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**A new species of *Rheocricotopus* Brundin from Mato Grosso, Brazil
(Diptera: Chironomidae, Orthoclaadiinae)**

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Abstract: *Rheocricotopus* (*Psilocricotopus*) *sirventorum* sp. n. is described and figured based on a male from Mato Grosso, Brazil. It is tentatively placed in subgenus *Psilocricotopus* Sæther as it has a triangular, subapical crista dorsalis and a rounded superior volsella. However, the new species apparently lacks acrostichals and has 40 dorsocentrals in 1-4 irregular rows.

Keywords: Chironomidae, Orthoclaadiinae, *Rheocricotopus*, *Psilocricotopus*, new species, Mato Grosso, Brazil, Neotropical region.

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Resumo: *Rheocricotopus* (*Psilocricotopus*) *sirventorum* sp. n. é descrita e ilustrada com base em um macho adulto do Mato Grosso, Brasil. A espécie é tentativamente colocada no subgênero *Psilocricotopus* Sæther por apresentar *crista dorsalis* subapical e triangular e volsela superior arredondada. Entretanto esta espécie nova aparentemente não possui acrosticais e apresenta 40 dorsocentrals em 1-4 fileiras irregulares.

Palavras-chave: Chironomidae, Orthoclaadiinae, *Rheocricotopus*, *Psilocricotopus*, espécie nova, Mato Grosso, Brasil, região Neotropical.

