

**A NEW SPECIES OF *Oukuriella* EPLER, 1986  
(INSECTA, DIPTERA, CHIRONOMIDAE, CHIRONOMINAE)  
FROM SÃO PAULO STATE, BRAZIL**

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**Resumo**

**Uma nova espécie de *Oukuriella* Epler, 1986 (Insecta, Diptera, Chironomidae, Chironominae) para o estado de São Paulo, Brasil –** São descritas as formas imaturas e adultas de uma nova espécie do gênero *Oukuriella* Epler, 1986 da região sudeste do Brasil. As larvas, criadas em laboratório para obtenção dos adultos, foram encontradas em madeira submersa coletada num reservatório localizado na Estação Ecológica de Jataí (Luiz Antônio, SP). Segundo Messias *et al.* (2000), o gênero é composto por três grupos de espécies. O adulto desta nova espécie reúne características morfológicas do segundo grupo do gênero *Oukuriella*, que apresenta asas sem manchas, tufo de cerdas sobre os tergitos abdominais e gonostilo largo, 1.5x maior que o gonocoxito, diferindo, porém das demais espécies do grupo pelo padrão de pigmentação torácica e abdominal. Esta é a primeira descrição da fêmea pertencente ao segundo grupo do gênero *Oukuriella*. As formas imaturas apresentam as mesmas características de *O. intermedia*, única espécie cuja pupa e larva são conhecidas. A estrutura altamente esclerosada dos dentes mentais e mandibulares parece indicar a capacidade das larvas de raspar e triturar

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superfícies duras, como troncos de madeira submersos, substrato onde foram coletadas.

**Palavras-chave:** Neotropical Region, Brazil, Chironomidae, Chironomini, *Oukuriella*

### Abstract

The immature and adult stages of a new species of the genus *Oukuriella* Epler, 1986 from the Southeast of Brazil are described. The larvae, reared in laboratory to obtain adults, were obtained from submerged wood collected in a reservoir situated in the Jataí Ecological Station (Luiz Antônio, SP). According to Messias *et al.* (2000) the genus is composed of three species group. The adults of this new species congregate morphological characteristics of the *Oukuriella* - second group, which is characterised by wings without markings, abdominal tergites with setal tufts and gonostylus broad, 1,5x longer than gonocoxite, but is distinguished by different thoracic and abdominal pigmentation. This is the first description of female for the *Oukuriella* – second group. The immature forms aggregate the same characteristics of *O. intermedia*, the one species whose pupae and larvae are known. The strongly hardly mental and mandibular teeth sees to indicate the ability to scrape and to shred firm surface as submerged wood, substrate where were collected.

**Key words:** Região neotropical, Brazil, Chironomidae, Chironomini, *Oukuriella*

### Introduction

According to Epler (1996), nothing is known of the biology and the habitat of the members of this genus, although the immature stages of *O. intermedia* of Amazon region are already known (Messias *et al.*, 2000).

In a survey program of the aquatic macroinvertebrates associated to different substracts in lakes, reservoirs and streams of the Jataí Ecological Station (Luiz Antonio, SP, Brazil) were obtained the specimens of the new

species here described, whose immature forms were collected on submerged wood.

All the material examined was mounted on slides with Euparal, and the morphological terminology used follows Sæther (1980), where applicable. Values are given in  $\mu\text{m}$  and, in parentheses, with the number of the specimens utilized if different from the number cited at the beginning of the description. Abbreviations used: UFSCar - Universidade Federal de São Carlos; FIOCRUZ - Fundação Oswaldo Cruz; IOC - Instituto Oswaldo Cruz; SP - São Paulo State; RJ - Rio de Janeiro State.

### *Oukuriella jatai* sp. n.

Male imago (n= 3)

Length: 4.35, 4.89, 5.10 mm.

Colour: Head brownish. Clypeus with distal brown ring. Thorax with distinctive brown markings on the yellow scutum and brown posnotum (Fig. 1a, 1b). Legs yellowish with brown distal rings on the femora and anterior tibia, mid and hind tibiae with proximal and distal brown rings, hind coxa with proximal brown rings. Wing mostly clear with a light brown tinge, veins light brown. Abdominal tergites I-VII yellowish with brown designs; S VIII with a brown antero-lateral mound; Seg I-VII with brown lateral strip (Fig. 1c).

Head: Temporals 8. Clypeus with approximately 40 setae. Palpomere lengths ( $\mu\text{m}$ ) (n=1): 45, 48, 117, 195, 225. AR (n=1) 1.77.

