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Drepanoneura gen. nov. for *Epipleoneura letitia* and *Protoneura peruviensis*, with descriptions of eight new Protoneuridae from South America (Odonata: Protoneuridae)

NATALIA VON ELLENRIEDER[1] & ROSSER W. GARRISON[2]

[1]*Instituto de Bio y Geo Ciencias (IBiGeo), Museo de Ciencias Naturales, Universidad Nacional de Salta, Mendoza 2, 4400 Salta, Argentina*
[2]*Plant Pest Diagnostic Branch, California Department of Food and Agriculture, 3294 Meadowview Road, Sacramento, CA 95832-1448, United States of America*

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Abstract

A new genus, *Drepanoneura* (type species *Drepanoneura loutoni* **sp. nov.**), is described to include *Epipleoneura letitia* Donnelly, *Protoneura peruviensis* Fraser, and six new congeneric species from South America: *D. donnellyi*, *D. flinti*, *D. janirae*, *D. loutoni*, *D. muzoni*, and *D. tennesseni*. *Drepanoneura* is similar to *Epipleoneura* and *Epipotoneura* in venational characters, but differs from them in morphology of male cercus, genital ligula, female pronotum, and epiproct. A new species of *Epipleoneura* from Venezuela, *E. demarmelsi*, and a new species of *Epipotoneura* from Brazil, *E. machadoi*, are described, and diagnostic illustrations for the poorly known *Epipotoneura nehalennia* Williamson are also presented. A generic characterization, diagnoses, and keys for species of *Drepanoneura* are provided, as well as diagnostic illustrations and distribution maps for all involved species.

Key words: Odonata, Zygoptera, Protoneuridae, *Epipleoneura*, *Epipotoneura*, *Protoneura*, new genus, new species, South America

Resumen

Un nuevo género, *Drepanoneura* (especie tipo *D. loutoni* **sp. nov.**), se describe para incluir a *Epipleoneura letitia* Donnelly, *Protoneura peruviensis* Fraser, y seis nuevas especies congenéricas de Sudamérica: *D. donnellyi*, *D. flinti*, *D. janirae*, *D. loutoni*, *D. muzoni* y *D. tennesseni*. *Drepanoneura* se asemeja a *Epipleoneura* y *Epipotoneura* en sus caracteres de venación, pero difiere de ellos en la morfología del cerco del macho, de la lígula genital, del pronoto de la hembra y del epiprocto. Una nueva especie de *Epipleoneura* de Venezuela, *E. demarmelsi*, y una nueva especie de *Epipotoneura* de Brasil, *Epipotoneura machadoi*, son descriptas, y también se presentan ilustraciones diagnósticas de la poco conocida *E. nehalennia* Williamson. Se proporcionan una caracterización genérica, diagnosis y claves para las especies de *Drepanoneura*, así como ilustraciones diagnósticas y mapas de distribución para todas las especies involucradas.

Introduction

Family Protoneuridae includes slender and inconspicuous Zygoptera with a rectangular discoidal cell and a strong tendency towards venational reduction. It is represented by approximately 90 species within 14 genera in the Neotropical region (Pessacq 2008). Knowledge of neotropical Protoneuridae is still poor, with new genera and numerous new species still being collected and described (Garrison 1999; Lencioni 1999; De Marmels 2003; Machado 2005a–c, 2007; Meurgey 2006; Juillerat 2007; Pessacq & Costa 2007).

Based exclusively on venational characters, Williamson (1915) briefly described genera *Epipleoneura*, *Epipotoneura*, and *Psaironeura* in a key separating them from *Protoneura* Selys *in* Sagra 1857. He restricted species with relatively narrow wings (one seventh or less as wide as long) to *Protoneura* and species with relatively wide wings (one sixth or more as wide as long) to his three new genera. He further separated *Protoneura* by having the first antenodal space longer than the third and as long as twice the second or more, compared to the first antenodal space as long as the third and shorter than twice the second for the other three genera. He diagnosed *Epipleoneura* by its point of origin of IR_2 at vein descending from subnodus, which in *Psaironeura* and *Epipotoneura* is distal to vein descending from subnodus. He characterized *Psaironeura* by MP ending at the vein descending from subnodus and three antenodal spaces subequal, as opposed to MP ending distally to the vein descending from subnodus and second antenodal space the shortest in *Epipotoneura*.

Fraser (1946) described *Protoneura peruviensis* referring it to Selys' (1886) second group. He was apparently unaware of Williamson's (1915) generic reassignments, since this species would fit in *Epipleoneura* based on Williamson's (1915) key. Fraser (1946) mentioned that it differed from all its congeners by the shape of male cerci. This species was later transferred to *Epipleoneura* by Bridges (1994) based on written communication by RWG who had examined and illustrated the holotype.