

STEATONYSSUS FURMANI, A NEW NEARCTIC BAT MITE

(ACARI, MACRONYSSIDAE)

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A bat (*Lasiurus borealis*) found dead at an Indiana military installation was sent to this laboratory for a postmortem examination. Gross examination revealed an unusually large number of mites in the fur and on the wing membranes. Subsequent study of these mites indicated they represented an undescribed species of the genus *Steatonyssus* Kolenati 1858.

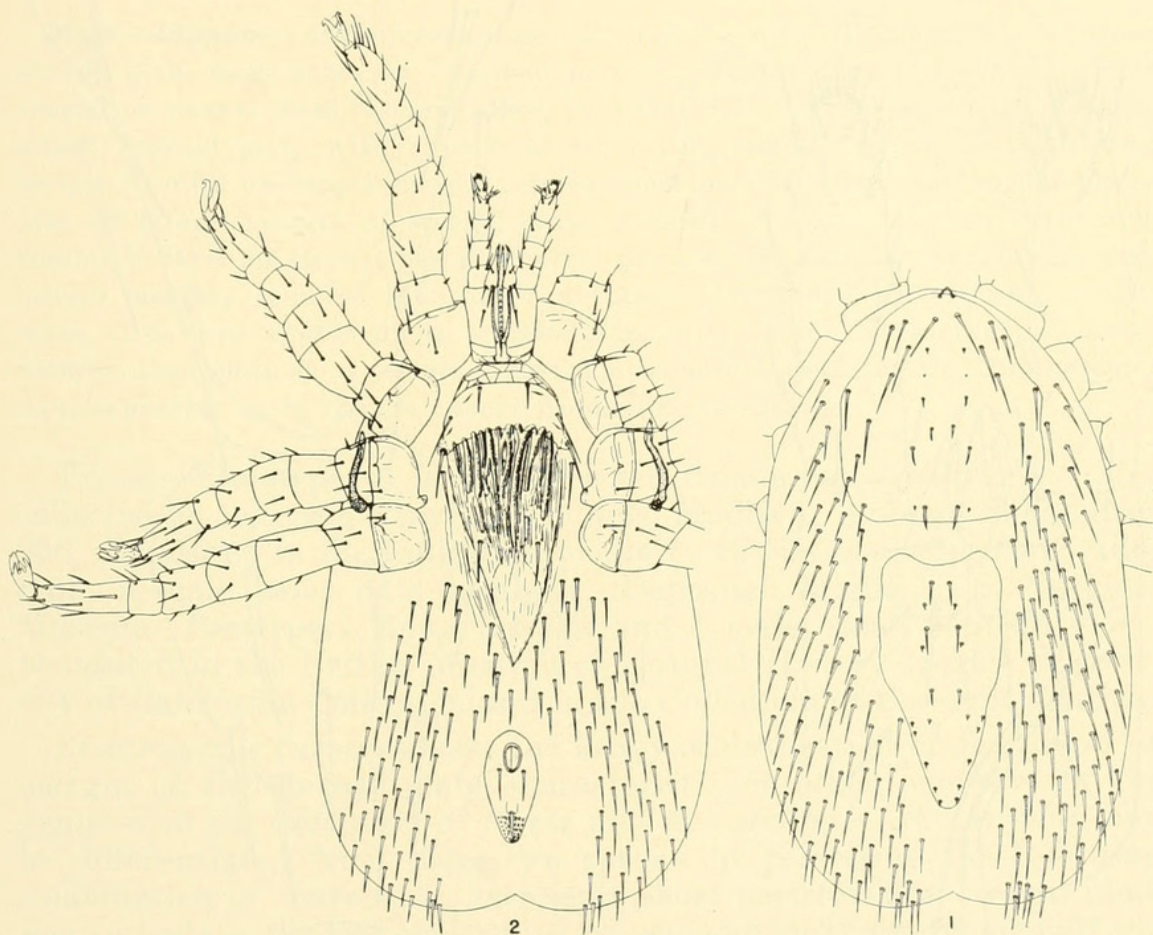
The genus *Steatonyssus* is probably cosmopolitan in distribution although to date no species have been reported from the Australian Zoogeographical Realm. Zumpt and Till (1954) in their treatment of the Ethiopian species of *Steatonyssus* express the opinion that a discussion of host relationships is premature in view of the present state of knowledge of taxonomy and host restrictions of this genus. However, it appears likely that bats are the true hosts of *Steatonyssus* species even though some specimens have been collected from mice, shrews and moles. Clark and Yunker (1956) have placed those species associated with birds in the genus *Pellonyssus* Clark and Yunker 1956. Further, Camin (1949) has furnished evidence that *S. arabicus* (Hirst 1921), described from specimens taken from a lizard, is a synonym of *Ophionyssus natricis* (Gervais 1844).

