



## A new Tricommatinae from the montane savanna of São Paulo (Opiliones: Laniatores: Gonyleptidae)

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### Abstract

A new species of the genus *Pseudopachylus* — *P. martensi* — is described from São José do Barreiro, São Paulo State, Brazil. *Olynthus alticola* H. Soares, 1945, from Alto da Serra, also in the São Paulo State, is transferred to *Pseudopachylus*. The genus *Pseudopachylus* now comprises six species.

**Key words:** Harvestmen, neotropical, WWF Ecoregions NT0160, NT0703, Atlantic Forest, Brazilian arachnofauna

### Introduction

Tricommatinae are small Gonyleptidae characterized mainly by sexually dimorphic modifications in the ventral surface of basal segments of leg IV. They can be found amidst leaf litter, loose earth and beneath rotten logs. After an early period in which Andean, Indo-Malayan and European species were also included (e. g. Roewer 1935; 1963), the current diagnosis includes 50 species which inhabit Brazilian Atlantic Forest and neighboring floral formations, including small portions of Paraguay and Argentina (Kury 2003). In museum collections they are typically represented by very small series and in a succession of collecting trips conducted by the arachnological team of the Brazilian National Museum in the last ten years they were also found to be by far much less abundant than their larger counterparts (such as Pachylinae and Gonyleptinae) with a few exceptions. Sifting leaf litter seems to be the best way of discovering Tricommatinae and this method yielded many representatives of *Cryptogeobius crassipes* Mello-Leitão, 1935, one of such exceptions from Rio de Janeiro. Preliminary study on this subfamily revealed at least 40 undescribed species which are currently under study, most of them in São Paulo and Rio de Janeiro States in Brazil.

In this paper a remarkable new species of the genus *Pseudopachylus* is described from a shrubby savanna habitat in the Espinhaço Mountain Range and another is transferred to *Pseudopachylus* from the doubtful genus *Olynthus* Sørensen. The genus currently counts four species — *Pseudopachylus cocaiensis* (H. Soares, 1972), *Pseudopachylus eximius* (Mello-Leitão, 1936), *Pseudopachylus longipes* Roewer, 1912 and *Pseudopachylus nigripes* (Mello-Leitão, 1932) —, but there are some more undescribed currently under study. Abbreviations of depositories are HS (Private Collection Helia Eller Monteiro Soares, currently in MNRJ), MNRJ (Brazilian National Museum, Rio de Janeiro) and MZSP (Museu de Zoologia, São Paulo).

## Results

### *Pseudopachylus alticola* (H. Soares, 1945) comb. nov.

*Olynthus alticola* H. Soares 1945: 247, fig. 4  
“*Olynthus alticola*”: Kury 2003: 200