Thorax: without scutal tubercle. Acrostichals 6; dorsocentrals 7-9; scutellars 3; prealar 1.

Wing: Length 2.16 mm. Width 0.51 mm. VR: 1.20. R with 4; R<sub>1</sub> 6; R<sub>4+5</sub> with 10 setae.

Legs: Segments lengths ( $\mu\text{m}$ ) n=1:

	fe	ti
L <sub>1</sub>	1740	1020
L <sub>2</sub>	1470	960
L <sub>3</sub>	1440	1080

Abdomen (Fig.1c): Segments I-III with uniserial setae and segments IV-VII biserial setae on the brown lateral strip. Segment I with 4 anterior, II with 5 sparse distributed; III with 1 anterior, 1 medial and 3 posterior; IV, 6 pairs; V-VII with 8 pairs of lateral setae; VIII 6 with antero-lateral mound bearing 6 setae. T I without setal tufts; T II - T VI with 2 setal tufts; T VII with 1 anterior setal tuft and a distal pair of setae; T VIII with approximately 12 setae. S VIII with a proximal circular mound bearing a cluster of 32-36 setae.

Hypopygium ( Fig. 1d): T IX with 18-20 dorsomedian setae, posterior margin with median notch flanked by transverse fields of setae. Superior volsella broadly, pediform with 9 setae, 6 dorso-lateral and 3 laterally at the band of the upper arm; digitus slender. Inferior volsella with 3 medio-basal setae, 5 dorsal setae, and 1 ventro-lateral setae. Gonocoxite with 5 lateral basal setae and 1 medio-lateral setae. Gonostylus broad approximately 1.5x long as gonocoxite and slightly curving to median with 5 medio-distal and 1 dorso-apical setae.

Female imago (n=2)

Length: Total 4.5mm; thorax 1 mm; abdomen 3 mm.

Colour: similar to male

Head: Temporal not discernible ;clypeal 30-35. Palpomere lengths ( $\mu\text{m}$ ): 40, 85, 126, 210, 135. AR (n=1) 2.70.

Thorax: without scutal tubercle. Acrostichals 6; dorsocentrals 7; scutellars 3; prealar 1.

Legs: Segments lengths and proportions ( $\mu\text{m}$ ) 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
L <sub>1</sub>	1720	500								
L <sub>2</sub>	1530	1050	920	570	370	250	80	0.87	2.75	2.80
L <sub>3</sub>	1600	1100								

Abdomen (n=1): Notum 190; cerci 115; T VIII rectangular with 38; S VIII 40 setae.

Genitalia: with developed dorsomesal lobe; Gc IX well developed with 3 setae; PgP elongate, triangular with microtrichia; spermatheca large and oval.

Pupa exuvia (n = 1)

Abdomen length approximately 4.5 mm (Fig. 2a). Tergites II – VI almost covered by shagreen stronger anteriorly and surrounding an anteromedian clear area. Tergite VII with 2 anterior pair of patches of fine shagreen. Hook row continuous, occupying 2/3 width of segment. Conjunctive IV/V covered with strong shagreen. Anal comb with 9 marginal posterior directed light brown spurs and several internal small teeth (Fig. 2b). Segments II – IV with 3 L setae; V – VIII with 4 taeniate L setae. Anal lobe well developed with approximately 60 long fringe taeniate setae.

4<sup>th</sup> instar larva (n = 1)

