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THE GENUS *ANTENNEQUESOMA* (ACARI : UROPODINA) 
AND DESCRIPTIONS OF FOUR NEW SPECIES

BY Richard J. ELZINGA

TAXONOMY ANTENNEQUESOMA

ABSTRACT: Four new species of *Antennequesoma* are described, two from *Labidus praedator* and one each from *Neivamyrmex opacithorax* and *Nomamyrmex esenbecki*. A redefinition of the genus and key to the known species are included.

TAXONOMIE ANTENNEQUESOMA


The genus *Antennequesoma* was erected in 1926 by Sellnick who also named and described two species, *reichenspergeri* and *lujai*. Both species were known only from collections of Brazilian army ants. Hirschmann and Zirngiebl-Nicol (1964, 1967, 1969, 1973) considered the above species to be in the genus *Trichocylliba* but Elzinga and Rettenmeyer (1970, 1975) and Krantz (1978) disagreed, indicating their preference for the original *Antennequesoma*. In 1979 Hirschmann formulated a new classification of the Uropodina and reinstated *Antennequesoma* with the original *reichenspergeri* and *lujai* species. Elzinga (1981) concurred with the reinstatement after studying four new species of *Antennequesoma* in his possession (species to be described later in this study).

Only adult *Antennequesoma* are known and they have been collected solely from army ant workers. The mites' shape is aberrant because their enlarged dorsum overgrows the venter to form a ridged holdfast mechanism, as photographed by Rettenmeyer (1961b) and described by Elzinga (1978, 1979). *A. reichenspergeri* attaches to both antennae and legs of *Ection quadrigeume*, and *A. lujai* has been seen on the right front femor of small intermediate workers (Rettenmeyer, 1961a). The attachment sites of the new species are only speculative except for a single *A. rettenmeyeri* which was located on a worker's antennae (Figs. 4, 6) (Rettenmeyer, 1961b).

The four new species used in the study by Elzinga (1981) will now be described. Morphological observations were made with both a scanning electron microscope (SEM) and phase microscopy (Elzinga, 1970, 1981). Although two of the species are known from single specimens, their uniqueness and the rarity of the army and host collections justifies their description at this time.

Types have been deposited in the following col-

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lections indicated by these abbreviations: USNM, United States National Museum; AMNH, American Museum of Natural History, New York; RJE, Richard J. ELZINGA; and CWR, Carl W. RETTENMEYER, University of Connecticut.

Antennequesoma Sellnick 1926

Brown; sclerotization heavy; length 700 to 1,700 μ; shape variable; dorsum overgrowing legs and venter, with pronounced punctations, especially near ventral base; holdfast mechanism of ridged cuticular type (ELZINGA, 1978) at margin of lateroventral extension of dorsum.

■ FEMALE

Dorsum: covered by single dorsal plate except for small unsclerotized posterior area containing 12 to 16 short "mushroom-shaped" setae in 2 rows; anterior margin of dorsum may be narrowed to form holdfast notch as described by ELZINGA (1978, 1979); large setae fairly uniformly distributed although often increase ventrally and dorso-posteriorly, each lacking a notch; 0 to 2 unpaired medial seta near anterior margin; margins smooth; 2 rows of small unfor ked setae, one marginal and one submarginal; no setal canals leading to marginal or submarginal setae.

Venter: concave, recessed into cavity formed by encircling dorsum; sternal plate separate from ventral plate, with endopodal elements touching behind genital plate in both sexes and extending short distance posteriorly with metapodals prior to lateral separation; genital plate lacking punctuation, bullet-shaped to violin-shaped; metapodal plates reduced and flattened posteriorly, lacking carina; ventral plate separated from sternal by endopodal-metapodal elements, indistinguishably fused with anal plate; lateral plates narrow but long, united medially over entire length with ventral plate.

Legs: 6-segmented leg I, or 7-segmented legs II-IV (not including pretarsus but including basitarsus); coxae I contiguous, about or more than twice as long as broad, much longer than coxae II-IV, bearing one group of pores dorsally and one medially, covering inconspicuous tritosternum; tarsus I lacking claws, with about 21 setae at tip including several rod-like sensory setae; femora II to IV with reduced hyaline flanges or absent; legs II to IV slender, fold into foveolae pedales; leg II chaetotaxy 2 : 4 : 8 : 7 : 7 + tarsus and leg IV chaetotaxy 2 : 5 : 6 : 6 : 7 + tarsus.

