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OBSERVATIONS ON SOME LAELAPID AND MACRONYSSID MITES IN THE FONSECA COLLECTION (ACARI: MESOSTIGMATA)¹

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ABSTRACT

Lectotypes are established for Laelaps castroi Fonseca, 1959, L. manginhosoi Fonseca, 1935, L. mazzai Fonseca, 1939, L. navasi Fonseca, 1939, Gigantolaelaps strandtmanni Fonseca, 1959, G. canestrinii Fonseca, 1959, G. inca Fonseca, 1960, and Lepronyssoides pereirai (Fonseca, 1935). Schistolaelaps Fonseca, 1960, is synonymized under Laelaps Koch, 1836. Tur striatus Furman & Tipton, 1961, is synonymized under T. amazonicus Fonseca, 1960. Gigantolaelaps strandtmanni Fonseca, 1959, is synonymized under G. goyanensis Fonseca, 1939. G. bipilosus Lizaso, 1968, and G. bahiensis Lizaso, 1968, are synonymized under G. vitzthumi Fonseca, 1939. Taxonomic characteristics of laelapids and macronyssids supplemental to those previously published are given for 22 species originally described by Fonseca and 3 species originally described by Lizaso.

The late Dr. Flavio da Fonseca of São Paulo, Brazil, was a major contributor to our knowledge of South American parasitic mites of the families Laelapidae and Macronyssidae. He described many new genera and species.

Through the courtesy of the Director of the Instituto Butantã, Dr. J. Planét do Amaral, the Director of the Museu de Zoologia da Universidade de São Paulo, Dr. Paulo Vanzolini, and Mr. Lindolpho R. Guimarães, the present writer was able to study type series of a number of Fonseca's species as well as some described more recently by N. M. Lizaso at the Museu de Zoologia, São Paulo. The purpose of this report is to record observations on these species and designate lectotypes where indicated. The observations made concern primarily measurements of structures which appear to be distinctive at the interspecific level.

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***Laelaps castroi* Fonseca, 1959**

Laelaps castroi Fonseca, 1958: 116-118, figs. 2, 3. (Published in 1959 but dated 1957-8).

Fonseca described the female of *Laelaps castroi* from a series of eight cotypes. A lectotype female is now designated as the middle specimen of slide number 2265, Fonseca collection, and is so marked on the slide. The slide contains 3 female specimens originally designated as cotypes. These were collected from *Oryzomys eliurus* Wagner, at Torres, Caruaru, Estado Pernambuco, Brazil on 5 January 1953.

Diagnosis of female lectotype of *Laelaps castroi*.

A medium sized *Laelaps* with idiosoma 630 μ long by 388 μ wide and dorsal plate 587 μ long covering most of idiosoma. Dorsal plate setae strong and overlapping and with an extra seta between and slightly anterior to J 4. All body setae straight (not sinuous). Dorsal plate setae: j 1 — 28 μ ; j 5 — 67 μ and much longer (1.37x) than the distance (49 μ) between bases of j 5 and z 5; z 5 — 72 μ ; J 5 — 49 μ ; Z 5 — 84 μ (longest seta of mite). Posterior setae of dorsal cuticula 78 μ long.

Proximal seta of coxa I stoutly triangular, 20.5 μ long by 11 μ wide; distal seta setiform, 24 μ long by 3 μ wide. Longest dorsal setae of femur and genu I about 43 μ ; posterior seta coxa II setiform, 43 μ long; posterior seta coxa III stoutly setiform, 24 μ by 6 μ .

Gnathosomal setae 30 μ long, shorter than inner hypostomals which are 48 μ long; outer hypostomals approximately 18 μ long and distal hypostomals about 29 μ .

Sternal plate wider at level setae II (131 μ) than long (96 μ) at mid-level; seta I — 75 μ long, extending midway between II and III; seta III — 91 μ long. Distance between setae I 64 μ ; between setae III 121 μ .

Genito-ventral plate 126 μ long by 152 μ wide (length measured from level of genital setae bases to posterior of plate); seta I 90 μ long, extending 4/5 distance between setae II and III; distance between setae I 89 μ ; between setae II 137 μ ; between setae IV 40 μ ; ratio of spacing of II to IV = 3.4/1. Genito-ventral plate length/width = 0.83.

Anal plate broadly pyriform — total length uncertain; length to postanal seta base 78 μ ; width 96 μ . Adanal setae located at level of posterior margin of anus, 44 μ long. Postanal seta 67 μ long.

Ventral opisthosomal cuticula with about 5 pairs strictly ventral setae plus a few marginals.

***Laelaps differens* Fonseca, 1935**

Laelaps differens Fonseca, 1935c: 35.

Fonseca described the female of *L. differens* from a single holotype collected from an unidentified rat, number 270, at the Instituto Butantã. Subsequently he illustrated the female of *L. differens* in 1958 (p. 119). There are some discrepancies between the original description and the figures.

The following comments are based upon my examination of the holotype, mounted on slide number 17 of the Fonseca collection.

A rather small *Laelaps* with idiosoma 565 μ long by 393 μ wide. Dorsal plate 560 μ by 360 μ . Dorsal plate setation essentially as illustrated by Fonseca but several setae missing or broken; setae rather short and delicate: j 1 — 18 μ long; j 2 — 64 μ long; j 5 broken; z 1 — 36 μ long; r 2 — 23 μ long; J 5 — 42 μ long; Z 5 — 101 μ long; distance between j 5 and z 5 — 47 μ . Longest idiosomal seta 100 μ .

Gnathosomal setae 30 μ long; inner hypostomal setae 36 μ long; outer hypostomals 11 μ long; distals 18 μ or longer.

Legs: Coxa I proximal seta a stout spiniform with blunt tip and acute taper, 28 μ long by 14 μ wide, longer than distal seta which is 19 μ long by 4.8 μ wide — a stout seta, apically tapered and with acute tip. Posterior seta of coxa II a stout seta 35 μ long, subequal in length but stouter than anterior seta. Coxa III with anterior seta 34 μ long; posterior seta more spiniform and 24 μ long. Coxa IV with small seta 22 μ long. Femur I with longest dorsal seta subapical and 48 μ long; genu I with longest dorsal seta proximal, about 48 μ long, but slimmer than that of femur. Femur II with 2 strong dorso-apical setae; longest 45 μ long.

Sternal plate length 90 μ ; width at level setae II 144 μ (wider in relation to length than illustrated by Fonseca). Setae I on anterior margin of plate, 66 μ long, reaching just past level of second pair of pores; setae III 95 μ long. Distance between setae I 63 μ ; between setae III 138 μ .

Genito-ventral plate 124 μ long from base of genital setae and flared to maximum width of 157 μ at level of setae II. Genital setae 76 μ long reaching midway between bases of setae II and III. Distance between genital setae 95 μ ; between II 143 μ ; between setae IV 37 μ ; ratio of spacing of II to IV 3.8/1.

Anal plate an inverted pyriform — total length over 95 μ ; length to base of postanal seta 85 μ ; width 96 μ ; adanal setae arise anterior to posterior margin of anus, 43 μ long, reaching level of postanal seta. Postanal seta 80 μ long and stouter than adanals.

Ventral cuticular opisthosoma with about 10 pairs strong setae 79 μ to 100 μ long.

