo County, and noted an early nest on May 27, 1897, with 3 eggs. Three fresh eggs (U.M.M.Z.) were taken by F. C. Hubel on July 9, 1898, in St. Clair County; in Huron County, Red-eyed Vireos were listed as common breeders on Charity Island by N. A. Wood (1912a: 187), and in the northwest corner of the county nests were found from June 25 to July 25 by N. A. Wood and Gage (1911: 296-97). Lewis Brackett collected a set of 3 eggs (U.M.M.Z.) on June 14, 1896, in Mecosta County; Chaney (1910: 276-77) listed this vireo as common in Mason County; and N. A. Wood and Frothingham

(1905: 51) noted it in June and July in Oscoda County. It was found common in early summer on the Manitou (1940) and Fox (1939) islands in Leelanau County, by A. E. Staebler and L. D. Case; on Beaver Island, Charlevoix County, it was noted as common by Barrows (1904: 80) in early July. Van Tyne (1925: 624) listed the species from the mainland of Charlevoix County; and in Cheboygan County, Blanchard and Nelson (MS of 1937) reported nests with eggs from June 12 to July 29.

Upper Peninsula.—This species was listed as a common summer resident on Les Cheneaux Islands, Mackinac County (Van Tyne, 1923: 24), but as uncommon on Whitefish Point, Chippewa County (N. A. Wood, 1914: 69). Christofferson records several nests from Blaney, Schoolcraft County: June 23, 1933, 3 eggs; July 23, 1932, 4 eggs. F. M. Gaige (1914: 88) found the species very abundant in Dickinson County and discovered a nest with 3 fresh eggs July 11, 1909; S. S. Gregory, Jr. (1929: 184), listed it as common and well distributed in the Huron Mountains, Marquette County. At Golden Lake in western Iron County, John L. George and R. L. Patterson discovered several nests in late June and observed 15 to 20 Red-eyed Vireos a day from late June to mid-August in 1938. N. A. Wood (1933: 728) recorded the species as a common summer resident at Copper Harbor, Keweenaw County; Max M. Peet (1909: 372) found a pair feeding fledglings on July 13 on Isle Royale.

FALL.—The southward migration occurs in late August and September, the birds leaving the northern counties by the end of September and lingering in the southern counties into early October.

Upper Peninsula.—N. A. Wood found this vireo common in August and September on Isle Royale in 1930, and 1 (U.M.M.Z.) was collected by Albert Brown on the island on September 26, 1929. Fargo saw a Red-eyed Vireo on Whitefish Point, Chippewa County, September 6, 1935. At Blaney, Schoolcraft County, Christofferson, although observing 1 as late as September 30 in 1940, indicated that the main flight occurred in late August (August 22, 1940, 10 seen; August 24, 1939, 26 seen).

Lower Peninsula.—A specimen (U.M.M.Z.) was collected September 13, 1934, at Wilderness State Park, Emmet County, by W. J. Howard; the species was reported as common in Iosco County, August 22, by N. A. Wood and Frothingham (1905: 51) and was seen on Charity Island from August 17 to September 28 by N. A. Wood (1911: 104). According to Gibbs (1885: 68), this vireo was scarce in Kalamazoo County after September 1, but 1 (U.M.M.Z.) was collected in Berrien County as late as September 8 in 1917 (by H. B. Sherman), and numbers were seen by Leonard Wing in Van Buren County after the middle of September in 1931 (15 on September 16; 16 on September 17; 1 on September 19). Swales (1904: 38) usually re-

corded departure from the Detroit area in late September, but had several October records (1 bird on October 13, 1908; 1 on October 16, 1889). L. W. Campbell (1940: 206) has noted September 23 as the average date for the end of the main flight in the Toledo-Erie marsh area.

*Vireo philadelphicus* (Cassin)  
Philadelphia Vireo

Uncommon transient.

First authoritatively listed for Michigan by Gibbs (1879: 485).

SPRING.—The Philadelphia Vireo passes northward through Michigan in the latter part of May.

Lower Peninsula.—L. W. Campbell (1940: 134, 193) found the species a rare migrant during mid-May in the Toledo-Erie marsh area, and Swales (1904: 38) listed it as a rare and irregular migrant in the Detroit area. There is a specimen in the Max M. Peet collection taken by Peet near Ann Arbor on May 11, 1918; 2 others (U.M.M.Z.) were taken in the same locality in May: 1 by Walter Koelz on May 17, 1918; 1 by L. D. Case on May 12, 1937. The Philadelphia Vireo was inadvertently omitted from the report on the Berrien County expeditions (N. A. Wood, 1922); the species was found to be the most numerous of the vireos in the county from May 20 to 27, 1918, and 5 specimens (U.M.M.Z.) were secured. Gibbs (1885: 68) records a specimen taken at Kalamazoo May 23, 1882; Barrows (1912: 569) mentioned 2 collected at East Lansing, Ingham County, on May 9, 1897; and D. W. Douglass secured 1 (U.M.M.Z.) at Sand Point, Huron County, on May 22, 1932.

Upper Peninsula.—Christofferson has recorded this vireo after the second week in May in the vicinity of Blaney, Schoolcraft County (2 on May 16, 1937; 6 on May 20, 1938; 6 on May 22, 1939). N. A. Wood (1914: 70) collected 1 (U.M.M.Z.) on Whitefish Point, Chippewa County, May 27, 1914, and A. Murie secured 1 (U.M.M.Z.) on Isle Royale June 11, 1930.

FALL.—Fall migrants are reported from the last week of August to the end of the third week in September.

Upper Peninsula.—One Philadelphia Vireo was seen on Isle Royale September 1, and 2 on September 12 (Peet, 1909: 372), and 2 (U.M.M.Z.) were collected there by N. A. Wood on September 17, 1929. Ira N. Gabrielson secured 1 in the Huron Mountains, Marquette County, on September 21, 1936. Christofferson records the main flight through Blaney, Schoolcraft County, during late August and early September (August 31, 1937, 5 seen; September 4, 1933, 12 seen), noting the first arrivals in early August (August 2, 1937, 1 seen).

Lower Peninsula.—Max M. Peet secured a specimen (Max M. Peet col-

lection) September 15, 1940, at Burt Lake, Cheboygan County, and Walter Koelz collected 1 (U.M.M.Z.) August 29, 1919, near Alpena. Two specimens (U.M.M.Z.) were taken by George M. Sutton near Pinckney, Livingston County, 1 on September 7, and 1 on September 14, 1940. J. Claire Wood (1909: 46) collected several (U.M.M.Z.) in September, 1905 (1 each day on September 3, 10, and 24) in Wayne County, and Taverner secured 1 (U.M.M.Z.) in the same county on September 27, 1908. There is 1 October record for Jackson County: a specimen (U.M.M.Z.) taken by L. D. Case at Portage Lake, October 1, 1939.

*Vireo gilvus gilvus* (Vieillot)  
Eastern Warbling Vireo

Summer resident, common in the south. The status of the species north of the Saginaw Bay region is not well understood because only a few scattered observations are available and no specimens have been taken in the northern part of Michigan.

First authoritatively listed for Michigan by Gibbs (1879: 485).

SPRING.—The main flight is reported in the first 2 or 3 weeks of May; individuals are occasionally found in the last few days of April.

Lower Peninsula.—The species has been reported arriving in the Toledo-Erie marsh area on the average by May 4 (L. W. Campbell, 1940: 193); the first week of May in the Detroit area (Swales, 1904: 38); and between April 27 and May 5 in the Battle Creek area (Walkinshaw, notes for 1930 to 1940). H. W. Hann saw 10 Warbling Vireos on May 5, 1937, near Ann Arbor, and John L. George noted 12 on May 8, 1938, in the same locality. The species was seen by G. A. Ammann at the Prairie Farm, Alicia, Saginaw County, on May 7, 1940, and on Sand Point, Huron County, by R. E. Olsen and A. D. Tinker on May 15, 1932 (also on June 11, 1933, by Tinker).

SUMMER.—The Warbling Vireo may begin its nesting activities by mid-May; eggs are found to late June. John L. George found a nearly completed nest near Base Line Lake, Washtenaw County, on May 14, 1938, and in Livingston County, at Half Moon Lake, H. W. Hann watched the parent birds feed 2 nestlings on June 14, 1932. Walkinshaw has noted at least 2 nests in Calhoun County: 1 under construction on May 24, 1936; 1 with 3 fledglings on June 29, 1931. F. W. Rapp (1931: 28) listed a nest with 4 eggs in the vicinity of Vicksburg, Kalamazoo County, on June 26, 1898, and F. C. Hubel collected a nest (U.M.M.Z.) with 3 eggs at Maceday Lake, Oakland County, on June 2, 1900. N. A. Wood and Frothingham (1905: 51) recorded the species as rare in Crawford County on June 30, and N. A. Wood, Smith, and Gates (1916: 17) noted only a few during the summers of 1911 and 1915 at Douglas Lake, Cheboygan County. In the Upper Penin-

sula, N. A. Wood (1918: 12) saw this vireo occasionally at Whitefish Lake, Alger County, May 24 to July 27, 1916; Fargo saw 2 individuals on Isle Royale between August 18 and 27, 1924.

FALL.—The meager data on the fall migration of the Warbling Vireo would seem to indicate that it leaves Michigan in the early part of September. N. A. Wood saw 1 on Isle Royale on September 17, 1929, and reported the species on Charity Island, Huron County (N. A. Wood, 1911: 104), on August 17 and several times thereafter. Gibbs (1885: 68–69) indicated that it left the region of Kalamazoo County in the latter part of September; Swales (1904: 38) found it leaving the Detroit area by mid-September; Swales recorded 15 there on September 2, 1911. L. W. Campbell (1940: 193, 207) has given September 4 as the average date for the end of main flight in the Toledo–Erie marsh area, but he has seen individuals as late as October 11 (1938).

#### PARULIDAE

##### (WOOD WARBLERS)

##### *Mniotilta varia* (Linnaeus)

##### Black and White Warbler

Common transient. Summer resident south to Newaygo, Livingston, and Wayne counties.

First recorded for Michigan by Sager (1839: 414).

SPRING.—Arrival is recorded in the south during the last of April or in early May, and on Isle Royale by the middle of May.

Lower Peninsula.—The main flight has usually been recorded by L. W. Campbell (1940: 207) in the Toledo–Erie marsh area about May 4, and by Swales in the Detroit area in early May; in 1912, Swales saw 25 on May 4; 20 on May 10; and 30 on May 19. At Ann Arbor arrival is usually recorded during the last few days of April or the first week of May, though in 1905 N. A. Wood observed an individual there as early as April 9. In Berrien County N. A. Wood (1922: 25) noted individuals on April 29 (1918) and larger numbers during the second week of May. From 1930 to 1940 Walk-inshaw observed arrival in Calhoun County the first week of May. In Kalamazoo County, in 1880, B. F. Sykes collected a specimen (U.M.M.Z.) as early as April 18. D. W. Douglass noted first arrivals at Sand Point, Huron County, between April 30 and May 3 during the years 1931 to 1933, and listed 12 or more May 11, 1931, and May 10 and 11, 1932. R. L. Patterson reported an individual at Traverse City on May 8, 1939, and N. A. Wood noted the species on Beaver Island, Charlevoix County, on May 7 and 13, 1929.

Upper Peninsula.—Arrival has been reported at Blaney, Schoolcraft County, by the second week in May (Christofferson—2 individuals seen May

10, 1932, and 1 on May 13, 1937); at Whitefish Point, Chippewa County, on May 13 (1938, 2 specimens in U.M.M.Z. taken by Brodkorb), and on May 22 (N. A. Wood, 1914: 70); in the Huron Mountains, Marquette County, on May 12 (1921, 2 specimens collected by S. S. Gregory, Jr.); at Copper Harbor, Keweenaw County, on April 24 (2 seen by N. A. Wood—1933: 728); and on Isle Royale on May 15 (1937, by Laurence Dayton), and on May 13 (1930, by N. A. Wood).

SUMMER.—Nesting records extend from late May through June.

Lower Peninsula.—In Gratiot Township, Wayne County, Swales (1904: 38) and J. Claire Wood found a nest with 3 eggs on May 30, 1900, and J. Claire Wood a nest with a Cowbird's egg and 2 young warblers on June 3 the same year. T. D. Hinshaw and A. D. Tinker collected 2 juveniles (U.M.M.Z.) in Hartland Township, Livingston County, on July 4, 1934. Young birds (U.M.M.Z.) were taken at Sand Point, Huron County, in mid-July (N. A. Wood and Gaige, 1911: 297) and fledglings have been observed in Mason County (Chaney, 1910: 277) and in Newaygo County (Ford, 1935: 21). Van Tyne (1925: 624) noted singing males in late June in Charlevoix County, and Barrows (1904: 80) found the species abundant on Beaver Island in the early part of July.

Upper Peninsula.—Van Tyne (1923: 24) noted fledglings on Les Che-neaux Islands, Mackinac County, on July 22. Specimens (U.M.M.Z.) were secured by T. D. Hinshaw and R. A. MacMullan on Drummond Island, Chippewa County, in late June and in July. The species was listed as occasional in summer at Blaney, Schoolcraft County, by Christofferson; as a fairly common summer resident in the Huron Mountains, Marquette County, by S. S. Gregory, Jr. (1929: 184); as present in small numbers from May 27 to late July at Whitefish Lake, Alger County, by N. A. Wood (1918: 12); and as apparently nesting during late June and in July at Golden Lake, Iron County, by John L. George and R. L. Patterson. The species has not been reported from Isle Royale during June or July.

FALL.—Migrants are reported during the latter part of August and through most of September.

Upper Peninsula.—A few individuals have been observed on Isle Royale through August (Peet, 1909: 372), and the species was listed there by Fargo on September 2 in 1924. N. A. Wood, Peet, and McCreary (1906: 118) recorded an individual in the Porcupine Mountains, Ontonagon County, August 5. In Dickinson County, F. M. Gaige (1914: 88) noted first arrivals on July 5, observed small flocks by early August, and a few stragglers after August 11. On Whitefish Point, Chippewa County, N. A. Wood (1914: 70) saw 1 Black and White Warbler with a flock of other warblers on July 31, and Fargo saw several there between August 21 and September

6 in 1925. Christofferson has recorded numbers at Blaney, Schoolcraft County: 8 on August 18, 1938; 10 on August 16, 1940; and 20 on September 20, 1937.

Lower Peninsula.—Chaney (1910: 277) observed the main flight through Mason County during the last week of August, and stragglers until the third week of September. N. A. Wood (1911: 105) recorded migrants on Charity Island, Huron County, from August 26 to 29, finding them most numerous on August 28, and noted 2 stragglers later, 1 on September 17 and 1 on September 28. In 1912, at Grosse Ile Swales observed 30 on August 24; 2 on September 4; 20 on September 22; 40 on September 23; and, in 1909, he recorded 2 there as late as October 16. L. W. Campbell (1940: 207) gave August 20 to September 20 as the average period for main flight in the Toledo-Erie marsh area.

*Protonotaria citrea* (Boddaert)  
Prothonotary Warbler

Local summer resident north to Eaton, Newaygo, and Oceana counties.

First recorded for Michigan by Gibbs (1879: 483).

SPRING.—Arrival is reported during the last few days of April and the first week in May. From 1930 to 1940, Walkinshaw recorded arrival in the vicinity of Battle Creek on dates ranging from April 26 (1939) and May 15 (1937), and N. A. Wood (1922: 25) recorded arrival in Berrien County from May 8 to May 22. The earliest record from the Ann Arbor region is that of A. B. Covert (1903: 60) and N. A. Wood, who on May 8, 1896, observed a pair building a nest in a swamp near South Lyon, Oakland County, and collected both the female and the nest (U.M.M.Z.). A. B. Covert (1903: 60) and Alexander W. Blain, Jr., observed a male in full song at Grosse Pointe, Wayne County, on May 9, 1903, and in Mottville Township, St. Joseph County, H. W. McBride (Barrows, 1912: 581) found the species abundant in May, 1891. Barrows (1912: 582) also mentions a record of Miss H. H. Wright, who found a dead bird in Saginaw on May 26, 1907.

SUMMER.—Walkinshaw (1941*b*: 3-21; 1939*d*: 65) found 121 nests in the vicinity of Battle Creek, over an 11-year period (1930 to 1940), and, in 1938, found eggs as early as May 8 but more commonly after the middle of May; he found fledglings in the first half of June. C. E. Underdown (1931: 612-13) discovered a nest with young and noted at least a dozen adults on June 21, 1931, near Hesperia, Oceana County. E. R. Ford (1927: 117) observed a singing male in Newaygo County on June 20, 1926, and found a nest with 5 eggs in Ottawa County May 25, 1922. E. R. Kalmbach and H. A. Moorman (Kalmbach, 1908: 230; Barrows, 1912: 581) noted this warbler in numbers along the Grand River in Jackson and Ingham counties during

late June, 1907. The species probably breeds in Hartland Township, Livingston County, where R. E. Olsen saw 8 adults and 12 young on July 12, 1936.

FALL.—Southward migration occurs in late August and early September. Walkinshaw has recorded the species as late as August 27 (1930) in the vicinity of Battle Creek, Calhoun County. Brodkorb (1929: 398) collected a male in Berrien County on August 28, 1928, and C. J. Henry secured a specimen (U.M.M.Z.) near Augusta, Kalamazoo County, on September 4, 1933. N. A. Wood has taken several specimens (U.M.M.Z.) at Portage Lake, Washtenaw County: one August 13, 1918; another on August 19, 1918; and one on September 6, 1919.

*Vermivora chrysoptera* (Linnaeus)  
Golden-winged Warbler

Summer resident north at least to Saginaw and Newaygo counties; specimens have been taken in summer in Cheboygan and Mackinac counties.

First recorded for Michigan by Sager (1839: 414).

SPRING.—Arrival is recorded during the first week of May, or, rarely, in late April. L. W. Campbell (1940: 193, 207) has reported the main flight in the Toledo-Erie marsh area about May 8; his earliest date for individuals is May 1 (1938). In the Detroit area (Swales, 1904: 38), as well as in the Ann Arbor region, arrival usually occurs during the first week of May; specimens (U.M.M.Z.) have been taken, however, near Ann Arbor in April; L. D. Case collected 2 there April 27, 1938. Considerable numbers have been reported during mid-May in southeastern Michigan: in Wayne County, 45 by J. Claire Wood (1911: 21) on May 16; in Hartland Township, Livingston County, 40 by R. E. Olsen and A. D. Tinker on May 16, 1937, and 50 by Olsen, Tinker, and T. D. Hinshaw on May 19, 1935. N. A. Wood (1922: 25) recorded arrival in Berrien County from May 7 to May 20 (1919) and Walkinshaw noted arrival in Calhoun County in early May (1930 to 1940). One of the earlier Michigan records is a specimen (U.M.M.Z.) collected by B. F. Sykes in Kalamazoo County on April 26, 1878.

SUMMER.—Nesting records extend from mid-May through early June.

Lower Peninsula.—J. P. Norris (1890: 21-22) described 7 nests taken by Jerome Trombley in Monroe County between May 17 (nest with 4 eggs) and June 8 (nest with 5 eggs). Swales and J. Claire Wood found several nests in Wayne County: June 2, 1901, 3 nests, each with 4 eggs; May 18, 1902, nest which then had no eggs but on May 25 contained 4. N. A. Wood found a nest near Ann Arbor with 3 warbler eggs and 1 Cowbird egg on May 25, 1895. In Hartland Township, Livingston County, R. E. Olsen found a nest with 3 eggs on June 14, 1931, and collected 2 immatures



(U.M.M.Z.) on July 4, 1934. Fargo collected a nest with 1 egg (U.M.M.Z.) in Tompkins Township, Jackson County, on May 21, 1925, and in Kalamazoo County, Gibbs (1885: 38) reported the species as an abundant breeder. Walkinshaw has found several nests in Calhoun County, 1 with 5 young on June 10, 1937. In Cedar Creek Township, Muskegon County, G. A. Ammann observed a male carrying food on June 13, 1939. He also found the species (possibly breeding) from May 28 to June 14, 1940, at the Prairie Farm, Alicia, Saginaw County. The most northern nest records for Michigan are those of E. R. Ford, who reported 2 nests from Brooks Township, Newaygo County: on June 4, 1922, a nest with 4 newly hatched young and 1 pipped egg; and on June 10, 1921, a nest with 6 eggs. A specimen (U.M.M.Z.) was collected at Douglas Lake, Cheboygan County, by O. S. Pettingill, Jr., on August 20, 1942.

Upper Peninsula.—O. S. Pettingill, Jr., collected a specimen near Garnet, Mackinac County, on August 30, 1943. Bryens saw 1 Golden-winged Warbler at McMillan, Luce County, on May 13, 1936 and 1 on May 22, 1924; M. J. Magee saw 1 at Neebish Island, Chippewa County, on September 4, 1921.

FALL.—Main flight is recorded in late August, stragglers remaining into September. N. A. Wood and Gaige (1911: 297) observed the species at Sand Point, Huron County, between August 5 and 14 (1908); N. A. Wood (1911: 105) saw an individual on Charity Island in the same county on September 16 (1910). Gibbs (1885: 38) reported departure from the Kalamazoo area usually in late August. Walkinshaw reported a straggler in Calhoun County as late as September 22 (1935). In Wayne County, J. Claire Wood (1911: 21) saw 12 on August 22, and Swales (1904: 38) noted the species until mid-September. L. W. Campbell (1940: 193, 207) in the Toledo-Erie marsh area, gave August 16 as the average date, taken over 12 years, for main flight, and has not recorded the species there later than September 6 (1926).

*Vermivora chrysoptera* × *pinus*

The so-called Brewster's (*Vermivora leucobronchialis* Brewster) and Lawrence's (*Vermivora lawrencei* Herrick) Warblers are now known to be hybrids between the Golden- and the Blue-winged Warblers. Brewster's Warbler has been taken (U.M.M.Z.) in Calhoun, Wayne, Washtenaw, Jackson, and Livingston counties; the less abundant Lawrence's Warbler has been taken (U.M.M.Z.) only in Livingston County. N. A. Wood collected (1903: 81) one of the first Michigan specimens of Brewster's Warbler near Ann Arbor on May 18, 1902. On the Edwin S. George Reserve near Pinckney, Livingston County, G. M. Sutton collected 11 immatures (U.M.M.Z.), representing both hybrids, July 19 to August 8, 1940.

*Vermivora pinus* (Linnaeus)  
Blue-winged Warbler

Rare summer resident north to Livingston County.

First authoritatively listed for Michigan by Gibbs (1879: 483): "*Helminthophaga pinus*."

SPRING.—Spring data are scanty, but the species apparently arrives in Michigan in early May. L. W. Campbell (1940: 193, 207) gives May 1 (1938) as the earliest arrival for individuals in the Toledo–Erie marsh area and May 11 as the average for main flight. J. Claire Wood collected a specimen (U.M.M.Z.) in Ecorse Township, Wayne County, on May 9, 1906, and at Ann Arbor, Washtenaw County, Walter Koelz secured 1 on May 4, 1919. Five individuals were seen in Hartland Township, Livingston County, by R. E. Olsen and A. D. Tinker on May 21, 1939, and Olsen collected 2 (U.M.M.Z.) there on May 19, 1935. Walkinshaw reported arrival in the Battle Creek region about the first week in May during the years 1930 to 1940, but recorded it as early as April 27 in 1938; he found the species also in Assyria Township, Barry County, on May 3, 1934.

SUMMER.—There are 4 nesting records: H. W. Hann found a nest with 3 eggs in Lenawee County on July 4, 1931. Walkinshaw discovered a nest with 4 young and 1 egg in Calhoun County on June 9, 1932. Winthrop Davey reported a nest with 4 one- or two-day-old birds in Blackman Township, Jackson County, on June 6, 1942. R. E. Olsen, A. D. Tinker, and others observed the species in Hartland Township, Livingston County, during the summer months of the past decade, and Van Tyne collected a fledgling and 2 adults (all in U.M.M.Z.) there on June 16, 1932.

FALL.—There are 4 specimens in the Museum of Zoology collected in late July and early August that may represent the time of the fall migration. L. D. Case took 1 near Ann Arbor on July 28, 1938. George M. Sutton secured 3 birds in Livingston County: 2 on the Edwin S. George Reserve near Pinckney, July 31 and August 10, 1940, and 1 near Half Moon Lake on August 6, 1936. L. W. Campbell (1940: 193) gave August 14 as the average date of departure from the Toledo–Erie marsh area but noted stragglers as late as September 5 in 1937.

*Vermivora peregrina* (Wilson)  
Tennessee Warbler

Common transient.

First listed for Michigan by Gibbs (1879: 483): "*Helminthophaga peregrina*."

SPRING.—The Tennessee Warbler, less common at this season than in

the fall, arrives after the first week in May in the Lower Peninsula and a week or 10 days later in the north.

Lower Peninsula.—L. W. Campbell (1940: 207) gave May 12 to 21 as the average period for main flight in the Toledo–Erie marsh area. Swales (1904: 39) noted transients in the Detroit area between May 10 and 20. The species is usually not reported at Ann Arbor until the first week of May or even later; 1 was seen on May 2, 1905, by N. A. Wood; 4 on May 7, 1936, by Trautman; and 1 collected on June 6, 1907, by N. A. Wood. N. A. Wood (1922: 26) listed transients in Berrien County from May 11 to the end of the month. Walkinshaw has reported arrival in the vicinity of Battle Creek by May 6 (1930), but Gibbs (1885: 38) did not report arrival in Kalamazoo until after the middle of May. William Brewster and Jonathan Dwight collected a series of specimens (M.C.Z.) near Oden, Emmet County, between May 18 and 26, 1888.

Upper Peninsula.—Christofferson has recorded transients at Blaney, Schoolcraft County, during the third week of May; he saw 5 there on May 17, 1936, 16 on May 18, 1933. N. A. Wood (1914: 70) found 2 dead birds at the lighthouse on Whitefish Point, Chippewa County, on May 19, 1914, and observed the species on May 27, 1916, at Whitefish Lake, Alger County (1918: 12). S. S. Gregory, Jr., collected a specimen in the Huron Mountains, Marquette County, on May 22, 1932; and N. A. Wood (1933: 725) listed the species at Copper Harbor, Keweenaw County, on May 25, 1931. N. A. Wood found it common on Isle Royale in 1930 from May 14, when it was first noted, until June.

SUMMER.—Barrows (1912: 589) reported that a fledgling was seen in Benzie County, August 4, 1906, and an adult in Oscoda County in late June, 1906. Brodkorb (1926: 249–50) reported an adult warbler feeding a young Cowbird in Muskegon County on July 12, 1923. One Tennessee Warbler was seen at Douglas Lake, Cheboygan County, on July 3, 1915 (N. A. Wood, Smith, and Gates, 1916: 17). So far as is known, no nests have been found in Michigan and these summer records are not supported by specimens.

FALL.—The southward migration through Isle Royale begins in early August, through the Upper Peninsula in the latter part of September, and through the Lower Peninsula by early October.

Upper Peninsula.—Max M. Peet (1909: 373) noted first arrivals on Isle Royale August 2, and found the species very common during late August, and noted a few stragglers after September 8. In 1929, N. A. Wood saw an individual there as late as October 1; in 1931, Leonard Wing (1940: 190) listed the species at Bruce Crossing, Ontonagon County, on August 24, and at Alpha, Iron County, on August 28. S. S. Gregory, Jr., secured a specimen in the Huron Mountains, Marquette County, on September 22, 1919.

Fargo noted a few on August 26 and 28 in 1925, on Whitefish Point, Chippewa County, where A. D. Tinker and R. E. Olsen found the species fairly numerous in 1931, listing "many" on August 27 and 6 on August 28. Christofferson has found the species most abundant at Blaney, Schoolcraft County, in mid-September; he saw 6 there on September 10, 1933, 18 on September 11, 1935, and 6 on September 18, 1933.

Lower Peninsula.—N. A. Wood and Frothingham (1905: 52) saw an individual near Grayling, Crawford County, September 6. A series of specimens (U.M.M.Z.) was secured by H. E. Sargeant near Grand Rapids, Kent County, on October 1, 1903, and in Berrien County the species was noted by N. A. Wood (1922: 26) from August 28 to September 15, 1917. Numerous specimens have been taken in the Ann Arbor area during late August and in September, probably the latest record being that of N. A. Wood, who saw 1 on October 17, 1909. J. Claire Wood (1906: 22; 1907: 329) found the Tennessee Warbler an abundant transient from late August to early October in Wayne County, where he recorded 26 on September 7, 1906, 75 on September 9, 1907, and 2 on October 14, 1907. L. W. Campbell (1940: 193, 207) gave August 27 to September 22 as the average period for main flight in the Toledo-Erie marsh area, but noted individuals as late as October 26 in 1935.

*Vermivora celata celata* (Say)  
Orange-crowned Warbler

Uncommon transient.

First authoritatively listed for Michigan by Boies (1875: [3]).

SPRING.—Arrival is recorded during the last week of April and in early May.

Lower Peninsula.—The species has been seen and collected (U.M.M.Z.) in the Ann Arbor area during the latter part of April and first half of May: H. W. Harrington collected a specimen at Ann Arbor on April 24, 1869; Trautman saw 1 individual April 27, 1938, and 2 on April 27, 1935; Walter Koelz (1924: 617-18) noted the species from May 8 to 25, recording 4 or 5 individuals daily between May 8 and 12 (1924); N. A. Wood (1922: 26) found a few from May 11 to 15 (1920) in Berrien County, and William Brewster collected a specimen (M.C.Z.) at Oden, Emmet County, on May 21, 1888.

Upper Peninsula.—Several specimens (U.M.M.Z.) have been taken at Whitefish Point, Chippewa County: Brodkorb collected 1 on May 18, 1936; N. A. Wood (1914: 70) secured single specimens on May 19 and 23, 1914, and noted a flock of 6 on the latter date. N. A. Wood (1933: 729) recorded the species at Copper Harbor, Keweenaw County, on May 18, 21, and 25,

1931, and collected specimens (U.M.M.Z.) there, as well as on Isle Royale, where he recorded the species from May 8 to 18, 1930.

FALL.—Migration apparently extends from late August to mid-October.

Upper Peninsula.—N. A. Wood secured 2 specimens (U.M.M.Z.) on Isle Royale on September 16 and 18, 1929. John L. George and R. L. Patterson noted 1 or 2 daily in late August, 1938, at Golden Lake, Iron County. At McMillan, Luce County, Bryens noted the species in late August and early September, recording an individual on August 28, 1932, September 3, 1933, and September 12, 1927.

Lower Peninsula.—A small flock was seen on Charity Island, Huron County, on September 29, 1910, by N. A. Wood (1911: 105), and 3 specimens were taken at Locke, Ingham County, by H. A. Atkins between September 11 and October 1, 1880 (Barrows, 1912: 587). There are several sight records and specimens from the Ann Arbor area (Van Tyne, 1932: 234): A. D. Tinker saw 3 on October 4, 1925; 1 on October 14, 1923; and 1 on November 1, 1925; A. K. Fisher collected 3 there on October 6, 1887. Walter Koelz collected 1 (U.M.M.Z.) near Waterloo, Jackson County, on November 27, 1917 (not November 28, 1917, as in N. A. Wood and Tinker, 1934: 40), and Swales saw 2 on Grosse Ile, Wayne County, on October 8, 1911. Trautman and L. W. Campbell saw at least 12 and heard many more in the Erie marsh, southeastern Monroe County, on October 2, 1937. Although recording the species as rare in the spring in the Toledo-Erie marsh area, L. W. Campbell (1940: 140, 193) has found it more common in the fall and has recorded it from September 13 (1937) to October 27 (1934).

WINTER.—One record: Van Tyne banded an Orange-crowned Warbler at Ann Arbor on January 31, 1932.

*Vermivora ruficapilla ruficapilla* (Wilson)  
Nashville Warbler

Common transient. Summer resident south to Montcalm County.

First recorded for Michigan by Sager (1839: 414).

SPRING.—Arrival is reported in the south during late April or early May and in the Upper Peninsula about a week later.

Lower Peninsula.—L. W. Campbell (1940: 207) gave May 7 to 16 as the average period of greatest abundance in the Toledo-Erie marsh area. Swales (1904: 38-39) listed the species as a common migrant in the Detroit area, recording arrival between April 23 and May 3. Approximately the same dates are given for the Ann Arbor region; L. D. Case saw 4 there April 27, 1938. During the years 1930 to 1940, Walkinshaw noted arrival in the Battle Creek area in the first week of May. N. A. Wood (1922: 25-26) found the species abundant in Berrien County from May 7 to 22, and D. W. Douglass observed it most commonly on Sand Point, Huron County,

during the second and third weeks of May (1931 to 1933). N. A. Wood saw it on Beaver Island, Charlevoix County, on May 14, 1929, and William Brewster and Jonathan Dwight collected a series of specimens (M.C.Z.) at Cadillac, Wexford County, and Oden, Emmet County, between May 12 and 21, 1888.

Upper Peninsula.—Christofferson has found this warbler at Blaney, Schoolcraft County, by the second week in May (10 seen May 12, 1938), and Bryens, at McMillan, Luce County, has recorded it regularly after May 10. N. A. Wood (1914: 70; 1933: 728) noted first arrivals at Whitefish Point, Chippewa County, on May 22, and at Copper Harbor, Keweenaw County, May 26. A. Murie collected 2 specimens (U.M.M.Z.) on May 5 and May 8, 1930, on Isle Royale, and N. A. Wood took 1 (U.M.M.Z.) there on May 10, 1930.

SUMMER.—Nesting extends from late May to early July.

Lower Peninsula.—The southernmost nesting records are from Jackson County. Leonard Wing and others (1927: 40) observed an adult feeding a young Cowbird on June 29, 1924, saw 7 adults and 3 young on July 11 of the same year, and on July 5, 1926, collected an adult male and 2 immatures (U.M.M.Z.). Gibbs reported the species as a summer resident in Montcalm County (Barrows, 1912: 586), and N. A. Wood and Frothingham (1905: 51) listed it as frequent in Oscoda County on June 18. In the same region of the peninsula, in Crawford County, Leonard Wing (1933: 71) observed adults feeding young during late June. Singing males were noted on North and South Manitou islands, Leelanau County, by L. D. Case and A. E. Staebler in late June, 1940, and specimens (U.M.M.Z.) were taken on Beaver and Trout islands, Charlevoix County, in late June and early July by Van Tyne, T. D. Hinshaw, and R. E. Morrill in 1937 and 1938.

Upper Peninsula.—T. D. Hinshaw and R. A. MacMullan noted as many as 12 Nashville Warblers on June 28, 1938, and secured a number of specimens (U.M.M.Z.) on Drummond Island, Chippewa County, in late June and July. N. A. Wood (1914: 70) believed the species nested on Whitefish Point, Chippewa County. It was recorded at McFarland, Marquette County, on July 5, by Leonard Wing (1940: 190); as an abundant resident in the Huron Mountains, Marquette County, by Christy (1925: 214); at Bessemer, Gogebic County, on June 22, 1933, by Leonard Wing; and as a common summer resident at Copper Harbor, Keweenaw County, by N. A. Wood (1933: 728). A nest with 5 small young was found on Isle Royale on July 11 (Peet, 1909: 372-73).

FALL.—The species leaves the Upper Peninsula about the middle of September and the southern counties by early October.

Upper Peninsula.—Max M. Peet (1909: 372-73) found migrants on Isle Royale from August 25 to September 12 in 1905; a few were seen in late August, 1938, at Golden Lake, Iron County, by John L. George and R. L. Patterson; and small flocks were noted in Dickinson County on August 7 and 11 by F. M. Gaige (1914: 88). Bryens observed migrants at McMillan, Luce County, until September 2 in 1934, and September 15 in 1937. Christofferson recorded 2 as late as October 3 in 1936, at Blaney, Schoolcraft County.

Lower Peninsula.—N. A. Wood and Frothingham (1905: 51) listed the species as frequent in Oscoda County on August 16. In northwestern Huron County, N. A. Wood and Gaige (1911: 297-98) reported the species common between July 24 and the date of their departure, August 27. N. A. Wood (1911: 105) noted a few Nashville Warblers on Charity Island, Huron County, on August 26, September 21, and September 23. N. A. Wood (1922: 25-26) also observed the species as a rare fall migrant in Berrien County in the first half of September (1917). Swales (1904: 38-39) noted it throughout September in the Detroit area. L. W. Campbell (1940: 194, 207) found fall migrants most common in the Toledo-Erie marsh area between September 8 and 25, and noted stragglers as late as October 20 in 1928.

*Parula americana pusilla* (Wilson)

Northern Parula Warbler

Transient in small numbers. Probably resident in the north.

First listed for Michigan by Sager (1839: 414): "*Sylvicola americana*."

SPRING.—Arrival is reported in the south during the first 2 weeks of May, and in the Upper Peninsula by the middle of the month.

Lower Peninsula.—The species has been observed in the Toledo-Erie marsh area from May 6 to the first of June (L. W. Campbell, 1940: 194); and in the Ann Arbor area during early May; 2 specimens (U.M.M.Z.) were collected, 1 by Walter Koelz on May 6, 1926; and 1 by N. A. Wood on May 9, 1916; an individual was seen by N. A. Wood on May 2, 1905. N. A. Wood also secured 3 specimens in Berrien County between May 10 and 15, 1919, and Walkinshaw recorded arrival of the species in Calhoun County about mid-May (1930 to 1940). Gibbs (1885: 38-39) reported arrival in the Kalamazoo area, between April 22 and May 11. Barrows (1912: 590) noted arrival in Ingham County between May 5 and 15. D. W. Douglass collected a specimen (U.M.M.Z.) at Sand Point, Huron County, on May 12, 1933, and William Brewster and Jonathan Dwight collected a large series of specimens (M.C.Z.) near Cadillac, Wexford County, and Oden, Emmet County, between May 10 and 30, 1888.

Upper Peninsula.—Christofferson has recorded the species at Blaney, Schoolcraft County, on May 10, 1939 (4 seen) and May 20, 1938 (10 seen); Bryens, at McMillan, Luce County, has not noted it until mid-May or later. There is 1 record of the species from Isle Royale: a specimen (U.M.M.Z.) collected by N. A. Wood on May 20, 1930.

SUMMER.—The Parula Warbler has been found during the summer months in many parts of Michigan, though there is, apparently, no definite nesting record.

Lower Peninsula.—Walkinshaw saw a Parula Warbler at Grayling, Crawford County, on June 23, 1938; T. D. Hinshaw observed 1 on Beaver Island, Charlevoix County, on July 10, 1937; and Barrows (1912: 591) found the species during the nesting season near Petoskey, Emmet County.

Upper Peninsula.—At McMillan, Luce County, Walkinshaw saw the species on June 19, 1931, and Bryens reported it there on June 18 and 25, 1939. Van Tyne heard several and saw 1 in the Huron Mountains, Marquette County (June 21 to 27, 1936), and at Golden Lake in Iron County, John L. George and R. L. Patterson recorded 6 to 8 Parula Warblers daily during late June and in July, 1938. Walkinshaw observed the species in several other localities in the western part of the peninsula in 1933: near Bessemer, Gogebic County, June 29; at Sidnaw, Houghton County, June 28; and at Perch Lake, Iron County, June 28.

FALL.—The fall migration apparently extends from mid-July in the Upper Peninsula to mid-October in the south.

Upper Peninsula.—From August 22 to 27 (1938) large numbers—up to 60 in a day—were noted at Golden Lake, Iron County, by John L. George and R. L. Patterson. F. M. Gaige (1914: 88) collected 1 (U.M.M.Z.) in Dickinson County on August 11, and N. A. Wood (1914: 70) saw a few at Whitefish Point, Chippewa County, on July 15 and 19, 1914. Bryens has not recorded the species at McMillan, Luce County, after mid-July (latest dates: July 16 in 1933, and July 18 in 1937), but Christofferson reported a flock of 12 at Blaney, Schoolcraft County, on August 25, 1938.

Lower Peninsula.—Max M. Peet has 2 specimens he collected at Burt Lake, Cheboygan County, 1 on September 10, 1941, 1 on September 18, 1940. N. A. Wood (1911: 105) saw 2 Parula Warblers on the Charity Islands, Huron County, on September 26, 1910, and also recorded (1922: 26) the species in Berrien County on September 6, 1917. There are 2 mid-October records from Wayne County: Swales (1905: 109) saw an individual in Greenfield Township on October 14, and J. Claire Wood (1911: 22) noted 1 in Ecorse Township on October 16. L. W. Campbell (1940: 194) has found this warbler in the Toledo-Erie marsh area from August 31 (1932) to October 19 (1932).



*Dendroica petechia aestiva* (Gmelin)  
Eastern Yellow Warbler

Summer resident, common in the south, less common in the north; absent from Isle Royale.

First recorded for Michigan by Fox (1853: 161).

SPRING.—The Yellow Warbler appears in the southern counties during the last few days of April or in early May and reaches the Upper Peninsula after mid-May.

Lower Peninsula.—L. W. Campbell (1940: 141) estimated 1500 Yellow Warblers on North Cape, Monroe County, May 9, 1936. Swales (1904: 39) regularly noted arrival in the Detroit area during the last few days of April. A. D. Tinker reported an individual in the Ann Arbor region on April 20 in 1916, and there are a few other early reports; the species is most common there during the first half of May (15 seen May 8, 1938, by John L. George). N. A. Wood collected a series of specimens (U.M.M.Z.) between May 6 and 31 in Berrien County, where it was one of the most common birds of the region. Arrival has been recorded in Calhoun County during the years 1930 to 1940 in the last 3 days of April (Walkinshaw); in the vicinity of Vicksburg, Kalamazoo County, on April 21 (in 1925 by F. W. Rapp, 1931: 28); at the Prairie Farm, Alicia, Saginaw County, on April 30 (in 1940 by G. A. Ammann). D. W. Douglass saw a few birds every year, 1931 to 1933, on Sand Point, Huron County, between mid-May and the last of the month.

Upper Peninsula.—Bryens noted the Yellow Warbler at McMillan, Luce County, about May 20 or later; and Brodkorb found it common at Seney, Schoolcraft County, between June 2 and 11, 1936. N. A. Wood (1918: 13) saw 2 individuals at Whitefish Lake, Alger County, on May 25, 1916, and listed the species as a common migrant in the vicinity of Copper Harbor, Keweenaw County, where he (1933: 729) recorded its arrival on May 19.

SUMMER.—Nesting records extend from the second week in May to the latter part of June.

Lower Peninsula.—Swales (1904: 39) listed the Yellow Warbler as an abundant summer resident in the Detroit region. Nests have been found in the Ann Arbor area from the middle of May (nest with 3 eggs, May 15, 1936, Van Tyne and L. D. Case) to mid-June (nest under construction June 16, 1931, H. W. Hann). F. W. Rapp (1931: 28) found nests from May 11 (1896) to June 17 (1901) in the vicinity of Vicksburg, Kalamazoo County. G. A. Ammann observed a pair building a nest on the Prairie Farm, Alicia, Saginaw County, May 10 to 14, 1940, and N. A. Wood and Gaige (1911: 298-99) found the species breeding in northwestern Huron County, where they collected a number of immatures (U.M.M.Z.) in late July. Although

Van Tyne (1925: 625) saw the Yellow Warbler only once (July 21) in Charlevoix County during the summer of 1923, Barrows (1904: 81) had found it abundant on Beaver Island in the same county from July 8 to 13, 1904. Blanchard and Nelson (MS of 1937) listed several nests from the vicinity of Douglas Lake, Cheboygan County, 1 on June 24 with 3 warbler eggs and 1 Cowbird egg.

Upper Peninsula.—On Drummond Island, Chippewa County, T. D. Hinshaw and R. A. MacMullan observed a nest from June 17 to 22 in 1938, and N. A. Wood (1914: 70) reported fledglings on August 8, 1914, at Whitefish Point, in the same county. Van Tyne (1923: 24) listed the Yellow Warbler as a common breeder on Les Cheneaux Islands, Mackinac County, but in the Huron Mountains, Marquette County, S. S. Gregory, Jr. (1929: 185), found it uncommon.

FALL.—Southward migration apparently occurs between mid-August and mid-September.

Upper Peninsula.—Bryens noted the species at McMillan, Luce County, as late as September 2 (in 1934) and September 15 (in 1929). There seem to be no other definite fall data for the Upper Peninsula.

Lower Peninsula.—N. A. Wood, Smith, and Gates (1916: 17–18) listed the Yellow Warbler in the Douglas Lake region, Cheboygan County, on August 12, 1912, and on August 14, 1915. In northwestern Huron County, N. A. Wood and Gaige (1911: 298–99) recorded the species as common in early August and absent after August 13. The latest date of departure from Kalamazoo County was given as August 20 by F. W. Rapp (1931: 28) and as September 20 by Gibbs (1885: 39). Swales (1904: 39) noted that most of the Yellow Warblers had left the Detroit area by the first of September, and L. W. Campbell (1940: 194, 207) recorded the species as late as September 15 (1935) in the Toledo–Erie marsh region, but gave August 20 as the average date of departure.

*Dendroica magnolia* (Wilson)  
Magnolia Warbler

Common transient. Summer resident south to about Roscommon County.

First listed for Michigan by Miles (1861: 225): “*Dendroica maculosa*.”

SPRING.—Arrival is reported in the southern counties during the first week of May, in the Upper Peninsula by the middle of the month.

Lower Peninsula.—L. W. Campbell (1940: 207) noted the main flight in the Toledo–Erie marsh area from May 11 to 24. Swales reported arrival in the Detroit region at about the same time; he recorded 20 of these warblers a day on May 10, 15, and 19, 1912. The species is found in the Ann

Arbor area regularly in the first week of May and occasionally in late April; 15 were seen by L. D. Case on April 27 (1938). N. A. Wood (1922: 27) listed it as a common transient in Berrien County between May 6 and 29 (1918 to 1920). Both F. W. Rapp (1931: 29) and Gibbs (1885: 39) reported arrival in Kalamazoo County after the first of May. D. W. Douglass observed 8 to 10 daily during mid-May (1931 to 1933) on Sand Point, Huron County, and William Brewster collected a series of specimens (M.C.Z.) at Oden, Emmet County, and at Cadillac, Wexford County, between May 12 and 22, 1888.

Upper Peninsula.—Christofferson has noted individuals at Blaney, Schoolcraft County, before the middle of May (2 seen May 11, 1938), and considerable numbers in the latter part of the month (10 seen May 23, 1937). N. A. Wood (1914: 70) recorded arrival at Whitefish Point, Chippewa County, on May 16, 1914, and S. S. Gregory, Jr., collected a specimen in the Huron Mountains, Marquette County, on May 25, 1932. N. A. Wood (1933: 729) saw the species in the vicinity of Copper Harbor, Keweenaw County, on and after May 27; on Isle Royale, Laurence Dayton noted it on May 15, 1937, and N. A. Wood on May 16, 17, and 18, 1930.

SUMMER.—The few definite nest records available indicate that the species nests in June and in the first half of July.

Lower Peninsula.—Barrows (1912: 605) believed the Magnolia Warbler nested as far south as Roscommon and Crawford counties. Verne Dockham found a nest with 4 eggs in Oscoda County on June 9, 1937; Barrows (1912: 605) found the species fairly abundant during the summer of 1904 in the vicinity of Little Traverse Bay, Emmet County, and on Beaver Island, Charlevoix County (1904: 81). Widmann (1902: 236) also observed a pair on July 22, 1901, in Emmet County.

Upper Peninsula.—A nest with 2 eggs was found in July by N. A. Wood (1914: 70) on Whitefish Point, Chippewa County. Barrows (1912: 605) mentioned a nest with young, found on Grand Island, Marquette County, by E. A. Doolittle in July of 1906, and, in the same county, S. S. Gregory, Jr. (1929: 185), noted the species as moderately common in the Huron Mountains. A fledgling (U.M.M.Z.) was collected by Leonard Wing (1940: 190) near Ironwood, Gogebic County, on July 20, 1932. A number of young were found on Isle Royale (Max M. Peet, 1909: 375): July 7, 4 fledglings; July 8, several broods, one ready for flight.

FALL.—This warbler leaves the north in the early part of September but remains in southern counties until late September and occasionally until October.

Upper Peninsula.—Max M. Peet (1909a: 118) noted the species on Isle Royale until September 12. John L. George and R. L. Patterson observed

it at Golden Lake, Iron County, in late August (1938), and S. S. Gregory, Jr., collected a specimen in the Huron Mountains, Marquette County, on September 8, 1936. In Dickinson County, F. M. Gaige (1914: 88) noted flocks of 10 to 20 birds on August 17; at Whitefish Point, Chippewa County, Fargo saw "many" Magnolia Warblers during the last week in August and noted them as fairly common September 6 to 7, 1925. Christofferson has recorded main flight from Blaney, Schoolcraft County, in late August, although he has noted individuals there several times in September (2 seen September 14, 1932) and 1 on October 1, 1933.

Lower Peninsula.—Max M. Peet collected 2 specimens at Burt Lake, Cheboygan County, on August 30 and September 1, 1940. Chaney (1910: 277) listed the species as a rather uncommon migrant in Mason County during the last week of August, and N. A. Wood (1911: 106) observed it on Charity Island, Huron County, from mid-August to October 6. Gibbs (1885: 39) found it in Kalamazoo County in August and September, and N. A. Wood (1922: 27) listed it in Berrien County on September 4, 1917. Leonard Wing found the birds abundant in Van Buren County on September 16, 1931, but recorded only 1 on the following day; in the Detroit area, Swales noted considerable numbers in late September (20 on September 22, and 25 on September 23, 1912) and saw 1 as late as October 15 (1912). L. W. Campbell (1940: 207) has reported the Magnolia Warbler to be the most common in the Toledo-Erie marsh area between August 28 and September 28 (average dates).

*Dendroica tigrina* (Gmelin)  
Cape May Warbler

Regular transient. Has been recorded in summer in Luce County.

First recorded for Michigan by Fox (1854: 353).

SPRING.—The Cape May Warbler migrates through the southern counties in the second and third weeks of May and through the Upper Peninsula during the third and fourth weeks.

Lower Peninsula.—L. W. Campbell (1940: 207) has given May 13 to 18 as the average period of greatest abundance in the Toledo-Erie marsh area. Swales (1904: 39) found the species a rare transient in the Detroit area, but 4 years later Taverner (1908: 207) believed it had considerably increased. Individuals have been reported in the Ann Arbor region in the first week of May—rarely in late April—and greater numbers about the middle of the month; 2 were seen April 27, 1915, and 10, May 15, 1937. In Berrien County, N. A. Wood (1922: 26) observed the species from May 8 to 25 (1918 to 1920); in Kalamazoo County, Gibbs (1885: 39) listed it as rare and as arriving in early May. G. A. Ammann saw it at the Prairie

Farm, Alicia, Saginaw County, on May 11, 1940; on Sand Point, Huron County, D. W. Douglass noted it during the second and third weeks in May (1931 to 1933). William Brewster collected a series of specimens (M.C.Z.) at Oden, Emmet County, and at Cadillac, Wexford County, May 14 to 24, 1888.

Upper Peninsula.—Bryens recorded 2 individuals at McMillan, Luce County, on May 8, 1938, and Christofferson 2 at Blaney, Schoolcraft County, on May 11, 1939. N. A. Wood (1914: 70) reported the species at Whitefish Point, Chippewa County, May 19 to 23, and S. S. Gregory, Jr. (1929: 185), noted it as a rare transient in the Huron Mountains, Marquette County, during the fourth week in May. It was seen in 1930 on Isle Royale by N. A. Wood from May 17 to 29, and 1 specimen (U.M.M.Z.) was taken there by A. Murie on May 16, 1930.

SUMMER.—There is some indication that the Cape May Warbler nests in northern Michigan: Braund and Aldrich (1941: 99, 103) noted a total of 19 individuals in a spruce bog 12 miles northwest of Newberry, Luce County, between June 9 and 21; they saw 1 to 5 singing males at a time, and collected 2 on June 10. Lincoln (1939: 88) included northern Michigan in the breeding range of the Cape May Warbler, but knows of no definite breeding record from there (letter of January 16, 1941).

FALL.—The fall migration is more extended than the spring movement; it begins in early August and continues until late September or even early October in the southern counties.

Upper Peninsula.—Max M. Peet (1909: 373) saw 6 or 7 individuals on Isle Royale on August 15, and N. A. Wood collected 2 (U.M.M.Z.) there on August 21 and 27, 1929. S. S. Gregory, Jr., collected a specimen in the Huron Mountains, Marquette County, on September 20, 1919, and at Deer Park, Luce County, R. E. Olsen collected 2 (U.M.M.Z.) on August 31 and September 1, 1936. N. A. Wood (1914: 70) saw the species at Whitefish Point, Chippewa County, on August 5, 6, and 13, and a few were noted there by Fargo on September 2, 1925. K. Christofferson recorded this warbler at Blaney, Schoolcraft County, as late as September 11 (1932, 2 seen).

Lower Peninsula.—Max M. Peet collected a specimen at Burt Lake, Cheboygan County, on September 3, 1937. N. A. Wood (1911: 105-6) observed the Cape May Warbler on Charity Island, Huron County, from August 22 to October 3; and at Sand Point in the same county, N. A. Wood and Gaige (1911: 299) noted numerous flocks of 10 to 20 birds from August 18 until August 27, when the observers left the region. Walkinshaw saw an individual in Calhoun County on September 25, 1933, and N. A. Wood (1922: 26) recorded the species in Berrien County from August 29 to September 10, 1917. This warbler has been reported several times in October

in the Ann Arbor area: Max M. Peet collected 2 near Ypsilanti, on October 3 and 5, 1914; R. C. Hughes secured 1 (U.M.M.Z.) at Ann Arbor on October 22, 1927. Swales' notes indicate that the species was the most common in the Detroit area during September (25 seen by Swales on September 12, 1913; 32 seen by J. Claire Wood on September 29, 1907). L. W. Campbell (1940: 207) gives August 20 to September 22 as the period of greatest abundance in the Toledo-Erie marsh area.

