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DIPTERA COLLECTED ON WHITEFISH POINT, CHIPPEWA COUNTY, MICHIGAN

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While engaged in detailed coleopterological studies as a member of the Shiras Expeditions sent out from the Museum of Zoology, University of Michigan, to the Whitefish Point region in the Northern Peninsula of Michigan in 1913 and 1914, the writer became interested in the complex dipteran fauna there. As extensive collections were made in that order as his special work permitted. These collections were begun in 1913 in the month of July, and they were continued during a part of the same month and the first few days of August of the following year. No attempts were made to collect Tipulidæ, Culicidæ or the great number of the smaller species which can be secured by beating, sweeping and detailed search in the proper habitats.

The Whitefish Point region may be called a fly country preeminent. The Diptera seem to preponderate in sheer numbers over all other insects, and in all too many cases are

omnipresent. So obnoxious and persistent are some of the pests that the cattle are forced to feed largely at night, and are kept shut up in dark sheds during the day when the flies are active. On account of a general lack of flowers and flowering shrubs from July 2 to 15, 1913, the Syrphidæ were not present in much variety of species. A small patch of raspberry bushes in flower made a center of attraction for many Diptera, and a number of species were collected about these bushes that would otherwise have been overlooked. From July 18 to August 2, 1914, conditions were rather better as regards flowering vegetation, and many species of flies were taken on the blossoms of spiraea, tansy, dewberry, etc.

The conditions observed lead to the conclusion that the optimum of the collecting season for Diptera in the region is from August I to I5, although of course some species have disappeared by that time and others probably have not appeared. Without doubt a professional dipterist would find Whitefish Point an excellent region in which to collect, and on account of the variety of conditions, with the diverse flora and the relatively short and rapidly succeeding seasons, several summers' work would undoubtedly be well repaid.

The following list does not pretend to be complete in any sense, but the paucity of investigations that have been made in the region seem to afford a reason for its publication. All specimens represent time taken from the writer's coleoptera studies with the hope of stimulating further research in the region.

The writer wishes to express his indebtedness to Mr. H. S. Harbeck of Philadelphia for the determination of the majority of the forms. The list is arranged according to Prof. J. M. Aldrich's "Catalogue of North American Diptera" (Miscl. Pub., Smith Inst., vol. 46).

LIST OF SPECIES

STRATIOMYIDÆ

- Stratiomyia badia Walker.—On spiraea blossoms, July 22, 1914. Stratiomyia apicula Loew.—On raspberry blossoms, July 4, 1913.
- Stratiomyia discalis Loew.—On raspberry blossoms, July 4, 1913.
- Stratiomyia lativentris Loew.—On milifolium and raspberry flowers, July 4, 1913.
- Stratiomyia picipes Loew.—On dewberry blossoms, July 4, 1913.
- Stratiomyia sp?—On viburnum blossoms, July 4, 1913.

TABANIDÆ

- Pangonia tranquilla Osten Sacken.—Along northwest shore road, July 24, 1914; also found in washup on beach at various dates.
- Chrysops excitans Walker.—Common along roads and in the woods.
- Chrysops niger Macquart.—Rather common on trail to bay, July 4-10, 1913.
- Chrysops lupus Harbeck (?)—Along trail, July 4, 1913.
- Chrysops indus Osten Sacken.—In woods near Post Office, July 4,1913.
- Tabanus atratus Fabricius.—A single specimen collected about a horse near the Post Office, July 19, 1914.
- Tabanus rhombicus Osten Sacken.—A single specimen near west shore, July 21, 1914.
- Tabanus trispilus Wiedemann.—Near barn, July 10, 1913.
- Tabanus zonalis Kirby.—Along roads and in washup on the beach.
- Tabanus epistates Osten Sacken.—About horses, July 19, 1914.

LEPTIDÆ

Chrysopila ornata Say.—On low shrubs, July 4, 1913.

Chrysopila quadrata Say.—Resting on foliage near shore, July 23, 1914.

BOMBYLIDÆ

Anthrax alternata Say.—Along sandy road, July 24, 1914.

Anthrax fulviana Say.—Along sandy road, July 6, 1913.

Anthrax lateralis Say.—On spiraea blossoms near Post Office, July 24, 1914.

Anthrax sinuosa Wiedemann.—Along road on shore, July 24, 1914.

Anthrax sp?—On sandy road, July 4, 1913.

Anthrax sp?—Near shore, July 4, 1913.

Anthrax sp?—Data as last.

Spogostylum anale Say.—Sandy road near shore, July 22, 1914.

Spogostylum ædipus Fabricius.—July, 1914.

Exoprosopa dorcadion Osten Sacken.—On shore of Lake Superior, July 21, 1914.

Systachus sp?—July 21, 1914.

Sparnopolius fulvus Wiedemann.—On spiraea blossoms, July 26, 1914.

THEREVIDÆ

Thereva senex Walker.—Near shore of Lake Superior, July 26, 1914.

Thereva vialis Osten Sacken.—On herbage along shore road, July 22, 1914.

Thereva sp?—On balsam in woods near shore, July 22, 1914.

Thereva sp?—Data as last.

Thereva sp?—On sweet gail on sand dunes, July 19, 1914.

Thereva sp?—Data as last.

ASILIDÆ

Cyrtopogon sp?—

Stichopogon trifasciatus Say.—Along trail, July 23, 1914.

