

A NEW SPECIES OF HIRSTIONYSSUS FROM TAIWAN (Mesostigmata : Laelapidae)¹

By R. W. Strandtmann²

Abstract: Described as new is *Hirstionyssus hatsukoae* from the common ferret badger, *Helictis moschata subaurantiaca*, collected at Wu Lai, Taipei, Taiwan.

Dr Robert E. Kuntz of the Southwest Foundation for Research and Education, San Antonio, Texas³, collected a good series of parasitic mites from birds and mammals of Taiwan. In the course of time, and by devious routes, the mesostigmatic mites came to the Bishop Museum for identification. In working over the collection, a series of a new species of *Hirstionyssus* was noted and is described below.

***Hirstionyssus hatsukoae* Strandtmann, new species** Figs. 1-9.

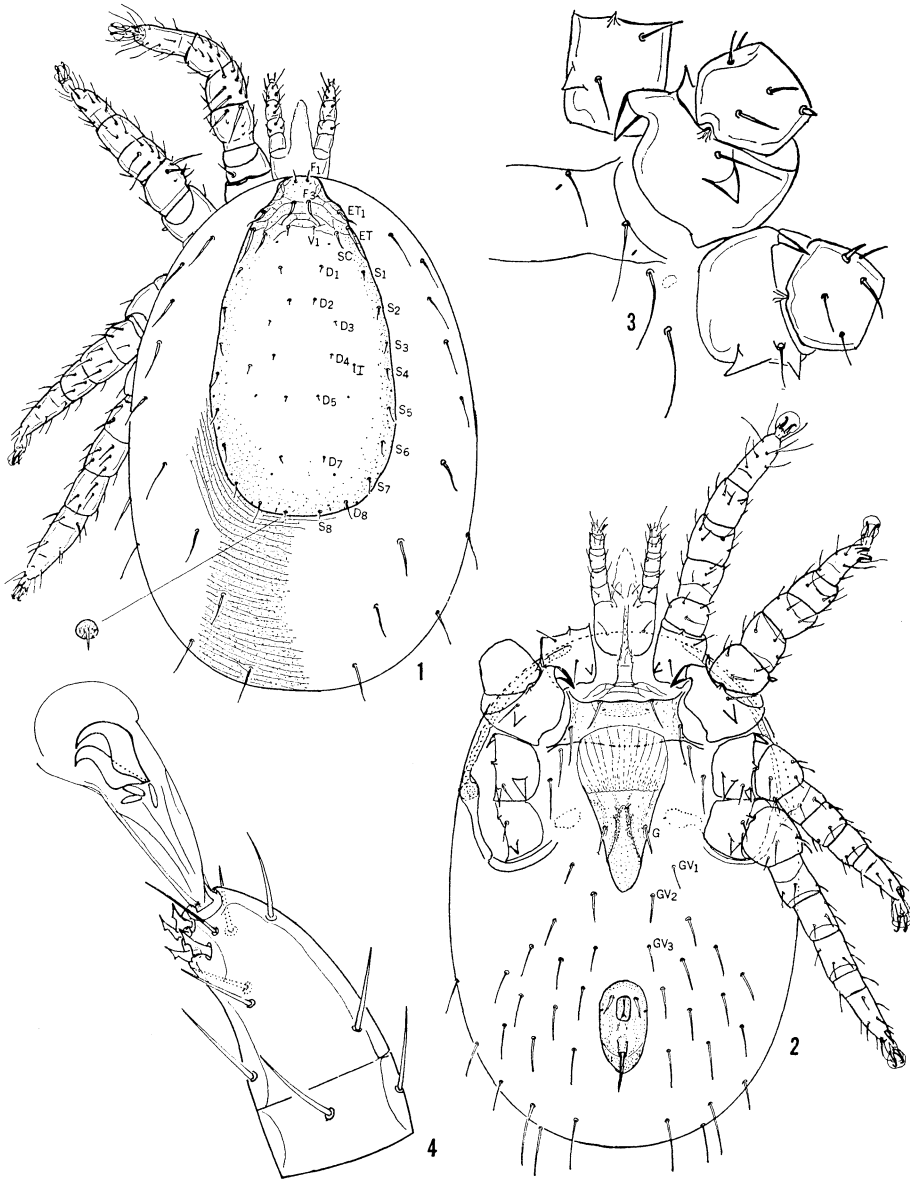
Of medium size for the genus. The ♀ has a short, triangular epigynial plate; the sternal plate is transverse and bears only 2 pairs of setae; in the ♂, the 4 ventro-apical setae of tarsi III and IV are modified; both sexes have on the dorsal plate a pair of minute submarginal setae (clunals), with spinulate bases.

♀. Length: 625 μ . Body broadly elliptic.

Dorsum. Dorsal plate 412 μ long, obovate, smooth, with faint reticulations at anterior end, and with 23 pairs of setae. Setae F₈, ET₁ and ET₂ are the longest, approximately 35 μ . Dorsals very small, no more than 6 μ ; seta S₇, 16 μ . The submarginals (S₈) are minute, about 5 μ , and arise out of a spiny field (fig. 1). Seta I₂ and M₁₁ are lacking. Uncovered dorsum striated; uniformly, closely and finely speckled; with 12-14 pairs of setae, 40 μ long.