*Dendroica caerulescens caerulescens* (Gmelin)

Black-throated Blue Warbler

Common transient. Summer resident south to Kalamazoo County.

First listed for Michigan by Sager (1839: 414): "*Sylvicola canadensis*."

SPRING.—The relatively rapid spring migration occurs in the second and third weeks in May in the southern counties and about a week later in the Upper Peninsula.

Lower Peninsula.—L. W. Campbell (1940: 207) observed main flight in the Toledo-Erie marsh area between May 11 and 18. Swales recorded main flight in mid-May in the Detroit region (25 seen on May 19, 1912), but noted individuals arriving in early May and sometimes remaining until the end of the third week. The species is reported in the Ann Arbor area usually in early May, rarely in the last few days of April; 2 were seen there by Max M. Peet on April 25, 1908. In Berrien County, N. A. Wood (1922: 26-27) listed this warbler in May, observing "dozens" on May 12; and in Calhoun County Walkinshaw recorded it in the second week of May (1930 to 1940). D. W. Douglass saw 1 to 8 individuals daily at Sand Point, Huron County, during the second and third weeks of May (1931 to 1933); in the northern part of the peninsula, William Brewster and Jonathan Dwight collected a series of specimens (M.C.Z.) in the vicinity of Cadillac, Wexford County, and Oden, Emmet County, between May 10 and May 28, 1888.

Upper Peninsula.—Christofferson noted 2 individuals at Blaney, Schoolcraft County, as early as May 9, and 4 on May 11 (1939). But at McMillan, Luce County, Bryens has usually recorded arrival after the middle of May. N. A. Wood (1914: 70) found the species rather common on Whitefish Point, Chippewa County, for a few days after May 23, 1914. Although observers have been on Isle Royale throughout May, the earliest spring record is a specimen (U.M.M.Z.) collected by A. Murie on June 7, 1930.

SUMMER.—The relatively few nest records available indicate that nesting extends from mid-May to the latter half of July in the Lower Peninsula and over a somewhat later period in the Upper.

Lower Peninsula.—Barrows (1912: 599) lists several nesting records of the Black-throated Blue Warbler: nest with 4 eggs found by R. B. West-

nedge in Kalamazoo County on May 29, 1891; nest with 4 eggs discovered by C. W. Gunn in Ottawa County, June 6, 1878; nest and young noted in Charlevoix County by R. H. Wolcott; and a nest with 3 eggs taken by Barrows near Petoskey, Emmet County, on July 18, 1904. N. A. Wood and Frothingham (1905: 52) saw the species near West Branch, Ogemaw County, on June 19, and Verne Dockham reported a nest with 3 eggs near Oscoda, Iosco County, on May 29, 1938. Blanchard and Nelson (MS of 1937) mention a nest with 3 eggs found at Wilderness Park, Emmet County, on July 20, 1924.

Upper Peninsula.—Bryens has noted this species at McMillan, Luce County, several times in the summer (June 28, 1938; June 25, 1939). It was believed to nest at Whitefish Point, Chippewa County (N. A. Wood, 1914: 70), and adults with young were seen on July 11 near Whitefish Lake, Alger County (N. A. Wood, 1918: 13). In the Porcupine Mountains, Ontonagon County, young were seen flying about after July 17, and nestlings (U.M.M.Z.) were taken on July 20 (N. A. Wood, Peet, and McCreary, 1906: 118). Max M. Peet (1909: 373-74) reported that although adult birds were taken on July 8 and later, no nests of this bird were found on Isle Royale.

FALL.—The southward movement apparently begins in mid-August, extending in the Upper Peninsula to mid-September, and in the south to the end of September or to early October.

Upper Peninsula.—The species was noted as a migrant on Isle Royale from August 28 to September 12 (Peet, 1909: 373-74) and was observed in the Huron Mountains, Marquette County, until September 25 (S. S. Gregory, Jr., 1929: 185). F. M. Gaike (1914: 88), recorded the species in Dickinson County from August 11, when he saw small flocks, to August 14. A. D. Tinker saw 2 individuals on Whitefish Point, Chippewa County, on August 25, 1931. Bryens has listed this warbler only until mid-September at McMillan, Luce County, but at Blaney, Schoolcraft County, Christofferson recorded 2 on September 30, 1934, and 1 as late as October 5 (1933).

Lower Peninsula.—N. A. Wood and Frothingham (1905: 52) reported the species at Grayling, Crawford County, on September 9. On Charity Island, Huron County, N. A. Wood (1911: 106) saw a few individuals between August 31 and September 25, 1910, and recorded them as common on September 26. Between September 27 and the night of October 5 he recorded only a few; on October 6 he saw hundreds; but no others were noted after this last date. N. A. Wood (1922: 26-27) found the species in Berrien County on September 1, 1917; at South Haven in Van Buren County, Leonard Wing saw 10 on September 16 and 3 on September 17, 1931. Swales recorded it in the Detroit area in late August and September, and J. Claire Wood collected 3 late specimens (U.M.M.Z.) there: 1 on October

16, 1909; 2 on October 17, 1909. L. W. Campbell (1940: 207) gave September 5 to 25 as the average period for main flight in the Toledo-Erie marsh area.

*Dendroica coronata* (Linnaeus)  
Myrtle Warbler

Common transient. Summer resident south to Crawford County. Winter records from Kalamazoo and Monroe counties.

First listed for Michigan by Sager (1839: 414): "*Sylvicola coronata*."

SPRING.—Arrival is reported in the Lower Peninsula by the second week of April and in the north by the middle of the month.

Lower Peninsula.—L. W. Campbell (1940: 207) noted main flight in the Toledo-Erie marsh area from April 23 to May 17 (average dates). In the Detroit area, Swales recorded main flight in early May; he noted 15 Myrtle Warblers on May 2, 20 on May 7, and 30 on May 10 in 1907; and he recorded 1 as late as May 19 the same year. On April 10, 1934, L. D. Case and R. E. Olsen saw 5 near Ann Arbor, where N. A. Wood had recorded 5 as late as June 7 in 1907. Gibbs (1885: 39) noted arrival in Kalamazoo County between April 16 and 28 and departure in late May; N. A. Wood (1922: 27) listed the species as a common transient in Berrien County from May 6 to 29 (1917 to 1920). On Sand Point, Huron County, D. W. Douglass observed 4 to 8 of these warblers a day during the second and third weeks in May (1931 to 1933), and N. A. Wood saw them on Beaver Island, Charlevoix County, on May 2 (1929).

Upper Peninsula.—Christofferson has recorded the species at Blaney, Schoolcraft County, by mid-April but has not found it in considerable numbers until the last of the month or until early May; he recorded 15 on April 30, 1941; 50 on May 12, 1939; and 50 on May 16, 1937. Brodkorb noted it as common on Whitefish Point, Chippewa County, from May 8 to 23, 1936, and S. S. Gregory, Jr. (1929: 185), found it in the Huron Mountains, Marquette County, on May 5. Arrival was noted at Copper Harbor, Keweenaw County, on May 9, and flocks were observed there the rest of the month (N. A. Wood, 1933: 729); on Isle Royale this warbler was noted on May 4, 1930, by N. A. Wood, and on May 8 and 9, 1937, by Laurence Dayton.

SUMMER.—The species nests in Michigan from June to the latter part of July or early August.

Lower Peninsula.—Although Swales (1891: 148-49; 1893: 79) reported that he found a nest of this warbler in Wayne County on June 1, 1889, in his later notes (U.M.M.Z.) he stated that this nest "was of course not the nest of *Dendroica coronata*." Walkinshaw observed a pair of adults feeding 4 fledglings near Red Oak, Oscoda County, on July 20, 1932; in the vicinity of Lovells, Crawford County, the species was found breeding by



Leonard Wing (1933: 71-72) and other observers, and young were collected (U.M.M.Z.) July 5 to August 7 (1930 to 1931). T. D. Hinshaw and R. E. Morrill, collected several specimens (U.M.M.Z.) from June 12 to July 22, on Beaver Island, Charlevoix County, in 1937. Blanchard and Nelson (MS of 1937) recorded several nests in the Douglas Lake area, Cheboygan County (nest with 4 eggs, July 4; nest with 4 small young, August 11).

Upper Peninsula.—Near Hessel, Mackinac County, J. Van Tyne (1924: 169) found a nest on June 19 with 1 Cowbird egg and 1 egg of this warbler, and a second nest on June 23 with 4 well-incubated eggs. N. A. Wood saw young on July 9, 1914, on Whitefish Point, Chippewa County (1914: 70), and adults and young on July 24, 1916, at Whitefish Lake, Alger County (1918: 13). F. M. Gaige (1914: 88) collected a specimen (U.M.M.Z.) on July 19, 1909, in Dickinson County; Van Tyne observed the species commonly in the Huron Mountains, Marquette County, in late June, 1936; and in the Porcupine Mountains, Ontonagon County, N. A. Wood, Peet, and McCreary (1906: 118) noted adults and young on July 16, 1903. N. A. Wood reported this warbler as common on Isle Royale in June, 1930, and Max M. Peet (1909: 374-75) listed several nests found on the island in 1905: 1 nest with 4 well-feathered young on July 7; 2 nests with young on July 21; 1 nest with 3 small young on July 27.

FALL.—The fall migration extends from September to mid-October or occasionally later in the southern counties.

Upper Peninsula.—Max M. Peet (1909*a*: 117) recorded departure from Isle Royale by September 12, in 1905, but in 1929 N. A. Wood found the species there until October 2. In the Huron Mountains, Marquette County, Ira N. Gabrielson observed "thousands" on September 24, 1936; S. S. Gregory, Jr., collected a specimen there as late as October 25 (1938). Fargo reported the species at Whitefish Point, Chippewa County, from August 15 to September 7, 1925. Christofferson has recorded considerable numbers in September and October at Blaney, Schoolcraft County: 25 on September 14, 1938; 50 on September 20 and 26, 1937; 50 on October 20, and 25 on October 24, 1940.

Lower Peninsula.—This warbler was seen occasionally in Crawford County on September 6 by N. A. Wood and Frothingham (1905: 52). N. A. Wood (1911: 106) saw thousands on October 6, 1910, on Charity Island, though he had seen only a few before this date, and observed only 10 the following day. Gibbs (1885: 39) recorded transients in Kalamazoo County from September 20 to November 1, and L. D. Case collected 2 (U.M.M.Z.) near Homer, Calhoun County, on October 17, 1937. The species is reported in the Ann Arbor region from mid-September to late October (specimen in U.M.M.Z. collected October 25, 1905, by J. J. Ricks) and

occasionally in November (reported November 16, 1934, by Walter E. Hastings, and November 20, 1930, by R. E. Olsen). J. Claire Wood (1906: 23) found two or three hundred daily in the Detroit area between October 1 and 15 and saw a flock of 25 on November 25. L. W. Campbell (1940: 143, 207) recorded 250 near North Cape, Monroe County, on October 3, 1934, and gave September 26 to October 28 as the average period of main flight in the Toledo-Erie marsh area.

WINTER.—Pirnie (1940a: 18) observed a Myrtle Warbler at the W. K. Kellogg Bird Sanctuary in northeastern Kalamazoo County on December 24, 1939; and in the Toledo-Erie marsh area, L. W. Campbell (1940: 142-43) has found the species during the winter months, noting one on January 3, 1932, another December 18, 1932, and one on several occasions during the last 2 weeks in December, 1939.

*Dendroica virens virens* (Gmelin)  
Black-throated Green Warbler

Common transient. Summer resident south to Huron County.

First recorded for Michigan by Fox (1853: 161).

SPRING.—Arrival is reported in the southern counties occasionally in late April, more commonly in the first week of May, and in the Upper Peninsula by the middle of May.

Lower Peninsula.—Over a period of 14 years L. W. Campbell (1940: 207) has recorded main flight in the Toledo-Erie marsh area on the average between May 6 and 19. Swales (1904: 40) recorded the species in the Detroit area from May 1 to 20; J. Claire Wood (1911: 24) noted 180 there on May 16, 1909. The species is reported at Ann Arbor regularly in early May and occasionally in April (2 seen April 30, 1936, by A. D. Tinker). N. A. Wood (1922: 28) listed it as common during May in Berrien County, and in Calhoun County Walkinshaw noted the species in late April or early May (1930 to 1940). Gibbs (1885: 54) reported arrival in Kalamazoo County between April 23 and May 4; F. W. Rapp (1931: 29) in the vicinity of Vicksburg in the same county reported it as early as April 18 (1926). G. A. Ammann saw the species at Prairie Farm, Alicia, Saginaw County, on May 6 and 21, 1940; at Sand Point, Huron County, D. W. Douglass recorded as many as 10 in one day during the second and third weeks of May (1931 to 1933).

Upper Peninsula.—Both Bryens, at McMillan, Luce County, and Christofferson, at Blaney, Schoolcraft County, have found the Black-throated Green Warbler by mid-May (15 seen at Blaney, May 12, 1938; 8 seen at McMillan, May 8, 1938). T. D. Hinshaw collected 2 specimens (U.M.M.Z.) at Munuscong Bay, Chippewa County, on May 5 and 12, 1934; at Copper

Harbor, Keweenaw County, N. A. Wood (1933: 729) reported the species as common after May 27. On Isle Royale a specimen was collected by A. Murie on May 10, 1930, and in the same year this warbler was recorded there by N. A. Wood on May 14, 16, and 17.

SUMMER.—Nesting occurs in June and early July.

Lower Peninsula.—The southernmost summer record is a juvenile (U.M.M.Z.) collected near Sand Point, Huron County (N. A. Wood and Gaige, 1911: 300-301), on July 24, 1908. N. A. Wood and Frothingham (1905: 52) observed the species frequently in Crawford County on June 18; Widmann (1902: 236) found it common in Emmet County, where he noted "fully grown" young on July 11. This warbler was recorded by Barrows (1904: 81) as abundant on Beaver Island, Charlevoix County, and specimens (U.M.M.Z.) were taken from several of the smaller islands of the county in 1937 and 1938. Pitelka (1940: 4-6) noted a nest in Emmet County on July 4, 1938, and a nest with 3 eggs, in Cheboygan County on the same date.

Upper Peninsula.—The Black-throated Green Warbler was listed as a common nester on Les Cheneaux Islands, Mackinac County, by Van Tyne (1923: 25), and young birds being fed by adults were observed on Whitefish Point, Chippewa County, by N. A. Wood (1914: 71) on July 8, 1912. N. A. Wood (1918: 13) noted young at Whitefish Lake, Alger County, on July 24, 1916; and at Marquette, Walkinshaw saw fledglings on June 27, 1933. The species was reported as common in the Huron Mountains, Marquette County, by Van Tyne in 1936. John L. George and R. L. Patterson also found it common at Golden Lake, Iron County, where they saw 10 birds in a day and, on June 28, found a nest. N. A. Wood (1933: 729) listed the species as a summer resident at Copper Harbor, Keweenaw County, and Max M. Peet (1909: 376-77) mentioned several nests from Isle Royale; 2 nests containing young were seen on July 11 and several fledged broods seen on other occasions in July.

FALL.—The southward migration occurs from mid-August to mid-September in the north and to early October in the southernmost counties.

Upper Peninsula.—Max M. Peet (1909a: 118) recorded the species on Isle Royale until September 12, and N. A. Wood observed it there as late as September 26 in 1929. John L. George and R. L. Patterson noted 60 Black-throated Green Warblers daily from August 22 to 27 at Golden Lake, Iron County, and in Dickinson County, Gaige (1914: 89) saw numerous small flocks on August 11. Christofferson has seen this warbler at Blaney, Schoolcraft County, until mid-August and occasionally later; he recorded 10 on August 8, 1937, 10 on August 15, 1940, and 1 on September 26, 1936.

Lower Peninsula.—N. A. Wood and Frothingham (1905: 52) found

this warbler common in Iosco County on September 20 and 21, and in Mason County, Chaney (1910: 277) noted it as abundant in September. A few were seen on Charity Island by N. A. Wood (1911: 107) during September and early October; on October 6 the birds were very abundant but none was seen after that date. Gibbs (1885: 54) found the species in Kalamazoo County from August 30 to late September, and H. A. Mathiak saw 1 near Ann Arbor on October 23, 1937. In the Detroit area, Swales recorded 100 on September 22, and 75 on September 23 in 1912; J. Claire Wood (1906: 23-24), in the same region, saw 75 on October 2, and 3 on October 22. L. W. Campbell (1940: 207) reported September 9 to October 1, on the average, as the period of greatest abundance in the Toledo-Erie marsh area.

*Dendroica cerulea* (Wilson)  
Cerulean Warbler

Summer resident north to Newaygo and Saginaw counties, probably locally common. Recorded once at Sand Point, Huron County.

First authoritatively listed for Michigan by Gibbs (1879: 484).

SPRING.—Arrival is reported during the first week of May. L. W. Campbell (1940: 207) has noted main flight in the Toledo-Erie marsh area about the middle of May. In the Detroit area Swales recorded 12 on May 4, and 10 on May 7 in 1912; J. Claire Wood (1911: 23) noted 46 on May 16. N. A. Wood (1922: 27) reported the species in Berrien County on May 12, and observers report it in the Ann Arbor area in the first and second weeks of May. Twenty Cerulean Warblers were seen by R. E. Olsen and A. D. Tinker in Hartland Township, Livingston County, on May 27, 1934; at the Prairie Farm, Alicia, Saginaw County, it was observed by G. A. Ammann on May 11, 1940. The northernmost record, apparently, is a specimen (U.M.M.Z.) collected by James H. Wood at Sand Point, Huron County, on May 4, 1932.

SUMMER.—Nests and eggs of the Cerulean Warbler have been found from the last week in May to early July. In the Detroit area Davidson (1897: 45) found 1 nest on May 26 that, on June 6, contained 4 eggs, and 1 nest (1892: 137) on June 19 with 4 eggs. J. Claire Wood discovered 2 nests in this area on June 20 with 3 and 4 eggs (1911: 23) and noted 14 other nests between May 30 and late June (1904a: 181-83; 1906c: 42-44; 1907d: 10-11). Near Ann Arbor, N. A. Wood and J. J. Ricks found 2 nests under construction in 1903, 1 on May 20, and 1 on May 25. H. W. Hann reported a nest at Coldwater Lake, Branch County, on July 3, 1932, and E. R. Kalmbach and H. A. Moorman (Barrows, 1912: 607) noted adults with nearly full-grown young on July 13 and 14 at Grand Ledge, Eaton County. A nest with 2 warbler eggs and 2 Cowbird eggs (Friedmann,

1934: 104) was collected (U.S.N.M.) by R. A. Brown at Saginaw, June 23, 1900. G. A. Ammann also found the species in Saginaw County, observing it in late May and throughout June at the Prairie Farm, Alicia; E. R. Ford reported it from Brooks Township, Newaygo County, on June 21, 1935, and on July 6 and 14, 1938.

FALL.—The small amount of data on the fall migration indicates that the species moves southward in the latter part of August and early September. Brodkorb (1929: 397-98) observed 6 at Warren's Woods, Berrien County, on August 28; in Hartland Township, Livingston County, R. E. Olsen saw 10 on August 5, 1934, and collected 2 specimens (U.M.M.Z.) on September 1, 1935. J. Claire Wood (1906: 24) recorded 20 Cerulean Warblers on August 24 in the vicinity of Detroit, and Swales saw 1 there on September 7, 1908.

*Dendroica fusca* (Müller)  
Blackburnian Warbler

Common transient. Summer resident south to Muskegon and (formerly) Kalamazoo counties.

First recorded for Michigan by Sager (1839: 414).

SPRING.—Arrival is reported in the Lower Peninsula in late April or early May and in the Upper Peninsula by mid-May or later.

Lower Peninsula.—In the Toledo-Erie marsh area L. W. Campbell (1940: 208) reports May 10 to 20 as the average period of greatest abundance. In the Detroit area Swales recorded 2 as early as April 23 (1908), and J. Claire Wood (1911: 23-24) counted 260 on May 16. The species is commonly reported in the region of Ann Arbor in the first week of May; R. E. Morrill saw an individual there on May 3, 1938, and L. D. Case and H. R. Ward saw several on May 4, 1934. The species was listed in Berrien County by N. A. Wood (1922: 28) from May 7 to 30, and there are 3 specimens (U.M.M.Z.) collected by B. F. Sykes at Kalamazoo on April 26, 1878. D. W. Douglass recorded 1 on Sand Point, Huron County, on April 29, 1933, and 20 on May 15, 1932; he reported the species common in mid-May. R. L. Patterson saw 1 at Gaylord, Otsego County, on May 7, 1939; William Brewster and Jonathan Dwight collected a series of specimens (M.C.Z.) at Oden, Emmet County, and at Cadillac, Wexford County, between May 10 and 30 (1888).

Upper Peninsula.—Bryens at McMillan, Luce County, and Christofferson at Blaney, Schoolcraft County, have recorded the species by the middle of May; Bryens saw 2 on May 13, 1940, and Christofferson saw 2 on May 14, 1938. N. A. Wood (1914: 71) found several at Whitefish Point, Chippewa County, on May 18, and S. S. Gregory, Jr., collected 2 specimens

in the Huron Mountains, Marquette County, on May 20 and 22, 1921. Laurence Dayton saw 1 on Isle Royale, May 25, 1937, and N. A. Wood found 1 there on June 4, 1930.

**SUMMER.**—Nesting occurs in June and early July.

Lower Peninsula.—Barrows (1912: 613) mentioned 2 nests found by B. F. Sykes near Kalamazoo: 1 on June 2, 1882, with 3 eggs, and 1 on June 5, 1881, with 4 warbler eggs and 1 Cowbird egg. In the spring of 1880 Gibbs (1885*a*: Vol. 25, pp. 4–5) observed females carrying nesting material in Montcalm County but found no nests. Since about 1900 the species has not been reported nesting south of Muskegon and Huron counties. Brod-korb saw a female feeding 3 young at Duck Lake, Muskegon County, on July 3, 1923, and N. A. Wood and Gaige (1911: 300) saw many of these warblers in the vicinity of Sand Point, Huron County, in 1908, and noted several young being fed by adults on July 24. In the Max M. Peet collection there are 3 fledglings that Peet secured near Luzerne, Oscoda County, on August 6, 1919, and several specimens (U.M.M.Z.) have been collected on Beaver and other islands of Charlevoix County in late June and July. Adults feeding young were observed by Widmann (1902: 236) in Emmet County between July 9 and 23; in the vicinity of Douglas Lake, Cheboygan County, the species was reported from June 2 to August 25 by Blanchard and Nelson (MS of 1937).

Upper Peninsula.—Several Blackburnian Warblers were taken on Drummond Island and in its vicinity, Chippewa County, by T. D. Hinshaw and R. A. McMullan in July, 1938, and the species was believed to nest near Vermilion in the same county by N. A. Wood (1914: 71). At McMillan, Luce County, Bryens observed a pair building their nest on June 3, 1928, and saw adults feeding fledglings on June 30, 1935, and August 6, 1933. F. M. Gaige (1914: 88–89) found 3 small young in a nest in Dickinson County on July 17. In Alger County Walkinshaw observed a female feeding fledglings on June 26, 1933, and N. A. Wood (1918: 13) observed adults and young on July 24, 1916, at Whitefish Lake. John L. George and R. L. Patterson recorded at least 5 a day at Golden Lake, Iron County, in the summer of 1938, and N. A. Wood, Peet, and McCreary (1906: 119) took a fledgling (U.M.M.Z.) on July 14, 1904, in the Porcupine Mountains, Ontonagon County.

**FALL.**—Southward movement is reported from late August to mid-September in the north and to late September or occasionally later in the southern counties.

Upper Peninsula.—N. A. Wood collected a specimen (U.M.M.Z.) on Isle Royale on August 22, 1929, and F. M. and A. M. Baumgartner observed 2 of these warblers there in the first week of September. F. M.

Gaige (1914: 88-89) noted small flocks in Dickinson County between August 18 and 22 (1909); Bryens at McMillan, Luce County, usually recorded it into late August—in 1933 as late as September 10.

Lower Peninsula.—Max M. Peet collected 2 specimens at Burt Lake, Cheboygan County, on September 8 and 15 (1940), and Chaney (1910: 277) listed the species as fairly common during the latter part of August in Mason County. N. A. Wood and Gaige (1911: 300) noted it as abundant at Sand Point, Huron County, on August 27, and N. A. Wood (1911: 107) observed it on Charity Island in the same county from August 26 to September 5. Gibbs (1885: 39) found the species in Kalamazoo County in September and early October, and Swales (1904: 39-40) listed it in the Detroit area throughout September. J. Claire Wood collected 2 specimens (U.M.M.Z.) in Ecorse Township, Wayne County, in October, 1 on October 4, 1908, and 1 on October 9, 1906. L. W. Campbell (1940: 194, 208) recorded the species in the Toledo-Erie marsh area as late as October 4 in 1936, but gave August 26 to September 10 as the average period for the main flight.

*Dendroica dominica albilora* Ridgway  
Sycamore Warbler

Formerly a rare summer resident in the 2 southern tiers of counties. Only one record since 1911 (Berrien County).

First recorded for Michigan by Gibbs (1879: 484).

SPRING.—H. and P. Davidson secured a specimen (U.M.M.Z.) in Ecorse Township, Wayne County, on May 5, 1900. Several spring birds (U.M.M.Z.) were taken and others seen (N. A. Wood and Tinker, 1910: 136-37) in the vicinity of Ann Arbor: 1 collected by Frank Novy, April 22, 1911; 1 by N. A. Wood on April 29, 1908; 1 by N. A. Wood on May 4, 1906, when Wood also saw 4 other Sycamore Warblers. J. Van Fossen collected a male (U.M.M.Z.) at Ypsilanti on May 17, 1893. B. F. Sykes secured a specimen (U.M.M.Z.) at Kalamazoo on April 17, 1880. There is apparently only 1 record since 1911: a male seen by N. A. Wood (1922: 28) in Berrien County on April 28 in 1918.

SUMMER.—The Sycamore Warbler has twice been found nesting in Michigan: R. M. Gibbs (Barrows, 1912: 615) mentioned a nest that was found near Kalamazoo in 1876; Gibbs (1885a: Vol. 24, p. 5) and Amos W. Butler (1898: 1067) recorded a nest found by Jerome Trombley at Petersburg, Monroe County, in mid-May, 1880. Walter C. Wood collected a Sycamore Warbler (U.M.M.Z.) in Ecorse Township, Wayne County, on July 1, 1899, and A. D. Tinker saw 1 near Ann Arbor on June 21, 1908.

FALL.—R. M. Gibbs (Barrows, 1912: 615) mentioned a specimen taken

at Detroit on September 15, 1880, and C. Shaw secured 1 (U.M.M.Z.) at Kalamazoo on September 21, 1878. Jerome Trombley (Gibbs, 1885a: Vol. 24, p. 5) reported that the species was occasionally found in the vicinity of Petersburg, Monroe County, until October 10.

*Dendroica pensylvanica* (Linnaeus)  
Chestnut-sided Warbler

Common transient. Local summer resident.

First recorded for Michigan by Sager (1839: 414): "*Sylvicola icterocephala*."

SPRING.—Northward migration occurs chiefly in the second and third weeks of May in the Lower Peninsula and a week later in the north.

Lower Peninsula.—L. W. Campbell (1940: 208) gave May 11 to May 20 as the average period for the main flight in the Toledo-Erie marsh area. In the Detroit area Swales (1904: 39) noted first arrivals in early May and recorded the greatest numbers in mid-May; 300 were seen there on May 16, 1909, by Swales and H. Spicer. The species is also reported in the first week of May in the Ann Arbor area; A. E. Staebler saw 1 there on May 1, 1940, and R. E. Morrill, 4 on May 7, 1936. N. A. Wood (1922: 27) observed the species in Berrien County between May 10 and 27. Gibbs (1885: 39) reported arrival as early as April 25 in Kalamazoo County, but Walkinshaw reported it in Calhoun County in the second week of May or later, in the years 1930 to 1940. D. W. Douglass recorded 3 to 4 of these warblers a day on Sand Point, Huron County, in the latter part of May, in the years 1931 to 1933. William Brewster collected a specimen (M.C.Z.) at Cadillac, Wexford County, on May 14, 1888.

Upper Peninsula.—Bryens, at McMillan, Luce County, and Christofferson, at Blaney, Schoolcraft County, usually recorded this warbler about the middle of May, rarely in the first week; Bryens saw 1 at McMillan on May 7, 1930, and Christofferson saw 6 at Blaney on May 16, 1937. Brodorb saw the species at Whitefish Point, Chippewa County, on May 13 and 18, 1936, and N. A. Wood (1914: 70-71) also found it there on May 22, 1914. S. S. Gregory, Jr., collected a specimen in the Huron Mountains, Marquette County, on May 23, 1932. N. A. Wood saw several flocks and collected 2 specimens (U.M.M.Z.) on Isle Royale on May 22, 1930.

SUMMER.—Nesting records extend from the last week in May to the middle of July.

Lower Peninsula.—Swales (1891: 149) found a nest with 4 fresh eggs near Detroit on June 4; in 1934 R. E. Olsen and A. D. Tinker reported several nests from Hartland Township, Livingston County, 1 with 1 egg on May 27, 1 with 3 eggs on June 8, and they saw more than 20 Chestnut-



sided Warblers there on June 3. Gibbs (1894*b*: 332-33) reported this warbler as a common summer resident in Kent and Ottawa counties; he found 30 nests there in a 2-year period, 1 nest with 4 eggs as early as May 20 (1874). No such abundance has been reported in recent years. F. W. Rapp (1931: 29) listed the species as rare in the vicinity of Vicksburg, Kalamazoo County. N. A. Wood and Gaige (1911: 299-300) saw a few in Huron County in July, and Chaney (1910: 277) believed it to breed in Mason County. N. A. Wood, Smith, and Gates (1916: 18) listed it as the most abundant warbler in the vicinity of Douglas Lake, Cheboygan County, but Blanchard and Nelson (MS of 1937) recorded it there only a few times each summer in the 1930's.

Upper Peninsula.—T. D. Hinshaw and R. A. MacMullan collected a series of specimens (U.M.M.Z.) on Drummond Island, Chippewa County, in June and July of 1938, taking a nest with 4 eggs (U.M.M.Z.) on June 21; N. A. Wood (1914: 70-71) believed the species nested in the same county at Whitefish Point. Bryens has seen fledglings by the middle of July at McMillan, Luce County, and N. A. Wood (1918: 13) observed a female feeding young on July 19 near Deerton, Alger County. Van Tyne found the species common in the Huron Mountains, Marquette County, in the latter part of June, 1936; John L. George and R. L. Patterson noted 30 or more a day at Golden Lake, Iron County, in the summer of 1938 and found a nest with 3 young on July 20.

FALL.—This warbler leaves the Upper Peninsula in late August or early September, and the southern counties usually by mid-September.

Upper Peninsula.—Fargo saw 2 individuals on Isle Royale on August 27, 1924; F. M. Gaige (1914: 88) found the species common in Dickinson County in August, and R. E. Olsen collected 1 (U.M.M.Z.) near Deer Park, Luce County, on September 1, 1938. At McMillan, Luce County, Bryens has recorded this warbler until late August or early September (September 4 in 1938 and September 10 in 1940 were the latest dates).

Lower Peninsula.—Chaney (1910: 277) noted the species as a fall migrant in Mason County in late August; and on Charity Island, Huron County, N. A. Wood (1911: 106) saw a few individuals on September 15 and 29. In Hartland Township, Livingston County, A. D. Tinker and R. E. Olsen saw 4 on September 15, 1935, and 1 on September 25, 1938. One of the latest records is a bird (U.M.M.Z.) found dead in Ann Arbor by T. Hast on October 18, 1909. Swales (1904: 39) noted the species remaining well into September in the Detroit area, where J. Claire Wood (1906: 24) saw 15 on September 3 and collected 1 (U.M.M.Z.) on September 23. L. W. Campbell (1940: 208) gave August 28 to September 12 as the period of greatest abundance in the Toledo-Erie marsh area.

*Dendroica castanea* (Wilson)  
Bay-breasted Warbler

Common transient.

First listed for Michigan by Sager (1839: 414).

SPRING.—Arrival is reported in the Lower Peninsula in early May and in the north by mid-May.

Lower Peninsula.—L. W. Campbell (1940: 208) gave May 16 to 20 as the average period of main flight in the Toledo-Erie marsh area. Swales recorded the greatest numbers at Detroit after the middle of May: 20 on May 26, 1907; 50 on May 19, 1912. This warbler has been observed in the Ann Arbor area in the first week of May (3 on May 3, 1936, by R. E. Morrill), more commonly in the second week, and it has been seen occasionally in June (June 3 and June 6, 1907, by N. A. Wood). N. A. Wood (1922: 27-28) listed the species as rather common in Berrien County between May 11 and 28. G. A. Ammann saw an individual at the Prairie Farm, Alicia, Saginaw County, on May 21, 1940, and D. W. Douglass noted up to 6 a day at Sand Point, Huron County, during mid-May (1931 to 1933). William Brewster and Jonathan Dwight collected 5 specimens (M.C.Z.) at Oden, Emmet County, between May 21 and 26, 1888.

Upper Peninsula.—Christofferson reported 6 Bay-breasted Warblers at Munuscong Bay, Chippewa County, on May 15, 1927, and N. A. Wood (1914: 71) found the species at Whitefish Point in the same county on May 19 and 25. Bryens recorded an individual at McMillan, Luce County, on May 13, 1936; N. A. Wood (1918: 13) saw 2 near Whitefish Lake, Alger County, on May 27. S. S. Gregory, Jr., collected a specimen in the Huron Mountains, Marquette County, on May 22, 1921; at Copper Harbor, Keweenaw County, N. A. Wood (1933: 729) saw 1 on May 27. On Isle Royale, A. Murie collected a specimen (U.M.M.Z.) on May 16, 1930, and N. A. Wood another (U.M.M.Z.) on May 22 of the same year.

SUMMER.—There is apparently no definite breeding record for Michigan of this warbler, although the species has been reported twice during the summer months. Frank J. Hinds saw an adult and 2 fledglings near Douglas Lake, Cheboygan County, on August 1 in 1933, and he collected a male there 3 days later. Max M. Peet (1909: 375-76) reported an individual on Isle Royale on July 7 and one on July 14.

FALL.—The period of southward migration apparently extends from early August or mid-August to the second week in October.

Upper Peninsula.—This warbler was recorded on Isle Royale from August 28 to September 12 by Max M. Peet (1909: 375-76), and from August 8 to October 1, 1929, by N. A. Wood. In 1936 R. E. Olsen saw 1 on August 31, 1 on September 4, and 2 on September 5 in the vicinity of

Deer Park, Luce County; at McMillan, in the southern part of the same county, Bryens found this warbler as late as September 10 (1933).

Lower Peninsula.—Trautman saw 10 of these warblers at Houghton Lake, Roscommon County, on October 9, 1937. Chaney (1910: 277) mentioned only 1 fall record from Mason County—a specimen taken on August 28. N. A. Wood (1911: 106-7) listed this warbler as the most abundant bird on Charity Island from August 27 to October 12, noting thousands on September 3. Gibbs (1885: 39) recorded it in Kalamazoo County from early September to October, and N. A. Wood (1922: 27-28) saw it in Berrien County on September 6. Leonard Wing found it "abundant" near South Haven, Van Buren County, on September 16, 1931, but saw none at all during the remaining 3 days of his visit. Swales recorded the largest numbers in the Detroit area in September: 10 to 15 each day on September 1 to 6, 1911; 30 on September 22, and 50 on September 23 in 1912. Swales occasionally saw the species in October, noting several on October 16, 1904, and J. Claire Wood collected 1 (U.M.M.Z.) in this area on October 17, 1909. The fall migration in the Toledo-Erie marsh area has been reported by L. W. Campbell (1940: 208) from the last week of August to the last few days of September.

*Dendroica striata* (Forster)

Black-poll Warbler

Regular transient, more numerous in fall than in spring.

First recorded for Michigan by Kneeland (1857: 234).

SPRING.—The Black-poll Warbler is one of the latest birds to appear in spring, the greater numbers arriving about mid-May (Barrows, 1912: 611).

Lower Peninsula.—L. W. Campbell (1940: 195, 208) recorded the species in the Toledo-Erie marsh area as early as May 2 in 1936, but he found it the most abundant, on the average, from May 19 to 26. Swales (1904: 39) reported it as uncommon in the spring in the Detroit area, and recorded its arrival between May 10 and 15; observers have usually reported it in the Ann Arbor region after mid-May, although Swales saw it there on May 8, 1916. N. A. Wood (1922: 28) listed the Black-poll Warbler as common in Berrien County in the last half of May; Gibbs (1885: 39) also noted it in late May in Kalamazoo County. R. E. Olsen saw 5 in Hartland Township, Livingston County, on May 24, 1931, and D. W. Douglass recorded 1 to 3 daily at Sand Point, Huron County, during the last 10 days of May (1931 to 1933). William Brewster and Jonathan Dwight collected 5 specimens (M.C.Z.) in the vicinity of Oden, Emmet County, between May 21 and 26, 1888.

Upper Peninsula.—Christofferson recorded 2 individuals on May 17,

1936, at Blaney, Schoolcraft County, and Bryens found 2 at McMillan, Luce County, as early as May 10 (1939), but he usually recorded its arrival after the middle of the month (6 on May 21, 1938). At Whitefish Point, Chippewa County, N. A. Wood (1914: 71) saw 1 individual on May 22 and 1 the following day; Leonard Wing (1940: 191) observed 1 at Rapid River, Delta County, as late as June 6 in 1931. The species was seen on Isle Royale by N. A. Wood on May 17 and 22, 1930, and by Laurence Dayton on May 25, 1937.

FALL.—The fall migration, in contrast to the short spring migration, extends from early August to late September or early October.

Upper Peninsula.—Max M. Peet (1909: 376) listed the species almost daily from Isle Royale between August 25 and September 25, and in 1929 N. A. Wood saw it there from August 8 to late September. John L. George and R. L. Patterson saw 3 Black-poll Warblers at Golden Lake, Iron County, on August 14, 1938, and R. E. Olsen collected 2 specimens (U.M.M.Z.) near Deer Park, Luce County, 1 on September 2, 1938, 1 on September 4, 1936. At Blaney, Schoolcraft County, Christofferson has usually reported the species until late August or early September, but noted 4 on September 14, 1932.

Lower Peninsula.—At Burt Lake, Cheboygan County, Max M. Peet collected 2 specimens on September 10, 1941, and 1 on September 18, 1940. Trautman saw an individual at Houghton Lake, Roscommon County, on October 9, 1937, and Chaney (1910: 277) listed the species as abundant in Mason County from late August to mid-September. In the Ann Arbor region this warbler was noted in considerable numbers between September 9 and October 7 in 1908 (N. A. Wood and Tinker, 1910: 136). J. Claire Wood (1907: 330–31) saw 75 near Detroit on September 3, and on September 28 (1905c: 21) he found more than 125. In the Detroit area Swales recorded 100 on September 22 and 23, 1912, and he saw several on October 23, 1916. L. W. Campbell (1940: 208) has found the period of greatest abundance in the Toledo–Erie marsh area to extend throughout the month of September.

*Dendroica pinus pinus* (Wilson)  
Northern Pine Warbler

Uncommon migrant; summer resident south to Mason and Huron counties.

First listed for Michigan by Sager (1839: 414): "*Vermivora pinus*."

SPRING.—The northward migration occurs chiefly during the fourth week of April and the first half of May.

Lower Peninsula.—L. W. Campbell (1940: 195) has observed these warblers in the Toledo–Erie marsh area from the middle of April to the

middle of May (April 17, 1938; May 17, 1931). In the Detroit area J. Claire Wood (1908*e*: 480) collected 1 (U.M.M.Z) on April 19, 1908, and Swales saw 1 at Grosse Ile on April 23, 1909. A specimen (U.M.M.Z) was collected April 28, 1939, by R. L. Patterson in the Ann Arbor region, and the species is usually reported there in late April or early May, though occasionally seen in June; R. E. Olsen recorded 1 on June 10, 1934. D. W. Douglass collected 1 (U.M.M.Z.) April 18, 1933, and saw 2, April 30, 1933, on Sand Point, Huron County; R. L. Patterson saw 2 near Gaylord, Otsego County, on May 7, 1939; and William Brewster and Jonathan Dwight secured several specimens (M.C.Z.) near Oden, Emmet County, between May 10 and 24, 1888.

Upper Peninsula.—There is 1 definite spring record: S. S. Gregory, Jr. (1929:186), listed the species in the Huron Mountains, Marquette County, on May 8.

SUMMER.—The Pine Warbler is fairly abundant locally; the young leave the nest in July.

Lower Peninsula.—N. A. Wood and Gaige (1911: 301) listed this species as the most abundant breeding warbler on Sand Point, Huron County; they noted many fledglings, and, on June 16, found 1 nest under construction. Chaney (1910: 277) mentioned a nest with 4 eggs found in western Mason County on July 12. Leonard Wing (1933: 73) found the species "abundant" in Crawford County; he collected several fledglings (U.M.M.Z.) on July 4 and several more (U.M.M.Z.) July 31 and August 1. Gibbs found it well distributed near Cadillac, Wexford County (Barrows, 1912: 624); at Douglas Lake, Cheboygan County, Blanchard and Nelson (MS of 1937) noted adults feeding young in late July (1919 and 1923).

Upper Peninsula.—Brodkorb occasionally observed Pine Warblers at Seney, Schoolcraft County, from June 2 to June 11, 1938; northward, in the vicinity of Whitefish Point, Chippewa County, N. A. Wood (1914: 71) found the species common in the pine forests. S. S. Gregory, Jr. (1929: 186), listed it as an uncommon summer resident in the Huron Mountains, Marquette County, and O. McCreary observed an adult feeding young in the Porcupine Mountains, Ontonagon County, on July 19 (N. A. Wood, 1905: 178).

FALL.—Available information indicates that the fall migration occurs from mid-August to late September in the Upper Peninsula and to mid-October in the south.

Upper Peninsula.—On Isle Royale a Pine Warbler was seen by Walter E. Hastings on August 5, 1929, and several by Fargo between August 18 and September 6, 1924. Considerable numbers were noted at Deer Park, Luce County, by R. E. Olsen and A. D. Tinker: 10 on August 30, 20 on

September 1, and 20 on September 2, 1938. Fargo saw Pine Warblers at Whitefish Point, Chippewa County, in 1925; he found them the most numerous in September, but recorded "many" on several occasions between August 18 and September 7. Christofferson at Blaney, Schoolcraft County, noted 10 on August 5, 1936, and 8 on September 8, 1932; Bryens at McMillan, Luce County, recorded 1 on September 29, 1935.

Lower Peninsula.—N. A. Wood and Gaige (1911: 301) observed the Pine Warbler on Sand Point, Huron County, until August 3, after which none were seen until August 18, when small flocks were common on the point. Gibbs (1885a: Vol. 25, p. 304) noted the species in "some numbers" in Lake County from October 12 to 15, 1883. A Pine Warbler was seen near Ann Arbor by A. D. Tinker as late as October 25 (1908), and it has been reported by L. W. Campbell (1940: 195) from the Toledo-Erie marsh area between September 5 (1939) and October 22 (1938).

*Dendroica kirtlandii* (Baird)  
Kirtland's Warbler

Fairly common summer resident in very restricted areas of the northern half of the Lower Peninsula. Extremely rare transient in counties south of the breeding range (1 spring record from north of the known breeding range).

First recorded for Michigan by A. B. Covert (1876: 132).

SPRING.—J. Claire Wood (1908: 480) saw a Kirtland's Warbler in Hamtramck, Wayne County, on May 30, 1907. There are several records for the Ann Arbor region: 2 females collected near Scio by A. B. Covert (1876: 132; 1881: 177), May 15, 1875, and May 16, 1879 (latter specimen in U.S.N.M.); a male (U.M.M.Z.) collected by Leverage Knapp, May 18, 1888 (F. L. Washburn, 1889: 279); a female (U.M.M.Z.) collected by N. A. Wood (1902: 291), May 14, 1902; single males seen by A. D. Tinker, May 13 and 16, 1907 (Tinker, 1908b: 81), and May 9, 1916, and by N. A. Wood and R. A. Brown, May 6, 1905; single individuals noted by F. Novy, May 10, 1911 (N. A. Wood, 1912: 160), and R. Olmstead, May 21, 1915. The only other records for southern counties are from Battle Creek, where N. Y. Green collected a male (U.S.N.M.) on May 11, 1883 (Ridgway, 1884: 389), and from Kalamazoo, where F. H. Chapin collected a female (U.M.M.Z.) on May 15, 1886 (Van Tyne, 1939: 480). Between these southern counties and the breeding area in the north there is only 1 record, that of a female (U.M.M.Z.) collected by N. A. Wood at Fish Point, Tuscola County, on May 21, 1926. From north of the known breeding range there is a single record—a male (U.M.M.Z.) collected by William Marshall at Spectacle Reef

Lighthouse, east of the Straits of Mackinac, on May 21, 1885 (Merriam, 1885: 376).

SUMMER.—The Kirtland Warbler nests from late May to mid-July. This is the only species of bird whose known nesting range is confined to Michigan. The first specimen taken in summer was collected by Thomas G. Gale and E. H. Frothingham (Frothingham, 1903: 61) on June 15, 1903, in the eastern edge of Crawford County. Following this clue, N. A. Wood (1904: 3-13) immediately made a trip to the region and on July 8 discovered a nest with 2 large young and 1 egg—the first known nest of the species. Nesting Kirtland Warblers, usually in colonies, have since been found in that and nearby counties. Because of the temporary nature of the nesting habitat—dense stands of young jack pines—these colonies do not remain long in any one spot. The first known colony had disappeared when N. F. Leopold, Jr. (1924: 45), visited the spot in 1922.

In Clare County, Barrows (1921: 116-17) found a colony of at least a dozen singing males on June 1, 1920, along the Muskegon River in the northwestern part of the county. On June 15, 1924, Walter E. Hastings recorded several colonies in the same general region. Barrows (1921: 116-17) reported that he found 2 colonies on Silver Creek, Iosco County, June 20 to 22, 1920. N. A. Wood and Hastings found a nesting colony near Foote Dam, in the same county, on June 8, 1922, and the following year N. F. Leopold, Jr. (1924: 46), studied and photographed the colony. E. H. Frothingham (1906: 160) recorded a male August 25, 1904, near Higgins Lake, Roscommon County, but breeding colonies were not found in this county until June 14, 1925, when N. A. Wood and Hastings found a colony east of Roscommon. In 1926, Trautman found several large colonies northeast of Roscommon. The western-most summer record for this species was reported by Hastings, who saw a singing male about 4 miles south of Manton, Wexford County, in June, 1932. Hastings also found a nesting colony in south-central Alcona County in June, 1923. Many nesting records have been reported from Oscoda County: the first complete set of eggs of the species was collected by J. A. Parmalee on June 6, 1904, near the site of the first-discovered nest (N. A. Wood, 1926a: 13); the next set was taken "in Oscoda County" by E. Arnold on June 15, 1904; G. A. Abbott (1915: 130) has recorded a set taken in the same county June 29, 1907, by Arnold; adults and young were collected north of Luzerne by Max M. Peet from 1913 to 1916; on June 16, 1925, N. A. Wood and Walter E. Hastings found a very large colony, occupying over a thousand acres, northeast of Red Oak. Crawford County has proved to be one of the most productive of Kirtland Warbler records: the first known colony (N. A. Wood, 1904: 3-13) was actually in the edge of Crawford County, although

the original account attributed it to Oscoda County; in 1904 E. H. Frothingham (1906: 160) found a pair, apparently nesting, north of Higgins Lake, July 6 to 22; on May 31, 1908, H. B. Westnedge (W. A. Strong, 1919: 181) collected a nest with 2 Kirtland Warbler and 2 Cowbird eggs "in Crawford County"; Barrows (1921: 117) reported finding the species nesting near Grayling in 1918 but gave no details; in 1922 N. A. Wood and Walter E. Hastings found a large colony 6 miles west of Grayling (Axtell, 1938: 481), and 2 small colonies not far from Higgins Lake; on June 19, 1926, Trautman found several colonies in Crawford and Roscommon counties, one a mile northeast of Roscommon and others at various points between the southeast corner of Crawford County and Lovells; in 1930 Leonard Wing found a colony southeast of Lovells, and in 1931 Walkinshaw (1932a: 197) recorded nest building in the same area on May 31 and a nest with young on June 17. There is 1 record for Kalkaska County: 3 males which N. A. Wood and Hastings found June 20, 1922, apparently nesting about 3 miles northeast of the town of Kalkaska. Hastings found a colony south of Alpena in 1921, and on June 9, 1922, N. A. Wood and Hastings saw 6 adults there and found a nest. The northernmost recorded nesting colony is one found by Trautman, June 21, 1935, north of Clear Lake, Montmorency County.

FALL.—After the males cease singing they are very hard to find, and there are few records later than the first week of August. There are no fall records for Michigan from any point south of the jack pine plains. J. A. Parmalee reported that the latest a Kirtland Warbler was observed in the fall at the first-discovered nesting colony was August 20 in 1903 and September 3 in 1904 (N. A. Wood and Frothingham, 1905: 41). A. D. Tinker collected males (U.M.M.Z.) at Red Oak, Oscoda County, August 20, 1933, and southeast of Lovells, Crawford County, September 1, 1930, and August 26, 1933. The only other fall records are from Max M. Peet: several collected near Luzerne, Oscoda County, in early September of 1915 and 1916 (the latest, a male taken September 9, 1916) and a male collected 7 miles south of Houghton Lake village, Roscommon County, September 28, 1919.

*Dendroica discolor discolor* (Vieillot)  
Northern Prairie Warbler

Uncommon local summer resident in Berrien, Ottawa, Crawford, Oscoda, Otsego, and Cheboygan counties.

First listed for Michigan by Sager (1839: 414).

SPRING.—The species generally appears in Michigan about the middle of May. L. W. Campbell (1940: 195) has found it in the Toledo-Erie marsh area from May 8 to May 17. It is usually noted in the Ann Arbor



region also in mid-May, but a specimen (U.M.M.Z.) was collected there by N. A. Wood as early as May 2 in 1905. In Berrien County it was observed by N. A. Wood (1922: 29) on May 12, and 1 was seen in Assyria Township, Barry County, on May 17, 1931, by Walkinshaw. Maurice G. Brooks listed this warbler as common in Huron County on May 30, 1939, but at Sand Point in the same county, D. W. Douglass noted only a few (1931 to 1933); he collected 1 (U.M.M.Z.) on May 7, 1931, and 1 (U.M.M.Z.) on May 19, 1932.

SUMMER.—Nests with eggs have been found from the last of May to late July. Davidson (1895: 53-54) reported a nest with 2 eggs near Detroit on May 27, 1894. N. A. Wood (1922: 29) found 2 nests in Berrien County: 1 on June 5 with 5 eggs, and 1 with 5 eggs (U.M.M.Z.) on June 7. G. F. Raz reported a nest with 2 eggs from the same county on July 31, 1935. Gibbs (Barrows, 1912: 627) noted a nest in Ottawa County on May 26, 1879, and Walkinshaw observed the species there in late June, 1934. Leonard Wing (1933: 73) found the Prairie Warbler "abundant" in Crawford County during the summers of 1931 and 1932 and collected several fledglings (U.M.M.Z.); A. M. Baumgartner discovered a nest there on June 20, 1938. The species apparently breeds in several of the counties farther north. A specimen (U.M.M.Z.) was taken in Otsego County on June 22, 1935, and several (U.M.M.Z.) were taken in Oscoda County in mid-July (1936 to 1941).

Van Tyne noted many singing males in the vicinity of Mio, Oscoda County, and found a nest with 2 small warblers and 1 young Cowbird on June 16, 1941. Blanchard and Nelson (MS of 1937) reported the species in late June and early July at Douglas Lake, Cheboygan County, in 1926.

FALL.—Data indicate that the species migrates in late August and September. On Charity Island, Huron County, N. A. Wood (1911: 108) observed several Prairie Warblers on August 22, and 3 on August 24; in the northwestern part of Huron County, N. A. Wood and Gaike (1911: 301-302) noted 1 to 4 on several occasions between August 10 and 24. Leonard Wing collected a specimen (U.M.M.Z.) at Grass Lake, Jackson County, on September 7, 1931, and Swales (1910: 462) observed 1 on Grosse Ile, Wayne County, on September 30, 1909.

*Dendroica palmarum palmarum* (Gmelin)

Western Palm Warbler

Common transient. One nesting record: Crawford County.

First listed for Michigan by Gibbs (1879: 484).

SPRING.—The Palm Warbler arrives in Michigan in late April or early May, reaching the Upper Peninsula by the second week in May.

Lower Peninsula.—In the Toledo–Erie marsh area, L. W. Campbell (1940: 208) found this warbler the most abundant in spring during the first half of May. A similar status is reported in the Detroit area: J. Claire Wood (1911: 24) observed 18 on May 8, and 14 on May 9; Swales listed the species as very common on May 12, 1907. A. S. Warthin, Jr., saw 1 in the Ann Arbor region as early as April 21 (1919), but the species has usually been reported there in the last few days of April or in early May. N. A. Wood (1922: 28) listed it in Berrien County from April 30 to May 19. G. A. Ammann observed it in south-central Saginaw County on May 4 and 15, 1940. D. W. Douglass recorded 4 or 5 individuals a day on Sand Point, Huron County, throughout most of May (1931 to 1933). A number of specimens have been taken in the northern part of the peninsula: William Brewster and Jonathan Dwight collected several (M.C.Z.) at Cadillac, Wexford County, on May 14, and several more at Oden, Emmet County, on May 17 to 21, 1888; Theodora Nelson secured 1 at Douglas Lake, Cheboygan County, on May 11, 1937.

