

# New State Record for *Merope tuber* Newman (Mecoptera: Meropeidae) in Alabama<sup>1</sup>

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*Merope tuber* Newman, commonly referred to as earwigfly, is one of only two members of the Family Meropeidae worldwide. It has been hypothesized to be a primitive mecopteran, and occurs throughout much of the eastern United States west to Kansas and Minnesota and southeastern Canada (Byers 1973, J. Kansas Entomol. Soc. 46: 511-516). Published records of *Merope* previous to 1954 were for localities in or east of the Appalachian Mountains. Since that time, specimens have been collected increasingly farther west, likely due to better collecting methods. The adults are apparently nocturnally active and have been recorded primarily from deciduous woodlands, usually near streams. The larval and pupal stages remain undescribed and may be an important link in better understanding the evolution of advanced holometabolous insects.

Much of the older literature reported *M. tuber* to be rare or rarely collected (Barber 1904, Proc. Entomol. Soc. Washington 6:50-51; Carpenter 1931, Bull. Mus. Comp. Zoöl. Harvard 72: 205-277, pl. 8). More recently, modern insect sampling techniques have uncovered numerous additional adult records for *M. tuber*, suggesting it may not be as rare as previously thought (Maier 1984, Proc. Entomol. Soc. Wash. 86: 608-613; Johnson 1995, J. Kansas Entomol. Soc. 68: 224-233; Sheldon 2001, Entomol. News, 112: 173-177). Despite a growing list of collection records, it has not been formally recorded from Alabama. This note represents the first published account of *M. tuber* in Alabama.

Collection records of *M. tuber* in the literature that are nearest to Alabama are from sites in northern Georgia and eastern Tennessee (Byers 1973). However, additional Georgia records associated with specimens housed in the University of Georgia Museum of Natural History (Athens) indicate *M. tuber* has been taken as far south as Macon (Bibb Co.) (Dunford et al., unpubl.). Three adult specimens were collected in two locations in Alabama (two by the senior author) during the 1990s whereas sampling for insects on the Mississippi Entomological Museum's William H. Cross Expedition, an annual, weeklong collecting trip established to survey the insect fauna of

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various unique habitats in the southeastern United States (Table 1). Two of the Alabama specimens were collected in the northeastern portion of the state (Fig. 1) at DeSoto State Park. The habitat at this site is characterized by mature hardwood forest that is located along the West Fork of Little River in the southwestern Appalachian Plateau Province. In addition, a single specimen was collected in southwestern Alabama (Fig. 1) at Haines Island Park in the Red Hills region. This area is primarily mature hardwood forest with several seepage areas below high calcareous bluffs that overlook the floodplain of the Alabama River. The Red Hills area is home to several endemic plant and animal species, including the federally protected Red Hills Salamander, *Phaeognathus hubrichti* Highton. This area may represent a disjunct southern refugium for *M. tuber* and is currently the southernmost known locality record. During the preparation of this note, we learned of two additional, previously unreported, northeastern Alabama specimens of *M. tuber* housed at the Field Museum of Natural History (Table 1).

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**Table 1. Museum and collection data for *M. tuber* individuals taken in Alabama**

Mississippi Entomological Museum, Mississippi State University, MS
1 female: Monroe County, Haines Island Park 31°43'23' N, 87°28'10' W 26–31 May 1995; blacklight trap; Coll. T. L. Schiefer
1 female: DeKalb County, DeSoto State Park 34°29'31' N, 85°36'56' W 24–29 September 1992; Malaise trap; Coll. T. L. Schiefer
1 female: DeKalb County, DeSoto State Park T6S, R10E, Sec. 19SE-20SW 19 May 1990; mercury vapor and blacklight trap; Colls. R. Brown and J. MacGown
Field Museum of Natural History, Chicago, IL
1 male: Blount County, Blount Springs 15 September 1985; at light; coll T. King
1 male: Jefferson County, Birmingham 24 June 1982; at light; coll T. King



Fig. 1. County localities for *Merope tuber* specimens taken in Alabama