

A new species of *Metavononoides* from the Brazilian Atlantic Forest (Arachnida: Opiliones: Cosmetidae)

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Abstract

A new species of Cosmetidae belonging to the genus *Metavononoides* Roewer, 1928 is herein described. *Metavononoides melanacanthus* sp. nov. is clearly recognized by its distinctive tarsal formula, its long legs (reaching over 60 mm), and by its characteristic color pattern. The new species is the twelfth species included in the genus. It is known only from two localities: the type locality, Barra de São João, Casimiro de Abreu and from Aldeia Velha, Rio de Janeiro, Brazil.

Keywords: Laniatores, Taxonomy, Rio de Janeiro, Neotropical, WWF Ecoregion NT0160

Uma nova espécie de *Metavononoides* da Mata Atlântica (Arachnida: Opiliones: Cosmetidae)

Resumo

Uma nova espécie de Cosmetidae pertencente ao gênero *Metavononoides* Roewer, 1928 é descrita. A localidade tipo é Barra de São João, Casimiro de Abreu, Rio de Janeiro, Brasil, ocorrendo também em Aldeia Velha, no mesmo estado. *Metavononoides melanacanthus* sp. nov. é claramente reconhecida por sua fórmula tarsal, pelo comprimento de suas patas (podendo superar 60 mm), e pelo seu padrão de cores. A nova espécie é a décima segunda espécie desse gênero.

Palavras-chave: Laniatores, Taxonomia, Rio de Janeiro, Neotropical, Eco-região WWF NT0160

Introduction

The genus *Metavononoides* Roewer, 1928 was established by Roewer (1928) to accommodate two species described by Mello-Leitão (1923) in the genus *Metavonones* Pickard-Cambridge, 1904. Roewer (1928) based the new genus on considerable differences in morphology presented by the species described by Mello-Leitão (1923) in comparison to the typical *Metavonones*, as well as the distributional disjunction between the two groups.

Currently, *Metavononoides* includes eleven species, distributed in the Atlantic Forest of the eastern regions of Brazil (Kury 2003). This genus may be recognized by the presence of a U-shaped spot (also called “lyra”) over the dorsum, small body (4–8 mm), long legs (leg II reaching over 40 mm in the smaller species), smooth mesotergum, one pair of median spines at area III and a bifid apophysis over the coxa I.

