

***Miambra miae* n. gen., n. sp. from southern Brazil
(Diptera: Chironomidae, Orthoclaadiinae)**

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Abstract: *Miambra miae* n. gen., n. sp. is described and figured based on adult males from Mata Atlântica in southern Brazil. This genus can be separated from other Orthoclaadiinae based on the combination of hairy eyes; antenna with strong, subapical seta; decumbent acrostichals in the anterior third of scutum; bare wing and squama; R_{4+5} ending proximal to M_{3+4} ; anal point lacking; and tuft of strong, flattened macrotrichia on low, dorsal protuberance of tergite IX.

Keywords: Chironomidae, Orthoclaadiinae, *Miambra*, new genus, new species, Brazil, Neotropical region, Mata Atlântica.

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Resumo: *Miambra miae* n. gen., n. sp. é descrito e ilustrado com base em machos adultos coletados na Mata Atlântica do sul do Brasil. Este gênero pode ser separado dos demais Orthoclaadiinae com base na combinação de olhos com pelos entre os omatídeos; antena com seta subapical desenvolvida; acrosticais decumbentes no terço anterior do escudo; asas e *squama* nuas; R_{4+5} terminando proximal em relação ao ápice de M_{3+4} ; ponta anal ausente e macrotríquios longos e achatados numa pequena protuberância dorsal do tergito IX.

Palavras-chave: Chironomidae, Orthoclaadiinae, *Miambra*, gênero novo, espécie nova, Brasil, região Neotropical, Mata Atlântica.

Introduction

In their catalog of the Neotropical and Mexican chironomids Spies & Reiss (1996) listed seven species of Orthoclaadiinae belonging to five genera from Brazil. Today nearly 100 species of orthoclaids have been described or recorded from Brazil and several new genera have been added (see Mendes & Pinho 2011). However, many new Brazilian Orthoclaadiinae species still await description. When collecting in Brazil many of the orthoclaids encountered do not readily fit into any described genus and below we describe one of these species showing unique character combinations, placing it in a new genus.

Material and Methods

The specimens were mounted in Canada Balsam following the procedures outlined by Sæther (1969). The general morphology follows Sæther (1980).

The types will be deposited in Museu de Zoologia da Universidade de São Paulo (MZUSP) and in The Department of Natural History, University Museum of Bergen, University of Bergen, Bergen, Norway (ZMBN).

Miambera new genus

Type species: *Miambera miae* new species

Etiology: Named after the senior author's four year old grand daughter Mia Rieber-Mohn for all her "help" and suggestions while drawing the species; and *mberui*, from Tupi meaning midge, mosquito; meaning Mia's midge. Gender of the genus name: feminine.

Diagnostic characters: The combination of hairy eyes; antenna with strong, subapical seta; decumbent acrostichals in the anterior third of scutum; bare wing and squama; R_{4+5} ending proximal to M_{3+4} ; anal point lacking; and tuft of strong, flattened macrotrichia on low dorsal protuberance of tergite IX will separate the genus from all other Orthoclaadiinae.

Description: Small sized species, wing length 0.74-0.86 mm.

Head. Eye hairy, reniform, without dorsomedian extension. Antenna with ten flagellomeres, in some specimens division of ultimate flagellomere is indicated giving an eleven segmented antenna; sensilla chaetica present on flagellomeres 3 and ultimate; groove beginning at flagellomere 2; plume sparse; with strong subapical seta. Palpomeres normal, third palpomere widened in middle portion, with few sensilla clavata in sensillum coeloconicum. Temporal setae in single row, inner verticals weak, outer verticals strong, postorbitals absent. Frontal tubercle absent. Tentorium and stipes normal. Cibarial pump with anterior margin weakly concave. Clypeus with few setae. **Thorax.** Anteprenotum reduced, with lobes widely separated at anterior margin of scutum. Acrostichals decumbent, apparently uniserial, in anterior third of scutum; dorsocentrals simple, uniserial; prealars simple; supraalar absent. Scutellum with few setae in a single row.

