

**A new species of *Lyrocladius* Mendes et Andersen from Brazil  
(Diptera: Chironomidae, Orthoclaadiinae)**

**Humberto Fonseca Mendes<sup>1,3</sup> & Trond Andersen<sup>2</sup>**

<sup>1</sup>*Centro de Ciências Naturais e Humanas, Universidade Federal do ABC – UFABC,  
Av. dos Estados, 5001, Bloco A, Torre 3, 6º andar, Bairro Bangu, CEP 09210-580, Santo André, SP, Brazil*

<sup>2</sup>*Department of Natural History, University Museum of Bergen, University of Bergen,  
P.O. Box 7800, N-5020 Bergen, Norway*

<sup>3</sup>*Corresponding author: Humberto Fonseca Mendes, e-mail: orthoclaadiinae@gmail.com*

MENDES, H.F. & ANDERSEN, T. **A new species of *Lyrocladius* Mendes et Andersen from Brazil (Diptera: Chironomidae, Orthoclaadiinae)**. *Biota Neotrop.* 12(1): <http://www.biotaneotropica.org.br/v12n1/en/abstract?article+bn00512012012>

**Abstract:** The genus *Lyrocladius* Mendes et Andersen was described in 2008 based on *L. radulatus* Mendes et Andersen from Southern and Southeastern Brazil. Here a second species, *Lyrocladius cacau* sp.n., is described and figured based on a single male from Bahia in Northeastern Brazil.

**Keywords:** *Chironomidae, Orthoclaadiinae, Lyrocladius cacau, new species, Brazil, Bahia, Neotropical region, Mata Atlântica.*

MENDES, H.F. & ANDERSEN, T. **Uma espécie nova de *Lyrocladius* Mendes et Andersen do Brasil (Diptera: Chironomidae, Orthoclaadiinae)**. *Biota Neotrop.* 12(2): <http://www.biotaneotropica.org.br/v12n1/pt/abstract?article+bn00512012012>

**Resumo:** O gênero *Lyrocladius* Mendes et Andersen foi descrito em 2008 com base na espécie *L. radulatus* Mendes et Andersen a partir de material das regiões sul e sudeste do Brasil. Aqui descrevemos e ilustramos uma espécie nova, *Lyrocladius cacau*, com base em um único macho adulto da Bahia, nordeste brasileiro.

**Palavras-chave:** *Chironomidae, Orthoclaadiinae, Lyrocladius cacau, espécie nova, Brasil, Bahia, região Neotropical, Mata Atlântica.*

## Introduction

The genus *Lyrocladius* was described by Mendes & Andersen (2008) based on the male of *L. radulatus* Mendes et Andersen, 2008 from Paraná and Rio de Janeiro States in Southern and Southeastern Brazil. The genus can be separated from other orthoclad genera by having simple, slightly decumbent acrostichals starting close to antepnotum and scalpellate acrostichals in mid scutum combined with a lyre-shaped anal point, eyes without dorsomedian extension, wing membrane bare, squama with setae, costa extended, and megaseta sitting on tubercle.

Below we describe a second species of *Lyrocladius*, *L. cacau* sp.n. based on a male from Bahia in Northeastern Brazil. The new species shares with *L. radulatus* all the diagnostic characters proposed in the original description of the genus (Mendes & Andersen 2008), placing it well within *Lyrocladius*.

## Material and Methods

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

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

## *Lyrocladius* Mendes et Andersen

*Lyrocladius* Mendes et Andersen, 2008: 61.

### Type species:

*Lyrocladius radulatus* Mendes et Andersen, 2008: 62, by original designation.