L. differens appears closely related to *L. mangwinhosi*, as Fonseca notes, but differs from the latter in that the gnathosomal setae are almost as long as the inner hypostomals. It is also close to *L. castroi*, from which it differs in having a shorter seta j 1 of the dorsal plate and in that the proximal spine of coxa I is longer than the distal seta.

***Laelaps exceptionalis* Fonseca, 1935**

Laelaps exceptionalis Fonseca, 1935c: 36.

Fonseca described the female of *L. exceptionalis* from a holotype female collected from an undetermined rat, number 269, at the Instituto Butantã. In 1958 (p. 131) he illustrated the holotype.

The species is accurately described and illustrated by Fonseca, but additional features are described here from the holotype as an aid to differentiation of this species from forms more recently collected.

A relatively small *Laelaps* with adanal and postanal setae of subequal length and strength and with proximal seta of coxa I a stout spine longer than setiform distal seta.

Idiosoma 602 μ long by 383 wide. Dorsal plate 564 μ long by 349 μ wide. Dorsum as figured by Fonseca, with many setae missing through artifact; j 1 — 19 μ long; j 5 broken; j 4 — 43 μ long; j 5 — z 5 distance 42 μ , J 5 broken; Z 5 — 84 μ long. Longest idiosomal setae 95 μ long.

Gnathosomal setae length 26.5 μ ; inner hypostomals 27.5 μ — subequal to gnathosomals; outer hypostomals 10 μ ; distal hypostomals 15 μ . Chelicerae in general as figured by Fonseca: movable digit with distal hook and 2 teeth; fixed digit with apical and subapical teeth and well-developed setiform pilus dentilis.

Legs: Coxa I proximal seta bluntly and triangularly spiniform as figured by Fonseca, 26.5 μ long by 12 μ wide; distal seta setiform 19 μ long by 3 μ wide. Coxa II posterior seta 35 μ long, strong setiform as in Fonseca figure; coxa III posterior seta 23 μ long and spiniform as in Fonseca figure. Femur I with 1 long dorso-apical seta, 62 μ ; genu I with 1 long dorso-proximal seta 36 μ long. Femur II with 2 long dorso-subapical setae 43 μ and 39 μ long and a somewhat shorter seta mid-dorsally, 30 μ long.

Sternal plate 86 μ long by width at level of setae II 134 μ , and least width of 130; sternal setae I 60 μ long; setae III 78 μ , distance between setae I 62 μ ; between setae III 126 μ .

Genito-ventral plate 118 μ long from base of genital setae to posterior margin; maximum width 146 μ , genital setae 78 μ long; distance between genital setae 97 μ ; between setae II 135 μ ; between setae IV 32 μ . Ratio of spacing of II to IV 4.2/1.

Anal plate broadly pyriform with anterior shoulders with concentric reticulation; length 94 μ ; length to base of postanal seta 84 μ ; width 96 μ . Adanal setae set anterior to posterior margin of anus, 44 μ long; postanal seta 42 μ long and of equal strength to adanals.

Peritreme extending to posterior margin of coxa I.

Ventral cuticula of opisthosoma with 10 to 11 pairs of setae as figured by Fonseca.

***Laelaps manguinhosi* Fonseca, 1935**

Laelaps manguinhosi Fonseca, 1935c: 34-35.

Fonseca described the female of *L. manguinhosi* from 2 cotypes collected from *Holochilus vulpinus* Brants at Pôrto Joffre, Mato Grosso, Brazil. He illustrated the female in 1958 (pp. 129-130). The lower specimen of the 2 cotypes mounted on slide 18 in the Fonseca collection is herewith designated as the lectotype.

The cotypes agree well with Fonseca's description and figures except that the distal seta of coxa I is stouter and the setae of the dorsal plate are shorter than illustrated.

A diagnosis based on study of Fonseca's 2 cotypes is given below.

A medium sized *Laelaps* with stout subtriangular proximal spine on coxa I subequal in length to distal strong setiform seta, and with relatively strong setae on dorsal plate. Gnathosomal setae short.

Idiosoma 668 to 676 μ long by 500 to 502 μ wide. Dorsal plate 590 to 608 μ long by 386 to 403 μ wide; shape of plate as in Fonseca figure;

an extra seta between J 4. Dorsal plate setae: j 1 — 25 to 28 μ ; j 5 — 50 to 52 μ ; j 5 — z 5 distance 44 to 46 μ ; J 5 — 41 μ , reaching posterior margin of plate; Z 5 — 88 to 89 μ . Longest idiosomal seta 88 to 95 μ .

Gnathosomal setae 15 to 16 μ long; inner hypostomals 36 to 42 μ ; outer hypostomals about 13 μ ; distal hypostomal setae not seen.

Legs: Coxa I proximal seta 26.5 to 29 μ long by 13 μ wide, a stout subtriangular spiniform; distal seta 27.5 to 29 μ long by 5 to 6.5 μ wide, stoutly setiform. Coxa II posterior seta strong, 38 μ long. Coxa III posterior seta spiniform, 25 μ long. Femur I with longest 2 dorso-apical setae about 60 μ and 38 μ long respectively.

Sternal plate 84 to 87 μ long by width at level of setae II of 141 to 151 μ , which is subequal to least width. Sternal setae I 79 to 84 μ long; III — 93 to 96 μ long. Distance between setae I 66 to 67 μ ; between setae III — 135 to 138 μ .

Genito-ventral plate 139 to 140 μ long from base of genital setae; 161 to 170 μ greatest width. Genital setae 84 to 90 μ long, extending just past base of setae II. Distance between genital setae 92 μ ; between setae II 148 to 153 μ ; between setae IV 46 μ to 55 μ . Ratio of spacing of II to IV — 2.6 to 3.3/1.

Anal plate: Total length 90 to 93 μ ; length to base of postanal seta 72 to 75 μ ; width 103 to 107 μ . Adanal setae arise at level of posterior margin of anus, 44 μ long, reaching slightly beyond base of postanal seta. Postanal seta missing through artifact.

Ventral opisthosomal cuticula with 6 to 7 pairs setae.

Peritreme extending to level of anterior border of coxa II.

***Laelaps mazzai* Fonseca, 1939**

Laelaps mazzai Fonseca, 1939b: 112-117, 135-139.

Fonseca described and illustrated *L. mazzai* from "an unique female, the holotype, and three male specimens". The host was an unidentified wild rat collected in the Province of Salta, Republic of Argentina. In 1958 (pp. 136-142) he redescribed and illustrated the male and established the new genus *Schizolaelaps* with *L. mazzai* as the type. In 1959 (pp. 113-114) he proposed the new name, *Schistolaelaps*, since his earlier name was a junior homonym of *Schizolaelaps* Womersley 1956.

I consider *Schistolaelaps* a synonym of *Laelaps*. The characteristics used to erect *Schistolaelaps* vary intragenerically in the family Laelapidae. Neither hypertrichy of the dorsal plate nor, in the male, separation of the anal plate from the rest of the holventral plate represents an adequate basis for generic distinction.

Material of *L. mazzai* which I examined consisted of 1 female and 1 male specimen on slide 604, Instituto Butantã, labeled "Cotipus and Alotipo". These I remounted on separate slides, the female marked as lectotype and the male as an allotype. The lectotype is undoubtedly the specimen referred to by Fonseca as the holotype.

