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Synopsis of *Epipleoneura* (Zygoptera, Coenagrionidae, “Protoneuridae”), with emphasis on its Brazilian species

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Abstract

A revision of the known species of *Epipleoneura* is presented. Material of all Brazilian species was examined. Two new species are described: *E. ottoi* (Holotype: Brazil, Goiás State, São Bartolomeu river) and *E. susanae* (Holotype: Brazil, Mato Grosso State, São Lorenzo river), and the male of *E. humeralis* and the female of *E. kaxuriana* are described for the first time. With the exception of *E. protostictoides*, diagnoses, morphological characterizations, and illustrations of all species including known females are presented. The genital ligula of 25 species is described or redescribed. Morphological intraspecific variation is presented for *E. machadoi*, *E. metallica*, and *E. venezuelensis*.

Key words: damselfly, Neotropical, key, new species

Introduction

The exclusively South American genus *Epipleoneura* was created by Williamson (1915) to include three new species: *E. lamina*, *E. incusa*, and *E. fuscaenea*. His generic definition was based exclusively on wing characters. Williamson (1915) mentioned that four other species described under *Protoneura* Selys in Sagra, 1857 may belong in his new genus, and two of those species (*E. humeralis* [Selys, 1886] and *E. capilliformis* [Selys, 1886]) are currently included in *Epipleoneura*.

Epipleoneura are slender, dark damselflies, with metallic reflections and usually with pruinosity in the last abdominal segments. With 26 described species, *Epipleoneura* is a speciose genus of Coenagrionidae, and the most speciose genus of the former Neotropical family Protoneuridae (Garrison *et al.* 2010; Pessacq & Costa 2010), a probably monophyletic group within Coenagrionidae (Dijkstra *et al.* 2014). Most of its species have been described by De Marmels (1989), Machado (1964, 1985, 1986, 2005), Santos (1957, 1964), and Rácenis (1955, 1960) from Brazil and Venezuela.

Pessacq (2008) in his cladistic analysis of Neotropical “Protoneuridae” recovered *Epipleoneura* as a monophyletic clade and diagnosed the genus as follows: “Epiroct strongly developed, half of cercus length or more; genital ligula internal fold absent; postero-lateral projections of segment II of genital ligula usually present; paraprocts present, no longer than tenth abdominal segment; CuP&AA' absent.”

Garrison *et al.* (2010) diagnosed the genus from other Neotropical “Protoneuridae” in keys to males and females, provided a generic characterization and provided numerous illustrations of the male epiroct—an important species-specific character for this genus.

No revision of the genus has been made to date, and with the exception of *Epipleoneura metallica* Rácenis, 1955 (De Marmels 2007), the larval stages are unknown, and the females of only 13 species (50 %) have been described.

Here I describe new species, present a brief morphological description for all *Epipleoneura* species accompanied by illustrations of diagnostic characters, and provide a key to the males of the genus. I also provide illustrations of potential discriminatory characters for females.

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