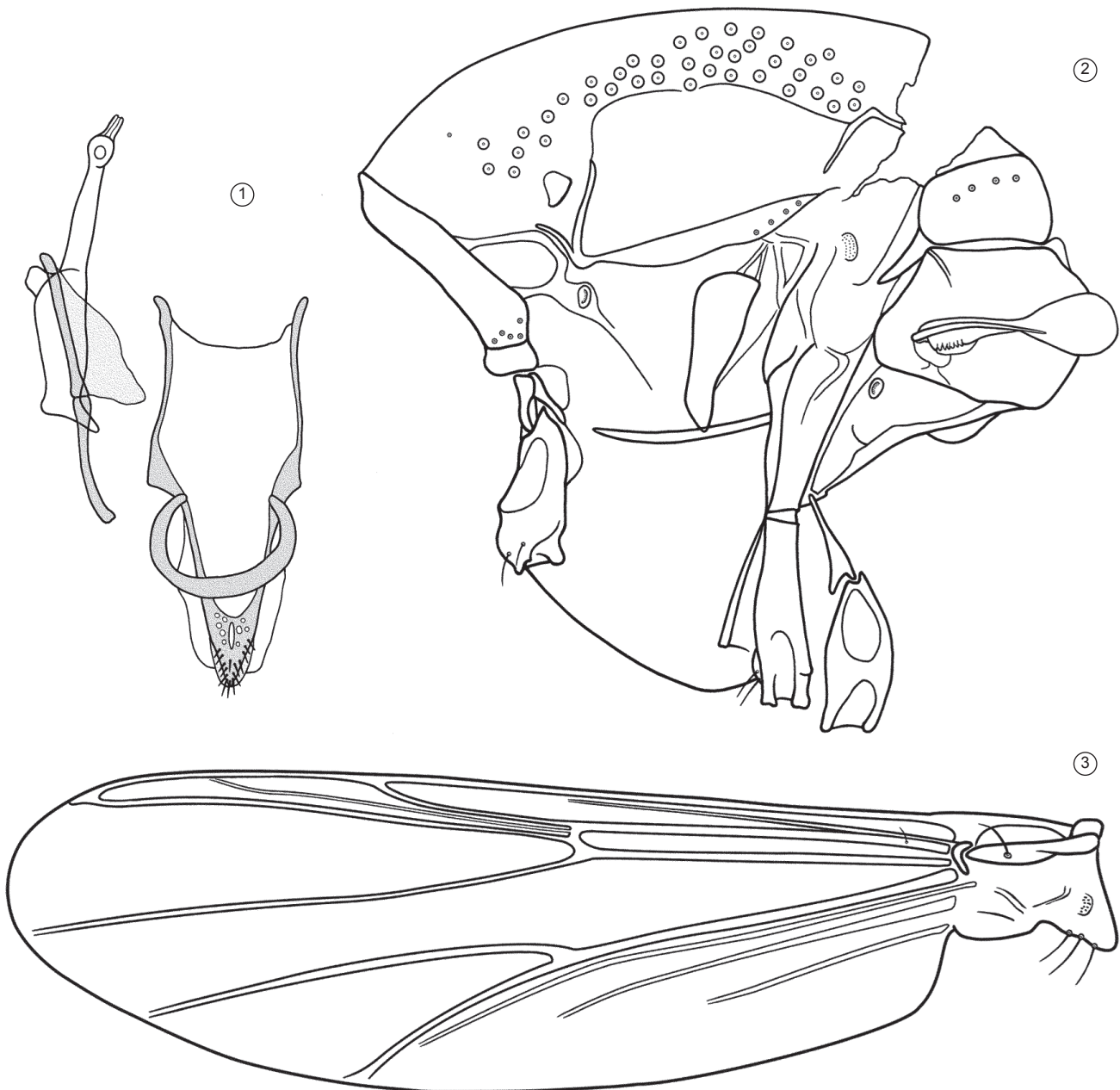
Introduction

The genus *Rheocricotopus* Brundin, 1956 with 69 valid species, is known from all zoogeographical regions except Antarctica and Oceania. The genus is split in two subgenera, *Psilocricotopus* Sæther, 1985 with 46 species and *Rheocricotopus* s. str. with 23 species. The larvae are rheophilic on plants and stones in streams and rivers and are rarely found in the littoral zone of lakes (Cranston et al. 1983).

The genus has been reported repeatedly from the Neotropical Region. Spies et al. (2009) recorded larvae from Costa Rica, Cranston et al. (1989) an undescribed species from Puerto Rico, Ospina-Torres et al. (1999) larvae from Colombia, Roback & Coffman (1983) larvae from Peru, Prat et al. (2011) larvae from Ecuador and Peru, and Roque et al. (2007) and Trivinho-Strixino (2011) larvae from Brazil. Further, Wiedenbrug (2000) recorded pupal exuviae of a