Upper Peninsula.—Christofferson has recorded this warbler at Blaney, Schoolcraft County, in early May (2 on May 4, 1938), noting greater numbers the second week and later (8 on May 12, 1940; 10 on May 16, 1937). Several observers have found it in Chippewa County: R. E. Olsen collected 1 (U.M.M.Z.) at Munuscong Bay on May 5, 1934; Brodkorb saw a few at Whitefish Point on May 9, 1936; and N. A. Wood (1914: 71) recorded it at Whitefish Point on May 13 and 16. N. A. Wood (1933: 730) listed the Palm Warbler as common in the vicinity of Copper Harbor, Keweenaw County, from May 13 to 28. A. Murie and N. A. Wood each collected a specimen (both in U.M.M.Z.) on Isle Royale, 1 on May 9, and 1 on May 24, 1930.

SUMMER.—One nesting record: R. E. Olsen, H. A. Olsen, and Walkinshaw (1931: 614) photographed 3 fledglings near Lovells, Crawford County, on June 16, 1931 (not June 15, 1931, as given in Leonard Wing, 1933: 73–75). Leonard Wing observed Palm Warblers in this locality on numerous occasions from June 3 to early July, 1931. He saw 15 adults (several in U.M.M.Z.) and at least 6 young, 1 on July 5 just learning to fly.

FALL.—The southward migration occurs from the latter part of August to late September or early October.

Upper Peninsula.—Max M. Peet (1909: 377) noted numerous flocks of 30 to 40 birds on Isle Royale between late August and September 21; N. A. Wood observed the species there until October 1 in 1929. Ira N. Gabrielson saw 12 Palm Warblers in the Huron Mountains, Marquette County, on September 22, 1936, and S. S. Gregory, Jr. (1929: 186), observed the species there from mid-September to early October. This warbler was reported

“common” on Whitefish Point, Chippewa County, by Fargo on September 6 and 7, 1925; to the south, at McMillan, Luce County, the species has been seen several times in October by Bryens (October 6, 1938; October 15, 1930).

Lower Peninsula.—N. A. Wood (1911: 107–8) observed large numbers of Palm Warblers on Charity Island, Huron County: thousands were noted between September 13 and 18, and again between October 5 and 11, only a few being recorded after the last date. Gibbs (1885: 54) noted the species in Kalamazoo County in September and early October, and collected 1 (Gibbs, 1885a: Vol. 25, pp. 304–5) in Lake County on October 13, 1883. Leonard Wing saw “hundreds” near South Haven, Van Buren County, on September 15, 1931, and N. A. Wood (1922: 28) noted several in Berrien County on September 24. The Palm Warbler has been taken several times in the fall in the Ann Arbor region—L. D. Case collected 2 (U.M.M.Z.) on September 28, 1935; W. Morgan took 1 (U.M.M.Z.) on October 1, 1896, and R. E. Olsen saw 1 on October 12, 1930. Swales saw several in the Detroit area on October 16, 1907; in the Toledo–Erie marsh area, L. W. Campbell (1940: 208), observed individuals as late as October 18 in 1930, but found the species most abundant from mid-September to early October.

*Seiurus aurocapillus aurocapillus* (Linnaeus)

Oven-bird

Common summer resident.

First listed for Michigan by Sager (1839: 413): “*Orpheus aurocapillus*.”

SPRING.—L. W. Campbell (1940: 208) in the Toledo–Erie marsh area, and Swales in the Detroit area, recorded main flight in the first week of May; Swales saw 10 on May 4, and 12 on May 7 in 1912. The early arrivals are noted in the Ann Arbor region in late April or early May, and by mid-May (Hann, 1937: 150–51) the migration appears completed. N. A. Wood (1922: 29) listed the species in Berrien County on May 5, 1918; F. W. Rapp (1931: 30) observed an individual in the vicinity of Vicksburg, Kalamazoo County, as early as April 18 in 1926. Walkinshaw has found Oven-birds in Calhoun County regularly in the first week in May (1930 to 1940). James H. Wood collected 2 specimens (U.M.M.Z.) at Sand Point, Huron County, on May 6, 1932, and D. W. Douglass noted the species there occasionally in mid-May (1931 to 1933). The only definite data on file from the northern part of the peninsula is the record of 2 specimens (M.C.Z.) collected by William Brewster and Jonathan Dwight at Cadillac, Wexford County, on May 12 and 14, 1888.

Upper Peninsula.—At Blaney, Schoolcraft County, Christofferson has recorded Oven-birds by the second week of May (1 on May 8, 1938; 10 on

May 12, 1936), and at McMillan, Luce County, Bryens has observed them by mid-May. N. A. Wood (1914: 71) recorded arrival at Whitefish Point on May 27, but Brodkorb saw it there on May 17 in 1936. N. A. Wood (1933: 730) saw 2 Oven-birds at Copper Harbor, Keweenaw County, on May 15; Wood and A. Murie saw the species on Isle Royale on May 10, 1930.

SUMMER.—The nesting season is chiefly in the latter part of May and in June.

Lower Peninsula.—Swales noted a nest with 5 eggs in the Detroit area as early as May 20 in 1900, and another (1889: 189) with 2 warbler eggs and 4 Cowbird eggs on June 17. Hann (1937: 231-33) found that nesting activities began in the vicinity of Ann Arbor in late May, and F. W. Rapp (1931: 30) discovered an early nest with 6 eggs in the vicinity of Vicksburg, Kalamazoo County, on May 17, 1925. The species has been found nesting in many other regions of the peninsula: Lewis Brackett collected a set of 4 eggs (U.M.M.Z.) in Mecosta County, on June 9, 1896; Chaney (1910: 277) noted the species as very common in Mason County; and N. A. Wood and Frothingham (1905: 52) listed it as common in Oscoda County on June 13, July 2 and 16. The Oven-bird was also found in numbers on the Fox (1939) and Manitou (1940) islands, Leelanau County, by A. E. Staebler and L. D. Case, as well as on the Beaver Islands, Charlevoix County, in 1937 and 1938 by Van Tyne, R. E. Morrill, and T. D. Hinshaw. Van Tyne (1925: 625) noted the species as common on the mainland of Charlevoix County, and Blanchard and Nelson (MS of 1937) found numerous nests in the vicinity of Douglas Lake, Cheboygan County.

Upper Peninsula.—Van Tyne (1923: 25) found this warbler fairly common on Les Cheneaux Islands, Mackinac County; Leonard Wing (1940: 191) saw it at Munuscong Bay, Chippewa County, in late June, and on Drummond Island, in the same county, T. D. Hinshaw and R. A. MacMullan frequently observed as many as 10 Oven-birds a day in June and July, 1938. N. A. Wood (1918: 13) listed the species from Whitefish Lake, Alger County, in July and August, and both Van Tyne (between June 21 and 27, 1936) and S. S. Gregory, Jr. (1929: 186), found the Oven-bird common in the Huron Mountains, Marquette County. At Golden Lake, Iron County, John L. George and R. L. Patterson recorded this warbler throughout the summer of 1938 (4 seen daily), and in the Porcupine Mountains of Ontonagon County, N. A. Wood, Peet, and McCreary (1906: 119) found a nest with 2 young on July 17 and noted many Oven-birds in the region. There are only a few records for Isle Royale: N. A. Wood saw the species occasionally the first two weeks of June, 1930, and Max M. Peet (1909: 377) mentioned the finding of several young able to care for themselves on August 12.

FALL.—Available information indicates that the species leaves the Upper Peninsula by mid-September and the Lower Peninsula by the end of the month.

Upper Peninsula.—Max M. Peet (1909: 377) found the Oven-bird on Isle Royale until September 12; S. S. Gregory, Jr., collected a specimen in the Huron Mountains, Marquette County, on September 10, 1919. F. M. Gaige (1914: 89) noted the species in Dickinson County on July 8 and regularly thereafter until the first week in August. Christofferson at Blaney, Schoolcraft County, reported 1 on September 8, 1937, and 1 on September 20, 1939.

Lower Peninsula.—N. A. Wood (1911: 108) noted the species occasionally in September on Charity Island, Huron County, recording it as late as September 30 (1911); on the mainland in the same county N. A. Wood and Gaige (1911: 302) listed it as common from mid-July to August 27. N. A. Wood (1922: 29) observed it in Berrien County in September, and Leonard Wing saw 6 near South Haven, Van Buren County, on September 16 and 17, 1931. Although noting a few in September, Hann (1937: 197) found most of the Oven-birds leaving the Ann Arbor area in July and August. J. Claire Wood (1905c: 21) noted 15 on September 25, and 7 on September 28 in the Detroit area, and reported (1906: 24) an individual as late as October 12 and October 15. L. W. Campbell (1940: 208) has found the species leaving the Toledo-Erie marsh area between the last of August and the end of September.

### *Seiurus noveboracensis*

#### Water-thrush

Since the Northern and the Grinnell's Water-thrushes cannot be separated in the field, the following account of their status in Michigan is based entirely on specimens. Much information, however, regarding the numbers and distribution of this species can be gathered from observational data. Walkinshaw has found this water-thrush in Calhoun County in late April and an individual on 2 occasions in the third week of the month—April 17, 1938, and April 19, 1936. D. W. Douglass noted the species on Sand Point, Huron County, during the first half of May in 1932 and 1933, but recorded 1 there as early as April 13 in 1931. In the Upper Peninsula, Christofferson observed 5 at Blaney, Schoolcraft County, on May 12, 1938; Bryens generally recorded the species at McMillan, Luce County, about the middle of May or later. Several sight records made in the summer months indicate that the species breeds in Michigan. R. E. Olsen noted a young Water-thrush that could hardly fly and 4 adults in Hartland Township, Livingston County, on June 14, 1931, and observed

2 adults there on June 28, 1931. Blanchard and Nelson (MS of 1937) recorded an adult carrying food near Douglas Lake, Cheboygan County, on July 13, 1931. In the Upper Peninsula a nest with young ready to leave was found near Hessel, Mackinac County, by Van Tyne (1923: 25) on June 23, 1920. In the Huron Mountains, Marquette County, Van Tyne heard Water-thrushes singing in late June, 1936; both Christy (1925: 215) and S. S. Gregory, Jr. (1929: 186), believed the species nested there. A fall record worthy of note is that of Swales, who saw 12 near Detroit on September 10, 1902.

*Seiurus noveboracensis noveboracensis* (Gmelin)  
Northern Water-thrush

Common transient.

Many specimens of the Water-thrush in the Museum of Zoology exhibit varying degrees of intergradation between the forms *noveboracensis* and *notabilis*. Although some of the specimens mentioned in this account are intermediate in some degree, they tend more toward *noveboracensis* than toward *notabilis* (see McCabe and Miller, 1933: 192-97).

SPRING.—The greater number of specimens of the Northern Water-thrush have been taken in the second and third weeks of May in southern counties, and after the middle of the month farther north. In the Lower Peninsula, Brodkorb collected a specimen (U.M.M.Z.) in Erie Township, Monroe County, on May 9, 1937. Specimens (U.M.M.Z.) have been taken in Washtenaw County on May 8, 1940, by L. D. Case, and May 16, 1911, by N. A. Wood; several were secured in Berrien County on May 7 and 10, by N. A. Wood (1922: 29). A single bird was collected at Fish Point, Tuscola County, by N. A. Wood on May 25, 1926. Two specimens (U.M.M.Z.) have been collected from the Upper Peninsula: A. Campbell secured 1 at Whitefish Point, Chippewa County, on May 20, 1914, and N. A. Wood took 1 at Copper Harbor, Keweenaw County, on May 26, 1931.

FALL.—The Northern Water-thrush apparently migrates through Michigan chiefly in late August and early September. At least 9 specimens have been taken on Isle Royale (4 in the Max M. Peet collection and 5 in U.M.M.Z.) from August 24 to September 7. Other specimens from the Upper Peninsula include 1 taken by R. E. Olsen at Deer Park, Luce County, on September 2, 1938, and 2 secured on Drummond Island, Chippewa County, by R. A. MacMullan, 1 on July 28 and 1 on August 9, 1938. The only specimen (U.M.M.Z.) from the northern part of the Lower Peninsula is 1 taken by D. Ameel at Douglas Lake, Cheboygan County, on August 4, 1939. A number of Northern Water-thrushes have been taken in the southern counties: Walkinshaw secured 1 (U.M.M.Z.) at Augusta, Kalama-

zoo County, on September 4, 1933; T. D. Hinshaw took 1 (U.M.M.Z.) in Waterford Township, Oakland County, on September 11, 1938; and Max M. Peet collected a specimen near Iosco, Livingston County, on September 10, 1916. In the southeastern part of the peninsula specimens (U.M.M.Z.) have been collected on September 15, 1932, at Ann Arbor by F. E. Brooks; on August 6, 1933 (by J. Van Tyne), and August 31, 1935 (by B. R. Campbell), in Erie Township, Monroe County. A specimen (U.M.M.Z.) was secured by J. Claire Wood near Detroit as late as September 22 in 1890.

*Seiurus noveboracensis notabilis* Ridgway  
Grinnell's Water-thrush

Common transient.

SPRING.—Spring specimens in the Museum of Zoology are all from southern counties. N. A. Wood (1922: 29) collected 4 in Berrien County between May 5 and May 22 (1918 to 1920). Single individuals were collected by J. Claire Wood on May 19, 1909, and by P. A. Taverner on May 26, 1907, in the Detroit area; by F. M. Gaige on May 2, 1908, and N. A. Wood on May 3, 1912, in the Ann Arbor region; by Walter Koelz at Waterloo, Jackson County, on May 5, 1929; and by Gibbs in Montcalm County, on May 16, 1883.

SUMMER.—Grinnell's Water-thrush has been observed and collected (U.M.M.Z.) during the breeding season in 2 counties of the Upper Peninsula. N. A. Wood (1918: 13) listed the birds as abundant in the vicinity of Whitefish Lake, Alger County, during June and July, and recorded the first young there on July 25. F. M. Gaige (1914: 89) frequently observed this water-thrush in Dickinson County, and collected several specimens (U.M.M.Z.) in the first half of July; on several occasions he noted adults carrying food, but found no nests or young.

FALL.—Specimens of Grinnell's Water-thrush (U.M.M.Z.) have been taken on Isle Royale from August 5 to September 18, and 1 (U.M.M.Z.) was taken on Drummond Island, Chippewa County, by R. A. MacMullan on August 12, 1938. In the Lower Peninsula, N. A. Wood (1911: 103) collected a specimen (U.M.M.Z.) on Charity Island, Huron County, on August 27, 1910, and F. M. Gaige secured 1 (U.M.M.Z.) there on September 14, 1910. Among other specimens in the Museum of Zoology taken in southern counties are: several by N. A. Wood (1922: 29) in Berrien County between August 29 and September 4; 1 by Leonard Wing near South Haven, Van Buren County, on September 16, 1931; 1 by F. H. Chapin at Kalamazoo, September 25, 1886; and 1 by N. A. Wood at Portage Lake, Washtenaw County, on September 6, 1919. Several specimens (U.M.M.Z.) have been taken in Wayne County: E. D. Campbell took 1 on July 16, 1879; J. Claire Wood collected 3 in early September and 1 on October 9, 1906.

*Seiurus motacilla* (Vieillot)  
Louisiana Water-thrush

Summer resident; recorded breeding north to Newaygo County and once to Isabella County.

First authoritatively listed for Michigan by Gibbs (1879: 484).

SPRING.—The Louisiana Water-thrush is one of the first warblers to arrive in the spring, often appearing by mid-April. Swales (1904: 40) noted its arrival in the southeast between April 20 and May 1; J. Claire Wood took 2 specimens (U.M.M.Z.) in the Detroit area on April 26, 1908, and April 28, 1912. Among several specimens in the Museum of Zoology are 1 taken by N. A. Wood near Ann Arbor on April 29, 1908, and 1 taken by Swales in Atlas Township, Genesee County, on April 21, 1905. On May 3, 1936, R. E. Olsen and others saw 10 of these water-thrushes in Hartland Township, Livingston County, where Trautman had collected 1 (U.M.M.Z.) on May 5, 1935. In Kalamazoo County, Gibbs (1885: 54) noted arrival on April 12 or 13, and B. F. Sykes collected 2 specimens (U.M.M.Z.), 1 on April 17, 1880, and 1 on April 26, 1878. N. A. Wood (1922: 29) observed this water-thrush in Berrien County on May 9 and believed it nested there in the latter half of May.

SUMMER.—Nest records extend from early May to the end of June. In Monroe County on May 13, 1879, Jerome Trombley (Gibbs, 1886: Vol. 26, p. 305) found a nest with 4 warbler eggs and 2 Cowbird eggs. A nest with 6 eggs (U.M.M.Z.) was taken near Tecumseh, Lenawee County, by L. H. Pennington on May 22, 1897. In Hartland Township, Livingston County, A. D. Tinker collected a nest with 4 warbler eggs and 2 Cowbird eggs (U.M.M.Z.) on June 3, 1934, and he also secured 2 young (U.M.M.Z.) hardly able to fly, 1 on June 3, 1934, and 1 on June 14, 1931. In Convis Township, Calhoun County, Walkinshaw found a nest with 3 young warblers and 2 young Cowbirds, all about ready to leave, on May 25, 1939; a nest with 4 eggs on June 10, 1940; another nest with 3 eggs on June 20, 1937; and 4 fledglings (1 in U.M.M.Z.) on July 1, 1934. J. A. Morden (1893: 25) discovered a nest with 6 eggs near Sherman City, Isabella County, on May 3, 1892. In Brooks Township, Newaygo County, E. R. Ford observed several young being fed by the parents on June 6, 1936.

FALL.—There is 1 fall specimen (U.M.M.Z.) collected by F. Novy at Ann Arbor on September 7, 1913. Gibbs (1885: 54) reported that the species was an early migrant, only a few being seen in Kalamazoo County after August.

*Oporornis formosus* (Wilson)  
Kentucky Warbler

There are 3 definite records: Jerome Trombley positively identified a Kentucky Warbler at Petersburg, Monroe County, on May 4, 1886 (Bar-



rows, 1912: 634); J. Claire Wood and H. H. Spicer collected 1 (U.M.M.Z.) in Gratiot Township, Wayne County, on May 6, 1906; and Walter Koelz secured a specimen (U.M.M.Z.) near Ann Arbor on May 7, 1924.

In addition, there are several doubtful records: Barrows (1912: 634) reported that H. A. Atkins shot a specimen in Ingham County, but it was never examined by any other ornithologist; that R. M. Gibbs shot 1 in 1875, but Gibbs (1886: Vol. 26, p. 306) himself later doubted the identification; and that a Kentucky Warbler (now in U.M.M.Z.) was secured near Saline, Washtenaw County, in May, 1880, but this specimen must also be considered doubtful, since there was no original data with it at the time (1907) it was acquired by the Museum of Zoology.

*Oporornis agilis* (Wilson)  
Connecticut Warbler

Uncommon transient; probably breeds in the north.

First authoritatively recorded for Michigan by Gunn (1879: 186).

SPRING.—Arrival is reported in late May and early June.

Lower Peninsula.—L. W. Campbell (1940: 195) reported arrival in the Toledo-Erie marsh area in the latter half of May. Taverner collected 2 individuals (U.M.M.Z.) in St. Clair County: 1 on May 20, 1901, and 1 on May 21, 1905. Swales saw 6 at Grosse Ile, Wayne County, on June 5, 1907. The species is usually reported in the Ann Arbor area after the middle of May; 1 (U.M.M.Z.) was taken by N. A. Wood on May 18, 1911, and in 1907 the species was seen as late as June 6 (N. A. Wood, 1921a: 593-94). A number were noted by Walter Koelz and Rup Chand near Waterloo, Jackson County, where they collected 9 specimens on May 29, 1935. The species was seen in late May in Berrien County by N. A. Wood (1922: 30), and in Calhoun County by Walkinshaw (1930 to 1940). Two specimens were taken in Ottawa County in the spring of 1879 (Gunn, 1879: 186): 1 by H. A. Atkins on May 20, and 1 by Gunn on May 22.

Upper Peninsula.—There are only 2 records from the Upper Peninsula earlier than the second week in June. N. A. Wood (1933: 730) saw 1 Connecticut Warbler at Copper Harbor, Keweenaw County, on June 4, 1931, and 2 on Isle Royale on June 5, 1930.

SUMMER.—Although there is no definite nesting record, the species may breed in the Upper Peninsula. Barrows (1912: 636) believed that there was "little doubt that the Connecticut Warbler nests regularly in parts of Northern Michigan." Van Tyne (1923: 25) saw a female with food in her bill near Hessel, Mackinac County, on July 19, 1919, but he could not find a nest or young. Walkinshaw (1936: 220) has seen the species several times in the eastern part of the peninsula. He collected a male (U.M.M.Z.) at Munuscong Bay, Chippewa County, on June 10, 1934; in 1935 he observed 2

singing males near McMillan, Luce County, on several occasions between June 9 and 18. An adult female was reported by J. Claire Wood (1905a: 130) near Detroit on July 3, 1905.\*

FALL.—Data available indicate that the species migrates southward in late August and the first half of September.

Upper Peninsula.—Max M. Peet (1909: 378) noted several Connecticut Warblers on Isle Royale on September 12; John L. George and R. L. Patterson saw 1 at Golden Lake, Iron County, on August 23, 1938. In the eastern end of the peninsula, Bryens (1925a: 450–51) has observed the species at McMillan, Luce County, from late July to mid-September, and Christofferson saw 1 at Blaney, Schoolcraft County, on July 24, 1937, and 1 on September 20, 1939.

Lower Peninsula.—Leonard Wing saw a Connecticut Warbler near Lovells, Crawford County, on August 6, 1931, and N. A. Wood (1911: 109) noted this species as fairly common on Charity Island, Huron County, between August 31 and September 19. It was seen in Berrien County by N. A. Wood (1922: 30) from September 5 to 10, and 2 (U.M.M.Z.) were collected (out of 12 noted) at Portage Lake, Jackson County, by R. E. Stewart on August 27, 1938. N. A. Wood collected 1 (U.M.M.Z.) in Washtenaw County on September 13, 1926; Trautman saw 1 in Monroe County on September 9, 1934, and in the Detroit area Swales collected 1 (U.M.M.Z.) on October 8, 1905, and J. Claire Wood (1906: 24–25) saw 1 on October 15, 1905.

*Oporornis philadelphia* (Wilson)  
Mourning Warbler

Fairly common transient. Summer resident south to Hartland Township, Livingston County; apparently more abundant in the Upper Peninsula.

First authoritatively listed for Michigan by Gibbs (1879: 484).

SPRING.—Arrival is reported in late May and early June.

Lower Peninsula.—Swales (1904: 40) listed the species as fairly abundant in southeastern Michigan in May. In the Ann Arbor region observers have usually reported arrival in late May; N. A. Wood (1922: 30) noted up to 5 a day in Berrien County between May 13 and June 5; Walkinshaw regularly observed the species in Calhoun County in the latter part of May during the years 1930 to 1940. G. A. Ammann saw an individual at the Prairie Farm, Alicia, Saginaw County, on May 28, 1940, and D. W. Douglass noted

\* G. A. Abbott (1915: 129–30) collected what he believed to be the nest and 2 eggs of this warbler in Calhoun County on May 27, 1899, but the nest and eggs are now believed to be those of the Mourning Warbler. N. A. Wood, Peet, and McCreary (1906: 119), and N. A. Wood (1905: 178) reported the taking of several breeding specimens (U.M.M.Z.) in the Porcupine Mountains, Ontonagon County, in early August. These specimens were misidentified and are now known to be Mourning Warblers (Leonard Wing, 1940: 191).

a few at Sand Point, Huron County (1931 to 1933), in late May. Gibbs (1886: Vol. 27, p. 123) observed 1 in Montcalm County on May 11, 1882; William Brewster and Jonathan Dwight collected a series of specimens (M.C.Z) at Oden, Emmet County, between May 22 and 30 in 1888.

Upper Peninsula.—Bryens, at McMillan, Luce County, and Christoffer-son, at Blaney, Schoolcraft County, have recorded the Mourning Warbler by late May or early June; Bryens reported 1 on May 22, 1941, and Christoffer-son recorded 2 on May 28, 1941. N. A. Wood (1933: 730) saw an individual at Copper Harbor, Keweenaw County, on June 2.

SUMMER.—This warbler nests from June to mid-July.

Lower Peninsula.—The species occurs occasionally in Wayne and Calhoun counties in the summer; J. Claire Wood (1909: 45) saw 3 near Detroit on June 30, and Walkinshaw observed a male singing in Calhoun County on June 30, 1935. The southernmost definite nesting record is a fledgling with an adult (both in U.M.M.Z.) collected by A. D. Tinker in Hartland Township, Livingston County, on June 26, 1932. W. H. Dunham (Barrows, 1912: 637) found a nest with 4 eggs in Kalkaska County on June 7, 1902, and Gibbs (1886a: Vol. 27, p. 123) noted the species as quite plentiful in the vicinity of Cadillac, Wexford County, on June 25, 1882. Several specimens (U.M.M.Z.) were taken from the Beaver Islands, Charlevoix County, in late June and early July, by T. D. Hinshaw in 1937 and by Van Tyne in 1938. At Douglas Lake, Cheboygan County, adults with young were observed by Blanchard and Nelson (MS of 1937) on July 13, 1935.

Upper Peninsula.—In Mackinac County, Van Tyne (1923: 25) noted young Mourning Warblers being fed by the parents on July 14, 1920, and July 15, 1921, on Les Cheneaux Islands; Lyle Miller (1934: 43) found a nest with 4 eggs along the Carp River in the same county on June 21, 1931. Observers have also found the species in Chippewa County: T. D. Hinshaw and R. A. MacMullan collected several specimens (U.M.M.Z.) on Drummond Island in late June and July; N. A. Wood (1914: 71) found it rather common at Vermilion, where he and F. Novy noted several fledglings (1 in U.M.M.Z.) on July 11. Three nests with eggs were found on Grand Island, Alger County, by E. A. Doolittle (Barrows, 1912: 637) between June 19 and July 12, and there is a set of 4 eggs in the Colorado Museum of Natural History taken by Doolittle in the same locality on July 3, 1906. The species has been seen in the summer in Marquette County (S. S. Gregory, Jr., 1929: 187) and in Dickinson County (F. M. Gaige, 1914: 89). John L. George and R. L. Patterson noted as many as 30 Mourning Warblers in a day at Golden Lake, Iron County, during late June and July 1938, and found a nest with 3 pipped eggs on July 5. Two young hardly able to fly were collected in the Porcupine Mountains (U.M.M.Z.)

on July 15 (N. A. Wood, Peet, and McCreary, 1906: 119); 2 nests were found on Isle Royale by A. Murie in 1930, 1 on July 18, and 1 with 4 newly hatched young on July 19.

FALL.—Southward migration occurs in August and early September.

Upper Peninsula.—Fargo saw 1 of these warblers on Isle Royale on September 4, 1924; at Golden Lake, Iron County, John L. George and R. L. Patterson observed as many as 15 in a day between August 22 and 27, 1938. Leonard Wing collected 1 (U.M.M.Z.) in western Gogebic County on August 26, 1931, and F. M. Gaige (1914: 89) reported departure from Dickinson County by August 24. R. E. Olsen collected a specimen (U.M.M.Z.) on September 2, 1938, near Deer Park, Luce County; and at Whitefish Point, Chippewa County, N. A. Wood collected a specimen (U.M.M.Z.) on August 7, 1914, and Fargo saw an individual on August 18, 1925. Bryens has recorded this warbler at McMillan, Luce County, during the latter part of August; Christofferson has also found it in August at Blaney, Schoolcraft County; he noted 1 on August 8, 1937, and 2 on August 25, 1938.

Lower Peninsula.—Chaney (1910: 277) collected a specimen in Mason County on August 24. The species was noted occasionally in northwestern Huron County by N. A. Wood and Gaige (1911: 303) from August 17 to 22. A number of specimens (U.M.M.Z.) have been taken in the southern counties: 1 was secured in Calhoun County by Walkinshaw on September 9, 1934, and others were collected in Washtenaw County, on September 1, 1936 (by L. D. Case) and on September 9, 1896 (by W. A. MacLean). Trautman saw 2 in Erie Township, Monroe County, on September 9, 1934; L. W. Campbell (1940: 195) reported August 28 to September 17 as the average period of main flight in the Toledo-Erie marsh area.

*Geothlypis trichas brachidactyla* (Swainson)  
Northern Yellow-throat

Common summer resident.

First listed for Michigan by Sager (1839: 414): "*Trichas personata*."

SPRING.—The Northern Yellow-throat arrives in the southern counties in early May and reaches the Upper Peninsula by the middle of the month.

Lower Peninsula.—L. W. Campbell (1940: 195, 208) reported arrival of individuals in the Toledo-Erie marsh area as early as April 18 in 1931, but usually reports the greater numbers after the first of May. Swales (1904: 40) noted arrival in the Detroit area between May 4 and 10. Observers have commonly reported arrival in the Ann Arbor area in the first week of May but occasionally in late April; A. D. Tinker reported 1 there on April 21, 1916, and 1 on April 25, 1920. N. A. Wood (1922: 30) saw this warbler in May in Berrien County, and Walkinshaw noted its arrival

in Calhoun County in late April and early May (1930 to 1940). G. A. Ammann saw a Yellow-throat at the Prairie Farm, Alicia, Saginaw County, on May 7, 1940. D. W. Douglass found the species at Sand Point, Huron County, about the middle of May (1931 to 1933), and R. E. Olsen and A. D. Tinker observed 20 there on May 30, 1937. William Brewster collected a specimen (M.C.Z.) at Oden, Emmet County, on May 19, 1888.

Upper Peninsula.—Christofferson has usually found the species at Blaney, Schoolcraft County, by the middle of May; he reported 1 on May 12, 1936; 2 on May 16, 1932; and 6 on May 30, 1938. Brodkorb noted 1 at Whitefish Point, Chippewa County, on May 17, 1936.

SUMMER.—Nests with eggs are found in late May and throughout June.

Lower Peninsula.—Swales (1904: 40) listed the Northern Yellow-throat as an abundant summer resident in southeastern Michigan. N. A. Wood found a nest with 4 eggs near Ann Arbor on May 23, 1903, and Max M. Peet discovered a nest with 5 fresh eggs near Ypsilanti, Washtenaw County, on June 27, 1904. Gibbs (1885: 54) found the species breeding abundantly in Kalamazoo County and F. W. Rapp (1931: 30) listed 2 nests there, 1 with 2 eggs on May 30, 1904, and 1 with 3 young on July 24, 1928. Young birds of the year were seen in northwestern Huron County by N. A. Wood and Gaige (1911: 303) after July 1. N. A. Wood and Frothingham (1905: 52) observed Yellow-throats in Oscoda County in mid-June, and in Crawford County in early July; R. E. Olsen and T. D. Hinshaw also noted them in Crawford County, recording 30 on July 4, 1936. Van Tyne (1925: 626) found them numerous locally in Charlevoix County; Blanchard and Nelson (MS of 1937) found a nest with 3 young on July 28 at Douglas Lake, Cheboygan County.

Upper Peninsula.—Walkinshaw found a nest with 4 eggs on June 21, 1935, at Munuscong Bay, Chippewa County, and at Whitefish Point in the same county. N. A. Wood (1914: 71) noted young of the year by mid-July. At Seney, Schoolcraft County, Brodkorb found Yellow-throats "plentiful" from June 2 to 11, 1938, and at Whitefish Lake, Alger County, N. A. Wood (1918: 14) noted a few individuals on June 1. Van Tyne found them common in the swamps of the Huron Mountain region, Marquette County, in late June, 1936; F. M. Gaige (1914: 89) observed 4 young that could hardly fly on July 12 in Dickinson County, and John L. George and R. L. Patterson recorded 2 to 5 adults daily at Golden Lake, Iron County, in late June and in July, 1938.

FALL.—Southward migration occurs in late August and September.

Upper Peninsula.—Ira N. Gabrielson observed a Yellow-throat in the Huron Mountains, Marquette County, on September 25, 1936; F. M. Gaige (1914: 89) noted 20 or more as early as August 5 in Dickinson County. Fargo saw 1 at Whitefish Point, Chippewa County, on August 21, and 1 on

September 4 in 1925; A. D. Tinker recorded 8 there in late August, 1931. At McMillan, Luce County, Bryens has reported the species between middle and late September; he recorded 1 on September 10, 1937, and 2 on September 26, 1938.

Lower Peninsula.—A specimen (U.M.M.Z.) was collected at Burt Lake, Cheboygan County, on September 3, 1938, by A. E. Staebler; and several others (U.M.M.Z.) were taken on Charity Island, Huron County, between September 8 and 15, by N. A. Wood. L. D. Case secured 1 (U.M.M.Z.) near Homer, Calhoun County, on September 22, 1940; R. E. Olsen and A. D. Tinker saw 10 on September 23, 1934, at Portage Lake, Jackson County, and the same number in Hartland Township, Livingston County, on September 29, 1935. Swales (1904: 40) noted departure from the Detroit area in late September, although in 1904, J. Claire Wood (1905c: 21) saw 3 there on October 2, and 1 on October 23. Trautman saw 21 in the Erie Marsh, Monroe County, on September 13 and 14, 1932; L. W. Campbell (1940: 195, 208) recorded main flight in this and the adjoining Toledo area in the last week of September, and stragglers as late as October 28.

*Icteria virens virens* (Linnaeus)  
Yellow-breasted Chat

Rare summer resident north to Lansing.

First authoritatively listed for Michigan by Gibbs (1879: 485).

The species seems to be very irregular in its occurrence. For example, in the past 20 years in the Ann Arbor area it was not reported between 1923 and 1930, between 1931 and 1934, or in 1935, 1936, or 1939. It is possible, however, that even in an area as well-worked as this, the birds have been overlooked.

SPRING.—The meager data indicate that the Yellow-breasted Chat arrives during the first half of May. In the Toledo–Erie marsh area, L. W. Campbell (1940: 195, 208) gave May 8 as the average date for arrival of individuals (earliest date: April 29 in 1936), and May 17 as the average date for main flight. In the vicinity of Ann Arbor, A. B. Covert and D. C. Worcester saw 2 on May 4, 1895 (N. A. Wood and Tinker, 1910: 139), and Tinker saw one there on May 8, 1909. In more recent years it has been seen at Ann Arbor by T. H. Weller (2 on May 12, 1934) and R. E. Stewart (3 on May 17, 1938).

SUMMER.—Nests and eggs have been found from the last week in May to late June. The Yellow-breasted Chat is apparently a regular breeding bird in the Toledo–Erie marsh area. L. W. Campbell (1940: 151) has listed it as a common summer resident in that area, and T. D. Hinshaw collected an adult with 2 fledglings (all in U.M.M.Z.) there on July 8, 1934. A num-

ber of nests have been reported from Wayne County: W. A. Davidson (1899: 8) found a nest with 4 eggs toward the end of May; Wisner (1903: 57), with J. Claire Wood and Walter C. Wood, found a nest with 4 eggs on May 30 at Grosse Pointe; Moody (1903a: 97) reported a nest with 3 eggs that T. H. Potter found north of Detroit on June 23; J. Claire Wood (1907: 329) believed that at least 6 pairs of Chats nested in Gratiot Township in the summer of 1906; and Walter P. Nickell noted a nest with 1 egg of the Chat and 2 Cowbird eggs on Grosse Ile, on May 23, 1937. Winthrop Davey found a nest with 4 eggs in Blackman Township, Jackson County, on June 11, 1937, and observed a male in the same locality on June 22 and 24, 1942. Walkinshaw saw one near Battle Creek on June 7 and another on June 10, 1931, and N. A. Wood (1922: 30-31) recorded the species in Berrien County during the latter part of May.

FALL.—H. A. Atkins (Barrows, 1912: 642) reported the species in the vicinity of Lansing from August 11 to October 2, 1876. Winthrop Davey observed a single bird in Blackman Township, Jackson County, on September 6 and 7, 1941. In the Toledo-Erie marsh area, L. W. Campbell (1940: 195, 208) has recorded July 28 as the average date of departure, but has seen individuals in that area as late as October 10 (1938).

*Wilsonia citrina* (Boddaert)

Hooded Warbler

Rare summer resident north to Montcalm and Newaygo counties.

First listed for Michigan by Sager (1839: 414): "*Setophaga cucullata*."

SPRING.—Swales (1920: 463) saw a Hooded Warbler near Detroit on May 6, 1920; in the Ann Arbor area, Max M. Peet observed 1 on May 4, 1940, and A. D. Tinker saw one on May 13, 1907. There are at least 2 April records: F. Novy saw 1 near Ann Arbor on April 6, 1912, and the following day a bird (probably the same one) was found in the same locality by N. A. Wood and A. D. Tinker; on April 27, 1880, a specimen (U.M.M.Z.) was taken near Kalamazoo by B. F. Sykes.

SUMMER.—Gibbs (1894c: 277-79) believed the species to be abundant in suitable localities in Newaygo (see also Barrows, 1912: 647), Ottawa, Montcalm, Kent, Van Buren, and St. Joseph counties. In Kalamazoo County, Gibbs found a nest with 2 eggs on May 27, 1876, and 3 other nests (2 with 3 eggs each and 1 with 1 egg), May 31, June 6, and June 9, the same year. The northernmost specimen (Max M. Peet collection) is one taken by J. B. Steere at Crystal Lake, Montcalm County, on July 15, 1878.

FALL.—The period of fall migration apparently extends from mid-August to early October. Several specimens (U.M.M.Z.) have been taken in Kalamazoo County: one by B. F. Sykes on August 18, 1878; 2 by F. H.

Chapin on July 30, 1879; and 1 by Sykes on August 22, 1887. In Berrien County, H. B. Sherman collected a Hooded Warbler on August 30, 1917, and N. A. Wood (1922: 31) saw 2 on September 4. Swales noted one on Belle Isle, Detroit, on September 19, 1903.

*Wilsonia pusilla pusilla* (Wilson)  
Wilson's Warbler

Uncommon transient.

First recorded for Michigan by Sager (1839: 414).

SPRING.—This species appears in southern Michigan after the middle of May and reaches the Upper Peninsula a week or so later.

Lower Peninsula.—L. W. Campbell (1940: 195) has commonly observed Wilson's Warblers in the Toledo-Erie marsh area during the latter part of May. Swales saw 10 in the Detroit area, May 30, 1907, and J. Claire Wood (1903*b*: 81) noted 6 there on June 7. The species is usually reported in the Ann Arbor region by mid-May; 1 was noted May 13 in 1934 and 1937 by A. D. Tinker, and on the same date in 1939 by John L. George. N. A. Wood saw 15 or more near Ann Arbor on May 28, 1907 (Barrows, 1912: 648), and F. Novy secured a specimen (U.M.M.Z.) on June 4, 1910. N. A. Wood (1922: 31) noted the species in Berrien County and Walkinshaw (1930 to 1940) in Calhoun County after the middle of May. G. A. Ammann saw an individual at the Prairie Farm, Alicia, Saginaw County, on May 23, 1940. D. W. Douglass found the species at Sand Point, Huron County, by mid-May (1931 to 1933). He noted 2 on May 15, 1932, and 5 or 6 on May 28, the same year. William Brewster collected several specimens (M.C.Z.) at Oden, Emmet County, between May 21 and May 23 in 1888.

Upper Peninsula.—Christofferson has found individuals at Blaney, Schoolcraft County, by mid-May, but he records larger numbers later in the month, for example, 10 on May 21, 1938. N. A. Wood (1914: 71) recorded seeing the species occasionally at Whitefish Point, Chippewa County, from May 23 to 27, and also at Copper Harbor, Keweenaw County (N. A. Wood, 1933: 730). Laurence Dayton reported an individual on Isle Royale on May 25, 1937, and N. A. Wood collected 3 (U.M.M.Z.) there, 1 on May 22, and 2 on May 26 in 1930.

FALL.—In fall this warbler is apparently most numerous during late August and the first half of September.

Upper Peninsula.—There are only a few fall records from the northern part of Michigan. Fargo saw 2 Wilson's Warblers on Isle Royale, August 31, 1925, and N. A. Wood collected one (U.M.M.Z.) there on September 9, 1929; A. D. Tinker and R. E. Olsen recorded 3 birds at Whitefish Point, Chippewa County, August 26 to 27, 1931; and Christofferson has noted the



species at Blaney, Schoolcraft County, until late September, seeing 2 on September 20, 1933.

Lower Peninsula.—Chaney (1910: 278) observed "small migrating flocks" in Mason County on August 30; N. A. Wood (1911: 109) saw 2 individuals on Charity Island, Huron County, September 7. At Sand Point, Huron County, N. A. Wood and Gaige (1911: 303) saw the species occasionally between August 20 and 24. T. D. Hinshaw collected a specimen near Pontiac, Oakland County, on September 11, 1938; N. A. Wood (1922: 31) noted several in Berrien County from September 5 to 10. The species was recorded in the Ann Arbor region on September 8, 1907, and October 7, 1908 (N. A. Wood and Tinker, 1910: 140), and Swales saw an individual in the Detroit area on September 12, 1911, and 1, September 21, 1907. M. B. Trautman observed 1 in Erie Township, Monroe County, on September 9, 1934, and L. W. Campbell (1940: 195) found the species in the Toledo-Erie marsh area from late August to mid-September.

*Wilsonia canadensis* (Linnaeus)

Canada Warbler

Common transient; summer resident south to Mason and Bay counties.

First authoritatively listed for Michigan by Sager (1839: 413).

SPRING.—Arrival is reported in the southern counties in mid-May and in the Upper Peninsula about a week later.

Lower Peninsula.—In the Toledo-Erie marsh area, L. W. Campbell (1940: 195) has noted the Canada Warbler from mid-May to the first of June. Swales observed the species at about the same time of year in the Detroit area, recording 3 on May 10, 1903, 6 on May 19, 1907, and 3 on June 5, 1907. J. Claire Wood collected 1 (U.M.M.Z.) there on May 7, 1899. Arrival is usually reported in the Ann Arbor area after mid-May, occasionally earlier. N. A. Wood (1922: 31) occasionally noted a few in Berrien County between May 9 and June 4, and Walkinshaw has found the species in Calhoun County during the last week or 10 days of May (1930 to 1940). Five Canada Warblers were seen by R. E. Olsen in Hartland Township, Livingston County, on May 24, 1931, and 1 was seen at the Prairie Farm, Alicia, Saginaw County, by G. A. Ammann on May 23, 1940. William Brewster and Jonathan Dwight collected a series of specimens (M.C.Z.) in the vicinity of Oden, Emmet County, between May 21 and 29 in 1888.

Upper Peninsula.—Christofferson recorded 2 Canada Warblers at Blaney, Schoolcraft County, on May 23, 1937; 2 on May 23, 1932; and 1 on May 27, 1936. N. A. Wood found the species at Whitefish Point, Chippewa County, on May 22, and collected a specimen (U.M.M.Z.) on Isle Royale on May 22, 1930.

SUMMER.—Nest records extend through June and early July.

Lower Peninsula.—N. A. Eddy (Barrows, 1912: 650) took a nest with 4 eggs near Bay City on June 2, 1885, and Chaney (1910: 278) observed an adult with food in Mason County on July 11. Near Mio, Oscoda County, Verne Dockham found a nest with 4 eggs on June 20, 1937, and one with 3 young on July 8, 1935. Van Tyne (1925: 626) saw this warbler occasionally in Charlevoix County in June and early July, and Widmann (1902: 236) noted an adult feeding young on July 20 near Petoskey, Emmet County. Blanchard and Nelson (MS of 1937) have recorded the species regularly in the summer at Douglas Lake, Cheboygan County, and found a nest with 5 eggs there on June 23, 1935.

Upper Peninsula.—Van Tyne (1923: 25) listed the Canada Warbler as fairly common on Les Cheneaux Islands, Mackinac County; R. A. MacMullan collected a specimen (U.M.M.Z.) on June 27 and T. D. Hinshaw one (U.M.M.Z.) on July 8 on Drummond Island, Chippewa County, in 1938; N. A. Wood (1914: 71) listed the species as a rather common summer resident at Whitefish Point in the same county in 1914. Christofferson noted an adult carrying food at Blaney, Schoolcraft County, on July 20, 1938, and N. A. Wood (1918: 14) saw the species at Whitefish Lake, Alger County, in June and July. During the early part of July, F. M. Gaige (1914: 89) observed a pair of Canada Warblers on several occasions at Brown Lake, Dickinson County; in the Huron Mountains, Marquette County, Van Tyne saw one and heard others in late June, 1936. An adult carrying food was seen on Isle Royale on July 8 (Max M. Peet, 1909: 378).

FALL.—Fall flight occurs in August in the Upper Peninsula, and in the first half of September in the southern counties.

Upper Peninsula.—N. A. Wood collected a specimen (U.M.M.Z.) on Isle Royale, September 23, 1929. In the Porcupine Mountains, Ontonagon County, N. A. Wood, Peet, and McCreary (1906: 120) noted the species in late July and early August, taking 2 specimens (U.M.M.Z.), one on July 31 and the other on August 2; in the same locality, R. E. Olsen secured a Canada Warbler (U.M.M.Z.) on August 13, 1938. John L. George and R. L. Patterson observed 1 on August 13, 1938, at Golden Lake, Iron County, and S. S. Gregory, Jr., collected 1 in the Huron Mountains, Marquette County, on July 26, 1935. F. M. Gaige (1914: 89) noted a few Canada Warblers daily in the fall at Brown Lake, Dickinson County, until mid-August, and A. D. Tinker and R. E. Olsen saw one at Whitefish Point, Chippewa County, on August 28, 1931. At Blaney, Schoolcraft County, Christofferson has noted the species occasionally in early September (1 on September 1, 1932; 2 on September 5, 1935).

Lower Peninsula.—Chaney (1910: 278) recorded the Canada Warbler in

Mason County until September 17, and on Charity Island, Huron County, N. A. Wood (1911: 109) saw several on August 27 and a few others during the second week in September. In the northwest part of Huron County, N. A. Wood and Gaige (1911: 303-4) observed a few from the latter part of July to late August. The species was recorded in the vicinity of Ann Arbor on September 3, 1909, and on August 23, 1908 (N. A. Wood and Tinker, 1910: 140-41). Numbers of Canada Warblers were seen in the Detroit area by Swales: 20 on August 24, 1912; 15 on September 12, 1913; and 1 (Swales, 1904: 41) on September 30, 1893. L. W. Campbell (1940: 195) has noted the species from mid-August to mid-September in the Toledo-Erie marsh area.

*Setophaga ruticilla* (Linnaeus)  
American Redstart

Common summer resident.

First authoritatively listed for Michigan by Sager (1839: 413).

SPRING.—The Redstart appears in the southern tiers of counties in the first week of May and reaches the Upper Peninsula by the middle of the month.

Lower Peninsula.—In the Toledo-Erie marsh area, L. W. Campbell (1940: 208) has noted main flight by the end of the first week in May. Jerome Trombley (Barrows, 1912: 651) recorded the Redstart as early as April 23 and 24 at Petersburg, Monroe County; and Swales observed it in the Detroit area regularly in the first week in May, recording 30 on May 4, 1912, and 6 on May 5, 1912. N. A. Wood (1922: 31) found the species in Berrien County on May 6; in Hartland Township, Livingston County, R. E. Olsen and A. D. Tinker saw 50 Redstarts on May 19, and 40 on May 26 (1935). G. A. Ammann observed one at the Prairie Farm, Alicia, Saginaw County, on May 8, 1940; on Sand Point, Huron County, D. W. Douglass recorded individuals in early May (1931 to 1933) and greater numbers after the middle of the month. Three specimens (M.C.Z.) were secured by Jonathan Dwight and William Brewster at Oden, Emmet County, between May 18 and 21 in 1888.

Upper Peninsula.—Bryens at McMillan, Luce County, and Christofferson at Blaney, Schoolcraft County, have generally recorded the Redstart after the middle of May, but Bryens noted 1 on May 8, 1938, and Christofferson 2 on May 12, 1940. N. A. Wood recorded arrival at Copper Harbor, Keweenaw County (1933: 731) on May 27, and in 1930 collected 2 specimens (U.M.M.Z.) on Isle Royale: 1 on May 22 and the other on May 27.

SUMMER.—The nesting period of the Redstart extends chiefly from the last of May to early July.

Lower Peninsula.—In the Detroit area, J. Claire Wood (1904*b*: 33-35)

occasionally found eggs by mid-May; in 1899 Swales found 21 nests (17 with 4 eggs) in the area on May 28. N. A. Wood (1922: 31) listed the species as breeding in Berrien County; he found a nest with 4 fresh eggs near Ann Arbor, May 20, 1904; in 1934, R. E. Olsen, A. D. Tinker, and T. D. Hinshaw noted over 20 Redstarts a day in Hartland Township, Livingston County, on June 3, 8, and 12. A nest under construction was observed on May 26, 1940, at the Prairie Farm, Alicia, Saginaw County, by G. A. Ammann; in Huron County the species was found to be the most common breeding warbler by N. A. Wood and Gaige (1911: 304); and on Charity Island adults and young were seen daily during July by N. A. Wood (1912a: 187). The species was reported as breeding in Mason County by Chaney (1910: 278) and in Charlevoix County by Van Tyne (1925: 626). Blanchard and Nelson (MS of 1937) recorded nests with young in the vicinity of Douglas Lake, Cheboygan County, from June 23 to August 5.

Upper Peninsula.—Redstarts have been observed during the summer in Chippewa County, as many as 20 a day being noted on Drummond Island by T. D. Hinshaw and R. A. MacMullan in 1938, and the species was seen in the vicinity of Whitefish Point by N. A. Wood (1914: 71-72). Christofferson found a nest with 4 eggs at Blaney, Schoolcraft County, on June 13, 1933, and N. A. Wood (1918: 14) occasionally noted Redstarts at Whitefish Lake, Alger County. F. M. Gaige (1914: 89) recorded this warbler throughout July at Brown Lake, Dickinson County, and S. S. Gregory, Jr. (1929: 186), listed it as a common summer resident in the Huron Mountains, Marquette County. N. A. Wood, Peet, and McCreary (1906: 120) observed the species frequently in the Porcupine Mountains, Ontonagon County, during July. Peet (1909: 379) recorded a young bird being fed by an adult on August 3 on Isle Royale.

FALL.—Fall flight occurs in the north in late August or early September, and in the south in late September.

Upper Peninsula.—Max M. Peet (1909a: 117) recorded the species on Isle Royale until September 12; John L. George and R. L. Patterson noted 10 to 20 Redstarts daily near Golden Lake, Iron County, between August 24 and 27, 1938. F. M. Gaige (1914: 89) observed "numerous flocks" in the early part of August at Brown Lake, Dickinson County, and they were still common on his departure, August 24. A. D. Tinker and R. E. Olsen saw a total of 11 Redstarts between August 24 and 28, 1931, at Whitefish Point, Chippewa County, and Fargo noted 4 there on September 6, 1925. At Blaney, Schoolcraft County, Christofferson has recorded the species in late August and occasionally in early September (2 seen on September 10, 1934, and 2 on September 14, 1935).

Lower Peninsula.—Max M. Peet collected several Redstarts at Burt Lake,

Cheboygan County, in late August and September (one on September 9, 1940; another on September 12, 1941). On Charity Island, Huron County, N. A. Wood (1911: 109) recorded numbers on September 4 and hundreds on October 5, but saw none at all there after October 5. Gibbs (1885: 55) found individuals in Kalamazoo County until the latter part of September; near South Haven, Van Buren County, Leonard Wing recorded 10 on September 16, 1931, and one or two others on September 17 and 18. Several specimens (U.M.M.Z.) have been taken in Washtenaw County during September: 2 were collected on September 8, 1896, by N. A. Wood and W. A. MacLean; and 1 was taken on September 12, 1896, by E. A. Atkins. The largest numbers of Redstarts recorded by Swales in the Detroit area were in the first week of September (20 on September 2, 10 on September 4, and 6 on September 10) in 1911. Both Swales and J. Claire Wood had noted the species there in October, Swales on October 5, 1895, and Wood (1907: 329) on October 7, 1906. Trautman saw 15 in the Erie marsh, Monroe County, on September 9, 1934, and in this and the adjacent Toledo (Ohio) area, L. W. Campbell (1940: 195) has observed Redstarts regularly until early October.

PLOCEIDAE  
(WEAVER FINCHES)

*Passer domesticus domesticus* (Linnaeus)  
English Sparrow

Common permanent resident and transient in the south; much less common in the north.

First authoritatively recorded for Michigan by Gibbs (1879: 487).

HISTORICAL.—According to Barrows (1912: 480), the English Sparrow was introduced into Michigan at Jackson between 1874 and 1876, and at Owosso, Shiawassee County, in 1876. Gibbs, cited above, listed the species as very abundant, and as breeding in many cities; J. B. Steere (1880: 5-6) first noted its appearance at Ann Arbor about 1875, when he observed 3 or 4 pairs nesting in the town. By 1884, Eddy (1884: 41) found that the English Sparrow had greatly increased in numbers at Bay City, and an author using the pseudonym "Kelpie" (1886: 407) recorded the appearance of these sparrows at Mancelona, Antrim County, in 1885. By 1901, Widmann (1902: 235) found the species common in Emmet County; and Barrows (1904: 80) listed it as abundant in July, 1904, on Beaver Island, Charlevoix County. There is very little information regarding the spread of the English Sparrow in the Upper Peninsula: N. A. Wood (1914: 68) saw only a few at Whitefish Point, Chippewa County; Leonard Wing (1940: 192) found it to be uncommon, though well distributed in the Upper Peninsula.

