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A revision of the Lutrochidae (Coleoptera) of Venezuela, with description of six new species

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Abstract

The species of Lutrochidae occurring in Venezuela are revised. The only previously recorded species, *Lutrochus acuminatus* Grouvelle, is redescribed and a lectotype is designated. *Lutrochus vestitus* Sharp, is recorded from Venezuela and French Guiana for the first time. Six new species *Lutrochus gustafsoni* n. sp., *L. cauraensis* n. sp., *L. maldonadoi* n. sp., *L. meridaensis* n. sp., *L. minutus* n. sp., and *L. violaceus* n. sp. are described. Notes on habitat and habits for most species are provided, as well as a key to the eight species of Lutrochidae occurring in Venezuela. The family is reported from hygropetric habitats for the first time.

Key words: Aquatic insects, travertine beetles, Neotropical Region, *Lutrochus*, hygropetric habitats

Introduction

The Lutrochidae is a small, monogeneric New World family of aquatic Coleoptera with 11 described species. Current distribution records for the family span from southern Canada (Roughley and Larson 1991) to southern Brazil and Bolivia, with most of the described diversity in the Neotropics (Spangler *et al.* 2001). Members of *Lutrochus* were once included in the Limichidae, but were elevated to the family level by Kasap and Crowson (1975), based on larval characters. Still, very little taxonomic work has been done on the group. Lutrochids live in a variety of specialized lotic habitats, including on submerged wood, detritus, and travertine. Most Nearctic species live in calcium-rich streams with travertine deposits, leading to their common name, “the travertine beetles.” The Neotropical species cling to logs and other organic matter in lotic habitats and the larvae (when known) develop on or in the decaying wood. Valente-Neto & Fonseca-Gessner (2011) reported the larvae of *Lutrochus germari* Grouvelle boring in submerged woody debris and indicated that the larvae create galleries and ingest the wood on which they live.

In total, there are seven described species of lutrochids from the Neotropics, although examination of material from throughout this region reveals that there are numerous undescribed species. The most recently described species from the Neotropics was *Lutrochus gigas* Hinton (1939), and only two subsequent works on South American lutrochids have been published, both on the Brazilian species *L. germari* Grouvelle (Costa *et al.* 1996, Valente-Neto and Fonseca-Gessner 2011). Additionally, an identification barrier has existed as Grouvelle’s 1896 key is lacking in detail and most of his descriptions and diagnoses can be applied to multiple taxa.

The problems with establishing reliable identifications became apparent in the course of a revision of the family by the first author and were particularly obvious when the authors attempted to apply names to the more than 250 Lutrochidae specimens collected in a recent survey of Venezuelan aquatic Coleoptera. In Venezuela, prior to this work, only a single species, *L. acuminatus* Grouvelle, had been described. We examined lutrochid specimens from several institutions in Venezuela and the United States and compared them with the types of several described species from northern South America. From this material, we identified six undescribed species, most of which are only known from their type localities and in unique habitats. Additionally, we constructed a key to the eight species known to occur in Venezuela and designated a lectotype of *L. acuminatus* from Grouvelle’s syntype series to fix the identity of the species.