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**ANNOTATED LIST OF CRANE FLIES (DIPTERA: TIPULIDAE)  
FROM MENTOR MARSH, LAKE COUNTY, OHIO**Michael J. Bolton<sup>1</sup>**ABSTRACT**

Sixty-one species of Tipulidae, one species of Ptychopteridae, two species of Trichoceridae, and one species of Anisopodidae are recorded for Mentor Marsh and adjacent woodlands.

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Following is an account of adults of the crane flies (Tipulidae), phantom crane flies (Ptychopteridae), winter crane flies (Trichoceridae), and wood gnats (Anisopodidae) collected from Mentor Marsh, Lake County, Ohio, and adjacent woodlands. Few collections of crane flies have been made in Ohio. No state list exists as for New York with 318 species (Alexander 1942). To date the only publication dealing specifically with Ohio's crane fly fauna is the Delaware County survey by Foote (1956), in which 146 tipulid species were listed.

Mentor Marsh is a natural freshwater marsh located in Lake County, Ohio, on the Lake Plain physiographic region. It covers about 324 ha and is 7.2 km long by 0.4 to 0.8 km wide. It was formed from a section of the Grand River that was isolated when the main channel formed a new easterly mouth into Lake Erie (Aronson 1974). Until 1959 the marsh was dominated by swamp forest. At this time because of a fluctuation in the water level, salt pollution from a dump site on Black Brook, or a combination of both, the dominant marsh vegetation shifted to cattails and more recently to common reed (*Phragmites communis*) (Isard 1966, Bernstein 1981). Common reed makes up large monodominant stands down the length of the marsh with cattails being the second most common plant type. Both common cattail (*Typha latifolia*) and narrow-leaved cattail (*Typha angustifolia*) are present in roughly equal numbers. The marsh is bordered on the north and south by upland woods. Haisly Creek and Black Brook are the marsh's main tributaries. Water flows out both the eastern end from Shipman Pond through a ditch toward the Grand River and out the western end into Mentor Lagoons Marina.

**MATERIALS AND METHODS**

Adult crane flies were collected from Mentor Marsh in 1978, 1981, 1982, and 1983. In 1978 two emergence traps 1 m in diameter were placed over areas of the marsh containing swamp loosestrife (*Decodon verticillatus*), arrow arum (*Peltandra virginica*), and common reed, while 24 traps were placed over cattails. Insects were collected from the traps about every four days from 11 June to 8 August and then preserved dry.

In 1981 I participated in a dipteran survey of Mentor Marsh that was conducted by Dr. Sonja Teraguchi of the Cleveland Museum of Natural History. Insects were collected from

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nine sites selected to include various vegetation types and to extend the entire length of the marsh. Each site contained two floating emergence traps of 1 m diameter and five stakes each of which had a floating, soapy-water pan trap tied at the water line and a sticky trap at its top. Bolton (1983) contains more detailed information about the collection sites. Trap collections were made for 24 hours every two weeks from 10 June to 18 August. Net collecting was also done at each site. All insects collected, except those on the sticky traps, were preserved in the field with 95 percent ethanol. The sticky traps were covered with cellophane and refrigerated at the laboratory.

Additional hand collections were made in the fall of 1981, the spring and fall of 1982, and 28 April, 1983. The principle means of collecting was sweeping with an insect net and hand picking the vegetation. The areas most frequently collected were upland woods and marsh margins at various locations around the marsh.

All crane flies collected were enumerated and identified to species using the keys of Alexander (1942, 1965), Alexander and Byers (1981), and Dahl and Alexander (1976). The voucher collection is deposited at the Cleveland Museum of Natural History.

#### ANNOTATED LIST OF SPECIES

A total of 61 species of Tipulidae, one of Ptychopteridae, two of Trichoceridae, and one of Anisopodidae were found in Mentor Marsh and adjacent woodlands. They are listed with their observed flight period, numbers collected, and habitat collected from.