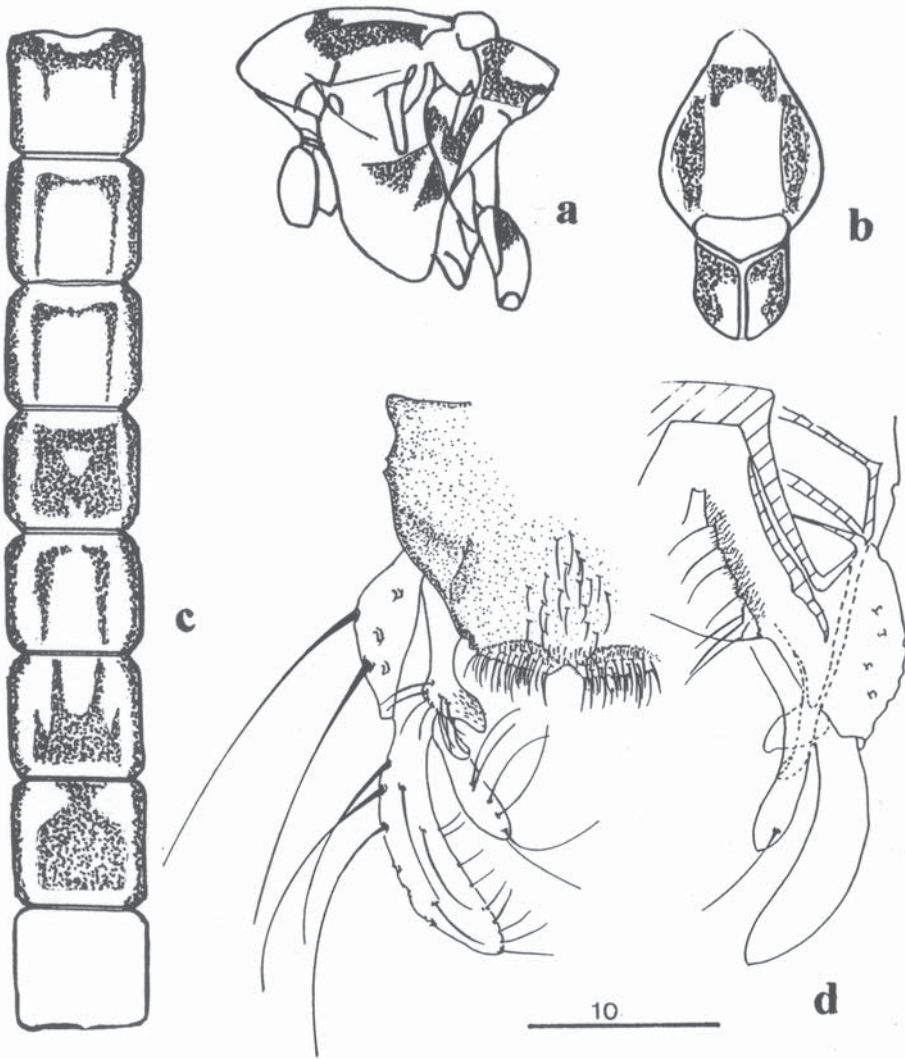
Total length approximately 6.5 mm. Colour reddish.

Head: IC = 0.69. Width 0.49 mm, length 0.71 mm. Frontoclypeal apotome and labral sclerite 2 (Fig. 2f). Antenna 1.80 mm long, with 6 segments (Fig. 2d); AR = 1.0; ring organ near antennal base; blade shorter than flagellum; lauterborn organs alternate on apices of segment 2 and 3. Mandible length 0.24 mm, with apical and three inner black teeth; dorsal tooth pale; seta subdentalis long and slender (Fig. 2e). Mentum 0.16mm with a small bifid light median tooth and 6 pair of lateral black teeth; first lateral smaller and fused to the second; sixth lateral expanded into a broad lobe. Ventromental plates 0.12mm widely separated; median ends anteriorly produced. Setae submenti simple long and slender (Fig. 2c).

Abdomen: with short posterior parapods provide with strong claws. Anal tubules short 0.24 mm long, without median constriction. Procercus with 8 coarse anal setae.

*Types*: Holotype: male, BRAZIL, **São Paulo**, Luiz Antônio, Represa do Beija-Flor, Jataí Ecological Station, April 1997, at Laboratory of Aquatic Entomology Collection, UFSCar; São Paulo, Brazil. Paratypes: same data as holotype; 1 male, 3 female, 1 pupa and 1 larva, at Laboratory of Aquatic Entomology Collection, UFSCar; São Paulo, Brazil; 1 male at Oswaldo Cruz Institute Entomology Collection (IOC-FIOCRUZ), Rio de Janeiro, Brazil. and 1 male at Zoology Museum of São Paulo, São Paulo, Brazil.

*Etymology*: This species is named for the Jataí Ecological Station (Luiz Antônio, SP), its type locality.