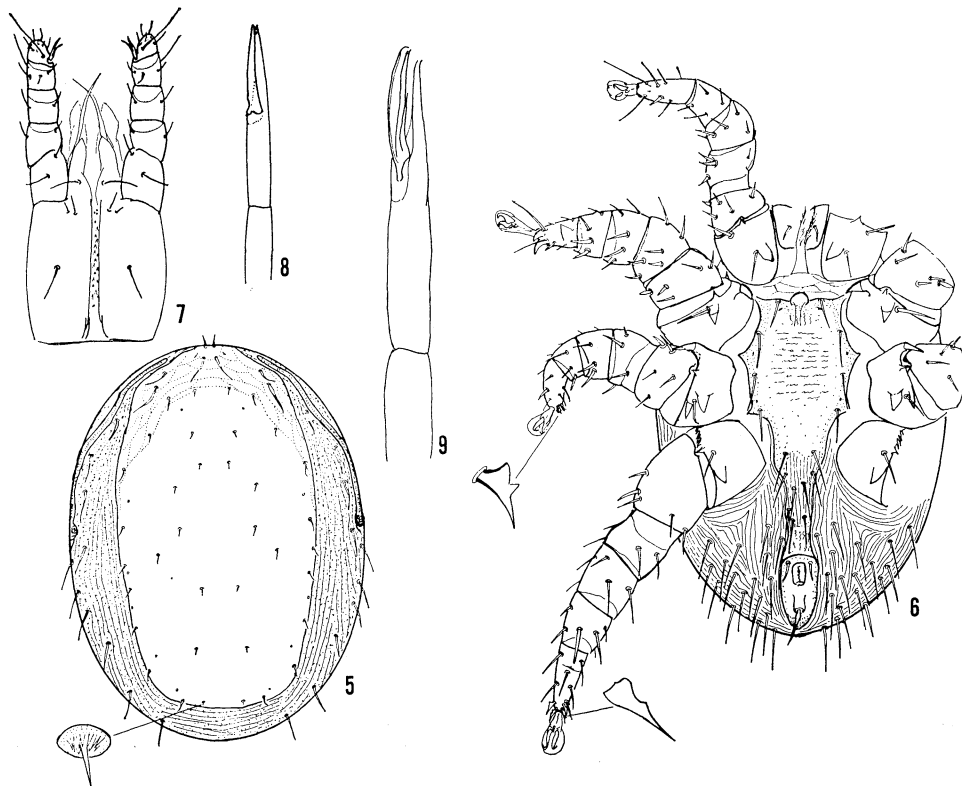
Venter (fig. 2). Sternal plate rectangular, 60 μ long by 125 μ wide, with 2 pairs setae. Sternal setae subequal, about 46 μ long. Seta I just reaches base of II; II and III overlap III and IV. No metasternal plate. Presternal area with transverse reticulations. Sternal plate faintly or not at all striated, but thickened in anterior region between setae I. Epigynial plate triangular, 85 μ long from genital setae to posterior tip. Genital setae

1. Aided by NIH grant #AI-00616, through Texas Technological College, Lubbock, Texas.
2. Bernice P. Bishop Museum, Honolulu, Hawaii 96819.
3. Supported by funding under Public Law 480 section 104(c) and through funds provided by the Bureau of Medicine and Surgery, Navy Department Work Unit MR 005.20-0098. This study has also been aided by Contract (NR N0014-66-C0094) between the Office of Naval Research, Department of the Navy and Southwest Foundation for Research and Education. Mammal identifications furnished by Dr David Johnson, Research Curator, Division of Mammals, U. S. National Museum.



Figs. 1-4. *Hirstionyssus hatsukoe*. 1, ♀, dorsum; 2, ♀, venter; 3, ♀, sternal setae, coxae I-III, trochanters II and III; 4, ♂, tarsus III.

subequal to ventral setae, about 35μ . It should be noted that the sternal setae are more slender and whip-like than the ventral setae. The illustration does not make this clear. Anal plate narrowly elliptic; 92μ long from anterior margin to base of postanal seta. Anal pore in anterior region of plate, paired anal setae opposite anterior margin of pore.



Figs. 5-9. *Hirstionyssus hatsukoae*; 5, ♂, dorsum; 6, ♂, venter; 7, ♀, gnathosoma; 8, ♀, chela; 9, ♂, chela.

Postanal seta $34\ \mu$ long, $2\times$ as long as paired setae. 14-16 pairs of ventral setae, ranging from 35 to $48\ \mu$ long. Peritreme extends to middle of coxa I, of uniform diameter throughout; dorsolateral in position.

