

NOTES

FIRST ARKANSAS RECORD OF THE ROBBER FLY *MICROSTYLUM MOROSUM* (DIPTERA: ASILIDAE)

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ABSTRACT—First record of the robber fly, *Microstylum morosum* (Diptera: Asilidae), is reported for Arkansas (Clark County). Individuals of this species were observed, and a voucher specimen collected, from a blackland prairie in the southwestern corner of the state. Previously, *M. morosum* was only known from Kansas, Oklahoma, Texas, New Mexico, Arizona, and Colorado. The nearest occurrence to the reported Arkansas record is approximately 200 miles to the west in Texas.

RESUMEN—El primer registro de la mosca *Microstylum morosum* (Diptera: Asilidae), es registrado para Arkansas (condado de Clark). Se observaron individuos de esta especie, y se colectó un ejemplar, de una pradera tierra negra en el rincón suroeste del estado. Previamente, *M. morosum* era conocida sólo en Kansas, Oklahoma, Texas, Nuevo México, Arizona, y Colorado. El registro más cercano al de Arkansas es de aproximadamente 200 millas al oeste en Texas.

Approximately 880 species of robber fly (Diptera: Asilidae) are known to occur in the United States and Canada (Arnett, 2000). Adult robber flies are aggressive, aerial predators of other insects, particularly flying insects, such as bumblebees, wasps, dragonflies, and grasshoppers. Most robber flies are associated with dry, open habitats and have been collected from shortgrass prairies, mixed-grass prairies, tallgrass prairies, savannas, and open woodlands (Hull, 1962; Wood, 1981). Species range in size from 3 to 50 mm in length (Wood, 1981). North of the United States-Mexican border, the largest robber flies are in the genus *Microstylum*. In the United States, the genus is represented by 2 species: *M. galactodes* Loew and *M. morosum* Loew. *Microstylum morosum* ranges in size from 35 to 50 mm. It is probably the largest robber fly in the United States (Bromley, 1934).

Back (1909) and Martin (1960) originally listed *M. morosum* as occurring only in Texas. Martin and Wilcox (1965) expanded the known range of the species to include Arizona. More recently, Beckemeyer and Charlton (2000) conducted an analysis of *M. morosum*

distributional records and greatly expanded the species range to include Kansas, Oklahoma, and portions of Colorado and New Mexico.

Based upon Beckemeyer and Charlton (2000), the eastern distributional limit of *M. morosum* occurs along a line from Douglas County, Kansas, to Mayes County, Oklahoma, to Brazoria County, Texas. No published records exist for *M. morosum* east of this line. I report a new state record for *M. morosum* in Arkansas. The Arkansas locality is approximately 320 km from the nearest eastern occurrence (Collin County, Texas) reported by Beckemeyer and Charlton (2000).

Specimens of *M. morosum* were first observed at Terre Noire Natural Area (Clark County), just outside of Arkadelphia, in southwestern Arkansas. Two adults were seen 19 July 2002 at approximately 1045 CDT in the extreme northern section of the natural area. A voucher specimen (male) was collected 20 July 2002 at 0930 CDT in the same vicinity. The collected specimen was deposited in the Arthropod Museum at the University of Arkansas at Fayetteville. Weather conditions both days consisted

of clear skies, little to no wind, and temperatures from 31 to 32°C. Purple coneflower (*Echinacea purpurea*) was common at the site and was attracting large numbers of bumblebees (*Bombus bimaculatus*, *B. impatiens*).

The collection locality, Terre Noire Natural Area, is located in the West Gulf Coastal physiographic region of southwestern Arkansas. The natural area lies on a ridgeline and west-facing slope, with ephemeral watercourses running west to southwest. Elevations range from 230 to 350 feet. The topography is gently sloping (6% maximum) from the ridge crest westward (ravines somewhat steeper); soils are of the Oktibbeha-Sumter Association (United States Department of Agriculture, 1987).

The natural area preserves one of the highest quality blackland prairies remaining in the state and consists of a mix of prairie, open woodlands, and upland and bottomland hardwood forests. Blackland prairie is considered to be an extension of the tallgrass prairie of the Great Plains and historically occurred from the Red River in the north to near San Antonio in southern Texas. The blackland prairie community also extended slightly north of the Red River in Oklahoma and Arkansas. In Arkansas, blackland prairies were restricted to the southwestern corner of the state, extending from Little River and Sevier counties in the southwest, through Hempstead and Howard counties, to Clark County in the northeast (Foti, 1989). Little of this habitat type remains in Texas, Oklahoma, or Arkansas as a result of conversion to agriculture, urbanization, and fire suppression (Ricketts et al., 1999).

Beckemeyer and Charlton (2000) described *M. morosum* as occurring in a wide range of open habitat types and considered it to inhabit a wider variety of areas than its congener, *M. galactodes*. Most occurrences reported by Beckemeyer and Charlton (2000) occurred in terrestrial ecoregions characterized by tallgrass and mixed-grass prairies and savanna habitats, such as the Central and Southern Mixed Grasslands, Flint Hills Tall Grasslands, Central Forest/Grassland Transition Zone, and Texas Blackland Prairie. Additional habitat suitable for this species exists in other parts of southwestern Arkansas. Examination of such areas

within the region should help to better define the eastern distributional limit of this species.

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