In addition to features described by Fonseca, I add the following comments based on study of the lectotype. A medium sized *Laelaps* characterized by hypertrichy of dorsal plate (about 64 pairs of setae).

Dorsal plate 592 μ long by greatest width of 458 μ ; much of setal pattern obscured by hypertrichy; setae j 1 — 32 μ long; j 2 modified, heavy, curved, about 65 μ long; j 3 — 60 μ long; J 5 — 39 μ long; Z 5 broken; S 5 — 72 μ long. Longest posterior idiosomal setae over 120 μ . Gnathosomal setae 27 μ long; inner hypostomal setae 32 μ long; outer hypostomals 13 μ .

Legs: Coxa I with strong setiform proximal seta with slightly inflated base, 48 μ long by 8 μ wide; distal setae stout setiform, 32 μ by 6 μ . Coxa II posterior seta a strong setiform, 50 μ by 8 μ . Coxa III anterior seta strong, 52 μ long; posterior seta spiniform, 36 μ long. Coxa IV seta setiform, 24 μ . Femur I with 1 long dorso-apical seta 72 μ long. Genu I with 2 prominent dorso-proximal setae 108 μ and 34 μ long.

Genito-ventral plate 132 μ long from base of genital setae, widened posteriorly to greatest width of 166 μ ; genital setae extend past bases of third pair of setae; distance between genital setae 70 μ ; between setae II 149 μ ; between setae IV 35 μ .

To Fonseca's 1939 description of the allotype male of *L. mazzai* may be added the following comments. Dorsal plate 560 μ long by a greatest width of 409 μ . Dense hypertrichy of the dorsal plate obscures most of the normal setal pattern, but it is essentially as figured by Fonseca in 1939, except that the long posterior pair of setae arise on the unarmed cuticula, and measure about 120 μ . Gnathosomal setae 23 μ long, slightly shorter than inner hypostomal setae. The only spiniform coxal seta is the posterior seta of coxa III, measuring 31 μ by 6 μ . Coxa I with proximal seta 54 μ long, distal seta 30 μ long. Coxa II with posterior seta 54 μ long. Femur I with only 1 long, dorso-distal seta, 93 μ , and genu I with 1 long, dorso-proximal seta 112 μ . Anal plate indistinctly separate from sterno-genito-ventral plate but ventral portion of latter with more irregular margins than illustrated; 2 pairs long setae in space between anal plate and sterno-genito-ventral plate.

Laelaps navasi Fonseca, 1939

Laelaps navasi Fonseca, 1939b: 120-122, 142-145.

Fonseca described and illustrated *L. navasi* from a female holotype, number 1098, collected from "rato do taquaral — (probably *Oryzomys eliurus* Wagner or *O. flavescens* Thomas)", from São Paulo, Brazil. In the Fonseca collection there are 2 slides with the number 1098, both marked "holotipo". Only one of the slides is labeled *Laelaps navasi*, and it is this slide I designate as the lectotype.

Diagnostic characters based on study of the lectotype and accompanying specimen are given below.

A medium sized *Laelaps* with hypertrichous dorsal plate. Sternal setae I reach 2/3 of distance between bases of setae II and III. Proximal seta of coxa I an acutely pointed, elongate spiniform.

Idiosoma 726 to 738 μ long by 538 μ wide. Dorsal plate 673 to 678 μ long, hypertrichous as described by Fonseca, with about 100 pairs of setae; j 1 — 27 μ long; j 2 — 66 μ long; J 5 — 43 μ long; Z 5 approximately 118 μ long.

Gnathosomal setae slightly shorter than inner hypostomals; gnathosomal setae 38 μ to 41 μ long; inner hypostomals 42 to 43 μ long; outer hypostomals 16 to 19 μ ; distal hypostomals about 30 μ .

Legs: Coxa I proximal seta an acutely tipped spiniform 35 to 36 μ long by 8.4 to 10 μ wide; distal seta a slim spiniform 31 to 32 μ long by 6 μ wide. Coxa II posterior seta stout, 42 μ x 7 μ ; anterior seta 37 μ . Coxa III posterior seta stout spiniform 30 to 38 μ long. Femur I with longest dorso-apical seta about 67 μ long and similar proximo-dorsal seta on genu I. Femur II with 2 rather long dorsal setae about 54 μ ; genu II with somewhat shorter setae.

Sternal plate: 110 to 114 μ long by 162 to 165 μ wide at level of setae II. Sternal setae I 84 μ long, extending 2/3 of distance between bases of setae II and III; setae III 96 to 110 μ long; distance between setae I 64 to 66 μ ; between setae III 140 to 142 μ .

Genito-ventral plate: 150 to 172 μ long from base of genital setae; greatest width 164 to 175 μ . Genital setae 96 μ long extending 2/3 of distance between setae II and III. Distance between genital setae 109 to 113 μ ; between II, 150 μ ; between IV, 38 to 41 μ . Ratio of spacing of II to IV = 3.7 to 4/1.

Anal plate: Length to postanal seta 92 μ ; width 93 μ . Adanal setae 44 to 48 μ long, arising at level of posterior margin of anus. Postanal seta 96 μ long and stouter than adanals.

Peritreme extends to anterior 1/3 or 1/4 of coxa II.

Ventral opisthosomal cuticula with about 28 to 30 pairs setae.

The female of *L. navasi* closely resembles *L. mazzai*, from which it differs in having a more hypertrichous dorsal plate, genital setae more widely spaced and first pair of sternal plate setae not extending to posterior border of the plate. Further collections may well show that these differences represent only intraspecific variation.

***Laelaps paulistanensis* Fonseca, 1935**

Laelaps paulistanensis Fonseca, 1935c: 33-34.

Laelaps hirsti Fonseca, 1939b: 117-119, 139-142; 1958: 119-120.

Fonseca described the female of *L. paulistanensis* from several cotype specimens taken at São Paulo, Brazil on a rat subsequently identified as *Oryzomys eliurus* Wagner. In 1958 (pp. 132-135) he illustrated the female and described and illustrated the male from specimens taken on an unidentified rat in São Benedito, Ceará, Brazil.

The following comments are based on study of 2 female cotypes mounted on slide 20 of the Fonseca collection. Both specimens are in poor condition.

Large species of *Laelaps* with large, bluntly pointed, proximal spiniform seta on coxa I and longer distal setiform seta.

Idiosoma 1,002 to 1,005 μ long. Dorsal plate approximately 914 μ long; j 5 — 84 μ long; distance j 5 to z 5 — 72 μ . Longest idiosomal setae 172 μ .

Gnathosomal setae 37 μ long; inner hypostomals 57 μ .

Legs: Coxa I proximal seta spiniform, bluntly tipped, 36 μ long by 16 μ wide; distal seta longer than proximal seta, setiform, 43 μ long

by 4.8μ wide. Femur I with longest dorso-apical seta about 84μ ; a similar 84μ long seta dorso-proximally on genu I.

Sternal plate 144μ long; distance between setae II 150μ , but width of plate not visible; setae I 120μ long; setae III 138μ long; distance between setae I 95μ , between setae III 189μ .

Genito-ventral plate 189μ long from base of genital setae; maximum width 232μ ; genital setae 124μ long; distance between setae II 205μ ; between setae IV 48μ .

Anal plate: Length and width not visible. Adanal setae 72μ long arising approximately at level of posterior margin of anus. Postanal seta about 120μ long.