Gnathosoma: attached to bases of coxae I and capable of retracting into camerostome; chelicerae 3-segmented, no sexual dimorphism; palpal tibia and tarsus fused, bearing 2-tined claw; palpal trochanter usually lacking large plumose setae (as in Planodiscus, Circocylliba); tectal lacinia 4 or 5 in number; corniculi not pointed; labrum-epipharynx distinctly and uniformly velvety.

■ MALE

Fusion between sternal plate and endopodal plates complete; 5 pairs of setae and 3 pairs of lyriform pores on sternal shield; male genital plate with hyaline flange along posterior and posterolateral margins.

Type Species

Antennequesoma reichenspergeri Sellnick (1926) by original description.

Antennequesoma tenuatum n. sp.

■ FEMALE

Body 809 to 937 μ long and 185 to 222 μ wide; other measurements in Table 1.

Dorsum (Figs. 1, 2): elongate when viewed ventrally; low arched; deep anterior notch with anterodorsal projecting edges (Fig. 2); slight constriction at posterior region of podosoma; punctuation pronounced only anterodorsally in anterior half; with 168 paired setae of moderate length, most numerous dorsally and posteriorly, several lateral rows flattened; 4 pairs lengthened setae, 2 pairs anteriorly and 2 pairs posteriorly;
**Table 1.** — Measurements (in microns) for four species of *Antennequessoma*.

<table>
<thead>
<tr>
<th>Measurements</th>
<th><em>A. temnatum</em></th>
<th><em>A. longissima</em></th>
<th><em>A. rettenmeyeri</em></th>
<th><em>A. labergei</em></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(10 ♀, 6 ♂)</td>
<td>(5 ♀, 1 ♂)</td>
<td>(1 ♂)</td>
<td>(1 ♀)</td>
</tr>
<tr>
<td>Body length</td>
<td>809-937 ♀</td>
<td>68♀</td>
<td>1555-1666 ♀</td>
<td>1607 ♀</td>
</tr>
<tr>
<td></td>
<td>770-825♂</td>
<td>782♂</td>
<td>1523♂</td>
<td>780♂</td>
</tr>
<tr>
<td>Body width</td>
<td>185-222 ♀</td>
<td>203 ♀</td>
<td>327-350 ♀</td>
<td>340 ♀</td>
</tr>
<tr>
<td></td>
<td>162-180♂</td>
<td>176♂</td>
<td>320♂</td>
<td>440 ♀</td>
</tr>
<tr>
<td>Length sterana sternal shield to genital plate</td>
<td>60-75 ♀</td>
<td>68 ♀</td>
<td>75-88 ♀</td>
<td>82 ♀</td>
</tr>
<tr>
<td></td>
<td>142-153♂</td>
<td>150♂</td>
<td>153♂</td>
<td>160♂</td>
</tr>
<tr>
<td>Length sternal shield to posterior genital plate</td>
<td>220-243 ♀</td>
<td>229 ♀</td>
<td>270-315 ♀</td>
<td>296 ♀</td>
</tr>
<tr>
<td></td>
<td>185-220♂</td>
<td>206♂</td>
<td>267♂</td>
<td>234♂</td>
</tr>
<tr>
<td>Length sternal shield to posterior edge of anus</td>
<td>671-726 ♀</td>
<td>712 ♀</td>
<td>1272-1429 ♀</td>
<td>1356 ♀</td>
</tr>
<tr>
<td></td>
<td>600-713♂</td>
<td>649♂</td>
<td>1319♂</td>
<td>470♂</td>
</tr>
<tr>
<td>Length genital plate, including flange on ♀</td>
<td>158-178 ♀</td>
<td>169 ♀</td>
<td>210-230 ♀</td>
<td>218 ♀</td>
</tr>
<tr>
<td></td>
<td>25-30 ♂</td>
<td>27♂</td>
<td>62♂</td>
<td>74♂</td>
</tr>
<tr>
<td>Width genital plate, including flange on ♂</td>
<td>38-50 ♀</td>
<td>43 ♀</td>
<td>60-81 ♀</td>
<td>70 ♀</td>
</tr>
<tr>
<td></td>
<td>22-30 ♂</td>
<td>27♂</td>
<td>43♂</td>
<td>60♂</td>
</tr>
<tr>
<td>Width sternal shield anterior to coxae II</td>
<td>19-30 ♀</td>
<td>25 ♀</td>
<td>62-67 ♀</td>
<td>64 ♀</td>
</tr>
<tr>
<td></td>
<td>28-30 ♂</td>
<td>29♂</td>
<td>69♂</td>
<td>53♂</td>
</tr>
<tr>
<td>Length lateral-ventral-anal shield</td>
<td>447-502 ♀</td>
<td>472 ♀</td>
<td>1002-1124 ♀</td>
<td>1060 ♀</td>
</tr>
<tr>
<td></td>
<td>397-460 ♂</td>
<td>426♂</td>
<td>1052♂</td>
<td>160♂</td>
</tr>
<tr>
<td>Width lateral-ventral-anal shield</td>
<td>95-150 ♀</td>
<td>110 ♀</td>
<td>124-148 ♀</td>
<td>136 ♀</td>
</tr>
<tr>
<td></td>
<td>75-100 ♂</td>
<td>86♂</td>
<td>126♂</td>
<td>267♂</td>
</tr>
</tbody>
</table>

