Redescription of the female of *Oliveiriella almeidai* (Chironomidae: Orthocladiinae)

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Redescripción de la hembra de *Oliveiriella almeidai* (Chironomidae: Orthocladiinae)

RESUMEN. *Oliveiriella* Wiedenbrug & Fittkau, 1997, es un género neotropical con una especie conocida: *Oliveiriella almeidai* (Oliveira, 1946). Ésta se conoce por las descripciones de la pupa y de los adultos macho y hembra, aunque la descripción de la hembra es bastante pobre. En este estudio se redescribe el adulto hembra de *Oliveiriella almeidai* en base al nuevo material obtenido de Perú y ejemplares de la colección Zoologische Staatssammlung München (Alemania, ZSM).

PALABRAS CLAVE. Oliveiriella almeidai. Neotrópico. Sistemática. Redescripción.

ABSTRACT. *Oliveiriella* Wiedenbrug & Fittkau, 1997 is a Neotropical genus with one known species, *Oliveiriella almeidai* (Oliveira, 1946). This species is known from the description of the pupae and male/female adults although the description of the female is rather scarce. This work is a redescription of the female of *Oliveiriella almeidai* from the base of new material obtained from Peru and specimens from the Zoologische Staatssammlung München collection (Germany, ZSM).

KEYWORDS. *Oliveiriella almeidai*. Neotropics. Systematics. Redescription.

INTRODUCTION

Oliveira (1946) described the species *Spaniotoma (Stictocladius) almeidai* from the male and female imago. The species was included in the subgenus *Stictocladius* (Edwards, 1931) by the author, mainly because of its possession of wing markings. Since Spies & Reiss (1996) considered *Stictocladius* as a genus and *Spaniotoma (Stictocladius) almeidai* as an unplaced valid species, Wiedenbrug & Fittkau (1997) created the new genus *Oliveiriella* for this species and described the pupal stage for the new combination *Oliveiriella almeidai*.

Due to the scarce diagnosis of the female imago of *Oliveiriella almeidai* in the original description, we redescribe the species based on new material from Peru. *O. almeidai* has been found in Peru, Ecuador and Brazil (Rio Grande do Sul) (Wiedenbrug & Fittkau, 1997), and in agreement with the biogeographical schemes of Cabrera & Willink (1973) it belongs to the Neotropical region.

MATERIAL AND METHODS

The newly collected specimens of *Oliveiriella almeidai* were Canada Balsam slide-mounted and placed in the Museo de La Plata (Argentina, MLP); Institute of Limnology «Dr. Raúl A. Ringuelet» La Plata (ILPLA) (CONICET, UNLP), Argentina; and in the Zoologische Staatssammlung München (Germany, ZSM). Additional material was borrowed from Zoologische Staatssammlung München. The morphological nomenclature follows Sæther (1980). All measurements are in µm, unless stated otherwise, and are given as ranges followed by a mean.

Oliveiriella Wiedenbrug & Fittkau, 1997

Spaniotoma (Stictocladius) Edwards 1931: 279 (in part).
Diplocladius Kieffer 1908: 6; Brundin 1956: 70 (in part).
Oliveiriella Wiedenbrug & Fittkau, 1997: 169.

According to Wiedenbrug & Fittkau (1997), the genus *Oliveiriella* belongs to the *Cricotopus*-group *sensu* Hirvenoja (1973). The presence of the combination of characters: wing with a characteristic colour pattern, prealars not extending anterior to level of median anepisternum, reduced chaetotaxy of abdominal tergites, anal point absent, and crista dorsalis with strong conical tooth on the distal part, allows the differentiation of *Oliveiriella* from *Cricotopus* in the male imaginal stage. The female imago of *Oliveiriella almeidai* does not offer great differences with the genus *Cricotopus* and shares with the latter gonapophysis VIII divided into large and rounded ventrolateral lobe that covers and contacts the dorsomesal lobe; tergite IX divided; segment X faintly; post-genital plate well developed and triangular-shaped. Seminal capsules ovoid, without a neck; spermathecal ducts curved. The pupal stage shows most of the differences with *Cricotopus* (Wiedenbrugh & Fittkau, 1997). Larval stage is still unknown.

Oliveiriella almeidai (Oliveira, 1946)

Spaniotoma (Stictocladius) almeidai Oliveira, 1946: 279.
Oliveiriella almeidai: Wiedenbrug & Fittkau, 1997: 169.

