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Three new species of *Macrelmis* Motschulsky, 1859 (Coleoptera: Elmidae: Elminae) from the Brazilian Cerrado Biome with updated key for the *Macrelmis* of Brazil

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Abstract

Three new species of *Macrelmis* Motschulsky, 1859 (*Macrelmis bispo* sp. nov., *Macrelmis froehlichii* sp. nov., and *Macrelmis nessimiani* sp. nov.) are herein described and illustrated. The species were collected from several streams in Goiás State, Brazil, a formerly unknown region concerning Elmidae fauna. We also provide an updated key for the *Macrelmis* species of Brazil.

Key words: Neotropics, aquatic insects, riffle beetles, taxonomy, identification key

Introduction

Before Brown (1984), the genus *Macrelmis* Motschulsky, 1859 was represented by 18 species, from which only *Macrelmis dentata* Motschulsky, 1859 remained as belonging to *Macrelmis*. All other 17 species were transferred to a new genus, *Austrelmis* Brown, 1984. Furthermore, the genus *Elsianus* Sharp, 1982 was recognized as a junior synonym of *Macrelmis* and 36 species, formerly described in the genus *Elsianus*, were transferred to *Macrelmis* (Brown 1984).

Macrelmis is easily distinguishable from the majority of New World genera (and from all other Neotropical genera) of Elminae in having an accessory stria at base of elytra, between the first and second stria (Brown 1984, Manzo 2005).

Previously to the work herein presented, *Macrelmis* comprised 46 species distributed from southern United States to Argentina. Among these, 30 are found in South America and 21 in Brazil (Hinton 1946, Brown 1984, Manzo & Archangelsky 2001, 2008, Manzo 2003, Passos & Felix 2004, Hallan 2010, Monte & Mascagni 2012, Segura *et al.* 2012, Sampaio *et al.* 2012, Barbosa *et al.* 2013).

In this work, we describe and illustrate three new species of *Macrelmis* from Goiás State (GO), Brazil. We also provide an updated key for the *Macrelmis* of Brazil.

Material and methods

Specimens were collected in several streams from Goiás State, distributed in ten municipalities (Goianésia, Itaberaí, Itapuranga, Jaraguá, Morro Agudo de Goiás, Pirenópolis, Santa Isabel, São Francisco de Goiás, Rio Verde, and Santo Antônio da Barra). The region is primarily covered by the Cerrado biome (Brazilian savanna) and somehow rich in small cascades, rapids and low order streams. Collection sites and municipalities along Goiás State can be checked on the map (Fig. 1).

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