* No means calculated for fewer than three measurements.
** No specimens available.

2 rows of flattened "mushroom” setae, anterior row of 4 on posterior margin of dorsal shield and posterior row of 8 in crescent-shaped area, each with 12 to 14 distal teeth; 24 small setae in submarginal row, absent in posterior half of body; 44 small setae in marginal row; holdfast ridges moderately deep.

**Venter** (Fig. 8): sternal plate narrow, particularly adjacent coxae II, lacking punctuation; 4 pairs of setae and 2 pairs of lyriform pores on sternal plate; genital plate narrow, constricted near anterior third and at posterior, not pointed at anterior margin; 3 pairs ventral setae, 1st and 2nd anterior (1st pair may not be opposite so appear unpaired) and 3rd pair in posterior third of ventral-anal-lateral shield; 3 pairs of lateral setae (between ventrals 2 and 3) and near fusion of lateral to ventral plate; 3 anal setae; 4 pairs lyriform pores in ventral-anal-lateral shield.

**Gnathosoma**: cheliceral roll plate present; distal hypostomal setae with 16 to 20 barbs, enlarged, and shaped like palpal plumose setae of *Planoedicus* and *Circocylliba*; 2nd hypostomal seta with 6 to 12 barbs, 3rd with 8 to 10 barbs; gnathosomal seta with 6 to 8 barbs; tectum with 5 terminal laciniae.

- **Male**

Body similar to female but slightly smaller; measurements in Table 1.

**Types**

Holotype female in alcohol with the following data: Panama: Barro Colorado Island, C. W. & M. E. Rettenmeyer, host: *Labidus praedator*, Colony E-146, 15.IV.1956. Allotype male with same data. Holotype and allotype deposited in USNM. Paratypes are deposited in these collec-
FIG. 1-7: *Antennequesoma* spp.

This species was named for its slender shape.

**Distribution and Hosts**

*A. tenuatum* has been collected only from *L. praedator* in the type locality by C. W. and M. E. Rettenmeyer; however, the following additional dates and numbers should be noted: 27.II.1956 (1 ♀), 4.III.1956 (3 ♀), 29.V.1956 (2 ♀), 30.V.1956 (1 ♀), 2-4.VI.1956 (1 ♀), 1.VII.1956 (1 ♀), 30.III.1963 (1 ♀).

**Antennequesoma longissima** n. sp.

### Female

Body 1555 to 1666 μ long and 327 to 350 μ wide; other measurements in Table 1. Agrees with description of *A. tenuatum* except as follows:

**Dorsum** (Fig. 3): sharp angular ridges laterad on podosoma; constriction at posterior end of podosoma more pronounced; with 166 paired setae of moderate length, none flattened; no lengthened setae; “mushroom” setae with 16 to 24 distal teeth; 68 marginal and 30 submarginal setae.

**Venter** (Fig. 9): ventral-anal-lateral shield greatly elongate; 2 pairs long ventral setae, 1 pair anterior and 1 pair posterior; 2 pairs short lateral setae.