Female imago (n = 8-9, except when otherwise stated)

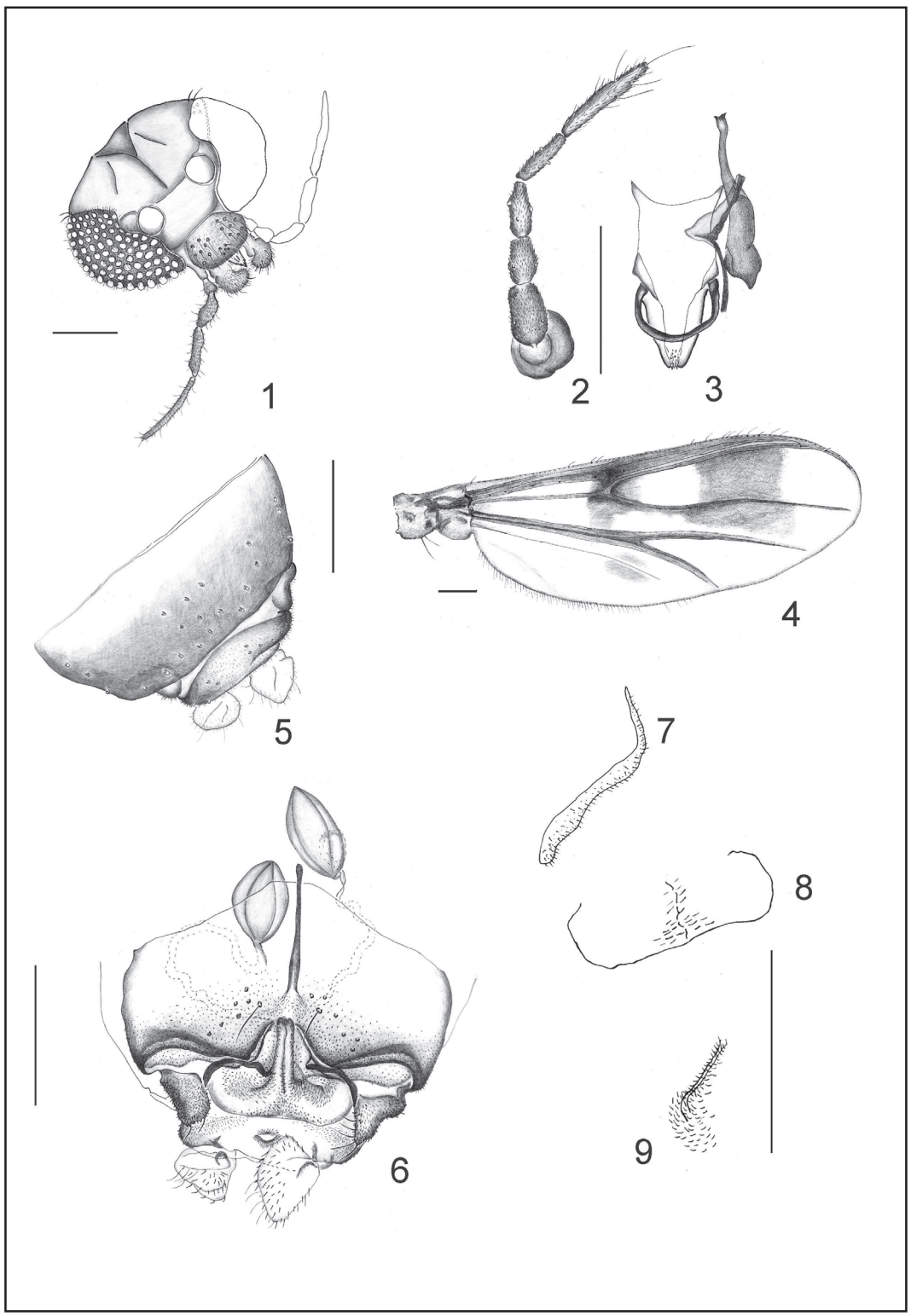
Redescription. Total length: 1.95-2.32, 2.16 mm, wing length: 1.15-1.42,1.28 mm; width: 0.45-0.57,0.50 mm. Total length/ wing length: 1.62-1.75,1.68. Wing length/ length of profemur: 2.25-2.7, 2.41. General coloration: dark brown. Head, antennae and pedicel: dark brown, mouth parts: light brown. Thorax: uniformly dark brown. Wing pattern with dark brown areas as in Fig. 4. Legs with femur dark brown, anterior 2/3 on fore and mid tibiae: white, rest dark brown to black, hind tibiae: all dark brown, fore tarsi: dark brown, mid and hind tarsi: light brown. Abdomen: dark brown, anterior margin of tergites I-III with a whitish semi-circle, tergites IV-V with a posterior margin whitish. Genitalia: dark brown, cercus: light-brown to yellow.