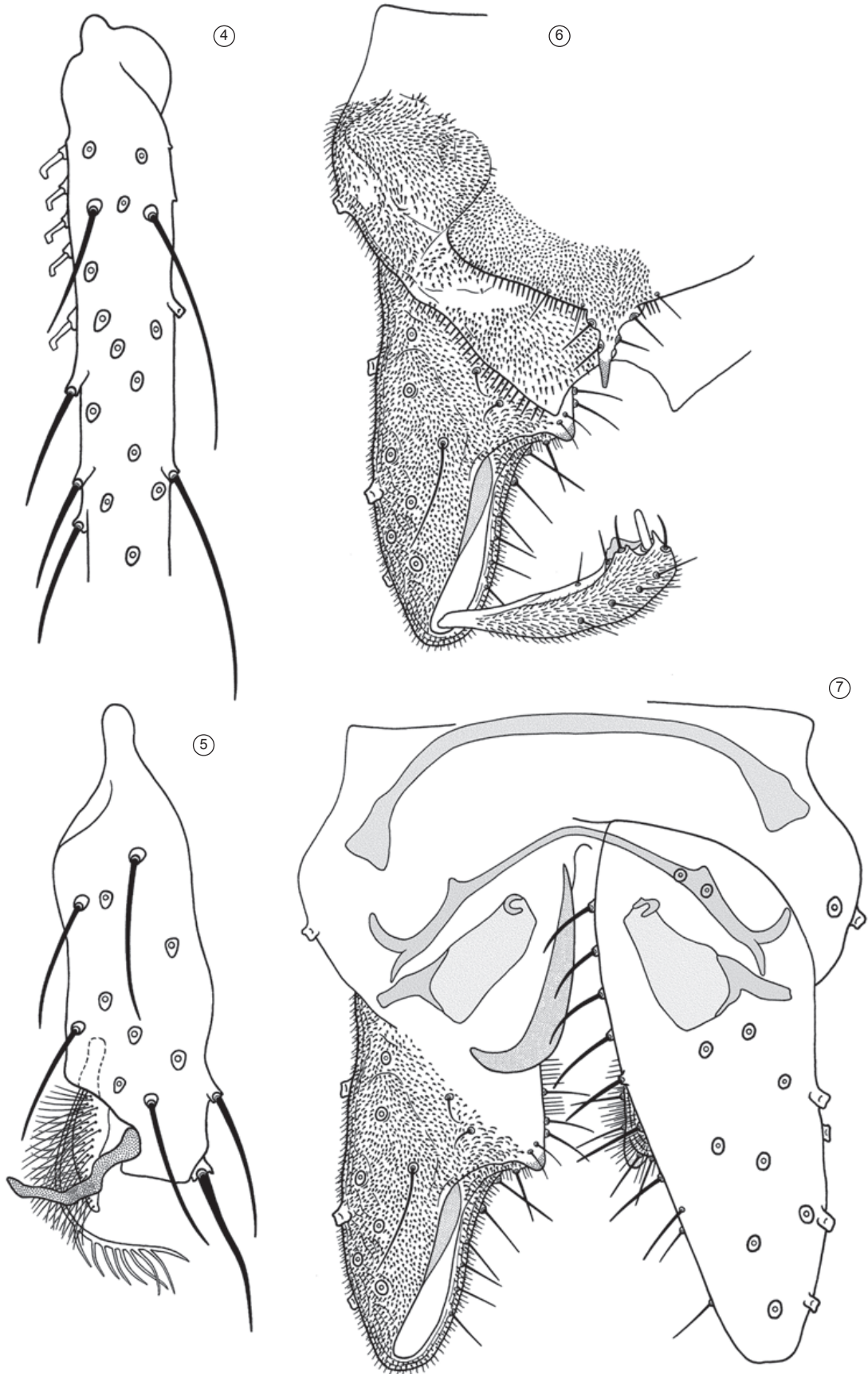
Rheocricotopus (*Psilocricotopus*) species from mountain streams in Rio Grande do Sul in Brazil. However, there is no described species from Central or South America, although *Spaniotoma* (*Trichocladius*) *brachypus* Edwards, 1931: 279, presently regarded as a generically unplaced valid species (see Spies & Reiss 1996) might belong to *Rheocricotopus*. This species was described based on a single female from Rio Pichileufu, Rio Negro State in Argentina and has a small humeral pit, few dorsocentrals and well developed squamal fringe (Edwards 1931).

Below we describe and figure a new species of *Rheocricotopus* based on a single male from Mato Grosso in Central-Western Brazil and place it tentatively in the subgenus *Psilocricotopus* as the gonostylus has a triangular, preapical crista dorsalis and the superior volsella is rounded (see subgeneric diagnosis in Sæther (1985)). However, the new species has 1-4 irregular rows of dorsocentrals



Figures 1-3. *Rheocricotopus* (*Psilocricotopus*) *sirventorum* sp. n., male. 1) Tentorium, stipes and cibarial pump; 2) Thorax; 3) Wing.

Rheocricotopus (Psilocricotopus) sirventorum new species



Figures 4-7. *Rheocricotopus (Psilocricotopus) sirventorum* sp. n., male. 4) Basal one-third of tarsomere 1 of mid leg; 5) Tarsomere 5 of hind leg; 6) Hypopygium, dorsal aspect; 7) Hypopygium with anal point and tergite IX removed, dorsal aspect to the left and ventral aspect to the right.

Table 1. Lengths (in μm) and proportions of legs of *Rheocricotopus (Psilocricotopus) sirventorum* sp. n., male (n = 1).

	fe	ti	ta ₁	ta ₂	ta ₃	ta ₄	ta ₅	LR	BV	SV	BR
p1	470	539	345	212	161	101	50	0.64	2.58	2.92	2.3
p2	424	391	189	92	51	28	32	0.48	4.95	4.32	3.1
p3	423	497	267	133	92	37	37	0.54	3.97	3.45	3.2

and is apparently lacking acrostichals. Although the two subgenera are distinct in the immature stages, the difference is less clear in the adults. A proper placement in subgenus should thus await the discovery of larvae and pupae.