Coxae (fig. 3). I with 2 slender setae ($25\ \mu$) and a small, triangular, mediobasal spur; II with anterior marginal seta modified into a prominent spur on a recurved callosity directed inward toward midline of body; posterior seta slender, near margin, and just above a sharply triangular spur; III with anterior seta heavy spiniform but in normal position, pointing outward; 2 posteromarginal spurs with a piliform seta at base of distal spur. IV with usual piliform seta and a triangular submarginal spur.

Legs: Trochanter II with a small spiniform seta on posterodistal margin, tarsus II with 2 claw-like apical spurs; of the 2 ventriapical setae on tarsi III and IV, one is spiniform, one piliform.

Setal formula.

	Tarsus	Tibia	Genu	Femur	Trochanter
I	—	$2\frac{6}{3} 2$	$2\frac{6}{3} 2$	$2\frac{5}{4} 2$	$1\frac{1}{3} 1$
II	$3\frac{6}{3} 3 + 2$ spurs	$2\frac{4}{3} 1$	$2\frac{5}{3} 1$	$2\frac{5}{3} 1$	$1\frac{0}{3} 1$
III	$3\frac{6}{5} 3$	$2\frac{3}{2} 1$	$2\frac{4}{2} 1$	$0\frac{3}{2} 1$	$1\frac{0}{3} 1$
IV	$3\frac{6}{5} 3$	$1\frac{4}{3} 2$	$1\frac{4}{2} 1$	$0\frac{3}{2} 1$	$1\frac{0}{3} 1$

♂. Length: 460 μ . Similar to ♀ except coxal spurs less prominent, ventral leg setae heavier, claw-like setae at apex of tarsus II heavier, and tarsi III and IV each with 4, modified apicoventral setae. (fig. 4)

Dorsum (fig. 5). Length of dorsal plate, 435 μ . The plate is wider anteriorly than is that of the ♀, so that it is elliptic rather than obovate. Seta S8 is minute and surrounded by spinules as in ♀.

Venter (fig. 6). Holoventral plate not expanded behind coxae IV; may be complete, or may be partially or completely eroded for a space posterior to coxa IV; margins of sternigenital region thickened; mid-sternal area lightly cross-striated with many striae. Sternal setae I and II do not reach bases of II and III. Presternal area lightly reticulate.

Legs. Heavier than in ♀, ventral setae stronger. Coxae III and IV with denticulate apicoventral margins.

Gnathosoma. Similar in both sexes; no unusual features or setae. (fig. 7). Deutosternal teeth numerous and in single file. Both arms of ♀ chela slender, long, edentate (fig. 8). Movable arm of ♂ chela only slightly larger than fixed arm, not greatly modified (fig. 9).

Immatures. None available for study.

Holotype ♀ (BISHOP 7509), Taiwan: Wu Lai, Taipei Hsien, ex *Helictis moschata subaurantiaca*, 21.X.1960, R. E. Kuntz, #PF 8533. Paratypes: 2♀♀, PF 7653, Taiwan: Tung-men, Hualien Hsien, ex *Helictis moschata subaurantiaca*, 10.IV.1960, Kuntz; 10♀♀, PF 7702, Taiwan: Tung-men, Hualien Hsien, *Helictis moschata*, 13.IV.1960, Kuntz; 7♀♀, 3♂♂, same data as holotype; 10♀♀, PF 13099, Taiwan, ex. nest, Kuntz.

The holotype and allotype are in the collection of the Bishop Museum. Paratypes have been sent to the U.S. National Museum, the British Museum (Nat. Hist.), London; The Institute of Acarology, Wooster, Ohio; and Robert Domrow, Queensland Institute for Medical Research, Queensland. Some have been retained in the collection of Bishop Museum.

Remarks. The combination of pointed epigynial plate, sternal plate with only 4 setae, and small spiniferous submarginals (S8) will serve to distinguish the females from all others of the genus. The males may be distinguished by the submarginal setae and the peculiar setae at the apex of tarsi III and IV. The broadly rounded posterior margin of the dorsal plate, and the peculiar submarginal setae (S8 or clunals) seem to be unique for this species. The absence from the dorsal plate of setae I2 and M11 is apparently characteristic.

This species is named for Miss Hatsuko Arakaki, the charming and efficient young pre-

parator of mites for the Bishop Museum.

Domrow (1963: 200) synonymized *Echinonyssus* and *Hirstionyssus* with the statement, "With the description (Bregetova and Grokhovskaja, 1961) of such intermediate forms of *Hirstionyssus* da Fonseca, 1948, as *H. indosinensis* and *H. callosciuri*, it is clear that these two genera are synonyms."

Much as I respect Mr Domrow's taxonomic acumen, I am unwilling to accept this synonymy at present. A thorough study of the assemblage of species under *Hirstionyssus* is most certainly going to result in a reassignment into several genera. To transfer them all to *Echinonyssus* at this stage would only compound the confusion.

The new species described above is provisionally placed in the genus *Hirstionyssus*, pending a more detailed study of the entire group; a study with which we are presently engaged.

REFERENCE

- Domrow, R. 1963. New records and species of Austromalayan laelapid mites. *Proc. Linn. Soc. N. S. W.* **88** (2): 199-220.