As now constituted the genus contains twelve species. Five species are represented in the American fauna and of these, three species are nearctic: *S. ceratognathus* (Ewing 1923), *S. occidentalis* (Ewing 1933) and a new species for which we propose the name *Steatonyssus furmani* n. sp. in honor of Dr. Deane P. Furman who is currently contributing so much toward a better understanding of the parasitic mesostigmatid mites.

***Steatonyssus furmani* Tipton and Boese, sp. n.**

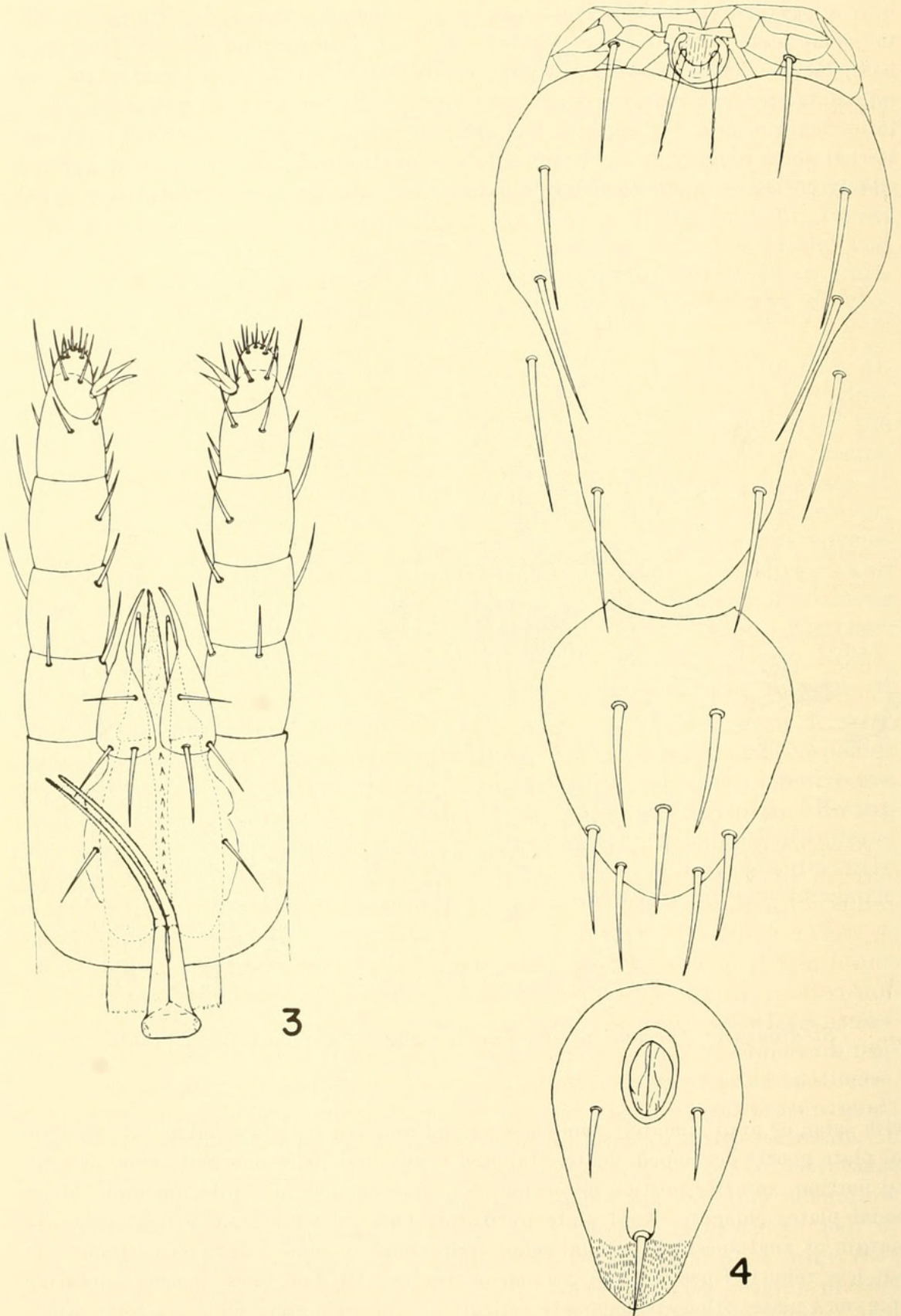
Female.—*Idiosoma*: 770 microns long, 448 microns wide at widest point. Elongate mite, becoming slightly swollen posterior to coxae IV, pronounced invagination of posterior margin at apex of anal plate in unmounted specimens. **Dorsum** (fig. 1): Dorsal plates composed of broad, well developed propodosomal plate; narrowly tapering opisthosomal plate. Prodorsal plate finely reticulate, 10 pairs heavy, sublateral setae; six pairs medial setae exclusive of pair of short setae on anterior margin of plate; anterior most pair minute, 2nd pair very minute, remaining pairs becoming progressively larger from anterior to posterior; pair of minute setae lateral to last pair of medial setae. Opisthosomal plate large (314 microns long), anterior margin deeply concave, lateral margins roughly parallel for approximately $\frac{1}{2}$ their length, then tapering narrowly; On wide anterior portion of plate 2 pairs minute setae lateral to 2 pairs long setae; On tapering posterior portion 1 pair long, medial setae; 1 pair minute medial setae, 5 pairs minute marginal setae. Unsclerotized portion of dorsum wide lateral bands each of which