Material and Methods

The specimen was mounted on a slide in Canada balsam following the procedures outlined by Sæther (1969). The terminology follows Sæther (1980).

The holotype will be deposited in Museu de Zoologia da Universidade de São Paulo, São Paulo, Brazil (MZUSP).

RHEOCRICOTOPUS (PSILOCRICOTOPUS) SIRVENTORUM SP. N. (FIGURES 1-7).

Type material: Holotype male, **Brazil:** Mato Grosso, Nova Xavantina, Fazenda Queté, córrego Cachoeira, 14° 32.817' S and 52° 31.395' W, 16.x.2007, light trap, L.C. Pinho et al. (MZUSP).

Diagnostic characters: The species can be separated from other members of the genus by having 40 dorsocentrals in 1-4 irregular rows and apparently no acrostichals.

Etymology: The species is named after Ana and Rafael Sirvent Berenguer, San Vicente, for all hospitality while the senior author was in Spain drawing this species.

Description: Male (n = 1). Total length 2.10 mm. Wing length 1.10 mm. Total length / wing length 1.92. Wing length / length of profemur 2.33.

Coloration. Dark brown, thorax dark brown without distinct pattern.

Head. AR 1.07. Ultimate flagellomere 371 μm long. Temporal setae 5 including 3 outer verticals and 2 postorbitals. Clypeus with 16 setae. Tentorium, stipes, and cibarial pump as in Figure 1. Tentorium 136 μm long, 23 μm wide. Stipes 120 μm long, 27 μm wide. Palp segment lengths (in μm): 30, 48, 68, 98, 163. Third palpomere with 3 sensilla clavata subapically, longest 12 μm long.

Thorax (Figure 2). Antepnotum with 5 setae. Dorsocentrals 40 in 1-4 irregular rows, acrostichals apparently absent, prealars 4, supraalar absent. Scutellum with 7 setae, uniserial.

Wing (Figure 3). VR 1.08. Costal extension 14 μm long. Brachiolum with 1 seta, R with 1 seta, remaining veins and cells bare. Squama with 3 setae.

Legs. Spur of fore tibia 39 μm long, spurs of mid tibia 14 μm and 8 μm long, spurs of hind tibia 34 μm and 14 μm long. Width at apex of fore tibia 32 μm , of mid tibia 32 μm , of hind tibia 34 μm . Comb with 11 setae, longest 38 μm , shortest 16 μm long. Tarsomere 1 of mid leg with 5 sensilla chaetica in basal one-third (Figure 4). Pulvilli as in Figure 5. Length and proportions of legs as in Table 1.

Hypopygium (Figures 6-7). Tergite IX covered with microtrichia, with 2 marginal setae on each side of the anal point; laterosternite IX with 2 setae. Anal point subtriangular, 23 μm long, 8 μm wide at base; with 5 lateral setae. Phallapodeme 52 μm long, aedeagal lobe with small horse-shoe shaped sclerotization orally. Transverse sternapodeme strongly curved, 77 μm long, with distinct oral projections. Gonocoxite 159 μm long, with bare, plate-like and

sclerotized, 34 μm long, 6 μm wide projection along inner margin, starting 24 μm above apex. Superior volsella rounded, plate-like and sclerotized, 50 μm long, 10 μm wide at its widest part, starting 91 μm above apex of gonocoxite. Gonostylus 70 μm long, with distinct, triangular subapical crista dorsalis; megaseta 9 μm long. HR 2.26. HV 2.98.

Biology and Distribution

The species was collected in a light trap situated near a small, fast flowing stream in southeastern Mato Grosso State in Brazil.

