Leptophlebiidae (Ephemeroptera) of the Serra do Tepequém, Roraima State, Brazil: new records and description of two new species

JAIME DE LIEGE GAMA NETO1,3 & NEUSA HAMADA2
1Programa de Pós-graduação em Entomologia, Instituto Nacional de Pesquisas da Amazônia - INPA/Manaus
2Coordenação de Biodiversidade, Instituto Nacional de Pesquisas da Amazônia - INPA/Manaus
3Museu Integrado de Roraima – MIRR, Divisão de Pesquisas e Estudos Amazônicos, Boa Vista/Roraima

Abstract

Miroculis (Miroculis) eldorado sp. nov. and Ulmeritoides passorum sp. nov. are described based on material from Serra do Tepequém, Roraima State, Brazil. Additional records of Leptophlebiidae genera and species are made. Askola Peters, 1969, Farrodes Peters, 1971, Microphlebia Savage & Peters, 1983, Hydrosmilodon Flowers & Dominguez, 1992, Hagemulopsis minuta Spieth, 1943 and Simothraulopsis demerara (Traver, 1947) are recorded for the first time in Roraima State. Simothraulopsis janae Mariano, 2010 is recorded for the first time in the Northern Brazil.

Key words: leptophlebiids, Neotropical, taxonomy, mayflies

Introduction

Ephemeroptera is a small group of winged insects with about 375 genera and 3,000 species grouped in 37 families worldwide. In South America there are approximately 14 families and 450 species (Domínguez et al. 2006), with records of 318 species in Brazil, representing 10 families: Baetidae, Caenidae, Coryphoridae, Epheremoridae, Euthyplociidae, Leptohyphidae, Leptophlebiidae, Melanemerellidae, Oligoneuriidae and Polymitarcyidae (Salles et al. 2014).

The families Baetidae and Leptophlebiidae stand out among the most speciose families, containing approximately 33% and 28% of the mayfly species recorded from Brazil, respectively (Salles et al. 2014). Leptophlebiidae has 89 species distributed among 25 genera, most within the genera Askola Peters, 1969, Hermanella Needham & Murphy, 1924, Miroculis Edmunds, 1963, Simothraulopsis Demoulin, 1966, Thraulodes Ulmer, 1920 and the Ulmeritus–Ulmeritoides complex (Salles et al. 2014; Salles & Domínguez 2012).

Miroculis has 12 species distributed among the subgenera Miroculis s.s. Savage & Peters, 1983, Yaruma Savage & Peters, 1983, Atroari Savage & Peters, 1983 and Ommaethus Savage & Peters, 1983. Miroculis s.s., can be distinguished from the other subgenera by the dorsal portion of the eyes, with five to twenty facets in the longest row situated on a pedicel that is longer than wide (Peters et al. 2008). This subgenus has eleven species, with records in Brazil, Colombia, Peru, Suriname and Venezuela (Domínguez et al. 2013; Costa & Mariano 2013; Gama Neto & Hamada 2013; Lima et al. 2014; Salles et al. 2014).

The Ulmeritus–Ulmeritoides complex consists of the monophyletic genera Ulmeritus Traver, 1956 and Ulmeritoides Traver, 1959 (Domínguez 1995; Salles & Domínguez 2012). Ulmeritoides was first established as a subgenus of Ulmeritus (Traver 1959) and raised to genus by Domínguez (1991). Currently, it has twelve species distributed in Central and South America, seven of which have records in Brazil (Salles & Domínguez 2012; Salles et al. 2014).

Roraima State, in particular, has thirty-six species of mayfly distributed among the families Baetidae, Leptophlebiidae, Leptohyphidae and Oligoneuriidae, following the same pattern of Brazil with Baetidae being the most numerous (27 species), followed by Leptophlebiidae (6), Leptohyphidae (4) and Oligoneuriidae (2) (Salles et al. 2014).
**Simothraulopsis demerara**

**Discussion.** This species has been recorded from the Brazilian Amazon region (Amapá and Pará States), but outside there, it was reported only from southeastern Brazil in Espírito Santo State (Salles *et al.* 2010). The finding of *S. demerara* in Roraima extends the distribution of this species further north in Brazil.

**Material examined.** One male imago, Brazil, Roraima State, Amajari municipality, Serra do Tepequém, second order stream (03°87'39.6"N/ 61°44'49.8"W), 30.v.2012–3.vi.2012, Gama Neto, J.L. coll. (INPA).

**Simothraulopsis janae**

**Discussion.** This species has been reported only from northeastern Brazil, in Bahia and Pernambuco States (Salles *et al.* 2014). The finding of *S. janae* in Roraima represents the first record of this species from far northern Brazil and expands our knowledge of its range.

**Material examined.** 12 male imagos, Brazil, Roraima State, Amajari municipality, Serra do Tepequém, second order stream (03°87'39.6"N/ 61°44'49.8"W), 30.v.2012–3.vi.2012, Gama Neto, J.L. coll. (INPA).

**Acknowledgments**

The authors wish to express their gratitude to Museu Integrado de Roraima (MIRR) for logistical support, to the projects CT-Amazônia/ CNPq (Process n. 575875/2008-9) and Pró-equipamentos/CAPES/INPA/Dcen; to CAPES for a doctoral scholarship awarded to Jaime de Lige Gama Neto; to CNPq for a research fellowship awarded to Neusa Hamada. We express gratitude to Frederico Falcão Salles and Eduardo Domínguez for confirming the new species of *Ulmeritoides* and to Eduardo Domínguez for scientific review of the manuscript.

**References**


http://dx.doi.org/10.1111/j.1439–0469.1983.tb00281.x


