

A new species of *Ulmeritoides* from Brazil (Ephemeroptera: Leptophlebiidae)

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Abstract: The leptophlebiid mayfly genus *Ulmeritoides* is composed of nine species, three of which have been recorded in Brazil: *U. patagianus*, *U. uruguayensis*, and *U. misionensis*. In the present paper, a new species of this genus, *Ulmeritoides oepa* sp.nov., is described and illustrated based on fifteen larvae collected in Uraricoera River, state of Roraima, northern Brazil. The species was compared to *U. misionensis*, *U. tifferae*, and *U. guanacaste*, the other species of *Ulmeritoides* known from the larval stage. *U. oepa* sp.nov. can be distinguished from these species by the following combination of characteristics: 1) medial denticle on anteromedian emargination of labrum much larger than others; 2) anterior tibiae slightly stained black toward the apex; 3) medial femora with few dorsal spines, similar to short thick needles; 4) hind femora with numerous dorsal spines, similar to short thick needles; 5) medial femora with no medial black markings, apical brown markings. The new species seems to be more closely related to *U. misionensis*, another species in which the anteromedian emargination of the labrum has a median denticle much larger than the others. The studied specimens were deposited in the Invertebrates Collection of the Amazonian Research National Institute, Manaus, state of Amazonas, Brazil, and in the Entomological Collection of the Department of Zoology, Federal University of Rio Janeiro, Rio de Janeiro, state of Rio de Janeiro, Brazil.

Key words: Insecta, Ephemeroptera, Leptophlebiidae, Atalophlebiinae, *Ulmeritoides*, taxonomy, Brazil.

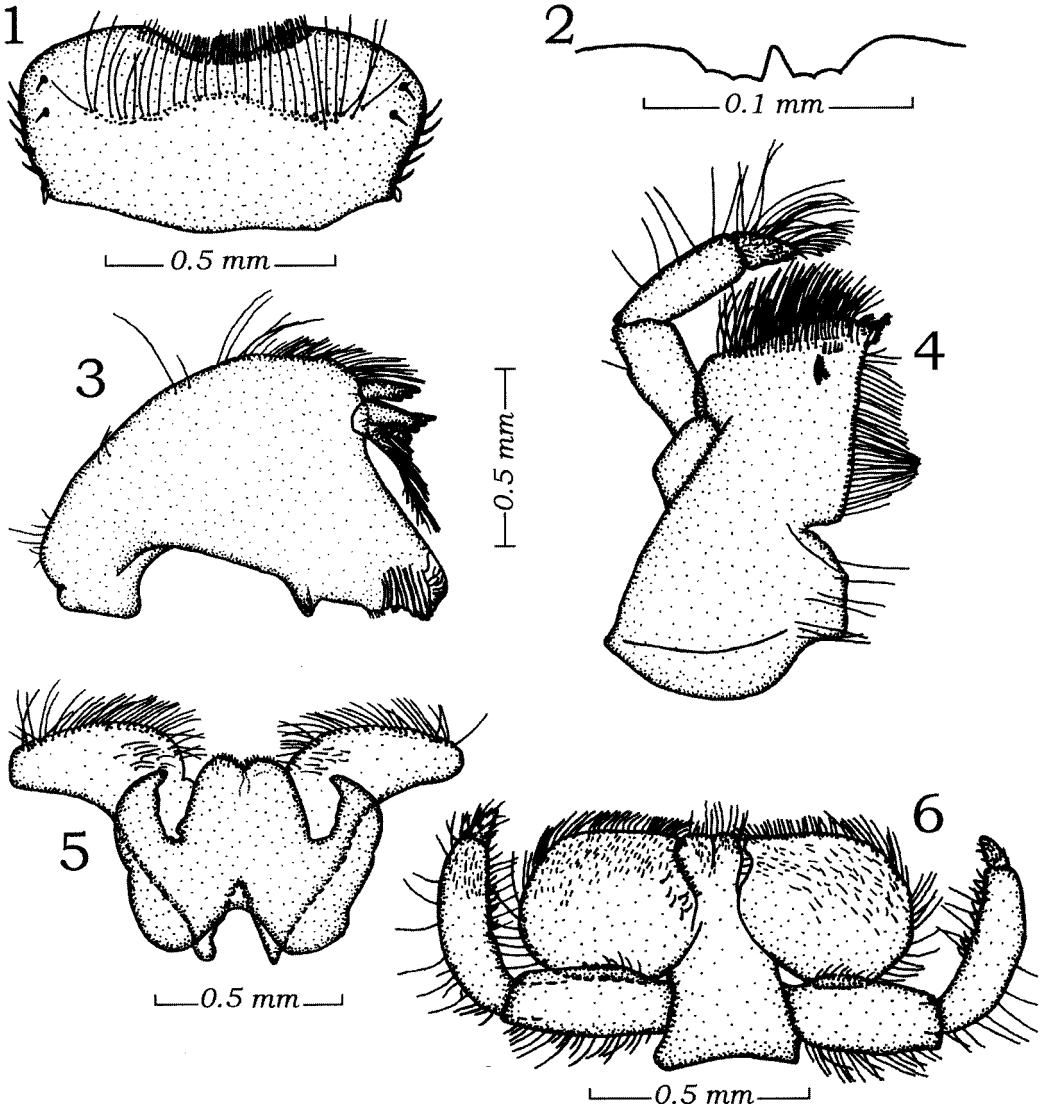
The genus *Ulmeritus* was originally described by Traver (1956) based upon larvae and adults, type species *U. carbonelli*. Traver (1959) then established the subgenus *Ulmeritoides*, which was elevated to genus status by Domínguez (1991). The genus *Ulmeritoides* is composed of nine species, three of which have been recorded in Brazil: *U. patagianus* (Thew, 1960), *U. uruguayensis* (Traver, 1959) (Domínguez 1995) and *U. misionensis*