**Type material.** ♀ holotype (HS 100), Brazil, São Paulo, Alto da Serra, examined.

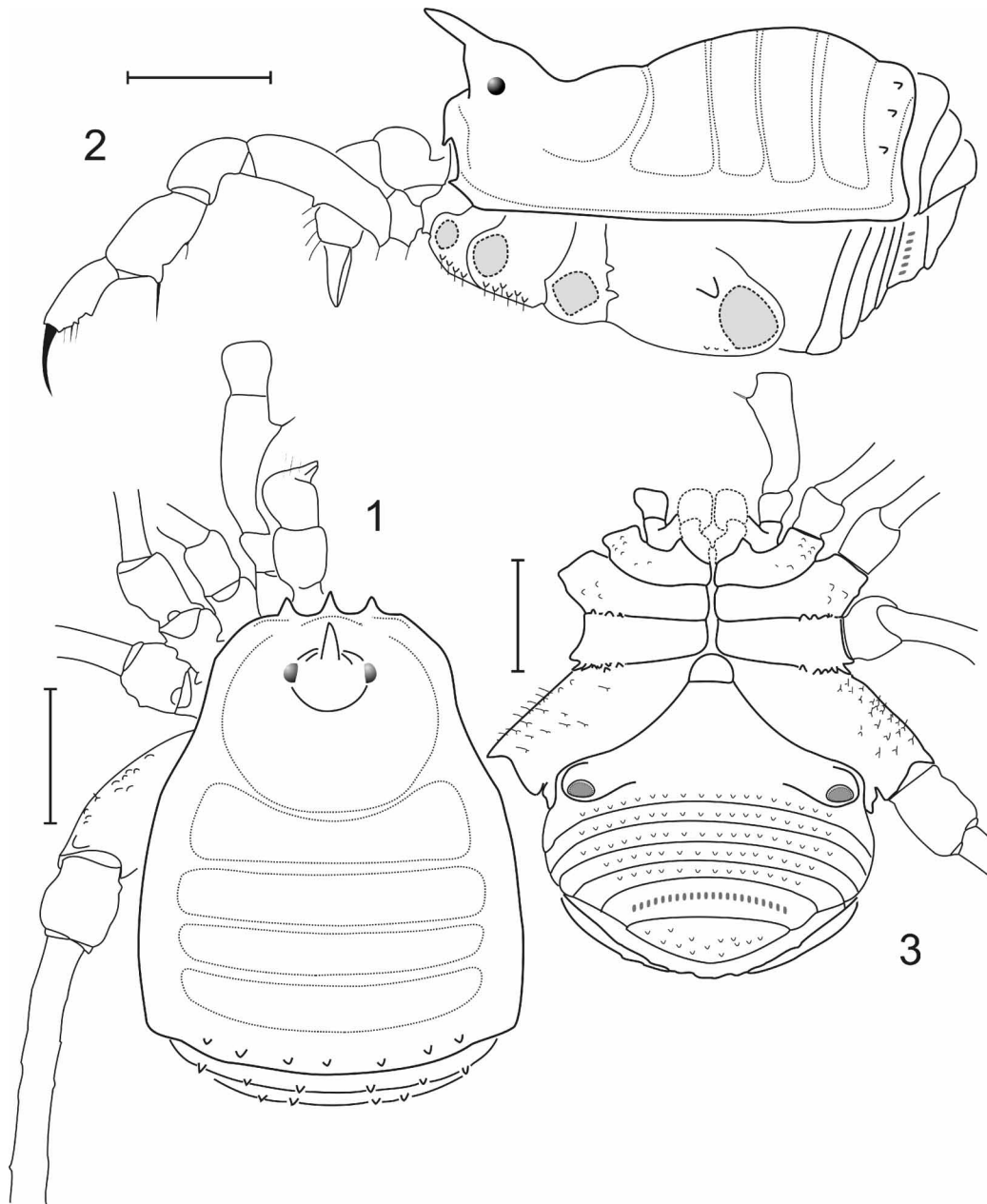
Other material examined. 1 ♂ (MZSP 18891), Brazil, São Paulo, Santo André, Alto da Serra (coordinates -25.3500, -48.9167), 27.viii.1999, R. Pinto da Rocha et al. leg.

**Diagnosis.** Eye mound with thick straight spine instead of typical *Pseudopachylus* hook, this spine is clearly thicker at base, giving an arched aspect to it in dorsal view. Male coxa IV ventrally with strong apophysis on retrolateral border, apophysis with a subapical secondary lobe. Male trochanter IV ventrally with blunt stout apophysis on retrolateral part. Tarsal formula: 5(3)/7(3)/5/5. Closest to the new species described below, specially by the structure of the eye mound.

**Distribution.** BRAZIL. São Paulo. Santo André: Estação Biológica do Alto da Serra, 850 m. WWF Ecoregion: NT0160 (Serra do Mar coastal forests). Biome: Tropical & Subtropical Moist Broadleaf Forests. Known only from the type locality.

**Comments.** *Olynthus* is currently a junior synonym of *Spinopilar* Mello-Leitão 1940 (Kury 2003), but *Olynthus alticola* is not specially closely related to its type species. Hitherto only a female was known, but now, with a comparative study of the characters of the Tricommatinae for a revision and the discovery of a male from the type locality, important diagnostic characters can be appreciated, which allow to relate *Olynthus alticola* with the species of *Pseudopachylus*: 1) male femur IV straight and much elongate, entirely smooth and unarmed (shorter and weakly armed in *Spinopilar*), 2) eye mound with stout spiniform process (with small tubercle in *Spinopilar*), 3) male trochanter IV with retrolateral subbasal small procurved apophysis (subdistal strong recurved apophysis in *Spinopilar*), 4) stigmata placed on a prominent mound (sessile in *Spinopilar*), 5) free sternite I with lobe projecting against coxal apophysis (free sternite I without lobe), 6)

male coxa IV small, reaching at most mid scutal area II (male coxa IV large, reaching mid to end of scutal area IV).