Peritreme extending to anterior margin of coxa II.

Ventral opisthosomal cuticula with about 8 pairs setae.

***Laelaps thori* Fonseca, 1939**

Laelaps thori Fonseca, 1939b: 111-112, 133-134.

The original description was made from a holotype female of unknown host and locality. Subsequently Fonseca (1958: 135-136) recorded the species from *Rhipidomys cearanus* and *Zygodontomys pixuna* in the state of Ceará, Brazil.

The following comments are based on my study of the holotype female mounted on slide 1011 of the Fonseca collection.

A medium sized lightly sclerotized *Laelaps* with slim coxal setae. Dorsal plate setae relatively long and overlapping. Adanal setae arise well anterior to posterior margin of anus.

Idiosoma 754μ long by 533μ wide (somewhat compressed thus width in life may be somewhat less). Dorsal plate 678μ long by 430μ wide. Dorsal plate with 39 pairs setae including px 2-3, plus an extra seta between setae J 4; j 1 about 23μ long; z 1 — 42μ long; j 2 — 72μ ; r 2 — 36μ ; j 5 — 65μ ; j 5 — z 5 distance 52μ ; J 5 — 44μ extending past posterior margin of plate by about 6μ ; Z 5 — 101μ .

Gnathosomal setae 32μ long; inner hypostomals 47μ ; outer hypostomals 16μ ; distal hypostomals 30μ .

Legs: Coxa I proximal seta a slim setiform, 43μ long by 5μ wide; distal seta setiform 31μ long by 3.5μ wide. Coxa II posterior seta setiform, 49μ ; coxa III posterior seta broken off; coxa IV seta small, 30μ long. Femur I with dorso-apical seta 43μ long. Femur II with 2 strong dorso-apical setae up to 48μ long; genu II with proximo-dorsal seta 38μ long.

Sternal plate 100μ long by 147μ wide at level of setae II and 144μ narrowest width. Sternal setae I 78μ long, reaching almost to level of base of setae III; setae III 102μ long. Distance between bases of setae I 67μ ; between setae III — 143μ .

Genito-ventral plate flask shaped, smoothly rounded, with 4 prominent transverse striae. Plate length 170μ from base of genital setae; greatest width 172μ . Genital setae 95μ long, reaching past base of setae II. Distance between genital setae 97μ ; between setae II 156μ ; between setae IV 47μ . Ratio of spacing of II to IV = 3.3/1.

Anal plate total length 110 μ ; length to base of postanal seta 94 μ ; width 114 μ . Anus 20.5 μ from anterior margin of plate and 37 μ from postanal seta. Adanal setae arise well anterior to posterior level of anus, 48 μ long and extending to level of base of postanal seta. Postanal seta 89 μ long and about twice as stout as adanals.

Peritreme extends to anterior 1/4 of coxa II.

Ventral opisthosomal cuticula with 8 or 9 pairs setae.

***Tur amazonicus* Fonseca, 1960**

Tur amazonicus Fonseca, 1959: 117-121 (actually published 28 December 1960).

Tur striatus Furman & Tipton, 1961: 200-203. *N. syn.*

The specimen which I examined was of a female mounted on slide 3462 of the Fonseca collection, labeled "Paratipo e Topotipo", collected from *Graomys griseoflavus*, as recorded on Fonseca's original description. It fits closely the description given by Fonseca, except that the longer posterior idiosomal setae of the idiosoma are minutely fimbriated, the stronger setae of the unarmed ventral opisthosoma are striated and tarsus I has a dorsal subapical bifurcate seta. In these characteristics as well as in other features the paratype of *T. amazonicus* fits closely the description of *T. striatus*. The flexible, or sinuous setae described by Furman and Tipton (1961) may differ in appearance between specimens. In the paratype of *T. amazonicus* examined all setae were straight, but Fonseca (1959) illustrated them as slightly sinuous.

***Gigantolaelaps mattogrossensis* (Fonseca, 1935)**

Macrolaelaps mattogrossensis Fonseca, 1935b: 22.

Gigantolaelaps mattogrossensis; Fonseca, 1939a: 41-44, 90-93.

The original brief description of the female was followed by a re-description (Fonseca 1939) plus figures of the female. I examined the holotype, which was mounted on slide 15 of the Fonseca collection. It agrees well with Fonseca's detailed re-description and figures, varying primarily in minor details of measurement.

In addition to the data supplied by Fonseca, I add the following details. Dorsal plate setae: j 1 — 104 μ long; j 2 — 270 μ long; j 5 broken; distance between bases of j 5 and z 5 — 215 μ ; J 5 — 90 μ long, reaching 24 μ beyond margin of plate; Z 5 — 215 μ long. Gnathosomal setae 67 μ long, subequal to outer-hypostomal setae; inner hypostomals 140 μ long; distal hypostomals 84 μ long. Adanal setae 188 μ long; postanal seta 280 μ long.

***Gigantolaelaps strandtmanni* Fonseca, 1959**

Gigantolaelaps strandtmanni Fonseca, 1958: 156-158 (actually published 11 May 1959).

The original description of *G. strandtmanni* was made from 2 cotype females taken from a water rat at Fazenda São Francisco, State of Pará, Brazil, and mounted on slide 3037 of the Fonseca collection. Of the two mites on this slide, one is mounted with the ventral side uppermost and the other with the dorsal side uppermost.

I designate the former as the lectotype. Unless otherwise indicated the following comments pertain to the lectotype.

G. strandtmanni is of medium size for the genus, with idiosoma 1,915 μ long by 1,360 μ wide. Dorsal plate 1,750 μ long by 1,102 μ wide; setae j 5 — 135 μ long, not reaching to base of setae z 5; setae J 5 (posterior submedians) 80 μ long and extending beyond margin of plate; setae Z 5 not measurable on lectotype but 205 μ long on lectoparatype; posterior margin of dorsal plate lightly concave. Deutosternum with 11 rows of 2 to 3 denticles each. Gnathosomal setae not measurable; inner hypostomals 144 μ long; outer hypostomals 74 μ long; distal hypostomals 96 μ long. Sternal plate 377 μ long by a width at level of setae II of 400 μ ; setal pair I (broken) arising from rounded median anterior projection 108 μ long, which does not cover base of tritosternum, contrary to Fonseca's statement; distance between bases of setae I 124 μ ; between setae III 312 μ ; setae III 350 μ long; anterior pores with long axis almost at right angle to long axis of mite; second pair pores with long axis almost in line with long axis of mite. Genito-ventral plate 302 μ long from insertion of genital setae to posterior margin; 247 μ wide at level of genital setae, slightly broader posteriorly to greatest width of 290 μ ; genital setae 285 μ long, not reaching posterior margin of plate. Metapodal plates irregularly oval, 75 μ by 59 μ . Anal plate 167 μ long to base of postanal seta, 118 μ wide (Fonseca describes as 210 μ wide); adanal setae 172 μ long; postanal seta 232 μ long. Unarmed ventral opisthosoma with numerous slim setae 135 to 312 μ long.