**Gnathosoma**: spatulate sensory setae on palpal tibio-tarsus absent; distal hypostomal setae lengthened, with 15-20 barbs; 2nd hypostomal setae one-half length of first, with 10-12 barbs, 3rd hypostomal setae with 4-6 barbs.

### Male

Body similar to female except smaller; measurements in Table 1.

**Types**

Holotype female in alcohol with following data: Costa Rica: Monteverde, 10°29′N, 84°50′W, C.

This species is named for its extreme elongation.

Distribution and Hosts

A. longissima has been collected only from the type locality by C. W. & M. E. Rettenmeyer on 21.n.1963 (3 ♂, 1 ♂), 20.n.1963 (1 ♂), and 28.11.1960 (1 ♂).

Antennequesoma rettenmeyeri n. sp.

■ Female

Unknown.

■ Male

Body 758 μ long, 440 μ wide; other measurements in Table 1. Agrees with description of A. tenuatum except as follows.

Dorsum (Figs. 4, 6): oval-shaped when viewed ventrally; high arched at posterior, laterally constricted beneath dorsal aspect; anterior notch lacking; no constriction at posterior of podosoma; punctuation also present in posterior half; with more than 300 paired setae of short to moderate length, none flattened; "mushroom" setae with 20 to 26 distal teeth; 32 small submarginal and 70 small marginal setae, highest number in posterior region of body; holdfast ridges strong (Elzinga, Fig. 10, 1978).

Venter (Fig. 10): sternal shield normal in width, with medial punctuation; 11 pairs ventral setae, skewed toward meson; ventral-anal-lateral shield not elongate, angled ventrally from podosoma; 3 pairs lateral setae positioned anteriorly.

Type


This species is named for its collector, Dr. C. W. Rettenmeyer.

Distribution and Hosts

A. rettenmeyeri is known from a single specimen from the type locality and host.

Antennequesoma labergei n. sp.

■ Female

Body 703 μ long and 446 μ wide; other measurements in Table 1. Agrees with description of A. tenuatum except as follows:

Dorsum (Fig. 5): oval-shaped when viewed ventrally; high arched at posterior, deeply constricted laterally near dorsal aspect, medially flattened; no ventral constriction in podosoma; with 204 paired and 2 dorso-anterior unpaired setae of short to moderate length, none flattened; posterior "mushroom" setae with 16 to 20 distal teeth; 4 small submarginal setae in posterior only; 54 marginal setae, equidistant from anterior to posterior.

Venter (Fig. 11): sternal shield normal in shape; genital plate wider anteriorly than posteriorly, with pair of genital pores; ventral-anal-lateral shield angled ventrally from podosoma, broader than long, truncate at posterior; 3 pairs medially positioned ventral setae; lateral setae migrated to ventral plate.

■ Male

Unknown.

Type

Holotype female in alcohol with the following data: Mexico: Oaxaca, El Cameron, W. E. Laberge, host: Neivamyrmex opacithorax, Number 620, 7.viii.1953.

This species is named for its collector, Dr. W. E. Laberge.
**Distribution and Hosts**

*A. labergei* is known from a single specimen from the type locality and host.

**Key to Species of Antennequesoma**

1. Body slender and elongate in shape (Figs. 1-3) ........ 2
   Body not slender (Figs. 5, 6) ........................... 3

2. Body length more than 1,500 μm; ventral-anal-lateral shield long (> 3 x length of podosoma) ........*longissima* n. sp.
   Body length less than 1,000 μm; ventral-anal-lateral shield moderate (about 2 x podosomal length) .......... *tenuum* n. sp.

3. Dorsum highly vaulted and laterally narrowed near dorsal apex ............................................. 4
   Dorsum not highly vaulted and narrowed near dorsal apex; oval; *Eciton* host. ....................... 5

4. Setae on dorsal apex numerous and conspicuous (Figs. 4, 6); anterior notch absent (no sharp division into bilateral body halves) .......... *reitzenmeyeri* n. sp.
   Setae on dorsal arch inconspicuous (Fig. 5); sharp anterior notch present (as in Fig. 2) .......... *labergei* n. sp.

5. Large ventral shoulder around anterior of dorsum; punctations deep .................. *reichenspergeri* Sellnick
   Antero-ventral shoulder inconspicuous; punctations shallow ........................................ *lujai* Sellnick

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**Literature Cited**