Head. (Fig.1) AR 0.44-0.55, 0.48. Lengths (in µm) of flagellomeres: 54-66, 58; 37-44, 40; 39-51, 45; 37-54, 45; 83-98, 90 (Fig. 2). Temporal setae, inner verticals: 1-3,2; outer verticals: 2-5, 4. Clypeus with 14-22, 19 setae. Tentorium, stipes and cibarial pump as in Fig. 3. Tentorium: 105-127, 118 (7) long; 17-22, 20 wide. Stipes: 132.5-137.58 (2) long; 35.0-37.5 wide. Palp segments lengths (in µm): 34-44, 31; 29-42, 36; 52-76, 63; 83-115, 98; 127-159, 143.

Thorax. Antepronotum with 1-3, 2 (7) lateral setae. Dorsocentrals: 12-20, 17; acrostichals 13-17, 15 (7); prealars 3-4. Scutellum with 10-19, 14 setae.

Wing (Fig.4). VR 1.04-1.3, 1.22. Brachiolum with 1-2 (7) setae. Wing membrane bare. Radial vein with 2-7, 5 setae. R4+5 with 1-3, 2 (6). Squama with 2-8, 4 setae.

Legs. Spur of front tibia 37-49, 43 (7) long; spurs of middle tibia: 15-17, 16 and 17-20, 18; of hind tibia: 15-22, 19 and 42-54, 46 µm long, with 12-13 teeth. Width at apex of



Figs. 1-9. *Oliveiriella almeidai* (Oliveira), female imago. 1, head, frontal view; 2, antennae; 3, tentorium, stipes and cibarial pump; 4, wing; 5, genitalia, dorsal view; 6, genitalia, ventral view; 7, gonapophysis VIII; 8, apodeme lobe; 9, labium. Scale bars = 100 μm.

Table I. Lengths (in µm) and proportions of legs of *Oliveiriella almeidai* (female) (n= 8-9). Abbreviations: Femur (Fe); Tibia (Ti); Tarsomeres 1–5 (Ta_{1-5}); Leg Ratio (LR), ratio of metatarsus to tibia; Beinverhältnisse» (BV), combined length of femur, tibia, and basitarsus divided by combined length of tarsomeres 2–5; «Schenkel-Scheine-verhältnis» (SV), ratio of femur plus tibia to metatarsus.

	Fe	Ti	Ta_1	Ta_2	Ta_3
P_1	500-720,566	450-760,619	200-460,383	150-220,184	130-160,143
P_2	350-570,482	270-570.476	110-270,230	80-110,100	40-80, 71
P_3	420-600,500	370-600,514	200-360,309	130-150,138	60-130,115

	Ta_4	Ta_5	LR	BV	SV
P_1	90-120,106	70-80, 76	0.44-0.73,0.61	2.92-3.19,3.10	2.68-5.85,3.30
P_2	30-50, 41	40-60, 50	0.41-0.51,0.48	3.17-5.22,4.51	3.89-5.64,4.25
P_3	40-60, 53	60-70, 64	0.54-0.70,0.60	3.47-3.85,3.62	2.93-4.85,3.39

front tibia 32-47, 37; of middle tibia 29-39, 34; of hind tibia 37-47, 44. Sensilla chaetica 19-28, 22 in middle Ta_1 and 10-22, 16 in hind Ta_1. Lengths (in µm) and proportions of legs in Table I.

Genitalia (n=7) (Figs. 5-6). Gonocoxite IX with 4-5 setae. Gonapophysis VIII lobes as shown in Figures 7, 8, 9. Tergite IX with 5-10, 7 setae. Cercus 56-118, 79 µm long. Seminal capsule 61-93, 78 µm long . Notum 110-203, 131 µm long.

Material examined: **PERU. Cuzco:** Pagoreni, 11° 42′ 21.9′′S- 72° 54′ 21.9′′W, VII- 2004, light trap, J. Williams leg. 5 females (MLP); 1 female, same data (ZSM); 1 female, same data (ILPLA); Upper Ucayali, 10-6-1979, E. F. Fittkau leg., 1 female (ZSM); **BRAZIL. Rio de Janeiro**: Nova Friburgo, Rio Cascatinha, Caledonia (Represa), VIII-1995, E. J. Fittkau leg., 1 female (ZSM).

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