SPRING.—There is some indication that the species is migratory, especially in the Upper Peninsula and in the Saginaw Bay region of the Lower Peninsula. D. W. Douglass believed there was a spring migration during the latter part of April and May at Sand Point, Huron County, where from 1931 to 1933, he occasionally saw small groups of 8 or 10 leave the Point and fly over Saginaw Bay. Christofferson at Blaney, Schoolcraft County, has recorded a few between March and mid-May, and has not reported them during the summer.

SUMMER.—The species apparently breeds at all places where it is found during the summer months. Fledglings are seen in the south from early May to early September, and in the Upper Peninsula from the latter part of May to early September.

Lower Peninsula.—In addition to the first records from this peninsula, which are largely breeding records, there are the observations of Gibbs (1885: 118), who found the birds breeding in Kalamazoo County, and of Van Tyne (1925: 622), who noted them as common in Charlevoix County, though confined to the towns and farmyards.

Upper Peninsula.—Van Tyne (1923: 24) observed a few pairs breeding at Hessel and Cedarville, Mackinac County, and N. A. Wood (1914: 68) found a few nesting in the vicinity of Whitefish Point, Chippewa County. Bryens, at McMillan, Luce County, has recorded fledglings being fed by the adults, from the latter part of May to early September. Van Tyne also saw several pairs in the Huron Mountains, Marquette County, in the last week of June, 1936; in 1938, the species was listed as common in the towns near Golden Lake, Iron County, by John L. George and R. L. Patterson. N. A. Wood (1933: 724) listed the English Sparrow as common in Houghton County, at Hancock, Houghton, and Calumet.

FALL.—In the Upper Peninsula, Bryens has recorded this sparrow in considerable numbers during the late fall at McMillan, Luce County (100 on November 11, 1940; 300 on November 8, 1939; and 280 on December 11, 1938). Christofferson has observed a few at Blaney, Schoolcraft County, from mid-August to late October. In the Lower Peninsula, J. Claire Wood (1913: 18) saw about 300 English Sparrows at Lincoln, Alcona County, on November 8, and 40 on the following day. N. A. Wood (1911: 103) found a flock of several hundred on Charity Island, Huron County, on October 8.

WINTER.—Although the species is known to be a permanent resident in Michigan, there are almost no data available on its winter occurrence. But Bryens has recorded at McMillan, Luce County, 40 on January 7, 1928, and 30 on January 1, 1936, and R. E. Morrill and T. D. Hinshaw saw 100 near Ann Arbor on January 1, 1937.

ICTERIDAE  
(TROUPIALS)*Dolichonyx oryzivorus* (Linnaeus)  
Bobolink

Common summer resident in the Lower Peninsula; uncommon and local in the Upper Peninsula.

First listed for Michigan by Sager (1839: 414).

SPRING.—Bobolinks are usually found in the southern counties in late April and early May and are recorded in the Upper Peninsula by the middle of May.

Lower Peninsula.—L. W. Campbell (1940: 196) has found the species in the Toledo-Erie marsh area by the first of May. Swales (1903: 36) reported arrival in the Detroit area during late April and early May; in 1931 A. D. Tinker reported arrival of 2 in the Ann Arbor region by April 19. Gibbs (1885: 118) noted arrival in Kalamazoo County about May 1; Walkinshaw recorded it in Calhoun County, by late April or early May (1930 to 1940). R. L. Patterson saw a Bobolink near Mio, Oscoda County, on May 6, 1939—the only spring report from the northern part of the peninsula.

Upper Peninsula.—Bryens at McMillan, Luce County, and Christofferson at Blaney, Schoolcraft County, have usually noted Bobolinks by mid-May; but Christofferson observed 4 as early as May 2 in 1938. T. D. Hinshaw collected one (U.M.M.Z.) at Munuscong Bay, Chippewa County, on May 5, 1934, and in the extreme western end of the peninsula (Ironwood, Gogebic County) L. C. Anderson secured a specimen (U.M.M.Z.) on May 15, 1933.

SUMMER.—Nests and eggs have been found from the latter part of May to mid-July.

Lower Peninsula.—Swales found a nest with 5 eggs near Detroit on June 5, 1907; in the Ann Arbor area, R. E. Morrill reported one with 5 eggs on May 23, 1936, and A. E. Staebler one with 7 eggs on May 31, 1937. Gibbs (1885: 118) listed the species as an abundant breeder in Kalamazoo County, and Walkinshaw has found several nests during the past decade in Calhoun County (one with 4 eggs on May 23, 1937). The species was listed as fairly common in Mason County by Chaney (1910: 275), and was found to be a numerous breeding bird in Charlevoix County by Van Tyne (1925: 621). Blanchard and Nelson (MS of 1937) recorded the birds as common in Cheboygan County and found several nests near Douglas Lake: one with 4 eggs on July 11, 1930, and another, with 4 young, on July 11, 1931.

Upper Peninsula.—Van Tyne (1923: 23) found the species rare on Les Cheneaux Islands, Mackinac County, but numbers have been found breeding in eastern Chippewa County; at Munuscong Bay, Christofferson discovered

a nest with 4 eggs on June 12, 1928, and Walkinshaw noted 2 nests in 1934: one with 6 eggs on June 12 and another with 5 eggs on June 13; at Whitefish Point, N. A. Wood (1914: 67) recorded 2 nesting pairs. In Schoolcraft County, Brodkorb noted 2 males in the Seney Migratory Waterfowl Refuge on June 8, 1938; Christofferson recorded 10 Bobolinks on June 11, 1940, and 10 on June 8, 1937, at Blaney. Bryens has found Bobolinks breeding at McMillan, Luce County; he observed a nest with young on July 10, 1934, and fledglings by mid-July.

FALL.—The species leaves the Upper Peninsula during late August and early September and the southern counties during the first half of September.

Upper Peninsula.—Leonard Wing (1940: 192) observed a Bobolink at Bruce Crossing, Ontonagon County, August 24, 1931. At Whitefish Point, Chippewa County, F. Novy and others secured 4 specimens (U.M.M.Z.), 3 on July 31, and 1 on August 1, 1914. Bryens has recorded the species at McMillan, Luce County, individuals until the middle of September, and larger numbers in the early part of the month (14 on September 3, 1938).

Lower Peninsula.—D. E. Davis saw 6 Bobolinks in Benzie County on August 24, 1940; N. A. Wood and R. E. Olsen reported 200 at Fish Point, Tuscola County, on July 17, 1934. Gibbs (1885: 118) noted the species in Kalamazoo County until the latter part of August, and F. W. Rapp (1931: 19) recorded 1 near Vicksburg in that county on September 25, 1914. Swales found considerable numbers in the Detroit area in early September: in 1905 he recorded 125 on September 5, and in 1911, 1000 on September 1, 200 on the following day, and 10 on September 10. J. Claire Wood (1909*d*: 193) collected several late fall specimens (U.M.M.Z.) in this area in 1908: 2 on November 8, 1 on December 6, and 1 on December 20. L. W. Campbell (1940: 155, 196) found an unusually large concentration in the Erie marsh, Monroe County (7500 on August 8, 1936), and has recorded the species in this and the adjacent Toledo (Ohio) region until late September.

*Sturnella magna magna* (Linnaeus)  
Eastern Meadowlark

Common summer resident in the Lower Peninsula; less common in the Upper Peninsula. A few winter in the southern counties.

First recorded for Michigan by Sager (1839: 414).

SPRING.—Arrival is reported in the southern counties in early March, and in the Upper Peninsula about the middle of the month or somewhat later.

Lower Peninsula.—L. W. Campbell (1940: 196) has usually recorded arrival in the Toledo-Erie marsh area in the first few days of March. Swales



(1903: 37) also reported arrival in the Detroit area in early March; R. E. Olsen and A. D. Tinker observed 20 there on March 25, 1934. The species is reported in the Ann Arbor region in March and early April, and specimens (U.M.M.Z.) have been taken there as early as March 1 (1934), and March 15 (1904). Walkinshaw has recorded arrival in Calhoun County in late February and early March (1930 to 1940); Gibbs (1885: 119) recorded the species as abundant in Kalamazoo County by late March. D. W. Douglass reported 1 to 6 at Sand Point, Huron County, from mid-April to early May (1931 to 1933).

Upper Peninsula.—Bryens at McMillan, Luce County, and Christofferson at Blaney, Schoolcraft County, have reported the species during the latter part of March: Christofferson saw 3 on March 16, 1940; Bryens noted 1 on March 22, 1938, and 5 on March 30, 1939.

SUMMER.—Nesting dates extend from early May to July, and occasionally to mid-August.

Lower Peninsula.—Swales recorded several nests in the Detroit area: one with 4 eggs on May 17, 1890, another; with fledglings, on June 11, 1916; near Ann Arbor, F. J. Hinds found a nest with 6 eggs, on May 11, 1934. N. A. Wood (1922: 20) observed the species in Berrien County in May and believed it nested in the region, and Gibbs (1885: 119) listed it as a common summer resident in Kalamazoo County. A nest with 2 young was found near Rush Lake, Huron County, by N. A. Wood and Gage (1911: 291) on August 15, 1908. R. E. Morrill collected a nest with 5 eggs (U.M.M.Z.) on Beaver Island, Charlevoix County, June 28, 1937, and Van Tyne (1925: 621) listed the species as common on the mainland of the same county. Blanchard and Nelson (MS of 1937) have found it commonly in Cheboygan County, and found a nest with 5 newly hatched young on July 11, 1931.

Upper Peninsula.—Van Tyne (1923: 23) found the species uncommon in summer on Les Cheneaux Islands, Mackinac County; R. E. Olsen and T. D. Hinshaw saw at least 15 Eastern Meadowlarks on May 6, 1934, at Munuscong Bay, Chippewa County, and N. A. Wood (1914: 67) believed one or more pairs nested at Whitefish Point in the same county. Bryens has found nests at McMillan, Luce County, on several occasions: a nest with 5 eggs on July 2, 1933; nest with 4 eggs on June 8, 1936. N. A. Wood (1918: 10) listed the species in summer from Whitefish Lake and vicinity, Alger County, and Van Tyne noted several in the Huron Mountains, Marquette County, in late June, 1936. A specimen (U.M.M.Z.) was taken July 12, 1932, at Ironwood, Gogebic County, by Leonard Wing (1940: 192), and the species was observed as a rare summer resident at Copper Harbor, Keweenaw County, by N. A. Wood (1933: 723).

FALL.—Main flight occurs in October.

Upper Peninsula.—Trautman saw 36 Eastern Meadowlarks near Ewen, Ontonagon County, on October 2, 1934, and 12 on October 5, 1934, near Covington, Baraga County. Bryens has recorded the species at McMillan, Luce County, until mid-October (October 9, 1941; October 14, 1939), and Christofferson has noted it somewhat later at Blaney, Schoolcraft County (5 on October 11, 1939; 15 on October 25, 1938).

Lower Peninsula.—Max M. Peet collected 2 specimens at Burt Lake, Cheboygan County, on October 11, 1937. J. Claire Wood (1913: 17) saw 20 Meadowlarks near Lincoln, Alcona County, on October 5, and N. A. Wood (1911: 99) saw 1 on September 29 on Charity Island, Huron County. Gibbs (1885: 119) noted that the species usually remained in Kalamazoo County until November, though F. W. Rapp (1931: 20) did not record it in the vicinity of Vicksburg, Kalamazoo County, later than October 28 (1911). Swales (1903: 37; and notes) usually recorded departure from the Detroit area by October but recorded 35 on November 20, 1908; 60 on November 21, 1908; 200 on December 1, 1900; 50 on December 17, 1900. L. W. Campbell (1940: 155, 209) reported the species in the Toledo-Erie marsh area usually until the last of October, and in 1931, he recorded it as late as December 19.

WINTER.—Swales occasionally observed numbers of Eastern Meadowlarks in winter in the Detroit area: 7 on January 10, 1913; 25 on February 7, 1909; and 25 on February 14, 1891. J. Claire Wood (1910: 39) saw between 50 and 75 in the same area on January 20. A few are reported in the Ann Arbor region: one was seen by H. B. Sherman on January 1, 1921; 1 was observed on January 1, and 5 on January 27, 1924, by A. D. Tinker; and 1 was collected by N. A. Wood on January 4, 1902. F. W. Rapp (1931: 20) recorded the species in the vicinity of Vicksburg, Kalamazoo County, on February 6, 1910, and January 28, 1922.

*Sturnella neglecta* Audubon  
Western Meadowlark

Local summer resident in the Upper Peninsula and in the northern part of the Lower Peninsula.

First recorded for Michigan by O. B. Warren (1895: 192; Barrows, 1912: 447), who collected a specimen in Marquette County, May 10, 1894.

SPRING.—There are not sufficient data to indicate with certainty the time of spring arrival. T. D. Hinshaw saw an individual near Ypsilanti, Washtenaw County, as early as March 27 in 1938; and one was reported near Mio, Oscoda County, by Verne Dockham on April 13, 1941; the earliest the Western Meadowlark has been noted at McMillan, Luce County, is April 18, in 1935 (Bryens).

**SUMMER.**—A number of singing birds have been seen or taken in southern counties.

Lower Peninsula.—Single individuals have been recorded by R. E. Olsen at Detroit, June 19, 1936; by Leonard Wing near Ann Arbor, May (not "April," as given by Wing, 1926: 157) 13, 1926 (U.M.M.Z.); by T. D. Hinshaw at Pleasant Lake, Washtenaw County, April 30, 1934 (U.M.M.Z.); by Walkinshaw near Marshall, Calhoun County, May 12, 1940, and in Pennfield Township of the same county, May 28, 1931 (Walkinshaw, 1931b: 606); and by Trautman in Williamston Township, Ingham County, on June 22, 1935 (U.M.M.Z.). There are several nesting records from the north. Mrs. Frank L. DuMond found a nest with 3 young and 2 eggs near Grayling, Crawford County, on May 29, 1939; and near Lovells in the same county, T. D. Hinshaw took a male (U.M.M.Z.) on July 4, 1936. Walter E. Hastings noted 4 pairs in the vicinity of Lake Leelanau, Leelanau County, in the summer of 1934; in 1937 T. D. Hinshaw observed an individual at Norwood, Charlevoix County, in the first week of June, and noted another on Beaver Island in the same county on July 3.

Upper Peninsula.—Walkinshaw saw a Western Meadowlark as far east as Sault Ste Marie on June 3, 1935. At McMillan, Luce County, Bryens found a nest with 7 young about 2 days old on June 28, 1934, and L. D. Case collected an adult male (U.M.M.Z.) near Newberry, Luce County, on June 1, 1942. Walkinshaw saw the species at Seney, Schoolcraft County, on May 5, 1937, and June 4, 1934. Near Marquette a nest with 4 eggs was found by John N. Lowe in 1934 or 1935, and near Ironwood, Gogebic County, 2 specimens (U.M.M.Z.) were collected by Leonard Wing (1940: 192) on July 12, 1932.

**FALL.**—Trautman and G. B. Saunders observed 3 Western Meadowlarks near Sidnaw, Houghton County, and 6 near Ewen, Ontonagon County, on October 2, 1934. John N. Lowe noted 1 in the vicinity of Marquette until October 1, 1938. Bryens has recorded the species at McMillan, Luce County, on October 5, 1935, and October 21, 1934. There is no fall record available for the Lower Peninsula. The characteristic song of the Western Meadowlark, which identifies the bird in the field, is rarely heard in the fall, and this may account for the scarcity of records for this season.

*Xanthocephalus xanthocephalus* (Bonaparte)

Yellow-headed Blackbird

Rare straggler.

There are 2 specimens and several sight records for Michigan. E. E. Brewster collected a specimen at Iron Mountain, Dickinson County, on May 17, 1890 (Warren, 1895: 191; see also Warren, 1898: 193, where the state-

ment that several were collected in Marquette County is retracted). Miller Empey took the second specimen on Lone Tree Island, Huron County, on June 2, 1935. L. W. Campbell (1940: 157) reported 2 Yellow-headed Blackbirds seen by Mr. and Mrs. R. Weaver and J. J. Stophlet at the Erie marsh, Monroe County, on April 29, 1934. One was seen at Higgins Lake, Missaukee County, by Mrs. Edwin G. Boyes on June 1, 1941, another at Portage Lake, Manistee County, by W. J. Howard in mid-May, 1933, and 2 near Bruce Crossing, Ontonagon County, by Leonard Wing (1940: 192-93) on August 24, 1931.

*Agelaius phoeniceus phoeniceus* (Linnaeus)  
Eastern Red-wing

Common summer resident. Not reported from Isle Royale.

First recorded for Michigan by Sager (1839: 414).

SPRING.—The Eastern Red-wing appears in the southern counties in late February and early March and reaches the Upper Peninsula in the latter part of March.

Lower Peninsula.—Swales (1903: 37) reported first arrivals in southeastern Michigan in March. In 1908, he saw 100 on March 6, but main flight is not usually recorded until after mid-March. L. W. and B. R. Campbell reported 3000 on April 1, 1934, in Erie Township, Monroe County. Red-wings have been noted in the Ann Arbor area in late February and early March; F. Novy reported 10 there on February 18, 1915; Leonard Wing reported 100 on March 18, 1926; D. Magoon collected a specimen (U.M.M.Z.) at Ann Arbor on March 2, 1929, and L. D. Case another (U.M.M.Z.) on March 9, 1936. Walkinshaw regularly observed the Red-wing in late February or early March in the vicinity of Battle Creek from 1930 to 1940, and Pirnie saw a flock of over 200 at Napoleon, Jackson County, on March 14, 1940. G. A. Ammann noted the Red-wing at the Prairie Farm, Alicia, Saginaw County, on March 8, 1940.

Upper Peninsula.—Christofferson, at Blaney, Schoolcraft County, and Bryens, at McMillan, Luce County, have reported arrival after the middle of March; Christofferson recorded a Red-wing on March 19, 1938, 8 Red-wings on March 26, 1938, and 12 on April 7, 1940; Bryens recorded Red-wings on March 19, 1938, and March 25, 1939.

SUMMER.—Eastern Red-wings are found nesting from the first week in May to the latter part of June.

Lower Peninsula.—Numerous nests of the Eastern Red-wing have been reported in the Ann Arbor area in May and June: one with 4 eggs was found by G. A. Ammann on May 9, 1936, and young at all stages of development were noted by Van Tyne on June 3, 1936. N. A. Wood (1922: 20)

believed a few Red-wings nested in Berrien County; F. W. Rapp (1931: 20) found one nest with 4 eggs on May 2, 1896, near Vicksburg, Kalamazoo County, and Walkinshaw found 2 nests, each with 4 young, on May 8, 1938, in Convis Township, Calhoun County. G. A. Ammann found a nest with 2 eggs, May 11, 1940, at the Prairie Farm, Alicia, Saginaw County. N. A. Wood and Gaige (1911: 290-91) found a nest with 2 eggs on June 24 in northwestern Huron County, and collected several specimens (U.M.M.Z.) there. Chaney (1910: 275) listed the Red-wing as common in western Mason County, and A. E. Staebler and L. D. Case found about 20 nesting pairs, and collected several specimens (U.M.M.Z.), on North Manitou Island, Leelanau County, in late June, 1940. Van Tyne (1925: 621) noted the species rather uncommonly on the mainland of Charlevoix County; R. E. Morrill (in 1937 and 1938), T. D. Hinshaw (in 1937), and Van Tyne (in 1938) secured specimens (U.M.M.Z.) on Beaver and adjacent islands of Charlevoix County in late June and early July. In the vicinity of Douglas Lake, Cheboygan County, Blanchard and Nelson (MS of 1937) found a nest with 4 eggs on July 4 and another with 4 eggs on July 15.

Upper Peninsula.—The Red-wing was noted as a common breeder on Les Cheneaux Islands, Mackinac County, by Van Tyne (1923: 23). Observers have found a number of nests at Munuscong Bay, Chippewa County: Christofferson and Magee noted 2 nests, each with 4 eggs, and one nest with 2 eggs there on May 29, 1922; the second week of June, 1934, Walkinshaw and F. C. Gillett discovered 5 nests there, each with 4 eggs. In Chippewa County, T. D. Hinshaw and R. A. MacMullan secured several Red-wings on Drummond Island in July, 1938. N. A. Wood found 1 to 3 pairs nesting at Whitefish Point, Chippewa County (1914: 67), and saw Red-wings occasionally at Whitefish Lake, Alger County (1918: 10). S. S. Gregory, Jr. (1929: 180), listed the species as a rather rare summer resident in the Huron Mountains, Marquette County; Van Tyne saw 6 nesting pairs there in late June, 1936, collecting 2 specimens (U.M.M.Z.) on June 25. At Brown Lake, Dickinson County, where he secured several specimens (U.M.M.Z.), F. M. Gaige (1914: 84) noted a "large colony" of breeding birds and observed the young flying about by the first of August.

FALL.—Migration is usually reported in September and early October.

Upper Peninsula.—R. Bohland collected a specimen (U.M.M.Z.) at Lake Gogebic, Gogebic County, on October 15, 1940; Trautman observed 45 Red-wings there on October 3, 1934, and 40 near Covington, Baraga County, on October 5, the same year. F. M. Gaige (1914: 84) noted only a few at Brown Lake, Dickinson County, after August 9. Bryens has recorded considerable numbers at McMillan, Luce County, in September and early October (600 on September 11, 1938; 510 on October 9, 1940; 350 on October 2,

1941). Fargo collected 2 specimens (U.M.M.Z.) at Munuscong Bay, Chipewewa County, on September 5, 1927, and Christofferson took 1 (U.M.M.Z.) there on October 20, 1928.

Lower Peninsula.—Trautman has observed numbers at Houghton Lake, Roscommon County, in mid-October and later (200 on October 10, 1938; 80 on October 18, 1936; 15 on November 10, 1935). In the southeast corner of Michigan, Swales noted "thousands" in the marshes near Grosse Ile, Wayne County, between October 1 and 26, 1911. Trautman and E. L. Wickliff listed a total of 1500 at Point Mouillee and the Erie marsh, Monroe County, on September 13 and 14, 1932. Specimens (U.M.M.Z.) have been taken in the southeastern counties on October 29, 1899 (by J. Claire Wood in Ecorse Township, Wayne County); on November 17, 1939 (by L. D. Case near Ann Arbor); and on November 25, 1903 (by W. H. Grant near Ann Arbor).

*Agelaius phoeniceus arctolegus* Oberholser\*  
Giant Red-wing

Transient; occasional winter visitant.

First listed for Michigan by Oberholser (1907: 332-36).

SPRING.—The Giant Red-wing has been taken in the Lower Peninsula in March and April. Among the specimens in the Museum of Zoology are the following: from Erie Township, Monroe County, single specimens collected by Brodkorb on March 23, 1935, and by A. D. Tinker on April 8, 1934; from Washtenaw County, single specimens by S. D. Knox on March 20, 1937, and by J. W. Harris on April 27, 1895. There are 2 spring specimens from the Upper Peninsula: 1 from Marquette, secured by W. C. Beckman on April 15, 1938, and 1 from Copper Harbor, Keweenaw County, by N. A. Wood (1933: 723) on April 25, 1931 (this specimen was originally listed as an Eastern Red-wing, but was subsequently identified as *A. p. arctolegus*).

SUMMER.—Oberholser, cited above, included northern Michigan in the breeding range of the Giant Red-wing. He believed the specimens (now in the Museum of Zoology and the Max M. Peet collection), taken in the Porcupine Mountains, Ontonagon County, and on Isle Royale, during the second week of August and in early September, to be breeding birds. But although a number of specimens of young of the year have been taken on Isle Royale (in late August) all are full grown and presumably capable of sustained flight. One specimen (an adult female, taken August 8, 1904) has been taken in the Porcupine Mountains. The only definite summer record is a male Giant Red-wing (U.M.M.Z.) collected by R. E. Olsen (1935:

\* Barrows (1912: 442-43) listed the specimens from Isle Royale as "*Agelaius phoeniceus fortis*, Thick-billed Redwing."

100) and D. W. Douglass in Erie Township, Monroe County, on June 13, 1934; it was heard singing.

FALL.—Numerous specimens have been taken on Isle Royale\* from mid-August to mid-September. The one specimen (U.M.M.Z.) from the Porcupine Mountains, mentioned above, was collected by O. McCreary on August 8, 1904. Two specimens (U.M.M.Z.) were collected at Munuscong Bay, Chippewa County, by Fargo, on September 5, 1927. Early fall specimens have been taken in the southern counties of the Lower Peninsula as follows: October 16, 1923, at Waterloo, Jackson County, by Walter Koelz; October 5, 1935, near Ann Arbor, by W. Baughn; October 29, 1899, in Ecourse Township, Wayne County, by J. Claire Wood.

WINTER.—Since apparently no specimen of the Eastern Red-wing has been collected in Michigan in winter, all winter sight records are presumed to refer to the Giant Red-wing.

Upper Peninsula.—Magee (1922c: 95; 1923a: 121) saw a Red-wing at Sault Ste Marie, on November 21, 1921, and observed it throughout the winter until April 23, 1922; the following winter 1 was again noted in the same locality from November 24 to December 25. Christofferson banded 1 at Blaney, Schoolcraft County, on February 17, 1933, and Bryens recorded 1 at McMillan, Luce County, on December 2, 1938, and 1 on December 24, 1934.

Lower Peninsula.—F. W. Rapp (1931: 20) recorded Red-wings at Vicksburg, Kalamazoo County, from January 22 to February 7, 1922. Fargo and others (1928: 51) noted 20 in eastern Jackson County on December 24, 1927, and Stowell (1903: 26) observed a male at Drayton Plains, Oakland County, throughout the winter of 1901-2. There are at least 12 specimens (U.M.M.Z.) from Erie Township, Monroe County, taken between late December and the end of January. L. W. Campbell (1940: 157-58, 198) found the Giant Red-wing a regular winter visitant in the Toledo-Erie marsh area, where flocks of from 50 to 250 are commonly seen. The flocks are generally noted there from the latter part of November to early February.

*Icterus spurius* (Linnaeus)  
Orchard Oriole

Uncommon summer resident north to Saginaw County.

First recorded for Michigan by Sager (1839: 414).

SPRING.—In the Toledo-Erie marsh area, L. W. Campbell (1940: 158, 196) has generally found this oriole by May 10, and recorded 16 near the Erie marsh on May 9, 1936. Swales (1903: 37) noted it in the Detroit area

\* Peet (1909: 362-63) reported that both the Eastern and the Giant Red-wing had been taken on Isle Royale, but all of the specimens (U.M.M.Z. and Max M. Peet collection) secured there have been identified as the Giant Red-wing.

by the middle of May; Maurice G. Brooks and others found it "very common" along the lower Detroit River, May 14, 1939. Near Ann Arbor, R. E. Stewart saw one on May 4, 1938, and Trautman one on May 5, 1936. From 1930 to 1940 the Orchard Oriole was noted in Calhoun County by Walkinshaw during the first half of May, and was recorded in the vicinity of Vicksburg, Kalamazoo County, by F. W. Rapp (1931: 20) as early as May 4 in 1913. It has been found at least as far north as Freeland, Saginaw County, where one was collected by Miller Empey on May 16, 1937.

**SUMMER.**—The Orchard Oriole is found nesting in Michigan from mid-May to the latter part of June or early July. From the Detroit area Swales recorded a nest with 3 eggs on June 21 (1892c: 45-46); 1 with young on July 24, 1889; and another with 4 eggs on July 4, 1892. A nest with 4 eggs (U.S.N.M.) was taken at Petersburg, Monroe County, on May 29, 1882. Van Tyne found a nest with young at Ann Arbor on June 20, 1926, and Walter Koelz (1923: 38) reported a few pairs of Orchard Orioles nesting in the vicinity of Waterloo, Jackson County. In Calhoun County Walkinshaw noted a nest with 2 young on June 3, 1937, and another with 2 young Orchard Orioles and 1 Cowbird on July 17, 1937. In the vicinity of Vicksburg, Kalamazoo County, F. W. Rapp (1931: 20) listed a nest with 4 eggs May 26, 1890, and a nest with 3 eggs, June 15, 1897.

**FALL.**—Records for this season are scanty, but indicate that the species remains in Michigan until the latter part of August and early September: F. W. Rapp (1931: 20) noted an individual at Vicksburg, Kalamazoo County, on August 27, 1909, and N. A. Wood (1922: 20) saw 2 in Berrien County in July and August, 1917. In the Detroit area, Swales observed 2 on August 26, 1882, 1 on September 9, 1907, and one on September 11, 1906.

### *Icterus galbula* (Linnaeus)

#### Baltimore Oriole

Summer resident, common in the southern half of Michigan, uncommon and local in the north.

First recorded for Michigan by Sager (1839: 414).

**SPRING.**—The species generally reaches Michigan in the latter part of April and appears in the Upper Peninsula after mid-May.

**Lower Peninsula.**—Swales (1903: 37) noted arrival in the southeast in late April and early May, and recorded the species as early as April 25 in 1896 and 1899. Individuals arrive in the Ann Arbor area at about the same time (1 recorded by L. D. Case on April 20, 1938), and greater numbers about the middle of May (15 recorded by John L. George on May 8, 1938, and 10 on May 21, 1938). Arrival has been recorded by N. A. Wood (1922: 20) in Berrien County on May 8; by Walkinshaw in Calhoun County in the



last few days of April or in early May; by Barrows (1912: 450) in Lansing on April 19 (1896); and by G. A. Ammann, at the Prairie Farm, Alicia, Saginaw County, on May 7 (1940). D. W. Douglass saw a few Baltimore Orioles at Sand Point, Huron County, in early May (1931 to 1933) and by the latter part of the month listed the species as a common migrant. The only definite spring record from the northern part of the Lower Peninsula is the report by R. L. Patterson of 2 Baltimore Orioles at Traverse City on May 8, 1939.

Upper Peninsula.—The only spring data are from Christofferson, at Blaney, Schoolcraft County, and Bryens, at McMillan, Luce County, who have found that the species usually arrives between May 20 and 25, although Christofferson has seen an individual as early as May 13 (1940) and May 16 (1937).

SUMMER.—This oriole is found nesting from late May to late June.

Lower Peninsula.—Swales (1903: 37; and notes) found the species a common summer resident in the Detroit area, recording 1 nest with 4 eggs on May 29, 1892, and 4 nests with young on June 19, 1911. In the Ann Arbor area, R. E. Morrill and T. D. Hinshaw found a nest with 2 young about ready to leave on June 9, 1936; Morrill reported a nest on May 11, 1939, and Frank J. Hinds saw one on May 26, 1934. N. A. Wood (1922: 20) recorded the species in Berrien County in June and early July; F. W. Rapp (1931: 20) listed it as a common summer resident in the vicinity of Vicksburg, Kalamazoo County, noting 1 nest with 2 eggs on May 20, 1896, and 1 with 4 eggs on June 13, 1894. A fledgling was collected by G. A. Ammann at the Prairie Farm, Alicia, Saginaw County, on July 4, 1940, and several fledglings were seen by N. A. Wood and Gaige (1911: 291) in northwestern Huron County on July 13. Chaney (1910: 275) found the species "uncommon" in Mason County during the summer, and Van Tyne (1925: 621) recorded an individual at Boyne City, Charlevoix County, and another at Charlevoix, during the latter part of June. A noticeable increase since 1930 at Douglas Lake, Cheboygan County, is indicated by Blanchard and Nelson (MS of 1937), who recorded several nests there, 1 (on June 30) with 3 young about to leave.

Upper Peninsula.—Although there seems to be no definite nesting record for the species in the Upper Peninsula, it probably breeds there. N. A. Wood (1918: 10) saw an Oriole at Whitefish Lake, Alger County, in early summer. A male Oriole was observed singing on Drummond Island, Chippewa County, from June 17 to 22 in 1938 by R. A. MacMullan and T. D. Hinshaw. The northernmost record seems to be that of N. A. Wood (1933: 723) who saw an individual at Copper Harbor, Keweenaw County, on May 27.

FALL.—The species usually leaves Michigan in late August and early September.

Upper Peninsula.—The only data are from Bryens at McMillan, Luce County. He has recorded the Baltimore Oriole there, at the latest, July 14 in 1935, July 28 in 1936, and September 26 in 1933.

Lower Peninsula.—F. W. Rapp (1931: 20) recorded this oriole as still in the vicinity of Vicksburg, Kalamazoo County, on September 3 in 1911 and 1921. N. A. Wood saw 1 near Ann Arbor on September 10, 1919, and 1 at Portage Lake, Washtenaw County, as late as September 20, 1920. Swales (1903: 37; and notes) found the species left the Detroit area usually in early September; he recorded 5 Orioles there on August 20, 1905; 4 on September 2, 1911; and 1 on September 17, 1910. L. W. Campbell (1940: 196) has found that these orioles leave the Toledo-Erie marsh area by the last of August or first of September.

*Euphagus carolinus* (Müller)

Rusty Blackbird

Common transient.

First recorded for Michigan by Sager (1839: 414): "*Scolecophagus ferrugineus*."

SPRING.—The Rusty Blackbird is common in southern Michigan from the second week of March or somewhat later, and in the Upper Peninsula from mid-March or the first of April, until the first week in May.

Lower Peninsula.—L. W. Campbell (1940: 159, 209) reported that main flight occurs in the Toledo-Erie marsh area between the third week in March and the first few days of May. On April 1, 1939, he estimated that 2000 were flocking with large numbers of Grackles, Cowbirds, Starlings, and Red-wings near North Cape, Monroe County. Swales found the species in the Detroit area between mid-March and mid-May (12 recorded on March 18, 1905; 3 on May 12, 1906), and J. Van Tyne saw 15 at Ann Arbor as early as March 7 (1919). Walkinshaw noted it in Calhoun County on March 1, 1931, but usually in late March or early April (1930 to 1940), and Barrows (1912: 453) observed it in the vicinity of East Lansing, Ingham County, from about March 10 to early May. Thirty were seen by G. A. Ammann at the Prairie Farm, Alicia, Saginaw County, April 2, 1940, and the species was recorded on Beaver Island, Charlevoix County, by N. A. Wood as late as May 6 in 1929.

Upper Peninsula.—Bryens at McMillan, Luce County, has recorded individuals from the latter part of March to mid-May, noting the larger numbers chiefly in April. He noted 2 on March 24, 1925, 5 on April 11, 1930, and 1 on May 16, 1929; Christofferson has made similar observa-

tions at Blaney, Schoolcraft County, where in 1939 he recorded an individual as early as March 18. There are records from a few other places during the spring in the Upper Peninsula: T. D. Hinshaw and R. E. Olsen saw 2 at Munuscong Bay, Chippewa County, on May 13, 1934; N. A. Wood recorded arrival at Copper Harbor, Keweenaw County, on April 23 and saw over 100 there on May 1 (1933: 723); on Isle Royale, he noted 2 on May 6, 1930.

FALL.—The southward migration of the Rusty Blackbird in Michigan passes through the Upper Peninsula between mid-September and the last of October and through the Lower Peninsula between early October and the middle of November.

Upper Peninsula.—Peet (1909: 363-64) noted large flocks of these blackbirds on Isle Royale from September 15 to 22. N. A. Wood observed 2 there on September 27, 1929, and Laurence Dayton 1 on November 30, 1937. In 1934 Trautman recorded 5 on October 3 near Lake Gogebic, Ontonagon County, and 5 on October 5, at Covington, Baraga County. S. S. Gregory, Jr., collected 3 specimens in the Huron Mountains, Marquette County, 1 on September 26, 1919, and 2 on October 9, 1924. Bryens has recorded the species at McMillan, Luce County, commonly in October (100 on October 20, 1939; 75 on October 20, 1938), but in 1940 as late as November 25.

Lower Peninsula.—At Houghton Lake, Roscommon County, Trautman observed 15 Rusty Blackbirds on October 10, 1938, and 200 on October 28, 1938, when he collected 2. J. Claire Wood (1913: 17) recorded about 40 in Alcona County, October 11; and Chaney (1910: 275) noted a small flock in Mason County on September 24. N. A. Wood has found the species at Fish Point, Tuscola County (200 seen on October 15, 1925), and on the Charity Islands, Huron County (1911: 99—from September 13 up to his departure on October 11). A late fall specimen (U.M.M.Z.) was secured by F. H. Chapin at Kalamazoo, on November 22, 1879; and A. E. Staebler collected several (U.M.M.Z.) from a flock of over 250 at Ann Arbor on November 15, 1941. At Portage Lake, Washtenaw County, N. A. Wood saw 1000 of these blackbirds on September 3, 1921, and 500 on October 17, 1920. In the Detroit area, Swales recorded 100 on November 6, 1910, and 300 on November 14, 1909, and J. Claire Wood collected 3 (U.M.M.Z.) on November 18, 1906. L. W. Campbell (1940: 196) has noted them in the Toledo-Erie marsh area between the early part of October and the middle of November.

WINTER.—The Rusty Blackbird is found in Michigan only occasionally in winter. Barrows (1912: 453) noted it several winters at East Lansing, Ingham County, and H. A. Atkins (1882: 119) collected 1 near Locke, in

the same county, on February 5. Pirnie (1940a: 18) saw 3 at the Kellogg Bird Sanctuary, Kalamazoo County, on December 24, 1939, and Peter Ward collected 1 there the following day. In the Detroit area, Swales saw 2 on February 24, 1911, and mentioned (1903: 37) a specimen secured by J. Claire Wood on January 25, 1891.

*Euphagus cyanocephalus* (Wagler)  
Brewer's Blackbird

Leonard Wing (1940: 193) secured a specimen (U.M.M.Z.) of Brewer's Blackbird near Ironwood, Gogebic County, on July 26, 1932, apparently the only specimen record for Michigan. Trautman and G. B. Saunders saw 4 Brewer's with 5 Rusty Blackbirds at Bergland, Lake Gogebic, Gogebic County, on October 3, 1934. It is possible that the species is more common in Michigan than the scarcity of records would indicate, for in the Toledo (Ohio) area, L. W. Campbell (1940: 159-60) saw 5 Brewer's Blackbirds on April 12, 1936; and on April 3, 1938, in carefully checking several mixed flocks of Starlings, Red-wings, Grackles, and Cowbirds, he counted a total of 55 Brewer's Blackbirds.

*Quiscalus quiscula versicolor* Vieillot  
Bronzed Grackle

Common summer resident; somewhat less abundant in the Upper Peninsula than in the south.

First authoritatively listed for Michigan by Sager (1839: 414).

SPRING.—The species is found in the southern counties by the middle of March and reaches the Upper Peninsula in late March.

Lower Peninsula.—L. W. Campbell (1940: 209) noted the main flight through the Toledo-Erie Marsh area during the second week of March, and gave March 11 as the average date for 13 years. Swales (1903: 37) recorded arrival in the Detroit area at about the same time; he noted 300 on March 24, 1904. The species is occasionally reported by late February in the vicinity of Ann Arbor; on February 20, 1931, 15 were seen there by N. A. Wood, who also listed the species as a common migrant in Berrien County (N. A. Wood, 1922: 20-21). In Calhoun County Walkinshaw has found the Bronzed Grackle by the middle of March or somewhat later. G. A. Ammann listed it from the Prairie Farm, Alicia, Saginaw County, on April 2, 1940, and N. A. Wood recorded it in numbers on Beaver Island, Charlevoix County, by early May (11 on May 4; 15 on May 5, 1929).

Upper Peninsula.—Christofferson has noted individuals at Blaney, Schoolcraft County, before the end of March, greater numbers in late March or April (1 on March 21, 1938; 25 on March 23, 1938; 75 on April 14, 1937).

S. S. Gregory, Jr., collected a specimen in the Huron Mountains, Marquette County, on May 19, 1921, and N. A. Wood (1933: 723) saw 2 individuals at Copper Harbor, Keweenaw County, on May 4. Laurence Dayton first recorded the species on Isle Royale during the spring of 1937 on May 16, noting it occasionally until his departure on May 24.

SUMMER.—The species is found nesting from the latter part of April to the first week in July.

Lower Peninsula.—In the Detroit area, Swales (1903: 37) listed the Bronzed Grackle as an abundant summer resident. On June 9, near Ann Arbor, J. Van Tyne (1924: 168–69) banded 4 young in a nest placed about a foot above the water in a clump of bulrushes. F. W. Rapp (1931: 21) has noted nests in the vicinity of Vicksburg, Kalamazoo County, between April 30 (1903, nest with 5 eggs) and May 18, (1899, nest with 5 eggs). N. A. Wood (1912*a*: 186) saw 3 Bronzed Grackles on Charity Island, Huron County, on July 6, and 20 on July 10. Chaney (1910: 275) found a few pairs breeding at Upper Hamlin Lake, Mason County, and Walkinshaw discovered a nest with 3 eggs at Red Oak, Oscoda County, on June 24, 1933. N. A. Wood saw Bronzed Grackles daily on Beaver Island, Charlevoix County, during the latter part of June, 1922 and 1925; in the vicinity of Douglas Lake, Cheboygan County, Blanchard and Nelson (MS of 1937) found them common, noting a nest with 5 young on July 2.

Upper Peninsula.—The species was found to be a fairly common summer resident on Les Cheneaux Islands, Mackinac County, by J. Van Tyne (1923: 23). N. A. Wood (1914: 67) listed the species as a rare breeder at Whitefish Point, Chippewa County, 1914, when he found a nest there (young able to fly July 7). Christofferson recorded a nest with 5 eggs on May 23, 1926, at Munuscong Bay, Chippewa County. Brodkorb discovered a nest with 5 young at Seney, Schoolcraft County, on June 10, 1938. Bryens has noted young birds of the year at McMillan, Luce County, by June 24 (1939) and recorded a nest with one young there on May 31, 1938. The species was occasionally observed at Whitefish Lake, Alger County, where fledglings were seen on June 7 (N. A. Wood, 1918: 10). F. M. Gaige (1914: 85) saw the species in Dickinson County throughout July, noting the first fledglings on July 16. In the Huron Mountains of Marquette County, S. S. Gregory, Jr. (1929: 181), listed the species as a rather common summer resident.

FALL.—The southward migration occurs chiefly in September and October, lasting until early October in the Upper Peninsula and until mid-October or somewhat later in southern counties.

Upper Peninsula.—Fargo saw several Bronzed Grackles on Isle Royale, August 31, and a few September 8, 1924; N. A. Wood noted one there on

October 8 and 10, 1929. A flock of 500 was seen by Christofferson at Marquette, on October 2, 1932, and F. M. Gaige (1914: 85) noted a rapid decrease in numbers present at Brown Lake, Dickinson County, after August 15, and recorded only a few after August 24. At Sault Ste Marie, Chippewa County, Christofferson saw 400 on August 26, 1927, and 200 on October 1, 1932. Bryens has recorded large numbers at McMillan, Luce County: 560 on September 1, 1940; 800 on September 11, 1938; 1600 on October 2, 1941; and 1000 on October 4, 1939.

Lower Peninsula.—Large flocks of Bronzed Grackles were noted in Charlevoix County by J. Van Tyne (1925: 622) on July 29; and Trautman recorded 40 at Houghton Lake, Roscommon County, on October 10, 1938, and 10 on October 28. R. E. and H. A. Olsen saw 200 at Mud Lake, Calhoun County, on August 12, 1934; Gibbs (1885: 119) noted departure from Kalamazoo County between October 15 and 20, and F. W. Rapp (1931: 21), in the same county, near Vicksburg, twice recorded the species as late as November 22 (1914 and 1922). The species is still found commonly in the Ann Arbor area in October, and one was seen there by Trautman on November 26, 1937. Swales (1903: 37) noted departure from the Detroit area in late October, and recorded considerable numbers in mid-October (500 on October 16, 1912; 250 on October 22, 1912). In the Erie marsh, Monroe County, Trautman listed a total of 885 on September 13 and 14, 1932, and in this and the neighboring Toledo (Ohio) area, L. W. Campbell (1940: 209) has found most of the birds leaving in the last week of October (average date: October 24).

WINTER.—The Bronzed Grackle apparently winters in small numbers in the southern counties. F. W. Rapp (1931: 21) noted it on January 10, 1905, January 18, 1922, and February 20, 1925, at Vicksburg, Kalamazoo County. Fargo and others (1927: 35) saw 1 at Jackson, on December 25; Hankinson (1926: 38) noted 1 at Ypsilanti, Washtenaw County, on December 25; and J. and C. Van Tyne (1928: 50) observed 2 near Ann Arbor on December 26. Other winter records from Ann Arbor include an individual seen by Thomas H. Weller on January 6, 1934, and 1 by F. M. Gaige on January 1, 1935.

*Molothrus ater ater* (Boddaert)  
Eastern Cowbird

Common summer resident; occasional winter resident in some southern counties.

First recorded for Michigan by Sager (1839: 414): "*Molothrus pecoris*."

SPRING.—The species arrives in the south about the middle of March and reaches the Upper Peninsula by the end of March or in early April.

Lower Peninsula.—L. W. Campbell (1940: 196; and notes) reported individuals in the Toledo-Erie marsh area about the middle of March and the main flight somewhat later; he and B. R. Campbell recorded 500 Eastern Cowbirds there on April 1, 1934. Swales (1903: 37) noted the species in the Detroit area by the end of the third week in March. Individuals are reported at Ann Arbor in early March and large numbers by early April; R. L. Patterson saw 13 there on March 5, 1939, and A. E. Staebler 150 on April 8, 1942. Arrival has been recorded in Calhoun County about the middle of March (Walkinshaw); in Kalamazoo County (Gibbs, 1885: 118) and the Grand Rapids vicinity (Barrows, 1912: 437) during early April; and at the Prairie Farm, Alicia, Saginaw County (G. A. Ammann in 1940), on April 2.

Upper Peninsula.—Christofferson has reported arrival at Blaney, Schoolcraft County, in early April; in 1938 he saw 4 there on April 8. At McMillan, Luce County, Bryens has occasionally reported individuals in March and usually noted considerable numbers by the latter part of April, recording 1 on March 24, 1931, and 400 on April 22, 1939. N. A. Wood (1914: 67) twice recorded the species rather late (May 13 and 17) at Whitefish Point, Chippewa County, and also saw 1 at Copper Harbor, Keweenaw County, on May 4 (N. A. Wood, 1933: 723). Laurence Dayton recorded the Cowbird on Isle Royale on April 19 and after, in 1937.

SUMMER.—The Cowbird is apparently common and well distributed throughout Michigan. H. W. Hann has recorded nests with Cowbird eggs from May 15 (1932, nest with 5 Song Sparrow eggs and 1 Cowbird egg, Branch County) to July 31 (1930, nest with 2 Vesper Sparrow eggs and 1 young Cowbird, Livingston County); and Walkinshaw recorded a nest with 3 Song Sparrow eggs and 4 Cowbird eggs as early as April 30 in 1932 in Calhoun County, and has found other nests parasitized by the Cowbird through May and June.

Lower Peninsula.—Cowbird fledglings (U.M.M.Z.) have been taken in a number of southern counties: 1 by A. D. Tinker on June 3, 1934, in Hartland Township, Livingston County; 1 at Portage Lake, Jackson County, on June 5, 1938, by L. D. Case; and 1 near Ann Arbor by Max M. Peet on June 6, 1907. N. A. Wood and Gaige (1911: 290) found the species common in northwestern Huron County, and collected several young birds of the year (U.M.M.Z.) there in late June and early July. Chaney (1910: 275) saw the species "uncommonly" in the vicinity of Hamlin Lake, Mason County. N. A. Wood and Frothingham (1905: 49) listed it as common during the latter part of June in Crawford and Oscoda counties. Van Tyne (1925: 621) saw a flock of 200 near Boyne City, Charlevoix County, on June 30; and Barrows (1904: 79) found the species abundant in early July on

Beaver Island in the same county, where also T. D. Hinshaw and R. E. Morrill noted numbers, up to 25 a day, in late June and in July of 1937.

Upper Peninsula.—The species has been reported from Les Cheneaux Islands, Mackinac County (common summer resident, Van Tyne, 1923: 23); from McMillan, Luce County (fledglings by the first week of July, Bryens); at Seney, Schoolcraft County (very common during early June in 1936, Brodkorb); Whitefish Lake, Alger County (occasional, N. A. Wood, 1918: 9); the Huron Mountains, Marquette County (3 to 5 each day of late June, 1936, Van Tyne); Golden Lake, Iron County (3 to 5 daily during the summer of 1938, J. L. George and R. L. Patterson); Ironwood, Gogebic County (fledgling collected on July 15, 1932, Leonard Wing, 1940: 193).

FALL.—The species apparently leaves the north in October and the Lower Peninsula by early November.

Upper Peninsula.—One specimen (U.M.M.Z.) has been taken on Isle Royale—by N. A. Wood, August 11, 1929. Trautman saw 2 Cowbirds in the south of Houghton County on October 4, 1934; and E. T. Hooper collected one (U.M.M.Z.) in southern Menominee County, August 10, 1940. Bryens has usually recorded departure from the region of McMillan, Luce County, in the latter part of August, but, in 1927, recorded an individual as late as October 24, and, in 1935, one as late as November 17.

Lower Peninsula.—The species has been reported by Trautman from Houghton Lake, Roscommon County, October 28, 1938 (2 seen); by N. A. Wood (1911: 99, one seen) from Charity Island, Huron County, on September 11; by Walkinshaw (October 10, 1934, 2 specimens, U.M.M.Z.) and L. D. Case (October 16, 1938, 2 specimens, U.M.M.Z.) from Calhoun County; by N. A. Wood from Portage Lake, Washtenaw County, during the latter part of September, 1919 to 1921 (flocks); by W. H. Grant (2 specimens, October 24, 1903) from the Ann Arbor area, where it was recorded as late as November 2 in 1919 and November 7 in 1926; by Trautman from the Erie marsh and Point Mouillee, Monroe County, September 13 to 14, 1932 (570 Cowbirds); and by L. W. Campbell (1940: 196) from the Toledo-Erie marsh area, until the first week of November.

WINTER.—J. Weeks collected 3 specimens (U.M.M.Z.) near Napoleon, Jackson County, on January 27, 1904. Swales (1903a: 22) saw several individuals during January, 1890, in the Detroit area, where he also observed 2 during December and early January, 1908-9 (J. Claire Wood, 1910: 39). Pirnie (1940a: 18) saw 3 at the Kellogg Bird Sanctuary, Kalamazoo County, in the winter of 1937-38, and banded 2 on January 9, 1938. Van Tyne saw 2 near Ann Arbor on December 21, 1941.



THRAUPIDAE  
(TANAGERS)*Piranga olivacea* (Gmelin)  
Scarlet Tanager

Summer resident; rather common in the south, less common in the Upper Peninsula.

First recorded for Michigan by Sager (1839: 414): "*Phoenisoma rubra*."

SPRING.—Arrival is reported in the southern counties during the first week in May and in the Upper Peninsula in mid-May.

Lower Peninsula.—Swales (1904: 37) recorded arrival in the Detroit area in late April and early May; observers have commonly recorded arrival in the vicinity of Ann Arbor in early May; D. C. Worcester collected a specimen (U.M.M.Z.) there on May 1, 1896. The species was listed from Berrien County by N. A. Wood (1922: 23-24) on May 6, and it has been noted in Calhoun County by Walkinshaw during the first 2 weeks in May (1930 to 1940). F. W. Rapp (1931: 25-26) saw a Scarlet Tanager near Vicksburg, Kalamazoo County, on April 26, 1926; in Hartland Township, Livingston County, R. E. Olsen and A. D. Tinker saw 20 on May 26, 1935. G. A. Ammann saw 1 at the Prairie Farm, Alicia, Saginaw County, on May 15, 1940. Several specimens (M.C.Z.) were taken at Oden, Emmet County, by William Brewster and Jonathan Dwight between May 16 and 26, 1888—the only data from the northern part of the Lower Peninsula.

Upper Peninsula.—Christofferson has usually recorded arrival at Blaney, Schoolcraft County, by mid-May (one on May 11, 1936; 2 on May 19, 1938). Bryens has noted arrival of individuals at McMillan, Luce County, also in mid-May, observing more in the latter part of the month (May 29, 1938, 5 seen). N. A. Wood (1914: 69; 1918: 12) saw a Scarlet Tanager at Whitefish Point, Chippewa County, on May 26 and 29, and 1 at Whitefish Lake, Alger County, on May 29. S. S. Gregory, Jr., has 1 he collected in the Huron Mountains, Marquette County, on May 22, 1932.

SUMMER.—The Scarlet Tanager is found nesting chiefly in June, although nests with eggs have been found in late May and occasionally in late July.

Lower Peninsula.—Swales (1904: 37) listed the species as a fairly abundant summer resident in the Detroit area and recorded (1893a: 100) 2 nests there: 1 with 4 eggs, June 5; and 1 with 1 egg (found by J. Claire Wood), June 12. F. W. Rapp (1931: 25-26) discovered nests in the vicinity of Vicksburg, Kalamazoo County, between May 26, 1897 (nest with 1 egg), and June 17, 1898 (nest with 1 egg). Chaney (1910: 276) listed the species as a common breeder in Mason County, and on North and South

Manitou islands, Leelanau County, L. D. Case and A. E. Staebler observed a number of singing males in June, 1940. In Charlevoix (Van Tyne, 1925: 623) and Emmet (Widmann, 1902: 235) counties, the species was found to be a common summer resident; and near Douglas Lake, Cheboygan County, a nest with 3 young was reported by Blanchard and Nelson (MS of 1937) on August 14.

