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# A new species of *Santinezia* from central Amazonia, with systematic comments on the genus (Arachnida, Opiliones, Cranida)

## Abstract

*Santinezia manauara*, a new species from Reserva Ducke, Manaus, Amazonas, Brazil is described. The genus *Santinezia* ROEWER is compared with species of the genera *Nieblia* ROEWER, *Macuchicola* MELLO-LEITÃO and *Carvalholeptes* SOARES, altogether forming a monophyletic group.

## Resumo

Uma nova espécie do gênero *Santinezia* da Amazônia central com notas sobre a sistemática do gênero (Arachnida, Opiliones, Cranida)

*Santinezia manauara*, uma nova espécie de opiliões da Reserva Ducke, Manaus, Amazônia é descrita. O gênero *Santinezia* é comparado com espécies dos gêneros *Nieblia* ROEWER, *Macuchicola* MELLO-LEITÃO e *Carvalholeptes* SOARES, com os quais *Santinezia* forma um grupo monofilético.

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## Introduction

The family Cranida is composed of approximately 80 genera and 180 species. The species present an Andean-Amazonian distribution and were recorded from Panama/Costa Rica to Bolivia/Chile (ROEWER 1923, MELLO-LEITÃO 1932). The genera *Multumbo*, *Piassagera* and *Pseudotrogulus*, from the Atlantic Forest, were recently transferred from Cranida to Gonyleptidae by KURY (1992).

The genus *Santinezia* ROEWER, 1913 (Cranida) includes 21 large-sized species distributed through Trinidad, Colombia, Venezuela, Guyanas, Brazil, Peru, Ecuador and Bolivia. The new species *Santinezia manauara* is based on material from Reserva Ducke, Manaus, Amazonas in Brazil which I received from Dr. HUBERT HÖFER (SMNK) and ERICA BUCKUP (MCN). The specimens were collected by Dr. J. ADIS and Prof. Dr. L. BECK during their ecological studies on arthropod fauna in central Amazonia in the 1970's and recently by A. D. BRESOVIT.

## Material and Methods

The material examined is deposited in the following collections: MZSP, Museu de Zoologia, Universidade de São Paulo, São Paulo (J.L. LEME); INPA, Instituto Nacional de Pesquisas da Amazônia, Manaus (C. MAGALHÃES) and SMNK, Staatl-

ches Museum für Naturkunde, Karlsruhe (H. HÖFER). All measurements are in millimeters.

## Description

### *Santinezia manauara*, new species

(Figures 1, 2)

Type material: Male holotype: Reserva Ducke (02°55'S 59°59'W), Manaus, Amazonas, Brazil, J. ADIS leg., 15.X.10.XI.1976, (INPA). Paratypes: 1 female, same data (MZSP); 2 males and 1 female, same data (INPA); 1 male, same data (SMNK); 1 male and 1 female, same locality, L. BECK leg. 1972 (SMNK); 1 male, same data (MZSP); 3 males and 3 females, same locality, 20.VIII.1991, A.D. BRESOVIT leg. (MCN-1090/1092); 1 male and 1 female, same data (MZSP).

Eymology. The specific name comes from the Brazilian Portuguese noun „manauara“, which means native from Manaus.

Diagnosis: *S. manauara* differs from the other known species of the genus by the combination of the following characters: femur and tibia IV (fig. 1e) with a curved acute tubercle in the male, absent in female; male chelicerae not swollen; dorsal scute without white or yellowish-white spots.

Description: Male (holotype): Dorsal scute 10.83 long, 10.00 wide, cephalothorax 4.67 long, 6.33 wide. Chelicera: segment II 5.50 long, III 2.67 long.

Dorsal scute (fig. 1a, b): Body outline hexagonal, wider at groove III. Cephalothorax with 2 lateral tubercles on anterior margin and 2 behind the eye mound. Eye mound with 2 long and divergent spines, directed forwards. Area I divided, with 3 tubercles on each side; II with 4 tubercles; III with 2 long and divergent spines directed backwards and 2 tubercles behind the spines. Posterior margin with 2-4 tubercles on each side. Free tergite I with 6 tubercles; II with 1-2 tubercles on each side, 2 large and 2 small medianly; III with 2 large tubercles. Anal operculum with a posterior row of small tubercles.

