

## Ephemeroptera, Leptohyphidae, Amanahyphes saguassu Salles and Molineri, 2006: First record from state of Pará, Brazil

Inês Corrêa Gonçalves 1\* and Elidiomar Ribeiro Da-Silva 2

- 1 Universidade Federal do Rio de Janeiro, Instituto de Biologia, Departamento de Zoologia, Laboratório de Entomologia. Caixa Postal 68044. CEP 21941-971. Rio de Janeiro, RJ, Brazil.
- 2 Universidade Federal do Estado do Rio de Janeiro, Instituto de Biociências, Departamento de Zoologia, Laboratório de Insetos Aquáticos. CEP 22290-240. Rio de Janeiro, RJ, Brazil.
- Corresponding author. E-mail: inescg@ig.com.br

ABSTRACT: Amanahyphes saguassu Salles and Molineri, 2006 is firstly recorded from state of Pará. Specimens from Pará presented wings with more curved anal veins than those from state of Amazonas, illustrated in the original description, showing variability among populations of this species. Amanahyphes saguassu is similar to Leptohyphodes inanis (Pictet, 1843), sharing both nymph and adult characteristics.

Leptohyphidae comprises a group of pan-American distribution (Dias et al. 2007) with all genera occurring in South America (Emmerich 2004; Molineri 2004). Thirtytwo species in seven genera occur in Brazil: Amanahyphes Salles and Molineri, 2006 (one species), Leptohyphes Eaton, 1882 (five species), Leptohyphodes Ulmer, 1920 (one species), Macunahyphes Dias, Salles and Molineri, 2005 (one species), Traverhyphes Molineri, 2001 (four species), Tricorythodes Ulmer, 1920 (nine species) and Tricorythopsis Traver, 1958 (11 species) (Salles 2010).

The monotypic genus Amanahyphes was erected by Salles and Molineri (2006) to include A. saguassu, a new species described based on nymphs, subimagos, and imagos from the Amazon Basin, state of Amazonas.

Specimens studied in the present paper were collected at Carajás National Forest, state of Pará, as part of the project "Estudos Limnológicos na FLONA de Carajás" (collecting permits #003/2006-MAB/FAUNA and #008/2007-MAB/ FAUNA; ICMBio, IBAMA and Vale do Rio Doce,). A total of 26 individuals were collected: one nymph found in pool litter, 13 male subimagos, one male imago, and 11 female subimagos. Winged stages were captured using light traps. Species were identified using the key in Dias et al. (2007) and the original description by Salles and Molineri (2006). All specimens were deposited in Coleção Entomológica Professor José Alfredo Pinheiro Dutra, Departamento de Zoologia (DZRI), Universidade Federal do Rio de Janeiro (UFRI), Rio de Janeiro, Brazil.

Amanahyphes saguassu is very similar to Leptohyphodes inanis (Pictet, 1843), the sole species of the genus Leptohyphodes. Unlike others Leptohyphidae (cf. Salles and Molineri 2006), the operculate gills of nymphs of A. saguassu and L. inanis touch each other on the median line of the abdomen and the eyes of male imagos are divided into upper and lower portions. Winged stages of A. saguassu can be separated from L. inanis by the genitalia and the color of the male divided eye, black in both portions in the former and black lower and orange upper

portion in the latter. Abdominal color pattern also seems to be a diagnostic characteristic; males of *A. saguassu* show a typical dark medial subtriangular marking on tergum VI.

Until now, A. saguassu was only known to occur in the type-locality in state of Amazonas. Herein this species is firstly recorded from state of Pará, broadening its distribution in the Amazon basin. An interesting feature observed in specimens from Pará are the more curved anal veins in the wings than those illustrated in the original description (Figure 1), showing variability among populations of this species.

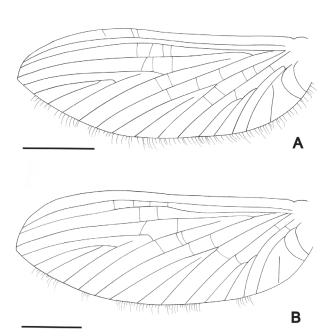


FIGURE 1. Wings of Amanahyphes saguassu from Pará. The anal veins are more curved than in those from Amazonas, described by Salles and Molineri (2006). (A) Female subimago and (B) Male subimago. Scale 1.0mm.

ACKNOWLEDGMENTS: To members of Laboratório de Entomologia (UFRJ) for suggestions during the work, to Dr. Daniela M. Takiya and Dr. Amazonas Chagas Júnior for reviewing the English text.

## LITERATURE CITED

- Dias, L. G., C. Molineri and P.S.C. Ferreira. 2007. Ephemerelloidea (Insecta: Ephemeroptera) do Brasil. Papéis Avulsos de Zoologia 47(19): 213-
- Domínguez, E., C. Molineri, M.L. Pescador, M.D. Hubbard and C. Nieto. 2006. Ephemeroptera of South America; p. 1-646 In: J. Addis, J.R. Arias, G. Rueda-Delgado and K.M. Wantsen (ed.). Aquatic Biodiversity in Latin America (ABLA), vol. 2. Sofia-Moscow: Pensoft.
- Emmerich, D. 2004. Primer reporte de Vacupernius Wiersema y McCafferty 2000 (Ephemeroptera: Leptohyphidae) para América del Sur. Entomotropica 19(2): 105-106.

- Molineri, C. 2004. Phylogeny of the Allenhyphes-Traverhyphes Group (Ephemeroptera: Leptohyphidae), with new subgenera, species and combinations. Tijdschrift voor Entomologie 147: 197-220.
- Salles, F.F. 2010. Lista de espécies de Ephemeroptera (Insecta) registradas para o Brasil. Eletronic database accessible at http://ephemeroptera. br.googlepages.com/home23. Accessed on 22 February 2010.
- Salles, F.F and C. Molineri. 2006. Amanahyphes saguassu, a new genus and species of Leptohyphidae (Ephemeroptera: Ephemerelloidea) from northern Brazil. Aquatic Insects 28(1): 1-12.

RECEIVED: September 2009 REVISED: February 2010 ACCEPTED: February 2010 Published online: March 2010

EDITORIAL RESPONSIBILITY: Amazonas Chagas Júnior