**FIGURES 1–3.** *Pseudopachylus martensi* sp. nov. Male holotype from São José do Barreiro (MNRJ 4435) 1 Habitus, dorsal view; 2 Same, lateral view; 3 Sternal region, coxae, stigmatic area and sternites, ventral view. Scale bars 1 mm.

***Pseudopachylus martensi* sp. nov.**

Figs 1–10

**Type material.** ♂ holotype (MNRJ 4435), Brazil, São Paulo, São José do Barreiro, 30.x.1967, O. A. Roppa leg.

**Diagnosis.** Eye mound with thick straight spine instead of typical *Pseudopachylus* hook. All scutal areas and free tergites smooth and unarmed. Ventro-retrolateral apophysis of coxa IV simple, straight. Trochanter IV unarmed. Tarsal formula: 4(3)/5(3)/5/5. This species is probably most closely related to *Pseudopachylus alticola* (H. Soares, 1945) because they share the atypical armature of eye mound, both can be distinguished mainly by the armature of coxa and trochanter IV of male.

**Etymology.** Species name honors the distinguished German arachnologist Dr Jochen Martens who contributed immensely to the knowledge of the order Opiliones.

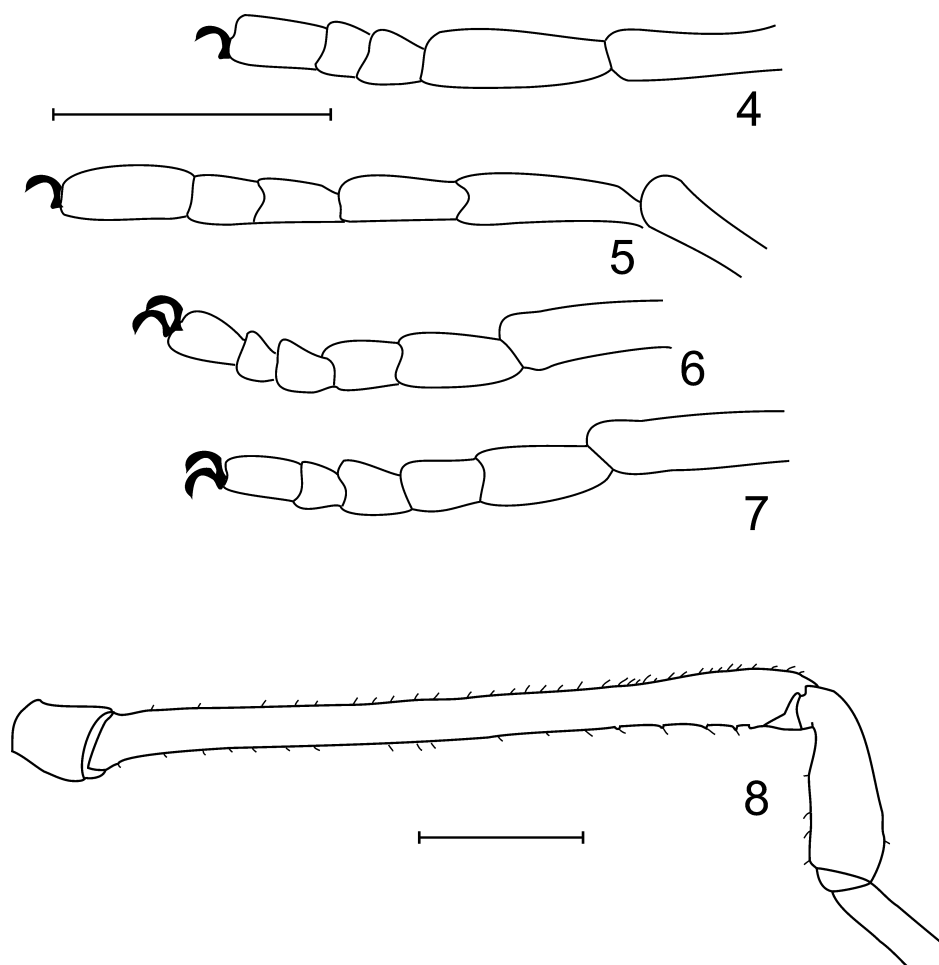
**Description** of ♂ holotype (MNRJ 4435)

