Androlaelaps marmosops (ACARI: LAELAPIDAE), A NEW SPECIES ASSOCIATED WITH THE MOUSE OPOSSUM, *Marmosops incanus* (LUND, 1840) IN THE ATLANTIC FOREST OF RIO DE JANEIRO STATE, BRAZIL

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(With 2 figures)

ABSTRACT

Androlaelaps marmosops, a new species of laelapid mite, is described from the pelage of the mouse opossum, *Marmosops incanus* (Lund, 1840) (Mammalia: Didelphidae), in two areas of Atlantic Forest of Rio de Janeiro State. Measurements and illustrations are included for females only.

Key words: Acari, Laelapidae, Brazil, Atlantic Forest, taxonomy, marsupial.

RESUMO

Androlaelaps marmosops (Acari: Laelapidae), uma nova espécie associada à cuíca, *Marmosops incanus* (Lund, 1840), na Mata Atlântica do Estado do Rio de Janeiro, Brasil

Androlaelaps marmosops, uma nova espécie de ácaro lelapídeo, é descrita associada à pelagem da cuíca, *Marmosops incanus* (Lund, 1840) (Mammalia: Didelphidae), em duas áreas de Mata Atlântica do Estado do Rio de Janeiro. As medidas e as ilustrações foram feitas apenas para as fêmeas.

Palavras-chave: Acari, Laelapidae, Brasil, Mata Atlântica, taxonomia, marsupial.

INTRODUCTION

During ecological studies in two areas of Atlantic Forest, a new mite of the genus *Androlaelaps* Berlese was found in the fur of the mouse opossum, *Marmosops incanus* (Lund, 1840). One of these localities was on Ilha Grande, an island just off the coast of Rio de Janeiro, at the CEADS/UERJ, Centro de Estudos Ambientais e Desenvolvimento Sustentável (23°05'S; 44°12'W), municipality of Angra dos Reis, RJ; the other locality was on the mainland, in Serrinha do Alambari (22°23'S; 44°32'W), municipality of Itatiaia, RJ.

The cosmopolitan genus *Androlaelaps* Berlese is associated with the fur and nests of many species of mammals and, occasionally, of birds (Radovsky, 1994). The genus is very poorly known in the neotropics; the wide geographical distribution and morphological variation of some species, i.e., *A. fahrenholzi* (Berlese) and *A. rotundus* (Fonseca), indicate that they may represent complexes (Furman, 1972; Gettinger & Owen, 2000); many other unique species remain to be formally described.

Very little information is available on the laelapid mites associated with neotropical marsupials (Gettinger, 1997). *Androlaelaps hirsuta* Furman, *A. tuberans* Furman, and *A. cuicensis* Gettinger were also described from marsupials, and share some important characteristics with the new species described here. Guitton *et al*. (1986) report

Androlaelaps guimaraesi (Fonseca) from *Marmosops incanus* on Ilha Grande, but we did not encounter this species in our studies. Samples of mites from the two areas were collected, fixed in 70% alcohol, and specimens were then mounted in Hoyer's medium on slides and examined with a microscope for analyses and taxonomic identification. Female mites predominated in the samples and there was not a sufficient number of males and nymphs to describe their life history stages. Eggs were found inside the opisthosoma of some female mites, but no larvae or nymphs were seen. This mite appears to be oviparous, differing from other laelapids mites associated with neotropical small mammals, like *Laelaps* e *Gigantolaelaps*, in which larvae and nymphs could be seen in the opisthosoma of the females.

We follow the concept of the genus *Androlaelaps* advanced by Till (1963), and use the system of setal nomenclature developed by Lindquist & Evans (1965). The measurements are in micrometers (μm) and expressed as: range, mean ± SE, n. The holotype and paratypes are deposited in the Museu Nacional do Rio de Janeiro (National Museum of Rio de Janeiro), Rio de Janeiro State, Brazil. Additional paratypes will be deposited in other collections. The host type specimen, and voucher specimens of *Marmosops incanus* are also housed in the Museu Nacional do Rio de Janeiro, Rio de Janeiro State, Brazil.

Androlaelaps marmosops, NEW SPECIES

Diagnosis

The female is strongly distinguished from other neotropical species of the genus *Androlaelaps* by the following characteristics: 1. dorsal setae long and strong, j5 exceeding z5, reaching beyond insertion of j6; 2. sternal setae I inflated basely, not reaching beyond the insertion of sternal setae II; 3. proximal setae coxa I spur-like, inflated at base, with acuminate tips; and 4. pilus dentilis inflated.

Dorsum

Dorsal shield (Fig. 1) entire, length 700-780 μm (729 ± 20.2, n = 21), width at midlevel 400-480 μm (436 ± 19.8, n = 21), with 39 pairs of stable setae, series j/J and z/Z complete, with unpaired accessory setae within J and Z series of central opisthonotum; dorsal setae long and strong, j5 (82-118 μm, 105 ± 7.4, n = 21) and z5 (100-118 μm, 107 ± 4.7, n = 21), glands and pores as in Fig. 1, with typical lyrifissures posterior to z1, prominent circular glands along margin of shield.

