

BOLETIM DO MUSEU NACIONAL

NOVA SÉRIE

RIO DE JANEIRO - BRASIL

ISSN 0080-312X

ZOOLOGIA

Nº 328

30 DE OUTUBRO DE 1989

NOTES ON MITOBATINAE III:

A REMARKABLE NEW BRAZILIAN SPECIES OF *MITOBATES* SUNDEVALL, 1833
(OPILIONES, LANIATORES, GONYLEPTIDAE)⁽¹⁾

(With 8 figures)

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In most taxonomic systems it is not uncommon that some autapomorphies are taken as "major features" which justify the creation of new monotypic genera. That is, such characters would denote a "higher grade", and therefore should "deserve" a higher rank. It can be felt notably in the opilionid classification by ROEWER (see e. g. 1923:10), which is furthermore based too heavily on the armature of the dorsal scute and tarsal segmentation. Consequently, all possible combinations of spines and tubercles of the tergal areas become virtual genera, many of them defined only by the absence of characters.

The definition of genera of Gonyleptidae is critical, as can be seen by the discovery of a new mitobatine species from Southeastern Brazil, which would be undoubtedly regarded as a new genus if the Roewerian approach was used. Here is proposed instead its inclusion in *Mitobates* Sundevall, 1833. The characters involved were polarized by outgroup comparison and will be explained in detail in a complete phylogenetic analysis of the Mitobatinae (Kury, in prep.).

(1) Received for publication July 12, 1989. Accepted October 16, 1989.

(2) Fellowship of the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES).

The genus *Mitobates* encloses at present three species: *M. conspersus* (Perty, 1833), *M. stygnoides* Mello-Leitão, 1923 and *M. albipunctatus* Roewer, 1943. The last species, described from Southern Brazil is poorly known and surely does not belong in *Mitobates*.

Abbreviations of the Institutions cited are: Departamento de Zoologia, Universidade Federal do Rio de Janeiro (DZUFRJ), Museu Nacional, Rio de Janeiro (MNRJ) and Museu de Zoologia da Universidade de São Paulo (MZUSP). All measurements are in mm.

Mitobates inermis n. sp.

(Figs. 1-8)

Etymology- The species name is a latin adjective meaning unarmed.

Diagnosis- Closest to *M. conspersus*, distinguished by the lack of the robust paired spines of the area III of the mesotergum, by the smooth dorsal branch of the glans penis, by the uniform colour of legs I to III (black) and IV (orange to yellow), while in *M. conspersus* all four legs are dark-yellow with black mottling, and by the segmentation of the tarsus of leg I in male (8 instead of 7 in *conspersus*).

Distribution- Known only from the type locality.

Material examined- BRAZIL, RIO DE JANEIRO, Casimiro de Abreu, Barra de São João, Fazendas Reunidas: male holotype (MNRJ) February 7, 1988 (R.N.L. Costa), 6 male 1 female paratypes (DZUFRJ 0347) October 16, 1988 (A.B.Kury), 2 male paratypes (MZUSP 10578) same data.

Description- Male holotype. Dorsum (Figs. 1, 2). Dorsal scute 4.87 long. Cephalothorax 2.18 long, 3.60 wide. Abdominal scute 2.65 long, 4.43 wide. Body outline roughly rectangular,

abdominal scute divided in five areas by five transversal grooves, first groove deep, v-shaped, united with the second by a longitudinal median groove. Fourth groove very shallow, obsolete, area IV of mesotergum divided by a longitudinal groove, and not completely separated of the area III. All tergal areas, free tergites and anal plate unarmed. Anterior margin of cephalothorax with two concavities for the insertion of chelicerae and three very small denticles on each corner. Eye tubercle rising at mid-length of carapace, armed with a pair of high spines and a few granules. Carapace with a few granules behind the eye tubercle. Area I with granules along longitudinal groove and second groove; area II with three transversal rows of granules; area III with two larger median granules with a few others around; area IV with four granules in transverse row. Lateral areas, posterior margin and free tergites with a row of granules each. Venter. Coxae I-IV armed with a row of setiferous tubercles which become larger from coxa IV to I; stigmatic area smooth; stigmata visible; free sternites and ventral anal plate smooth.