Upper Peninsula.—T. D. Hinshaw and R. A. MacMullan collected several Scarlet Tanagers (U.M.M.Z.) on Drummond Island, Chippewa County, in late June and July, 1938; and N. A. Wood saw 1 at Whitefish Point in the same county on July 4. Christofferson has observed the species throughout the summer at Blaney, Schoolcraft County, and Leonard Wing (1940: 193) saw it in the Superior State Forest, Luce County, on July 3 and 4. In the Huron Mountains, Marquette County, Van Tyne saw and heard a few in late June, 1936, and S. S. Gregory, Jr. (1929: 184), listed the species as an uncommon summer resident there. F. M. Gaige (1914: 87) noted a few Scarlet Tanagers in early July at Brown Lake, Dickinson County, and in Iron County at Golden Lake, John L. George and R. L. Patterson saw 4 or more daily in the summer of 1938. N. A. Wood, Peet, and McCreary (1906: 118) recorded 2 on July 15, and 1 on July 26 in the Porcupine Mountains, Ontonagon County, and N. A. Wood collected 2 (U.M.M.Z.) on Isle Royale, June 6, 1930.

FALL.—The Scarlet Tanager leaves the north in late August and early September and the Lower Peninsula in September.

Upper Peninsula.—N. A. Wood secured a single specimen (U.M.M.Z.) from Isle Royale on August 22, 1929; Leonard Wing collected 1 (U.M.M.Z.) at Kenton, Houghton County, on August 24 (not August 23 as given by Wing, 1940: 193). O. B. Warren recorded 1 at Marquette, on September 11, 1893 (Barrows, 1912: 540); near Deer Park, Luce County, R. E. Olsen collected 1 (U.M.M.Z.) on September 1, 1938, and A. D. Tinker secured 1 (U.M.M.Z.) on September 5, 1939. N. A. Wood (1914: 69) saw a Scarlet Tanager at Whitefish Point, Chippewa County, on August 6, and A. D. Tinker collected 1 (U.M.M.Z.) there on August 24, 1931. Magee (1926: 163) banded a female and noted a male nearby at Sault Ste Marie, on October 21, 1923. Bryens has usually recorded the species at McMillan, Luce County, until the middle of September; he reported 1 on September 22, 1929, and again 1 on the same date, 1932. Christofferson has also usually observed this tanager at Blaney, Schoolcraft County, until mid-September, and recorded 1 there on September 26, 1939.

Lower Peninsula.—Van Tyne collected a Scarlet Tanager (U.M.M.Z.) at Leland, Leelanau County, on August 26, 1936, the only data from the northern part of this peninsula. Leonard Wing collected a specimen

(U.M.M.Z.) in Van Buren County, on September 16, 1931, and H. B. Sherman took 1 (U.M.M.Z.) in Berrien County, on September 3, 1917. A specimen was secured in Hartland Township, Livingston County, by R. E. Olsen on September 2, 1935, and 1 (U.M.M.Z.) at Portage Lake, Washtenaw County, on September 18, 1933, by N. A. Wood. Swales (1904: 37) believed that most of the Scarlet Tanagers left the Detroit area by the middle of September; he collected 1 (U.M.M.Z.) in Wayne County on September 29, 1907, and J. Claire Wood secured 1 (U.M.M.Z.) there on September 30, 1893. L. W. Campbell (1940: 196) recorded individuals in the Toledo-Erie marsh area until mid-September; September 19 was the average date of departure, taken over a period of 13 years, but in 1937 he recorded 1 there as late as October 14.

FRINGILLIDAE  
(FINCHES)

*Richmondia cardinalis cardinalis* (Linnaeus)  
Eastern Cardinal

Permanent resident; common in the southern third of Michigan, and spreading northward; rare in the Upper Peninsula.

Since many of the earlier records of the Cardinal in Michigan may have referred to escaped birds, it is impossible to state definitely when the species first appeared there. Gibbs (1879: 487) listed the Cardinal as an "accidental visitor" in Michigan. Between 1904 and 1907 it was seen regularly in the Detroit area (Swales and Taverner, 1907: 146), and by the time of Barrows' writing (1912: 530-31) the Cardinal was known as a rather rare species in Michigan, "mainly confined to the southern half of the Lower Peninsula," but reported as far north as Beulah, Benzie County. Since that time the species has increased and spread throughout most of Michigan, and is now common in the southern half of the Lower Peninsula, where, in the Ann Arbor area, at least, it has continued to increase. In April, 1914, the Eastern Cardinal was reported as far north as White Lake, Muskegon County (Praeger, 1926: 379-80); on August 18, 1922, it was noted in Charlevoix County (Van Tyne, 1925: 623). The first unquestionable records for the Upper Peninsula were made in May, 1928, at McMillan, Luce County (Bryens, 1939: 102), and in November, 1929, at Whitefish Point, Chippewa County (Tyrrell, 1931: 131).

SUMMER.—Eggs have been reported from the second week in April to late August. Definite nest records are lacking from north of Saginaw Bay.

Lower Peninsula.—In the Ann Arbor region Van Tyne and A. S. Warthin, Jr., found a nest with 2 eggs on April 26, 1925, and other observers have discovered a number of nests in May and early June. An exceptionally

late record is that of H. W. Hann, who found a nest with 3 fresh eggs on August 25, 1932. Walkinshaw noted a nest with 3 eggs near Battle Creek on April 10, 1931, and in the vicinity of Vicksburg, Kalamazoo County, F. W. Rapp (1931: 25) has recorded nests from May 8 (1928, nest with 4 eggs) to June 29 (1916, nest with 3 young). Two nests have been reported from the Saginaw area: G. A. Ammann found 1 with 4 eggs on May 11, 1940 (at the Prairie Farm, Alicia), and G. B. Morely 1 with 4 young on July 17, 1934. A single bird was seen at Sand Point, Huron County, by D. W. Douglass on May 14, 1932; 1 was seen on South Manitou Island, Leelanau County, June 13, 1940, by L. D. Case and A. E. Staebler, and single birds on 3 occasions at Douglas Lake, Cheboygan County, in July and August, 1934, by Blanchard and Nelson (MS of 1937).

Upper Peninsula.—Bryens (1939: 102) listed the Cardinal at McMillan, Luce County, on May 18, 1928; a single bird was seen in the Huron Mountain region, Marquette County, on July 26, 1939, by Mrs. R. A. Hibbs (Christy, 1942: 181).

FALL AND WINTER.—Cardinals often gather in small flocks during the winter months; groups of 2 or 3 are reported in the north, and flocks of a hundred in southern counties.

Lower Peninsula.—In the Toledo-Erie marsh area, L. W. Campbell (1940: 162) reported Cardinals in loose flocks; near North Cape in the Erie marsh, he saw 100 on November 27, 1937. In the Ann Arbor area, R. A. Brown saw a flock of about 30 on October 10, 1903 (N. A. Wood, 1903a: 96-97); A. E. Staebler and L. D. Case saw a group of 15 or 18 there on January 23, 1938. Comparatively large numbers have been reported on several Christmas-census counts in the southern counties: John L. George and others (1941: 120) saw 55 on December 26, 1940, near Ann Arbor; Fargo and others (1929: 46) saw 29 near Jackson on December 23, 1928; and E. M. Brigham, Jr., and others (1940: 108) saw 15 near Battle Creek on December 24. Trautman noted the species in the fall of 1938, 1939, and 1940 at Houghton Lake, Roscommon County, recording a group of 5 on November 6, 1938. Mrs. F. J. Fessenden reported Cardinals in the vicinity of Charlevoix in the winter of 1937; Mrs. C. F. Erwin photographed 1 at Harbor Springs, Emmet County, in the winter of 1936-37.

Upper Peninsula.—Walter P. Hill saw 2 Cardinals on Mackinac Island on January 4, 1939; Mr. and Mrs. Kelsey and Ray M. Belden reported 2 on Drummond Island, Chippewa County, during the winter of 1938-39. A Cardinal which was seen regularly during the winter of 1941-42 at Sault Ste Marie was banded by Magee on February 12, 1942.

*Pheucticus ludovicianus* (Linnaeus)  
Rose-breasted Grosbeak

Summer resident, fairly common.

First listed for Michigan by Sager (1839: 414): "*Coccyborus ludovicianus*."

SPRING.—In southern counties the species sometimes arrives during the last few days of April, but more commonly in the first week or 10 days of May.

Lower Peninsula.—The species has been recorded at Detroit (Swales, 1904: 37; and notes; U.M.M.Z.); in the Ann Arbor region (U.M.M.Z.); about Battle Creek (Walkinshaw, 1941: 126; and notes); in Kalamazoo County (Gibbs, 1885: 87; U.M.M.Z.); and in Berrien County (N. A. Wood, 1922: 23; U.M.M.Z.). Twelve males, apparently exhausted from migrating, were observed together in the first part of May, 1891, at Jackson (Tinker, 1908*a*: 217). In the 1930's R. E. Olsen, A. D. Tinker, Hinshaw, and others frequently noted as many as 20 Grosbeaks in a day scattered through the woods of a Hartland Township swamp in Livingston County; on May 19, 1935, and May 16, 1937, they saw as many as 30. This grosbeak was recorded at Grand Rapids on May 8, 1879 (Gibbs, 1902: 10); in Montcalm County on May 9 and 16, 1883 (U.M.M.Z.); at the Prairie Farm, Alicia, Saginaw County, after May 9 (1940—G. A. Ammann); and on Beaver Island, Charlevoix County, after May 13 (1929—N. A. Wood and James H. Wood; May 14 specimen in U.M.M.Z.).

Upper Peninsula.—At McMillan, Luce County (Bryens, 1939: 102; and notes), and at Blaney, Schoolcraft County (Christofferson), the species has ordinarily appeared in the middle of May. At Blaney, Christofferson banded a female on May 8, 1938; listed 10 individuals at the same place on May 22, 1938, and 15 on May 23, 1937. The species was found in the Huron Mountains, Marquette County (S. S. Gregory, Jr., 1929: 183), on May 24; at Copper Harbor, Keweenaw County (N. A. Wood, 1933: 727; U.M.M.Z.), on May 19, 1931; and on Isle Royale on May 28, 1930 (several specimens, U.M.M.Z., N. A. Wood).

SUMMER.—Nests and eggs of the Rose-breasted Grosbeak are found chiefly from mid-May to early June. Barrows (1912: 432-35), who believed the species was increasing in Michigan, indicated that nests were sometimes found as late as mid-July; Brotherton (1891: 141; 1892: 131-32), who also believed it was increasing, found it common in Oakland and Macomb counties.

Lower Peninsula.—Swales (1904: 37; and notes) reported the species as an "abundant summer resident in favorable localities," about Detroit; on May 14, 1899, in Grosse Pointe and Gratiot townships, Wayne County,

he found sets of 1, 3, 4, and 5 eggs, and also on other occasions discovered several nests in a day. J. B. Purdy (1892: 162) reported the Rose-breasted Grosbeak very rare at Plymouth, Wayne County, though quite abundant in adjacent Livonia Township. A few nests have been found about Ann Arbor (W. L. Maris, 1891: 106; other data). Gibbs (1885: 87) reported the species abundant in Kalamazoo County, but Rapp (1931: 25), giving egg records for May 18 to May 30, listed it as rare at Vicksburg, in the same county. N. A. Wood and Gaige (1911: 293) recorded it only twice in northwestern Huron County during the summer of 1908. Mulliken (1892: 152) found it quite common in Kent County. N. A. Wood and Frothingham (1905: 50-51) recorded this grosbeak as not uncommon in summer in Crawford and Oscoda counties; at Red Oak, western Oscoda County, R. E. Olsen, A. D. Tinker, and N. A. Wood saw 3 to 8 birds (U.M.M.Z.) a day on several days in 1934 between May 30 and June 24. The species has been listed as fairly common in Mason County (Chaney, 1910: 276), as rare on the mainland of Charlevoix County (Van Tyne, 1925: 623), and as not very common in the Douglas Lake area, Cheboygan County (N. A. Wood, Smith, and Gates, 1916: 16; Blanchard and Nelson, MS of 1937). In Leelanau County it was very common on the Manitou Islands in 1940 (U.M.M.Z.), though not seen at all on the Fox Islands in 1939, according to A. E. Staebler and L. D. Case. In June and July of 1937 T. D. Hinshaw and R. E. Morrill noted several grosbeaks on frequent trips to parts of Beaver Island, Charlevoix County, and collected specimens (U.M.M.Z.) there.

Upper Peninsula.—The Rose-breasted Grosbeak has been reported in summer from many localities: Munuseong Bay and Sault Ste Marie, Chippewa County (Christofferson and Magee); McMillan, Luce County (3 eggs on June 7, 1928, and young out of nests by July 27, 1941, and July 28, 1934—Bryens); Blaney, Schoolcraft County (June 12, 1935, parents exchanging place on nest—Christofferson); Alger County (N. A. Wood, 1918: 11); Huron Mountains, Marquette County (rather common summer resident—Christy, 1925: 214; S. S. Gregory, Jr., 1929: 183); Dickinson County (a few seen regularly—Gaige, 1914: 86-87; U.M.M.Z.); Golden Lake, western Iron County (1938, 2 nests found, and 15 to 25 birds on each of several days in June and July by John L. George and R. L. Patterson); the Porcupine Mountains, Ontonagon County (several birds observed by N. A. Wood, Peet, and McCreary, 1906: 118; 2 well-grown immatures in U.M.M.Z.); and elsewhere in Ontonagon and Gogebic counties (Leonard Wing, 1940: 193; U.M.M.Z.).

FALL.—The main flight, for which there is relatively little information, seems to occur during the latter part of August and the first part of September in the Upper Peninsula, and in September in southern counties.

Upper Peninsula.—N. A. Wood collected a specimen (U.M.M.Z.) on Isle Royale, September 5, 1929. According to Bryens (1939: 102; and notes), this grosbeak usually leaves McMillan, Luce County, sometime in September.

Lower Peninsula.—Max M. Peet has a specimen that he took at Burt Lake, Cheboygan County, on September 6, 1936. J. B. Steere collected a specimen (U.M.M.Z.) at Ionia, Ionia County, on September 12, 1877. Gibbs (1885: 87) rarely noted grosbeaks after September in Kalamazoo County; and Walkinshaw (1939: 108; 1941: 126) found they left Battle Creek on the average by September 23. Flight from the Ann Arbor region has ordinarily occurred between the second and fourth weeks of September, though a specimen (U.M.M.Z.) was collected there as late as October 20 (1896). More or less the same dates were given by Swales (1904: 37; and notes) for the Detroit region and by Campbell (1940: 162-63, 196, 209) for the Toledo-Erie marsh area.

*Passerina cyanea* (Linnaeus)

Indigo Bunting

Summer resident, fairly common in the south, much less common in the north. Not recorded from Isle Royale.

First authoritatively listed for Michigan by Sager (1839: 415).

SPRING.—The main flight occurs in early May in southern counties and in late May in the Upper Peninsula.

Lower Peninsula.—In the Toledo-Erie marsh area (Campbell, 1940: 163, 196, 209) the Indigo Bunting has occasionally arrived by the last few days of April, but the average date for individuals is May 6, for the main flight, May 16. It has usually appeared during the first 2 weeks of May in the Detroit (Swales, 1904: 37) and the Ann Arbor regions (May 1, 1896, specimens in U.M.M.Z.). Ten to 20 birds in a day have often been observed during the latter half of the month in Hartland Township, Livingston County, by R. E. Olsen and others. The earliest arrival date at Battle Creek (Walkinshaw, 1939: 107-8) has been May 7, the average, May 13. The Indigo Bunting has been reported in Kalamazoo County (Gibbs, 1885: 87) May 2 to 17, May 12 being the average date of arrival. In Berrien County, N. A. Wood (1922: 23) reported that the species was very common after May 10 in 1920. Gibbs (1902: 10) listed it near Grand Rapids on May 8, 1879, and G. A. Ammann noted it at the Prairie Farm, Alicia, Saginaw County, on May 15, 1940. Ten Buntings were recorded by A. D. Tinker and R. E. Olsen (*vide* D. W. Douglass) in the bird wave of May 15, 1932, at Sand Point, Huron County.

Upper Peninsula.—At McMillan, Luce County (Bryens, 1939: 102; and notes), the Indigo Bunting has arrived occasionally in the middle third of

May, oftenest in the last third, and sometimes not until the first week of June.

SUMMER.—Nest records extend from the end of May to late August.

Lower Peninsula.—This bunting has been found breeding fairly commonly in nearly all sections of the Lower Peninsula: as in the Toledo-Erie marsh area (Campbell, 1940: 163); about Detroit (Swales, 1904: 37; and notes); in the Ann Arbor region (U.M.M.Z.); near Battle Creek (Walkinshaw, 1941: 126; and notes; U.M.M.Z.); in Kalamazoo County (Gibbs, 1885: 87; Barrows, 1912: 536-37; Rapp, 1931: 25); in Berrien County (N. A. Wood, 1922: 23); at Big Rapids, Mecosta County (June 16, 1896, 4-egg set, U.M.M.Z.); in northwestern Huron County (N. A. Wood and Gaige, 1911: 293; N. A. Wood, 1912a: 186-87; U.M.M.Z.); and in Oscoda County (pair nesting August 16—N. A. Wood and Frothingham, 1905: 51). During the third week of June, 1942, 4 miles south of Houghton Lake, Roscommon County, N. S. Potter, III, found Indigo Buntings to be "positively abundant," although he located no nests. The birds were noted in June and July of 1939 on the Fox Islands, and in June and July of 1940 on the Manitou Islands of Leelanau County—abundantly on South Manitou—by A. E. Staebler and L. D. Case. They were common in restricted areas on Beaver Island, Charlevoix County, in 1937 (Hinshaw and Morrill; U.M.M.Z.), and a female (U.M.M.Z.) was taken June 21, 1938, on neighboring Gull Island by J. Van Tyne (see also Barrows, 1904: 80); the species was rather numerous on the mainland of the county (Van Tyne, 1925: 623; U.M.M.Z.), where nests were apparently found from June 1 to August 1—oftenest about July 1—by R. H. Wolcott (Barrows, 1912: 536-37). Widmann (1902: 235) termed the Indigo Bunting "one of the common and generally distributed songsters" at Wequetonsing, Emmet County (July, 1901). In the Douglas Lake, Cheboygan County, area it has been only a fairly common breeding species (N. A. Wood, Smith, and Gates, 1916: 16; Linsdale, 1936: 161; Blanchard and Nelson, MS of 1937). Egg sets have been reported from May 29 (1900, Oakland County, U.M.M.Z.) to August, and young birds just leaving the nest as late as August 30 or 31 (1937, Ross Township, Kalamazoo County—Floyd C. Huggett and Walkinshaw).

Upper Peninsula.—There are no actual nest records, but the Indigo Bunting has been found in summer in a few localities: Drummond Island, Chippewa County (specimens with very large gonads, taken in late June and July by Hinshaw and MacMullan in 1938); the vicinity of Munuscong Bay and Sault Ste Marie, Chippewa County (Christofferson and Magee); McMillan, Luce County (Bryens); Lake Superior State Forest of northern Luce County (Leonard Wing, 1940: 194); Blaney, Schoolcraft County (Christofferson); Banat, Menominee County (August 1, 1940, specimen,



U.M.M.Z., E. T. Hooper); Golden Lake, western Iron County (10 seen June 30, and 10 on July 15, 1938, by John L. George and R. L. Patterson); Houghton and Iron counties (at borders of towns—Cahn, 1918: 499); Porcupine Mountains, Ontonagon County (July 21, 1904, specimen, U.M.M.Z., Peet—N. A. Wood, Peet, and McCreary, 1906: 118); and 12 miles north-east of Ironwood, Gogebic County (July 12, 1932, specimen, U.M.M.Z., N. A. Wood).

FALL.—Fall records are few, but would seem to indicate that the main flight occurs in the Upper Peninsula during August and early September, and in southern counties usually in September.

Upper Peninsula.—The time of main flight at McMillan, Luce County (Bryens, 1939: 102; and notes), is variable, but the flight usually takes place during the latter part of August and first part of September.

Lower Peninsula.—Max M. Peet has a specimen that he collected near Burt Lake, Cheboygan County, on September 9, 1940. F. M. Gaige (N. A. Wood, 1911: 104) took 1 (U.M.M.Z.) on Charity Island, Huron County, September 9, 1910. H. E. Sargent secured 1 (U.M.M.Z.) at Grand Rapids on October 1, 1903. The species usually remains until late September in Kalamazoo County (Gibbs, 1885: 87), generally until September 21 about Battle Creek (Walkinshaw, 1939: 108), and on a few occasions in the Ann Arbor region until the first and second weeks of October. In the Toledo-Erie marsh area (Campbell, 1940: 163, 196, 209), the average date for the main flight is September 30, and for individuals October 9, though a few sometimes remain until mid-October.

### *Spiza americana* (Gmelin)

#### Dickeissel

Summer resident, in variable numbers. Usually confined to the southern third or fourth of Michigan.

First recorded for Michigan by Sager (1839: 415): "*Emberiza americana*."

The records of occurrence of this species have been summarized by A. J. Cook (1893*a*: 118), Gibbs (1899: 6), and Barrows (1912: 537-39). It is very irregular, sometimes abundant, in an area for several years and then entirely absent from that area. About Detroit, the species was first found in 1891 (J. B. Purdy, 1895: 37; J. Claire Wood, 1907*g*: 71-72); it increased sufficiently for a 15-pair colony to be found in 1899 (J. Claire Wood, 1905*d*: 66-67), from which specimens (U.M.M.Z.) were collected; later it decreased in the area (Swales, 1904: 37; J. Claire Wood, 1907*f*: 33; 1909*e*: 107-8). At St. Clair, Swales (1904: 37; and notes) observed a single bird on August 28, 1893, and on August 27, 1896; at the same place

on June 20, 1895, he flushed a female from a nest containing 5 Dickcissel and 2 Cowbird eggs. The species was "quite abundant" in the late 1870's near Ann Arbor (J. B. Steere, 1880: 6; N. A. Wood, 1921*a*: 593) and thereafter was seen at least once in 1895, when a specimen (U.M.M.Z.) was collected, and again in 1903, 1906, and 1909. First noticed west of Manchester, Washtenaw County, about 1885, the bird became "quite abundant" there in the 1890's (L. Whitney Watkins, 1895*a*: 49-50; 1900: 73). It appeared in the vicinity of Michigan State College at East Lansing in 1896 (Watkins, 1900: 73; Barrows, 1912: 537-39); in Kalamazoo County it arrived in the middle or late 1870's (U.M.M.Z., specimen, May 3, 1879) and soon became common (Gibbs, 1879: 487; 1885: 118; 1899*a*: 6; Cole, 1899: 6), but later became very scarce. Shuver (1899: 18) found it "quite abundant" in Van Buren County in 1893. A. B. Durfee found it "fairly common" near Grand Rapids (Mulliken, 1896*a*: 77), and Cole (1899: 6) and Mulliken observed it in the summer of 1896 in western Ionia County.

Except for 1934, the reports from later decades are few and indicate that the Dickcissel is usually rare and irregular, as in Washtenaw County (F. N. Wilson, 1930: 331-34; and notes); in Livingston County (U.M.M.Z.); in Jackson County (U.M.M.Z.); in Calhoun County (Walkinshaw, 1929*a*: 337-38; 1939: 107-8; and notes; R. E. Olsen, 1932: 483); and in Kalamazoo County (F. W. Rapp, 1931: 25). In 1934, however, the species was rather general in distribution. It was common in the Erie marsh, Monroe County, area (L. W. Campbell, 1940: 163-64), where 60 Dickcissels were noted and specimens (U.M.M.Z.) collected on June 13 by R. E. Olsen and D. W. Douglass, and over 100 seen on July 8 by R. E. Olsen and other observers. The species was found and specimens (U.M.M.Z.) collected, during that summer in alfalfa and clover fields throughout the southernmost 2 or 3 tiers of counties (R. E. Olsen, 1935: 100), as many as 15 Dickcissels being seen on July 15 in a small tract in Convis Township, Calhoun County (Walkinshaw, 1941: 126). At Fish Point, Tuscola County, R. E. Olsen (1935: 100) and N. A. Wood found 20 Dickcissels on July 17, 1934, and collected specimens (U.M.M.Z.); on the following day they saw 10. In the same year the species occurred considerably farther north, in at least 3 areas: north of Acme, Grand Traverse County, Walkinshaw observed a male singing on June 15; Mrs. F. J. Fessenden and Mrs. Bailey noted an individual between Ironton and East Jordan, Charlevoix County, on June 12; Bryens (1939: 102) noted 1 at McMillan, Luce County, on June 29.

The 2 or 3 dozen breeding records on file are almost exclusively from the southernmost 2 tiers of counties, only a few referring to St. Clair and Ingham counties in the third tier. Egg sets have been found chiefly from June 1 (1891, in Wayne County—J. B. Purdy, 1895: 37) to early July,

and rarely to early August (August 2, fresh eggs, in Van Buren County—Shuver, 1899: 18; and August 5, eggs about ready to hatch, in Wayne County—J. Claire Wood, 1907*f*: 33). Nestlings have been reported as early as June 10 (1928, in Vicksburg, Kalamazoo County, 3 birds—F. W. Rapp, 1931: 25). In Wayne County on July 30, 1899, J. Claire Wood (1905*d*: 66–67) collected a fledgling (U.M.M.Z.).

SPRING.—Information is very meager on spring arrival, which seems to occur principally in the last 2 or 3 weeks of May. In the Toledo–Erie marsh area (L. W. Campbell, 1940: 163–64, 196, 209) the species has appeared by May 9, individuals averaging May 14 and the main flight averaging May 21; in the Erie marsh, Trautman noted 15 Dickcissels on May 27, 1934. At Ann Arbor several specimens (U.M.M.Z.) were taken in 1895 by N. A. Wood and D. C. Worcester on May 8 (1), May 18 (1), and May 28 (4). In the vicinity of Battle Creek, Walkinshaw (1939: 107–8) has observed the species by May 23, the average date for 5 years being May 28. At Kalamazoo, however, D. E. Nolan secured a specimen (U.M.M.Z.) as early as May 3, 1879.

FALL.—Records for fall are even less adequate, migration apparently taking place mainly in August. Walkinshaw (1939: 107–8; 1941: 126) has usually found the Dickcissel near Battle Creek until sometime in July and, in 1934, until August 5. At Jackson an individual was taken September 8, 1941, by Harold F. Wing, and 1 was listed in western Washtenaw County on September 28, 1923, by Fargo and E. Kief. At St. Clair, Swales saw an individual on August 28, 1893, and another on August 27, 1896. L. W. Campbell (1940: 163–64, 196, 209) says: “After the song period ends about August 1, they [Dickcissels in the Toledo–Erie marsh area] are extremely hard to find”; they have been noted there usually until mid-August and on occasion until September 10. A specimen (U.M.M.Z.) was taken in the Erie marsh September 5, 1936, by L. W. Campbell, and 4 individuals recorded there September 9, 1934, by Trautman.

*Hesperiphona vespertina vespertina* (Cooper)

Eastern Evening Grosbeak

Uncommon local summer resident in the Upper Peninsula. Winter visitant, fairly regular in the Upper Peninsula, and irregular southward.

The Evening Grosbeak was first described by Cooper (1825: 219–22) from a Michigan specimen, which was secured by H. R. Schoolcraft at Sault Ste Marie, on April 7, 1823.

In recent decades, this grosbeak has become a rather regular winter visitant in Quebec and New England (Coues, 1879: 65–75; Amos W. Butler, 1892: 238–47; Barrows, 1912: 464–66; and others). Banding has demon-

strated a winter east-west movement: birds banded in Michigan (Magee, 1931: 131; 1932*a*: 111-13; 1933: 206-7; 1934: 175-81; Lincoln, 1939: 139, 159) have been recovered in Manitoba and Minnesota, as well as in north Atlantic states and provinces. Much work remains to be done before the exact nature of this movement will be understood.

SPRING.—Although the Evening Grosbeak apparently has not often been observed in numbers in southern counties after March or early April, it has sometimes remained there until the first part of May. At Detroit, in 1889, J. Claire Wood (1890: 66; also Swales, 1903: 37) noted a flock of about 200 as late as April 25. R. E. Olsen (1932: 479) reported 5 in the Ann Arbor region on March 23, 1930, and Harold F. Wing observed 15 in a spruce swamp in the northeastern corner of Jackson County, on March 23, 1924. Walkinshaw (1939: 109-10) found the Evening Grosbeak at Battle Creek usually until March and once (1934) until April 13. In Kalamazoo County, small flocks were seen in 1879 as late as May 1, and a specimen (U.M.M.Z.) was collected there on April 25, 1879 (Gibbs, 1885: 69-70). A few were still present at Holland, Ottawa County, on March 5, according to L. Rogers (F. M. Chapman, 1917: 148-49); and at Grand Rapids until May 13 (1888) and until May 14 (1890), according to S. E. White (Amos W. Butler, 1892: 242, 244). At Alma, Gratiot County, stragglers remained twice until May—in 1897, until May 8 (C. A. Davis, 1900: 106). In the Upper Peninsula, near Sault Ste Marie (Magee, 1921: 114-15), where this grosbeak summers regularly, migrating birds are usually present until the last week in May. In Keweenaw County, N. A. Wood (1933: 723-24) saw 2 near Copper Harbor on April 22, and 1 at Lake Fanny Hooe on April 23, 1931.

SUMMER.—In the extreme northeastern part of Baraga County, Christy (1930: 217-18) observed nest building in progress on June 19, 1930. At Whitefish Point, Chippewa County, on July 28, 1922, J. S. Ligon (1923: 314-16) found a group of 5 nests, 1 containing 3 young almost ready to leave. These are the only breeding records for Michigan, but a few Evening Grosbeaks have been noted regularly in summer in the Upper Peninsula, chiefly in the eastern part. Magee and Christofferson (Magee, 1921*a*: 604; 1923: 337-38; 1924*a*: 159) have found the Evening Grosbeak at all seasons at several places in Chippewa, Luce, Schoolcraft, and Alger counties. Christofferson reported young birds of the year on July 4, in 1933, and on July 15, in 1935, at Blaney, Schoolcraft County. Bryens (1927*a*: 40-41; 1939: 102-3; and notes) has recorded it during every month at McMillan, Luce County, and saw young birds of the year by July 25, in 1928, by August 5, in 1934, and by August 11, in 1935. Leonard Wing and N. A. Wood (Wing, 1940: 194) found 15 to 20 birds almost daily in late June

and early July, 1932, in northern Luce County, and took 2 specimens there, as well as at McFarland, southeastern Marquette County. Kittredge (1927: 259) saw a pair on July 24, 1926, at Carlshend, Marquette County. Northwestward in the Huron Mountains in the same county, on June 23, 1936, Van Tyne collected a male (U.M.M.Z.) with much enlarged testes. At Golden Lake, western Iron County, John L. George and R. L. Patterson observed 2 Evening Grosbeaks on August 1, 1938. Small flocks were noted in the first part of June, 1931, at Copper Harbor, Keweenaw County (N. A. Wood, 1933: 723-24), one of the females (U.M.M.Z.) having enlarged ova. Although no birds of this species were seen on Isle Royale during the Museum of Zoology expeditions of 1904 and 1905, small flocks were found in 1929 and 1930 from late May to late August (Walter E. Hastings, A. Murie, and N. A. Wood); on August 18, 1929, an adult feeding a young bird was noted there by Murie. F. N. Blanchard (Blanchard and Nelson, MS of 1937) states that at Douglas Lake, Cheboygan County, he heard 2 and saw 1 of the species on July 18, 1924.

FALL.—There are insufficient records to indicate the time the fall movement begins. In the Upper Peninsula, where the species occurs at all seasons, Magee and Christofferson (Magee, 1921: 114-15; and notes) report that migrating birds usually arrive at Sault Ste Marie about the third week of October. In the Lower Peninsula, in Saginaw County, well south of the summer range, a male and female were secured by Miller Empey on November 4, 1915. Early records from southern tiers of counties are for November and December. The Evening Grosbeak has appeared in Kalamazoo County on November 25 (Gibbs, 1885: 69-70), and November 28 (1878), when a specimen (U.M.M.Z.) was collected by F. H. Chapin; and in the Ann Arbor region on November 25 (1906), when 6 were seen by O. McCreary (N. A. Wood, 1912: 159).

WINTER.—In the Upper Peninsula at this season the Evening Grosbeak has been found in Dickinson County (U.M.M.Z.); in Delta County (Van Winkle, 1892: 186); at Marquette (January, 1932, by John N. Lowe); in Alger County (Barrows, 1912: 464-66; Christofferson, 1923: 29); at Blaney, Schoolcraft County (Christofferson); at McMillan, Luce County (regularly—Bryens, 1939: 102-3; and notes); in Chippewa County (at Sault Ste Marie almost every winter, a flock of 40 to 60 "about the house all the time"—Magee, 1921: 114-15; 1922*b*: 95-96). Reports from the Lower Peninsula, such as those of Amos W. Butler (1892: 238-47) and Barrows (1912: 464-66), indicate irregular occurrence of flocks of varying size, the irregularity increasing southward. Gibbs (1885: 69-70) termed this grosbeak "a rare and very irregular Fall, Winter, and Spring visitor" in Kalamazoo County. In the Ann Arbor region (U.M.M.Z.) it

has been occasional, individuals or very small groups being noted every few winters (N. A. Wood, 1912: 159; R. E. Olsen, 1932: 479). In the winter of 1889-90 (Amos W. Butler, 1893: 156-57) Evening Grosbeaks were present there in "large flocks, sometimes two hundred or more. These flocks were scattered very generally over the country, about one flock to every six square miles." Occasionally the Evening Grosbeak has been observed, usually singly or in small groups, about Detroit (J. Claire Wood, 1890: 66; Swales, 1903: 37) and in the Toledo-Erie marsh area (L. W. Campbell, 1940: 164); Campbell collected a specimen (U.M.M.Z.) in the Erie marsh on January 23, 1937.

*Carpodacus purpureus purpureus* (Gmelin)  
Eastern Purple Finch

Common transient. Summer resident north of the Saginaw-Grand valleys. Winters irregularly in the north, fairly commonly in the south.

First recorded for Michigan by Kneeland (1857: 236).

Magee (1926: 164; 1935: 102-3; 1939: 73; 1940: 90), who banded 23,000 of the species between 1922 and 1940 at Sault Ste Marie, and Weaver (1940: 80 ff.) show that, though Purple Finches migrate chiefly north and south, some move in an east-west direction.

SPRING.—The Purple Finch leaves southern counties usually by late April or the first part of May; it arrives in the Upper Peninsula in March and April, becoming very common there by May or sometimes by late April.

Lower Peninsula.—In the Toledo-Erie marsh area, the species has usually been present until May 4, and on occasion until May 21 (L. W. Campbell, 1940: 164, 198). At Detroit, Swales (1903: 37; and later notes) recorded a flock of 20 or more on May 12, 1907 (specimens in U.M.M.Z.), and listed the species until May 18 (1909), when he saw 5 individuals. The species has often been found until mid-May (U.M.M.Z.) at Ann Arbor, where, according to Washburn (1889: 279-80), specimens were taken as late as May 24. Walkinshaw (1939: 109, 110) gives April 28 as the average, and May 14 as the latest, date of departure from Battle Creek. N. A. Wood (1922: 21) found this finch abundant in Berrien County in 1919 (May 5, large flock, specimens in U.M.M.Z.; May 21, small flocks).

Upper Peninsula.—At Sault Ste Marie (Magee, 1924: 606), where the species winters rarely and summers commonly, spring arrival is reported from March 7 to April 22, with an average for earliest arrivals of April 7. Some indication of the numbers of Purple Finches present there in spring is provided by Magee's banding of more than 800 at his feeding station during the month of May, 1928 (Whittle, 1928: 110). A specimen (U.M.M.Z.) was collected at Houghton on March 27, 1905; at Copper Har-

bor, Keweenaw County, in 1931 (N. A. Wood, 1933: 724), the species became common in mid-May. On Isle Royale in 1937, Laurence Dayton listed it on April 21 and May 6; in early May, 1930, N. A. Wood saw the species regularly there (a flock of a dozen on May 8).

SUMMER.—Nests and eggs of the Purple Finch have been found from the latter part of May to early July. Fledglings have been noted by mid-June.

Lower Peninsula.—Reports of this species nesting in several southern counties (St. Clair, Ingham, and Kalamazoo—Barrows, 1912: 468–69) apparently should be discounted until further reports are available. The species was seen rarely at Sand Point, Huron County (N. A. Wood and Gaige, 1911: 291; U.M.M.Z.), from mid-June through August, 1908. Single specimens have been taken near West Branch, Ogemaw County, on June 22, 1935, by Walter Koelz (in his collection); near Grayling, Crawford County, on July 16, 1932, by Leonard Wing (U.M.M.Z.); at Alpena, on June 16, 1932 (U.M.M.Z.); near Clear Lake, Montmorency County, on June 4, 1936 (U.M.M.Z.); at Waters, Otsego County, on June 10, 1938, by C. H. Westman (Max M. Peet collection). A. E. Staebler and L. D. Case observed several in June and July, 1939, on the Fox Islands, and in June and July, 1940, on the Manitou Islands, Leelanau County. On Beaver Island, Charlevoix County, Purple Finches were “not uncommon” in July, 1904 (Barrows, 1904: 80), and were very common in June and July, 1937 (T. D. Hinshaw and R. E. Morrill; U.M.M.Z.). Widmann (1902: 235) saw a few in southern Emmet County in 1901. Blanchard and Nelson (MS of 1937) found 3 nests in the Douglas Lake region, Cheboygan County: one with 3 fresh finch eggs and 1 Cowbird egg, on June 27; another, with 1 finch egg and 2 Cowbird eggs, on July 7; and the third, with 3 young ready to fly, on July 20.

Upper Peninsula.—In Chippewa County, on Drummond Island, T. D. Hinshaw and R. A. MacMullan saw Purple Finches frequently in June and July, 1938, MacMullan collecting a laying female (U.M.M.Z.) there on June 18; according to Walkinshaw, E. M. Brigham, Jr., found a nest at Munuseong Bay on May 29, 1939; Magee (1919: 237; 1924: 607) has given June as the chief nesting period at Sault Ste Marie, where he usually records fledglings during the first half of July (once as early as June 15). The species was observed in the summer at Whitefish Point, Chippewa County, by N. A. Wood (1914: 67); at McMillan, Luce County, by Bryens; and at Blaney, Schoolcraft County, by Christofferson. In Marquette County, John N. Lowe and W. C. Beckman found a nest near Marquette, and in the Huron Mountain region, Christy (1925: 213) and S. S. Gregory, Jr. (1929: 181), listed the species as “fairly common.” The Purple

Finch has been reported and specimens (U.M.M.Z.) collected, in Dickinson County (F. M. Gaige, 1914: 85); in the Porcupine Mountains, Ontonagon County (N. A. Wood, Peet, and McCreary, 1906: 117); at Ironwood, Gogebic County, in 1932 (Leonard Wing, 1940: 194); and at Copper Harbor, Keweenaw County (N. A. Wood, 1933: 724). The Purple Finch has been found commonly, and specimens (U.M.M.Z.) collected, in summer on Isle Royale by various observers (Max M. Peet, 1909: 364-65; data of 1929 and 1930).

FALL.—Migrants usually leave the Upper Peninsula by late October; in counties south of the summer range, migrants generally begin to arrive in late September or early October.

Upper Peninsula.—In Houghton County, 8 miles southwest of Gay, Keweenaw County, R. E. Olsen and A. D. Tinker saw 100 Purple Finches on August 23, 1937; the same observers noted 50 (one in U.M.M.Z.) near Deer Park, northern Luce County, on August 30, 1934. Whether these August birds were summer flocks or migrating groups is uncertain. At Huron Mountain, Marquette County, S. S. Gregory, Jr. (1929: 181), listed the species until October 22. At Sault Ste Marie (Magee, 1924*b*: 606) the birds usually depart between October 18 and November 17, the average date being October 28.

Lower Peninsula.—Near Norwood, Charlevoix County (Van Tyne, 1925: 622), Walter E. Hastings found the species abundant on November 23, 1910; on Charity Island, Huron County, N. A. Wood (1911: 100) noted flocks in the last third of August, 1910, including 1 flock of 50. Considerably south of the breeding range, Leonard Wing collected a specimen (U.M.M.Z.) at South Haven, Van Buren County, on September 19, 1931. In the Battle Creek area (Walkinshaw, 1939: 109, 110) and at Ann Arbor (U.M.M.Z.); the species has arrived occasionally in the middle third of September, though usually not until late September or early October; in Hartland Township, Livingston County, 20 Purple Finches were observed by A. D. Tinker and R. E. Olsen on September 29, 1935. About Detroit, a specimen (U.M.M.Z.) was taken as early as September 9 (1906) by J. Claire Wood (1907*e*: 72); sometimes the species has been "unusually abundant" there in October (Swales, 1905: 110; and notes; Swales and Taverner, 1907: 144). On October 23, 1904, near Atlas, southeastern Genesee County (Swales, 1905: 110), it was found "in numbers in each piece of woodland visited." In the Toledo-Erie marsh area (L. W. Campbell, 1940: 164, 198) it has appeared as early as August 28, but usually not until October 3.

WINTER.—Bryens (1939: 103), at McMillan, Luce County, as well as Magee (1924: 606) and Christofferson (notes), at Sault Ste Marie, Chippewa County, have found a very few of these finches during winter seasons.



R. H. Manville observed 2 at Huron Mountain, Marquette County, on February 1, 1941. John N. Lowe (letters, January, 1932) reported that Purple Finches were present on January 13 and 22, 1932, at Marquette. Reports from Vicksburg, Kalamazoo County (F. W. Rapp, 1931: 21); the Battle Creek area (Neff and Walkinshaw, 1931: 56; Walkinshaw, notes); Jackson County (Fargo and others, 1927: 35; 1931: 56; U.M.M.Z.); and the Ann Arbor region (J. and C. H. Van Tyne, II, 1920: 34; 1926: 37-38; other data: U.M.M.Z.) indicate that this finch is only irregularly common in winter in southern counties. Near Ann Arbor, where a few are seen irregularly all winter, as many as 200 were observed by A. E. Staebler (near Dixboro) on February 20, 1938. Flying at tree-top level, they were grouped in a rather loose flock, and many were singing. L. W. Campbell (1940: 164) lists this finch as a "fairly common winter visitant" in the Toledo-Erie marsh area.

*Pinicola enucleator leucura* (Müller)  
Canadian Pine Grosbeak

*Pinicola enucleator eschatosus* Oberholser\*  
Eastern Pine Grosbeak

Winter visitants, regular but uncommon in the north; irregular and rare south of Ingham County. The Eastern Pine Grosbeak possibly breeds on Isle Royale and in the Porcupine Mountains, Ontonagon County.

Pine Grosbeaks were first recorded for Michigan by Kneeland (1857: 236).

Van Tyne's findings (1934: 529-30), based on 58 specimens, indicate that the Eastern Pine Grosbeak is the more common of the two forms in winter. Since the two occur together and are indistinguishable in the field, the records for both forms are here grouped in a single account.

FALL.—At McMillan, Luce County, Bryens (1939: 103; and notes) records the arrival of the Pine Grosbeak every fall, nearly always during the last week of October or during early November. Walter C. Wood (1905: 50) noted "many large flocks" on Les Cheneaux Islands, Mackinac County, between October 15 and November 15, 1903. An Eastern Pine Grosbeak (U.M.M.Z.) was collected on November 23, 1941, at Butterfield, Missaukee County, by N. S. Potter, III; and another (Max M. Peet collection) on November 1, 1933, near Harrison, Clare County, by Max M. Peet. Pine Grosbeaks were recorded on and after November 19, 1883, in Bay County (Eddy, 1884: 41); on November 25, 1903, at Vicksburg, Kalamazoo County (F. W. Rapp, 1931: 21); and on November 25, 1921, at Waterloo, Jackson County (Walter Koelz, 1923: 38). Two Eastern Pine Gros-

\* *Proc. Biol. Soc. Wash.*, 27 (1914): 51.

beaks (U.M.M.Z.) were collected at Ann Arbor on November 7, 1903 (N. A. Wood, 1903*a*: 96-97), and 2 (examined by Swales) at Detroit on November 9, 1903 (Eppinger, 1903*a*: 96; Swales, 1904: 43; 1904*a*: 83).

WINTER.—Pine Grosbeaks have varied considerably in numbers in Michigan and in the extent of their flights (Gibbs, 1893*d*: 39-41; 1896: 94). The species was fairly common during the winters of 1903-4, 1906-7, 1929-30, and 1933-34.

Upper Peninsula.—S. S. Gregory, Jr. (1929: 181), found them "rather rare" in the Huron Mountain region, Marquette County; Van Winkle (1892: 186) termed them "not rare in winter, but not abundant" in Delta County, and George H. Shiras, 3d (1935: 108), considered them not common in Alger County. At McMillan, Luce County (Bryens and Fritz, 1930: 45; Bryens, 1939: 103; and notes; Leonard Wing, 1940: 195; U.M.M.Z.), they occur every winter, and a flock of 42 was recorded there in late December in 1929. Christofferson has recorded the species in small numbers fairly regularly at Blaney, Schoolcraft County, and elsewhere in the eastern part of the peninsula.

Lower Peninsula.—According to Barrows (1912: 466-68), Pine Grosbeaks have occurred almost every winter, sometimes in flocks of 150 to 200, as far south as Lansing; Gibbs (1885: 86; 1893*d*: 39-41; 1900: 140) reported them at Kalamazoo only two winters (1873-74 and 1874-75); in the second winter he noted "large flocks . . . at nearly all times in our public park." The species occurred in the Ann Arbor region in the winters of 1903-4, when specimens (U.M.M.Z.) were collected, and a flock of 20 reported (N. A. Wood, 1903*a*: 97); of 1906-7, when 2 individuals were seen (N. A. Wood, 1921*a*: 592); of 1921-22, when 4 were taken by Walter Koelz (1923: 38) on November 5; of 1929-30, when specimens (U.M.M.Z.) were collected, and a flock of 8 seen, on January 31 (A. D. Tinker); and of 1933-34, when specimens (U.M.M.Z.) were taken (R. E. Olsen, 1932: 480-81; 1935: 100).

SPRING.—The species has usually left the southern counties by late February or early March, and the Upper Peninsula by late March or early April.

Lower Peninsula.—A Canadian Pine Grosbeak (U.M.M.Z.) was collected, and 2 other Pine Grosbeaks seen, near Detroit, on March 14, 1930, by Tyrrell (1931*b*: 126). A specimen (U.M.M.Z.) was also collected on March 14 (1896) at Locke, Ingham County, by T. L. Hankinson. The species was recorded at Vicksburg, Kalamazoo County, on March 8, 1910 (F. W. Rapp, 1931: 21); at Greenville, Montcalm County, from March 21 ("many") to March 24 ("some") in 1897 (Selous, 1897: 25); and in Bay County until March 10 (1884—Eddy, 1884: 41). Several specimens

(U.M.M.Z.) of both subspecies were collected in Butman Township, Gladwin County, March 9 and 10, 1934, by J. C. Salyer.

Upper Peninsula.—At McMillan, Luce County, Bryens (1939: 103; and notes) has found Pine Grosbeaks usually until late March or early April, and in 1930 until April 30. At Palmer, central Marquette County, O. B. Warren collected a Canadian Pine Grosbeak (Michigan State College; identified by Van Tyne) on March 18, 1894.

SUMMER.—Specimens of full-winged immatures (U.M.M.Z.) difficult of subspecific determination (Van Tyne, 1934: 529–30) were taken in mid-August: 1 on Isle Royale (Max M. Peet, 1909: 364), and 1 near Ontonagon (Walter Koelz, 1923: 38; N. A. Wood, 1923: 338). Bryens (1939: 103) saw an individual at McMillan, Luce County, on August 29, 1927.

*Acanthis hornemanni hornemanni* (Holboell)  
Hornemann's Redpoll

Two definite records: a specimen (Sault Ste Marie High School Mus.) was collected at Sault Ste Marie on March 29, 1900 (Barrows, 1912: 473); and Bryens (1935: 95) collected a male (U.M.M.Z.) at McMillan, Luce County, on March 11, 1934.

The few large, light-colored redpolls that were observed at McMillan, Luce County, yearly, 1930–39 (Bryens, 1939: 103), and at Mio, Oscoda County, the winter of 1938–39 (Verne Dockham), may be referable to this or to the following form.

*Acanthis hornemanni exilipes* (Coues)  
Hoary Redpoll

Two definite records: R. Endress collected a male (Sault Ste Marie High School Mus.) at Sault Ste Marie on December 7, 1899 (Barrows, 1912: 474); Bryens (1939: 103; and notes) took 2 females (U.M.M.Z.) at McMillan, Luce County, on February 14, 1936.

*Acanthis flammea flammea* (Linnaeus)  
Common Redpoll

Winter visitant. Common in the Upper Peninsula and in the northern third of the Lower Peninsula; uncommon and irregular in the southern tiers of counties.

First authoritatively recorded for Michigan by Fox (1853: 161): "*Linaria minor*."

Reports using the simple term "redpoll" are included in this account among those of the Common Redpoll, since, with few exceptions, the several hundred redpoll specimens collected in Michigan have proved to be the Common Redpoll.

FALL.—Common Redpolls apparently arrive in the Upper Peninsula mainly in the latter half of October, and in southern counties in November and December.

Upper Peninsula.—F. M. and A. M. Baumgartner reported a flock of 6 redpolls on Isle Royale the first week of September, 1938. According to Bryens (1939: 103; and notes), redpolls usually appear at McMillan, Luce County, during the third and fourth weeks of October; he noted 80 there on October 21, 1937, and fully 100 on November 13 and 15, 1941. Trautman collected 11 (U.M.M.Z.) in L'Anse Township, Baraga County, between November 14 and 18, 1938.

Lower Peninsula.—Walter E. Hastings found "large flocks" of redpolls near Norwood, Charlevoix County, on November 21, 1910 (Van Tyne, 1925: 622). Several times in November, 1937 and 1938, at Houghton Lake, Roscommon County, Trautman observed redpolls, all of which seemed to be of this subspecies; there were 6 on November 6, 1938, and at least 120 on November 27, 1937. The earliest fall record for the Lower Peninsula is October 12 (1911), when 1 was seen on the beach near Caseville, Huron County, by N. A. Wood. In Kalamazoo County, Gibbs (1885: 86) found Common Redpolls occasionally in early November, though usually not until December; Gibbs and C. Allen collected 1 (U.M.M.Z.) there on November 23, 1878. At Detroit in 1906, J. Claire Wood (1907*e*: 72) reported a group of 4 on October 31, and secured several (U.M.M.Z.) on December 2. In the Toledo-Erie marsh area, L. W. Campbell (1940: 165, 198) noted redpolls, on the average, by November 11.

WINTER.—Wintering redpolls are usually reported in comparatively small flocks (20 to 50 birds), but large flocks (up to 1000 birds) have also been noted.

Upper Peninsula.—On Isle Royale, Laurence Dayton recorded numerous "small flocks" of redpolls during the colder part of the winter of 1936-37, and at Portage Lake, Keweenaw County, Kneeland (1857: 235-36) observed flocks of 20 to 30 all winter. In the Huron Mountains, Marquette County, Manville (1941: 240) found "great numbers" in January and February, 1941, and collected 5 (U.M.M.Z.). Redpolls are often plentiful at McMillan, Luce County (Bryens, 1929*a*: 46), in the Sault Ste Marie region, and in other eastern areas (Magee, 1919: 237; Christofferson, notes; N. A. Wood, 1914: 68).

Lower Peninsula.—Maurice G. Brooks and John L. George collected 2 Common Redpolls (U.M.M.Z.) from a flock of 50 redpolls near Lewiston, Montmorency County, on January 25, 1941. Somewhat farther south, Common Redpolls have been more or less irregular, though occasionally numerous. They have been reported in Kalamazoo County (Gibbs, 1885: 86; 1889: 188); in Jackson County (Fargo and others, 1926: 38; Leonard

Wing, 1931:132); in the Ann Arbor region (U.M.M.Z.); about Detroit (Swales, 1903: 38; and notes; J. Claire Wood, 1907e: 72; 1910: 40; U.M.M.Z.); and in the Toledo-Erie marsh area (L. W. Campbell, 1940: 165, 198; U.M.M.Z.). Rather large numbers of redpolls are found on occasion at Ann Arbor—500 on December 19, 1908, were noted by N. A. Wood; 1000 (1 Common Redpoll in U.M.M.Z.) on January 6, 1917, by Max M. Peet; 300 on February 1, 1925, by F. M. Gaige; and 500 (1 Common Redpoll in U.M.M.Z.) on March 3, 1917, by N. A. Wood.

SPRING.—Northward migration ends in southern tiers of counties usually in March, and in the Upper Peninsula in the latter half of April.

Lower Peninsula.—In the Toledo-Erie marsh area, where 3 specimens (U.M.M.Z.) were taken on March 1, 1936, L. W. Campbell (1940: 198) has found the redpoll on the average until March 9 (in 1934, until March 18). At Detroit, J. Claire Wood (1910: 40) collected several specimens (U.M.M.Z.) as late as March 17 (1907), and listed redpolls until April 10. A specimen (U.M.M.Z.) was secured March 25, 1879, by B. F. Sykes in Kalamazoo County, where redpolls were observed by Gibbs (1885: 86), on the average, until April 1 and sometimes until April 15. Maurice G. Brooks noted redpolls "everywhere along the road" on the west side of Saginaw Bay, north of Bay City, on March 17, 1939. D. W. Douglass collected a specimen (U.M.M.Z.) at Sand Point, Huron County, on April 11, 1931. Several (U.M.M.Z.) were taken April 1, 1934, by J. C. Salyer at Cheboygan; and near there, at Douglas Lake, Cheboygan County, a flock of 3 or 4 dozen redpolls stopped to feed for a short time on April 18, 1937 (Blanchard and Nelson, MS of 1937).