#### PTYCHOPTERIDAE

*Bittacomorpha clavipes* (Fabricius). 14 May and 6–12 July, 16 males and five females, marsh.

#### TRICHO CERIDAE

*Trichocera (Metatrachocera) garretti* Alexander. 14 October, one male, upland woods.

*Trichocera (Trichocera) bimacula* Walker. 14 October to 1 November, 120 males and 37 females, marsh edge and upland woods.

#### ANISOPODIDAE

*Sylvicola fenestralis* (Scopoli). 1 November, one female, marsh edge.

#### TIPULIDAE

*Nephrotoma alterna* (Walker). 31 August, one male, upland woods.

*Nephrotoma ferruginea* (Fabricius). 7 June and 19 August, two males and two females, a mating pair collected on each date from upland woods-field ecotones.

*Tipula (Schummelia) hermannia* Alexander. 31 August, one male and two females, upland woods.

*Tipula (Platytipula) paterifera* Alexander. 26 September to 14 October, 13 males and one female, open upland areas.

*Tipula (Platytipula) ultima* Alexander. 18 August to 1 November, 13 males and nine females, upland woods and upland woods-field ecotones.

- Tipula (Yamatotipula) furca* Walker. 14 May to 29 September, 26 males and 11 females, marsh and upland woods.
- Tipula (Yamatotipula) kennicotti* Alexander. 16 August, two males, upland woods.
- Tipula (Yamatotipula) sayi* Alexander. 31 August to 8 September, six males and three females, marsh edge and upland woods.
- Tipula (Yamatotipula) tricolor* Fabricius. 31 August to 29 September, two males and one female, upland woods.
- Tipula (Angarotipula) illustris* Doane. 2 June to 17 August, 32 males and six females, marsh.
- Tipula (Beringotipula) borealis* Walker. 31 August to 8 September, eight males and seven females, upland woods.
- Limonia (Limonia) globithorax* (Osten Sacken). 17 June to 7 September, 10 males and two females, marsh and upland woods.
- Limonia (Metalimnobia) immatura* (Osten Sacken). 7 June and 7 September, three males and one female, marsh edge.
- Limonia (Discobola) annulata* (Linnaeus). 11 June and 27 September, one male and one female, marsh and upland woods.
- Limonia (Rhipidia) fidelis* (Osten Sacken). 8 June, one male, marsh.
- Limonia (Rhipidia) duplicata* (Doane). 14 May and 7 September, one male and one female, marsh edge and upland woods.
- Limonia (Dicranomyia) divisa* Alexander. 11 June, one male, marsh.
- Limonia (Dicranomyia) haeretica* (Osten Sacken). 7 June to 8 August and 27 September, 66 males and 13 females, marsh.
- Limonia (Dicranomyia) immodestoides* Alexander. 14–27 May and 3 August to 14 October, seven males and three females, marsh and upland woods.
- Limonia (Dicranomyia) longipennis* (Schummel). 22 June, one male, marsh.
- Limonia (Geranomyia) communis* (Osten Sacken). 3 August to 29 September, five males and six females, marsh and upland woods.
- Limonia (Geranomyia) rostrata* (Say). 31 August, two females, marsh edge and upland woods.
- Limonia fusca* Meigen. 31 August, one male, marsh edge.
- Limonia rara* (Osten Sacken). 8–22 June and 3 August, two males and four females, marsh.
- Helius flavipes* (Macquart). 27 May to 8 September, 95 males and 123 females, marsh and upland woods.
- Helius mainensis* (Alexander). 7–22 June and 3 August, seven males, marsh and upland woods.
- Ula elegans* Osten Sacken. 2 May and 27 September, one male and two females, marsh edge and upland woods.
- Epiphragma fasciapennis* (Say). 27 May to 22 June, 24 males and 13 females, marsh and upland woods.