### Other included species:

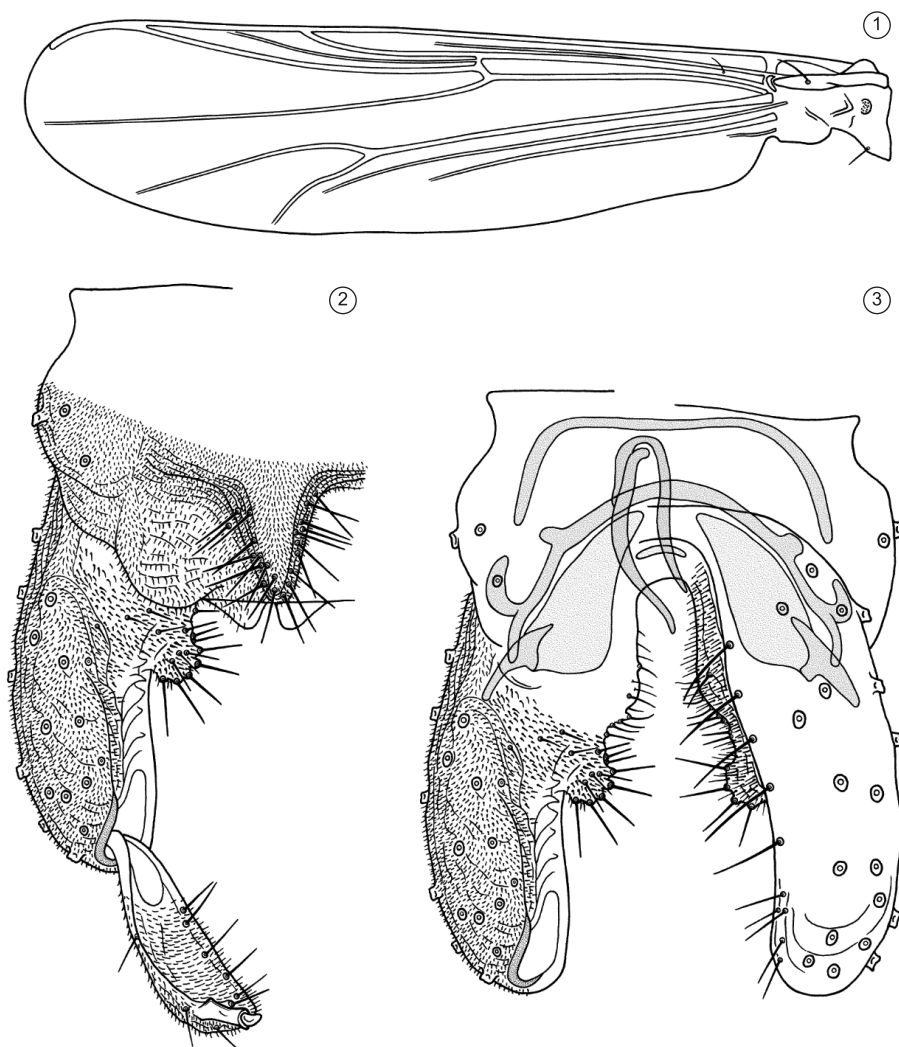
*Lyrocladius cacau* sp.n.

Description as in Mendes & Andersen (2008) with the following emendations: virga with or apparently without lateral lamellae; gonostylus with row of straight, moderately strong to curved, very strong setae.

### *Lyrocladius cacau* new species (Figures 1-3)

**Type material:** Holotype male, **Brazil: Bahia:** Ilhéus (CEPLAC – Áreas de cultivo de cacau), 14° 46' 16.6" S and 39° 13' 12.8" W, 17.v.2002, 42 m a.s.l., light trap, M.V. Yamada (MZUSP).

**Diagnostic characters:** The species can be separated from *L. radulatus* by the higher VR (1.77 compared to 1.43 in *L. radulatus*), slightly longer C extension (95 µm compared to 81 µm in *L. radulatus*), and by the shape of the gonostylus with row of straight, moderately strong setae.



**Figures 1-3.** *Lyrocladius cacau* sp.n., male. 1) Wing; 2) Hypopygium, dorsal view; 3) Hypopygium with anal point and tergite IX removed, dorsal aspect to the left and ventral aspect to the right.

