

Revalidation of *Platystigma* Kennedy, 1920, with a synopsis of the *quadratum* species group and the description of three new species (Odonata: Pseudostigmatidae)

ANGELO B. M. MACHADO¹ & DÉBORAH S. SOLDATI LACERDA²

Laboratório de Sistemática de Insetos, Departamento de Zoologia, Instituto de Ciências Biológicas, Universidade Federal de Minas Gerais, Caixa Postal 486, 31270-901, Belo Horizonte, Minas Gerais, Brazil. E-mail: ¹angelo@icb.ufmg.br; ²desoldati@gmail.com

Abstract

The genus *Platystigma* Kennedy, 1920 is revalidated based mainly on the third segment of the penis that is plate-like, whereas in the other Pseudostigmatidae it is a flagellum. Dijkstra *et al* (2014) have merged this family into the Coenagri-onidae. However, we prefer to maintain the long-used name Pseudostigmatidae until more detailed phylogenetic studies with more sampling are done. Eight species are here considered in the genus, three of which are described as new: *P. hu-maita*, *P. minimum* and *P. quadratum*. The genus is divided in two species group, *jocaste* and *quadratum*, the latter studied here. The hitherto unknown male of *P. martinezi* (Machado 1985) is described for the first time. Evidence for exophytic oviposition is presented in at least one species of the genus. A key is provided for the species of the *quadratum* group.

Key words: damselflies, exophytic, *Mecistogaster*, oviposition, South America, taxonomy

Introduction

Kennedy (1920) described 42 new genera of Zygoptera in a paper with no illustrations and very short descriptions. In the 96 years that elapsed since the publication of this paper, some of these genera have been synonymized. In that paper, *Mecistogaster* was divided into five genera: *Goniostigma*, *Haplostigma*, *Mecistogaster*, *Platystigma* and *Xanthostigma*. These new genera were regarded as subgenera by Davies & Tobin (1984) and synonymized with *Mecistogaster* by Garrison *et al.* (2010). Thus, the generic status of these four genera is controversial and reflects the fact that there are many taxonomic problems in *Mecistogaster*, a genus badly in need of a revision (Garrison *et al.* 2010). Here, *Platystigma* Kennedy is revalidated, and a taxonomic study of one of its species group is performed.

Material and methods

The specimens studied here were from Bolivia, Colombia, Ecuador, Peru, Venezuela, and from the Brazilian states of Acre, Amazonas, Rondônia, Pará, Espírito Santo, Rio de Janeiro, São Paulo, and Paraná. They are deposited in the following collections:

ABMM	Angelo B. M. Machado Collection, Department of Zoology, Federal University of Minas Gerais Federal de Minas Gerais, Belo Horizonte, Brazil.
FSCA	Florida State Collection of Arthropods, Gainesville, Florida, United States.
FAAL	Frederico A. A. Lencioni Collection, Jacareí, São Paulo, Brazil.
MCZ	Museum of Comparative Zoology, Harvard University, Cambridge, United States.
MNRJ	Museu Nacional do Rio de Janeiro Collection, Universidade Federal do Rio de Janeiro, Brazil.
NHMS	Naturhistoriska Riksmuseet, Stockholm, Sweden.