Wing. Membrane without setae, with fine punctuation, microtrichia visible at 400 times magnification. Anal lobe absent. Costa slightly extended, false vein reaching wing tip; R_{2+3} ending half way between R_1 and R_{4+5} ; R_{4+5} ending proximal to M_{3+4} ; FCu distal to RM; Cu_1 sinuous. Brachiolium with 1 seta, other veins bare. Squama bare. Sensilla campaniformia about 9 basally, 4 apically, and 5 above seta on brachiolium; 1 on RM; and 1 basally on R_1 .

Leg. Tibial spurs and comb normal. Tarsal pseudospurs and sensilla chaetica absent. Pulvilli vestigial.

Abdomen. Abdominal setation reduced. Tergite I with few strong median setae, tergites II-VIII with anterior and posterior irregular

rows of few strong setae. Sternite I-III bare, sternite IV without or with single strong median seta, sternite V-VII with single to few strong median setae, sternite VIII with few scattered strong setae.

Hypopygium. Anal point lacking; tergite IX with tuft of strong, flattened macrotrichia on low, dorsal protuberance and with few setae to each side of dorsal protuberance; laterosternite IX with few setae. Apodemes strongly sclerotized. Phallapodeme and aedeagal lobe well developed. Transverse sternapodeme curved, with strongly developed oral projections. Virga consisting of single, strong, spine-like sclerite. Gonocoxite with well developed inferior volsella with strongly sclerotized, hook-like projection and posterior rounded lobe with weak marginal setae. Gonostylus narrow, covered with long, thin macrotrichia; megaseta normal.

Female, pupa and larva. Unknown.

Systematics

The genus does not key to any specific genus neither in Cranston et al. (1989) nor in Spies et al. (2009); in the latter it will key to couplet 115, if the character hairy eyes is ignored and the eyes considered as bare, it will key to couplet 139.

The genus has such a unique combination of characters that it is difficult to place in any group of genera. The wing resembles that found in the *Pseudosmittia* Edwards group of genera, while the flattened macrotrichia on tergite IX superficially resemble the flattened setae found on the anal point in *Doithrix* Sæther et Sublette and *Pseudorthoclaadius* Goetghebuer. However, none of the above mentioned genera possess hairy eyes. We therefore refrain from suggesting a placement of the genus until the immature stages and female are known.

Miambera miae new species

Type material: Holotype male: BRAZIL, Santa Catarina State, Urubici, Morro da Igreja, 28° 07.620' S and 49° 28.788' W, 18.ix-05.xii.2004, 1822 m a.s.l., Malaise trap, L.C. Pinho & L.E.M. Bizzo leg. (MZUSP). Paratypes: 34 males, same data as holotype (MZUSP and ZMBN).

Etiology: The species is named after Mia Rieber-Mohn, see etymology for genus name.

Diagnostic characters: See diagnostic characters for the genus.

Description: *Male* (n = 10, except when otherwise stated).