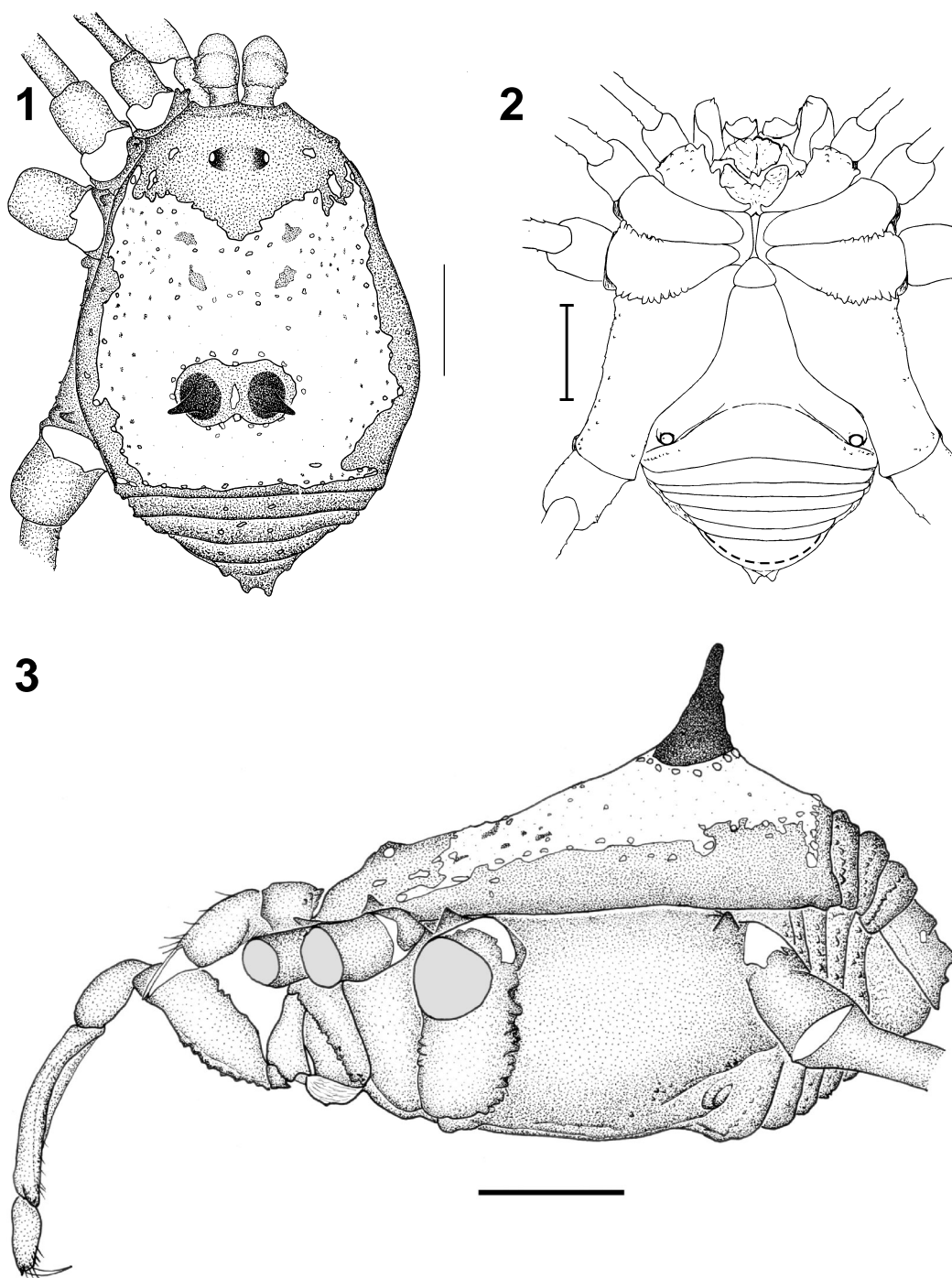
This paper aims to describe a new species of *Metavononoides* from the Atlantic Forest and to provide information on its habitat and distribution. The specimens cited in this paper are deposited in the Arachnological Collection of the Museu Nacional – Universidade Federal do Rio de Janeiro (MNRJ), Museu de Zoologia, São Paulo (MZSP) and Senckenberg Museum, Frankfurt (SMF). All the measurements are given in millimeters. The measurements of the legs are presented in the order: Total (Trochanter / Femur / Patella / Tibia / Metatarsus / Tarsus). The measurements of the pedipalpus are given in the following order: Total (Trochanter / Femur / Patella / Tibia / Tarsus / Claw). Tarsal formula (number of tarsomeres) is presented in the order: I–I, II–II, III–III, IV–IV. The tarsal formula of legs I and II is followed by the number of tarsomeres in the distitarsus in parentheses.

Taxonomy

Metavononoides melanacanthus sp. nov.

Figs. 1–8

Type material: Male holotype, 1 male, 3 female paratypes (MNRJ 6853), Brazil, Rio de Janeiro, Casimiro de Abreu, Barra de São João, Fazendas Reunidas; 21 January 1994; A. B. Kury, M. Khalil, & A. Duran, on vegetation at night. 1 male and 1 female paratypes (MNRJ 6344), Casimiro de Abreu, Barra de São João, Fazendas Reunidas, 16 October 1988, A. B. Kury, boulder in the river. 19 male and 20 female paratypes (MNRJ 17455), Casimiro de Abreu, Barra de São João, Fazendas Reunidas; 21–24 March 2003, Expedition Arachné, forest (of which a set of 1 male and 1 female paratypes each deposited in MZSP and SMF). 3 female paratypes (MNRJ 6840), Silva Jardim, Aldeia Velha, Fazenda Bom Retiro; 20 January 1994, A. B. Kury, M. Khalil, & A. Duran, harvestmen walking on leaf litter.



FIGURES 1–3. *Metavononoides melanacanthus* sp. nov. Male holotype (1–2) and male paratype (3) (MNRJ 6853) from Barra de São João: 1 habitus, dorsal view, 2 same, ventral view, 3 lateral view. Scale bars = 1 mm.

Etymology. The specific epithet “*melanacanthus*” is a combination of two Greek roots: “*melanos*”, meaning “dark, black”, and “*acanthos*”, meaning “thorn, spine”. It is a reference to the pair of black spines that strongly contrasts against the yellowish white dorsal surface of the body.