Upper Peninsula.—Redpolls usually leave McMillan, Luce County (Bryens, 1939: 103; and notes), in the latter half of April, but occasionally not until early May (May 10 in 1928); 200 were observed there by Bryens on April 9, 1939, and 52 on April 15, 1940. At Whitefish Point in Chippewa County, a specimen (U.M.M.Z.) was secured April 15, 1937, by S. D. Knox, and redpolls were listed at Sault Ste Marie (Magee, 1916: 369-70; 1928: 378-80) until June 1 and even later in the summer. At Lake Linden, Houghton County, Ruby M. Hall secured a specimen (U.M.M.Z.) on May 3, 1917.

SUMMER.—Possible summer occurrences have been reported for Cheboygan County (Fortner and Metcalf, 1929: 250) and Chippewa County (Magee, 1928: 378-80).

*Acanthis flammea rostrata* (Coues)

Greater Redpoll

Eight records: Kalamazoo, November 29, 1878, a specimen (U.M.M.Z.) taken by F. H. Chapin (Gibbs, 1879: 486; 1885: 86); Sault Ste Marie,

December 7, 1899, a female (Sault Ste Marie High School Mus.) taken by W. P. Melville; Kalamazoo, January 23, 1904, a female taken by W. Wilkowski, Jr.; Kalamazoo, March 1, 1904, a second female taken by Wilkowski; Elm River, Houghton County, November 20, 1904, a female (U.M.M.Z.) taken by W. H. Grant. (Above 5 records listed by Barrows, 1912: 476, 735.) Otsego Lake, Otsego County, March 23, 1934, 4 males (U.M.M.Z.) taken by G. B. Saunders; McMillan, Luce County, February 17, 1936, a female (U.M.M.Z.) banded by Bryens (1939: 103; and notes), collected 4 days later; Huron Mountain Club, Marquette County, January 30, 1941, a male (U.M.M.Z.) taken by R. H. Manville.

*Spinus pinus pinus* (Wilson)

Northern Pine Siskin

Status little known. Apparently a summer resident in the north; rare and irregular winter visitant throughout Michigan.

First recorded for Michigan by Kneeland (1857: 236).

SPRING.—Usually only a very small number of Siskins have been noted at any one time in spring. The chief northward movement apparently occurs in March and April, but sizable flocks have occasionally been noted in May. L. W. Campbell (1940: 166, 198) gave April 29 as the average date and May 25 (1930) as the latest date for spring migration in the Toledo-Erie marsh area. Specimens (U.M.M.Z.) were taken near Detroit (Taverner, 1908a: 327–28) as late as May 19 in 1908, and at Ann Arbor (N. A. Wood and Tinker, 1910: 133) on May 17 in 1907; in the Ann Arbor region, the species has been common some years in the last week of May. Walkinshaw (1939: 110; 1941: 126) noted a flock of 55 in Convis Township, Calhoun County, on March 11, 1934. Gibbs (1885: 86) stated that the species usually appeared in Kalamazoo County in late April, and F. W. Rapp (1931: 22) listed it at Vicksburg in the same county, on May 4, 1928. In the north Bryens (1939: 103–4; and notes) reported 425 at McMillan, Luce County, on April 5, 1929.

SUMMER.—The records on file indicate an early nesting season: gathering of nest material has been noted by mid-April, egg sets have been found in late April, and flying young by June 12. Many of the late May and June flocks of northern Michigan may, therefore, be post-breeding wanderers rather than migrating birds; some may be non-breeding wanderers.

Lower Peninsula.—Dunham (1904: 69) observed the gathering of nest material on April 14, 1899, in Kalkaska County, and found 2 sets of 3 eggs each in the last week of the month. On a few occasions during June and early July of 1940, A. E. Staebler and L. D. Case saw 3 to 4 Pine Siskins, often with flocks of Goldfinches, on North and South Manitou Islands,

Leelanau County, and collected a specimen (U.M.M.Z.) there. On June 18, 1938, on Gull Island of the Beaver group, Charlevoix County, Van Tyne collected a specimen (U.M.M.Z.) with enlarged testes. The species was found in Crawford and Oscoda counties in August, 1903 (N. A. Wood and Frothingham, 1905: 50), and in July and August (rarely) in the Douglas Lake area, Cheboygan County (Linsdale, 1936: 162; Blanchard and Nelson, MS of 1937).

Upper Peninsula.—In May and early June of 1925, and from June 7 to June 29 of 1927, Christofferson (notes in U.M.M.Z.) and Magee (1928: 378–80) recorded hundreds of Siskins at Sault Ste Marie; on June 1, 1925, there were approximately 1000 there. In the same area, on June 12, 1918, Magee (1919: 237) saw 3 fledglings being fed by adults, and on June 17 a flock of 20 adults and immatures that stayed until July 15. In 1914 at Whitefish Point, Chippewa County, N. A. Wood (1914: 68) observed the species on June 2, again on July 1, and almost daily thereafter, sometimes in flocks of from 50 to 100. Though there are no definite nesting data for other localities, the species has been recorded during the summer months at McMillan, Luce County (Bryens, 1939: 103–4; and notes); in Lake Superior State Forest, northern Luce County (Leonard Wing, 1940: 195; U.M.M.Z.; other data); and in Alger County during late May (N. A. Wood, 1918: 10; U.M.M.Z.). It was noted as sometimes abundant in the Huron Mountains, Marquette County (Christy, 1925: 213; S. S. Gregory, Jr., 1929: 182); as common during July and August in the Porcupine Mountains, Ontonagon County (N. A. Wood, 1905: 177; N. A. Wood, Peet, and McCreary, 1906: 117); and as present in the Black River highlands north of Ironwood, Gogebic County (Leonard Wing, 1940: 195; U.M.M.Z.). On Isle Royale, N. A. Wood saw 1 Siskin and collected 1 (U.M.M.Z.) on May 20, 1930; and a few were noted there in July, 1904 and 1905 (Max M. Peet, 1909: 365).

FALL.—Data on file are insufficient to indicate the time of migration in the Upper Peninsula. Max M. Peet (1909: 119) recorded the species on Isle Royale on September 18, and Bryens has usually noted departure from McMillan, Luce County, somewhat after the middle of November, but in 1937 as early as September 29. The species apparently reaches the Lower Peninsula in the latter part of October and in November. During the fall of 1937 and of 1938, at Houghton Lake, Roscommon County, Trautman occasionally observed individuals and small groups in October and November; he recorded 50 on November 6, 1938, which “were migrating singly, or in small groups, across Houghton Lake in a southerly direction.” In the southernmost tiers of counties the species has seldom been reported before mid-October. About Battle Creek (Walkinshaw, 1939: 110; 1941:

126), it was noted by October 18. In the Ann Arbor region, arrival is sometimes recorded in early October, and in 1908, A. D. Tinker reported 6 birds on September 26, but the species is not usually recorded there until the latter part of October or in November. Groups of 3 up to flocks of 100, passing southward across the Detroit region, were reported during the second week of November, 1908 (J. Claire Wood, 1909*d*: 192-93; U.M.M.Z.). In the Toledo-Erie marsh area, L. W. Campbell (1940: 166, 198) noted the species as early as October 15 in 1938, but gave November 10 as the average date of arrival.

WINTER.—The Pine Siskin has been found wintering irregularly in all sections of Michigan.

Upper Peninsula.—Laurence Dayton reported that during the colder part of the winter of 1936-37 the species was fairly abundant on Isle Royale. A specimen (U.M.M.Z.) was taken by L. C. Anderson near Ironwood, Gogebic County, on December 30, 1932. Siskins were noted in "great numbers," and specimens (U.M.M.Z.) were collected in the Huron Mountains, Marquette County, in January and February, 1941 (S. S. Gregory, Jr., 1929: 182; Manville, 1941: 240). At McMillan, Luce County (Bryens, 1929*a*: 46; 1939: 103-4; and notes), Siskins have been present some winters and apparently absent in others; 92 were recorded there on December 22, 1928. The species also occurs irregularly in the vicinity of Sault Ste Marie, and in other eastern areas (Christofferson, notes; Magee, 1919: 237). Christofferson collected 2 specimens (U.M.M.Z.) at Munuscong Bay, Chippewa County, on February 27, 1929.

Lower Peninsula.—From the Hunt Creek Experiment Station, several miles east of Lewiston, Montmorency County, J. W. Leonard reported the Siskin as "very plentiful now [January 12, 1941], especially near the station." Gibbs (1885: 86) found it occasionally in Kalamazoo County. Walkinshaw (1939: 110; 1941: 126) reported it an irregular winter visitant near Battle Creek; during 1934 a large flock spent the winter in the tamarack areas there. Fargo noted the species all winter in 1922-23 in Jackson County. In the Ann Arbor region (N. A. Wood and Tinker, 1910: 133; other data) a small number of Siskins has been observed in winter every few years. About Detroit (Swales, 1903: 38; Taverner, 1908*a*: 327-28; J. Claire Wood, 1908*b*: 473-74; 1909*d*: 192-93; 1910: 40), they have been common some winters, absent others.

*Spinus tristis tristis* (Linnaeus)

Eastern Goldfinch

Common summer resident in the south; less common in the north. Winters rather regularly in small numbers in southern third of the Lower Peninsula and irregularly north to parts of the Upper Peninsula.



First listed for Michigan by Sager (1839: 414): "*Carduelis americana*."

SPRING.—Since the species winters rather regularly in the south of Michigan, dates for earliest arrivals are uncertain. Migrating flocks reach southernmost counties by late April and early May, and are still moving northward to some extent even in June. In the Toledo–Erie marsh area, L. W. Campbell (1940: 166–67, 209) notes a "pronounced migration" about the last week in April, and gives May 1 as the average date for beginning of main flight. At Sand Point, Huron County, D. W. Douglass observed an extensive movement that occurred chiefly in the last 2 weeks of May (1931 to 1933); some of the birds were still migrating well into June. The migration there "was distinctly of the streaming type," the birds usually leaving the tip of the point "singly, in twos, or in threes," rarely in companies of more than a half dozen.

Upper Peninsula.—The species was seen on and after May 17, 1936, at Whitefish Point, Chippewa County (Brodkorb); and by May 5 and 11 at Huron Mountain, Marquette County (S. S. Gregory, Jr., 1929: 181; R. H. Manville, notes). First seen on May 26, 1931, at Copper Harbor, Keweenaw County (N. A. Wood, 1933: 724), it soon became common there. On Isle Royale, A. Murie saw a single individual (U.M.M.Z.) on May 24, 1930.

Considerably earlier than the migrating period just indicated, Swales (notes) recorded flocks of hundreds in the Medbury woods at Atlas, southeastern Genesee County, on March 1, 1903. H. Snellenberger wrote on April 28, 1935, that on April 22 he noticed a heavy migration of Goldfinches along the Little Murphy River, about 14 miles northwest of Manistique, Schoolcraft County: "there seemed to be hundreds of them along the stream bottom. They were flying from tree to tree. . . . I counted 27 on one branch of a hemlock tree at the same time. Other trees were similarly loaded progressively as the birds moved along."

SUMMER.—The Goldfinch breeds very late; egg sets have been reported from the latter half of July to late August or early September.

Lower Peninsula.—Many nests have been found in southern tiers of counties: in St. Clair County (U.M.M.Z., 5-egg set, July 15, 1898); in Genesee County (fresh eggs, September 28, 1888—Spicer, 1889: 43); in Wayne County (Swales, 1903: 38; and notes; J. Claire Wood, 1916: 58–63); in Washtenaw County (U.M.M.Z.); about Battle Creek (Walkinshaw, 1938: 3–11, 14–15; 1939*b*: 3–12; 1941: 126); and in Kalamazoo County (Gibbs, 1885: 86; F. W. Rapp, 1931: 22). In the Battle Creek area Walkinshaw noted nest building in 1929 by June 30, but usually not until mid-July or later; he found egg sets from the last third of July through August and

occasionally in early September. Museum of Zoology expeditions to the mainland and islands of northwestern Huron County (N. A. Wood and Gaige, 1911: 291; N. A. Wood, 1911: 100; 1912a: 186) listed the species but did not find it nesting. A 5-egg set (U.M.M.Z.) was secured July 19, 1896, in Mecosta County. The Goldfinch was observed frequently from June to September in Oscoda County and vicinity in the Au Sable valley (N. A. Wood and Frothingham, 1905: 49-50; U.M.M.Z.); in Mason County (Chaney, 1910: 275); in Charlevoix County on the mainland (Van Tyne, 1925: 622) and on Beaver Island ("common everywhere"—Barrows, 1904: 80; Hinshaw and R. E. Morrill in 1937); in Emmet County (nesting commonly—Widmann, 1902: 235); at Douglas Lake, Cheboygan County, and vicinity (nesting abundantly—N. A. Wood, Smith, and Gates, 1916: 14; Linsdale, 1936: 161; Blanchard and Nelson, MS of 1937). At Douglas Lake, 21 egg sets were found from July 9 to August 10, and nestlings were found from August 2 to August 20.

Upper Peninsula.—In many areas the Goldfinch is rather common in the breeding season; actual nesting records, however, are almost entirely lacking. Van Tyne (1923: 24) found the Goldfinch "abundant" on Les Cheneaux Islands, Mackinac County. It was common on Drummond Island, Chippewa County (Hinshaw and R. A. MacMullan in 1938; U.M.M.Z.); at Munuscong Bay in the same county (Christofferson); at McMillan, Luce County (nest-building sometimes in June, and fledglings in the last week of August—Bryens, 1939: 104; and notes); in Dickinson County (F. M. Gaige, 1914: 85); in Gogebic County (Leonard Wing, 1940: 195). The species has been found rarely on Whitefish Point, Chippewa County (N. A. Wood, 1914: 68); and at Huron Mountain, Marquette County (Christy, 1925: 213; S. S. Gregory, Jr., 1929: 181; R. H. Manville, notes). On Isle Royale (N. A. Wood, Peet, and McCreary, 1906: 125; other data) it has been observed only rarely, as on July 7, 1905 (2), on August 17, 1904 (several), on August 19, 1904 (a flock), and in early September, 1938 (flock of 6).

FALL.—The principal movement apparently occurs in the Upper Peninsula in August and September and in the Lower Peninsula in October and November.

Upper Peninsula.—F. M. and A. M. Baumgartner observed a flock of 6 Goldfinches on Isle Royale between September 2 and 6, 1938. S. S. Gregory, Jr. (1929: 181), has recorded the species only once after September 19 at Huron Mountain, Marquette County, but Christofferson, at Blaney, Schoolcraft County, and Bryens, at McMillan, Luce County, have noted it a number of times in winter.

Lower Peninsula.—On November 23, 1910, Walter E. Hastings (Van

Tyne, 1925: 622) found "large flocks" near Norwood, Charlevoix County. In 5 successive falls (1935 to 1940) at Houghton Lake, Roscommon County, Trautman found the Goldfinch to be more numerous in November than in October. The usual number during these months was less than 50 a day, but 1000 Goldfinches were seen moving southward across the lake singly or in groups of up to 25, November 6, 1938, and 300 were noted in the cedar swamp at the outlet of the lake on November 27, 1937. On November 2, 1938, a flock of 500 to 1000 was observed by G. A. Ammann 5 miles east of Broman, Newaygo County. In the Toledo-Erie marsh area, L. W. Campbell (1940: 166-67, 209) gives November 9 as the average date for end of main flight.

WINTER.—The species winters occasionally in small numbers in the Upper Peninsula and fairly commonly in the southernmost counties.

Upper Peninsula.—S. S. Gregory, Jr. (1929: 181), listed the species once in winter in the Huron Mountains, Marquette County—on February 17, 1925. Bryens (1929*a*: 46; and notes; Leonard Wing, 1940: 195) has found the bird at McMillan, Luce County, in at least 5 winters since 1925 (see also Bryens and Fritz, 1932: 59; 1933: 39). His records include, for example, 23 Goldfinches on December 25, 1931, 17 on January 4, 1932, and 15 on January 2, 1935. Christofferson occasionally lists a very few Goldfinches in winter at Blaney, Schoolcraft County.

Lower Peninsula.—At Pewamo, Ionia County, Studt (1928: 51; 1929: 47; 1930: 45) noted 2, 58, and 2 Goldfinches on Christmas-season field trips in successive winters. In the southernmost tiers of counties the species has been found rather regularly, usually in very small numbers, but sometimes in numbers totaling 50 to 75 or more in a day—as in the Battle Creek area (N. T. Peterson and others, 1938: 55; Kingsley and others, 1932: 58; Walkinshaw, 1941: 126); in Jackson County (Fargo and others, 1931: 56); about Ann Arbor (Duncan and Wadsworth, 1936: 71; U.M.M.Z.); and at Detroit (Swales, 1903: 38; and notes; J. Claire Wood, 1910: 40). In 1937 in a Hartland Township swamp, Livingston County, 150 Goldfinches were noted January 3 by R. E. Olsen and A. D. Tinker, and 100 on February 7 by R. E. Olsen.

*Loxia curvirostra neogaea* Griscom\*

Eastern Red Crossbill

Rare in the southern quarter of Michigan, but more common northward. Irregular in numbers and distribution. One nest record (subspecies ?) from Hillsdale.

First recorded for Michigan by Kneeland (1857: 236).

\* *Proc. Bost. Soc. Nat. Hist.*, 41 (1937): 110.

Since the Eastern Red Crossbill (Griscom, 1937: 111, 158; Van Tyne, 1938: 39) is the form ordinarily found in Michigan, records of the Red Crossbill as a species are included here, and the name "Red Crossbill" always refers in this account to the species as a whole. The single Michigan nest record, Hillsdale, February, 1893 or 1894 (Barrows, 1912: 470-72) probably refers to the Eastern Red Crossbill (Van Tyne, 1938: 39).

Upper Peninsula.—Red Crossbills have been noted rarely on Isle Royale: on July 26, 1905, by N. A. Wood, and on August 14, 1929, by Walter Koelz. On the mainland a number of specimens (U.M.M.Z.), of which the majority are Eastern Red Crossbills, though other subspecies are represented, have been taken in a number of localities, from Gogebic County (Leonard Wing, 1940: 195-96) east to Chippewa County (N. A. Wood, 1914: 67; Magee, 1919: 237-38; 1940a: 61-62). Small flocks were noted in the Porcupine Mountains, Ontonagon County (N. A. Wood, 1905: 177; N. A. Wood, Peet, and McCreary, 1906: 117; U.M.M.Z.). Kneeland (1857: 236) said Red Crossbills were present in large flocks at Portage Lake, Keweenaw County, during most of the winter of 1856-57, and Van Winkle (1892: 186) found them "abundant" in Delta County. In the Huron Mountains, Marquette County (Christy, 1925: 213; S. S. Gregory, Jr., 1929: 181; Manville, 1941: 240-41), Red Crossbills are usually present in varying numbers from February to November, and are sometimes abundant; one young that was "scarcely able to fly" was collected there May 7, 1921. Van Tyne collected 2 Red Crossbills (U.M.M.Z.) there on June 24, 1936, which appear to be intermediate between the Newfoundland Crossbill and the Eastern. At McMillan, Luce County (Bryens, 1939: 104, and notes; Bryens and Fritz, 1932: 59), where a few Red Crossbills have been found in every month during some years, they have been generally more common in winter than in summer, but 67 were counted there on June 21, 1930. On June 12, 1940, in the northern part of the county, Braund and Aldrich (1941: 104) noted a flock of 25 Red Crossbills and collected 2 Eastern Red Crossbills.

Lower Peninsula.—As in the Upper Peninsula, nearly all of the Red Crossbills taken here have been referable to the Eastern Red Crossbill. N. A. Wood and Frothingham (1905: 49) saw several Red Crossbills at Mio, Oscoda County, on August 7, 1903; at Lovells, Crawford County, Van Tyne collected an Eastern (U.M.M.Z.) on July 21, 1930, and Leonard Wing noted about 50 Red Crossbills on August 7, 1931. Near Grayling and Lake Margrethe, Crawford County, a few were found on a number of occasions in late May, 1938 and 1939; full-winged young were seen there with adults on May 29 and 30, 1938, by E. M. Brigham, Jr., Walkinshaw, and others, and also on May 20, 1939, by Maurice G. Brooks. Records

southward are principally from November to April or May. Gibbs collected an Eastern (U.M.M.Z.) on May 6, 1883, in Montcalm County. In Kalamazoo County, Gibbs (1885: 86; 1889: 187-88) termed the species "quite common some seasons, again rare or not seen at all for several years." He found it arriving there in late December or January, occasionally in November, and remaining in large or small flocks sometimes as late as May 10 (1885). There are several Kalamazoo County specimens (U.M.M.Z.) collected between 1879 and 1885. Griscom (1937: 158) recorded 3 specimens of the Eastern Red Crossbill (*Mus. Vert. Zool.*) collected between March and May, 1888, in Jackson County. In the Ann Arbor region (N. A. Wood, 1921*a*: 591-92; Easterns in U.M.M.Z. and in Max M. Peet collections; other data) the Red Crossbill has been found only rarely and irregularly, from October 18 (1920, a flock of 20 by Walter E. Hastings at South Lyon) to May. About Detroit, Swales (1903: 38; 1905: 110-11; and notes), J. Claire Wood (1910: 40), and others recorded a few on rare occasions from November 16 (1903) to May 5 (1908, 5 seen by Swales on Grosse Ile).

*Loxia curvirostra pusilla* Gloger  
Newfoundland Red Crossbill

Five records:

1891. On November 21, a female was taken at Brent Creek near Flint, Genesee County, by J. A. Morden (Griscom, 1937: 118, 158).

1890-92. In the winter of 1891-92 (?), a male (U.M.M.Z.) was secured in Norvell Township, Jackson County, by L. Whitney Watkins.

1938. At Clear Lake, Montmorency County, on May 26, a male and female (both in U.M.M.Z.) were collected by Van Tyne. At Seney, Schoolcraft County, Brodkorb collected a female Newfoundland Red Crossbill (U.M.M.Z.) from a flock of 8 crossbills on June 4, and 5 Newfoundland Red Crossbills (U.M.M.Z.) from a flock of about 20 crossbills on June 9.

*Loxia curvirostra minor* (Brehm)  
Alaskan Red Crossbill

Exact status not known. Apparently bred in Marquette County in 1941.

Specimens of this subspecies have been secured in Michigan at widely spaced intervals: 1885, male (U.M.M.Z.) collected at Kalamazoo by F. H. Chapin on April 16; 1888, during the spring flight, specimens were taken in southern counties (Griscom, 1937: 95, 124, 158): 2 at Flushing, Genesee County, on March 5, 1 at Grand Rapids, on April 10, and 1 at Jackson, on April 16; 1896, 2 (U.M.M.Z.) taken at Unadilla, Livingston County, by D. C. Worcester on November 30; 1929, 1 (U.M.M.Z.) taken at Beaver Island,

Charlevoix County, by James H. Wood on May 8; 1940, 4 (U.M.M.Z.) taken at Little Girl's Point, northwestern Gogebic County, by R. E. Olsen on September 18 and 19; and 1941—between January 10 and 30, 1941, in northwestern Schoolcraft County (at Walsh, at Camp Cusino, and within 1½ to 3 miles south of Shingleton, Alger County), G. A. Ammann collected 17 (Max M. Peet collection). One of them, a January 29 male from Walsh, had somewhat enlarged gonads. Between January 27 and February 12, in the Huron Mountains, Marquette County, R. H. Manville (1941: 240-41) found "literally hundreds" of Red Crossbills and White-winged Crossbills. All 7 of the Red Crossbills collected (U.M.M.Z.) proved to be of this subspecies; from the size and condition of the gonads, it was thought that the birds were breeding.

*Loxia curvirostra bentii* Griscom  
Bent's Red Crossbill

A red male (U.M.M.Z.) was collected January 17, 1932, 3 miles south of McMillan, Luce County, by Leonard Wing (1940: 195-96). Griscom (1937: 158-59) records this specimen incorrectly as having been collected in "Lane County."

*Loxia leucoptera leucoptera* Gmelin  
White-winged Crossbill

Status little known. Less common than *L. curvirostra* in the south, but more common on Isle Royale, and perhaps in the Upper Peninsula. One nesting record (Delta County).

First recorded for Michigan by Miles (1861: 227).

Upper Peninsula.—On Isle Royale in 1904, 1905, and 1929, the White-winged Crossbill was noted in small flocks in the latter half of July and August (N. A. Wood, Peet, and McCreary, 1906: 125; Max M. Peet, 1909: 365). On the mainland it has been found sparingly in Gogebic County (Klotz, 1928: 222; Leonard Wing, 1940: 196; U.M.M.Z., March, July, November, December specimens); in Ontonagon County (N. A. Wood, Peet, and McCreary, 1906: 117); and eastward to Sault Ste Marie (Magee, 1919: 237-38; 1923a: 121; 1940a: 61-62). In the Huron Mountains, Marquette County (S. S. Gregory, Jr., 1929: 181; Manville, 1941: 240-41), where the species had previously been considered rare, it was present in hundreds in January and February, 1941, but was nevertheless outnumbered more than 3 to 1 by the Red Crossbill. Both crossbills may have been breeding at that time, since specimens (U.M.M.Z.) in breeding condition were collected. E. T. Hooper secured a White-winged Crossbill (U.M.M.Z.) August 26, 1940, north of Hermansville, Menominee County.

On April 27, 1891, A. J. Schoenebeck (Nehrling, 1896: 44) collected a nest with 2 fresh eggs about 10 miles west of Escanaba, Delta County—the only definite breeding record for Michigan. A few White-winged Crossbills have been found several times a year in one season or another (seldom in summer), at McMillan, Luce County (Bryens, 1939: 104; and notes; Bryens and Fritz, 1933: 39; Leonard Wing, 1940: 196); 24 were there on December 25, 1932. At Whitefish Point, Chippewa County, a flock was observed on July 14, 1914 (N. A. Wood, 1914: 67), and on June 5, 1930 (“a few birds”—Tyrrell, 1934: 23). On February 22, 1918, some 40 miles south of Sault Ste Marie, Magee (1919: 237–38) noted mixed flocks totaling about 500 crossbills, “the White-winged variety predominating, about two to one.”

Lower Peninsula.—At Douglas Lake, Cheboygan County (Fortner and Metcalf, 1929: 250; Blanchard and Nelson, MS of 1937; U.M.M.Z.), 1 or 2 White-winged Crossbills have been noted during July and August on 4 occasions. On Beaver Island, Charlevoix County, Barrows (1904: 80) observed “a small squad” on July 13, 1904; on Hat Island (one of the Beaver Island group) on July 1, 1940, O. S. Pettingill, Jr., collected a male (U.M.M.Z.) from a flock of 50 that flew to the island and departed almost immediately. Records from more southern localities extend from late October and November to late March and early April. A group of at least 100 White-wings (4 in U.M.M.Z., collected by C. H. Westman) were feeding near Waters, Otsego County, on January 9, 1938. Several were identified by Trautman in a flock of crossbills at Houghton Lake, Roscommon County, on November 27, 1937. Gibbs (1885: 86; 1889: 188; 1900: 140) found the White-wing to be only a straggler in Kalamazoo County—rarer than the Red Crossbill and never numerous. Reports from other southern areas indicate a similar status. The White-wing, was found near Battle Creek (Walkinshaw, 1930*d*: 134) on January 28 (several), and February 4, 1923 (4). J. B. Steere took 9 specimens (Max M. Peet collection) at Ann Arbor on March 23 and 26, 1883; individuals and small groups have been noted there on very rare occasions, from the first week of November to late March and early April (N. A. Wood, 1921*a*: 592; later data); a specimen (M.C.Z.) was taken April 4, 1885, at Ann Arbor. The species was found also—though rarely—about Detroit (Swales, 1903: 38, and notes; Swales and Taverner, 1907: 145); on November 8, 1906, Swales observed a flock of 7 at Grosse Ile. Northward, in Sanilac County, a specimen (U.M.M.Z.) was secured by Harriet Thompson on October 28, 1906. Swales (1904*d*: 281) corrected a report by A. J. Cook (1893*a*: 108) that the species bred in Genesee County.

*Pipilo erythrophthalmus erythrophthalmus* (Linnaeus)  
Red-eyed Towhee

Summer resident; common in the south; uncommon or absent in some areas of the Upper Peninsula, and fairly common in others. Winter straggler in the southernmost 3 or 4 tiers of counties.

First listed for Michigan by Sager (1839: 414).

SPRING.—Individuals are usually found in the southernmost counties by late March, but the period of general arrival there is mid-April to late May, and in the Upper Peninsula, late April to late May.

Lower Peninsula.—The average date for individuals has been March 22, and for the main flight March 31 in the Toledo-Erie marsh area (L. W. Campbell, 1940: 168, 196, 209). The species has usually appeared at Ann Arbor in the latter half of March; the average date of its appearance over a period of 19 years at Battle Creek (Walkinshaw, 1939: 108) is March 28. In 1920 in Berrien County it was one of the most common species after April 29 (N. A. Wood, 1922: 23). In 1940 it was present by April 16 at the Prairie Farm, Alicia, Saginaw County (G. A. Ammann); N. A. Wood counted 10 at Fish Point, Tuscola County, on May 5, 1926; and D. W. Douglass reported the species to be very common at Sand Point, Huron County, from mid-April to almost mid-May during the years 1931 to 1933.

Upper Peninsula.—Brodkorb listed 1 individual in the spring of 1936, on May 10, at Whitefish Point, Chippewa County. Bryens (1939: 104; and notes) recorded arrival at McMillan, Luce County, as early as April 6 in 1921, but the species did not usually arrive until the latter half of April or the first week of May. Christofferson noted it at about the same time at Blaney, Schoolcraft County. In Marquette County (O. B. Warren, 1895: 192; S. S. Gregory, Jr., 1929: 183; other data) it has been observed only a few times in spring—as on May 11 and 23, 1921, and dates in late May.

SUMMER.—Egg sets have been recorded chiefly from mid-May to late July.

Lower Peninsula.—The Towhee is a common breeding species at nearly all southern stations of report, particularly Detroit (Swales, 1903: 40; and notes); Ann Arbor; Battle Creek (Walkinshaw, 1941: 126); Kalamazoo County (Gibbs, 1885: 87; F. W. Rapp, 1931: 24); and Berrien County (N. A. Wood, 1922: 23). Nests are common throughout the area from mid-May to July or later; for example, in a Hartland Township swamp, it is not unusual to find 10 to 20 or 30 Towhees a day (R. E. Olsen, A. D. Tinker, and others), and 30 were seen by R. E. Olsen on June 9, 1935, at Portage Lake, Jackson County. At Sand Point, Huron County, the Towhee was a very abundant breeder in 1908 (N. A. Wood and Gaige, 1911: 293), and a number of specimens (U.M.M.Z.) were collected; but it was uncommon



there from 1931 to 1933 (D. W. Douglass). It has been common in the Au Sable Valley (N. A. Wood and Frothingham, 1905: 50; Frothingham, 1906: 160). Four incomplete nests were found at Lovells, Crawford County (Walkinshaw, 1938a: 287), July 5–11, 1937. At Red Oak, Oscoda County, Van Tyne flushed a "young, bob-tailed Towhee, just out of the nest" on June 12, 1941. Chaney (1910: 276) said the species was "very abundant" in Mason County, and reported nestlings there in early July. In Charlevoix County, according to Van Tyne (1925: 623), the Red-eyed Towhee was "widely distributed and found rather commonly wherever there is much brush or undergrowth." At Douglas Lake, Cheboygan County, the species is very common (N. A. Wood, Smith, and Gates, 1916: 15; Linsdale, 1936: 161; Blanchard and Nelson, MS of 1937). Egg sets have been discovered there from June 18 to July 27; the set found on July 27 hatched on August 9. The Red-eyed Towhee is also present at this season on the Fox and Manitou islands of Leelanau County (A. E. Staebler and L. D. Case in 1939 and 1940), as well as on Beaver Island, Charlevoix County (T. D. Hinshaw and R. E. Morrill in 1937), and a number of specimens (U.M.M.Z.) have been collected on these islands.

Upper Peninsula.—Though the Red-eyed Towhee is fairly common in some areas of this peninsula, actual nest records are entirely lacking. Van Tyne (1923: 24) reported Towhees as "rather rare and very local" on Les Cheneaux Islands, Mackinac County, but T. D. Hinshaw and R. A. MacMullan collected several (U.M.M.Z.) on Drummond Island, Chippewa County, in July and August, 1938. Christofferson has listed them at Munuscong Bay, Chippewa County, and at Blaney, Schoolcraft County. In June of the successive years 1933 to 1935 L. W. Walkinshaw saw no Red-eyed Towhees at all at Munuscong Bay, but reported them common both at Blaney and at McMillan, Luce County. On September 3, 1927, also at McMillan, Bryens noted adults feeding young that were out of the nest. Towhees are present, though usually sparingly, in other localities, for example, the Lake Superior State Forest, northern Luce County (Leonard Wing, 1940: 196; Braund and Aldrich, 1941: 101); near Banat, Menominee County (U.M.M.Z.), at Rapid River, Delta County, and Alpha, Iron County (Leonard Wing, 1940: 196); at Brown Lake, Dickinson County (commonly; young birds on and after July 13—Gaige, 1914: 86) and in the Huron Mountains, Marquette County (uncommonly—S. S. Gregory, 1929: 183; other data). The species was not seen on Isle Royale on earlier Museum of Zoology expeditions, but a specimen (U.M.M.Z.) was finally collected there by A. Anderson on June 1, 1930.

FALL.—The Red-eyed Towhee usually leaves the Upper Peninsula by early October and the southern part of the Lower Peninsula by late October.

Upper Peninsula.—R. E. Olsen collected an individual (U.M.M.Z.) at Little Girl's Point, northwestern Gogebic County, on September 16, 1940. The species has been present at McMillan, Luce County (Bryens, 1939: 104; and notes), and at Blaney, Schoolcraft County (Christofferson), usually until the first or second week of October—at McMillan in 1930 until October 22, and at Blaney in 1937 until October 26.

Lower Peninsula.—Chaney (1910: 276) stated that in September, 1909, in Mason County, "large flocks of migrating birds, largely immature," were seen. In 1905 Swales (1905: 113) saw an individual near Atlas, Genesee County, as late as November 24. The species leaves Battle Creek usually by October 21 (Walkinshaw, 1939: 108), but remains in the Ann Arbor region as a rule until the last week of October or until early November. At Detroit in October, 1912, Swales noted 10 to 12 Towhees regularly through October 15, and 3 on October 16; on October 26, 1909, he saw 6. They have usually been found singly or in very small groups, but on September 28, 1906, a large flock of 80 to 100 was seen at the north end of Portage Lake, Livingston County (N. A. Wood, 1907: 169). In the Toledo-Erie marsh area the main flight takes place by October 22 (L. W. Campbell, 1940: 168, 196, 209).

WINTER.—In the Toledo-Erie marsh area L. W. Campbell (1940: 168) has found 1 or 2 Towhees every winter since 1928, as many as 6 remaining at North Cape through January of 1938. Campbell and Van Tyne collected a specimen (U.M.M.Z.) at North Cape on December 25, 1936, and 2 on February 4, 1940. Swales (1912: 129) reported 2 on December 19, 1911, and January 29, 1905, in the vicinity of Detroit, and W. B. Tyrrell noted several during the winter of 1930-31 at Cranbrook, Bloomfield Hills, Oakland County. James H. Wood reported 4 at Northville, Wayne County, on February 16, 1927. At Ann Arbor the species has been found in winter on rare occasions—1 on December 26, 1919 (J. and C. H. Van Tyne), 2 on January 2, 1927 (A. D. Tinker), and 1 on January 8, 1938 (Genevā Smithe). It was present in Jackson County on December 23, 1928 (Fargo and others, 1929: 46); and in Calhoun County on December 25, 1931 (Walkinshaw, 1939: 108); an individual was banded in the latter county on December 22, 1936 (Brigham and others, 1937: 58). The species was present at Grand Rapids up to January 19, 1940 (Gleason, 1940: 63); and Van Pelt (1897: 45) recorded 1 at Muskegon through the "rather mild" winter of 1896-97.

*Passerculus sandwichensis oblitus* Peters and Griscom  
Churchill Savannah Sparrow

Common summer resident in the north; uncommon and local in the southern half of the Lower Peninsula.

The Savannah Sparrow was first recorded for Michigan by Sager (1839: 415): "*Zonotrichia savannarum*."

Breeding specimens (U.M.M.Z.) of the Savannah Sparrow from the Upper Peninsula and from the greater part of the Lower Peninsula are definitely referable to the race *oblitus*; those from southern counties show a trend toward the eastern subspecies, *savanna*.

SPRING.—Arrival of individuals is usually reported in early April, main flight in the latter part of the month.

Lower Peninsula.—L. W. Campbell (1940: 196, 209) has given April 8 as the average date for the first Savannah Sparrows to arrive in the Toledo-Erie marsh area, and April 20 as the average date for main flight. Trautman reported an individual in the Ann Arbor area as early as March 31 (1935); R. E. Olsen and A. D. Tinker saw 2 there on April 4, 1937. At Battle Creek, Walkinshaw (1939: 108) has also seen individuals by April 4 (1935) and has listed April 13 as the average date of arrival. Leonard Wing collected 1 (U.M.M.Z.) near Jackson on March 28, 1929, and G. A. Ammann reported arrival at the Prairie Farm, Alicia, Saginaw County, on April 18, 1940.

Upper Peninsula.—Bryens (1939: 104; and notes) has recorded first arrivals at McMillan, Luce County, usually by April 20 and, in 1938, by April 15. The species was listed as a common migrant at Copper Harbor, Keweenaw County, in early May by N. A. Wood (1933: 725), and it was seen on Isle Royale on May 12, 14, and 20, 1937, by Laurence Dayton.

SUMMER.—Nests and eggs of the Savannah Sparrow have been found from the second week in May to August 1.

Lower Peninsula.—The species is apparently local in its distribution in the southern counties, since nest records are lacking from several rather well studied areas there. Nests from the Detroit area recorded by J. Claire Wood (1908c: 223) include 1 with 4 eggs found by Wood on May 28, 1907, and 1 with 5 eggs found by H. H. Spicer on May 28, 1902. H. W. Hann found 4 young birds, a day or two old, in a nest near Ann Arbor on June 15, 1932; in 1936, a nest with 4 eggs was discovered by T. D. Hinshaw and A. D. Tinker at Portage Lake, Jackson County, on May 10, and 50 Savannah Sparrows were seen there by R. E. Olsen and Tinker on June 28. Hankinson (1897b: 47) reported a nest with 3 young near East Lansing, Ingham County, on June 21; N. A. Wood and R. E. Olsen saw 20 Savannah Sparrows on July 16, 100 on July 17, and 20 on July 18 (1934) at Fish Point, Tuscola County. Several specimens (U.M.M.Z.) were secured by T. D. Hinshaw on Beaver Island, Charlevoix County, in mid-June, 1937; nests with eggs have been found by Blanchard and Nelson (MS of 1937) at Douglas Lake, Cheboygan County, between June 29 (nest with 4 eggs) and

July 25 (nest with 3 eggs), and they noted nests with young as late as August 6.

Upper Peninsula.—Walkinshaw (1937*a*: 312) found 12 nests at Munuscong Bay, Chippewa County, in June, 1934. Magee (1923*c*: 186–87) believed that the Savannah was the most abundant breeding sparrow at Sault Ste Marie; at Whitefish Point, Chippewa County, N. A. Wood (1914: 68) found a nest with 3 eggs in July and, by August 1, noted young birds of the year on the wing. In Luce County, Bryens has found nests from May 18 (1930, nest with 5 eggs) to August 1 (1929, nest with 4 eggs), and F. W. Braund found a nest with 5 young, north of Newberry, on June 21, 1940. Walkinshaw saw an adult feeding fledglings at Grand Marais, Alger County, on June 26, 1933; in the Huron Mountains, Marquette County, the species was listed as an uncommon summer resident by Christy (1925: 213) and by S. S. Gregory, Jr. (1929: 182). On Isle Royale in August, 1905, a few adults were seen and a fledgling collected (August 6—Peet, 1909: 365–66).

FALL.—The main period of migration is the first half of September in the Upper Peninsula and the latter part of September in the Lower Peninsula.

Upper Peninsula.—A. M. and F. M. Baumgartner saw a total of 20 Savannah Sparrows on Isle Royale between September 2 and 6, 1938. Large numbers were seen there by Peet (1909*a*: 107–9) between August 31 and September 13. Ira N. Gabrielson saw 7 and collected 1, in the Huron Mountains, Marquette County, in late September, 1936. Bryens (1939: 104; and notes) has usually observed the species at McMillan, Luce County, until the second week in October and has seen it as late as November 17 (1932).

Lower Peninsula.—At Lincoln, Alcona County, J. Claire Wood (1913: 18) saw 2 Savannah Sparrows on October 8, and 3 on October 10. N. A. Wood (1911: 100–101) found great numbers on Charity Island, Huron County, between September 3 and 10. On September 11 and 12 only a few were seen there, but on the following day the birds were as numerous as before, and on September 19, thousands were on the island. Nearly all of the birds left on September 20, and none was seen after October 7. At Portage Lake, Jackson County, L. D. Case collected 1 (U.M.M.Z.) on October 24, 1935; Walkinshaw (1939: 108) gave October 8 as the average date of departure from the Battle Creek area though he had seen the species there as late as October 24 (1935). Swales (1903: 38) observed the species migrating through the Detroit area in September and October; Trautman saw a total of 12 Savannah Sparrows in the Erie Marsh, Monroe County, on September 13 and 14, 1932. L. W. Campbell (1940: 196, 209) has recorded the species as late as November 4 (1934) in the Toledo–Erie marsh area, but gave October 16 as the average date of departure.

*Passerculus sandwichensis nevadensis* Grinnell  
Nevada Savannah Sparrow

Rare transient. There are 4 Michigan specimens (U.M.M.Z.) of this subspecies, collected, respectively, by Max M. Peet, near Ann Arbor, April 28, 1907; by Leonard Wing, at Grass Lake, Jackson County, May 10, 1931; by N. A. Wood, on Isle Royale, September 26, 1929; and by Van Tyne and T. D. Hinshaw, at Portage Lake, Jackson County, on September 30, 1936.

*Ammodramus savannarum pratensis* (Vieillot)  
Eastern Grasshopper Sparrow

Migrant and summer resident north to Leelanau and Cheboygan counties. Possibly nests in Luce County.

First listed for Michigan by Gibbs (1879: 486).

SPRING.—The Grasshopper Sparrow generally arrives in Michigan in late April, but is occasionally found by mid-April. In the Toledo-Erie marsh area, L. W. Campbell (1940: 196, 209) reported individuals as early as April 13 (1929), but gave May 1 as the average date for the main flight. C. J. Spiker saw 2 individuals in the Ann Arbor area on April 12 in 1933, and the species is usually reported there in numbers in late April—R. W. Allen reported 10 on April 29, 1938. Walkinshaw (1939: 108) gave April 28 as the average date of arrival in the Battle Creek area, his earliest record being April 15 (1938).

SUMMER.—The nest and eggs of the Grasshopper Sparrow have been found in Michigan from late May to mid-July.

Lower Peninsula.—Swales (1903: 38-39) listed the species as a rather rare summer resident in the Detroit area but suggested that it may only have seemed rare to observers because it is so inconspicuous. Near Detroit, J. Claire Wood (Swales, 1903: 38-39) found a nest with 4 eggs on May 28, 1902, and F. C. Hubel (1903a: 75) found 1 with 4 fresh eggs (U.M.M.Z.) in Oakland County on June 6, 1896. Near Pinckney, Livingston County, A. S. Hyde discovered 2 nests in 1936, 1 with 4 small young on May 30, and 1 with 5 small young on May 31. Gibbs (1885: 87) reported the Grasshopper Sparrow as an uncommon summer resident in Kalamazoo County. In the adjacent Battle Creek area, Walkinshaw photographed an adult at a nest with eggs on July 19, 1935, and found a fledgling in the same locality on August 24, 1941. An individual was seen at Caseville, Huron County, by N. A. Wood and Gaige (1911: 292) on July 29. R. E. Olsen observed a singing bird near Lovells, Crawford County, on June 17, 1931, and collected 2 immatures (U.M.Z.) there on July 22, 1934. A. E. Staebler collected a number of singing males (U.M.M.Z.) on the Manitou Islands, Leelanau County, in mid-June, 1940, and T. D. Hinshaw and R. E. Mor-

rill collected several (U.M.M.Z.) on Beaver Island in 1937 between June 10 and July 12. At Douglas Lake, Cheboygan County, 3 immatures (2 in U.M.M.Z.) were collected in 1936, 2 by F. N. Blanchard on July 25, and 1 by Frank J. Hinds on July 29.

Upper Peninsula.—The recent records of Bryens indicate that the Grasshopper Sparrow may nest in the eastern part of Upper Michigan. Bryens (1939: 104-5) frequently observed 2 singing birds at McMillan, Luce County, from June 13 to July 30, 1939. In 1940 he saw single individuals there from May 20 to August 2.

FALL.—The meager data available indicate that the Grasshopper Sparrow leaves Michigan in the latter half of September. For the Battle Creek area, Walkinshaw (1939: 108) gave September 21 as the average date of departure, although he reported an individual as late as October 27 (1935). A. S. Hyde collected 1 (U.M.M.Z.) near Anderson, Livingston County, on August 28, 1934, and N. A. Wood secured 1 (U.M.M.Z.) at Portage Lake, in the same county, on September 16, 1933. Swales saw an individual in the Detroit area on September 30, 1909. L. W. Campbell (1940: 196, 209) recorded the species in the Toledo-Erie marsh area as late as September 2 in 1935, but gave August 4 as the average date of main departure.

*Passerherbulus caudacutus* (Latham)

Leconte's Sparrow

Summer resident at Munuscong Bay, Chippewa County, and possibly in Schoolcraft and Alger counties.

First authoritatively listed for Michigan by R. E. Olsen (1935: 100-101).

SPRING.—Of the few Michigan records of this sparrow the earliest in spring is May 8 (in the Seney marshes, Schoolcraft County, 4 singing, observed by Walkinshaw in 1937). That it may be present in Michigan in middle and late April is suggested by its occurrence then in Wisconsin (April 11 specimens, Cahn, 1915: 497) and in Minnesota (Roberts, 1936: Vol. 2, p. 391). Two Michigan specimens (U.M.M.Z.) were finally secured in 1934 by R. E. Olsen (1935: 100-101) and T. D. Hinshaw on May 11 and 12, at Munuscong Bay, Chippewa County. The authenticity of an early specimen in the Museum of Zoology ("Ann Arbor, May, 1894") is doubtful (see Barrows, 1912: 497; Swales, 1913: 35).

SUMMER.—Walkinshaw (1937a: 309-20), F. C. Gillett, Max M. Peet, and others noted this sparrow at Munuscong Bay in June, 1934 and 1935, and on May 29, 1939. Walkinshaw counted 10 there on June 6, 1935, and on June 4, 1935, he discovered a nest (U.M.M.Z.) with 5 eggs. The eggs hatched on June 16 and 17. The same year Walkinshaw (1937a: 310-

11; and notes) observed 2 individuals singing on June 12, and saw 3 on June 19, in the Seney marshes, north of Germfask, Schoolcraft County. G. A. Ammann apparently has data on the summer occurrence of Leconte's Sparrow near Shingleton, Alger County (letter, June 29, 1941).

FALL.—In the Portage Lake marshes, Jackson County, in 1936, 8 of these sparrows (1 collected by Van Tyne and T. D. Hinshaw) were flushed on September 30, and about a dozen (2 collected by A. E. Staebler and L. D. Case) were noted on October 4. Two (1, U.M.M.Z.) were there October 8, 1939, 6 (1, U.M.M.Z.) on September 29, 1940, and 1 on October 2, 1940. In connection with this apparent increase in Michigan in recent years, it is of interest to note that an unusual fall flight occurred throughout Ohio in 1936 (L. W. Campbell, 1940: 170).

*Passerherbulus henslowii henslowii* (Audubon)  
Western Henslow's Sparrow

Summer resident. Largely confined to the southern 4 tiers of counties, although it has been collected north to Saginaw Bay and Mackinaw City and is apparently spreading northward.

First recorded for Michigan by J. B. Purdy (1897: 220-21).

Barrows (1912: 494-97) and A. S. Hyde (1939) have reviewed the occurrence here of this very inconspicuous sparrow. J. B. Purdy (1897: 220-21) collected an egg set in Plymouth, Wayne County, on July 27, 1893. Breeding was subsequently noted in Jackson County (L. Whitney Watkins, 1894a: 180-81) and Calhoun County (E. Arnold, 1903c: 27). Small colonies were found regularly in a number of localities about Detroit, in Wayne, St. Clair, and Oakland counties (Swales, 1903: 39; 1905: 111; 1910d: 458-59; J. Claire Wood, 1905b: 416). The species is apparently rather unstable in its abundance "even in suitable habitat" (A. S. Hyde, 1939: 60).

SPRING.—Henslow's Sparrow generally reaches the southern counties by the end of the second week or in the third week of April. In the Toledo-Erie marsh area (L. W. Campbell, 1940: 171-72, 196, 209) the average date of arrival for individuals is April 19, and for the beginning of the main flight, May 4, but individuals have appeared there as early as the second week of April. In the Ann Arbor region, the species has been noted several times as early as April 8 (one to three birds in 1922, 1926, and 1934), though usually not until later in the month or until May. Numbers have been found in the Portage Lake marsh, Jackson County, by R. E. Olsen, A. D. Tinker, and other observers: 8 on April 17, 1934; 100 to 200 (1 in U.M.M.Z.) on April 28, 1935; 50 on May 2, 1937. At Battle

Creek (Walkinshaw, 1939: 108-9), the species has arrived twice on April 16; the average, taken over 10 years, is April 20.

SUMMER.—Nesting is in progress in southern counties from mid-May to late August, many first clutches being found in late May (A. S. Hyde, 1939: 36) and early June. Henslow's Sparrow has been noted in summer in many southern counties, sometimes very commonly, as in 1930 (R. E. Olsen, 1932: 481-82). L. W. Campbell (1940: 171-72) observed colonies from 1934 to 1936 in the Erie marsh, Monroe County. At Gibraltar Bay, near Grosse Ile, Wayne County, Trautman found a small colony of about 15 pairs on July 2, 1935. In Washtenaw and Livingston counties, where the species was formerly considered uncommon, it is now usually common (N. A. Wood and Tinker, 1910: 134; R. E. Olsen, 1932: 481-82); in 1934, a 40-acre tract of habitable territory "held about thirty or forty singing males" (A. S. Hyde, 1939: 46). At the Portage Lake marsh, Jackson County, 20 Henslow's Sparrows in a day are common in June, July, and August; and on August 8, 1937, R. E. Olsen and A. D. Tinker counted as many as 50. In Calhoun County, where F. C. Hennessey (1916: 115) recorded a colony in 1916, Walkinshaw (1941: 127; and notes) found this species "a very common bird on the drier sedge-grown areas." In the 1930's Walkinshaw discovered a number of nests there, as well as in parts of Kalamazoo County. Leonard Wing collected a specimen (U.M.M.Z.) May 29, 1932, at Constantine, St. Joseph County. On May 10, 1938, at Ann Arbor, L. D. Case collected a nest with 3 Sparrow eggs and 1 Cowbird egg; on May 16, 1935, at Pond Lily Lake, Ross Township, Kalamazoo County, Walkinshaw examined a nest containing a single egg (broken). In the same township, he recorded fledglings leaving the nest as late as August 26, 1937 (not August 19, as given in A. S. Hyde, 1939: 36).

Whereas actual nesting records northward seem to be lacking, the species has occurred in the breeding season as far north as the tip of the Lower Peninsula. A recent spread in that direction is indicated by the following records—the only northern ones for Michigan. In Eaton County, Kalmbach (1908: 230) secured 3 specimens from a colony near Eaton Rapids, and A. S. Hyde (1939: 15) obtained 3 (U.M.M.Z.) on August 15, 1933, at Olivet. This sparrow has been noted also in Clinton County and northeast to the Saginaw Bay region (Walkinshaw; A. S. Hyde, 1939: 36), at least to Fish Point, Tuscola County. At Fish Point, 3 were seen on June 7, and 1 (U.M.M.Z.) collected on June 8, 1926, by N. A. Wood; 10 on July 19, 1934, by N. A. Wood and R. E. Olsen; 20 on May 24, 1936, and 10 on May 30, 1937, by R. E. Olsen, A. D. Tinker, and others. On June 13, 1931, 5 miles southeast of Mackinaw City, Cheboygan County, Leonard Wing (1931a: 618; and notes) collected 1 (U.M.M.Z.).



FALL.—Movement in southern counties is concluded apparently during the middle or last third of October. Walkinshaw (1939: 108–9) gave September 23 as the average date of departure from Battle Creek. At Anderson, southern Livingston County, A. S. Hyde (1939: 15) flushed about 2 dozen of the species on September 21, 1935, but only 7 or 8 on the following October 18; in a careful search of breeding habitat about Portage Lake, Jackson County, he found only 4 or 5 (1 in U.M.M.Z.) on October 24, 1935. H. J. Leraas caught 1 (U.M.M.Z.) at Birmingham, Oakland County, on October 25, 1934, and J. Claire Wood collected 1 (U.M.M.Z.) in Grosse Pointe Township, Wayne County, on October 23, 1906. In the Toledo–Erie marsh area, according to L. W. Campbell (1940: 171–72, 196, 209), the average date for the end of the main flight is August 20, and for the last individuals, October 8; stragglers remain on occasion until October 16.

