

COLLECTION RECORDS FOR SOME CHIRONOMIDAE (DIPTERA) IN THE FLORIDA KEYS

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ABSTRACT: *Florida Keys collection records for eight species of chironomid midges are presented. Two species of Orthocladiinae, three species of Chironominae, and one species of Tanypodinae have been collected during routine mosquito control surveillance. Older collections of one species of Orthocladiinae and one species of Telmatogetoninae also are reported.*

Key Words: Grassy Key, Islamorada, Key West, Long Key, Long Point Key, Lower Matecumbe Key, No Name Key, Tavernier, Upper Matecumbe Key, Vaca Key, Windley Key, distribution

THE Florida Keys lie east, south, and southwest of the Florida peninsula, and are part of the south Florida rockland ecosystem (Snyder et al., 1990). The invertebrate fauna of the islands is not well studied, except for some “popular” groups such as butterflies and snails. Those groups that have been studied are derived from either the southeastern United States or the West Indies, similar to the flora of the Keys (Stern and Brizicky, 1957; Snyder et al., 1990). The Florida Keys Mosquito Control District has conducted mosquito control operations on the larger inhabited islands within Monroe County since the late 1950s. Surveillance for adult and larval mosquitoes is a significant component of these operations. Adult surveillance is conducted primarily through use of dry ice-baited light traps, whereas larval surveillance is conducted via collection of mosquito larvae in the field. Dry ice (i.e., solid carbon dioxide) is attractive to mosquitoes and use of this chemical in combination with light attracts more adult females than do either light or carbon dioxide alone (Service, 1993). Other insects besides mosquitoes often are collected during surveillance. Adult chironomids occasionally are collected in light traps. Although identification of adult specimens taken in light traps can be difficult due to damage and loss of important key characters (Beck and Beck, 1959), some specimens may be identifiable to species. Larval Chironomidae can be found cohabiting with mosquito larvae in container habitats that may be of only short-term suitability for development (Frouz et al., 2003; Hribar et al., 2004).

Very little is known about the chironomid fauna of the Florida Keys. *Goeldichironomus devineyae* (Beck) is known from Big Pine Key (Beck, 1961). *Pseudosmittia digitata* Sæther is known from Upper Matecumbe Key (Cranston and Oliver, 1988). *Thalassomya bureni* Wirth was described in part from material collected on Vaca Key and Key West (Wirth, 1949). This note

reports collection records of eight species of Chironomidae from the Florida Keys. Most adult specimens were collected in dry ice-baited light traps. Some were taken with aerial nets or collected directly into collection jars. The larval specimens were collected with a turkey baster, incidental to collection of mosquito larvae. All specimens were mounted on microscope slides according to the techniques described by Epler (2001) or Wirth and Marston (1968). Specimens were identified by comparison with published descriptions. Voucher specimens are deposited in the collection of the second author and in the collection of the Florida Keys Mosquito Control District. Specimens belonging to the genus *Chironomus* will be identified and reported separately.

Orthocladiinae

Antillocladius pluspilalus Sæther: 8M, 1F, FL, Monroe Co., Tavernier, 8 June 2005, D. DeMay, coll. ex: light trap. Ferrington and Ruse (1986) speculated that *A. pluspilalus* Sæther might be widespread throughout the eastern USA but its habits would preclude detection by general collectors. Larvae occur in seeps or are terrestrial (Mendes et al., 2004).

Chunio marshalli Stone and Wirth: 1M, FL, Monroe Co., No Name Key, 7 July 2004, L. Hribar, coll. ex: light trap. This is the only *Chunio* species that occurs in Florida. Its larval habitat is marine and brackish waters (Epler, 2001).

Pseudosmittia digitata Sæther: 200+ M and F, Long Key, Layton, 23 October 1992, J.H. Epler, coll. This is a species with terrestrial immature stages, similar to others in the genus (Sæther, 2006).

Chironominae

Goeldichironomus amazonicus (Fittkau): 1M, FL, Monroe Co., No Name Key, 21 September 2004, L. Hribar, coll., ex: light trap. This species can become a nuisance when adults emerge in large numbers (Lothrop and Mulla, 1998).

Goeldichironomus holoprasinus Goeldi: 1 larva, FL, Monroe Co., Grassy Key, 4 February 2005, C. Samul, coll., ex: pool; 1 larva, Lower Matecumbe Key, 14 July 2005, C. Samul, coll., ex: tarpaulin; 1M, Long Point Key, Summer 2005, L. Hribar, coll., ex: underwater light trap; 1M, Windley Key, 8 November 2005, D. Demay, coll., ex: light trap; 1M, Vaca Key, 22 December 2005, L. Hribar, coll., ex: inside house. This is a common nuisance species in Florida (Beck and Beck, 1969). It is a pioneer species often found in temporary habitats (Epler, 2001).

Zavreliella marmorata (van der Wulp): 1M, FL, Monroe Co., Long Key, 7 November 2005, D. DeMay, coll., ex: light trap. This is a widespread species that can be collected throughout the state year round (Beck and Beck, 1959, as *Lauterborniella varipennis*).

Tanypodinae

Monopelopia sp. prob. *boliekae* Beck and Beck: 1 larva, FL, Monroe Co., Long Key, 2 June 2005, E. Posada, coll., ex: puddle. This specimen was identifiable only to genus. Three species of *Monopelopia* occur in Florida; larvae

of *M. boliekae* are found in weedy ponds and streams (Epler, 2001). Given the habitat from which the specimen was collected, it most likely is *M. boliekae*.

Telmatogetoninae

Thalassomya bureni Wirth: 2F, 1M, FL, Monroe Co., Key West, 3–4 January 1985, J.H. Epler, coll. ex: on jetties. This is the only *Thalassomya* species in Florida; it is a coastal marine species that is most often found on rock jetties (Epler, 2001).

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