An Annotated List of the Odonata of Indiana

BY
E. B. WILLIAMSON.

ANN ARBOR, MICHIGAN.
PUBLISHED BY THE UNIVERSITY.
JUNE 5, 1917.
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ALEXANDER G. RUTHVEN,
Director of the Museum of Zoology,
University of Michigan.
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Outline Map of Indiana Showing Location of Counties... Facing Page 12
AN ANNOTATED LIST OF THE ODONATA OF INDIANA.

BY E. B. WILLIAMSON.

INTRODUCTION.

Our knowledge of Indiana Odonata began in 1839 when Thomas Say recorded 17 species for the state. This seems hardly a good start since many an old gravel pit on a favorable day may yield a larger number of species. In Ohio, Hine and Osburn took 58 species during a week's collecting. But Say was not a specialist in the group, and in 1839 that great specialist, de Selys, had published only the third one of his many later papers, while Hagen in the same year made his first contribution to entomology. Burmeister and Rambur's books on Neuroptera appeared in 1839 and 1842. Say's odonate publication, too, it must not be forgotten, was the result of earlier studies and was published posthumously. Thus considering the time and circumstances together with the range of Say's activities, the start does not seem to be so poor. Following the publication of Say's paper there was a gap of 56 years before a paper dealing exclusively with Indiana dragonflies appeared, and it recorded only 14 species as against Say's 17. Indiana was too far west to be visited by the eastern entomologists and too far east to share in the great western explorations of the period.

The present list of dragonflies brings our knowledge of the distribution of these insects within the state up to date, and such references to the literature* are included as will enable students to identify species not described or not well described in my paper, "The Dragonflies of Indiana," Indiana Geological Report for 1899. References to this list will show that records for the southern half of the state are practically wanting. As a matter of fact the entire list is based largely on random field work, carried on as opportunity permitted and done almost entirely on Sundays and all too rare holidays. The records, both as regards dates and localities, are based in every case upon specimens examined except where the contrary is noted, and, as here published, are condensed from detailed data in my possession. For convenience each month is divided into thirds, 1-10, 11-20 and 21-30 or 31. Where no figures follow the month, the dragonfly under discussion has been taken in all three divisions of the month.

* These references are grouped at the end of the list. The numbers following the specific names in the list refer to corresponding numbers in the bibliography.
LIST OF SPECIES.

Suborder ZYGOPTERA.

Family AGRIONIDAE.

Subfamily Agrioninae.

Genus Agrion Fabricius.²


3. Agrion maculatum Beauvois.—Allen, Crawford, De Kalb, Elkhart, Fountain, Kosciusko, Lagrange, Lake, Noble, Putnam, Shelby, Steuben, Wells and Whitley Counties. May 11-31; June; July 1-20; August 11-20; September 1-10.

Genus Hetaerina Hagen.


5. Hetaerina titia Drury.³—Franklin, Lagrange and Wells Counties. August 11-20; September 1-10.

Genus Lestes Leach.


9. Lestes forcipatus Rambur.—Allen, Blackford, Noble, Wells and Whitley Counties. April 20-30; May; June; July; August; September 1-10.

10. Lestes inaequalis Walsh.—Allen, Kosciusko, Steuben and Whitley Counties, June 10-20; July.

11. Lestes rectangularis Say.—Adams, Allen, Blackford, Elkhart, Kosciusko, Lagrange, Noble, Putnam, Steuben, Wells and Whitley Counties. May 20-31; June; July; August 1-10. 20-31; September 1-10.


13. Lestes unguiculatus Hagen.—Allen, Blackford, Elkhart, Kosciusko, Lagrange, Noble, Steuben, Wells and Whitley Counties. May 21-31; June 1-10, 21-30; July; August 11-31; September 1-20.

14. Lestes vigilax Hagen.—Allen, Blackford, Kosciusko, Lagrange, Noble, Steuben, Wells and Whitley Counties. June 1-10, 21-31; July; August 11-31; September 1-10.

Subfamily Coenagrioninae.

Genus Argia Rambur.


17. Argia sedula Hagen.—Allen, Dearborn, Elkhart, Franklin, Jay, Kosciusko, Lagrange, Noble, Shelby, Steuben and Wells Counties. June; July; August; September.


Genus *Enallagma* Charpentier.


24. *Enallagma coruscum* Morse.—Blackford, Elkhart, Kosciusko, Lagrange, Noble, Steuben, Wells and Whitley Counties. May 21-31; June 1-10, 21-30; July; August 11-20; September 1-20.


