Zootaxa 3790 (1): 177–184
www.mapress.com/zootaxa/

Article

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

http://dx.doi.org/10.11646/zootaxa.3790.1.8
http://zoobank.org/urn:lsid:zoobank.org:pub:01101AA0-676A-491E-8B41-5255C7DD322A

Agaporomorphus sharynae, a new species of diving beetle (Coleoptera: Dytiscidae: Copelatinae) from Venezuela

KELLY B. MILLER
Department of Biology and Museum of Southwestern Biology, University of New Mexico, Albuquerque, NM 87131 USA.
E-mail: kbmiller@unm.edu

Abstract

Agaporomorphus sharynae **sp. n.** is described from Amazonas, Venezuela. *Agaporomorphus* Zimmermann, 1921 now includes nine known species. The new species is part of the *A. knishi* species group since it has similarly convoluted male genitalia with rows of setae on the dorsal surface. Males can be separated from those of other members of the genus by the structure of the abdominal ventrites, shape of the antennae, and shape of the male median lobe. The cladistic analysis of K.B. Miller & Wheeler (2008) is modified to include the new species. The habitus and male and female genitalia are illustrated, and male genitalia of other species of the *A. knishi* species group are illustrated for comparison.

Key words: Coleoptera, Dytiscidae, Copelatinae, taxonomy, classification, Neotropical

Introduction

Prior to a revision several years ago (K.B. Miller 2001a) only two species of *Agaporomorphus* Zimmermann, 1921 were known. That revision added three new species (K.B. Miller 2001a) and since then, additional new species of *Agaporomorphus* have appeared with some regularity (K.B. Miller 2005; K.B. Miller & Wheeler 2008), with eight species now known. Relatively little is known of their natural history. Specimens are uncommon in collections and most were collected at light. They are rarely collected directly from aquatic habitats, and when they are, it is usually in low densities among larger numbers of other diving beetle species. On a recent expedition to Venezuela, another new species of *Agaporomorphus* (the ninth now known) was discovered and is described here.

Material and methods

This project is based on specimens of the new species collected in Venezuela. All other species of *Agaporomorphus* were also examined at various times including the holotypes of all described species except *A. pereirai* Guignot, 1957. The holotype of the new species is deposited in the Museo del Instituto de Zoología Agrícola Francisco Fernández Yépez, Universidad Central de Venezuela, Maracay, Venezuela (MIZA, L. Joly). Paratypes are deposited in MIZA and the Museum of Southwestern Biology, Division of Arthropods, University of New Mexico, USA (MSBA, K.B. Miller). Measurements were taken with an ocular scale with a Zeiss Discovery V8 dissecting microscope. Each specimen of the species was measured. Measurements include: 1) total length (TL), 2) greatest width across elytra (GW), 3) greatest width of head (HW), and 4) distance between eyes (EW). The ratios TL/GW and HW/EW also were calculated. The habitus image (Fig. 1) was produced with a BK Plus Visionary Digital Imaging system (R. Larimer, www.visionarydigital.com). Author's comments are given in square brackets.

Accepted by H. Fery: 7 Feb. 2014; published: 16 Apr. 2014

Agaporomorphus mecolobus K.B. Miller, 2001; Brazil.
Agaporomorphus pereirai Guignot, 1957; Suriname.
Agaporomorphus sharynae K.B. Miller **sp. n.**; Venezuela.
Agaporomorphus silvaticus K.B. Miller, 2005; Peru.
Agaporomorphus tambopatensis K.B. Miller, 2005; Peru.

Acknowledgments

Many thanks to A.E.Z. Short for help in many ways. Thanks to L. Jolly, J. Camacho and M. Garcia for a great collecting trip and J.A. Clavijo for his help with permitting and many logistical issues. Thanks to R. Larimer of Visionary Digital for advice and strategies for photographing these difficult beetles. Portions of this work were funded by NSF grants #DEB–0816904 (A.E.Z. Short and K.B. Miller, PIs) and #DEB–0845984 (K.B. Miller, PI).

References

Miller, K.B. (2001a) On the genus *Agaporomorphus* Zimmermann, 1921 (Coleoptera: Dytiscidae: Copelatinae). *Annals of the Entomological Society of America*, 94, 520–529.
http://dx.doi.org/10.1603/0013-8746(2001)094[0520:ROTGAZ]2.0.CO;2

Miller, K.B. (2001b) On the phylogeny of the Dytiscidae (Coleoptera) with emphasis on the morphology of the female reproductive tract. *Insect Systematics and Evolution*, 32, 45–92.
http://dx.doi.org/10.1163/187631201X00029

Miller, K.B. (2005) Two new species of *Agaporomorphus* Zimmermann (Coleoptera: Dytiscidae) from Peru. *Zootaxa*, 1059, 49–59.

Miller, K.B. & Wheeler, Q.D. (2008) A new species of *Agaporomorphus* Zimmermann from Venezuela, and a review of the *A. knischi* species group (Coleoptera: Dytiscidae: Copelatinae). *Zootaxa*, 1859, 63–68.

Zimmermann, A. (1921) Beiträge zur Kenntnis der südamerikanischen Schwimmkäferfauna nebst 41 Neubeschreibungen. *Archiv für Naturgeschichte*, 87A (3), 181–206.