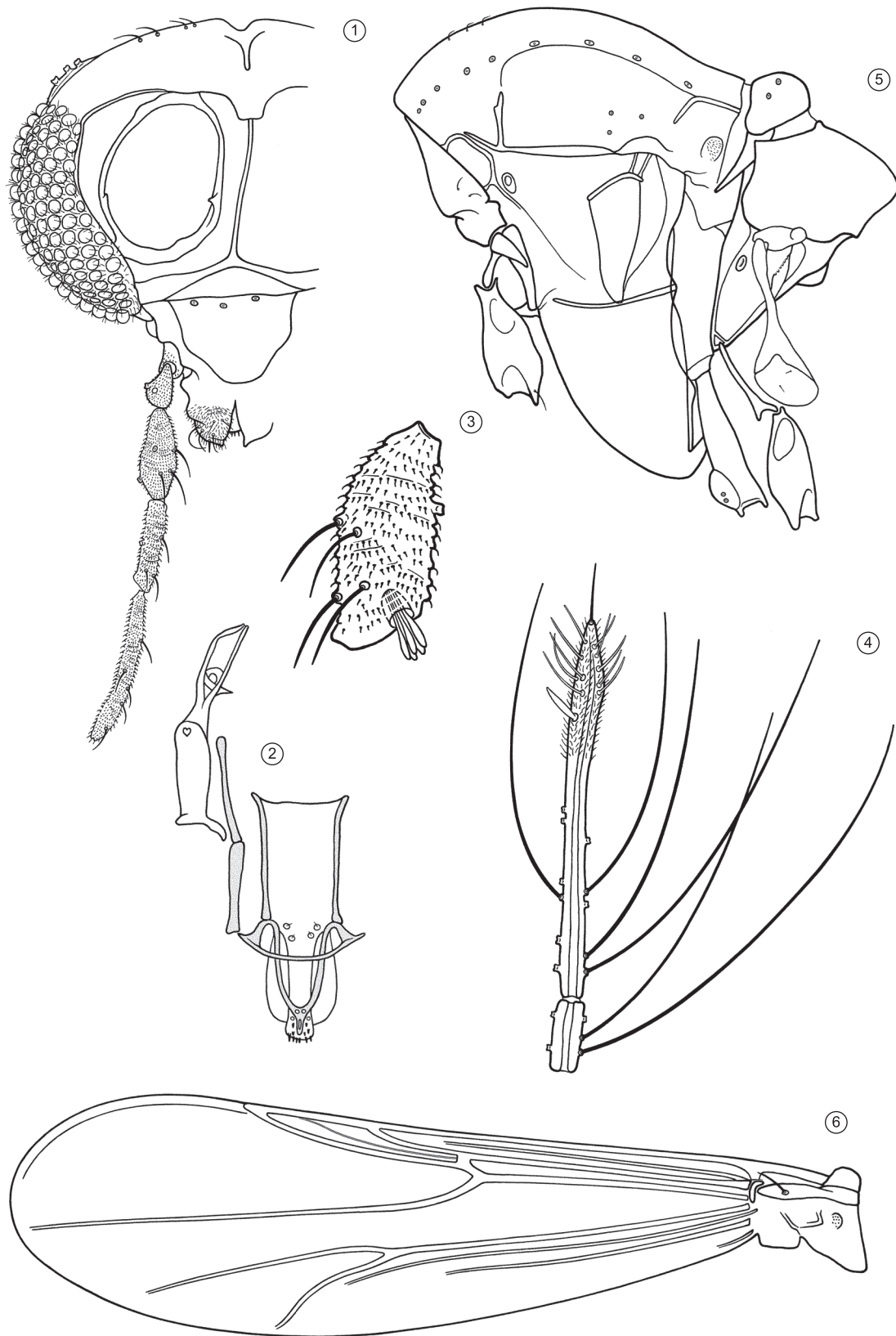
Total length 1.08-1.26, 1.17 mm. Wing length 746-857, 791 μ m. Total length/wing length 1.37-1.59, 1.48 (8). Wing length/length of profemur 2.43-2.96, 2.81.

Coloration. Brown, without darker markings; palps slightly lighter than body.