29. *Enallagma exsulans* Hagen.—Allen, Dearborn, Elkhart, Fountain, Kosciusko, Marion, Noble, Putnam, Shelby, Steuben, Wells and Whitley Counties. May 21-31; June; July; August.

30. *Enallagma geminatum* Kellicott.—Allen, Blackford, Elkhart, Fountain, Kosciusko, Steuben, Wells and Whitley Counties. May 21-31; June; July 1-20; August 1-20; September 1-20.


34. *Enallagma signatum* Hagen.—Allen, Blackford, Elkhart, Kosciusko, Noble, Steuben, Wells and Whitley Counties. May 21-31; June; July; August 1-20; September 1-20; October 1-10.


Genus *Nehalennia* Selys.


Genus *Amphiagrion* Selys.


Genus *Chromagrion* Needham.


Genus *Ischnura* Charpentier.

40. *Ischnura kellicotti* Williamson.—Steuben and Whitley Counties. June 1-10, 21-30; July; August 11-31; September 1-10.
41. *Ischnura posita* Hagen.—Allen, De Kalb, Elkhart, Kosciusko, Lagrange, Noble, Steuben, Wells and Whitley Counties. May; June; July; August; September 1-20.

42. *Ischnura protrata* Hagen.10—Wells County. April 21-30; June 21-30.

43. *Ischnura verticalis* Say.—Allen, Blackford, Crawford, De Kalb, Elkhart, Fountain, Kosciusko, Lagrange, Marshall, Noble, Steuben, Wells and Whitley Counties. May; June; July; August 1-20; September 1-20.

Genus **Anomalagrion** Selys.

44. *Anomalagrion hastatum* Say.—Blackford, Elkhart and Wells Counties. May 1-10; June 21-30; July.

Suborder ANISOPTERA.

Family Aeshnidae.

Subfamily Petalurinae.

Genus **Tachopteryx** Selys.


Subfamily Cordulegasterinae.

Genus *Cordulegaster* Leach.


47. *Cordulegaster maculatus* Selys.12—Noble County. June 1-10.

48. *Cordulegaster obliquus* Say.—“Inhabits Indiana” (Say).

Subfamily Gomphinae.

Genus **Progomphus** Selys.


Genus **Hagenius** Selys.

50. *Hagenius brevistylus* Selys.—Allen, Elkhart, Kosciusko, Noble, Putnam, Shelby and Wells Counties. June; July 1-10; August 11-31; September 1-10.

Genus **Ophiogomphus** Selys.

51. *Ophiogomphus tupinsulensis* Walsh.—Allen, Elkhart, Kosciusko and Wells Counties. May 1-10, 21-31; June.

Genus **Erpetogomphus** Selys.


Genus **Gomphus** Leach.


55. *Gomphus exilis* Selys.—Elkhart, Kosciusko, Noble, Steuben, Wells and Whitley Counties. May 21-31; June; July 1-20.


Genus *Dromogomphus* Selys.


Subfamily Aeshninae.

Genus *Boyeria* MacLachlan.

70. *Boyeria vinosa* Say. Allen, Delaware, Elkhart, Kosciusko, Lagrange, Noble, Putnam, Steuben and Wells Counties. June 11-30; July 11-20; August 1-10, 21-31; September 1-10.

Genus *Basiaeschna* Selys.


Genus *Anax* Leach.

72. *Anax junius* Drury. Allen, Blackford, DeKalb, Elkhart, Fountain, Kosciusko, Marshall, Noble, Steuben, Wells and Whitley Counties. April 21-31; May; June; July; August; September 1-20; October 1-10.

Genus *Aeshna* Fabricius.


74. *Aeshna elegysdra* Say. Steuben and Whitley Counties. August 11-31; September 1-10.

75. *Aeshna constricta* Say. Allen, Grant, Lagrange, Steuben and Wells Counties. August 11-31; September; October 1-10.


Genus *Nasiaeschna* Selys.


Genus *Epiaeschna* Hagen.

Family Libellulidae.

Subfamily Cordulinae.

Genus *Didymops* Rambur.


Genus *Macromia* Rambur.22


84. *Macromia pacifica* Hagen.—Huntington and Wells Counties. June 11-30; July; August.


Genus *Epicordulia* Selys.


Genus *Neurocordulia* Selys.

88. *Neurocordulia obsolata* Say.—“Inhabits Indiana” (Say).

Genus *Tetragoneuria* Hagen.23


91. *Tetragoneuria spinigera* Selys.—Steuben County (Mr. and Mrs. C. C. Deam). June 11-20.