Chelicera (Fig. 3). Not swollen. Proximal segment 1.38 long, unarmed; distal segment 2.56 long, unarmed, provided with setae; edge of fingers toothed as shown in figure 3.

Pedipalpus (Fig. 4). Well-developed, with robust spines; coxa with a row of setiferous tubercles; trochanter armed ventrally with two setiferous tubercles; femur with a ventro-basal tubercle and a median apical spine; patella unarmed, widened distally; tibia and tarsus semicylindrical; tibia armed with a row of five spines (IiiiIi) both on the ventro-lateral and the ventro-mesal edges; tarsus with a row of four ventro-lateral (Iiii) and three ventro-mesal (III) spines. Tarsal claw curved slightly, smooth.

Legs. Coxa IV much larger than others, surpassing the lateral margin of scute in dorsal view; femur, tibia and metatarsus IV extremely elongate (Table 1); ratio of calcaneus/astragalus of metatarsi I to IV: 1.1:0.8:0.6:0.5; double claws of tarsi III and IV untoothed, with tarsal process and

no scopula; tarsal formula: 8:15-16:9:10-12, distitarsi I and II with three segments each (in two male paratypes the leg II has four-segmented distitarsus II on one side and three-segmented on the other); in the table 2 the tarsal segmentation is given for all specimens examined.

Coloration. Body with rusty to orange-yellow background colour; dorsal scute with dark-brown pigmentation, except along grooves; free tergites black; spines of eye tubercle, granules of scute and of free tergites sulfur-yellow; coxae dark-yellow, legs I-III entirely black, leg IV reddish-yellow with patella and apical part of femur black; palpi dark-yellow, with black reticle; chelicerae orange-yellow. Venter: coxae, sternum and stigmatic area orange-yellow, free sternites dark-brown.

Genitalia (Figs. 7,8). Penis 3.76 long. Truncus slender, cylindrical. Glans bifid. Dorsal branch of glans cylindrical with rounded apex. Ventral branch of glans fan-like. Ventral plate rectangular, with concave frontal margin; lateral margins armed with two group of setae, three apical and three basal.

Female. Very similar to male; legs IV much shorter; ratio calcaneus/astragalus of metatarsi I to IV: 1.2:0.8:0.7:0.3; tarsal segmentation 6:16-17:8:8-9; sexual dimorphism also in the basitarsus of the leg I (Figs. 5,6).

Habitat- The type-locality of *M. inermis* n. sp. is the single preserved woodland in Barra de São João, a small village in the northern coast of the Rio de Janeiro state. In the entire region the coastal area has much dune vegetation, and the tropical rain forest remnants are visible only around a few streams. All is badly disturbed by annual burning for cultivation and by the building lots.

In the Fazendas Reunidas there is a large hill still covered with moist secondary forest, along a water stream. Only a few small pachylines found under stones and rotten logs and some larger gonyleptines were collected there. All the extension of the stream is covered with rocks in which

the mitobatines were collected along with some individuals of *Goniosoma dentipes* C.L. Koch, 1839. The *M. inermis* n. sp. individuals live in a microhabitat very similar to that of *M. conspersus* in Rio de Janeiro: they stay clinged to the moist and shady surface of the rocks, close to the water and not exposed to daylight.

Relationships- By the Roewerian system, *M. inermis* n. sp. could be placed either in Bourguyinae or in Mitobatinae, due to the incomplete fusion of the scutal areas III and IV of mesotergum — the only character to distinguish both subfamilies is the presence of three or four mesotergal areas. After the diagnosis by MELLO-LEITÃO (1923:128) no synapomorphy can be cited for the Bourguyinae. In Mitobatinae the new species could not find any place among the extant genera (the most recent conspectus of the subfamily including a key for the genera can be found in SOARES & SOARES, 1949:225), requiring the creation of a new genus closest to *Leptocnema* C.L. Koch, 1839, which possesses area III unarmed. The other two genera of Mitobatinae with unarmed area III — *Asarcus* C.L. Koch, 1839 and *Cnemoleptes* MELLO-LEITÃO, 1941 — show a wide array of extraneous characters, none of them shared by any other member of the Mitobatinae.