Pogonosoma dorsatum Say.—Near shore of bay, July 4, 1913.

Dasyllis posticata Say.—Resting on maple foliage near shore, July 3, 1913.

Laphria gilva Linné.—Data as last.

Promachus bastardii Macquart.—Common along sandy roads and in the shore washup.

Asilus notatus.—Along sandy road near shore, July 20, 1914. Asilus sp?—Data as last.

SYRPHIDÆ

Chrysotoxum pubescens Loew.—On raspberry flowers, July 20, 1913.

Chrysotoxum sp?—On shore of Whitefish Bay, July 2, 1913.

Platychirus peltatus Meigen.—On milifolium flowers near shore, July 4, 1913.

Leucozona lucorum Linné.—Along trail to bay, July 6, 1913.

Didea laxa Osten Sacken.—On dewberry blossoms, July 27, 1914.

- Condidea lata Coquillet.—On raspberry flowers, July 4, 1913; on spiraea flowers, July 24, 1914.
- Syrphus arcuatus Fallen.—On flowers of mountain ash near shore of Lake Superior, July 5, 1913; on dewberry flowers near bay, July 23, 1914.
- Syrphus ribesii Linné.—On milifolium flowers near Post Office, July 23, 1914. Two specimens of a form close to this species were taken on spiraea blossoms near the Post Office, four other specimens were taken by Mr. McAlpine at the same time in the locality.

- Syrphus sp?—Two specimens on spiraea blossoms, July 26, 1914.
- Allograpta obliqua Say.—On yellow tansy flowers on dune near shore of Lake Superior, July 14, 1914.
- Mesogramma marginata Say.—July, 1914, by Mr. McAlpine.
- Mesogramma polita Say.—On tansy flower on sand dune, July 26, 1914.
- Sphærophoria cylindrica Say.—Several specimens taken by Mr. McAlpine in July, 1914.
- Sphærophoria scripta Linné.—On tansy flowers near shore of Lake Superior, July 24, 1914.
- Sphærophoria sp?—Taken by Mr. McAlpine, July, 1914.
- Volucella evecta Walker.—On foliage along trail to bay, July 4, 1914.
- Sericomyia militaris Walker.—On raspberry flowers, July 4, 1913.
- Eristalis arbustorum Harbeck.—On flowers of dewberry, July 20, 1914.
- Eristalis dimidiatus Wiedemann.—On raspberry flowers, July 6, 1913; common on spiraea during, July, 1914.
- Eristalis flavipes Walker.—On flowers of shrubs near Post Office, July, 1913 and 1914.
- Eristalis flavipes Walker var. melanostomus Loew.—On spiraea flowers, July 28, 1914.
- Eristalis tenax Linné.—On log near bay, July 4, 1913; on dewberry flowers, July 20, 1914.
- Eristalis transversus Wiedemann.—On spiraea flowers, July 22, 1914.
- Tropidia quadrata Say.—On tansy flowers, July 22, 1914.
- Helophilus latifrons Loew.—On spiraea flowers, near Post Office, July 24, 1914.

- Helophilus similis Macquart.—On spiraea flowers near Post Office, July 24, 1914.
- Helophilus sp?—Taken by Mr. McAlpine, July, 1914.
- Helophilus sp?—On tansy flowers near Lake Superior, July . 24, 1914.
- Syritta pipiens Linné.—Taken by Mr. McAlpine in 1914.
- Criorhina decora Macquart.—On flowers of milifolium near lake shore, July 3, 1913.
- Spilomyia fusca Loew.—On flowering shrub near Post Office, July 2, 1914; on spiraea, July 27, 1914.
- Temnostoma æqualis Loew.—Data as last.
- Tennostoma alternans Loew.—On milifolium flowers in field near Post Office, July 26, 1914; on spiraea flowers near Lake Superior, July 27, 1914.

CONOPIDÆ

Physocephala furcillata Williston.—On spiraea flowers near Post Office, July 27, 1914.

TACHINIDÆ

- Metopia leucocephala Rossi.—On dewberry flowers near Lake Superior, July 24, 1914.
- Microphthalma disjuncta Wiedemann.—In long grass on dunes on shore of Lake Superior, July 20, 1914.
- Peleteria tessellata Fabricius.—On milifolium and spiraea flowers, July 28, 1914.
- Peleteria robusta Wiedemann.—On sand flats, July 24, 1914.
- Archytas analis Fabricius.—On raspberry flowers, July 4, 1913; on spiraea, July 24, 1914.
- Bombyliomyia abrupta Wiedemann.—On raspberry flowers, July 4, 1913.

DEXIIDÆ

Philodexia tibialis Desvoidy.—On spiraea flowers, July 18, 1914.

SARCOPHAGIDÆ

Sarcophaga sp?—On spiraea flowers and on sandy plain, July 23, 1914.

MUSCIDÆ

Cynomyia cadaverina Desvoidy.—On spiraea flowers, July 26, 1914.

Phormia regina Meigen.—On carrion, July 20, 1914.

Musca domestica Linné.—In Post Office, July 22, 1914.

Stomoxys calcitrans Linné.—On yellow tansy flowers, July 24, 1914.

SCATOPHAGIDÆ

Scatophaga stercoraria Linné.—On lake shore, July 20, 1914.

OSCINIDÆ

Pegomyia sp?—Taken by sweeping grass along roadside, July 3, 1913.