Domínguez (Da-Silva and Lopes 2001). In the present paper, a new species of *Ulmeritoides* is described, based on specimens from Brazilian Amazônia. The studied specimens were deposited in the Invertebrates Collection of the Amazonian Research National Institute (INPA), Manaus, AM, Brazil, and in the Entomological Collection of the Department of Zoology, Federal University of Rio Janeiro (DZRJ), Rio de Janeiro, RJ, Brazil.

Ulmeritoides oepa, sp. nov.
(Figs. 1-13)

Mature larva. Body length, 4.5-5.0 mm. General coloration: dark brown with black markings. Head: mouthparts prognathous; antenna nearly three times the length of the head; lateral margin of clypeus nearly parallel,

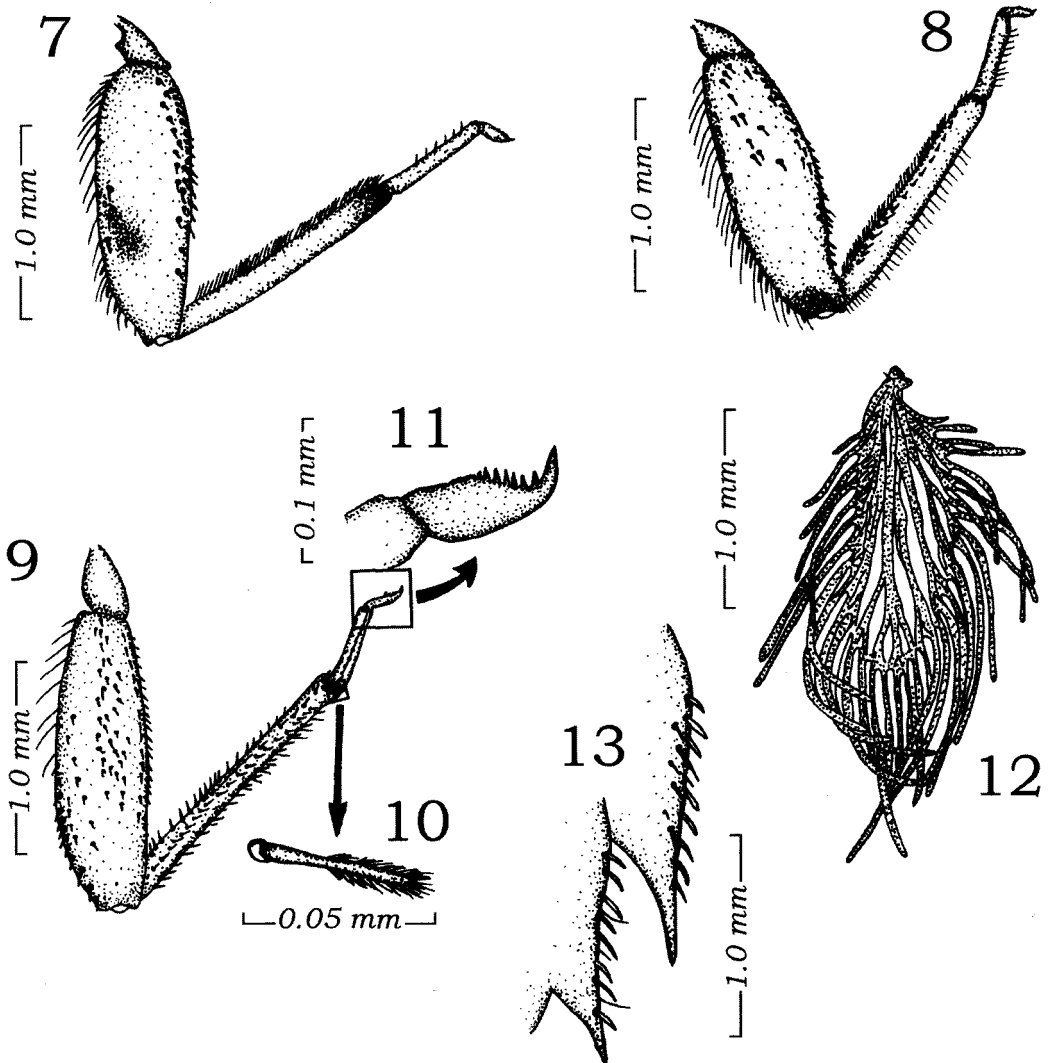
no protuberance on anterior margin. Labrum: (Figs. 1-2) width subequal to clypeus; length nearly half of the maximum width, lateral margin rounded; anteromedian emargination wide, deep and "U" shaped, with five denticles present, median denticle much larger than others; sinusoidal row of long setae over apical third, short bristles scattered over the dorsal surface,



Figs. 1-6. *Ulmeritoides oepa* sp. nov., mature larva. Labrum, dorsal (1); detail of anteromedian emargination of labrum (2); left mandible (3); left maxilla (4); hypopharynx (5); labium (6).

short bristles aligned along the lateral and anterolateral margins. Mandibles (Fig. 3): outer margin evenly curved, thick row of bristles on apical third, thin and long bristles over the rest of the margin, longer on medial area. Maxillae (Fig. 4): outer margin with thin and long bristles; subapical pectinate bristles; small tusk on inner apical margin; outer basal surface with thick spines; basal and medial segments of palpi of similar lengths; distal segment at least half as long as the medial segment; basal and

medial segments with long, thin bristles scattered over outer margin; medial segment with long bristles; base of palpi widened and with little, thick spines; maxillary palpi articulation on the apical third of galea-lacinia. Hypopharynx (Fig. 5): lingua with well developed lateral process, anterior margin with a medial "V" shaped cleft; superlinguae with long setae located on the anterior margin. Labium (Fig. 6): palpi with similar sized basal and medial segments, apical segment nearly



Figs. 7-13. *Ulmeritoides oepa* sp. nov., mature larva. Fore leg (7); medial leg (8); hind leg (9); plumose bristle of hind leg (10); tarsal claw of hind leg (11); gill III (12); lateral margin of abdominal segments 8 and 9 (13).

