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The first record of *Merycomyia whitneyi* (Johnson), tribe Bouvieromyiini (Diptera: Tabanidae), from Texas and from west of the Mississippi River

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Abstract. The first collections of *Merycomyia whitneyi* (Johnson), (Diptera: Tabanidae: Chrysopsinae: Bouvieromyiini) from Texas and from west of the Mississippi River are reported, and the Nearctic species of the Tribe Bouvieromyiini are discussed.

The genus *Merycomyia* Hine contains two medium to large-sized species, *M. microcera* (Walker) 11-15 mm long, known from northern Florida and south Georgia and *M. whitneyi* (Johnson), 16-23 mm long, known from northern Florida to southern Canada east of the Appalachian Mountains and from Indiana and Tennessee west of the Appalachian Mountains. These species are the only Nearctic representatives of the Bouvieromyiini, a tribe with mainly an 'Old World', southern hemispherical distribution. The Bouvieromyiini includes 40+ Australasian and 70+ Afrotropical species but fewer than 10 Oriental and 5 Neotropical species (Chainey and Oldroyd 1980, Daniels 1989, Fairchild and Burger 1994, Stone 1975).

Pechuman (1964) referred to species of *Merycomyia* as "mystery insects" because of the paucity of information. *Merycomyia whitneyi* was then known from 20 specimens and *M. microcera* from 11, including some adults reared from field collected larvae. Pechuman (1964) stated the only information on adults of *M. whitneyi*, other than data on specimen labels, was "Dr. Frank R. Shaw informs me that the male *M. whitneyi* he collected was hovering about 8 to 10 feet above the treeless top of Sargent Mountain."

Although described in 1956, the only biological data related to the capture and/or rearing of the 11 known adult *M. microcera* were provided by Jones and Anthony (1964). These authors provided a photograph of *M. microcera* ovipositing and discussed the capture of two adults (one the holotype) and visual observation of other adults. They provided information on egg masses, newly hatched larvae, field collected larvae of various sizes, and discussed unsuccessful attempts to rear larvae hatched from eggs and smaller field collected larvae. They did, however, rear adults from field collected full grown larvae and provided information on the life history and larval habitat, but they did not describe the immature stages.

Excluding rearing of adults, Goodwin (1971) provided similar information on *M. whitneyi* based on the collection of two adult females in South Carolina, one of which was ovipositing. He reported collecting the unfinished egg mass and three completed egg masses. Eclosion had already occurred in one egg mass, but the other three egg masses hatched in the laboratory. However, his attempts to rear the larvae to adults were unsuccessful.

The immature stages of *M. whitneyi* were described by Teskey (1969), and those of *M. microcera* were described by Goodwin (1973). All reared adults were obtained from full-grown larvae. Although collections of larvae, as reported by Jones and Anthony (1964), Teskey (1969), Goodwin (1973), and Tidwell (1973), have ranged from 1 to 5 larvae at a single site, Goodwin and Drees (1995, p. 34) stated: "In Florida, however, the larvae are collected commercially and sold as bass bait. The senior author, and others (Philip et al. 1973), have seen between 600 and 1000 more or less full grown larvae in Florida bait shops on various occasions. The wide range of the species and the infrequency of its collection in the adult stage preclude its elimination as a possible component of the Texas fauna."

We report here the first Texas collection of *M. whitneyi*, also the first record of this species from west of the Mississippi River. The Texas collections were made at Jarvis Christian College, U. S. Highway 80 East, Hawkins, Wood County, Texas in undeveloped wetlands at a single site north of Highway 80. Approximate coordinates for the collection site are 32.591111°N, 95.173611°W. Twelve larvae were found in very wet, highly organic, silty material in the center of a slowly flowing outfall from a pond between early May and late June, 2007. Larvae returned to the laboratory for rearing did not feed, and all died.

Because of difficulties in rearing, an old 6-meter malaise trap was modified by cutting away all but the top and ends of the trap so it could be used as an emergence trap. The modified trap was placed over part of the area where larvae had been collected with the edges of the top and ends in contact with the water or soil and the collecting funnels elevated about one meter above the surface. This modified trap yielded a single adult female of *M. whitneyi* captured between the 1st and the 8th of August, 2007. This specimen is in the collection of the Department of Biology, Stephen F. Austin State University, accession #3930.

The Texas collections of larvae and a single adult significantly expand the known distribution of *M. whitneyi*. However, the behavior of the adults of these moderate to large-sized insects, except for oviposition, remains as much of a mystery as ever.

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Literature Cited

- Chainey, J. E., and H. Oldroyd. 1980.** p. 275-308. *In*: R. W. Crosskey (ed.). Catalogue of the Diptera of the Afrotropical Region. British Museum (Natural History), London. 1437 p.
- Daniels, G. 1989.** p. 277-294. *In*: N. L. Evenhuis (ed.). Catalog of the Diptera of the Australasian and Oceanian Regions. Bishop Museum Press; Honolulu. 1155 p.
- Fairchild, G. B., and J. F. Burger, 1994.** A Catalog of the Tabanidae (Diptera) of the Americas south of the United States. *Memoirs of the American Entomological Institute* 75: 249 p.
- Goodwin, J. T. 1971.** Notes on the biology of *Merycomyia whitneyi* (Johnson) (Diptera: Tabanidae) in South Carolina. *Annals of the Entomological Society of America* 64: 1182-1183.
- Goodwin, J. T. 1973.** Immature stages of some eastern Nearctic Tabanidae (Diptera). IV. The Genus *Merycomyia*. *Journal of the Tennessee Academy of Science* 48: 115-118.
- Goodwin, J. T., and B. M. Drees. 1995.** The horse and deer flies (Diptera: Tabanidae) of Texas. *Southwestern Entomologist Supplement* 10: 140 + iii p.
- Jones, C. W., and D. W. Anthony. 1964.** The Tabanidae of Florida. United States Department of Agriculture Technical Bulletin 1295: 85 p.
- Pechuman, L. L. 1964.** A synopsis of *Merycomyia* (Diptera: Tabanidae). *Proceedings of the Entomological Society of Ontario* 94: 62-67.
- Philip, C. B., H. V. Weems, Jr., and G. B. Fairchild. 1973.** Notes on eastern Nearctic *Haematopota*, *Merycomyia*, and *Chrysops* and description of the male of *C. zinzalus* (Diptera: Tabanidae). *Florida Entomologist* 56: 339-346.
- Stone, A. 1975.** p. 43-81. *In*: M. D. Delfinado and D. E. Hardy (eds.). A catalog of the Diptera of the Oriental Region, Volume II. Suborder Brachycera through Division Aschiza, Suborder Cyclorrhapha. The University of Hawaii Press; Honolulu. 459 p.
- Teskey, H. J. 1969.** Larvae and pupae of some eastern North American species of Tabanidae. *Memoirs of the Canadian Entomological Society* 63: 147 p.
- Tidwell, M. A. 1973.** The Tabanidae (Diptera) of Louisiana. *Tulane Studies in Zoology and Botany* 19: 1-95.

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