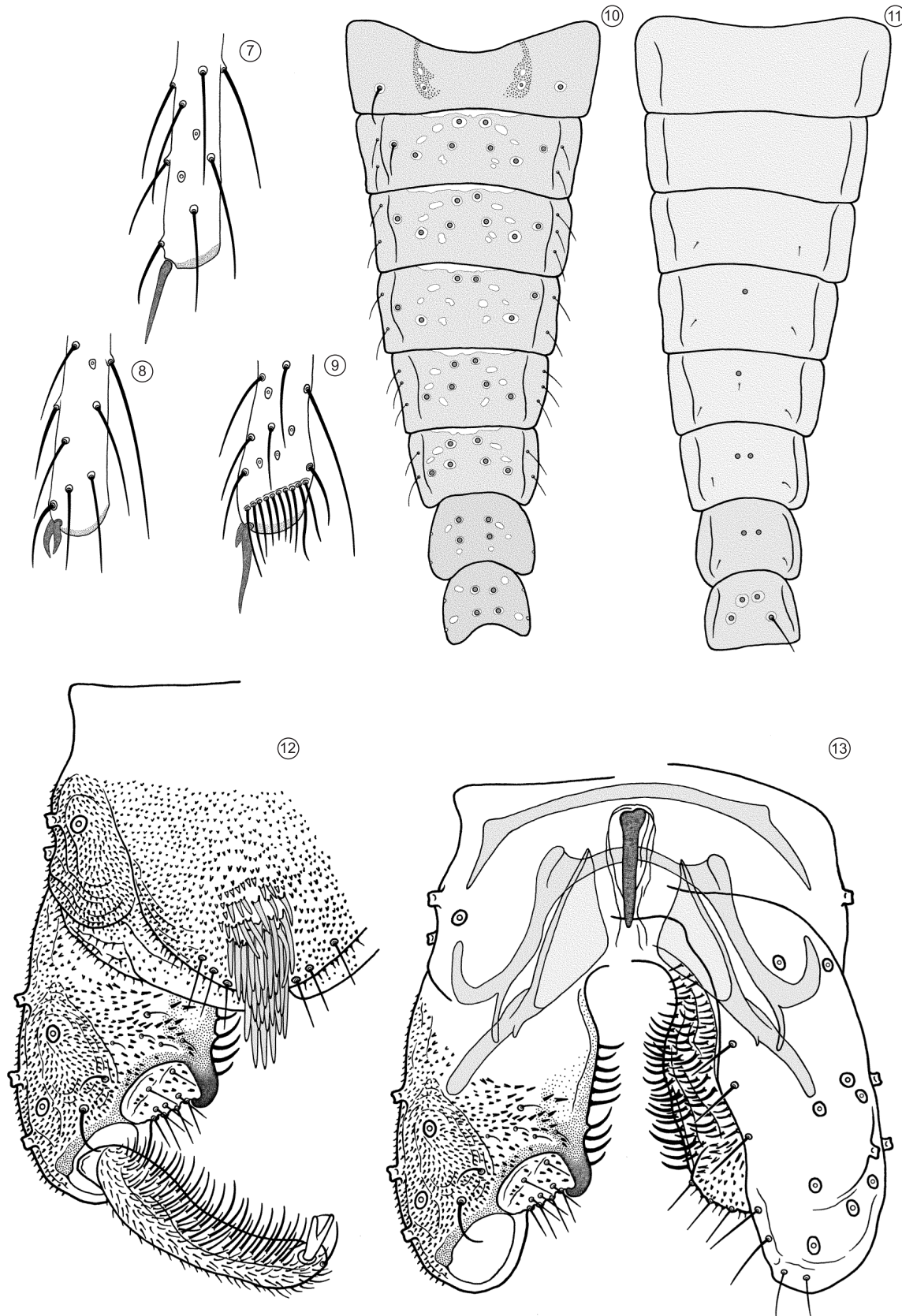
Head (Figure 1). Antenna (Figure 4) with 10 flagellomeres, AR 0.54-0.65; 0.59 (8), ultimate flagellomere 158-194, 176 (8) μ m long; if regarded as with 11 flagellomeres, AR 0.57-0.62 (2), ultimate flagellomere 173-176 (2) μ m long; subapical seta 20-36, 29 (9) μ m long. Temporal setae 6-7, 6 including 3-4, 3 inner verticals and 3-4, 3 outer verticals. Clypeus with 3-6, 5 setae. Tentorium, stipes, and cibarial pump as in Figure 2. Tentorium 61-84, 71 μ m long, 10-15, 13 μ m wide; stipes 59-82, 71 μ m long, 25 (1) μ m wide. Palp segment lengths / widths (in μ m): 11-15, 13 / 10-12, 11; 20-29, 25/11-14, 12; 41-50, 44/13-20, 17; 43-57, 49/9-12, 11; 59-88, 76/8-12, 9. Third palpomere (Figure 3) with 4-7, 5 sensilla clavata subapically in sensillum coeloconicum, longest 9-11, 10 μ m long.