Venter: Coxae I-III with a median row of tubercles; IV with a long apophysis, perpendicular to body axis. Posterior margin and free sternites with a row of small tubercles. Anal operculum with a row of small tubercles. Chelicera: Segment I with 5-6 dorsal tubercles; II not swollen, with several tubercles. Chelae swollen.

Pedipalpus (fig. 1c, d): Coxa with 1 ventral tubercle. Trochanter with 2 ventral and 3 dorsal tubercles (1

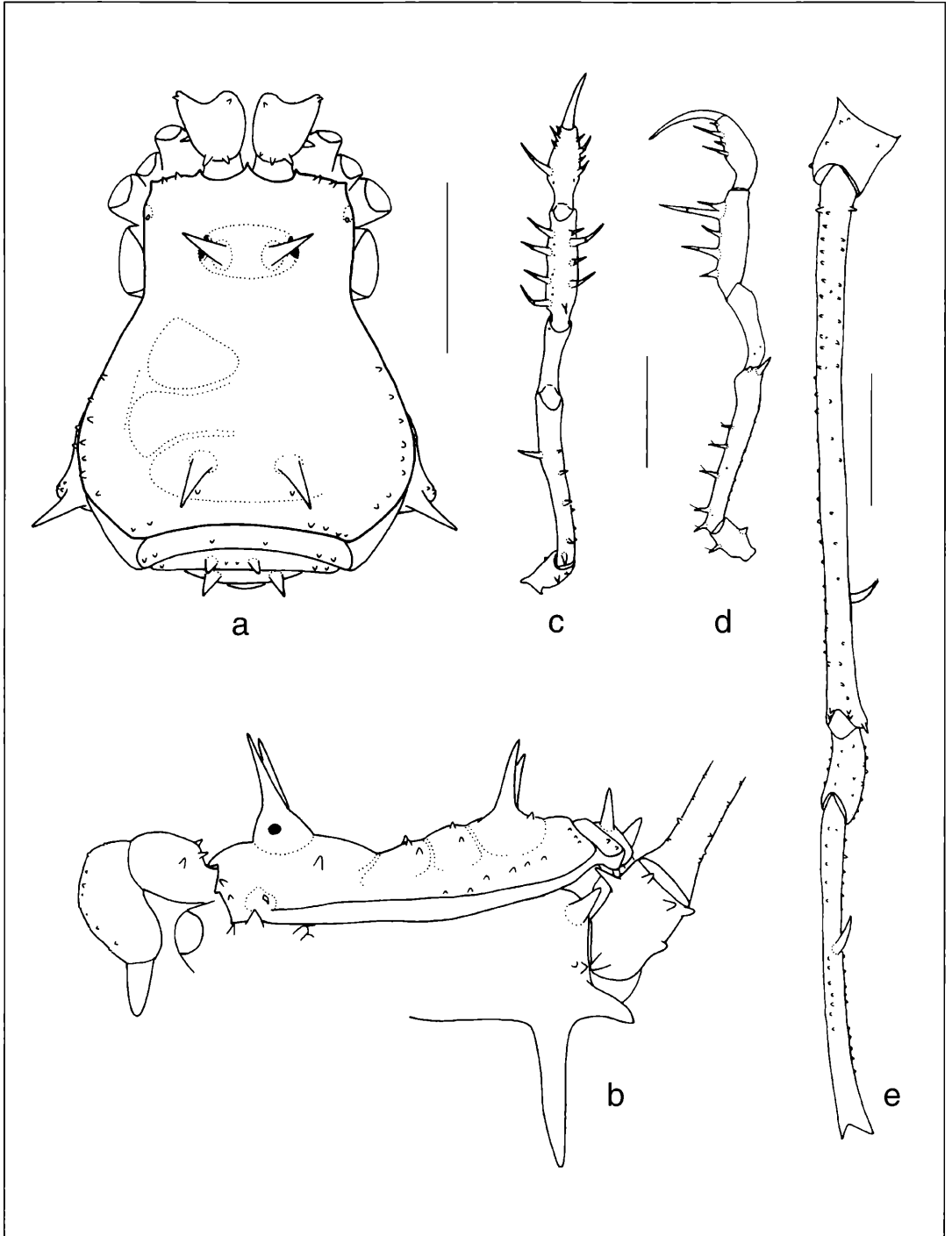


Figure 1. *Santinezia manauara*, new species, male holotype: a) habitus, dorsal view; b) lateral view; c) left pedipalpus, ventral view; d) retrolateral view; e) right leg IV, ventral view. Scale lines = 5 mm.