Genus *Dorocordulia* Needham.24


Genus *Somatochloria* Selys.


94. *Somatochloria linearis* Hagen.—Fountain and Wells Counties. June 1-10; July 1-10.

95. *Somatochloria tenebrosa* Say.—“Inhabits Indiana” (Say).

Subfamily Libellulinae.

Genus *Libellula* Linne.


97. *Libellula exusta* Say.—Elkhart, Lake and Wells Counties. May; June 1-10; September 1-10.


100. *Libellula pulchella* Drury.—Allen, Blackford, Crawford, De Kalb, Elkhart, Huntington, Kosciusko, Marion, Noble, Steuben, Wells and Whitley Counties. May 21-31; June; July; August 1-20.

102. Libellula semifasciata Burmeister.—Blackford, Elkhart, Kosciusko, Steuben and Wells Counties. April 21-31; May; June 1-20; July 1-20.

103. Libellula vibrans Fabricius.—Blackford, Lake and Wells Counties. June; July 1-10.

Genus Plathemis Hagen.


Genus Perithemis Hagen.

105. Perithemis tenera Say.28—Allen, Blackford, Elkhart, Jay, Kosciusko, Lagrange, Noble, Steuben, Wells and Whitley Counties. May 21-31; June; July; August 1-10; September 1-16.

Genus Nannothemis Brauer.


Genus Erythemis Hagen.29


Genus Sympetrum Newman.


110. Sympetrum deciusm Hagen.31—Wells County. September 21-30.

111. Sympetrum obtrusum Hagen.—Allen, Blackford, Kosciusko, Lagrange, Noble, Steuben, Wells and Whitley Counties. May 21-31; June; July; August; September; October 1-10.


113. Sympetrum semicinctum Say.—Huntington, Lagrange and Whitley Counties. July 1-10, 21-31; September 1-10.

114. Sympetrum vicinum Hagen.—Allen, Elkhart, Grant, Kosciusko, Lagrange, Noble, Steuben, Wells and Whitley Counties. June 21-30; July 11-31; August; September; October 1-10; November 1-16, 21-30.

Genus Pachydiplax Brauer.

115. Pachydiplax longipennis Burmeister.—Adams, Allen, Blackford, Elkhart, Kosciusko, Noble, Steuben, Wells and Whitley Counties. April 21-30; May; June; July; August 1-20; September 1-10.

Genus Leucorhina Brittinger.


Genus Celithemis Hagen.

118. Celithemis elisa Hagen.—Allen, Blackford, Elkhart, Kosciusko, Lagrange, Noble, Steuben, Wells and Whitley Counties. April 21-31; May 21-31; June; July; August; September 1-10.


Genus *Pantala* Hagen.

121. *Pantala flavescens* Fabricius.—Lake and Wells Counties. June 1-10; August 11-20.
122. *Pantala hymenaea* Say.—"Inhabits Indiana" (Say). Wells County. July 11-20; August 1-10.

Genus *Tramea* Hagen.

123. *Tramea carolina* Linne.—Blackford and Wells Counties. April 21-31; May.

**BIBLIOGRAPHICAL NOTES.*

2. *Calopteryx* of earlier authors must give way to *Agrion*.
3. *P runs* is a synonym.
7. Psyche, 7, 1895, A. P. Morse, p. 274.
9. Under *Nehalemia* in Dragonflies of Indiana.
10. See 6, p. 83.
11. See 1, p. 76.
12. See 6, p. 115.
13. See 6, p. 99, and 4, p. 121.
15. *G. sordidus* is a synonym.
18. *G. segregans* Needham is a synonym.
20. See 1, p. 116.
21. Under *Aeschna* in Drf. of Ind.
25. Under *Somatochlora* in Drf. of Ind.
27. As *L. basalis* in Drf. of Ind.
28. As *P. domitia* in Drf. of Ind.
29. As *Mesothemis* in Drf. of Ind.: see 1, p. 175.
30. As *albifrons* in Drf. of Ind.
33. Ohio Naturalist, 10, 1910, E. B. Williamson, p. 155; as *fasciata* in Drf. of Ind.
34. As *tricolor* in Drf. of Indiana.

*This list is in no sense complete, and is designed merely as an aid to students of Indiana dragonflies. For a fuller bibliography see 1 above, and the American entomological journals, especially the Canadian Entomologist and the Entomological News, since 1910.
MAP OF INDIANA SHOWING LOCATION OF COUNTIES.