Venter

Tritosternum bipartite, with undivided base and pilose laciniae; presternum reticulate and weakly sclerotized; sternal shield discernibly wider (166-188 μm, 172.56 ± 4.62, n = 25) than long (135-148 μm, 141.76 ± 3.56, n = 25); anterior border convex, posterior border lightly concave; with reticulate-lineate surface pattern; sternal setae strong, with swollen bases; second pair of sternal setae longer than first sternal setae (38-45 μm, 41.0 ± 2.28, n = 26), third sternal setae (61-81 μm, 69.61 ± 6.12, n = 26) or metasternal setae (48-59 μm, 51.52 ± 2.84, n = 25); first two pairs of lyrifissures on the sternal shield as in Fig. 2a, third pair of lyrifissures medial to metasternal setae in the integument, posterior to sternal shield. Genital shield linguiform, extending posterior to genital setae (Fig. 2b). Anal shield subtriangular equilateral in shape, greatest width (88-122 μm, 106.00 ± 9.10, n = 20), and length (88-105 μm, 98.43 ± 3.84, n = 21); paranal setae (56–78 μm, 690 ± 4.70, n = 19); postanal setae (80-93 μm, 85.30 ± 4.70, n = 19). Cribrum with 3 rows of denticles, extending laterally and anteriorly at level of postanal setae (Fig. 2c). Stigma located between coxae III and IV, with peritreme extending anteriorly to the anterior half of coxa II, peritremal plate extending posteriorly to the stigma. Metapodal plates are minute, associated with the lateral margin of the genital shield.

Gnathossoma

Epistome simple, membranous. Chelicerae (Fig. 2d) of medium thickness when compared with other species of the genus: first segment as long as the second segment (without the chela); chela dentate; fixed digit slightly curved with two thorn-like processes pointing ventrally; dorsal setae inflated basally, extending beyond anterior lyrifissure; pilus dentilis expanded basally, with terminal sharpened hook; moveable digit strongly curved with two thorny processes; arthrodial processes form a simple crown.

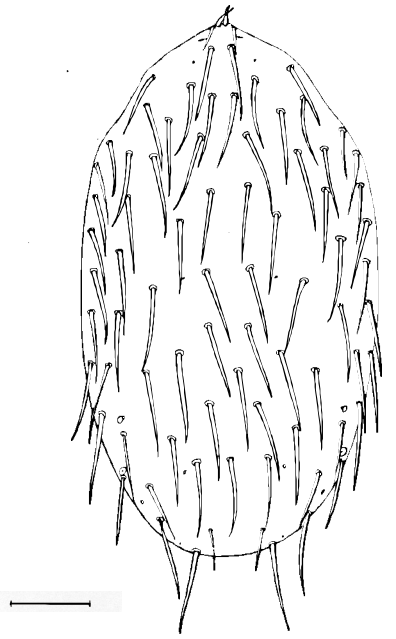

Fig. 1 — Dorsal shield of female *Androlaelaps marmosops* (scale bar, 100 μm).

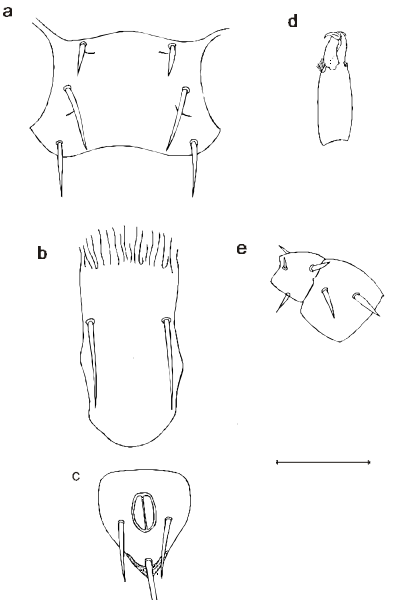

Fig. 2 — Ventral shields, coxa 1 and chelicera, female *Androlaelaps marmosops* (scale bar, 100mm): a) sternal shield; b) genital shield; c) anal shield; d) chelicera; e) coxa 1

Ventral chaetotaxy normal for genus, capitular setae (33.00 ± 2.30, n = 21) shorter than inner hypostomal setae (51.00 ± 2.80, n = 21); *corniculi* developed but weakly sclerotized; deutosternum with six transverse rows of two or three denticles.

Legs

Pedipalps normal, tarsus with two-tined palpal apotele. Coxa I with proximal setae simple (30-45 μm, 40.00 ± 3.30, n = 21) spiniform, with acuminate tips (Fig. 2e); distal setae strongly setiform, subequal to proximal setae in length (33-43 μm, 38.00 ± 2.60, n = 21). Papal apotele forked. Chaetotaxy normal for genus (Table 1); pv2 of trochanter I acuminate and spiniform.

Type material

Holotype: female (MN 12601) ex. *Marmosops incanus* (Lund, 1840), Serrinha do Alambari, municipality of Itatiaia, Estado do Rio de Janeiro, Brazil, collected 17/7/1997 by Helena de Godoy Bergallo. Holotype and paratypes were deposited in the arachnid collection of the Museu Nacional do Rio de Janeiro. Host voucher specimen HGB 57 (MN 48009) is in mammal collection of the Museu Nacional do Rio de Janeiro.

Paratypes: female (MN 12602) collected on *M. incanus*, specimen HGB 57 (MN 48009); four females (MN 12603, MN 12604, MN 12605, MN 12606) collected on HGB # Mi 1; one female (MN 12607) collected on HGB # Mi 3; one female (MN 12608) collected on HGB # Mi 4; all from the same locality as the holotype.

Etymology: the species epithet refers to the genus of the host, *Marmosops*.

Distribution: known only from the type locality (Serrinha do Alambari, municipality of Itatiaia, Rio de Janeiro State, Brazil) and from Ilha Grande (municipality of Angra dos Reis, Rio de Janeiro State, Brazil).

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TABLE 1

Chetotaxy of legs for *Androlaelaps marmosops* n. sp. collected on the fur of *Marmosops incanus,* in Serrinha do Alambari, Itatiaia, RJ.

Legs	I	II	III	IV
Coxa	2	2	2	1
Trochanter	6	5	5	5
Femur	13	11	6	6
Genu	13	11	9	10
Tibia	13	10	8	10

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