Diagnosis. *Metavononoides melanacanthus* sp. nov. is clearly recognized by the combination of long legs [leg II may reach over 60 mm, instead of less than 40 mm in most species and less than 20 mm in *M. barbacenensis* (Mello-Leitão, 1923)], distinctive tarsal formula [7 (3), 16–18 (3), 8, 9–10, against lower numbers in most other species], reduced granulation of the body [also present in other species, including the type species *Metavononoides barbacenensis*], continuous pigmentation entirely covering the dorsal areas I to IV, contrasting to the U-shaped marking characteristic for the genus, and rows of white dots over the lateral borders of the scutum, free tergites and in the areas around and among the spines.

Based on its color pattern, *M. melanacanthus* seems to be closely related to *M. preciosus* (Roewer, 1928). Both species have dark-colored spines (contrasting with the lighter body) surrounded by rows of white dots inside an unpigmented area. *M. preciosus* is smaller (body length = 3.5 mm) and has more granules, specially at the anterior border of the bulla and at the eye tubercle. In addition, the dorsal color pattern of both species is different: *M. preciosus* has continuous pigmentation only at the central region of the areas I and IV, whereas *M. melanacanthus* has pigmentation over almost all the dorsum. The tarsal formula also may be used to distinguish between both species (considering, however, the low number of specimens known): *M. preciosus* = 7, 13, 8, 8 and *M. melanacanthus* = 7, 16–18, 8, 9–10.

M. luteopunctatus (Mello-Leitão, 1931) may be another closely related species. *M. melanacanthus* appears to have more segments on leg II than all the other species of *Metavononoides*, except *M. luteopunctatus*. The latter also has the dorsum clearly convex like *M. melanacanthus*. The two may be differentiated by the distinctive dorsal color pattern (lyra is solid with bridge in *M. melanacanthus* versus empty without bridge in *M. luteopunctatus*) and the presence of spines at area III smaller, lighter, less slanted backwards and not granulated in *M. luteopunctatus*. Furthermore, the body of this last species is lighter and its opisthosoma is not truncated posteriorly.

Description of the male holotype (MNRJ 6853)

Measurements. Body length: 7.7. Maximum width of scutum (near leg III): 6.1. Carapace length 2.5, width 4.1. Pedipalpus: 6.11 (0.93, 1.63, 0.84, 1.69, 0.60, 0.42). Legs: I: 23.09 (0.67, 6.55, 1.23, 4.16, 6.92, 3.56), II: 54.13 (0.99, 11.62, 1.89, 12.33, 18.26, 8.05), III: 26.27 (0.78, 8.63, 1.27, 3.72, 8.41, 3.46), IV: 36.87 (0.96, 10.75, 1.25, 7.04, 12.21, 4.66).

Body (Figs. 1–3). Reduced ventral and dorsal granulation. Anterior border of the dorsal scutum smooth, with well defined notches above the cheliceral insertions. Anterior border of scutum with prominent, acute and almost parallel spines on each frontal corner,

and one small median spine. Lateral borders of the dorsal scutum with a row of small granulations between areas II and IV. Posterior border of the scutum narrow and straight, bearing a row of small sparse tubercles. Eye tubercle saddle-shaped, narrow and low, although clearly seen in dorsal view, with an inconspicuous row of granulations on each eye. Dorsal scutum clearly convex, prosoma clearly demarcated by a furrow and one pair of small unpigmented spots, widest near area III. Opisthosomal region of the scutum with dorsal areas not demarcated and dorsal furrows not apparent. Area II unarmed. Area III bearing a pair of large acute spiniform apophyses, slightly divergent, with granulation at their base. Area IV unarmed. Opisthosoma dorsally truncate, ending in an obtuse angle. Free tergites each with row of small granules. Anal operculum sexually dimorphic: unarmed in female and with geminated spines and a pair of short and well defined granules near the free tergite III in the male. Free sternites unarmed.

Chelicera. Bulla of basichelicerite with slightly granulated surface. Posterior and proteral borders of the bulla with a row of large granules placed very close to each other. Sexually dimorphic: females smaller and with randomly placed granules; males with larger granules arranged in rows of increasing size from inner to outer surface of the article. Distal article smooth.

Pedipalpus. Femur expanded and flattened. Tibia spoon-shaped bearing two rows of granules at its dorsal area and a median row of granules throughout its length.

