

RESEARCH ARTICLE

In honor of conservation of the Brazilian Atlantic Forest: description of two new damselflies of the genus *Forcepsioneura* discovered in private protected areas (Odonata: Coenagrionidae)

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<http://zoobank.org/2961994A-B275-4653-86DB-80B5952C0D42>

ABSTRACT. Two new Brazilian Protoneurinae damselflies, *Forcepsioneura regua* sp. nov. (holotype male deposited in DZRJ: Brazil, Rio de Janeiro State, Cachoeiras de Macacu municipality, RPPN Reserva Ecológica de Guapiáçu) and *Forcepsioneura serrabonita* sp. nov. (holotype male deposited in DZRJ: Brazil, Bahia State, Camacan municipality, RPPNs Serra Bonita) , are described, illustrated and diagnosed based on males and females. The bluish and smaller *F. regua* sp. nov. has been confused with at least three previously described species, being very similar to the type species of *Forcepsioneura*, *F. garrisoni* Lencioni, 1999, but lacking a defined tubercle-like process on the posterolateral margin of the median lobe of the prothorax in both sexes, which allows it to be distinguished from all other known species. The shape of the cercus of the male of *F. serrabonita* sp. nov. is similar to that of *F. grossiorum* Machado, 2001 and *F. lucia* Machado, 2000, two species with very short ventrobasal process. However, it differs from them mainly by the mediobasal process of the cercus, which is rounded in dorsal view and almost not visible in lateral view. The taxonomic status of *Forcepsioneura* is discussed and a comparison with the other species of the genus is provided. Based on size, habitat and coloration, *Forcepsioneura* can be informally divided into two groups: (1) large, orange-black and montane species, including *F. grossiorum*, *F. itatiaiae* (Santos, 1970), *F. lucia* and *F. serrabonita* sp. nov.; (2) small, bluish and lowland species, including *F. garrisoni*, *F. haerteli* Machado, 2001, *F. regua* sp. nov. and *F. sancta* (Hagen in Selys, 1860). Our findings highlight the urgency in directing collecting efforts to unexplored areas, as well as the importance of private preserves that harbor the type localities as guardians of the threatened and diverse Atlantic Forest diversity. Together these two localities surveyed account for more than 210 species of odonates, representing almost 24% of the number of Brazilian species. Brazil has the greatest number of known species of odonates in the world. This study shows that further research is required in order to fully understand the diversity of *Forcepsioneura*.

KEY WORDS. *Amazona*, dragonfly, damselfly, Protoneurinae, Southeastern Brazil, taxonomy.

INTRODUCTION

"...forest cover must be important for adults of the majority of neotropical Odonata. Every effort should be made to preserve forests and forest wetlands in this most biodiverse region of the Earth" (Paulson 2006: 97).

The quotation above illustrates the relevance of forests for the conservation of the insects of the order Odonata, popularly

known as dragonflies and damselflies. Life on Earth is facing the sixth mass extinction in the planet's geological history (Barnosky et al. 2011). Distinct from the past, when natural processes caused extinctions, for example, the meteorite impact that ended the era of the giant 'reptiles' and caused the last big extinction event in the Cretaceous Period (Jablonski 2001, Barnosky et al. 2011), the current high rate of biodiversity loss mostly results from human activities. This has led to this epoch being baptized as the Anthropocene (e.g., Crutzen and Stoermer 2000). As a