Legs: Coxa I with 2 bluntly spiniform setae of similar shape; proximal seta 90 μ long by 23 μ wide; distal seta 78 μ long by 20 μ wide; posterior seta of coxa II 442 μ long, reaching posterior 1/2 of coxa IV; posterior spiniform seta of coxa III 81 μ long by 24 μ wide; spiniform seta of coxa IV 81 μ long by 21 μ wide. Femur I with 2 prominent, long, dorso-apical setae, 462 μ and 415 μ long; genu I with 2 prominent dorso-proximal setae, one of which is 355 μ long and the other only 86 μ long; genu bearing additional long dorsal setae, particularly at mid level. Tarsus II with prominent, short subapical spines, the stoutest measuring 81 μ long by 22 μ wide.

The lectotype of *G. strandtmanni* is very similar to the holotype of *G. goyanensis*, differing in slightly larger size, in having the dorsal plate lightly concave posteriorly instead of convex, and in having the second pair of sternal pores tipped slightly more. These appear to be intraspecific variations, and I conclude that *G. strandtmanni* is a synonym of *G. goyanensis*.

***Gigantolaelaps goyanensis* Fonseca, 1939**

Gigantolaelaps goyanensis Fonseca, 1939a: 32-38, 81-87.

Gigantolaelaps strandtmanni Fonseca, 1959: 156-158; Lee¹, 1966: 40.

I examined the holotype female of this species mounted on slide 1042 of the Fonseca collection. The following comments are based on examination of the holotype.

(1) Lee, D., 1966. The Neotropical mite genus *Gigantolaelaps* Fonseca, 1939. MS. Thesis in Zoology, Texas Tech. Coll. (Lubbock), 110 pp..

G. goyanensis is of medium size for the genus with idiosoma 1800 μ long by 1400 μ wide. Dorsal plate 1605 μ long by 1055 μ wide, convexly rounded posteriorly; setal pattern normal though many setae broken; setae J 5 (posterior submedian pair) 70 μ long, extending past margin of plate by 1/3 length of setae. Sternal plate 350 μ long at mid-line by 376 μ wide at level of setae II; shape as figured by Fonseca. Genito-ventral plate length 277 μ measured from level of genital setae bases to posterior margin; genital setae not reaching posterior margin of plate. Adanal setae 145 μ long; postanal seta 199 μ long. Coxa I with 2 stout, bluntly tipped, spiniform setae of similar shape; proximal seta 90 μ long by 19 μ wide; distal seta 68 μ long by 17 μ wide; posterior seta of coxa II 392 μ long, reaching mid level of coxa IV. Femur I with 2 long, dorso-apical setae, 446 μ and 431 μ long; genu I with 1 long and 1 short prominent dorso-proximal setae, 350 μ and 130 μ long, and with other more distal long setae. Tarsus II with thickened spines subapically, the stoutest measuring 78 μ long by 16 μ wide. Gnathosomal setae 68 μ long, subequal to outer hypostomal setae, less than 1/2 as long as inner hypostomal setae; distal hypostomal setae 97 μ long.

As pointed out by Fonseca (1939), *G. goyanensis* is very similar to *G. mattogrossensis* from which it is distinguished by the distal seta of coxa I being stout and bluntly tipped instead of narrowly tapered to an acute tip. Additionally the sternal plate and the anal plate setae of *G. goyanensis* are shorter than in *G. mattogrossensis*. There is a reasonable doubt that these differences represent more than intraspecific variation, but the 2 forms are considered distinct species pending study of additional collections.

***Gigantolaelaps canestrinii* Fonseca, 1959**

Gigantolaelaps canestrinii Fonseca, 1958: 158-161. (Actually published 11 May 1959).

Fonseca's original description and illustrations of the female *G. canestrinii* were made on the basis of 4 cotype females numbered 4601 from "Rato de Arvore" from an unknown locality in Brazil. I examined 2 slides of the above mentioned number from the Fonseca collection, bearing 3 specimens labeled as cotypes. One of these I have labeled as the lectotype. The following comments are based on my observations of these specimens.

The female of *G. canestrinii* is a relatively small mite for the genus. Idiosoma 1360 to 1615 μ long. Dorsal plate 1306 to 1443 μ long by 780 μ wide; shape as illustrated by Fonseca (1958) and with setal pattern normal for the genus (39 pairs); setae j 5 — 194 μ long; distance between bases of setae j 5 and z 5 — 135 μ ; setae J 5 — 76 to 81 μ long; setae Z 5 — 177 μ long. Gnathosomal setae 90 μ long; inner hypostomal setae 108 μ long, overlapping gnathosomals; outer hypostomal setae 60 μ long; distal hypostomal setae 66 μ long. Sternal plate with short, broad anteromedian projection projecting about 36 μ anterior to main body of plate, and partially covering base of tritosternum; shape and position of pores and setae essentially as illustrated by Fonseca (1958), but posterior margin with a pair of weak projections just medial to third pair of setae; plate length 274 μ on median line by a width of 301 μ at level of setae II; setae I 296 μ long, extending beyond posterior margin of plate; setae III subequal to I;

distance between setae I 129 μ , and between setae III 282 μ . Genito-ventral plate 218 μ long measured from level of genital setae to posterior margin, slightly wider posteriorly to a maximum of 164 μ ; genital setae 247 μ long arising on lateral margins and extending slightly beyond posterior margin of plate. Anal plate length and width indistinct; adanal setae arise slightly anterior to posterior level of anus, 114 μ long; postanal seta 231 μ long. Unarmed ventral opisthosoma with numerous setae as in Fonseca's original figure.

Legs: Coxa I proximal seta a strong setiform 120 μ long by 11 μ greatest width; distal seta setiform, 93 μ by 9.5 μ . Coxa II posterior seta elongate, 250 μ long, reaching posterior margin of coxa III. Coxae III and IV with spiniform setae; posterior seta of coxa III 66 μ by 15 μ ; seta of coxa IV 36 μ by 13 μ . Femur I with 2 prominent dorso-apical setae, 296 and 127 μ long respectively. Genu I with 2 prominent dorso-proximal setae 260 and 55 μ long respectively plus other long dorsal setae more distally placed. Tarsus II with moderately enlarged spiniform setae, the largest ones 72 μ long by 12 μ wide.

In some respects my observations are at variance with the original description of Fonseca. He stated that the sternal plate does not reach the base of the tritosternum, whereas the basal 1/3 to 1/2 of the tritosternal base was covered by the anterior projection of the sternum in the specimens I studied. Some of Fonseca's measurements are appreciably different from mine, particularly with reference to the sternal plate and the specialized long posterior seta of coxa II. In the ventral figures of the female mite presented by Fonseca, the relative lengths of the inner and outer hypostomal setae have been reversed. The inner pair should be much the longest. Fonseca distinguished *G. canestrinii* from *G. wolffsohni* Oudemans by the uncovered base of the tritosternum. Although this differentiation is invalid, the 2 species may be separated by the presence in *G. wolffsohni* of 2 prominent long setae on the dorso-apical part of the femur of leg I, both of which are around 400 μ long.

***Gigantolaelaps barrerai* Fonseca, 1960**

Gigantolaelaps barrerai Fonseca, 1959: 98-105. (Actually published 28 December 1960).

The holotype female and allotype male of *G. barrerai* were taken from *Dasyprocta variegata* at Buen Retiro, Bolivia, and are deposited under accession number 3465 in the Fonseca collection. The following comments are based on study of these specimens unless otherwise indicated.