**Etymology:** From Portuguese 'cacau' meaning cocoa referring to the fact that the species was collected in a cocoa crop field. The name is to be regarded as a noun in apposition.

## Description

Male (n = 1). Total length 1.62 mm. Wing length 958 µm. Total length / wing length 1.69. Wing length / length of profemur 2.42.

*Coloration.* Dark brown without lighter markings.

*Head.* AR 0.77. Ultimate flagellomere 256 µm long. Temporal setae 9, including 4 inner verticals, 3 outer verticals, and 2 postorbitals. Clypeus with 8 setae. Tentorium 104 µm long, 14 µm wide. Stipes 77 µm long. Palp segment lengths (in µm): 18, 34, remaining segments not measurable. Third palpomere with 3 sensilla clavata subapically, longest 11 µm long.

*Thorax.* Antepnotum with 1 seta. Dorsocentrals 8; acrostichals 13 beginning close to antepnotum, composed of 8 anterior simple and 5 posterior scalpellate; prealars 3, 2 posterior and 1 anterior; supraalar 1. Scutellum with 4 setae.

*Wing* (Figure 1). VR 1.77. C extension 95 µm long. Brachiolum with 1 seta; R with 1 seta, remaining veins and cells bare. Squama with 1 seta.

*Legs.* Spur of fore tibia 41 µm long, mid leg lost, spurs of hind tibia 11 and 35 µm long. Width at apex of fore tibia 20 µm, of hind tibia 32 µm. Comb with 13 setae, longest 41 µm, shortest 19 µm long. Lengths and proportions of legs as in Table 1.

*Hypopygium* (Figures 2-3). Tergite IX covered with microtrichia; laterosternite IX with 4 setae. Anal point triangular, lyre-shaped, 32 µm long, 23 µm wide at base, with 21 marginal setae. Phallapodeme 57 µm long; transverse sternapodeme 68 µm long. Virga 50 µm long, apparently without lateral lamellae. Gonocoxite 129 µm long. Gonostylus 64 µm long, megaseta 7 µm long. HR 2.03; HV 2.55.

**Table 1.** Lengths (in µm) and proportions of legs of *Lyrocladius cacau* sp.n., male (n = 1).

	fe	ti	ta <sub>1</sub>	ta <sub>2</sub>	ta <sub>3</sub>	ta <sub>4</sub>	ta <sub>5</sub>	LR	BV	SV	BR
p <sub>1</sub>	396	457	-	-	-	-	-	-	-	-	-
p <sub>2</sub>	-	-	-	-	-	-	-	-	-	-	-
p <sub>3</sub>	400	443	234	115	97	40	30	0.53	3.81	3.60	-

## Distribution

The species is known from Bahia State in Northeastern Brazil, where it was collected in a light trap in a cocoa crop field.

## Acknowledgements

We are indebted to Dr. Fabio O. Roque for making the new species available to us. The study was partially funded through the Brazilian Research Council of São Paulo State (FAPESP 11/50162-1) within the BIOTA/FAPESP - The Biodiversity Virtual Institute Program (www.biota.org.br), partly by the University Museum of Bergen, University of Bergen.

## References

- MENDES, H.F. & ANDERSEN, T. 2008. A review of *Antillocladius* Sæther and *Litocladius* Mendes, Andersen et Sæther, with the description of two new Neotropical genera (Diptera, Chironomidae, Orthoclaudiinae). *Zootaxa* 1887:1-75.
- SÆTHER, O.A. 1969. Some Nearctic Podonominae, Diamesinae and Orthoclaudiinae (Diptera: Chironomidae). *Bull. Fish. Res. Board Canada* 107:1-154.
- SÆTHER, O.A. 1980. Glossary of Chironomid morphology terminology (Diptera: Chironomidae). *Ent. Scand.* 14(Suppl.):1-51.

Received 08/12/2011

Revised 08/12/2011

Accepted 09/01/2012