Dorsum (Figs 1–2): Projections of frontal margin of carapace absent. Antero-lateral triangular lobes on carapace absent. Lateral margins of carapace clearly divergent to posterior end. Outline of carapace not projected antero-laterally. Outline of scutum at carapace not pointed. Outline of scutum at groove II not pointed. Lateral margin of opisthosomal scutum smooth and unarmed marginally. Posterior constriction of opisthosomal scutum lost: scutum without any constriction, with sides straight and parallel, giving the scutum the shape of a bell. Posterior border of scutum as wide as the rest with one row of tubercles. Eye mound very high, campaniform, removed from the anterior border of carapace, with unpaired erect pointed spine. Frontal hump low, moderately developed. Mesotergal area I constricted by scutal groove but not divided into two halves and clearly procurved. Mesotergal area I as long as any of the others. Mesotergal area III unarmed. Mesotergal area IV unarmed. Tegument of dorsal scutum fine granular. Free tergites with a transverse row of tubercles each.

Venter (Fig. 3): Tubercles of scutum and legs I–IV with short bristles. Stigmatic opening placed on a discrete mound. Stigmatic area discrete from coxa IV, separated by a well-marked groove. Area surrounding stigmata convex, keeping outline sternites-coxa. Sternite III not projected laterally nor anteriorly nor posteriorly. Free sternites with a transverse row of tubercles each.

Appendages (Figs 1–8): Length of basichelicerite much shorter than carapace. Cheliceral hand unarmed. Cheliceral hand and basichelicerite weak and slender. Pedipalpus well developed, at least as long as dorsal scutum. Pedipalpal femur cylindrical, concave meso-basally, with two ventral setiferous tubercles and subapical mesal setiferous tubercle. Pedipalpal patella unarmed. Distalmost ectal spine of pedipalpal tibia longer than the others (Fig. 2). Calcaneus of metatarsus I not swollen. Coxa II *in situ* widely surpassing coxa III in length. Coxa IV very small and short, attaining area II in dorsal view (Fig. 1). Lateral margin of coxa IV oblique to the main axis of body. Surface of coxa IV finely granular. Coxa IV with dorso apical acuminate oblique apophysis. Coxa IV on

ventral surface, retrolateral border with blunt comma-like conical apophysis. Coxa IV subapical retrolateral without special features. Trochanter IV ventral retrolateral without any subbasal (alpha) or distal (beta) apophysis. Trochanter IV ventro-apically unarmed. Femur IV (probably sexually dimorphic as in all other *Pseudopachylus*) straight, unarmed, elongate, not incrassate, without serrulae or pectination, on dorsal surface with fine granulation. Patellae II–IV short. Tibia IV as thick as femur IV, unarmed on retrolateral surface. Tarsal formula: 4(3)/5(3)/5/5.