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References

- CRANSTON, P.S., OLIVER, D.R. & SÆTHER, O.A. 1983. The larvae of Orthoclaadiinae (Diptera: Chironomidae) of the Holarctic region - Keys and diagnoses. In Chironomidae of the Holarctic region. Keys and diagnoses. Part 1. Larvae (T. Wiederholm ed.). Entomol. Scand. 19(Suppl.):149-291.
- CRANSTON, P.S., OLIVER, D.R. & SÆTHER, O.A. 1989. The adult males of Orthoclaadiinae (Diptera: Chironomidae) of the Holarctic region - Keys and diagnoses. In Chironomidae of the Holarctic region. Keys and diagnoses. Part 3. Adult males (T. Wiederholm ed.). Entomol. Scand. 34(Suppl.):165-352.
- EDWARDS, F.W. 1931. Chironomidae. In Diptera of Patagonia and South Chile. Trustees Brit. Mus. (Nat. Hist.), London, part 2, fasc. 5, p.233-331.
- OSPINA-TORRES, R., RISS, H.W. & RUIZ-MORENO, J.L. 1999. Guía para la identificación genérica de larvas de quironómidos (Diptera: Chironomidae: Orthoclaadiinae) de la sabana de Bogotá. In Insectos de Colombia Vol. II. Academia Colombiana de Ciencias Exactas, Físicas y Naturales, Colección Jorge Alvarez Lleras No. 13. (G. Amat, G. Andrade & F. Fernández, eds). Editora Guadalupe, Bogotá, p.363-384.
- PRAT, N., ACOSTA, R., VILLAMARÍN, C. & RIERADEVALL, M. 2011. Guía para el reconocimiento de las larvas de Chironomidae (Diptera) de los ríos altoandinos de Ecuador y Perú. Clave para la determinación de los principales morfotipos larvários. <http://www4.ub.edu/riosandes/docs/CLAVE%20MACROMORFOLOGIA%20LARVAS%20V3.pdf> (último acceso 01/02/2012).
- ROBACK, S.S. & COFFMAN, W.P. 1983. Results of the Catherwood Bolivian-Peruvian Altiplano Expedition. Part II. Aquatic Diptera including montane Diamesinae and Orthoclaadiinae (Chironomidae) from Venezuela. Proc. Acad. Nat. Sci. Philadelphia. 135:9-79.
- ROQUE, F.O., TRIVINHO-STRIXINO, S., MILAN, L. & LEITE, J.G. 2007. Chironomid species richness in low-order streams in the Brazilian Atlantic Forest: a first approximation through a Bayesian approach. J. N. Am. Benthol. Soc. 26:221-231. [http://dx.doi.org/10.1899/0887-3593\(2007\)26\[221:CSRILS\]2.0.CO;2](http://dx.doi.org/10.1899/0887-3593(2007)26[221:CSRILS]2.0.CO;2)

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- SÆTHER, O.A. 1969. Some Nearctic Podonominae, Diamesinae and Orthoclaadiinae (Diptera: Chironomidae). Bull. Fish. Res. Bd Canada. 107:1-154.
- SÆTHER, O.A. 1980. Glossary of Chironomid morphology terminology (Diptera: Chironomidae). Entomol. Scand. 14(Suppl.):1-51.
- SÆTHER, O.A. 1985. A review of the genus *Rheocricotopus* Thienemann & Harnisch, 1932, with the description of three new species (Diptera, Chironomidae). Spixiana 11(Suppl.):59-108.
- SPIES, M. & REISS, F. 1996. Catalog and bibliography of Neotropical and Mexican Chironomidae. Spixiana 22(Suppl.):61-119.
- SPIES, M., ANDERSEN, T., EPLER, J.H. & WATSON JUNIOR, C.N. 2009. Chironomidae (Non-biting midges). In Manual of Central American Diptera (B.V. Brown, A. Borkent, J.M. Cumming, D.M. Wood, N.E. Woodley & M.A. Zumbado, eds). NRC Research Press, Ottawa, p.437-480.
- TRIVINHO-STRIXINO, S. 2011. Larvas de Chironomidae. Guia de identificação. EdUFSCar, São Carlos, p.1-371.
- WIEDENBRUG, S. 2000. Studie zur Chironomidenfauna aus Bergbächen von Rio Grande do Sul, Brasilien. Tese do Doutorado, Ludwig-Maximilians-Universität, München, p.1-444.

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