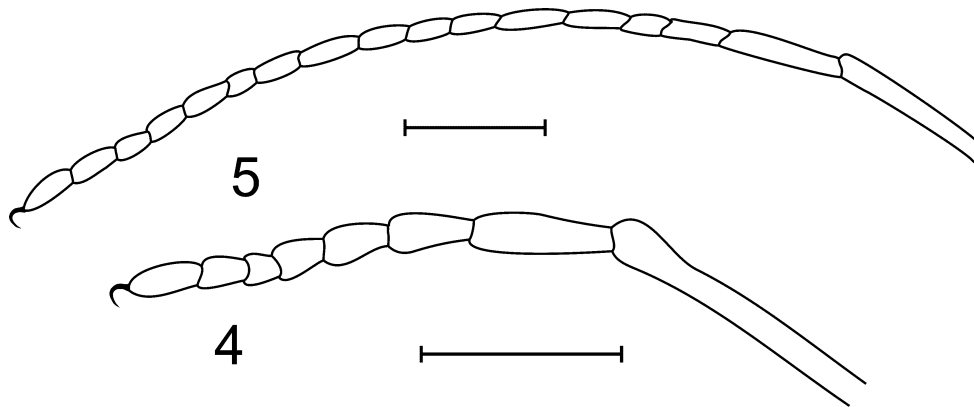
Legs (Figs. 4–5). Long and slender, without swollen articles. Articles unarmed, except the coxae. Tarsal formula: 7 (3), 16 (3), 8, 9. Coxa I bearing long and bifid proteral-dorsal apophysis, and reduced retrolatero-dorsal apophysis. Coxa II bearing long proteral-dorsal apophysis. Coxa III bearing small proteral-dorsal apophysis. Coxa IV bearing one simple proteral, distal apophysis.

Coloration pattern in ethanol. Body yellowish-brown. Dorsum almost entirely covered by a large yellowish-white spot, except at carapace, lateral margins of scutum and free tergites. Posterior border of scutum bearing row of white dots. Dorsal scutum (carapace) demarcated by one pair of small unpigmented spots, near the eyes. Area III bearing pair of black and large acute spines, basally with some granules surrounded by rows of white dots. Area IV unarmed, with transverse unpigmented spot medially. Free tergites each with paired white spots.

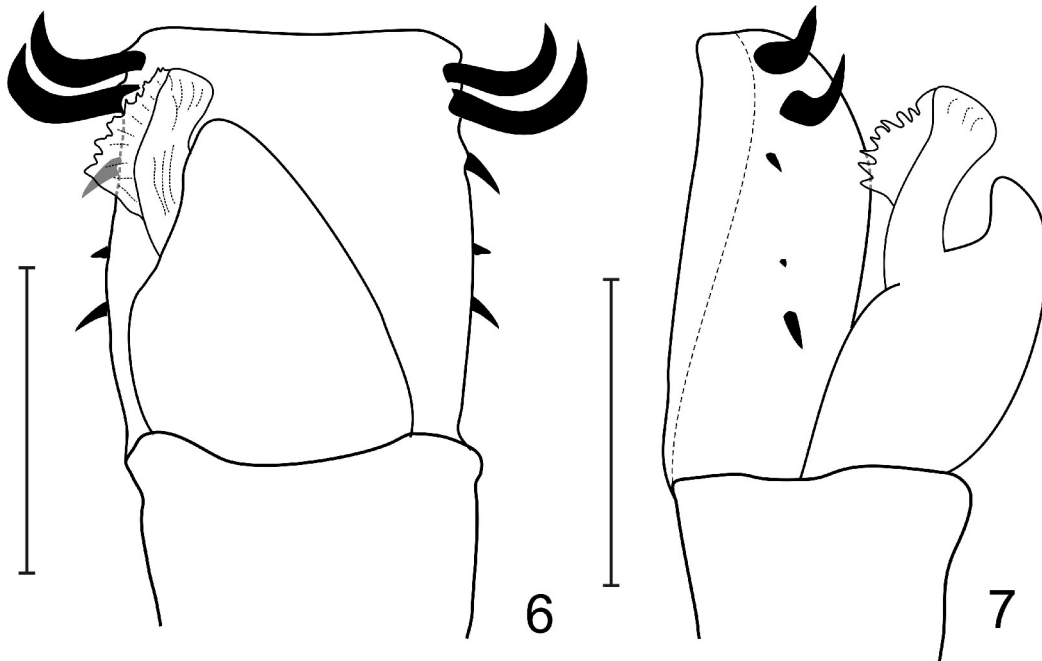
Genitalia (Figs. 6–7). Ventral plate subrectangular, slightly wider apically, with almost straight apical margin, with two pairs of long and curved apical setae and three pairs of straight median setae, near the lateral margins. Two pairs of median setae are longer and directed proximally, whereas the median pair is shorter and upright. Glans with thumb-like dorsal process. Stylus with apex wrinkled, convex and bearing a fringed crest.