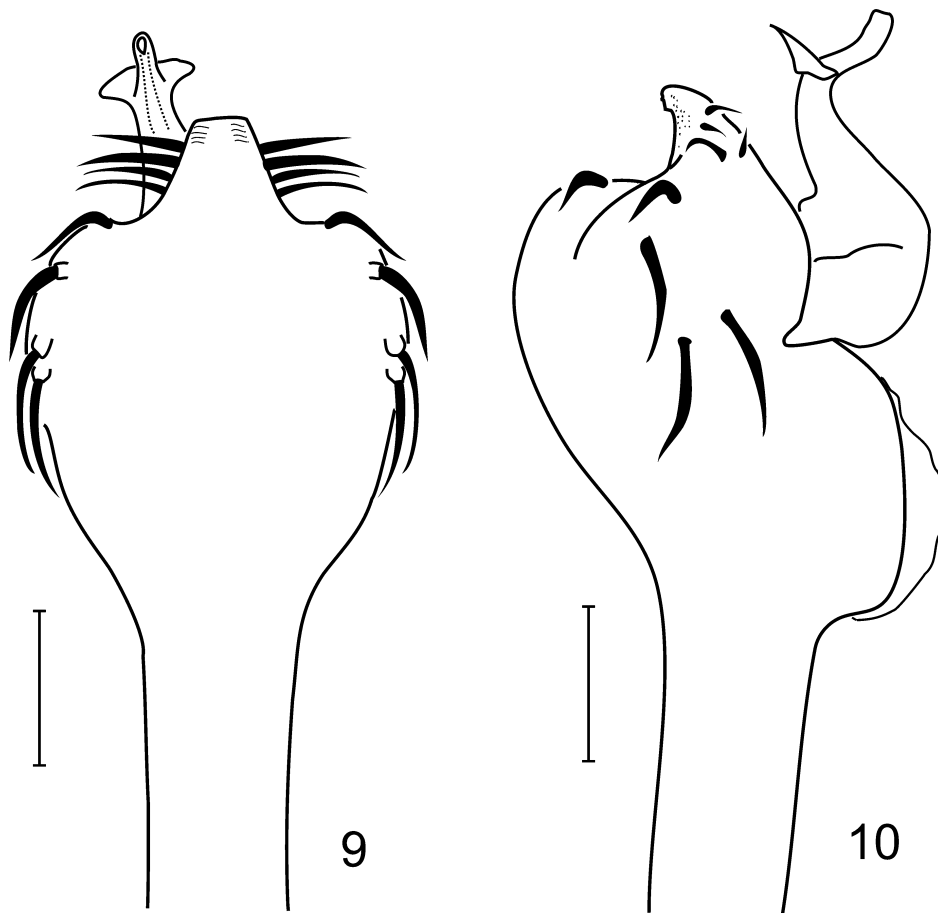
**FIGURES 4–8.** *Pseudopachylus martensi* sp. nov. Male holotype from São José do Barreiro (MNRJ 4435) 4 Tarsus I; 5 Tarsus II; 6 Tarsus III; 7 Tarsus IV; 8 Trochanter to patella of left leg IV. 4–8 in prolateral view. Scale bars 1 mm.

Color: Body and appendages more or less uniform reddish dark yellow with some brown mottling, coxae and trochanters I–IV clearly lighter. Color pattern of femora I–IV uniform, without lighter areas or rings.

Penis (Figs 9–10, dorsal view not given as it does not bring any relevant

supplementary information): Ventral plate of penis with basal portion immensely swollen. *Lamina parva* with distal patches of rough granules, trapezoid, clearly marked and normal sized. Paired ventral subapical projections of ventral plate absent. Dorso apical hyaline body of truncus present. Four pairs of setae of *lamina parva* short and straight. Four pairs of setae of basal portion of ventral plate very long and pointing basally roughly similar as in Agoristenidae. Shape of *lamina parva* clearly trapezoid. Supplementary dorsal shield on glans absent. Position of stylus in relation to the glans apical bent by 90 degrees. Attachment of flabellum to stylus skirt-like.

**Distribution.** BRAZIL. SÃO PAULO. São José do Barreiro (coordinates -22.6333, -44.5833), 600 m. WWF Ecoregion: NT0703 (Campos Rupestres montane savanna). Biome: Tropical & Subtropical Grasslands, Savannas, & Shrublands. This portion of NT0703 is an “island” surrounded by the Serra do Mar coastal forests (NT0160), therefore it is not certain that the habitat of the species is savanna. It could also be forest patches amidst a savanna biome.



**FIGURES 9–10.** *Pseudopachylus martensi* sp. nov. Male holotype, from São José do Barreiro (MNRJ 4435), distal part of penis (9 ventral view, 10 lateral view); Scale bars 0.1 mm.

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