**Figura 1:** *Okuriella jatai* sp. n. Male imago. a. Thorax, lateral; b. dorsal; c. Abdomen; d. Hypopygium

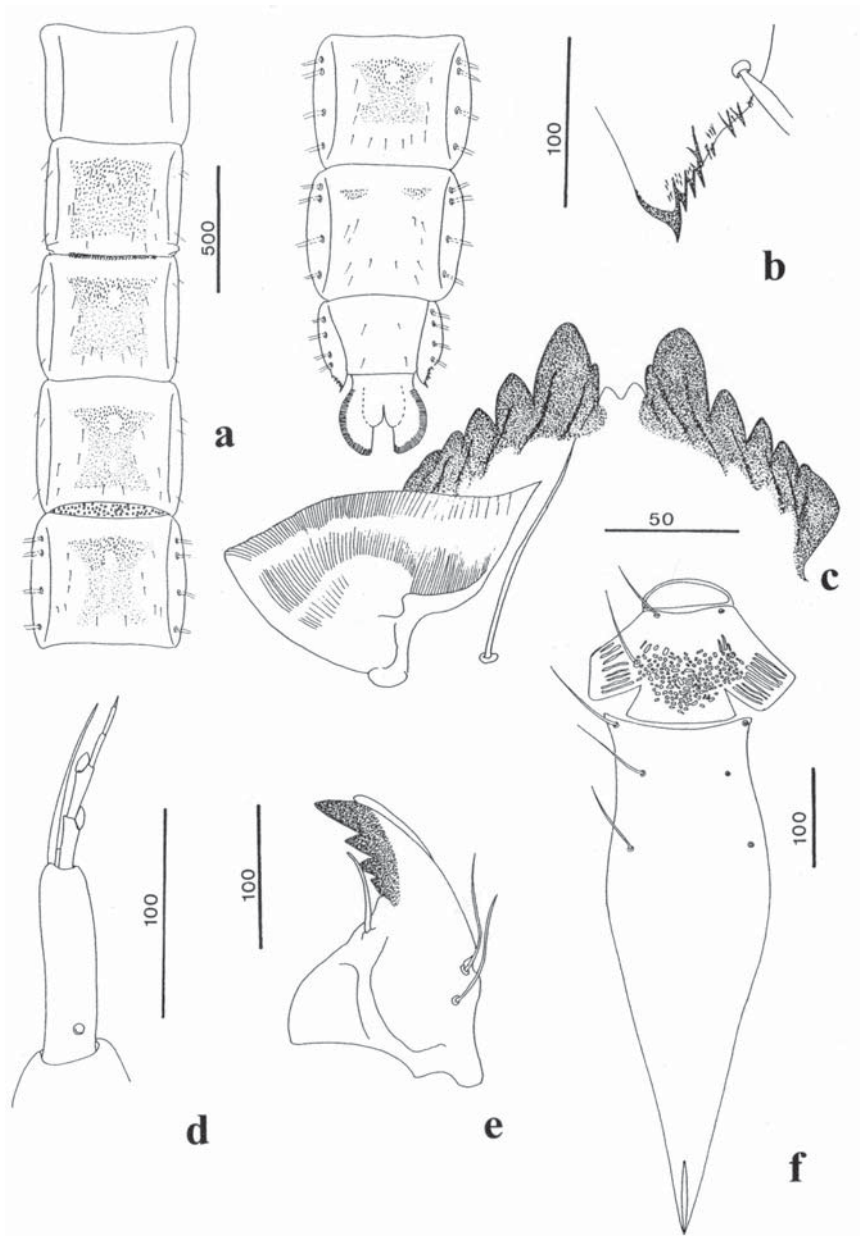


Figura 2: *Oukuriella jatai* sp. n. Pupa: a. Abdomen, dorsal. B. Anal comb. Larva: c. Mentum, teeth; ventromental plate. d. Antenna. e. Mandible. f. Frontoclypeal apotome / labral sclerite2.

*Discussion:* The male of *Oukuriella jatai* sp. n. is similar to *O. gracilis* Messias, Oliveira, Fittkau, 2000 and closed to *O. intermedia* Messias, Fittkau, Oliveira, 2000 and *O. reissi* Messias, 2000 but differs from *O. gracilis* by the clypeus with distal brown ring and approximately 40 setae, from *O. reissi* by the weakly scutal tubercle. The new species can be separated from *O. gracilis*, *O. intermedia* and *O. reissi* by the distinctive brown markings of the thorax and the brown designs on the abdominal tergites, not mentioned in *O. intermedia* description. In addition, the hypopygium has superior volsella broadly, pediform with 9 setae, 5 dorso-lateral and 4 laterally at the band of the upper arm. The *Oukuriella jatai* sp. n. pupa differs from *O. intermedia* Messias, Fittkau, Oliveira, 2000 by the shagreen of the tergite VII and anal comb features. The *Oukuriella jatai* sp. n. larvae can be separated from *O. intermedia* Messias, Fittkau, Oliveira, 2000 by different antennal ratio  $AR = 1$ , the mandible inner teeth number and the number of lateral black teeth of the mentum.

### Acknowledgements

We would like to thank Dr. Sebastião José de Oliveira (*in memoriam*), Curator of Oswaldo Cruz Institute Entomology Collection (IOC-FIOCRUZ), for valuable discussions.

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