The loss of the armature, however, is here considered as having originated independently in *M. inermis* n. sp. and *Leptocnema* based on the following derived characters shared by *M. inermis* n. sp. and *M. conspersus*: 1) strong reduction of the apophysis of coxa IV in both sexes; 2) rectangular body outline with cephalothorax nearly as broad as the abdomen; 3) spination of the pedipalpal tibia ventro-mesal IiiIi or IiiiIi; 4) spination of the pedipalpal tibia ventro-lateral IiiiIi; 5) large sulfur-yellow granules forming a definite pattern on the mesotergum.

ACKNOWLEDGEMENTS

I would like to thank Celina M. L. Ferreira for her

hospitality during my stay in the Fazendas Reunidas, and Rui N. L. Costa who collected the first individual of the species, drawing my attention to it. I am indebted to Dr. Anna T. da Costa (MNRJ) for laboratory facilities.

RESUMO

NOTAS SOBRE MITOBATINAE III:

UMA NOTÁVEL ESPÉCIE NOVA DE *MITOBATES* SUNDEVALL, 1833 DO BRASIL
(OPILIONES, LANIATORES, GONYLEPTIDAE)

Mitobates inermis sp. n. é descrita do Estado do Rio de Janeiro (sudeste do Brasil). Ao contrário de quase todos os mitobatíneos, os indivíduos desta espécie não possuem um par de espinhos na área III do mesotergo. Pelo sistema Roeweriano a espécie devido a esse caráter seria colocada em um novo gênero, próximo a *Leptocnema* C. L. Koch, 1839, mas segundo um enfoque filogenético sugere-se aqui seu posicionamento junto a *Mitobates conspersus* (Perty, 1833).

Palavras-chave: *Mitobates inermis* sp. n., Gonyleptidae, Rio de Janeiro, Brasil.

ABSTRACT

Mitobates inermis n. sp. is described from Rio de Janeiro state (Southeastern Brazil). Unlike most mitobatines the individuals of this species lack the paired spines in the area III of the mesotergum. Owing to this character, the species, following the Roewerian system, should be put in a new genus, nearest to *Leptocnema* C.L. Koch, 1839, but in the phylogenetic approach adopted here it is placed nearest to *Mitobates conspersus* (Perty, 1833).

Key-words: *Mitobates inermis* n. sp., Gonyleptidae, Rio de Janeiro, Brazil.

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TABLE 1

MITOBATES INERMIS N. SP.

MALE HOLOTYPE, APPENDICULAR MEASUREMENTS

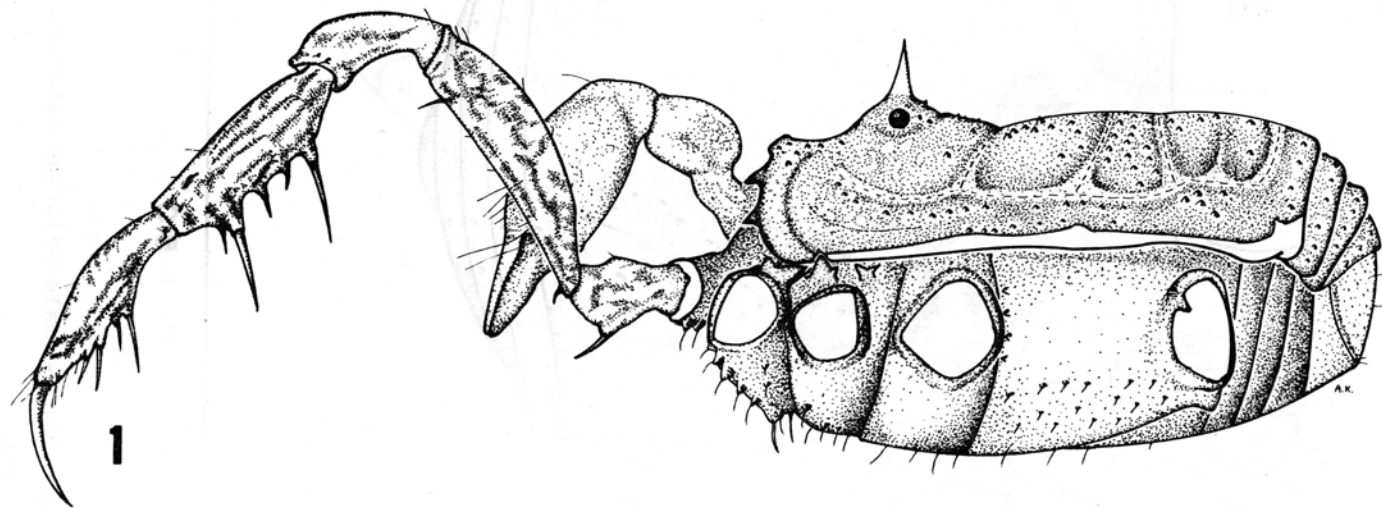
	Tr	Fe	Pa	Ti	Mt	Ta
Pedilpalpus	1.05	2.70	1.48	2.01	---	1.77
Leg I	0.96	8.88	1.73	6.58	9.92	3.98
Leg II	1.16	21.84	2.39	17.92	22.88	8.45
Leg III	1.27	18.56	2.60	11.28	17.92	5.79
Leg IV	1.26	47.12	3.30	35.36	58.64	15.20