bear approximately 80-90 setae, areas between dorsal plates and posterior to opisthosomal plate without setae. **Venter** (fig. 2): Tritosternum divided from near base, lacinae finely pilose. Presternal area coarsely reticulate. Sternal plate non-reticulate; anterior margin convex, posterior margin concave; 1st pair setae on anterior margin, over $\frac{1}{2}$ length of 2nd and 3rd pairs (30, 46, 50 microns); 1st pair sternal pores roughly at right angles to the longitudinal axis, 2nd pair at approximately 45 degree angle to longitudinal axis of mite. Endapodal plates very small,



Steatonyssus furmani n. sp., female. Fig. 1, dorsum; fig. 2, venter.

with setae of approximately same size as 2nd and 3rd pairs sternal setae. Epigynial plate poorly developed, acutely tapered posteriorly, with one pair setae on genital portion, anterior portion accordion-like to accommodate genital opening. Metapodal plates elongate. Anal plate pyriform; base of adanal setae near posterior margin of anal aperture; adanal setae approximately same length as postanal seta but less robust. Unsclerotized portion of venter with fine lines in area bordering epigynial plate, otherwise coarsely reticulate; approximately 60 pairs setae which become more robust in posterior area. Stigmata located at anterior margin of coxae IV; peritremalia (80 microns) extend to anterior margin of coxae III, extend posteriorly, fused with parapodal plates around coxae IV. **Legs:** First 3 pair coxae



Steatonyssus furmani n. sp. Fig. 3, gnathosoma, female; fig. 4, venter, male.

each with one pair setae, coxae IV with single seta. All legs with caruncles and claws, Tarsi I with fine tactile setae; those of Tarsi II, III & IV somewhat coarser. Legs II & III shorter than I & IV; legs II more robust. **Gnathosoma** (Fig. 3): Deutosternal groove with approximately 10 rows of teeth with 1 tooth per row. Gnathosomal setae small (20 microns), long medial hypostomal setae (34 microns), lateral hypostomal setae small (20 microns), distal hypostomal setae small (14 microns). Hypostomal processes broad at base but taper acutely anterior to distal hypostomal setae. Chelae long, slender, untoothed. Tectum acutely pointed, serrate margin.

Male.—**Idiosoma**: 480 microns long; 320 microns wide. **Dorsum**: As in female except 45-50 pairs setae on unarmed portion. **Venter** (fig. 4): Ventral plates consist of sternal plate, ventral plate, anal plate. Presternal area with one pair setae. Sternal plate with 3 pairs setae; tapers slightly to rounded posterior margin; genital opening between anterior-most pair of setae. Endapodal plates just off lateral margin of sternal plate at level of coxae III; one seta each, similar to those of sternal plate. Ventral plate short; anterior margin concave; lateral margins rounded then taper abruptly to rounded posterior tip; eight setae. Unarmed venter finely striated; 28 pairs setae. No metapodal plates visible. Anal plate as in female. **Legs**: Approximately as in female. **Gnathosoma**: Approximately as in female except needle-like chelicerae.

Types.—**Holotype**: A female collected from a bat, *Lasiurus borealis*, collected at Jefferson Proving Grounds, Madison, Indiana, September, 1956. Deposited in the Collection of the U. S. National Museum. **Allotype**: A male, same data as above. Deposited in the U. S. National Museum. **Paratypes**: Many females and 1 male, same data as above. Deposited in the British Museum of Natural History (male), University of California Collection and in the Collection of the senior author.

Steatonyssus furmani lacks the heavy sclerotization of the posterior margin of the sternal plate characteristic of other members of the genus with the exception of *S. eos* and *S. natalensis*. *S. furmani* may be differentiated from these two species in possessing the following combination of characters: extremely short peritremalia, sternal plate non-reticulate, the first pair of sternal setae approximately one-half the length of the second pair and a narrowly tapered opisthosomal plate. The description of *S. javensis* (Oudemans 1914) is very short but apparently this species also lacks the heavy sclerotization of the posterior margin of the sternal plate. However, it appears to have peritremalia which extend to the dorsal area. Male distinct in having divided dorsal plate.

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