*Ammospiza caudacuta nelsoni* (J. A. Allen)  
Nelson's Sparrow

Rare spring and fall transient.

First recorded for Michigan by Gibbs (1879: 486).

There is but 1 spring record: a female (U.M.M.Z.) collected in the Erie marsh, Monroe County, by L. W. Campbell (1940: 172) and J. J. Stophlet, on May 29, 1939. For fall there are 7 records, of which 4 are from Jackson County. The extreme dates are September 23 and October 16: 2 specimens collected by William Ely in Kalamazoo County on October 5, 1878 (Gibbs, 1879: 486; 1885: 87; Barrows, 1912: 498); a male (U.M.M.Z.) collected by J. Claire Wood (1900: 391) in Springwells Township, Wayne County, on September 27, 1893 (see also Swales, 1903: 39); a female collected by S. S. Gregory, Jr., at the Huron Mountain Club, Marquette County, on September 25, 1933; 3 seen and 1 other (U.M.M.Z.) collected by R. E. Olsen (1935: 100) and A. D. Tinker at Portage Lake, Jackson County, on September 23, 1934; 1 (U.M.M.Z.) collected by James H. Wood at Sharp's Lake, Summit Township, Jackson County, on October 16, 1935; 1 (U.M.M.Z.) collected by L. D. Case and R. E. Olsen at Portage Lake, Jackson County, on October 4, 1936; 1 seen and 1 (U.M.M.Z.) collected by L. D. Case and John L. George in the same locality on September 30, 1939.

*Pooecetes gramineus gramineus* (Gmelin)  
Eastern Vesper Sparrow

Common summer resident. Three winter records (Washtenaw and Wayne counties).

First recorded for Michigan by Sager (1839: 414): "*Fringilla graminea*."

SPRING.—The species arrives in Michigan in late March and is common by mid-April in the Lower Peninsula and by late April in the Upper Peninsula.

Lower Peninsula.—Vesper Sparrows arrive in the Toledo–Erie marsh area as early as mid-March; the average date for arrival of individuals there is March 30 and for the beginning of main flight, April 3 (L. W. Campbell, 1940: 172, 196, 209). Swales (1903: 38; and notes) recorded 5 on March 28, 1908, in the vicinity of Detroit, and has seen the species there occasionally on other dates in late March, but as a rule not until early April. In 1920 Walkinshaw (1939: 108–9; 1941: 127) observed the species in the Battle Creek area on March 24, but the average date of arrival for individuals, taken over a 21-year period, is April 1. F. W. Rapp (1931: 22) saw a Vesper Sparrow at Vicksburg, Kalamazoo County, on March 1, 1915. At the Prairie Farm, Alicia, Saginaw County, in 1940 G. A. Ammann recorded arrival on April 5; and D. W. Douglass found the species at Sand Point, Huron County, irregularly from mid-April to the latter part of May (1931 to 1933).

Upper Peninsula.—At McMillan, Luce County, the Vesper Sparrow arrives regularly during the second and third weeks of April, the earliest date being April 9, 1929 (Bryens, 1939: 105; and notes). Christofferson has recorded arrival at about the same time at Blaney, Schoolcraft County (5 on April 23, 1941; 10 on April 26, 1941; and 10 on April 28, 1936). N. A. Wood (1933: 725) saw 8 at Copper Harbor, Keweenaw County, on April 23, 1931; on Isle Royale, Laurence Dayton saw the species on April 27 and 30, 1937.

SUMMER.—Eggs are generally found between mid-May and late July.

Lower Peninsula.—Nests reported from the Ann Arbor area in mid-May include 1 with 4 eggs found by L. D. Case on May 11, 1936, and 1 with 3 eggs found by Frank J. Hinds on May 12, 1934. In 1931 Walkinshaw recorded a young Vesper Sparrow near Battle Creek that left its nest on May 13, and F. W. Rapp (1931: 22) has found nests with eggs in the vicinity of Vicksburg, Kalamazoo County, from April 25 (1896) to July 7 (1897). This species was listed as a common summer resident in Berrien County (N. A. Wood, 1922: 21), at the Prairie Farm, Alicia, Saginaw County (G. A. Ammann in 1940), in suitable localities in northwestern Huron County, and on Charity Island (N. A. Wood and Gaige, 1911: 292; N. A. Wood, 1912*a*: 186). A. E. Staebler and L. D. Case found it common on the Manitou (1940, June 15, nest with 4 eggs) and Fox (1939, June 30, young out of the nest) islands of Leelanau County. In Charlevoix County it was observed commonly on Beaver Island by Barrows (1904: 80), as well as by T. D. Hinshaw and R. E. Morrill in 1937, and was listed as the commonest sparrow on the mainland by Van Tyne (1925: 622). In the vicin-

ity of Douglas Lake, Cheboygan County, Blanchard and Nelson (MS of 1937) discovered nests with eggs from June 22 to July 22, and nests with young from June 22 to August 1.

Upper Peninsula.—Vesper Sparrows were found “fairly abundantly” on Les Cheneaux Islands, Mackinac County, by Van Tyne (1923: 24). At McMillan, Luce County, Bryens found nests with eggs between May 25 (1930, 1 with 4 eggs) and July 26 (1940, 1 with 2 eggs); and in the Lake Superior State Forest of the same county, F. W. Braund found 2 nests, 1 with 4 eggs, on June 9 and 1 with 3 young, on June 18, 1940. A nest with 4 young was found near Blaney, Schoolcraft County, by Christofferson on June 6, 1937. N. A. Wood (1914: 68) listed the Vesper Sparrow as one of the commonest birds at Whitefish Point, Chippewa County. The species was found to be uncommon at Whitefish Lake, Alger County (N. A. Wood, 1918: 10); and in the Huron Mountains, Marquette County (S. S. Gregory, Jr., 1929: 182). F. M. Gage (1914: 85) found 2 nests with 3 eggs each, 1 on July 19 and 1 on July 29, in the vicinity of Brown Lake, Dickinson County, where he saw the species commonly; and N. A. Wood (1933: 725) listed Vesper Sparrows as common summer residents at Copper Harbor, Keweenaw County; Wood also saw a single adult Vesper Sparrow on Isle Royale on June 1, 1930.

FALL.—The Vesper Sparrow is observed migrating in Michigan from mid-August to late October in the Upper Peninsula, and to early November in southern counties.

Upper Peninsula.—Vesper Sparrows have been seen on a few occasions on Isle Royale from late August to mid-September (Max M. Peet, 1909: 365; 1909a: 117; and later data). In the Porcupine Mountains, Ontonagon County, a large flock was seen on August 3 (N. A. Wood, Peet, and McCreary, 1906: 117). S. S. Gregory, Jr. (1929: 182), recorded the species in the Huron Mountains, Marquette County, until October 1, and Trautman counted 15 to 25 Vesper Sparrows daily in the western part of the peninsula between September 30 and October 5, 1934. They were observed as common at Whitefish Point, Chippewa County, on August 15 and September 10, 1925, by Fargo, and in the last week of August, 1931, by A. D. Tinker and R. E. Olsen. Christofferson found the birds common during migration at Blaney, Schoolcraft County (25 on September 28, 1934), and has seen single birds there until early November (1 on November 8, 1939). At McMillan, Luce County, Bryens recorded 100 on September 11, 1924, and comparable numbers on other dates in late August and September. He reports that a few remain in the locality nearly every year until the last of October or early November (he banded 1 there on November 9, 1935).

Lower Peninsula.—J. Claire Wood (1913: 18) saw Vesper Sparrows in

Alcona County until October 13, when he counted 25; N. A. Wood (1911: 100) watched them migrating on Charity Island, Huron County, from September 20 to October 11. In the vicinity of Vicksburg, Kalamazoo County, F. W. Rapp (1931: 22) has seen the Vesper Sparrow until October 17 (1915); in the Battle Creek area, Walkinshaw (1939: 108-9; 1941: 127) gave October 24 as the average date of departure taken over 16 years, but found that individuals remained on occasion until November 8. Swales counted between 10 and 25 daily in the Detroit area between mid-September and late October, and saw a few there in the early part of November. L. W. Campbell (1940: 172, 196, 209) reported that most of the Vesper Sparrows left the Toledo-Erie marsh area by the end of October, but that individuals remain there as late as the last week in November.

WINTER.—D. P. Duncan and F. Wadsworth (1936: 71) observed a Vesper Sparrow near Ann Arbor on December 22, 1935, and T. D. Hinshaw saw 1 in the same locality on January 20, 1937. Swales (1912: 129; and J. Claire Wood, 1910: 41) collected a specimen (U.M.M.Z.) near Detroit on December 29, 1908.

*Chondestes grammacus grammacus* (Say)  
Eastern Lark Sparrow

Local summer resident north to St. Clair, Livingston, and Kent counties. One record for the north (Keweenaw County).

First recorded for Michigan by Sager (1839: 415).

SPRING.—The Lark Sparrow appears in Michigan in the latter part of April or in early May. L. W. Campbell (1940: 196) gave May 1 as the average date of arrival for the species in the Toledo-Erie marsh area. N. A. Wood (1921a: 592-93) saw an individual at Ann Arbor on April 20, 1895; John L. George saw 6 near Half Moon Lake, Washtenaw County, on May 9, 1942, and Frank J. Hinds saw 14 there on the same day. Among the specimens (U.M.M.Z.) collected in the vicinity of Ann Arbor are the following: 1 by J. W. Harris on April 27, 1895; 1 by N. A. Wood on April 30, 1898; and 1 by Max M. Peet on May 2, 1907. B. F. Sykes collected 1 (U.M.M.Z.) near Kalamazoo on April 27, 1879, and Walkinshaw saw 1 near Grass Lake, Jackson County, on April 26, 1931. At Sand Point, Huron County, a Lark Sparrow was observed by R. E. Olsen, A. D. Tinker, and T. D. Hinshaw, on May 30, 1936; at Mio, Oscoda County, 1 was seen by Verne Dockham on May 16, 1940. An adult male (U.M.M.Z.), collected at Copper Harbor, Keweenaw County, on May 28, 1931, by N. A. Wood (1931: 617), is the only record from the Upper Peninsula.

SUMMER.—Nests with eggs of the Lark Sparrow have been discovered in the Lower Peninsula between late May and mid-June. Nests from the

Detroit area include 1 with 3 eggs, May 30, 1888, found by J. Claire Wood; and 2, with 4 eggs each, June 1, 1886, and June 18, 1890, found by Swales (1891a: 149). In the vicinity of Ann Arbor, M. T. Sturgeon and W. A. Horner found a nest with 5 eggs on June 8, 1941; F. N. Wilson (1931: 108-10) observed and photographed the adults and 4 young at a nest near West Lake, Washtenaw County, in late May and early June. Two nests, each with 4 eggs, have been reported from Waterford, Oakland County (P. E. Moody, 1903a: 97); 1 was found on May 27, 1903, by Moody, and 1 on June 16, 1901, by C. A. Newcomb, Jr. A. Murie found a nest with 3 eggs on the Edwin S. George Reserve near Pinckney, Livingston County, on June 25, 1933. R. E. Olsen and A. D. Tinker photographed a nest with 5 eggs near Grass Lake, Jackson County, on June 12, 1932; Barrows (1912: 499) reported that the species had been found nesting in St. Clair, Lenawee, Kalamazoo, Kent, and Benzie counties.

FALL.—There is very little information available on fall migration of the Lark Sparrow in Michigan. J. B. Steere collected 2 specimens (U.M.M.Z.) at Ann Arbor on September 10, 1877, and A. D. Tinker saw an individual there on October 11, 1908. In the Detroit area, Swales observed 1 on October 13, 1913; and in the Toledo-Erie marsh area, L. W. Campbell (1940: 196) listed July 27 as the average date of departure, but saw the species there as late as August 16 in 1936.

*Junco hyemalis hyemalis* (Linnaeus)

Slate-colored Junco

Resident, common in the Upper Peninsula and in the northern third of the Lower Peninsula, uncommon south to Kent and Ingham counties. Winter visitant, regular in southern half of the Lower Peninsula, and occasional in the eastern counties of the Upper Peninsula.

First authoritatively listed for Michigan by Kneeland (1857: 236).

SPRING.—Slate-colored Juncos usually leave the southern part of Michigan in late April; numbers are sometimes recorded in the Upper Peninsula in early April.

Lower Peninsula.—L. W. Campbell (1940: 209) reported that most of the Slate-colored Juncos have left the Toledo-Erie marsh area by the end of April. Swales (1903: 39-40) noted them as common transients in the Detroit area during late March and in April; he recorded more than 200 there on April 9, 1908. In 1918 and 1919 N. A. Wood (1922: 22) noted flocks in Berrien County until the latter part of May; Walkinshaw (1939: 110) found that the species left the Battle Creek area by the last of April; and Gibbs (1885: 87) gave March as the period of its greatest abundance in Kalamazoo County. From 1931 to 1933 only an occasional individual

was seen at Sand Point, Huron County, by D. W. Douglass after the first week in May. Maurice G. Brooks saw about 12 near Tawas City, Iosco County, on March 17, 1939; N. A. Wood noted as many as 10 a day on Beaver Island, Charlevoix County, in the first half of May, 1929.

Upper Peninsula.—Christofferson usually finds the Slate-colored Junco at Blaney, Schoolcraft County, from mid-March to early May; he records numbers there in April (April 3 and 4, 1938: 75 each day; April 5, 1938: 100; April 22, 1937: 100). Bryens has made similar observations at McMillan, Luce County; he recorded 200 there, for example, on April 27, 1936. N. A. Wood (1933: 726) listed the species as a common transient at Copper Harbor, Keweenaw County, during late April and early May, 1931; Laurence Dayton reported it present on Isle Royale from mid-April to the time of his departure in late May (1937).

SUMMER.—Because of lack of information from the area between Crawford and Kent counties, the southern breeding boundary of the Slate-colored Junco is not well defined. Juncos are found breeding commonly in Crawford County. They were reported once from Kent County and twice from Ingham County, but there are no recent breeding records from that far south.

Lower Peninsula.—Alexander W. Blain, Jr. (1903c: 95), reported a Slate-colored Junco at Detroit on June 25 and July 15. H. A. Atkins (1879: 238) saw 1 near Locke, Ingham County, on July 8, and indicated that the species nested there in 1883 (Barrows, 1912: 513). Two specimens were collected near Grand Rapids by C. W. Gunn on July 13, 1878 (H. A. Atkins, 1879: 238), and R. H. Wolcott observed the species gathering nesting material there in June (Barrows, 1912: 513). Chaney (1910: 276) saw a pair at Hamlin Lake, Mason County, during the summer. Four to 15 were seen daily during July and early August in the vicinity of Lovells, Crawford County, by Leonard Wing in 1931; an adult feeding several young out of the nest was observed in Oscoda County by N. A. Wood and Frothingham (1905: 50) on June 15. Recently several parties from the Museum of Zoology have found the species breeding regularly in both Crawford and Oscoda counties. Van Tyne (1925: 623) collected 2 specimens near Boyne Falls, Charlevoix County, on August 3, and Widmann (1902: 235) believed that the species bred in Emmet County, where he observed several young of the year. At Douglas Lake, Cheboygan County, Blanchard and Nelson (MS of 1937) have found a number of nests with eggs between mid-June and early August.

Upper Peninsula.—The Slate-colored Junco has been noted as a common summer resident on Les Cheneaux Islands, Mackinac County (Van Tyne, 1923: 24); at Whitefish Point, Chippewa County (N. A. Wood, 1914:

68); and on Drummond Island, Chippewa County, where T. D. Hinshaw and R. A. MacMullan took several specimens (U.M.M.Z.) in 1938. Bryens found a nest with 5 eggs at McMillan, Luce County, on May 30, 1928, and saw fledglings being fed by the adults on August 8, 1936. In the Lake Superior State Forest, Luce County, F. W. Braund discovered a nest with 4 eggs on June 12, 1940, and N. A. Wood (1918: 11) listed the species as abundant at Whitefish Lake, Alger County. F. M. Gaige (1914: 86) found birds of the year at Brown Lake, Dickinson County, in late July and early August; in the Huron Mountains, Marquette County, both S. S. Gregory, Jr. (1929: 183), and Christy (1925: 214) listed the species as a common summer resident, and Van Tyne observed adults feeding young there on June 24, 1936. About 15 Juncos were seen daily in the summer of 1938 near Golden Lake, Iron County, by John L. George and R. L. Patterson, and a few pairs were believed to nest near Copper Harbor, Keweenaw County, by N. A. Wood (1933: 726). Although no nests were found on Isle Royale, adults were seen daily and young "in nearly all stages of plumage" were noted in late summer, 1905 (Max M. Peet, 1909: 368).

FALL.—In the Upper Peninsula the main flight extends from the latter part of August to mid-October, and in southern counties from late September to early November.

Upper Peninsula.—Max M. Peet (1909*a*: 117) recorded the species on Isle Royale until mid-September in 1905. Trautman saw 70 near Ewen, Ontonagon County, on October 2, and 60 near Trout Creek, Houghton County, on October 4, 1934. Ira N. Gabrielson listed the species as abundant and well distributed in the Huron Mountains, Marquette County, in late September, 1936; R. E. Olsen and A. D. Tinker saw more than 200 near Deer Park, Luce County, on August 28, 1934. At Whitefish Point, Chippewa County, the species was listed as common on August 15, 1925, by Fargo, and between August 24 and 28, 1931, by A. D. Tinker and R. E. Olsen. At Blaney, Schoolcraft County, Christofferson has observed numbers of Juncos in late September and October (50 seen on September 26, 1939; 75 on October 11, 1936; and 100 on October 21, 1940); Magee banded 1 at Sault Ste Marie, Chippewa County, on November 22, 1936.

Lower Peninsula.—J. Claire Wood (1913: 19) noted 30 of the species on October 13, and 150 on October 25, at Lincoln, Alcona County; Trautman reported 200 at Houghton Lake, Roscommon County, on October 17 and 18, 1936. Chaney (1910: 276) observed that Juncos became abundant in Mason County in the latter part of September; N. A. Wood (1911: 102) saw a few on Charity Island, Huron County, on September 9, and noted "hundreds" there on September 22; Gibbs (1885: 87) gave October as the period of greatest abundance in Kalamazoo County; Walkinshaw (1939:

110) has noted their arrival at Battle Creek, on the average, by October 1. Observers report the species appearing in the southeastern counties in late September or early October: L. D. Case saw 35 at Portage Lake, Jackson County, on September 30, 1939, and 75 there on October 1, 1939; A. D. Tinker saw 1 at Ann Arbor on September 23, 1930; and Brodkorb reported several there on September 28, 1938. Swales frequently recorded large numbers in the Detroit area: he saw 150 there on October 5, 1908; 100 on October 3, 4, 5, and 8, 1911; and 100 on November 5, 1910. L. W. Campbell (1940: 209) has noted the main flight in the Toledo-Erie marsh area between mid-September and mid-October, generally about the first of October.

WINTER.—The species apparently winters rarely in the eastern part of the Upper Peninsula, and regularly in the southern third of the Lower Peninsula.

Upper Peninsula.—Magee writes that he saw 2 or 3 Slate-colored Juncos at Sault Ste Marie in December, 1936. Christofferson saw 4 on February 22, 1923, at Brevort Lake, Mackinac County, and 25 on February 13, 1925, near Munising, Alger County.

Lower Peninsula.—E. K. Studt (1930: 45) saw several Juncos near Pewamo, Ionia County, in late December. Gibbs (1889: 188) stated that they were often seen all winter in Kalamazoo County; in the Ann Arbor area observers frequently report flocks of 10 or more: R. E. Morrill saw 10 on January 1, 1937, and 20 on January 1, 1939; John L. George noted about 60 on January 15, 1938. Swales made similar observations in the Detroit area, observing 15 on January 2, 1909, and 10 on January 7, 1902.

*Junco hyemalis cismontanus* Dwight  
Cassiar Junco

This junco, a rare straggler in Michigan, is represented by 5 specimens: 1 collected by B. F. Sykes at Kalamazoo on March 30, 1879; 3 by L. W. Campbell in Erie Township, Monroe County, on March 19, 1939, December 19, 1942, and March 26, 1944 (all in U.M.M.Z.); and 1 by Max M. Peet at Ann Arbor on November 2, 1918 (Peet collection).

*Spizella arborea arborea* (Wilson)  
Eastern Tree Sparrow

Winter resident, common in the southern half of the Lower Peninsula, rare in the eastern end of the Upper Peninsula.

First recorded for Michigan by Sager (1839: 415): "*Emberiza canadensis*."

FALL.—This sparrow is usually found in the Upper Peninsula from



early October to early November and appears in the southern part of the Lower Peninsula in mid-October or later.

Upper Peninsula.—Ten Tree Sparrows were seen by M. B. Trautman in southeastern Ontonagon County on October 4, 1934; 1 (U.M.M.Z.) was collected at Houghton, on October 30, 1904, by W. H. Grant; and S. S. Gregory, Jr., secured 1 in the Huron Mountains, Marquette County, October 6, 1930. O. M. Bryens (1939: 105) has recorded the species at McMillan, Luce County, from September 29 (1929) to December 8 (1932), usually noting numbers (47 on October 28, 1940) between early October and early November. The observations of Christofferson at Blaney, Schoolcraft County, are very similar to those of Bryens: 10 seen on October 23, 1940, and 25 seen on October 21, 1937; 1 seen on November 1, 1938, are typical records.

Lower Peninsula.—J. Claire Wood (1913: 18) recorded 30 Tree Sparrows at Lincoln, Alcona County, on October 25; at Houghton Lake, Roscommon County, Trautman saw over 80 on October 17, 1936, and 10 on November 28, 1938. N. A. Wood (1911: 101) found the species on Charity Island, Huron County, on October 3, observing "hundreds" there on October 6. L. H. Walkinshaw (1939: 110) has noted it arriving in the Battle Creek area in mid-October or later, and F. W. Rapp (1931: 23) found it near Vicksburg, Kalamazoo County, as early as September 23 in 1898. The species arrives in Ann Arbor during the first half of October (reported by A. D. Tinker on October 7, 1934, and October 18, 1931), and numbers are usually noted by the end of the month (15 birds seen by L. D. Case, October 23, 1939). Swales usually recorded the species in the Detroit area in the latter part of October (October 27, 1912, 5; October 21, 1916, several), but in 1903 saw several as early as October 6. L. W. Campbell (1940: 198) recorded arrival in the Toledo-Erie marsh area on October 14, 1934, but usually not until after the middle of the month.

WINTER.—Data available at the present time indicate that the species is a common winter resident in the southern half of the Lower Peninsula (A. M. Baumgartner, 1939: 137). It has also been found several times in Luce, Mackinac, and Schoolcraft counties in the Upper Peninsula.

Upper Peninsula.—Christofferson saw 20 Tree Sparrows near Rexton, Mackinac County, on February 9, 1923, and banded 1 at Blaney, Schoolcraft County, on January 31, 1940. At McMillan, Luce County, Bryens (1939: 105) observed 1 during the winter of 1929–30 and again 1 on January 31, February 1, and February 3, 1940.

Lower Peninsula.—Verne Dockham wrote that he spent from 1931 to 1935 in Gladwin and northern Midland counties and during that time observed Tree Sparrows only as far north as Edenville, Midland County. E.

K. Studt (1929: 47) saw 1 near Pewamo, Ionia County, on December 26, 1928, and A. W. Hanaford collected 1 (U.M.M.Z.) at Grand Rapids, Kent County, on February 18, 1890. The species has been found abundant in the southern counties. Gibbs (1885: 87) listed it as a common winter resident in Kalamazoo County, and Walkinshaw (1929*b*: 46) noted it as abundant in Calhoun County (80 Tree Sparrows near Battle Creek, December 26, 1928). A typical observation from Jackson County is one by Fargo and others (1928: 51); they saw 236 on December 24, 1927. Daily observations of several dozen birds are frequently reported in the Ann Arbor area (32 seen on December 21, 1937, by John L. George), and occasionally larger numbers (207 seen by J. and C. H. Van Tyne, 1920: 34, on December 25, 1919). Swales noted 200 or more in the Detroit area: November 26, 1909; December 3, 1900; and December 19, 1911. An exceptionally large number was seen by L. W. Campbell (1940: 175) who reported "at least 1000 birds" near the Erie marsh, Monroe County, on December 29, 1934.

SPRING.—Tree Sparrows generally leave the southern part of the state by the middle of April, occurring as transients in the north from the last of March to mid-May.

Lower Peninsula.—L. W. and B. R. Campbell reported 150 Tree Sparrows at the Erie marsh, Monroe County, on April 1, 1934, the former observer (1940: 198) noting the birds in this and the adjacent Toledo (Ohio) area until the last of April. Swales usually noted a few present in the vicinity of Detroit in early April (several seen on April 7, 1906, and 5 on April 9, 1908), and A. D. Tinker reported them in the Ann Arbor area on April 26, 1936, and April 29, 1934. Walkinshaw (1939: 110) has found the species departing from the Battle Creek area about the middle of April, noting 1, however, on May 1 in 1934. G. A. Ammann observed Tree Sparrows at the Prairie Farm, Alicia, Saginaw County, until May 3, 1940; and D. W. Douglass found them present at Sand Point, Huron County, until the last week in April (1931 to 1933). Two specimens (M.C.Z.) were secured at Oden, Emmet County, by William Brewster on May 17, 1888.

Upper Peninsula.—Bryens (1939: 105) has found the species at McMillan, Luce County, from March 21 (1938) to May 13 (1928). Although observing only small numbers of the birds at Blaney, Schoolcraft County, on any particular day (4 seen on April 24, 1936), Christofferson has found them to be the most common there in April and early May. N. A. Wood (1933: 726) listed the species as a common migrant at Copper Harbor, Keweenaw County, in the latter part of April, 1931. Laurence Dayton observed it on Isle Royale from the middle of April to the middle of May, and N. A. Wood collected a specimen (U.M.M.Z.) there on May 6, 1930.

*Spizella passerina passerina* (Bechstein)  
Eastern Chipping Sparrow

Common summer resident. Common transient. One winter record (Ingham County).

First authoritatively recorded for Michigan by Kneeland (1857: 236).

SPRING.—The Eastern Chipping Sparrow appears in Michigan by mid-April, and in addition to the summer residents large numbers migrate through Michigan from the latter part of April to mid-May.

Lower Peninsula.—The average date of arrival for individuals in the Toledo-Erie marsh area is April 14 (L. W. Campbell, 1940: 196, 210) and for the main flight, about a week later. Swales (1903: 39) noted the species in the Detroit area usually in early April; observers in the Ann Arbor area have on occasion reported it in late March (H. W. Hann saw 1 on March 27, 1938), and have found numbers present by the middle of April (C. J. Spiker saw 32 on April 14, 1933). N. A. Wood (1922: 22) recorded the Chipping Sparrow in Berrien County in late April; Walkinshaw (1939: 108) gave April 12 (1930 to 1940) as average date of arrival in the Battle Creek area, but in 1929 recorded the species there on March 25. From 1931 to 1933 D. W. Douglass observed the species to be the most common during the last few days of April and the first week in May at Sand Point, Huron County.

Upper Peninsula.—Christofferson has generally noted the species at Blaney, Schoolcraft County, the latter part of April, and has observed it there in numbers in the second week of May (10 birds seen on May 11, 1937; 12 seen on May 14, 1938). Bryens has made similar observations at McMillan, Luce County; and Brodkorb reported the species as common at Whitefish Point, Chippewa County, May 8 to 23, 1936. In the vicinity of Copper Harbor, Keweenaw County, N. A. Wood (1933: 726) reported flocks of 30 to 50 between May 4 and May 25. Laurence Dayton saw the species on Isle Royale on May 12, 1937, and later; N. A. Wood collected 2 specimens (U.M.M.Z.) there, May 9 and 26, 1930.

SUMMER.—Nests and eggs are found chiefly in late May, June, and early July.

Lower Peninsula.—Swales (1903: 39; and notes) listed the species as a common summer resident in the Detroit area and recorded several nests there in the latter part of May, including one with 4 eggs found on May 20, 1889, and another with 3 eggs found on the following day. L. D. Case reported a nest with well developed young on August 11, 1939, near Ann Arbor; and A. S. Hyde discovered a nest with 1 egg near Pinckney, Livingston County, on May 24, 1936. The species was listed as a common summer resident in Berrien County (N. A. Wood, 1922: 22) and also in the

vicinity of Vicksburg, Kalamazoo County (F. W. Rapp, 1931: 23, nest with 1 egg found there on May 3, 1897). N. A. Wood and Gaige (1911: 292) found that the Chipping Sparrow was very abundant in northwestern Huron County and noted young birds of the year commonly by early July. Chaney (1910: 276) observed this sparrow to be "abundant and everywhere" in Mason County; Leonard Wing recorded 4 to 50 of the birds daily near Lovells, Crawford County, in July, 1931; in 1940 D. E. Davis reported them as abundant and nesting in Benzie County; and Widmann (1902: 235) listed the species as numerous in Emmet County. In Charlevoix County it was found to be abundant on the mainland (Van Tyne, 1925: 622-23) and (Barrows, 1904: 80) on Beaver Island. Blanchard and Nelson (MS of 1937) reported the species as nesting commonly in the vicinity of Douglas Lake, Cheboygan County, during the last of June and first part of July.

Upper Peninsula.—Bryens found the species nesting at McMillan, Luce County, during June, as a rule, but in 1935 he reported 1 nest with 4 eggs on May 27; in Lake Superior Forest, farther north in the county, F. W. Braund discovered 3 nests, with 4 eggs each, during mid-June, 1940. N. A. Wood recorded the species as very common at Whitefish Point, Chippewa County (1914: 68), and noted it as nesting commonly at Whitefish Lake, Alger County (1918: 11). It was listed by both Christy (1925: 213) and S. S. Gregory, Jr. (1929: 183), as an abundant nester in the Huron Mountains, Marquette County, and by Gaige (1914: 86) as rather common at Brown Lake, Dickinson County; Gaige recorded a nest under construction on July 3, and 4 young just out of another nest on July 20, 1909. As many as 20 individuals were observed daily in the summer of 1938 at Golden Lake, Iron County, by John L. George and R. L. Patterson; but on Isle Royale the species was found rather uncommonly, 1 nest being noted on July 20, 1905 (Peet, 1909: 367-68).

FALL.—The main flight occurs from mid-August to mid-September in the northern part of the state and extends to mid-October in the southern counties.

Upper Peninsula.—Flocks of 12 to 60 Chipping Sparrows were seen on Isle Royale from mid-August to the latter part of September (Peet, 1909a: 117; 1909: 367-68). R. E. Olsen and A. D. Tinker counted 200 at Deer Park, Luce County, on September 1, 1936; only 50 on the following day; and 10 on the third day. At Whitefish Point, Chippewa County, the species was listed as common by Fargo on August 5, 1925; and by Tinker and Olsen on August 26, 1931. The records of Christofferson at Blaney, Schoolcraft County, indicate that the main flight occurs there between late August and mid-September, illustrated by typical records of 1937: 20 Sparrows

seen on August 20, 50 on August 22, 30 on August 26, 30 on September 17, and 1 on October 28.

Lower Peninsula.—J. Claire Wood (1913: 18) recorded an individual at Lincoln, Alcona County, on October 10 and October 12; A. D. Tinker and R. E. Olsen saw more than 100 at Red Oak, Oscoda County, on September 1, 1934, and less than 20 on the following day. N. A. Wood and Frothingham (1905: 50) listed the species as very common in Iosco County on September 20 and 21. Walkinshaw (1939: 108) has usually recorded it in the Battle Creek area until the middle of October and, in 1935, until November 1. Swales generally noted 10 to 15 birds daily in the Detroit area during the first part of October, recording larger numbers in 1911 (100 on October 2, and 50 on October 8). L. W. Campbell (1940: 196, 210) found the majority had left the Toledo-Erie marsh area on the average by October 9 and stragglers on the average by October 19.

WINTER.—There is 1 winter record of the Chipping Sparrow: H. A. Atkins (1882a: 100) collected a specimen near Locke, Ingham County, on December 9, 1881.

*Spizella pallida* (Swainson)  
Clay-colored Sparrow

Uncommon transient. Local resident in the northern half of the Lower Peninsula and in parts of the Upper Peninsula.

First authoritatively listed for Michigan by P. A. Taverner (1905: 89).\*

SPRING.—The few records available indicate that this sparrow appears as a transient chiefly during the first 3 weeks in May.

Lower Peninsula.—There are at least 4 spring records for this peninsula: a Sparrow seen May 9, 1936, in Erie Township, Monroe County, by L. W. Campbell; a specimen (U.M.M.Z.) collected May 2, 1901, near Port Huron, St. Clair County, by P. A. Taverner (cited above); 1 (U.M.M.Z.) collected and 1 noted, May 11, 1933, at Sand Point, Huron County, by D. W. Douglass; and "at least 25" seen May 29, near Lovells, Crawford County, by Walkinshaw (1939c: 17).

Upper Peninsula.—There are 6 records for the north: a specimen (U.M.M.Z.) was collected May 22, 1914, at Whitefish Point, Chippewa County, by N. A. Wood (1914: 68); the species was seen May 8, 1937, at Seney, Schoolcraft County, by Walkinshaw, and 2 Sparrows were seen May

\* Specimens in the L. W. Watkins collection (U.M.M.Z.), identified by Watkins as Clay-colored Sparrows, have been shown to be immature Chipping Sparrows; hence, Amos W. Butler's statement (1898: 960) that Watkins collected several individuals of the former species from a flock of over 40 seen near Manchester (see Van Tyne, 1941: 413-14) must be discounted.

7, 1936, at Blaney in the same county by Christofferson; 1 was noted May 19, 1929, at McMillan, Luce County, by Bryens (1939: 105); several were seen in May, 1930, on Isle Royale by N. A. Wood, and 2 (U.M.M.Z.) were collected there May 22, 1930, by A. Murie.

SUMMER.—Nests and eggs have been found from mid-June to mid-July.

Lower Peninsula.—A Clay-colored Sparrow was observed singing on the Edwin S. George Reserve near Pinckney, Livingston County, on June 14, 1934, and for about two weeks after that date (Trautman and Van Tyne, 1935: 458), but there is no certain evidence of actual nesting farther south than Ogemaw and Roscommon counties. J. Kittredge (1925: 144) saw 1 flightless young and 4 adults near West Branch, Ogemaw County, on July 11, 1924; he also noted the species near Roscommon in late June and early July. After this first indication of the breeding status of the Clay-colored Sparrow in Michigan, its presence during the breeding season was noted in several other localities of the state. Between July 4 and August 1, 1937, near Lovells, Crawford County, Walkinshaw (1939c: 17-21) noted 10 nests, among them 2 with 4 eggs each (July 4 and 11), and a nest under construction (July 5); on August 1 he saw a young Sparrow that had just left the nest. Leonard Wing observed 4 to 20 of these sparrows in the same locality between mid-June and early August, 1931, and collected a number of specimens (U.M.M.Z.). R. E. Morrill found a nest (U.M.M.Z.) with 3 eggs of this species and one of the Cowbird near Mio, Oscoda County, June 11, 1938. Other reports include: several seen in the southeastern corner of Kalkaska County, July 24, 1939, by D. W. Douglass; 2 (U.M.M.Z.) collected, and several seen, June 26, 1939, on South Fox Island, Leelanau County, by A. E. Staebler; 1 (U.M.M.Z.) collected June 29, 1938, on Whiskey Island, Charlevoix County, by R. E. Morrill; 1 (U.M.M.Z.) collected June 13, 1936, near Atlanta, Montmorency County, by T. D. Hinshaw; and several seen in late July, 1924, in the southwest of Presque Isle County by Kittredge (1925: 144).

Upper Peninsula.—A nest and adult birds were noted June 15, 1937, at Blaney, Schoolcraft County, by Mr. and Mrs. F. L. DuMond, and a nest (U.M.M.Z.) with 5 eggs collected there June 27, 1935, by Christofferson; the species was seen July 3 and 10, 1933, at McMillan, Luce County, by Bryens (1939: 105), and in late July, 1926, in the southwest of Menominee County by J. Kittredge (1927: 259). Several were noted and a number (U.M.M.Z.) collected June 5 to 7, 1931, at Rapid River, Delta County, by Leonard Wing (1940: 197). G. B. Saunders found a nest with 4 eggs on June 1, 1934, in L'Anse Township, Baraga County, and estimated 15 pairs to be present in the vicinity. In mid-June, 1934, he saw and heard several in McMillan Township, Ontonagon County, where on June 27, 1935, he col-

lected a nest (U.M.M.Z.) with 3 eggs. Walkinshaw listed the species as numerous in the vicinity of Norway Lake, Iron County, June 27-28, 1933; and on July 21, 1932, Leonard Wing collected 2 specimens (U.M.M.Z.) near Ironwood in Gogebic County.

FALL.—The southward migration apparently extends from the last of August to the early part of October.

Upper Peninsula.—Several Sparrows were seen, and 1 (U.M.M.Z.) was collected, in late August on Isle Royale (N. A. Wood, Peet, and McCreary, 1906: 125); in the same locality Wood collected 2 additional specimens (U.M.M.Z.) on August 23, 1929. A number (U.M.M.Z.) were collected on August 28, 1931, near Alpha in Iron County, by Leonard Wing, and 4 seen on August 11, 1924, near Vulcan, Dickinson County, by J. Kittredge (1925: 144). The species' presence farther east than these counties has been recorded by Bryens (1939: 105) on October 6, 1928 (at McMillan, Luce County); and by Christofferson, September 13, 1936 (at Blaney, Schoolcraft County).

Lower Peninsula.—One Clay-colored Sparrow was banded and 3 others seen September 21, 1940, at Grand Rapids by Mrs. F. L. DuMond; and 8 were banded October 8, 1904, at Lansing by K. K. Kreag.

*Spizella pusilla pusilla* (Wilson)

Eastern Field Sparrow

Common summer resident in the Lower Peninsula. Reported from parts of the Upper Peninsula. Recorded once in winter (Monroe County).

First listed for Michigan by Sager (1839: 414).

SPRING.—Arrival of individuals is reported in late March and beginning of main flight by the first week in April.

Lower Peninsula.—In the Toledo-Erie marsh area, L. W. Campbell (1940: 196) listed March 30 as the average date of arrival of individuals; in the Detroit area, Swales usually recorded individuals during the first week of April and found the species common by the middle of the month. Field Sparrows have occasionally been reported in late March in the vicinity of Ann Arbor; a specimen (Max M. Peet collection) was taken by R. E. Morrill on March 13, 1938, and 5 individuals were seen by Maurice G. Brooks on March 26, 1939. N. A. Wood (1922: 22) noted the species as a common migrant in Berrien County from the end of April (1918 to 1920); Walkinshaw (1939: 108) gave April 2 as the average date of arrival in the vicinity of Battle Creek. G. A. Ammann recorded arrival at the Prairie Farm, Alicia, Saginaw County, on April 9, 1940, and D. W. Douglass, at Sand Point, Huron County, by mid-April or somewhat later in the years 1931 to 1933.

SUMMER.—Breeding specimens (U.M.M.Z.) have been taken as far north in the Lower Peninsula as Crawford County and South Fox Island, Leelanau County. Nests with eggs have been reported from early May to early August though they are found most commonly between late May and mid-July.

Lower Peninsula.—Swales (1892*b*: 159) noted a nest with 3 eggs near Detroit on August 2, 1892. In the Ann Arbor area, nests have been found as early as May 11 (1936, nest with 4 eggs, by L. D. Case) and May 20 (1936, nest with 3 young and 2 eggs, by R. A. MacMullan and R. E. Morrill). In the southwestern part of the peninsula, N. A. Wood (1922: 22) listed the species as a common summer resident in Berrien County (1918 to 1920); Walkinshaw (1936*b*: 94) found nests near Battle Creek between May 2 (1931, nest with 3 eggs) and August 10 (1923, nest with 4 eggs); and F. W. Rapp (1931: 23–24) discovered a nest with 3 eggs near Vicksburg, Kalamazoo County, on August 2, 1902. This sparrow was listed as a common breeder in northwestern Huron County (N. A. Wood and Gaige, 1911: 292); in Crawford County as many as 20 were seen in a day during July and early August, 1931, and several specimens (U.M.M.Z.) were secured (Leonard Wing, notes). N. A. Wood saw 2 near Charlevoix, in late August, 1922 (Van Tyne, 1925: 623), and A. E. Staebler collected 2 (U.M.M.Z.) on South Fox Island, Leelanau County, in late June, 1939. N. A. Wood, Smith, and Gates (1916: 15) saw 1 near Douglas Lake, Cheboygan County, on July 22; Blanchard and Nelson (MS of 1937) noted adults feeding fledglings on July 7, 1931, August 8, 1931, and August 8, 1937.

Upper Peninsula.—Apparently no specimens have been collected from this peninsula, but the species has been reported a number of times. Magee wrote that he saw 1 Field Sparrow near Sault Ste Marie, on May 27, 1923, and found a nest with young there in July, 1910. Bryens (1939: 105) noted a Field Sparrow at McMillan, Luce County, on May 8, 1934, and he has several September and October sight records. N. A. Wood (1918: 11) saw the species at Whitefish Lake, Alger County, on June 25 and July 14; Leonard Wing (1940: 198) observed the species at Rapid River, Delta County, on June 5.

FALL.—The scanty information available indicates that the Eastern Field Sparrow migrates southward in September and early October. N. A. Wood (1911: 101–2) saw it in numbers on Charity Island, Huron County, on September 27. Walkinshaw (1939: 108) observed it at Battle Creek as late as November 7 in 1935, but gave October 22 as the average date of departure from that locality. Near South Haven, Van Buren County, Leonard Wing saw 5 birds on September 17, 1931; and N. A. Wood col-



lected a number (U.M.M.Z.) in the vicinity of Ann Arbor in late September and early October, 1906. Swales generally recorded the species in the Detroit area only until the last of September, although in 1912 he observed it in numbers in mid-October (15 on October 13, 10 on the following day, and 5 on October 18). L. W. Campbell (1940: 196) noted October 30 as the average date of departure for the species in the Toledo-Erie marsh area.

WINTER.—Two specimens (U.M.M.Z.) were collected in Erie Township, Monroe County, on January 22, 1944, by L. W. Campbell and Harold Mayfield.

*Zonotrichia querula* (Nuttall)  
Harris's Sparrow

Rare transient. One winter record (Chippewa County).

First recorded for Michigan by T. L. Hankinson (1897a: 46).

SPRING.—A specimen (U.M.M.Z.) collected by Walter E. Hastings at Lake Leelanau, Leelanau County, on May 21, 1937, is apparently the only spring record from the Lower Peninsula. In the Upper Peninsula, Bryens (1939: 105) has noted the species at McMillan, Luce County, from May 13 (1939) to May 21 (1924). At Sault Ste Marie, Magee banded an individual on April 21, 1929, and has banded several others during the first 3 weeks of May. A specimen was secured by N. A. Wood (1931: 617) at Copper Harbor, Keweenaw County, on May 20, 1931.

FALL.—The species is apparently more abundant in the fall than in spring. Migrants are reported in the north from mid-September to mid-October and in the southern peninsula during October.

Upper Peninsula.—Walter Koelz saw a few of these sparrows on Isle Royale on September 28 (N. A. Wood, 1930: 268), and F. J. Herman wrote that he banded 1 at Laurium, Houghton County, on September 17, 1923. Specimens collected in this peninsula include: 2 (U.M.M.Z.) taken by L. C. Anderson near Ironwood, Gogebic County, 1 on September 24 and 1 on October 24, 1932; and 6 specimens (S. S. Gregory, Jr., collection) secured in the Huron Mountains, Marquette County, by S. S. Gregory, Jr., between September 26 (1919) and October 17 (1930). J. N. Lowe reported that he saw a flock of nearly 100 at Marquette in early October, 1930. Bryens (1939: 105), at McMillan, Luce County, and Christofferson, at Blaney, Schoolcraft County, have recorded the species from late September to mid-October.

Lower Peninsula.—Miller Empey has a specimen he collected near Roscommon, on November 9, 1929. E. M. Brigham has found the species at least twice at Battle Creek: on October 1, 1930, and on October 10, 1933 (Walkinshaw, 1939: 111). E. Arnold collected a specimen near Battle Creek on October 12, 1894 (Barrows, 1912: 500). F. W. Rapp (1931: 23)

recorded the species in the vicinity of Vicksburg, Kalamazoo County, on October 30, 1929. An individual was banded by Leonard Wing and others (1927: 40) at Jackson on October 19, 1924.

WINTER.—Richard Ryan collected a specimen at Sault Ste Marie, on February 22, 1900 (Barrows, 1912: 500)—the only winter record for Michigan.

*Zonotrichia leucophrys leucophrys* (Forster)  
White-crowned Sparrow

Regular transient. Recorded once in winter (Jackson County).

First recorded for Michigan by Sager (1839: 415).

SPRING.—Individuals are reported from late April to late May; the main flight occurs during the first 3 weeks of May.

Lower Peninsula.—In the Toledo-Erie marsh area, L. W. Campbell (1940: 210) reported main flight between May 9 and May 19. In 1889 Swales recorded White-crowned Sparrows in the Detroit area as early as April 27; he regularly recorded them in numbers in mid-May (12 on May 14, 1909), and in 1917 he saw several as late as May 27. Similar records from the Ann Arbor area are: 3 seen on April 29, 1940, by R.E. Morrill; more than 30 on May 5, 1912, by N. A. Wood; and 1 specimen (U.M.M.Z.) collected May 22, 1935, by Van Tyne. N. A. Wood (1922: 21) recorded this sparrow in Berrien County as uncommon, noting it there from May 6 to May 17; Walkinshaw (1939: 111) noted it in the Battle Creek area April 30, 1936, and generally found it there by late April. Near Alicia, Saginaw County, G. A. Ammann observed 3 White-crowned Sparrows on May 10, and 6 on May 13, 1940, and at Sand Point, Huron County, D. W. Douglass found this sparrow during mid-May (5 in 1932; 1 in 1933). N. A. Wood saw a few on Beaver Island, Charlevoix County, during the second week of May, 1929.

Upper Peninsula.—Bryens (1939: 105) has recorded the White-crowned Sparrow at McMillan, Luce County, as a rule during the first 3 weeks of May, but in 1938 he found it as early as April 27 and in 1937 as late as June 2. An individual was recorded by N. A. Wood (1914: 68) on Whitefish Point, Chippewa County, on May 19, 1914; several specimens (U.M.M.Z.) were collected there by Brodkorb between May 9 and 19, 1936. S. S. Gregory, Jr., secured a specimen in the Huron Mountains, Marquette County, on May 14, 1921; at Copper Harbor in Keweenaw County, N. A. Wood (1933: 725) observed White-crowned Sparrows from May 11 to May 25, 1931. Laurence Dayton reported them on Isle Royale on May 12, 1937, and N. A. Wood recorded 5 there on May 16, 1930.

FALL.—The main flight occurs between mid-September and mid-October.

Upper Peninsula.—Flocks of 5 or 6 were seen on Isle Royale from Sep-

tember 12 to 20 (Max M. Peet, 1909a: 119), and 3 specimens (U.M.M.Z.) were taken there in 1929 by N. A. Wood, 2 on September 25 and 1 on September 29. Trautman saw 1 Sparrow in 1934 near Sidnaw, Houghton County, on October 1, and 3 near Ewen, Ontonagon County, on October 2. Ira N. Gabrielson saw more than 20 in the Huron Mountains, Marquette County, on September 25, 1936; Bryens (1939: 105) has recorded 1 to 3 at McMillan, Luce County, from mid-September to mid-October, and Christofferson found 1 at Blaney, Schoolcraft County, as late as November 7, 1933.

Lower Peninsula.—D. Stoner (1920: 136) reported a White-crowned Sparrow at Douglas Lake, Cheboygan County, on August 8, a most exceptionally early date. J. Claire Wood (1913: 18) noted 3 at Lincoln, Alcona County, on October 7; N. A. Wood (1911: 101) found this sparrow abundant on Charity Island, Huron County, between September 29 and October 4. Walkinshaw (1939: 111) has noted it in the Battle Creek area from late September (September 29, 1929) to the latter part of October (October 26, 1934). Ten White-crowned Sparrows were seen at Portage Lake, Jackson County, by R. E. Olsen, A. D. Tinker, and T. D. Hinshaw on October 7, 1934, and 5 were noted near South Lyon, Oakland County, by Walter E. Hastings on October 17, 1926. J. Claire Wood reported (Swales, notes) them as fairly common near Detroit on September 19, 1901; Swales observed considerable numbers there in early October, noting 15 on October 1, 1913, and the same number on October 2, 1904. L. W. Campbell (1940: 210) has found them migrating through the Toledo-Erie marsh area chiefly between October 3 and 19.

WINTER.—Winthrop Davey collected a White-crowned Sparrow (U.M.M.Z.) near Jackson on February 19, 1944.

*Zonotrichia leucophrys gambelii* (Nuttall)

Gambel's Sparrow

Uncommon transient.

First recorded for Michigan by Magee (1926: 163-164).

This account is based almost entirely on the records of bird banders and a few specimens in the Museum of Zoology.

SPRING.—This sparrow is recorded chiefly in the first 3 weeks of May.

Lower Peninsula.—H. W. Hann and G. A. Ammann observed a Gambel's Sparrow near Ann Arbor on May 12, 1937, and N. A. Wood collected 2 specimens (U.M.M.Z.) in Berrien County in 1918, 1 on May 6 and 1 on May 13 (Van Tyne, 1930: 95). A number have been banded at East Lansing, Ingham County; 1 was secured on May 5, 1927, by J. W. Stack (Van Tyne, 1930: 96); other records include 2 banded by F. E. Ludwig,

1 on April 24, 1931, and 1 on May 6, 1932. Mr. and Mrs. F. L. DuMond banded 1 at East Grand Rapids, Kent County, on May 16, 1939; and F. E. Ludwig 1 at Port Huron, St. Clair County, on May 20, 1940.

Upper Peninsula.—Bryens (1939: 105-6) has banded a number of Gambel's Sparrows at McMillan, Luce County, between May 4 (1938) and May 16 (1939). Brodkorb (1936: 455) collected a specimen (U.M.M.Z.) at Whitefish Point, Chippewa County, on May 19, 1936; Magee secured 1 (U.M.M.Z.) at Sault Ste Marie on May 16, 1928, and has banded several there in the early part of May. In the western part of the peninsula, near Copper Harbor, Keweenaw County, N. A. Wood (1933: 726) collected 2 specimens (U.M.M.Z.), 1 on May 16, and 1 on May 18, and observed the species there until May 23.

FALL.—Two specimens have been taken in the north. S. S. Gregory, Jr. (J. T. Zimmer and Gregory, 1929: 244-45), collected 1 in the Huron Mountains, Marquette County, on October 12, 1924, and Christofferson secured a specimen (U.M.M.Z.) at Blaney, Schoolcraft County, on October 14, 1939. Christofferson banded 1 at Blaney on October 12, 1939, and Magee (Van Tyne, 1930: 96) banded 2 at Sault Ste Marie, 1 on September 27, and 1 on October 10, 1927. Bryens has banded a number at McMillan, Luce County, between September 10 (1933) and November 10 (1938). Records from the Lower Peninsula are represented by 2 specimens (U.M.M.Z.): 1 was collected by Leonard Wing (1931: 132) near Jackson on October 13, 1930, and 1 was secured by L. W. Campbell in Erie Township, Monroe County, on October 5, 1935.

*Zonotrichia albicollis* (Gmelin)  
White-throated Sparrow

Common transient. Summer resident in the Upper Peninsula and northern third of the Lower Peninsula. Winter straggler in southeastern counties.

First authoritatively recorded for Michigan by Sager (1839: 415).

SPRING.—Individuals appear in the Lower Peninsula about the middle of April and reach the north by the end of the month; main flight occurs in late April and early May.

Lower Peninsula.—In the Toledo-Erie marsh area (L. W. Campbell, 1940: 210), and in the Detroit area (Swales, 1903: 38), these sparrows are found in greatest abundance between the latter part of April and mid-May. In the vicinity of Ann Arbor observers generally report individuals by the middle of April and greater numbers by early May; John L. George saw 20 on May 1, 1938. The species is a common transient in Berrien County from late April to late May (N. A. Wood, 1922: 21-22); it has arrived in the Battle Creek area in the last week of April (1930 to 1940—Walkinshaw).

R. E. Olsen and A. D. Tinker saw 30 in Hartland Township, Livingston County, on May 9, 1937; and D. W. Douglass reported hundreds seen at Sand Point, Huron County, between the last of April and mid-May of the years 1931 to 1933.

Upper Peninsula.—Christofferson has regularly observed these sparrows at Blaney, Schoolcraft County, during the last week of April and has recorded them in numbers during May; in 1938 he saw 8 on May 14, and 10 on May 20. Bryens has noted 1 to 3 in late April and in May at McMillan, Luce County. Christofferson saw about 50 near Eckerman, Chippewa County, on May 1, 1927, but Brodkorb found the species rather uncommon at Whitefish Point in the same county in mid-May, 1936. Laurence Dayton recorded White-throated Sparrows on Isle Royale daily between April 30 and the last of May, 1937.