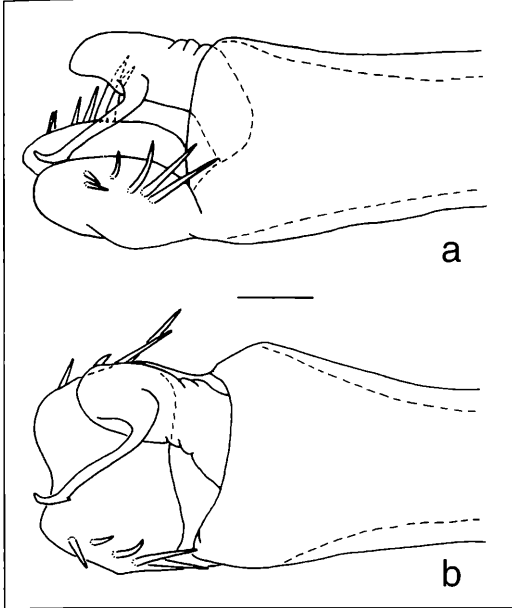


Figure 2. *Santinezia manauara*, new species, male holotype: a) distal part of penis, dorsal view; b) lateral view. Scale line = 0,1 mm.

dorsal larger). Femur straight, with a ventral row of 5 large tubercles, a dorsal row of smaller tubercles, 1 large tubercle prolateral-subapically, a retrolateral row and a dorsal apical acute tubercle (fig. 1d). Patella tuberculate. Tibia (fig. 1c) with 5 ectal (iii) and 4 mesal setae (liii). Tarsus (fig. 1c) with 4 ectal (iiii) and 4 mesal (liii) setae.

Legs (fig. 1e): Coxae I-II with 1 dorso-basal tubercle; IV with a large apical and smaller lateral tubercles. Trochanter I with 3 ventral and 2 retrolateral tubercles; II with 3 ventral, 2 retrolateral and 1 dorsal tubercle; III with 3 ventral, 4 prolateral and 3 retrolateral tubercles; IV with 4 ventral, 3 prolateral, 3 retrolateral and 2 dorsal tubercles. Femur I-IV straight, with several longitudinal rows of tubercles; III-IV with 2 dorso-apical tubercles; IV with a curved and acute prolateral tubercle

(fig. 1e). Tibia IV with a curved median ventral tubercle (fig. 1e). Tarsal process long; legs III-IV with 2 parallel claws; scopulae short. Tarsal segmentation: 10(3), 18(3), 11, 12. Appendage measurements are shown in table 1.

Genitalia (fig. 2a, b): Ventral plate hexagonal, concave, clearly distinct from truncus, with 6 lateral setae (the 3 basal longer). Glans: Stylus long and slender, rising at the middle of the glans, with a short seta subapically.

Coloration: Dark brown. Cephalothorax almost black. Eye mound and spines of area III and free tergites II-III yellowish. Chelicera and pedipalpus dark reticulate. Lateral and posterior margins of the dorsal scute and free tergites with black spots.

Female (Paratype, MZSP): Dorsal scute 8.50 long, 7.83 wide; cephalothorax 4.00 long, 5.33 wide. Chelicera: segment II 3.60 long; III 1.84 long.

Dorsal scute narrower than in male; lateral margin with 1-2 tubercles. Free tergites I-III with 2 lateral tubercles; II-III with a pair of long tubercles. Coxa IV without ventral apophysis. Femur IV and patella IV without curved tubercle. Tarsal segmentation: 9(3), 19(3), 10, 11. Appendage measurements are shown in table 1.