My observations of the holotype agree well with Fonseca's excellent description in most respects. The anterior seta of the sternal plate through a lapsus reads 28 μ when it should be 228 μ . The dorsal plate, in addition to the usual complement of setae, bears 2 extra setae between setae J 3 and J 4. The distal seta of coxa I is 96 μ long as compared to 85 μ for the proximal seta. The genital plate is 215 μ long measured from genital setae bases to posterior margin of plate, and the genital setae extend beyond the posterior margin. The 2 prominent dorso-apical setae of femur I measure 205 and 83 μ in length.

The male allotype is accurately described and figured by Fonseca, except that the clusters of setae on the holovenral plate at the internal angles of coxa IV are more prominent than illustrated. The strong ventral spines seen on the femur, genu and tibia of leg II are not unique to males of this species.

As pointed out by Fonseca, *G. barrerai* is similar in general facies to *G. canestrinii*, but the female of the former has much stronger spines on tarsus II, which are longer and stronger than the proximal seta of coxa I. In *G. canestrinii* the spines of tarsus II are also enlarged, but they are much shorter than the proximal seta of coxa I. The gnathosomal setae of *G. barrerai* are only slightly stronger than the inner hypostomal setae, contrary to Fonseca's statement, and in *G. canestrinii* the inner hypostomals are slightly longer than the gnathosomal setae. *G. barrerai* has a strong seta on coxa IV, subequal to the posterior seta of coxa III, while in *G. canestrinii* the seta of coxa IV is only about 1/2 as large as the posterior seta of coxa III.

***Gigantolaelaps brachyspinosus* (Fonseca, 1935)**

Macrolaelaps brachyspinosus Fonseca, 1935b: 22-23.

Gigantolaelaps brachyspinosus; Fonseca, 1939a: 51-53, 100-102.

Fonseca described *G. brachyspinosus* from a single, poorly preserved female collected from *Holochilus vulpinus* at Pôrto Joffre, State of Mato Grosso, Brazil. The following comments are based on study of the holotype after remounting.

Idiosoma 1,735 μ long by 1,345 μ wide. Dorsal plate 1,423 μ long by 775 μ wide, with shape as illustrated by Fonseca (1939); setae j 1 — 102 μ long; setae J 5 — 75 μ long, extending about 24 μ beyond margin of plate; position of setal alveoli indicate a normal pattern of 39 pairs of setae. Antero-dorsal setae of unarmed cuticula densely implanted, stout and short.

Sternal plate 261 μ long on mid-line by 307 μ wide at level of setae II; plate not as densely sclerotized as figured by Fonseca (1939), nor is shape of anterior margin as he figured; the rounded dome-like anterior projection of the figure is an artifact of folded cuticula; actually the antero-median projection is 54 μ in antero-posterior length and arises abruptly just lateral to bases of setae I; setae III 323 μ long; distance between bases of setae I 91 μ ; between bases of setae III 264 μ ; first pair sternal pores directly behind bases of setae I and transversely aligned; second pair pores midway between inner margins of setal alveoli II and III and tipped outward at about a 30 degree angle from the transverse axis of the plate. Genito-ventral plate 242 μ long measured from bases of genital setae to posterior margin, slightly inflated posteriorly to width of 205 μ . Anal plate 215 μ long, but only 134 μ from anterior margin of plate to base of postanal seta; 188 μ wide. Ventral opisthosomal setae of unarmed cuticle as illustrated by Fonseca (1939).

Legs: Coxa I with 2 strong setiform setae; proximal seta 93 μ long by 14 μ wide; distal seta 86 μ long by 12 μ wide; posterior seta of coxa II about 205 μ long, reaching mid-level of coxa III; posterior seta of coxa III stout but broken; coxa IV seta spiniform, 60 μ long. Long dorsal setae of legs I and II lost; tarsus II with very stout spines, as described by Fonseca (1939).

There is very little available evidence from the above comments or from Fonseca's description to distinguish between *G. brachyspinosus* and *G. barrerai*. Although the long dorsal setae of femur and genu I are broken in the former species, one can assume that there is one very long seta and one of medium length on the dorso-distal end of femur I, since this combination is uniformly associated with a relatively short specialized posterior seta of coxa II in *Gigantolaelaps*. This is also in agreement with *G. barrerai*. The major characters on which *G. brachyspinosus* is separable from *G. barrerai* are the numerous short, thick spines of the unarmed dorso-anterior integument and the very thick spines of tarsus II, which are over 1/3 as wide as long. For the present *G. barrerai* is held as a distinct species, although additional collections may well show it to be a synonym of *G. brachyspinosus*.

***Gigantolaelaps vitzthumi* Fonseca, 1939**

Gigantolaelaps vitzthumi Fonseca, 1939a: 28-32, 77-81 (female described and illustrated); 1958: 154, 155 (male illustrated).

Gigantolaelaps bipilosus Lizaso, 1968a: 131-133. *N. syn.*

Gigantolaelaps bahiensis Lizaso, 1968b: 251-253. *N. syn.*

Fonseca described *G. vitzthumi* from 2 cotype females, one of which was dissected, with the accession number 1041. A paratype series was given accession number 518. Available to me were only the dissected cotype, mounted on 2 slides, and the paratype series consisting of 6 slides. The cotype is in very poor condition, hence the following comments are based on study of the cotype and the best preserved paratype specimen. Both cotypes and paratypes were collected from wild rats at the Minas Gerais and Goiás boundary, Brazil.

The general appearance and large size of the female of *G. vitzthumi* are accurately described by Fonseca. The sternal plate is 404 to 430 μ long on the midline, and 432 to 462 μ wide at the level of setae II; setae I are 360 μ long, just exceeding the posterior margin of the plate; setae III measure 360 to 404 μ long; distance between bases of setae I is 145 μ , between setae III 441 μ . Genito-ventral plate 323 μ long, measured from bases of genital setae to posterior margin. Genital setae 323 μ long. Anal plate total length 268 μ , and length to base of postanal seta 178 μ ; greatest width 247 μ . Adanal setae 285 μ long; postanal seta 376 μ long. Dorsal plate tapered sharply in posterior 1/3 to narrowly convex posterior margin, with setae S 5 arising, well anterior to setae J 5; length of setae j 1 — 124 μ , j 2 — 376 μ , j 5 — 247 μ , J 5 — 103 to 108 μ , Z 5 — 296 μ ; distance between bases of setae j 5 and z 5 — 172 to 177 μ .

Coxa I with proximal, bluntly pointed spiniform seta 91 μ long by 19 μ wide; distal strong seta 120 μ long by 13 μ wide. Posterior seta of coxa II 457 μ long, reaching anterior margin of coxa IV. Femur I with 2 prominent, long, dorso-proximal setae, 485 and 462 μ long respectively. Genu I with 2 prominent dorso-proximal setae measuring 430 and 190 μ long. In comparable positions femur and genu II each bear 1 long seta measuring respectively 430 and 242 μ long. Moderately enlarged spines of tarsus II 86 μ long by 19 μ wide.

Gnathosomal setae 108 μ long, subequal to distal hypostomal setae; inner hypostomal setae 156 μ long, overlapping bases of gnathosomals; outer hypostomal setae 88 μ long.

Gigantolaelaps butantanensis (Fonseca, 1935)

Macrolaelaps butantanensis Fonseca, 1935b: 21.

