Zootaxa 3500: 61–69 (2012)
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

urn:lsid:zoobank.org:pub:20C776AF-6B1B-4D4E-88DF-C9D90F04676D

Elachistelmis gen. n. (Coleoptera: Elmidae: Elminae) from Suriname, with description of two new species

CRYSTAL A. MAIER
Division of Entomology, Biodiversity Institute & Department of Ecology and Evolutionary Biology, University of Kansas, Lawrence, KS, 66045, USA. E-mail: cmaier@ku.edu

Abstract

Elachistelmis **gen. n.** is described for two new species of riffle beetle, *E. tetramera* **sp. n.**, and *E. sipaliwiniensis* **sp. n.** from southwestern Suriname. This new genus can be distinguished from all other elmid genera by its small size (ca. 1.0–1.2 mm), pronotum with sublateral carinae and lacking depressions, and the presence of a narrow band of plastron setae on the lateral edge of each elytron. *Elachistelmis tetramera* **sp. n.** is among the smallest recorded Elmini and possesses many characters associated with miniaturization, such as reduced tarsal formula and feathery wings with reduced venation. A key to species, scanning electron micrographs, and illustrations of the male genitalia are provided.

Key words: Aquatic insect, Neotropical Region, riffle beetle, miniaturization

Introduction

The Elmidae are a cosmopolitan family of beetles common in a variety of running water habitats and are commonly known as the "riffle beetles." They have long claws that aid in clinging to rocks and other substrates in fast-flowing water, where they spend most of their lives. Members of the subfamily Elminae are typically found in the benthos of streams and rivers, though they can be found in a variety of other aquatic habitats, including seeps and springs, as well as at the margins of lakes and ponds. Elmid adults are often collected at UV lights in large numbers as they emerge from pupation and take their first and only flight (Brown 1987).

The Neotropical region possesses a particularly diverse elmid fauna, with 38 genera and 250 species (Manzo 2005). Even with this significant diversity, identification tools at the species level are lacking, and many of the elmid species in the Neotropics remain undescribed.

In a recent biotic survey of the Kwamalasamutu region of Suriname, fifteen morphospecies of Elmidae were collected, belonging to nine genera; though only three were identifiable to the species-level (Short and Kadosoe 2011). The rest belonged to groups with no adequate taxonomic keys or represented new taxa. Two such species belong to a previously undescribed genus, *Elachistelmis* **gen. n.**

Materials and methods

The specimens of this new taxon were collected during a biological survey of Suriname at a UV light.

Specimens were photographed using a Canon EOS 70D with a Visionary Digital imaging system and photos were stacked using CombineZM image editing software.

For scanning electron micrographs, specimens were dehydrated in 100% ethanol and cleaned with an insect pin and fine brush. The specimen was then affixed to an SEM stub and coated with gold. Micrographs were taken using a Leo 1550 Scanning Electron Microscope at the Microscopy and Analytical Imaging Laboratory at the University of Kansas.

The genitalia were extracted from relaxed specimens through the caudal opening in the abdomen. The genitalia

Accepted by Philip Perkins: 5 Sept. 2012; published: 28 Sept. 2012