Description of a New Species of Laccophilus Leach (Coleoptera: Dytiscidae), with Notes on Other Cuban Species

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Abstract

This work deals with the taxonomic composition, distribution, and bionomics of the genus Laccophilus Leach in Cuba. One new species, Laccophilus alariei Megna, Deler-Hernández, and Challet, is described. Diagnostic characters, including genitalia, are described and illustrated. A key to the Cuban species of Laccophilus is provided.

Key Words: diving beetle, taxonomy, description, key to species, West Indies

The family Dytiscidae is an important part of most freshwater aquatic ecosystems. Five of the 10 subfamilies recognized by Miller (2001) and Nilsson (2001) occur in Cuba, i.e., Colymbetinae, Copelatinae, Dytiscinae, Hydroporinae, and Laccophilinae. Laccophilinae are postulated to represent a monophyletic group based on adult characters (Burmeister 1976; Miller 2001), larval morphology (Alarie et al. 2000; Michat 2008), and DNA sequence data (Ribera et al. 2008). Laccophilinae are subdivided into two tribes, Agabetini and Laccophilini, and are comprised of 13 genera worldwide (Nilsson 2001). Of these, Laccophilus Leach and Laccodytes Régimbart have been reported in Cuba (Megna and Deler-Hernández 2006).

Laccophilus has a worldwide distribution and is comprised of 254 species (Nilsson 2001). Prior to this study, six species (Laccophilus bifasciatus Chevrolat, Laccophilus venustus Chevrolat, Laccophilus proximus Say, Laccophilus gentilis suavis Sharp, Laccophilus vacaensis vacaensis Young, and Laccophilus ovatus zapotecus Zimmerman) were reported for Cuba. Peck (2005) reported the presence of Laccophilus quadrivittatus Régimbart based on two specimens deposited in the Florida State Collection of Arthropods (FSCA). Field-collected specimens are deposited in CZCTR.

Material and Methods

Collecting Methods. Specimens collected for this study were part of a broader study dealing with the Hydradephaga of Cuba. Sampling was unstructured and qualitative and was done using a D-framed-net sweeping in various microhabitats including macrophyte beds, rocky shores, organically rich sediments, and open water.

Specimens Examined. Descriptions of form and structure, taxonomic conclusions, geographical distributions, and other findings reported in this paper are based on examination of adult specimens collected in the field or housed in the Museo de Historia Natural “Charles Ramsden”, Facultad de Ciencias Naturales, Universidad de Oriente, Santiago de Cuba, Cuba (CZCTR) and in the Florida State Collection of Arthropods (FSCA). Field-collected specimens are deposited in CZCTR.

Nomenclatural Information. Nomenclature is based on the classification proposed by Miller (2001) and Nilsson (2001). For each taxon recognized, author, date, and literature citation of the valid