Gigantolaelaps butantanensis; Fonseca, 1939a: 44-51, 93-100.

Fonseca originally described the female holotype taken from a rat subsequently determined as *Oryzomys eliurus* Wagner, caught at Butantã, São Paulo, Brazil. In his redescription (1939), he also included descriptions of a more recently collected male and deutonymphs, and illustrated the female. An accompanying figure of the male was erroneously ascribed to this species, actually it is a male of *Tur lativentralis* (Fonseca 1935) as noted by that author in 1958.

The following comments are based on my examination of the holotype female of *G. butantanensis* mounted on slide 14 of the Fonseca collection.

Idiosoma 1,920 μ long by 1,720 μ wide, probably representing a greater width than in life, since the specimen is flattened by the coverslip. Dorsal plate 1,670 μ long by 1,025 μ wide, narrowly tapered posteriorly and with an abrupt notch in the posterior end extending inward about 43 μ ; plate with normal setal pattern; setal lengths of setae j 1 — 102 μ , j 5 — 269 μ , J 5 — 162 μ , Z 5 — 268 μ ; distance between bases of j 5 and z 5 — 156 μ . Sternal plate 334 μ long on the midline, by 446 μ wide at the level of setae II; sternal setae I 328 μ long and separated by 145 μ ; sternal setae III 393 μ long and separated by 441 μ ; anterior median projection of plate extending anteriorly about 81 μ and with gradually rounded margins. Genito-ventral plate 280 μ long measured from base of genital setae; sides of plate almost straight; maximum width 253 μ ; genital setae 302 μ long. Anal plate 285 μ long by 248 μ wide at greatest width; base of postanal seta 172 μ from anterior margin of plate; adanal setae 199 μ long; postanal seta 334 μ . Unarmed ventral opisthosoma heavily setose as illustrated by Fonseca (1939).

Legs: Coxa I with proximal setiform seta 107 μ long by 11 μ wide; distal seta 135 μ long by 6 μ wide. Coxa II with rather spiniform anterior seta and very long posterior seta 405 μ long, extending to posterior 1/3 of coxa IV; femur I with 2 long, prominent dorso-apical setae, about 510 and 538 μ long; genu I with 2 prominent dorso-proximal setae 377 and 161 μ long respectively and with other long mid-dorsal setae.

Gigantolaelaps comatus Fonseca, 1939

Gigantolaelaps comatus Fonseca, 1939a: 39-41, 87-89.

Fonseca described *G. comatus* from the only known specimen, the holotype female, taken from an unidentified rat at the Instituto Butantã, São Paulo, Brazil. The following comments are based on study of this specimen as mounted on slide 115 of the Fonseca collection.

The type agrees well with Fonseca's description and figures with few exceptions. The antero-lateral angles of the sternal plate are not extended laterally beyond the width separating the bases of the second pair of sternal setae. This may be an artifact developing on the slide since Fonseca originally examined it. Additional characteristics not described earlier are given below.

Dorsal plate 1,755 μ long by 1,108 μ wide; setae j 5 — 280 μ long, setae J 5 — 162 μ long and extending 2/3 of their length beyond margin of plate; setae Z 5 — 350 μ long; distance between bases of setae j 5 and z 5 — 167 μ . Gnathosomal setae 102 μ long; inner hypostomal setae 155 μ long; outer hypostomals 90 μ long. Sternal plate 345 μ long on mid-line, by 458 μ wide at level of setae II. Sternal setae I 371 μ long and separated by 135 μ ; setae III 404 μ long and separated by 430 μ . Genito-ventral plate 270 μ long between insertion of genital setae and posterior margin, and 240 μ wide; genital setae 324 μ long, extending well beyond plate margin. Anal plate as described by Fonseca, but adanal setae only 242 μ long.

Legs: Coxa I with proximal slim spiniform seta 116 μ long by 18 μ wide; distal setiform seta 144 μ by 11 μ . Femur I with 2 long dorso-apical setae as described by Fonseca, but genu I with the 2 prominent dorso-proximal setae 404 μ and 145 μ long respectively, although setae up to 350 μ long are more distally located. Tarsus II with thickened distal setae, the stoutest measuring 81 μ long by 21 μ wide.

This species appears closely related to *G. butantanensis* from which it differs in lacking the notched posterior margin of the dorsal plate, in having a somewhat stouter proximal seta on coxa I, and in having inner hypostomal setae much longer than gnathosomal setae. Despite the statement of Fonseca, the setae of *G. comatus* in general are not much longer than in *G. butantanensis*.

***Gigantolaelaps inca* Fonseca, 1960**

Gigantolaelaps inca Fonseca, 1960: 11-14.

Fonseca described the female of *G. inca* from 6 cotype specimens taken from *Oryzomys xanthocolus* at El Tambo, Department of Piura, Peru. I designate as lectotype that cotype mounted on slide 3936 of the Fonseca collection and marked "desenhada". The following comments are based on the lectotype.

Idiosoma 1,505 μ long by 1,180 μ wide (compressed by the cover slip of the slide preparation). Dorsal plate 1,235 μ long by 660 μ wide, hypertrichous as illustrated by Fonseca; setal lengths: j 1 — 86 μ , j 5 — 102 μ , J 5 — 79 μ , Z 5 — 156 μ , S 5 — 183 μ ; plate slightly concave on posterior margin, with bases of setae Z 5 and S 5 arranged in horizontal row behind setae J 5. Gnathosomal setae 84 μ long; inner hypostomal setae 126 μ long. Sternal plate 258 μ long on mid-line and 312 μ wide at level of setae II. Sternal setae I 242 μ long, reaching beyond posterior margin of plate, bases separated by 115 μ ; setae III separated by 285 μ . Genito-ventral plate 188 μ long measured from bases of genital setae to posterior margin; genital setae 205 μ long; distance between genital setae 67 μ . Anal plate 164 μ long by 156 μ wide; postanal seta set 108 μ from anterior margin of plate, and 183 μ long. Adanal setae 108 μ long, arising at posterior level of anus. Coxa I with proximal slim setiform seta 115 μ long and distal slim seta 129 μ long. Coxa II with posterior seta 237 μ long extending about to mid-level of coxa III. Coxa III with posterior seta spiniform, 70 μ long by 15 μ wide. Femur I with 2 prominent dorso-apical setae 323 μ and 119 μ long respectively. Genu I with 2 prominent dorso-proximal setae 290 μ and 167 μ long respectively and with other long mid-dorsal setae.

Gigantolaelaps oudemansi Fonseca, 1939

Gigantolaelaps oudemansi Fonseca, 1939a: 15-22, 64-71.

The following comments are based on examination of the holotype female mounted on slide 1013 of the Fonseca collection.

Idiosoma 1,454 μ long and 1,092 μ wide. Dorsal plate 1,250 μ long and 700 μ wide, as illustrated by Fonseca except that the posterior margin appears more rounded; setal lengths: j 1 — 81 μ ; j 5 — 140 μ ; J 5 — 64 μ ; extending past plate margin by 1/4 of their lengths; Z 5 — 161 μ ; distance between bases of j 5 and z 5 — 118 μ . Gnathosomal setae 96 μ long, inner hypostomals 123 μ ; outer hypostomals 78 μ ; distal hypostomals 68 μ . Sternal plate 242 μ long on mid-line and with shape and setation as illustrated by Fonseca; setae I 237 μ long and separated by 108 μ ; setae III 268 μ long and separated by 268 μ . Genito-ventral plate 178 μ long measured from bases of genital setae to posterior margin of plate; maximum width 135 μ , not expanded; genital setae 167 μ long. Anal plate tilted so that length doubtful; width 178 μ ; adanal setae 145 μ long, set slightly anterior to posterior level of anus; postanal seta 215 μ long.

