



A review of the Nearctic species of the genus *Eurygarka* Quate (Diptera: Psychodidae)

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Abstract

The moth-fly genus *Eurygarka* Quate (Diptera: Psychodidae) is revised to include three species. Two new species: *E. cyphostylus*, **n. sp.** and *E. nelderi*, **n. sp.** from the southeastern United States are described. The adult male and female of *E. helicis* (Dyar) are redescribed. A key to adult males of the three known species of *Eurygarka* is provided. The generic placement of *Eurygarka* is discussed.

Key Words: Psychodidae, *Eurygarka*, Nearctic, southeastern United States, revision, new species

Introduction

The genus *Eurygarka* was proposed by Quate (1959) to receive a single species of Psychodinae, *Psychoda helicis* Dyar, which was first reared from a dead terrestrial snail in Cuba. At this point, the distribution of the genus was considered "mainly Neotropical", though some specimens of *E. helicis* had been collected from the southeastern United States. Subsequently, Duckhouse (1973) placed *Eurygarka* as a subgenus of *Philosepedon* Eaton, while Quate and Vockeroth (1981) regarded it as a genus in a key to Nearctic genera of Psychodidae. In this study, two new species of *Eurygarka* from the southeastern United States are described, the limits of this genus are expanded, and the monophyly of this taxon is discussed.

Methods

Study area. This study focused on specimens collected from east Tennessee and central and northwest South Carolina. Several specimens from northern Alabama were also examined.

Material. This research is based on an examination of adult males and females of *Eurygarka helicis* and *E. cyphostylus* **n. sp.**, and males of *E. nelderi* **n. sp.** Most specimens were collected during 2006 and 2007 by CDC trap, except two female specimens of *E. cyphostylus*, which were collected by hand. Association of adult males and females of *E. cyphostylus* is somewhat tenuous, being based on collections from locations where other species of *Eurygarka* have not been collected.

Additional specimens were borrowed from, or are deposited with the following (acronyms used throughout the text): CUAC, Clemson University Arthropod Collection, Clemson, SC.; USNM, National Museum of Natural History, Smithsonian Institution, Washington, D.C.; UTK, Department of Entomology and Plant Pathology, University of Tennessee, Knoxville, TN.

Specimen preparation. Specimens were fixed in 70 or 95% EtOH. Morphological studies were based on slide-mounted and pinned specimens. Slides were prepared using sodium hydroxide to clear specimens and