TABLE 2

MITOBATES INERMIS N. SP. VARIATION IN THE TARSAL SEGMENTATION

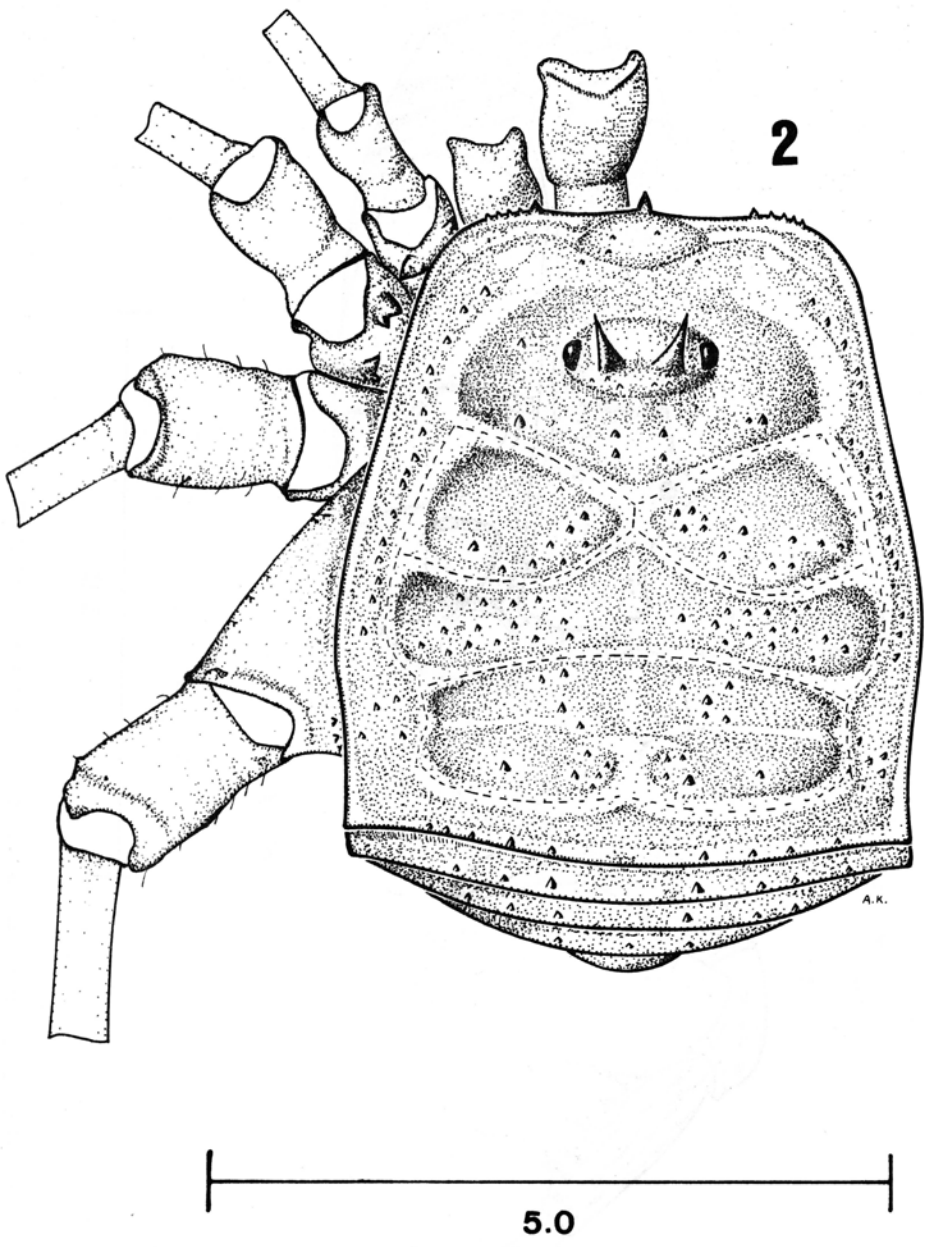
Left number of each pair refers to number of segments on left leg of that pair, right to the right leg. ? refers to missing segments