Thorax (Figure 5). Anteprenotum with 1-3, 2 setae. Dorsocentrals 7-10, 8; acrostichals 2-3, 2, decumbent, in anterior third of the scutum,

Miamberea miae new genus, new species



Figures 1-6. *Miamberea miae* n. gen., n. sp., male. 1) Head; 2) Tentorium, stipes and cibarial pump; 3) Third palpomere, ventral view; 4) Ultimate flagellomeres of antenna; 5) Thorax; 6) Wing.



Figures 7-13. *Miamera miae* n. gen., n. sp., male. 7) Apex of fore tibia; 8) Apex of mid tibia; 9) Apex of hind tibia; 10) Tergites I-VIII; 11) Sternites I-VIII; 12) Hypopygium, dorsal view; 13) 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 *Miambera miae* n. gen., n. sp. (n = 10).

	fe	ti	ta ₁	ta ₂	ta ₃	ta ₄
p1	270-306, 288	286-330, 312	112-132, 121	50-65, 59	36-48, 45	22-29, 25
p2	302-346, 323	284-328, 306	115-133, 124	49-68, 59	32-47, 42	20-25, 22
p3	301-346, 324	299-343, 323	148-173, 164	68-86, 81	68-79, 76	22-29, 25
	ta ₅	LR	BV	SV	BR	
p1	22-27, 25	0.37-0.40, 0.38	4.37-4.87, 4.62	4.75-5.12, 4.89	2.6-3.1, 2.9	
p2	16-25, 21	0.38-0.42, 0.41	4.93-5.25, 5.09	4.84-5.16, 5.01	2.2-2.9, 2.5	
p3	22-29, 24	0.47-0.55, 0.51	3.67-4.20, 3.91	3.70-4.23, 3.94	3.2-4.4, 3.7	

apparently in shallow grooves and sometimes difficult to observe; prealars 3. Scutellum with 4 setae.

Wing (Figure 6). VR 1.31-1.39, 1.35. Costal extension 0-16, 8 μm long, with false vein reaching wing tip. Brachiolum with 1 seta, remaining veins and cells bare. Squama bare.

Legs (Figures 7-9). Spur of fore tibia 24-32, 28 μm long, spurs of mid tibia 10-16, 12 μm and 9-11, 10 μm long, spurs of hind tibia 27-36, 32 μm and 10-14, 11 μm long. Width at apex of fore tibia 16-21, 19 μm , of mid tibia 18-23, 21 μm , of hind tibia 21-26, 24 μm . Comb with 10-12, 11 setae, longest 21-25, 23 μm long, shortest 15-18, 16 μm long. Length and proportions of legs as in Table 1.

Abdomen (Figures 10-11). Strong setae on tergites I-VIII as: 2-4, 4; 2-8, 7; 5-8, 7; 6-8, 7; 6-8, 7; 3-8, 6; 4-6, 5; 4-7, 6. Strong setae on sternites I-VIII as: 0; 0; 0; 0-1, 1; 1-2, 2; 2; 2; 3-6, 5.

Hypopygium (Figures 12-13). Tergite IX with tuft of 20-40 strong, flattened macrotrichia and 4-8, 5 weak setae along posterior margin. Laterosternite IX with 2-3, 2 setae. Transverse sternapodeme curved with strong oral projections, 27-39, 34 μm long; phallapodeme 50-60, 55 μm long. Virga composed of single spine, 18-23, 20 μm long. Gonocoxite 83-95, 87 μm long. Gonostylus 43-57, 50 μm long; megaseta 7-9, 8 μm long. HR 1.58-1.95, 1.74. HV 2.14-2.53, 2.31.

Distribution

The species is known only from its type locality, Morro da Igreja (Urubici) in Santa Catarina State, southern Brazil, where it was collected in a Malaise trap in an area with cloud forest above 1800 meters altitude. The region belongs to the Brazilian Pine (*Araucaria*) Forest endemism region of the Mata Atlântica (Silva & Casteleti, 2003).

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