SUMMER.—The southern limit of the breeding range in Michigan is not adequately defined. The species apparently nests in Crawford and Oscoda counties in the Lower Peninsula and may breed farther south (Barrows, 1912: 504; Gibbs, 1897: 35). Nests with eggs have been reported from late May to the latter part of July.

Lower Peninsula.—The species has been recorded twice in the southern part of the peninsula during the summer: T. D. Hinshaw collected a specimen (U.M.M.Z.) near Ann Arbor on June 14, 1940, and Walkinshaw (1940b: 92) observed an individual near Battle Creek on June 18, 19, and 20. Farther north, in Benzie County, D. E. Davis reported the species to be a common breeder between 1924 and 1935; N. A. Wood and Frothingham (1905: 50) observed it frequently during summer in Crawford and Oscoda counties. In Charlevoix County, it has been reported as common on the mainland (Van Tyne, 1925: 622), and on Beaver Island, Barrows (1904: 80) noted several pairs with young of the year in early July. In the vicinity of Douglas Lake, Cheboygan County, Blanchard and Nelson (MS of 1937) found 2 nests, each with 4 eggs, 1 nest on July 2, and 1 on July 9.

Upper Peninsula.—In Mackinac County, A. D. McGrew (1917: 125) found 2 nests near Hessel, 1 with 3 eggs on July 22, and 1 with 4 eggs on July 24, and Van Tyne (1923: 24) found the species abundant on Les Cheneaux Islands. Several nests have been reported from Chippewa County: on Drummond Island a nest with 2 eggs, by T. D. Hinshaw and R. A. MacMullan, July 6, 1938; at Munuscong Bay a nest with 4 eggs, June 1, 1927, and near Sault Ste Marie another nest with 4 eggs, May 30, 1925, by Christofferson. F. W. Braund and J. W. Aldrich found 2 nests, each with 4 eggs, in the Lake Superior State Forest, Luce County, 1 nest on June 15 and 1 on June 19. N. A. Wood (1918: 11) saw the species regularly in the northwestern part of Alger County, and Gaige (1914: 85-86)

listed it as the most numerous bird at Brown Lake, Dickinson County. John L. George and R. L. Patterson saw 15 to 20 of the species in a day, at James Lake, Iron County, in the summer of 1938, and N. A. Wood (1933: 726) listed it as a common summer resident at Copper Harbor, Keweenaw County. It has also been reported as very common on Isle Royale (Peet, 1909: 366-67), where 2 nests were found, 1 nest with young, July 17, and 1 with 4 eggs, July 19.

FALL.—The White-throated Sparrow migrates through the Upper Peninsula from the last of August to early October and through the south from mid-September to late October.

Upper Peninsula.—The species was seen daily by Max M. Peet (1909a: 117) from mid-August to mid-September on Isle Royale, and was abundant there in early September. In Ontonagon County, near Lake Gogebic, Trautman saw 55 on October 3, 1934; in the Huron Mountains, Marquette County, Ira N. Gabrielson found these sparrows very abundant in 1936 between September 21 and 24, but noted only a few between September 24 and 27. A. D. Tinker and R. E. Olsen reported considerable numbers in Deer Park, Luce County, 50 on August 30, 1934, and 100 on September 1, 1936. The species usually leaves the vicinity of McMillan, Luce County (Bryens), and of Blaney, Schoolcraft County (Christofferson), about the middle of October.

Lower Peninsula.—J. Claire Wood (1913: 18) found a few White-throated Sparrows at Lincoln, Alcona County, recording 4 on October 10, and 8 on the following day. Trautman saw 20 at Houghton Lake, Roscommon County, on October 9, 1937, and 10 on October 1, 1938. N. A. Wood (1911: 101) saw thousands on Charity Island, Huron County, between September 21 and 28, but by October 11 only 5. R. E. Olsen and A. D. Tinker have occasionally found the birds numerous in Hartland Township, Livingston County, recording 30 on September 29, and 20 on October 13 in 1935. There are a few scattered reports of similar observations from other southern counties: John L. George saw 10 near Ann Arbor on October 18, 1938; Leonard Wing noted 15 near South Haven, Van Buren County, on September 18, 1931; Swales (1903: 39) listed the species as very common in the Detroit area in September and October and occasionally in early November; and J. Claire Wood (1903b: 81) noted 3 small flocks there as early as August 6, 1903.

WINTER.—This sparrow winters at least occasionally in Washtenaw, Wayne, and Monroe counties: J. Van Tyne recorded 1 at Ann Arbor on February 8, 1919; Swales (1912: 129) saw 1 on Grosse Ile, Wayne County, December 19; and L. W. Campbell (1940: 177) has reported the species from Erie Township, Monroe County, on January 10, 1937, January 23 and December 17, 1938, and December 17, 1939.

*Passerella iliaca iliaca* (Merrem)  
Eastern Fox Sparrow

Common transient. Two winter records (Monroe County).

First recorded for Michigan by Kneeland (1857: 236).

SPRING.—The Fox Sparrow is usually reported from the latter part of March to mid-April in southern counties and until mid-May in the Upper Peninsula.

Lower Peninsula.—In the Toledo-Erie marsh area L. W. Campbell (1940: 210) has noted Fox Sparrows the most commonly from the last of March to mid-April. Swales (1903: 40; 1905: 112-13; notes) made similar observations in the Detroit area; he occasionally found large numbers (40 on March 25 and the same number on April 18) but usually recorded smaller numbers (10 on April 15, 1906; 15 on April 2, 1905). Fox Sparrows are generally noted in the Ann Arbor area in late March or early April, occasionally in numbers (14 on April 3, 1938, and 15 on April 5, 1939, by John L. George); at Portage Lake in Jackson County, 20 were seen by A. D. Tinker and R. E. Olsen on April 11, 1937. Walkinshaw (1939: 111) has found this sparrow in the Battle Creek area from the latter part of March through the third week in April; F. H. Chapin collected a specimen (U.M.M.Z.) near Kalamazoo as early as March 8 (1879). At Sand Point, Huron County, D. W. Douglass listed Fox Sparrows in mid-April (1 as late as May 4 in 1933). The largest numbers he observed there were 12 on April 16, 1931, and the same number on April 19, 1933.

Upper Peninsula.—Christofferson has generally noted 1 or 2 Fox Sparrows several times during each April at Blaney, Schoolcraft County. Bryens (1939: 106; and notes) has made similar observations at McMillan, Luce County, his extreme dates being March 17 (1928, 1 bird seen) and May 12 (1928). N. A. Wood (1933: 727) listed the Fox Sparrow from Copper Harbor, Keweenaw County, on April 24 and May 21; on Isle Royale, Laurence Dayton found it from April 25 to 28, 1937.

FALL.—The Fox Sparrow is usually reported from late September to mid-October in the north, and to late October or early November in the south.

Upper Peninsula.—Apparently the only fall record from Isle Royale is a specimen (U.M.M.Z.) secured by N. A. Wood on September 16, 1929. Trautman saw 3 Fox Sparrows near Trout Creek, Ontonagon County, on October 4, 1934. In the Huron Mountains, Marquette County, S. S. Gregory, Jr. (1929: 183), listed the species from September 17 to October 22. Ira N. Gabrielson recorded 2 there September 23, and 2 on September 25 (1936). Christofferson has usually noted them in the vicinity of Blaney, Schoolcraft County, in the middle of October, and sometimes in late September (September 29, 1932, September 30, 1933). Bryens has made simi-

lar observations at McMillan, Luce County, but recorded 1 there as late as November 18 (1940).

Lower Peninsula.—J. Claire Wood (1913: 19) recorded Fox Sparrows at Lincoln, Alcona County, on October 7, 8, and 25 (several on each date); Trautman noted 4 at Houghton Lake, Roscommon County, on October 2, 1938. They were listed by N. A. Wood (1911: 103) on Charity Island, Huron County (in numbers), between September 25 and October 6, and by Walkinshaw (1939: 111) in the vicinity of Battle Creek, from mid-October to mid-November. Swales recorded 20 in Atlas Township, Genesee County, on October 23, 1904. L. D. Case saw 2 near Ann Arbor on October 23, 1939, and W. H. Grant collected 1 (U.M.M.Z.) there on November 7, 1903. Taverner secured 1 (U.M.M.Z.) in the Detroit area on September 27, 1908; Swales recorded numbers at Detroit from mid-October to early November (10 on October 15, 1912, 10 on October 27, 1909, and 15 on November 3, 1910). The more recent observations of L. W. Campbell (1940: 210) in the nearby Toledo-Erie marsh area are similar to those of Swales, the birds being noted there the most commonly between October 11 and November 9.

WINTER.—L. W. Campbell saw 1 Fox Sparrow in Erie Township, Monroe County, on December 5, 1937, and 1 (1940: 177) on December 17, 1938.

*Melospiza lincolnii lincolnii* (Audubon)

Lincoln's Sparrow

Regular transient. Summer resident in Luce and Schoolcraft counties in the Upper Peninsula and possibly in Crawford County in the Lower Peninsula.

First authoritatively recorded for Michigan by Gibbs (1879: 486).

SPRING.—Individuals are reported in the last few days of April or in early May, larger numbers during the last 3 weeks of May.

Lower Peninsula.—L. W. Campbell (1940: 197, 210) gives May 9 as the average date of earliest arrival for individuals in the Toledo-Erie marsh area, and May 13 for the main flight. Specimens (U.M.M.Z.), taken in the southeastern corner of Michigan, include: Rockwood, Monroe County, May 12, 1934 (1 by N. A. Wood); Greenfield Township, Wayne County, May 15, 1904 (1 by Taverner); the Ann Arbor area, April 30, 1936 (1 by L. D. Case); May 17, 1911 (1 by N. A. Wood); and May 24, 1917 (1 by Walter Koelz). In Berrien County, N. A. Wood (1922: 22) procured several specimens (U.M.M.Z.) between May 10 and 15, 1920. Gibbs (1885: 87) listed Lincoln's Sparrow as a rare straggler in Kalamazoo County; Walkinshaw (1939: 111) saw 1 at Battle Creek on May 5, 1934. The species was seen at the Prairie Farm, Alicia, Saginaw County, by G. A.



Ammann on May 13, 1940; a specimen (U.M.M.Z.) was collected at Fish Point, Tuscola County, by N. A. Wood on May 24, 1926; and 3 individuals (May 19, 25, and 27, 1931) were banded at Sand Point, Huron County, by D. W. Douglass.

Upper Peninsula.—In Chippewa County, R. E. Olsen collected a specimen (U.M.M.Z.) at Munuscong Bay on May 13, 1934, and Brodkorb collected 2 specimens (U.M.M.Z.) at Whitefish Point (May 10 and 21, 1936). Bryens (1939: 106) has observed Lincoln's Sparrows at McMillan, Luce County, between May 7 (1935) and May 22 (1937). In 1931 N. A. Wood collected a specimen (U.M.M.Z.) at Copper Harbor, Keweenaw County, on May 25 (1933: 727); and 4 specimens (U.M.M.Z.) on Isle Royale in 1930, 2 on May 13, and 2 on May 22.

SUMMER.—Lincoln's Sparrow has recently been found during the summer in several localities in Michigan, and it is known to nest in the eastern part of the Upper Peninsula.

Lower Peninsula.—Walkinshaw (1941*d*: 69–71) and several other observers noted about 6 of these sparrows singing near Lake Margrethe, Crawford County, on June 22, 1941. They watched 2 adults with food in their bills, but were unable to find a nest or young. On July 4 and 5, a number of adults were seen in the same locality, but again no nest or young could be found.

Upper Peninsula.—About 12 miles north of Newberry, Luce County, F. W. Braund (1940: 67–68) found 2 nests, each with 4 eggs, on June 12, and on June 21, 2 more nests, 1 with 5 eggs, and 1 with young. N. A. Wood (1918: 11) collected a specimen (U.M.M.Z.) in the northwestern part of Alger County on July 24, 1916. At Blaney, Schoolcraft County, Christofferson and Magee observed 5 of these sparrows singing on June 30, 1932; and on July 5, they found a fledgling that was barely able to fly.

FALL.—The fall migration, for which the records are more numerous than for the spring, occurs mainly between the last of August and early October.

Upper Peninsula.—This sparrow was listed as common on Isle Royale from September 12 to 15, 1905, by Max M. Peet (1909: 368); and specimens (U.M.M.Z.) were collected there by N. A. Wood between August 28 and September 19, 1929. S. S. Gregory, Jr. (1929: 183), recorded Lincoln's Sparrow as a rare transient in the Huron Mountain region, Marquette County, and collected a specimen there on September 24, 1933. In 1936 Ira N. Gabrielson also collected 1 there on September 21 and saw 5 individuals on both September 22 and September 25. At Deer Park, Luce County, R. E. Olsen and A. D. Tinker saw 4 on August 29, 1938, and 2 on the next day. Near McMillan in the same county, Bryens (1939: 106) has

found this sparrow between August 15 (1932) and October 19 (1937). Magee banded an individual at Sault Ste Marie on October 13, 1938, and at Blaney, Schoolcraft County, Christofferson saw 2 on September 17, 1937, and banded 1 on October 6, 1940.

Lower Peninsula.—Three Lincoln's Sparrows were seen near Houghton Lake, Rosecommon County, on October 1, 1938, by Trautman, and 1 at Grayling, Crawford County, on September 6, 1903, by N. A. Wood and Frothingham (1905: 50). On Charity Island, Huron County, N. A. Wood (1911: 102-3) listed this sparrow in 1910 from September 7 to October 1, recording it as common on September 14, 18, and 21. At Battle Creek, W. E. Mulliken (1899: 8) collected a specimen on September 24, and E. M. Brigham, Jr., banded 1 on October 17, 1938 (Walkinshaw: 1939: 111). At least 10 Lincoln's Sparrows were seen and another collected near St. Joseph, Berrien County, by G. A. Ammann on September 28, 1938. Near Ann Arbor, in 1942, A. E. Staebler saw 4 Lincoln's Sparrows on September 26; 4 on September 29; five (1 in U.M.M.Z.) on October 3; and 2 on October 6. At Detroit Swales (1905: 112) listed this sparrow as a regular transient during the first 10 days of October; J. Claire Wood (1909: 46) saw it there on September 7; and Taverner (1908: 207) observed it near Detroit on September 13. L. W. Campbell (1940: 210) recorded the species in the Toledo-Erie marsh area from mid-September to mid-October.

*Melospiza georgiana* (Latham)  
Swamp Sparrow

Common summer resident. Individuals winter occasionally in some southern counties.

First authoritatively listed for Michigan by Sager (1839: 415).

SPRING.—Individuals frequently arrive in Michigan during the latter part of March, but the time of the main flight is between mid-April and the last week of May.

Lower Peninsula.—L. W. Campbell (1940: 210) has observed the Swamp Sparrow in numbers in the Toledo-Erie marsh area between early April and early May. A. D. Tinker saw 2 as early as March 13, 1919, near Ann Arbor, where numbers are reported after the first week in April (15 seen by T. D. Hinshaw on April 11, 1935, and 15 by R. L. Patterson on April 24, 1940). In 1935, R. E. Olsen and others saw more than 50 Swamp Sparrows at Portage Lake, Jackson County, on April 14 and more than 100 there 2 weeks later. N. A. Wood (1922: 22-23) listed the species as a migrant in Berrien County during the first half of May; Walkinshaw (1939: 108) gave April 2 as the average date of arrival in the Battle Creek area. From 1931 to 1933 at Sand Point, Huron County, D. W. Douglass saw up to 4 a day by mid-April.

Upper Peninsula.—In Chippewa County, Christofferson and Magee saw a Swamp Sparrow at Munuscong Bay on April 14, 1928; 2 at Sault Ste Marie on April 19, 1927; and 10 at Eckerman on May 1, 1927. Christofferson banded 1 at Blaney, Schoolcraft County, on April 29, 1938, and saw 4 there the following day. N. A. Wood (1933: 727) in 1931 collected a specimen (U.M.M.Z.) at Copper Harbor, Keweenaw County, on April 28, and took 2 (U.M.M.Z.) in 1930 on Isle Royale, 1 on May 17, and 1 on May 31.

SUMMER.—Nests and eggs of the Swamp Sparrow have been found from mid-May to the end of the third week in July.

Lower Peninsula.—L. W. Campbell (1940: 178) estimated that there were at least 25 pairs in the Erie marsh, Monroe County, in late June, 1934. Gibbs (1885: 87) listed the species as a not uncommon summer resident in Kalamazoo County, where F. W. Rapp (1931: 24) found a nest with 2 eggs, near Vicksburg on May 7, 1925. Walkinshaw found a nest, with 4 eggs, at Battle Creek on May 24, 1931. Apparently the first published instance of breeding in Michigan is a nest with 4 eggs collected in the St. Clair Flats, St. Clair County, on June 16, 1903, by A. W. Blain, Jr. (1903*b*: 82). This sparrow was listed as not common in northwestern Huron County by N. A. Wood and Gaige (1911: 293), and a nest with 3 eggs was found by G. A. Ammann at the Prairie Farm, Alicia, Saginaw County, on May 18, 1940. Clyde Karshner collected a set of 5 eggs (U.M.M.Z.) near Big Rapids, Mecosta County, on April 30, 1896. In the Douglas Lake area, Cheboygan County, Blanchard and Nelson (MS of 1937) found 3 nests: 1 with 4 eggs on July 8, 1 with 3 eggs on July 10, and 1 with 3 eggs on July 22.

Upper Peninsula.—On Les Cheneaux Islands, Mackinac County, where he found a nest on July 1, Van Tyne (1923: 24) listed the Swamp Sparrow as an uncommon summer resident. The species was found to be common, however, at Whitefish Point, Chippewa County, by N. A. Wood (1914: 69), and also at Seney, Schoolcraft County, by Brodkorb in mid-June, 1936. F. W. Braund found a nest with 4 eggs in the Lake Superior State Forest, Luce County, on June 9, 1940; Gaige (1914: 86) collected a young bird of the year (U.M.M.Z.) on July 19, and saw several other Swamp Sparrows there until the end of the month. Both Christy (1925: 214) and S. S. Gregory, Jr. (1929: 183), have stated that this sparrow is an uncommon summer resident in the Huron Mountains, Marquette County. Max M. Peet (1909: 369) recorded a young Swamp Sparrow that was seen with the adults on Isle Royale, July 26.

FALL.—Main flight occurs between the latter part of September and the latter part of October.

Upper Peninsula.—N. A. Wood collected 3 specimens (U.M.M.Z.) on

Isle Royale between August 30 and September 16, 1929. In 1936 Ira N. Gabrielson saw 4 on September 25 and 1 on the following day in the Huron Mountains, Marquette County. Christofferson banded 1 at Blaney, Schoolcraft County, on October 1, 1939, and saw 2 others there later, on October 21. In 1930 Bryens (1939: 106) observed the species at McMillan, Luce County, as late as October 27.

Lower Peninsula.—J. Claire Wood (1913: 19) saw 4 Swamp Sparrows in Alcona County on October 11; Trautman saw 8 at Houghton, Roscommon County, on October 1, 1938. The species was listed as rather common on Charity Island, Huron County, between October 4 and 11 by N. A. Wood (1911: 103). Walkinshaw (1939: 108) has given October 22 as the average date of departure from the Battle Creek area, his latest record being November 7 (1935). Five Swamp Sparrows were seen by H. A. Mathiak near Ann Arbor on October 17, 1937, and a number of specimens (U.M.M.Z.) have been collected there in the early part of the month. In the Detroit area, J. Claire Wood procured 1 specimen (U.M.M.Z.) on October 23, and 2 (U.M.M.Z.) on November 11, 1906.

WINTER.—The Swamp Sparrow has been found during the winter in 4 of the southern counties. D. L. Allen collected a specimen (U.M.M.Z.) near Augusta, Kalamazoo County, on January 7, 1936. One Swamp Sparrow was seen near Jackson on December 24 and again on December 28 by Fargo and others (1925: 46); in the vicinity of Ann Arbor, 1 was seen by Otto McCreary on February 23, 1906 (Van Tyne, 1926: 117), and 1 (U.M.M.Z.) was collected by Van Tyne on January 20, 1926. Among specimens (U.M.M.Z.) from Erie Township, Monroe County, are 1 taken December 28, 1936, by G. A. Ammann; 3 taken February 4, 1940, February 24, 1934, and February 26, 1933, by Van Tyne. L. W. Campbell (1940: 179) reported that there were more than 50 Swamp Sparrows in the Erie marsh, Monroe County, on February 5, 1939; on North Cape, in the same county, he and Van Tyne saw dozens of the birds on February 4, 1940.

*Melospiza melodia euphonia* Wetmore

Mississippi Song Sparrow

Very common summer resident in the Lower Peninsula and the eastern two-thirds of the Upper Peninsula. A few winter regularly in the southern half of the Lower Peninsula and 1 has been reported in winter from the Upper Peninsula.

The species was first listed for Michigan by Sager (1839: 415).

The Upper Peninsula appears to be an area of intergradation between the present form and the Dakota Song Sparrow (*Melospiza melodia juddi*). Most of the specimens (U.M.M.Z.) from the area are intermediate in some

degree between the 2 forms; specimens from Keweenaw, Houghton, Ontonagon, and Gogebic counties seem nearer to *M. m. juddi*, and those from the rest of the peninsula to *M. m. euphonia* (see Fargo, 1932: 208-11).

SPRING.—The time of arrival of summer residents is not certainly determined because of the presence of wintering Song Sparrows, but individuals apparently arrive in early March, and the main flight period is between mid-March and early April.

Lower Peninsula.—L. W. Campbell (1940: 179) noted that the number of Song Sparrows in the Toledo-Erie marsh area increased considerably during March; Swales (1903: 40) reported arrival in the Detroit area in March. In the Ann Arbor area main flight occurs apparently in late March and early April; John L. George observed totals of more than 20 Song Sparrows several times between March 22 and April 1, 1939. Barrows (1912: 517) believed that the species migrated northward in large numbers through the southern part of Michigan between mid-March and mid-April. D. W. Douglass reported migration through Sand Point, Huron County, in the last half of April (1931 to 1933).

Upper Peninsula.—Christofferson observed a Song Sparrow at Blaney, Schoolcraft County, as early as March 18 in 1939, and 1 on March 23, 1938. At McMillan, Luce County, Bryens (1939: 106) recorded the species as early as March 13 in 1928; and at Sault Ste Marie, Magee saw several on March 22, 1933.

SUMMER.—The Song Sparrow is one of the commonest breeding birds in Michigan. Nests with eggs have been found from the early part of April to mid-August.

Lower Peninsula.—The species was listed as a common summer resident in the Detroit area by Swales (1903: 40); among the nests reported in the Ann Arbor area are 1 with a full set of eggs found by A. D. Tinker April 22, 1906, and 1 with 5 eggs found on June 6, 1936, by G. A. Ammann. F. W. Rapp (1931: 24) discovered nests in the vicinity of Vicksburg, Kalamazoo County, between April 2 (1897, 1 with 2 eggs) and July 7 (1897, 1 with 5 eggs), and Floyd Huggett found a nest with 3 eggs near Battle Creek, Calhoun County, on August 19, 1937. The species has been listed as a common summer resident in Huron County (N. A. Wood and Gaige, 1911: 292-93), at Hamlin Lake, Mason County (Chaney, 1910: 276), and in Crawford, Iosco, Alcona, and Oscoda counties (N. A. Wood and Frothingham, 1905: 50; and later data). Van Tyne (1925: 623) listed it as "a common breeding bird of very general distribution" in Charlevoix County. At Douglas Lake, Cheboygan County, Blanchard and Nelson (MS of 1937) have found nests from June 16 (nest with young) to August 2 (nest with eggs).

Upper Peninsula.—This species was recorded as a very common summer resident at both Les Cheneaux Islands, Mackinac County (Van Tyne, 1923: 24), and at Whitefish Point, Chippewa County (N. A. Wood, 1914: 68-69). Christofferson found a nest with 5 eggs at Blaney, Schoolcraft County, on May 22, 1930, and Bryens 1 with 4 eggs at McMillan, Luce County, on May 18, 1930. The species was seen frequently at Whitefish Lake, Alger County, by N. A. Wood (1918: 11); it was listed as abundant at Brown Lake, Dickinson County, by Gaige (1914: 86), who found fledglings by July 8 and saw 1 nest with 4 eggs on July 24. S. S. Gregory, Jr. (1929: 183), listed the Song Sparrow as a common summer resident in the Huron Mountains, Marquette County, and there are several specimens (U.M.M.Z.) from that locality. Specimens (U.M.M.Z.) taken by Leonard Wing in Baraga County, 1 at Covington on July 8, 1932, and 1 at Three Lakes, June 9, 1930, are referred to *M. m. euphonia*.

FALL.—Departure is in general reported during the latter part of October.

Upper Peninsula.—Bryens (1939: 106) at McMillan, Luce County, and Christofferson at Blaney, Schoolcraft County, reported departure in the last half of October. The latest Bryens has seen it in his vicinity is October 30 (1933).

Lower Peninsula.—J. Claire Wood (1913: 19) counted 12 Song Sparrows at Lincoln, Alcona County, on October 11. Trautman believed that the period of main migration was during the first half of October in the vicinity of Houghton Lake, Roscommon County. He saw as many as 40 there on October 10, 1938, and noted up to 4 at a time there on several later dates—in 1936 as late as November 8. A number of specimens (U.M.M.Z.) have been taken in the southern half of the peninsula during the fall, but they add little to our knowledge of the fall migration because this sparrow commonly winters there. Swales (1903: 40) reported departure from the Detroit area in October; L. W. Campbell (1940: 179) found that numbers in the Toledo-Erie marsh area increased considerably during October.

WINTER.—There is 1 record from the Upper Peninsula: Bryens (1939: 106) observed a Song Sparrow at McMillan, Luce County, December 25 to January 28 during the winter of 1932-33. In the Lower Peninsula Song Sparrows winter regularly north to Saginaw County. G. A. Ammann saw a few almost daily in 1940 at the Prairie Farm, Alicia, Saginaw County, from January 23 until the arrival of the spring migrants on April 11. Walkinshaw recorded a few every winter in the Battle Creek area in the years 1930 to 1940, and F. W. Rapp (1931: 24) listed the species in the vicinity of Vicksburg, Kalamazoo County. It appears on nearly every Christmas-census count taken in the southern counties in numbers varying

from 1 to 10. L. W. Campbell (1940: 179) listed it as a permanent resident in the Toledo-Erie marsh area, on occasion recording as many as 50 wintering there.

*Melospiza melodia juddi* Bishop  
Dakota Song Sparrow

Summer resident in Baraga, Gogebic, Ontonagon, Houghton, and Keweenaw counties and on Isle Royale.

First listed for Michigan by Fargo (1932: 208-11), although specimens had been received (U.M.M.Z.) from the Porcupine Mountains and Isle Royale as early as 1904.

SPRING.—James H. Wood collected a specimen (U.M.M.Z.) near Ironwood, Gogebic County, on April 12, 1932; N. A. Wood (1933: 727) found first arrivals of the species (U.M.M.Z.) at Copper Harbor, Keweenaw County, on April 23, and observed small flocks until May 15, 1931. Lawrence Dayton saw a Song Sparrow on April 25, 1937, on Isle Royale, and N. A. Wood saw 4 there when he arrived on May 4, 1930.

SUMMER.—John L. George and R. L. Patterson saw at least 10 Song Sparrows daily at Golden Lake in western Iron County (no specimens in U.M.M.Z. from this county), during the summer of 1938. At Ironwood, Gogebic County, L. W. Wing collected a number of specimens (U.M.M.Z.) in July, 1932, and also a number (U.M.M.Z.) in southern Houghton County during the summers of 1931 and 1932. Several specimens were secured in the Porcupine Mountains, Ontonagon County, late in the summer of 1904, and adults were seen feeding fledglings there on July 22 (N. A. Wood, Peet, and McCreary, 1906: 117). A few Song Sparrows were observed on Isle Royale in the summers of 1904 and 1905 (Peet, 1909: 368), and a nest was found there with several half-grown young in the second week of June, 1930, by N. A. Wood.

FALL.—Max M. Peet (1909a: 117; 1909: 368) did not record the species on Isle Royale later than August 25 in 1904 and 1905; but in 1929, N. A. Wood saw it there as late as October 1, and A. Murie as late as October 5. R. E. Olsen secured a specimen (U.M.M.Z.) at Little Girl's Point, Gogebic County, on September 16, 1940. Trautman found numbers in early October, 1934, noting 12 on October 2, near Matchwood, Ontonagon County, 18 on October 4, near Trout Creek, Ontonagon County, and 15 on October 5, near Covington, Baraga County.

*Calcarius lapponicus lapponicus* (Linnaeus)  
Lapland Longspur

Transient and occasional winter visitant in the Upper Peninsula; regular winter visitant in the Lower Peninsula, though rather uncommon in the southern counties. Exact status not known.

First recorded for Michigan by Kneeland (1857: 236).

FALL.—The Lapland Longspur is found in the Upper Peninsula from mid-September to mid-November, and arrives in the south between the last of September and early October.

Upper Peninsula.—N. A. Wood and A. Murie collected a number of specimens (U.M.M.Z.) on Isle Royale, September 28 and 30, 1929; F. M. Gaige saw 12 Lapland Longspurs at Copper Harbor, Keweenaw County, on September 13, and several small flocks on September 21, 1933. Trautman recorded 140 Longspurs near Ewen, Ontonagon County, on October 2, 1934; Ira N. Gabrielson saw 3 and collected 1 on September 25, 1936, in the Huron Mountains, Marquette County, and S. S. Gregory, Jr., collected single specimens there on October 1, 1928, and October 9, 1924. At McMillan, Luce County, Bryens occasionally recorded individuals and groups before the middle of September (1 on September 10, 1930, and 46 on September 13, 1933); he has usually recorded considerable numbers in October (100 on October 4, 1939, and 600 on October 3, 1933).

Lower Peninsula.—Trautman reported numbers of Lapland Longspurs at Houghton Lake, Roscommon County, on several occasions; he saw 125 there on November 27, 1937, and 200 on November 6, 1938. In Newaygo County in 1938, G. A. Ammann saw 30 near Bitely on November 6, and 10 in Grant Township on October 30. N. A. Wood (1911: 100) noted 2 on Charity Island, Huron County, on September 30, October 2, and October 3, 1910; T. L. Hankinson reported the species in Ingham County on November 15, 1896 (Barrows, 1912: 487). A flock of 10 was seen at Portage Lake, Jackson County, by R. E. Olsen and several other observers October 28, 1934; in the vicinity of Battle Creek, Calhoun County, the species has been recorded by Walkinshaw on October 22 (1936) and October 30 (1938). L. W. Campbell (1940: 179–80) has found the birds numerous in the Toledo–Erie marsh area and reports regular arrival there during the last half of October.

WINTER.—The Lapland Longspur occurs in small numbers in the Upper Peninsula (usually less than 10 birds seen at a time), and in flocks of 50 to 400 individuals in the Lower Peninsula.

Upper Peninsula.—O. B. Warren (1894: 180) secured a specimen of the Lapland Longspur at Palmer, Marquette County, on January 22, 1894, the first winter record, he believed, for that part of Michigan. Bryens, who has observed considerable numbers of Longspurs at McMillan, Luce County, during the fall, has noted them only occasionally in winter; he saw 2 on January 10, 1932, and in 1939, 6 on February 10 and 11, 8 on February 12 and 13.

Lower Peninsula.—Winter records and specimens are lacking from



north of Newaygo and Tuscola counties. In 1934 R. E. Olsen and A. D. Tinker saw 100 Lapland Longspurs at Fish Point, Tuscola County, on February 18, and 50 near Vassar in the same county on February 25. Trautman secured a specimen (U.M.M.Z.) near Grant, Newaygo County, on February 11, 1935; A. D. Tinker and T. D. Hinshaw each collected a specimen (U.M.M.Z.) near Brighton, Livingston County, on February 17, 1935. On December 25, 1908, W. E. Praeger (1909: 30) recorded a flock of 75 near Kalamazoo, and W. Wilkowski, Jr., reported (Barrows, 1912: 487) the Longspur as abundant there in December, 1902, and January, 1903. Observers have found the species in some numbers in the Ann Arbor area in recent years: L. D. Case saw 60 on January 5, 1936; R. E. Olsen and A. D. Tinker noted over 100 on February 2, 1936; and M. T. Sturgeon reported 35 on January 4, 1940. Swales (1903: 38) listed the species as a rare winter visitant in the Detroit area; J. Claire Wood (1910: 41) saw 8 there on December 13, and 15 on December 15, and he collected several specimens (U.M.M.Z.) on January 2, 1910. L. W. Campbell (1940: 179-80) reported the Longspur a common winter visitant in the Toledo-Erie marsh area, where he has often seen flocks of 200 to 400 individuals.

SPRING.—The Longspur is recorded in considerable numbers during March and April in the Lower Peninsula and during April in the Upper Peninsula, the last individuals departing in late April and mid-May.

Lower Peninsula.—L. W. Campbell (1940: 210) reported main flight in the Toledo-Erie marsh area in mid-April. Near Belleville, Wayne County, R. E. Olsen and A. D. Tinker saw over 300 Longspurs on March 7, 1937, and on the same date observed 200 near Ann Arbor. R. E. Olsen and T. H. Weller noted a flock of 300 near Ann Arbor as late as April 13 (1934); and T. D. Hinshaw and Leonard Wing collected a number of specimens (U.M.M.Z.) there on April 21, 1934. Walkinshaw saw 2 Longspurs near Bellevue, Calhoun County, on April 6, 1941, and with H. A. Olsen saw 7 in Lee Township of the same county on April 19, 1931. He also reported a flock of 150 near Capac, Sanilac County, on March 31 (Walkinshaw, 1941c: 63). G. A. Ammann listed the species as abundant at the Prairie Farm, Alicia, Saginaw County, until May 18 in 1940, noting 500 on May 13 and 150 on May 17.

Upper Peninsula.—Bryens has generally observed first arrivals at McMillan, Luce County, in late March or early April; he reported 36 Longspurs on March 28, 1938, 2 on April 7, 1940, and 1 on April 6, 1931. He has recorded considerable numbers in his area during April—60 on April 9, 1941, 70 on April 20, 1939; he has noted a few stragglers until late May, and in 1930 recorded 1 as late as June 1. In the western part of the peninsula, N. A. Wood (1933: 725) saw 2 Lapland Longspurs at Copper

Harbor, Keweenaw County, on May 11, 1931, and Laurence Dayton reported the species from Isle Royale on May 18 and 19, 1937.

*Plectrophenax nivalis nivalis* (Linnaeus)  
Eastern Snow Bunting

Winter visitant, common except in the southern 3 tiers of counties.

First recorded for Michigan by Sager (1839: 415).

FALL.—The Snow Bunting generally appears in the north about the middle of October and in the southernmost counties of the Lower Peninsula in late October or later.

Upper Peninsula.—W. H. Grant collected 2 specimens (U.M.M.Z.) at Houghton, on October 23, 1904; R. Bohland 1 (U.M.M.Z.) at Lake Gogebic, Gogebic County, on October 20, 1940, and S. S. Gregory, Jr., 2 in the Huron Mountains, Marquette County, on October 19, 1920. In 1937 Christoffer-son saw 10 Buntings at Blaney, Schoolcraft County, as early as September 28. Bryens has regularly noted a few at McMillan, Luce County, in the first part of October (October 2, 1928; October 12, 1940), and considerable numbers during the early part of November (500 on November 2, 1940, and 700 on November 5, 1938).

Lower Peninsula.—Walter E. Hastings reported "large flocks" of Snow Buntings at Norwood, Charlevoix County, on November 21, 1910 (Van Tyne, 1925: 622). Trautman recorded considerable numbers at Houghton Lake, Roscommon County: 25 on October 1, 1938; 400 on October 18, 1936; and 200 on November 1, 1936. Large numbers were also noted by J. Claire Wood (1913: 17-18) at Lincoln, Alcona County, in 1912: 100 on October 26; 150 on October 31; and 200 on November 5. One of the earliest fall records for Michigan is September 25, when Chaney (1910: 275) noted an individual, in Mason County. Barrows (1912: 485) reported a specimen taken by Selous at Greenville, Montcalm County, October 9, 1897, and another by N. A. Wood at Caseville, Huron County, October 12, 1910. Trautman collected a specimen (U.M.M.Z.) near Ann Arbor on October 13, 1934. According to Swales (1903: 38), the species regularly arrived in Detroit during the latter part of October, and L. W. Campbell (1940: 210) has consistently noted flocks in the Toledo-Erie marsh area by the first week of November.

WINTER.—The Snow Bunting occurs irregularly in winter in groups of 10 to 50 individuals and in flocks of 100 to 300 birds.

Upper Peninsula.—Laurence Dayton listed the Snow Bunting as common on Isle Royale during the last 2 weeks of December, 1936. Specimens (U.M.M.Z.) from the western part of the peninsula include 1 collected by L. C. Anderson at Ironwood, Gogebic County, on December 15, 1932, and

several by F. F. Tubbs in Ontonagon County on February 1, 1935. Christofferson observed a flock of 150 at Marquette, on January 23, 1937, and 100 on January 10, 1941, at Blaney, Schoolcraft County, where he has frequently noted considerable numbers.

Lower Peninsula.—John L. George and Maurice G. Brooks saw 10 Snow Buntings near Johannesburg, Otsego County, on January 25, 1941, and a flock of 100 on the previous day in Iosco County. Southward this bunting has been recorded from: central Missaukee County (November 27, 1937, flocks of more than 200, Trautman); Sand Point, Huron County (February 18, 1934, more than 200, A. D. Tinker and R. E. Olsen); around Vicksburg, Kalamazoo County (rare winter visitant—F. W. Rapp, 1931: 22); Calhoun County (December 26, 1926, 14 Buntings—Walkinshaw, 1927: 34-35; December 26, 1937, 40 Buntings—N. T. Peterson and others, 1938: 55); Jackson County (December 25, 1929, 315 Buntings—Leonard, Harold F., and Maurice O. Wing, 1930: 45); Ann Arbor area (early February, 1936, 60 Buntings seen by A. E. Staebler, 300 by Trautman); Detroit area (rare or absent some years; abundant others, especially the winters of 1902-3 and of 1910-11, when 100 were seen on January 1—Swales, 1903: 38; and notes).

SPRING.—The Snow Bunting leaves the southern counties during the latter part of March or early April; a few remain in the extreme north until May.

Lower Peninsula.—L. W. Campbell (1940: 210) reported the species leaving the Toledo-Erie marsh area in mid-February. It leaves the Detroit area about the middle of March (Swales, 1903: 38); has been seen south of Milan, in Monroe County, until March 22 (1940, 8 to 10 counted by R. L. Patterson); near Ann Arbor until March 21 (1879, specimen in U.M.M.Z., J. B. Steere); at Fish Point, Tuscola County, through early May (1926, specimen in U.M.M.Z., May 6; individual seen May 11, N. A. Wood); at Sand Point, Huron County, until April 22 (1932, 34 on April 13, 75 on April 15, and 1 on April 22, D. W. Douglass); and on Beaver Island, Charlevoix County, until May 4 (1929, N. A. Wood).

Upper Peninsula.—Exceptionally large numbers of Snow Buntings have been reported from the eastern end of this peninsula: from St. Ignace, Mackinac County (March 4, 1936, 3000, Christofferson); Sault Ste Marie (March 26, 1921, 10,000 estimated, Magee); Pickford, Chippewa County (April 18, 1923, 5000, Christofferson); Whitefish Point, Chippewa County (1936, 2 specimens, U.M.M.Z., May 16 and May 21, Brodkorb); McMillan, Luce County (occasional in early May, seen on May 3 in 1934, May 9 in 1931, Bryens). The species has also been reported from Marquette (specimen, U.M.M.Z., on March 18, 1894, and 1, also U.M.M.Z., on April 14, 1895,

O. B. Warren); near Ironwood, Gogebic County (mid-April, 1933, specimens, U.M.M.Z.—L. C. Anderson); and Isle Royale (mid-April to mid-May, 1937, occasional, Laurence Dayton).

#### HYPOTHETICAL LIST

##### *Pelecanus occidentalis* Linnaeus Brown Pelican

Both Gibbs (1893a: 124) and Barrows (1912: 69, 735) quoted reports of Brown Pelicans taken in Michigan, but they did not themselves examine the birds referred to, and no Michigan specimen is now known.

##### *Anser albifrons albifrons* (Scopoli) White-fronted Goose

Barrows (1912: 116–17) listed the White-fronted Goose for Michigan, but cited no unquestionable record. There are sight records from Munuscong Bay, Chippewa County, May 16 to 22, 1929 (Christofferson), and from Union Pier, Berrien County, November 3, 1933 (G. F. Raz, 1935: 200). No Michigan specimen is known, but specimens have been taken on the St. Clair Flats, Ontario (J. H. Fleming, 1906: 453).

##### *Elanus leucurus majusculus* Bangs and Penard White-tailed Kite

Barrows (1912: 260–61), Covert (1881: 188), and A. J. Cook (1893: 61) listed the White-tailed Kite for Michigan, but Swales (1913: 33–34) pointed out that the evidence was inadequate.

##### *Ictinia mississippiensis* (Wilson) Mississippi Kite

The Mississippi Kite was listed for Michigan by Gibbs (1879: 490), A. J. Cook (1893: 61), and Barrows (1912: 261). The basis for these listings was a manuscript record of a specimen taken by D. D. Hughes in Cass County, a record which Swales (1913: 34) considered "vague and unsatisfactory."

##### *Lagopus lagopus* (Linnaeus) Willow Ptarmigan

Gibbs (1879: 491) listed the Willow Ptarmigan for Michigan. Barrows (1912: 228) thought that it had formerly occurred in the state, at least on Keweenaw Point; however, he knew of no Michigan specimens. In 1931 Leo C. Anderson reported that he had seen 2 in December, 1921, near Ironwood, Gogebic County.

*Numenius americanus* Bechstein  
Long-billed Curlew

Barrows (1912: 203-4) included the Long-billed Curlew in his Michigan list on the basis of doubtful records. Oberholser (1918: 188-95; 1918a: 350-51) published a supposed record of this curlew breeding in Michigan and later corrected his statement. No Michigan specimen is known.

*Recurvirostra americana* Gmelin  
Avocet

Barrows (1912: 169-70) listed the Avocet for Michigan but was unable to verify reports of specimens taken here.

*Himantopus mexicanus* (Müller)  
Black-necked Stilt

Barrows (1912: 170-71) had examined no Michigan specimen of the Black-necked Stilt; he included it in his list on the basis of rather questionable records.

*Larus pipixcan* Wagler  
Franklin's Gull

Franklin's Gull was listed for Michigan by Gibbs (1879: 495) and Barrows (1912: 55, 734). Barrows, however, stated that he knew of no Michigan specimen or unquestionable record (see also Swales, 1913: 30). In recent years, Franklin's Gull has been reported twice in Michigan: by E. R. Ford (1927: 116) on June 11, 1922 (1 seen at Ottawa Beach, Ottawa County); and by Trautman and L. W. Campbell on November 24, 1938 (1 seen in Erie Township, Monroe County). Campbell has collected the species nearby in Ohio.

*Rissa tridactyla tridactyla* (Linnaeus)  
Atlantic Kittiwake

Gibbs (1879: 495), J. Claire Wood (1892: 17), S. E. White (1893: 222), and Boies (1897: 17) all listed the Atlantic Kittiwake for Michigan. Barrows (1912: 50), although he included it in his list, pointed out that there had always been "some doubt as to its right to the place," and there is no wholly satisfactory record.

*Pica pica hudsonia* (Sabine)  
American Magpie

Barrows (1912: 411-12) thought that the American Magpie had for-

merly occurred in Michigan. It had been listed by Fox (1853: 161), Kneeland (1857: 235), and others, but no wholly satisfactory record is known.

*Carduelis carduelis* (Linnaeus)  
European Goldfinch

In 1913 Henry Ford liberated a number of European Goldfinches in Detroit (J. C. Phillips, 1928: 49). On February 9, 1926, Leonard Wing (1926a: 157) collected 1 of the species (U.M.M.Z.) at Ann Arbor. The bird was possibly a descendant of the liberated birds.

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## PLATE I

FIG. 1. A pair of Ring-necked Ducks, Blaney, Schoolcraft County. The angular white area at the bend of the wing in the adult male of this species is a distinctive field mark. Photographed June 10, 1935, by Lawrence H. Walkinshaw.

FIG. 2. Adult Red-tailed Hawk at nest with young, White Oak Township, Ingham County. These hawks have an unexplained habit of bringing twigs, usually leafy ones, to the nest even after there are young. Photographed April 29, 1931, by Frank N. Wilson.

PLATE I



FIG. 1



FIG. 2

PLATE II



FIG. 1



FIG. 2

## PLATE II

FIG. 1. Adult male Spruce Grouse displaying, east of Lovells, Crawford County. The Spruce Grouse is becoming rare in Michigan, but a small population persists in the jack pine woods of Crawford and Oscoda counties, at the southern extremity of the species' range. Photographed June 1, 1946, by Edward M. Brigham, Jr.

FIG. 2. Adult male Prairie Chicken during display on the booming ground, southwestern Crawford County. Photographed May 12, 1941, by Bernard W. Baker.

### PLATE III

FIG. 1. Nest of the Sandhill Crane, Bath Township, Clinton County. The Sandhill Crane nests in isolated marshes, and the nest is commonly built in water. One to 3, usually 2, eggs constitute a set. Photographed May 5, 1935, by Lawrence H. Walkinshaw.

FIG. 2. Egg and newly hatched young of the Sandhill Crane, Johnstown Township, Barry County. According to L. H. Walkinshaw, there is usually an interval of 12 to 24 hours between the hatching of the 2 eggs of the Sandhill Crane. The pattern of the bare face of the adult is foreshadowed in shorter down on the face of the young bird. Photographed May 17, 1941, by Edward M. Brigham, Jr.



PLATE III



FIG. 1



FIG. 2

PLATE IV



FIG. 1



FIG. 2

#### PLATE IV

FIG. 1. Adult Yellow Rail, Convis Township, Calhoun County. Although the Yellow Rail is generally considered rare, Lawrence H. Walkinshaw has found it rather common in southern Michigan during migration. Photographed September 20, 1942, by Walkinshaw.

FIG. 2. Nest and eggs of the Yellow Rail, Duck Lake, Highland Township, Oakland County. This was the first nest of the species found in Michigan. The distinctive markings on the eggs of the Yellow Rail are apparently unique among North American birds. Photographed May 29, 1920, by Walter E. Hastings.

PLATE V

Adult Upland Plover, a few miles east of Plymouth, Wayne County. The bird was standing close to its nest, which was in much taller grass than is usual with this species. Photographed May 22, 1930, by Frank N. Wilson.

PLATE V



PLATE VI



PLATE VI

Adult Herring Gull with eggs and one young, Mire Island, Beaver group, Charlevoix County. Three eggs are the usual clutch. Photographed June 25, 1926, by Frank N. Wilson.

PLATE VII

Adult Black Tern, Stoney Lake, Kalamazoo County. Molt into the gray and white winter plumage has already begun on the face. Photographed about July 24 in 1932 by Lawrence H. Walkinshaw.



PLATE VII



PLATE VIII



PLATE VIII

Part of a Common Tern nesting colony, Tawas Point, Iosco County.  
Each pair maintains an open area around its nest. Photographed June 30,  
1941, by Edward M. Brigham, Jr.

PLATE IX

Nighthawk incubating, near Lovells, Crawford County. The Nighthawk builds no nest, laying its eggs on open ground where the cover is sparse, usually much more sparse than in this instance. Photographed June 8, 1945, by Edward M. Brigham, Jr.

PLATE IX



PLATE X



PLATE X

Adult male Flicker feeding young, Emmett Township, Calhoun County. Contrary to the general rule in sexually dimorphic species, in Flickers the young of both sexes have the black "mustache" mark, which in the adult plumage is restricted to the male. Photographed July 31, 1949, by Edward M. Brigham, Jr.

PLATE XI

Adult female Bluebird bringing food to young in the nest, Emmett Township, Calhoun County. The Bluebird is the only Michigan thrush that nests in cavities. Photographed in June, 1942, by Edward M. Brigham, Jr.



PLATE XI

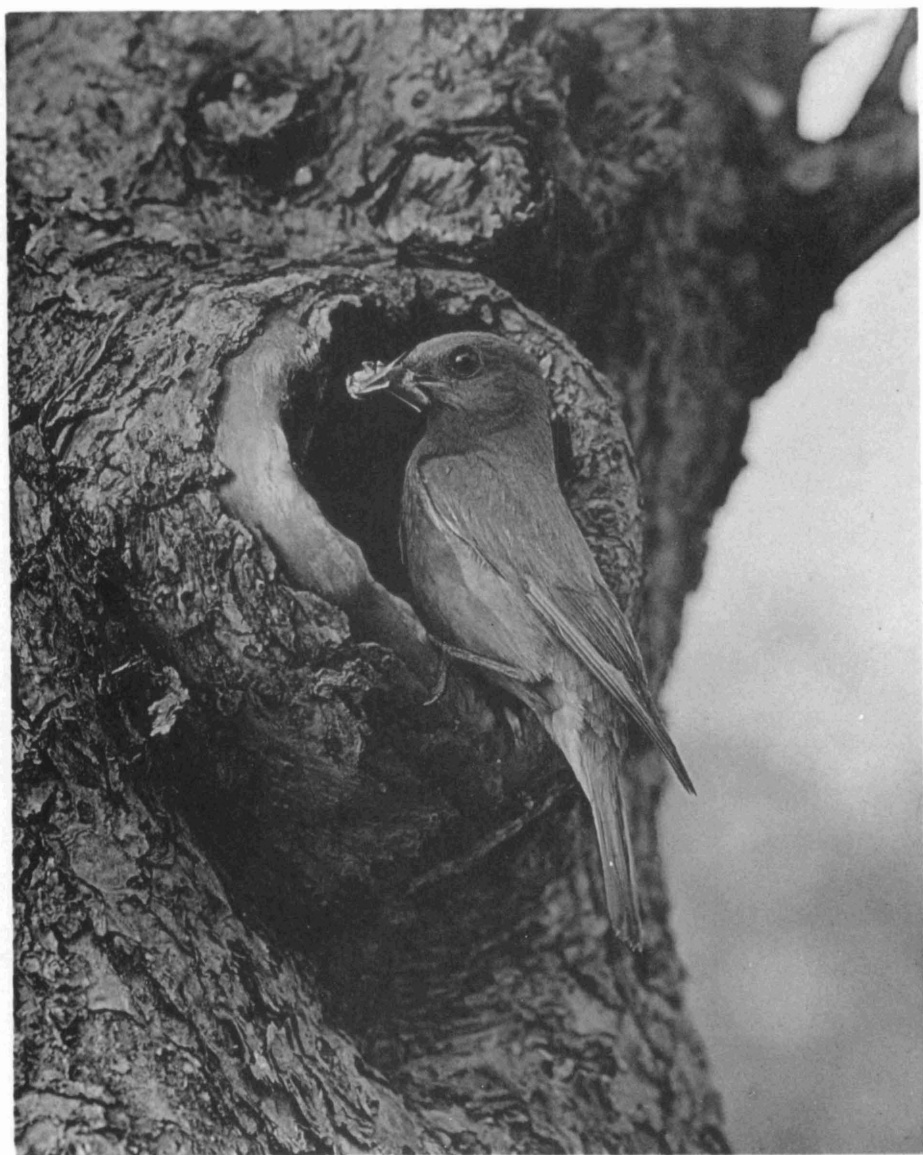


PLATE XII



FIG. 1



FIG. 2

## PLATE XII

FIG. 1. Female Kirtland's Warbler incubating, east of Lovells, Crawford County. The nests of this species, according to J. Van Tyne, are always built of dead grass or similar material, directly on the ground, often completely arched over by vegetation, with entrance from one side only. They are commonly placed within a few inches of a jack pine. Photographed June 20, 1944, by Edward M. Brigham, Jr.

FIG. 2. Eggs of the Kirtland's Warbler (the same nest as that shown in Fig. 1), east of Lovells, Crawford County. For both photographs the ground cover was pushed back to show the nest sunk in the leaf mold. Photographed June 19, 1944, by Edward M. Brigham, Jr.

PLATE XIII

FIG. 1. Adult female Kirtland's Warbler in jack pine, Lovells, Crawford County. Photographed July 21, 1944, by Lawrence H. Walkinshaw.

FIG. 2. Adult male Kirtland's Warbler, Lovells, Crawford County. The male is easily recognized by the black face marking. Photographed July 21, 1944, by Lawrence H. Walkinshaw.

PLATE XIII



FIG. 1



FIG. 2

PLATE XIV



FIG. 1



FIG. 2

PLATE XIV

FIG. 1. Adult male Prairie Warbler at the nest, Lovells, Crawford County. In Crawford County the Prairie Warbler nests both in deciduous brush and in young jack pines. Photographed June 18, 1944, by Lawrence H. Walkinshaw.

FIG. 2. Adult Oven-bird emerging from its domed nest, near East Tawas, Iosco County. Photographed June 17, 1942, by Edward M. Brigham, Jr.

PLATE XV

Female Rose-breasted Grosbeak incubating, Walden Woods, Livingston County. This grosbeak usually places its rather bulky, loosely constructed nest 6 to 12 feet above the ground in a fork of a bush or small tree. Photographed June 11, 1944, by Edward M. Brigham, Jr.



PLATE XV



PLATE XVI



PLATE XVI

Male Goldfinch at nest with young, Emmett Township, Calhoun County. Failure to remove the droppings of the young during the latter part of their life in the nest is characteristic of Goldfinches, Redpolls, and related finches. Photographed August 12, 1942, by Edward M. Brigham, Jr.



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