			I	II	III	IV
MNRJ		♂	8-8	15-16	9-?	12-10
DZUFRJ	0347a	♂	8-8	19-20	?-9	10- 9
	0347b	♂	8-8	20-19	9-9	10- ?
	0347c	♂	8-8	16-18	9-9	9- 9
	0347d	♂	8-8	16-17	9-?	9- 9
	0347e	♂	8-8	17-15	9-9	9- 9
	0347f	♂	8-8	20-20	9-9	9- 9
MZUSP	10578a	♂	8-8	19-21	9-9	9- 9
	10578b	♂	8-8	17-18	9-8	9- 9
DZUFRJ	0347	♀	6-6	16-17	8-8	9- 8

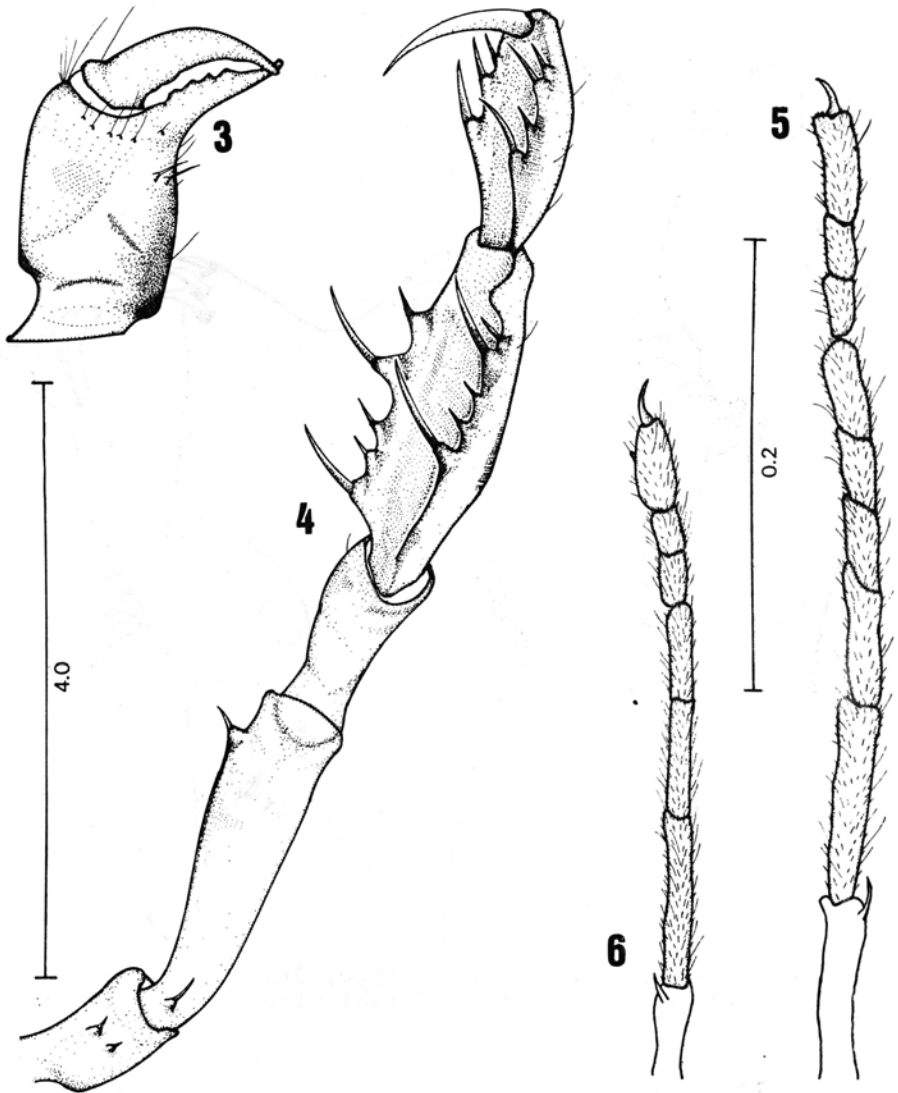


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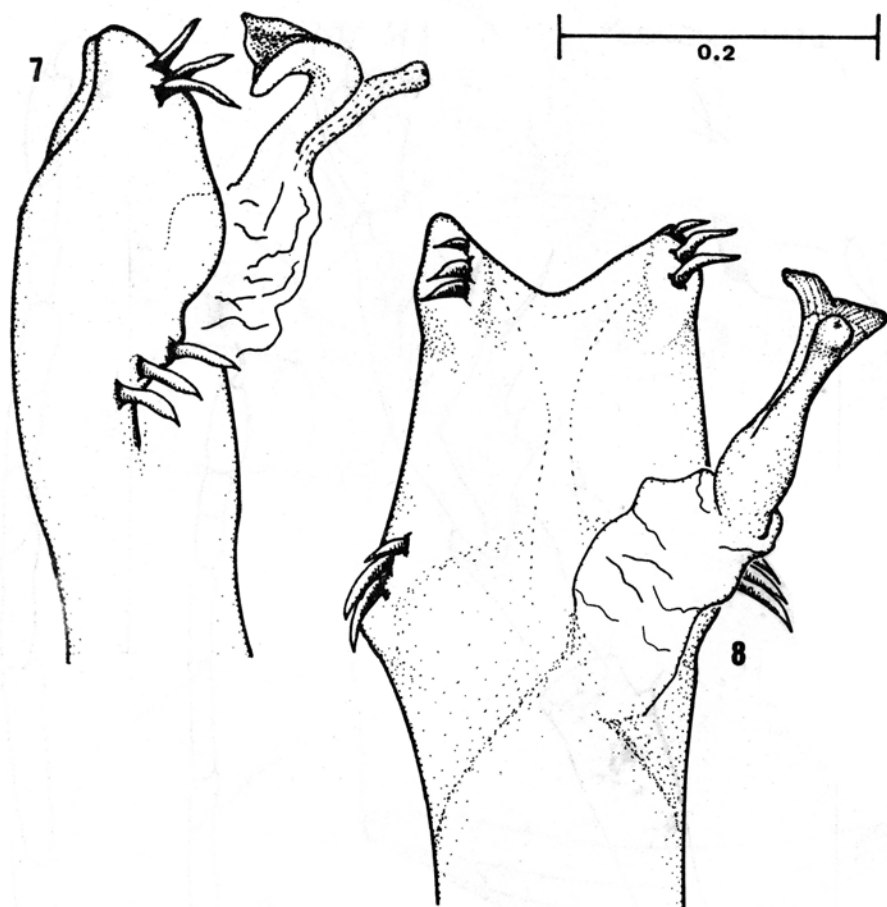
Mitobates inermis n. sp.: fig. 1- male holotype habitus, lateral view.



Mitobates inermis n.sp.: fig. 2- male holotype habitus, dorsal view.



Mitobates inermis n. sp., male holotype: fig. 3- right chelicera, distal segment, ventral view; fig. 4- left pedipalpus, mesal view; fig. 5- right tarsus of leg I; female paratype: fig. 6- right tarsus of leg I. Scale lines are the same for figs. 3-4 and 5-6.



Mitobates inermis n. sp., male holotype, distal part of penis:
fig. 7- lateral view; fig. 8- dorsal view.

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