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## A COLLECTION OF TIPULIDÆ FROM SCHOOL-CRAFT COUNTY, MICHIGAN

By J. Speed Rogers

The collection upon which the following list is based was made by the writer while he was a member of the Bryant Walker Expedition to Schoolcraft County in the Northern Peninsula of Michigan during July, 1915. While the writer's main interest was centered on the Tipulidæ, yet he attempted to do considerable general collecting of Diptera with the result that a number of species of crane-flies were missed, particularly Limnobinæ. The region was a very favorable one for the family, and would undoubtedly repay further work. As far as known, this is the first paper devoted entirely to the Tipulidæ of the Northern Peninsula of Michigan.

All the field work was done about a locality known as Flood-wood, situated on the Manistique River some twenty-six miles northeast of the city of Manistique. The surrounding country was largely the typical cut and burned-over pine land of Michigan, undulating sandy plains bearing a scattered growth

of jack pine, birch and aspen. Considerable swamp areas were present, sometimes open and grassy, again with a heavy growth of black spruce and tamarack. In general the region was bounded north and south by two high moraines which supported a magnificent hardwood forest of maple, beech, basswood and yellow birch with a scattering of hemlock. These ridges were studied. The Manistique River flowed through the region, and on its flood-plain was much hardwood timber. Many excellent habitats for the Tipulidæ were found about the numerous ox-bow ponds and sloughs formed by the river meanders on this plain.

All of the species listed were determined by Dr. W. G. Dietz, to whom the writer is indebted for much assistance. In all some twenty-three species are listed, and include, according to Dr. Dietz, four apparently new forms, one of which has been described by him.

## LIST OF SPECIES

Rhipidia maculata Meigen.—A number of specimens were taken inside the log camp, others were attracted to light lures, and several specimens were found in a clearing on the sand plains.

Limnobia solitaria Osten Sacken.—Specimens were taken in the forest on the morainal ridges, from open swamps and sphagnum bogs.

Elephantomyia westwoodi Osten Sacken. — This species was collected frequently in marshy thickets along creeks.

Erioptera armata Osten Sacken.—Specimens of this species

<sup>&</sup>lt;sup>1</sup> Dietz, W. G., Key to the North American Species of the Tricolor Group of the Dipterous Genus Tipula Linnaus, with descriptions of Four New Species. Ent. News, XXVIII, No. 4, April, 1917.

were taken from shrubbery along the river, and it also was frequently collected about light lures.

Erioptera septentrionalis Osten Sacken.—Two pairs were taken in copulo about a light lure on the river bank.

Erioptera sp.—"Probably a new form," Dr. Dietz.

Amalopsis inconstans Osten Sacken.—The species was collected from the forest on the river flood-plain and along brush grown creek banks.

Phalacrocera tipulina Osten Sacken.—Four specimens were secured of this species, two from a sphagnum bog, July 20, and on July 29 a pair was found in the same habitat in copulo.

Pachyrhina brevicornis Doane.—Several specimens of the species were taken from underbrush along the river.

Pachyrhina incurva Loew.—A number of specimens of this species were collected along the river, while a few were found resting on low branches of trees on the sand ridges.

Pachyrhina macrocera Say.

Pachyrhina sodalis Loew.—This species was taken in large numbers during the month of July, mainly from low moist ground on the river bottoms and among the ostrich ferns. A number of pairs were seen copulating; the breeding seemed to be continuous throughout the month. The species was the most abundant of the family in the region.

Pachyrhina sp.—"Seems to be a new form. Manuscript name is caliunta." Dr. Dietz. A large series of the form were secured from undergrowth on the river flood plain.

Tipula calva Doane.—Specimens were taken from low vegetation along the river banks.

Tipula hebes Loew.—The species was found on low wooded areas.

Tipula inermis Doane.—This species was of wide occurrence, it extended thru practically all habitats in the region studied.

Tipula speciosa Loew.—Several specimens of this species were collected in the swampy margin of the hardwood forest.

Tipula trivitta Say.—A few specimens of the species were secured from low wooded ground near the high ridges.

Tipula vicina Dietz.—This species was rather rare, a few specimens were taken at the margin of an ox-bow lake on the river flood plain, July 14 and 20.

*Tipula* sp.—This species is represented by a single undetermined female.

Tipula sp.n.—"Manuscript name is herctica," Dr. Dietz. Several specimens of this form were taken on hazel brush on the high river bank, July 13.

Bittacomorpha clavipes Fabricius.—This species was common in the tamarack and spruce swamps and in sloughs but rare on the sand plains.