one-six the length of medial; basal segment with long spine-like bristles on the ventral and dorsal margins; medial segment oblique, with a row of thick bristles on the outer margin and thick spines from the apex, extending till the distal segment; distal segment with thin bristles; glossa with short spines. Thorax: antero-lateral margin of the pronotum with spines, legs yellow, trochanters with a row of spines on apico-dorsal surface. Fore leg (Fig. 7): femora with black central markings on medial-posterior area, some plumose bristles on anterior area and long bristles on posterior margin; tibiae with slight black markings toward apex, thin bristles on the ventral surface; tarsi with a ventral row of short spines. Medial leg (Fig. 8): femora with no medial black markings, but with apical brown marking, few dorsal spines, similar to short thick needles, long bristles on the posterior margin; tibiae with thin bristles on ventral and dorsal surfaces, row of short spines; tarsi with thin bristles on posterior margin. Hind leg (Fig. 9): femora with numerous dorsal spines, similar to short thick needles, anterior area with short spines and posterior margin with few long bristles and medium spines; tibiae with brown markings on anterior area, continuous row of plumose bristles (Fig. 10) on inner surface, anterior and posterior margins with continuous row of spines, apex with four plumose bristles; tarsi with spines along the inner margin. Apex of tarsal claws hooked and narrow, denticles progressively larger apically (Fig. 11). Abdomen: gills on segments I-VII fimbriate, dorsal and ventral portions similar, from dark-grey to black and progressively smaller posteriorly; tracheae branched from the base (Fig. 12); posterolateral projections on segments 6 to 9; lateral margin of segments 8 and 9 with sparse scattered short spines and thin sort bristles (Fig. 13); terminal filament longer than cerci.

Adults. Unknown.

Material. Holotype - larva male, Brazil, Roraima, Rio Uraricoera (03°27'N, 60°58'W, 90 m), Igarapé Xiquibá, 14/X/1987, Py-Daniel, Dellome, Sandra, Coscaron & Ulysses col. Paratypes - five larvae (two males and three

females), same data as holotype; nine larvae (five male and four female), Rio Uraricoera (tributary of Rio Aracaça), Igarapé Vermelho, 12/VII/1987, V. Py-Daniel col. Holotype and twelve paratypes (three from Igarapé Xiquibá, nine from the Igarapé Vermelho) in INPA, two paratypes (one male and one female of the Igarapé Xiquibá) in DZRJ.

Etymology. The species is dedicated to the Americas Oncocercose Elimination Programme (OEPA), by the support and commitment to eradicate the Oncocercose affecting the northern Brazilian indigenous population.

Remarks. *U. oepa* sp.nov. can be differentiated from the other species of the genus known from the larval stage (*U. misionensis*, *U. tifferrae* Domínguez, 1995, and *U. guanacaste* Domínguez, 1995) by the following combination of characters: 1) medial denticle on antero-median emargination of labrum much larger than others; 2) anterior tibiae slightly stained black toward the apex; 3) medial femora with few dorsal spines, similar to short thick needles; 4) hind femora with numerous dorsal spines, similar to short thick needles; 5) medial femora with no medial black markings, apical brown markings. *U. oepa* sp.nov. seems to be more closely related to *U. misionensis*, a species in which the anteromedian emargination of the labrum has a median denticle much larger than the others (Domínguez 1995). The larvae were collected from leaves and on stones in an area of fast current.

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RESUMEN

El género *Ulmeritoides* de efemerópteros leptoflebídeos está compuesto por nueve especies, tres de las cuales han sido informadas en Brasil: *U. patagianus*, *U. uruguayensis*, y

U. misionensis. En el presente artículo se describe e ilustra una nueva especie de este género, *Ulmeritoides oepa* sp.nov., con base en quince larvas recolectadas en el río Ura-ricoera, en el estado de Roraima, norte de Brasil. La especie fue comparada con *U. misionensis*, *U. tifferae*, y *U. guanacaste*, las otras especies con estadios larvales conocidos. *U. oepa* sp.nov. puede ser distinguida de estas otras especies por la siguiente combinación de características: 1) dentículo medio en la emarginación anteromedial del *labrum* mucho más largo que los otros; 2) tibia anterior ligeramente teñida de negro hacia el apex; 3) fémur medio con pocas espinas dorsales, similares a agujas cortas y gruesas; 4) fémur posterior con numerosas espinas (púas) dorsales, similar a agujas gruesas y cortas; 5) fémur medio sin marcas negras medias y con marcas medias apicales color pardo.

La nueva especie parece estar más cercanamente relacionada con *U. misionensis*, otra especie en la cual la emarginación anteromedial del *labrum* tiene un dentículo medio mucho más largo que las otras. Los especímenes estudiados fueron depositados en la colección de invertebrados del Instituto Nacional de Investigación Amazónico, Manaus, estado de Amazonas, Brasil, y en la colección entomológica del Departamento de Zoología, Universidad Federal de Río de Janeiro, Río de Janeiro, Brasil.

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