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New species of *Hermanella* complex (Ephemeroptera: Leptophlebiidae) from Brazilian Atlantic Forest

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Abstract

In the present work, based on material from Brazilian Atlantic Forest, four new species of the *Hermanella* complex are described. The main characteristics that distinguish the new species from its congeners are, in *Hermanella amere* **sp. nov**.: (1) subgenital plate yellow, with wide projection near base of forceps; (2) penis lobe with ventral, robust, posterioly directed spine; in *Hermanella nigra* **sp. nov.**: (1) subgenital plate brown washed with gray, with wide projection near inner base of forceps; (2) penis lobe with a distomedial membranous projection and ventral, robust, posteriorly directed spine; in *Hylister obliquus* **sp. nov.**: (1) subgenital plate yellowish brown, with pointed projection near inner base of forceps; (2) penis lobe with ventral, short, narrow, posteromedially directed spine; in *Traverella insolita* **sp. nov.**: (1) subgenital plate strongly projected posteriorly, forming three broad and short projections; (2) penis lobe laterally sinuous and apically rounded, with a ventral, long, narrow spine curved toward the midline of the body. Modified keys of male imagos are provided for the three genera, whereas comments regarding their taxonomy are presented. Additionally, *Hermanella mazama* (Nascimento, Mariano & Salles 2012 in Lima *et al.* 2012), **comb. nov.**, is proposed.

Key words: aquatic insects, mayflies, taxonomy, Neotropical Region, keys

Introduction

The *Hermanella* generic complex (Domínguez & Flowers 1989) is a large and distinct group of Atalophlebiinae (Ephemeroptera: Leptophlebiidae), distributed from the Neotropical to the Nearctic regions (Domínguez *et al.* 2006). The nymphs of this group can be characterized by extremely broad mouthparts, bearing even rows of long setae.

Despite the distinctiveness of the group and its well accepted monophyly (Domínguez *et al.* 2001, Flowers & Domínguez 1991), the relationship among its members, the correct attribution of some species, and even the supraspecific status of some taxa, are still subject of debate (Sartori 2005, Kluge 2007). The fact that some taxa are known exclusively at one stage, and that species showing intermediate characters have been recently described, are the main reasons for this situation. Eight supraspecific taxa are currently recognized in the complex: *Hermanella* Needham & Murphy, 1924; *Hydromastodon* Polegatto & Batista, 2007; *Hydrosmilodon* Flowers & Domínguez, 1992; *Hylister* Domínguez & Flowers, 1989; *Leentvaaria* Demoulin, 1966; *Needhamella* Domínguez & Flowers, 1989; *Paramaka* Savage & Domínguez, 1992; and *Traverella* Edmunds, 1948.

Kluge (2007) reviewed some Neotropical Atalophlebiinae and proposed a new taxon named Hermanellonota, which includes two complexes of genera, the *Hermanella* complex genera (or Hermanellognatha sensu Kluge (2007)) plus the *Homothraulus* complex, composed of *Farrodes* Peters, 1971, *Simothraulopsis* Demoulin, 1966 and *Homothraulus* Demoulin, 1955. In this paper, in which the genus *Hydromastodon* has not been included, he considered that *Hydrosmilodon* and *Paramaka* were junior synonyms of *Needhamella* and placed all remaining

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