Legs: Coxa I proximal setiform seta 96 μ long by 9 μ wide; distal setiform seta 108 μ long by 7 μ wide. Coxa II with elongate posterior seta only 161 μ long, extending to mid-level of coxa III. Posterior seta of coxa III is only spiniform seta of coxae, 66 μ long by 13 μ wide. Femur I with 2 prominent setae dorso-apically, 264 μ and 113 μ long respectively. Genu I with 2 prominent setae dorso-proximally, 242 μ and 124 μ long respectively and with other long mid-dorsal setae reaching 183 μ long.

Gigantolaelaps gilmorei Fonseca, 1939

Gigantolaelaps gilmorei Fonseca, 1939a: 22-28, 71-77.

No specimens of the type series of *G. gilmorei* were found in the Fonseca collection, but a female specimen identified as this species by Fonseca was located. It is mounted on slide 1032 of the collection and is marked "face ventral desenhada". It agrees well with the ventral view of this species illustrated by Fonseca (1939).

Gigantolaelaps bipilosus Lizaso, 1968

Gigantolaelaps bipilosus Lizaso, 1968a: 131-133.

Comparison of the holotype of *G. bipilosus* with a paratype of *G. vitzthumi*; Fonseca 1939 indicates that the former is a synonym of *G. vitzthumi*. The lack of a postanal seta noted on the single specimen of *G. bipilosus* by Lizaso represents the type of abnormality occurring occasionally on laelapid mites and it has no taxonomic significance. Other characteristics agree well with those of *G. vitzthumi* except that this specimen is slightly smaller than typical, and the lateral margins of the sternal plate do not appear concave as is usual with *G. vitzthumi*. The occurrence of the single specimen described by Lizaso on *Oryzomys subflavus* together with five females of *G. vitzthumi* reinforces the belief that it is a synonym.

Gigantolaelaps bahiensis Lizaso, 1968

Gigantolaelaps bahiensis Lizaso, 1968b: 251-253.

Comparison of the holotype of *G. bahiensis* with a paratype of *G. vitzthumi* Fonseca 1939 indicates that the former is a synonym of *G. vitzthumi*. The single specimen on which the description of *G. bahiensis* was based is an unfed, non-gravid female in which the opisthosoma is unexpanded, hence the dorsal plate practically coincides with the size of the idiosoma. The numerous setae of the unarmed margin of the idiosoma are present, but compressed into a narrow strip external to the margins of the dorsal plate. The collection of *G. bahiensis* in company with several specimens of *G. vitzthumi* from *Oryzomys subflavus* strengthens the belief that Lizaso's species is a synonym.

Gigantolaelaps guimaraesi Lizaso, 1968

Gigantolaelaps guimaraesi Lizaso, 1968b: 253-257.

As described by Lizaso, *G. guimaraesi* has a marked resemblance to *G. gilmorei* Fonseca 1939, differing however in possessing numerous accessory setae on the dorsal plate of both sexes and in having a divided holovertral plate in the male.

The following comments are based on study of the holotype female mounted on slide 3 of the collection of the Museu de Zoologia, São Paulo.

Idiosoma 2,635 μ long and 1,615 μ greatest width. Dorsal plate 2,070 μ long and 1,210 μ greatest width; shape as illustrated by Lizaso, but bearing approximately 135 setae, with the majority of accessory setae on antero-lateral regions; setal lengths: j 1 — 120 μ , j 2 — 463 μ , j 5 — 237 μ , J 5 — 83 μ , not reaching margin of plate; distance between bases of setae j 5 and z 5 — 200 to 215 μ . Gnathosomal setae 116 μ long; inner hypostomals 167 μ long; external hypostomals 103 μ long; distal hypostomals 126 μ long. Sternal plate 328 μ long and 474 μ wide at level of setae II; sternal setae I 338 μ long and separated by 183 μ ; setae III 388 μ long and separated by 441 μ ; shape and sclerotization of plate as illustrated by Lizaso. Genito-ventral plate 365 μ long measured from level of bases of genital setae to posterior margin; maximum width 242 μ and not enlarged posterior to coxae IV; genital setae 312 μ long. Anal plate 178 μ long to base of postanal seta and with maximum width 285 μ ; adanal setae 139 μ long; postanal seta 275 μ long. Numerous slender setae on unarmed ventral opisthosoma measuring 160 to 215 μ long.

Legs: Coxa I with 2 slender setae; proximal seta 162 μ long and 15 μ wide; distal seta 186 μ long and 12 μ wide; coxa II anterior seta 119 μ long, setiform; posterior seta 226 μ long, extending to mid-level of coxa III; coxa III anterior seta slender, 161 μ long and posterior seta spiniform, 97 μ long; coxa IV seta a weak spiniform 84 μ long. Femur I with 2 prominent dorso-apical setae 172 μ and over 320 μ long respectively; genu II with 2 prominent dorso-proximal setae 172 μ and over 320 μ long respectively.

A male paratype of *G. guimaraesi* examined at São Paulo agreed closely with Lizaso's description. Additional comments are given here. Idiosoma 1,990 μ long. Dorsal plate 1,880 μ long and 1,145 μ wide;

seta j 1 — 113 μ long; seta J 5 — 59 μ long. Gnathosomal setae 81 μ long; inner hypostomals 138 μ long. Setae of ventral part of holoven-tral plate appear longer than illustrated by Lizaso. Anal plate with irregular anterior border; plate 312 μ long by a maximum width of 264 μ ; adanal setae 145 μ long, set at mid-level of anus; postanal seta 231 μ long. Femur I with 2 prominent dorso-apical setae 322 μ and 140 μ long respectively. Genu I with 2 prominent dorso-proximal setae 285 μ and 113 μ long respectively.

Lepronyssoides pereirai (Fonseca, 1935)

Liponyssus pereirai Fonseca, 1935a: 81-85, 106-108.

Lepronyssoides pereirai; Fonseca, 1941: 262-265.

Fonseca described *L. pereirai* from numerous cotype female specimens collected from a wild rat commonly called "Punare" at Joazeiro, State of Paraíba, Brazil. One of 17 slides marked as cotypes and with the number 3 in the Fonseca collection I have designated and marked as the lectotype.

The lectotype agrees well with Fonseca's original description and illustrations. *Lepronyssoides* is included in the family Macronyssidae, and has a marked resemblance to the genus *Ornithonyssus*, but the female differs from described species of the genus *Ornithonyssus* in having more than 20 pairs of setae on the dorsal plate, in having a pair of prominent antero-lateral oval marks (glandular areas?) on the sternal plate, and in having a stout, blunt, non-articulated spine, about as wide as long, on coxa III instead of the usual posterior seta seen in this position. It shares characteristic features of *Ornithonyssus* such as presence of barbed slender setae, shape of ventral plates, lack of minute penultimate pair of setae on dorsal plate and presence of a ventral process arising on the distal 1/3 of the palpal trochanter.

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