Variation (6 males, 3 females): Area I with 3-4 tubercles on females; II with 1-2 tubercles. Posterior margin of the dorsal scute with 2-4 tubercles. Free tergite I with 1-2 tubercles on males, 2-3 on females; II-III with 1-2 lateral tubercles. A single male presents a short ventral apophysis on coxa IV. I believe that this apophysis (secondary sexual character) should be a good character to distinguish the last male instar (very short) from the adult (long).

Distribution: Known only from the type locality in central Amazonia.

Biological notes: Several specimens were collected aggregated in a log on the forest ground in „terra firme“ vegetation (J. Adis, pers. com.).

**Discussion of systematics of the genus *Santinezia***  
*Santinezia* ROEWER, 1923 is closely related to *Nieblia* ROEWER, 1925, *Macuchicola* MELLO-LEITÃO, 1940 and *Carvalholeptes* SOARES, 1970. These four genera form a monophyletic group, sharing the following character states: Eye-mound and area III with two long

Table 1. *Santinezia manauara*, new species: appendage measurements of male holotype and female paratype (in parentheses).

	TR	FE	PT	TI	MT	TA	Total
Leg I	1.00 (1.00)	10.67 (9.17)	2.5 (2.08)	6.67 (5.00)	12.17 (9.50)	4.17 (3.33)	38.18 (30.08)
II	1.20 (1.12)	20.85 (10.33)	6.67 (2.92)	16.67 (13.67)	22.51 (16.67)	11.33 (9.67)	57.23 (54.38)
III	1.60 (1.40)	17.00 (13.33)	3.83 (3.00)	9.50 (7.17)	16.33 (13.00)	5.50 (5.00)	53.76 (42.90)
IV	2.40 (1.52)	21.00 (17.33)	4.33 (3.17)	13.83 (10.17)	22.51 (19.67)	6.50 (5.83)	70.57 (57.69)
Pedipalpus	1.40 (1.40)	7.08 (6.25)	3.75 (3.33)	4.67 (4.17)	— (—)	3.83 (3.33)	20.73 (18.48)

spines (the first is synapomorphic for Cranainae plus Stygnicranainae – see KURY in press); coxa IV with a long and ventral apophysis, perpendicular to the antero-posterior body axis (synapomorphic for these genera); pedipalpal femur with a dorso-apical and acute tubercle (seems to be synapomorphic for a group of Cranainae genera); free tergite II-III with two large tubercles. All these genera may be distinguished from *Santinezia* by the internal armature of pedipalpal femur (unarmed in *Santinezia*), and the armature of area IV and free tergite I (both unarmed in *Santinezia*). The original description (ROEWER 1913) of the genus (as *Inezia*, preoccupied) considers area I as armed with two tubercles. Although the armature of area I is usually considered diagnostic at this level, some species of *Santinezia* are unarmed (as in *S. manauara*).

The differences mentioned above are characters which distinguish genera („genus value“ according to the ROEWERian system) but, they present sexual and interspecific variations (except internal armature of pedipalpus). Therefore, they are not useful to distinguish these four genera. Another interesting feature is the glans with a membranous region and with rings and stylus rising in the middle or in the subapical region of the glans, instead of the apical region. This occurs in the four Venezuelan species illustrated by GONZÁLEZ-SPONGA (1989, 1991), namely *S. heliae* AVRAM, 1983, *S. circumlineatus* GONZÁLEZ-SPONGA, 1989, *S. durantii* GONZÁLEZ-SPONGA, 1989 and *S. biondi* GONZÁLEZ-SPONGA, 1991; and *S. manauara*. In the related families (Tricommatidae, Gonyleptidae, Cosmetidae and Stygnidae) the membranous region has no rings and the stylus rises apically. KURY (in press) illustrated the genitalia of a Prostyginae, which form, together with Heterocranainae, the sister-group of Cranainae and Stygnicranainae; and the position of the stylus is similar to families related to the Cranidae. However, at the moment it is impossible to decide if this is a synapomorphy for *Santinezia* or for a group of Cranainae genera, because the information from literature is very poor regarding genitalic features, and the other Cranidae were not examined. Based on the above mentioned I prefer not to include *Niebla*, *Macuchicola* and *Carvalholeptes* in the synonymy of *Santinezia* without a careful study of the type-material of these genera.

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