Female. Body and appendages much similar to male. Sexual dimorphism as noted above. Measurements of paratype. Body length: 8.0. Maximum width of scutum (near leg III): 7.6. Carapace length 2.7, width 4.3.

Variation. Tarsal formula: 7 (3), 16–18 (3), 8, 9–10.



FIGURES 4–5. *Metavononoides melanacanthus* sp. nov. Male holotype (MNRJ 6853) from Barra de São João. Tarsi of anterior legs, lateral view (4 leg I, 5 leg II). Scale bars = 1 mm.



FIGURES 6–7. *Metavononoides melanacanthus* sp. nov. Male holotype (MNRJ 6853) from Barra de São João. Distal part of penis (6 ventral view, 7 lateral view). Scale bars = 0.1 mm.

Distribution. Brazil, Rio de Janeiro state, Barra de São João and Aldeia Velha, which are located 35 km from each other (Fig. 8). WWF Ecoregion NT0160 (Serra do Mar coastal forests). Another species of *Metavononoides* which occurs close to *M. melanacanthus* is *M. bellus* (Mello-Leitão, 1932), but this species is restricted to the highlands of the Serra dos Órgãos and the lowlands of Rio de Janeiro city and westwards,

whereas *M. melanacanthus* occurs in the southeastern slope of the same mountain chain in the eastern part of the state. This remarkable endemism occurs in many genera of Gonyleptoidea in the NT0160. Besides the differences in morphology and color pattern, *M. melanacanthus* occurs allopatrically to any of the other *Metavononoides* species (Fig. 8).

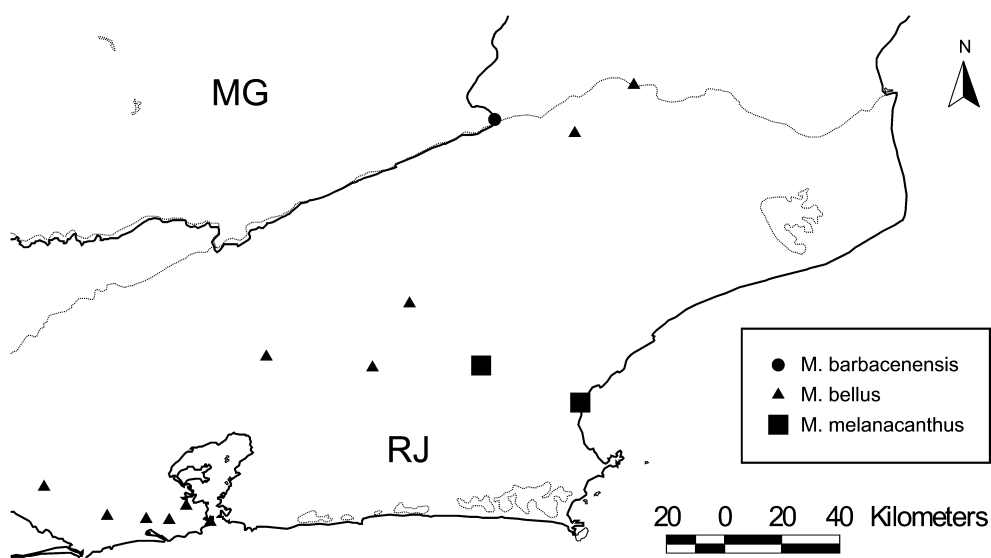


FIGURE 8. Part of southeastern Brazil, including Rio de Janeiro State (RJ) and Minas Gerais State (MG), showing distribution of *M. melanacanthus* sp. nov. (large squares), *M. bellus* (small triangles) and *M. barbacenensis* (small circle). Thin dotted lines are water bodies.

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