



<http://dx.doi.org/10.11646/zootaxa.3835.2.5>

<http://zoobank.org/urn:lsid:zoobank.org:pub:017DC939-E929-4A29-B99A-D5D9C6B64787>

## A new genus of egg case-carrying water scavenger beetle from the Guiana Shield (Coleoptera: Hydrophilidae: Acidocerinae)

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### Abstract

*Radicitus* **gen. n.** is described to accommodate three new species of water scavenger beetles from the Guiana Shield region of South America: *R. ayacucho* **sp. n.** (Venezuela), *R. granitum* **sp. n.** (Venezuela), and *R. surinamensis* **sp. n.** (Suriname). The genus is placed in the subfamily Acidocerinae, and likely shares an affinity with the genus *Helochares* Mulsant and its relatives. It is characterized by its convex body form, short maxillary palps, partially glabrous hind femora, and complete fifth abdominal ventrite. All collections of the new genus were made from root mats and debris from seepages over rock outcrops or, rarely, root mats from streams. Individual females of all three species were observed to adhere their egg case to the venter of the abdomen.

**Key words:** Hydrophilidae, new species, Tepuis, Venezuela, Suriname, maternal care

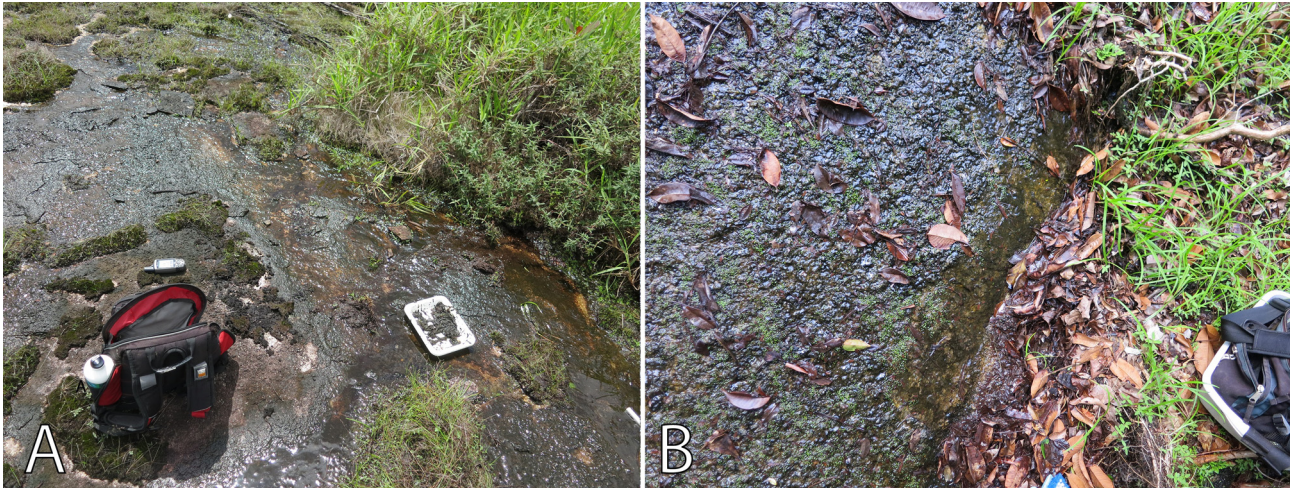
### Introduction

Over the last few years, ongoing surveys of aquatic insects in the Guiana Shield have yielded series of an unusual, brown water scavenger beetle in equally unusual habitats: submerged root mats along streams and in the roots of vegetation growing on seepage areas on granite outcrops. First discovered at the “Tobogan de la Selva” locality in northwestern Amazonas State, Venezuela (e.g. Spangler & Steiner 2005), additional series and species were found along the northwestern edge of the Guiana Shield and later at several sites in Suriname, including the summit of Tafelberg Tepui. In total, three species have been found to date. Frequently, females have an egg case affixed to the ventral side of their abdomen, in a similar manner to some species of *Helochares* Mulsant and *Helobata* Bergroth.

While these beetles share a number of characters with several genera of Acidocerinae (e.g. a short basal piece of the aedeagus, systematic punctures, inwardly curved maxillary palps, partially pubescent hind femora), they also possess a number of unusual or novel characters such as a fifth ventrite lacking an emargination and (usually) bearing a small glabrous patch, an unusual aedeagal morphology, and short maxillary palps. Here, we describe a new genus to accommodate these three new species of hydrophilids, and provide detailed summaries of their habitat, distribution, and potential phylogenetic affinities.

### Material and methods

We examined 129 specimens for this study. Terminology follows Hansen (1991), except for the substitution of meso- and metaventrite for meso- and metasternum respectively. Museum and depository abbreviations: MALUZ—Museo de Artrópodos de la Universidad del Zulia, Maracaibo, Venezuela (J. Camacho, M. García); MIZA—Museo del Instituto de Zoología Agrícola, Maracay, Venezuela (L. Joly); NMPC—Czech National Collection, National Museum, Prague, Czech Republic (M. Fikáček); USNM—US National Museum of Natural History, Washington DC (C. Micheli, W.E. Steiner); NMW—Naturhistorisches Museum Wien, Austria (M.A. Jäch, A. Komarek); SEMC—University of Kansas, Lawrence, USA (A. Short).



**FIGURE 10.** Habitat of *Radicitus surinamensis*. A) Suriname, Grensgebergte Mountains (collecting event SR12-0312-01A). B) Suriname, Mt. Kasikasima (collecting event SR12-0324-01C).

### Acknowledgments

We warmly thank the many colleagues who assisting in fieldwork, including Jesus Camacho (MALUZ), Quintin Arias and Luis Joly (MIZA), Paul Ouboter and Vanessa Kadosoe (NZCS), Monica Tellez and Kelly Miller (University of New Mexico) and Devin Bloom (SEMC). This research was supported in part by the US National Science Foundation grant #DEB-0816904 to AEZS. Fieldwork in Suriname was funded by Conservation International and grant #9286-13 from the National Geographic Society Committee for Research and Exploration to AEZS. Scanning electron micrographs were made possible by US National Science Foundation grant DBI-0420726 to the Santa Barbara Museum of Natural History.

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