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Description of the larva of *Mnesarete pudica* (Hagen in Selys, 1853) (Odonata: Calopterygidae) and notes on known genera of South American Calopterygidae larvae

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Abstract

The final instar larva of *Mnesarete pudica* is described and illustrated based on reared specimens collected in Brazil. This species can be distinguished from others by presenting: a) five palpal and three premental setae; b) no posterodorsal hooks on abdominal segments; c) lateral spines only in S9-10. *M. pudica* is compared to other South American calopterygids and biological notes are presented.

Key words: dragonfly, damselfly, nymph, naiad, taxonomy, Brazil, neotropical

Introduction

Damselflies of the family Calopterygidae present a wide distribution and are commonly associated with running waters. Adults are known by their colorful wings and complex sexual and territorial behaviors (Cordoba-Aguilar & Cordero-Rivera 2005). The family is represented by approximately 18 genera, of which five occur in South America.

The two larger genera of Calopterygidae from South America are the New World genus *Hetaerina* Hagen in Selys and the exclusively South American genus *Mnesarete* Cowley (Garrison, 1990; 2006). The morphological discrimination between these two genera has been difficult, causing taxonomic confusion (Garrison 1990, 2006). In a recent revision of South American Calopterygidae, Garrison (2006) solved many taxonomic issues of *Mnesarete* taxonomy and described two new genera: *Ormenophlebia* and *Bryoplathanon*. However, although larvae of several *Hetaerina* have been studied (Geijskes 1943; Santos 1970ab, 1972; De Marmels 1985; 2007; Pessaq and Muzón 2004), the final instar larva of only one *Mnesarete*, *M. grisea* (Ris), has been described (Garrison 2006).

As *Mnesarete* comprises 27 species, many of which are known from Brazil and may be sympatric with the other calopterygid genera (Garrison 2006), difficulties may arise in correctly applying names to larvae in taxonomic and ecological studies. Garrison (2006) was unable to reliably define generic traits to larvae assigned to three genera: *Hetaerina*, *Mnesarete*, and *Ormenophlebia*. Thus, descriptions of larvae of *Mnesarete*, *Ormenophlebia*, and *Bryoplathanon* are needed to better understand their taxonomy and to fashion a key for South American Calopterygidae larvae.

Hence, in this paper, we describe the final instar larva of *M. pudica* (Hagen in Selys), a common damselfly from southern Brazil, and present biological and taxonomical notes.

Methodology

Last-instar larvae were collected at a first-order stream in Assis, São Paulo, Brazil (22°38'S, 50°27'W; altitude 522 m) by RGF and are deposited in the Aquatic Insects Collection of the Aquatic Biology Laboratory (FCLA, State