- Epiphragma solatrix* (Osten Sacken). 27 May and 8 September, two males, upland woods.
- Pseudolimmophila luteipennis* (Osten Sacken). 14 May to 29 September, 690 males and 1332 females, marsh and upland woods.
- Pseudolimmophila noveboracensis* (Alexander). 22 June to 6 July, two males and one female, marsh.
- Limmophila (Prionolabis) rufibasis* Osten Sacken. 7 June, two males, marsh edge and upland woods.
- Limmophila (Prionolabis) walleyi?* Alexander. 7–22 June, two males and one female, marsh. Specimens key to this species but Dr. Byers thinks they may be an undescribed species.
- Limmophila (Dicranophragma) fuscovaria* Osten Sacken. 27 May to 7 June, five males and one female, marsh and upland woods.
- Limmophila (Euphylidorea) auripennis* Alexander. 7 June to 31 August, 26 males and 26 females, marsh and upland woods.
- Shannonomyia lenta* (Osten Sacken). 27 May, three males and one female, marsh edge.
- Pilaria imbecilla* (Osten Sacken). 27 May to 3 August, 21 males and 14 females, marsh and upland woods.
- Pilaria meridiana* (Staeger). 10 June to 3 August, 19 males and six females, marsh.
- Pilaria quadrata* (Osten Sacken). 14 May, one male, marsh.
- Pilaria tenuipes* (Say). 7 June to 27 September, 242 males and 228 females, marsh and upland woods.
- Cladura flavoferruginea* Osten Sacken. 14–26 October, 43 males and 10 females, upland woods.
- Gnophomyia (Gnophomyia) tristissima* Osten Sacken. 4–16 August, seven males, on a dead tree trunk in upland woods.
- Gonomyia (Gonomyia) cognatella* Osten Sacken. 18 August, one male, marsh.
- Gonomyia (Gonomyia) subcinerea* Osten Sacken. 27 May to 7 June and 17 July to 14 October, nine males and 51 females, marsh and upland woods.
- Cheilotrichia (Empeda) stigmatica* (Osten Sacken). 14 May, one female, upland woods.
- Erioptera (Trimicra) pilipes* (Fabricius). 11 June to 8 August, 21 males and 22 females, marsh.
- Erioptera (Symplecta) cana* (Walker). 14 May to 8 August and 7 September, 10 males and 34 females, marsh.
- Erioptera (Erioptera) chlorophylloides* Alexander. 7 June to 10 July, 84 males, marsh and upland woods.
- Erioptera (Erioptera) furcifer* Alexander. 3–27 July, two males, marsh.
- Erioptera (Erioptera) septemtrionis* Osten Sacken. 6 July to 17 August and 14 October, six males and four females, marsh and upland woods.
- Erioptera (Erioptera) vespertina* Osten Sacken. 6 July to 17 August, six males and eight females, marsh.

- Erioptera (Mesocyphona) caliptera* Say. 27 May to 26 September, 55 males and 192 females, marsh and upland woods.
- Erioptera (Mesocyphona) parva* Osten Sacken. 7 June and 20–27 July, one male and two females, marsh.
- Erioptera (Psiloconopa) venusta* Osten Sacken. 7 June, one male, upland woods.
- Ormosia (Ormosia) serridens* Alexander. 28 April to 2 May, 80 males and 22 females, marsh edge and upland woods.
- Ormosia (Ormosia) manicata* (Doane). 27 May to 7 June and 31 August to 8 September, 10 males and six females, upland woods.
- Ormosia (Ormosia) pygmaea* (Alexander). 14–27 May, one male and one female, upland woods.
- Ormosia (Ormosia) romanovichiana* Alexander. 28 April, one female, marsh edge.
- Ormosia (Ormosia) rubella* (Osten Sacken). 26–29 September, 30 males and 23 females, upland woods.
- Molophilus (Molophilus) forcipulus* (Osten Sacken). 27 May to 6 July, three males and eight females, marsh.
- Toxorhina magna* Osten Sacken. 3 August, one female, marsh.

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