

A NEW SPECIES OF *HOPLOMEGISTUS* FROM COSTA RICA (ACARINA : HOPLOMEGISTIDAE) ¹

BY

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In 1888 BERLESE described the mite *Megisthanus armiger* in the family Gamasidae. Later (1903) he used this species as the type for the new genus *Hoplomegistus* which he placed in the family Megisthanidae. CAMIN and GORIROSSI (1955) erected the family Hoplomegistidae for *Hoplomegistus* and made *Syngynaspis* Trägårdh, 1937 (Syngynaspidae) a synonym of *Hoplomegistus*. At the same time these authors gave a review of the history of the two groups and the reasons for these changes. The diagnostic characteristics of the monogenic Hoplomegistidae have been given by CAMIN and GORIROSSI (1955).

There are five species listed in the Hoplomegistidae. These are *Hoplomegistus armiger* Berlese, 1903; *H. trapeziger* Berlese, 1910; *H. bicrinus*, Berlese 1918; *H. bruneti* (Turk), 1948; and *H. trägårdhi* (Baker and Wharton), 1952. *H. bicrinus* and *H. trapeziger* were inadequately described by BERLESE. TURK (1948) redescribed and illustrated *H. armiger* when he described *H. bruneti*. An adequate description with illustration was given for *H. trägårdhi* originally by TRÄGÅRDH, but without designation of a specific name. Later BAKER and WHARTON (1952) gave an additional illustration and assigned the specific name *trägårdhi* to TRÄGÅRDH's unnamed species. The present paper describes a new species of *Hoplomegistus* from a Costa Rican passalid beetle and gives a key, based on females, to the recognizable species described in the literature.

KEY TO FEMALES OF HOPLOMEGISTIDAE.

(Does not include *H. bicrinus* Berl., 1918 and *H. trapeziger* Berl., 1910).

1. a. Jugular plates coalesced; sternogynial plate with posteriorly directed medial point 2
- b. Jugular plates separated; sternogynial plate without a posterior medial point. 3

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2. a. Latigynial plate concave posteriorly ; pore field in two circular areas near posterior margin of plate.....*Hoplomegistus trågårdhi* (Baker and Wharton), 1952.
b. Latigynial plate truncate posteriorly ; pore field over entire posterior area.....*Hoplomegistus bruneti* (Turk), 1948.
3. a. Sternogynial plate not narrowing medially ; latigynial plates separate, divided longitudinally*Hoplomegistus armiger* Berlese, 1903.....
b. Sternogynial plate narrowed medially by V-shaped incision on anterior margin ; latigynial plates fused, notched anteriorly and posteriorly on midline.....
***Hoplomegistus truittae* n. sp.**

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Figs. 1-3.

The female may be recognized by the short, narrow medial incision at the anterior and posterior ends of the fused latigynial plates, sternogynial plates connected but deeply notched medially, and pores arranged along the margins of the latigynial plate near the posterior incision. The male may be recognized from the described males of this genus by the small but distinct medial incision on the posterior margin of the genital plate and by the 5 or 6 pairs of clawlike setae on the genital plate near the incision. The claw and setal development on femur II of the male is also distinct.

In the following description, all measurements were made at the longest and widest part of the measured structure and are the average of 6 females and 2 males.

Female. Idiosoma elongate ; 1495 μ long, 1075 μ wide.

Dorsum. Dorsum with 2 plates, a large plate, 1265 μ long, 705 μ wide ; bearing numerous pores ; 22 pairs of slightly pilose setae plus 1 pair of long simple setae arising from posterior tip of plate ; 1 or more unpaired setae medially. Second dorsal plate at anterior of idiosoma ; plate narrow, convexed posteriorly, bearing 7 pilose setae. Two pairs of setae arising from integument between these plates. Numerous pilose setae arising from small platelets in integument around margin of idiosoma.

Ventrum. Jugular plates present, each bearing a sternal seta and pore. Sternometasternal plate 185 μ long, 360 μ wide ; sternal setae II to IV and one pair of pores arranged as illustrated along the slightly concave, posterior margin of this plate ; all sternal setae pilose. Triangular sternogynial plates connected medially at posterior tip by semi-sclerotized integument ; genital sclerites pick-axe-shaped with handles running beneath the fused latigynial plates. Latigynial plates fused, sharply widened anteriorly ; small median incision at anterior and posterior margin of plate ; 4 to 8 unpaired short, stout setae along midline on anterior half of plate plus 4 to 8 longer paired setae and 1 to 3 unpaired setae arranged along lateral margins of plate ; 2 to 7 usually unpaired, stout setae arranged on each side of median posterior incision, pores lateral to these setae ; all setae on latigynial simple ;

plate $325\ \mu$ long, $360\ \mu$ wide. Ventral plate $407\ \mu$ long, $270\ \mu$ wide, bearing 17 to 40 pairs of simple setae; some specimens with additional unpaired setae. Metapodal plate usually with 11 (8 to 12) pilose setae and 3 pores. Anal plate $235\ \mu$ long, $420\ \mu$ wide, with 8 to 13 pairs of simple setae; small platelet bearing a seta

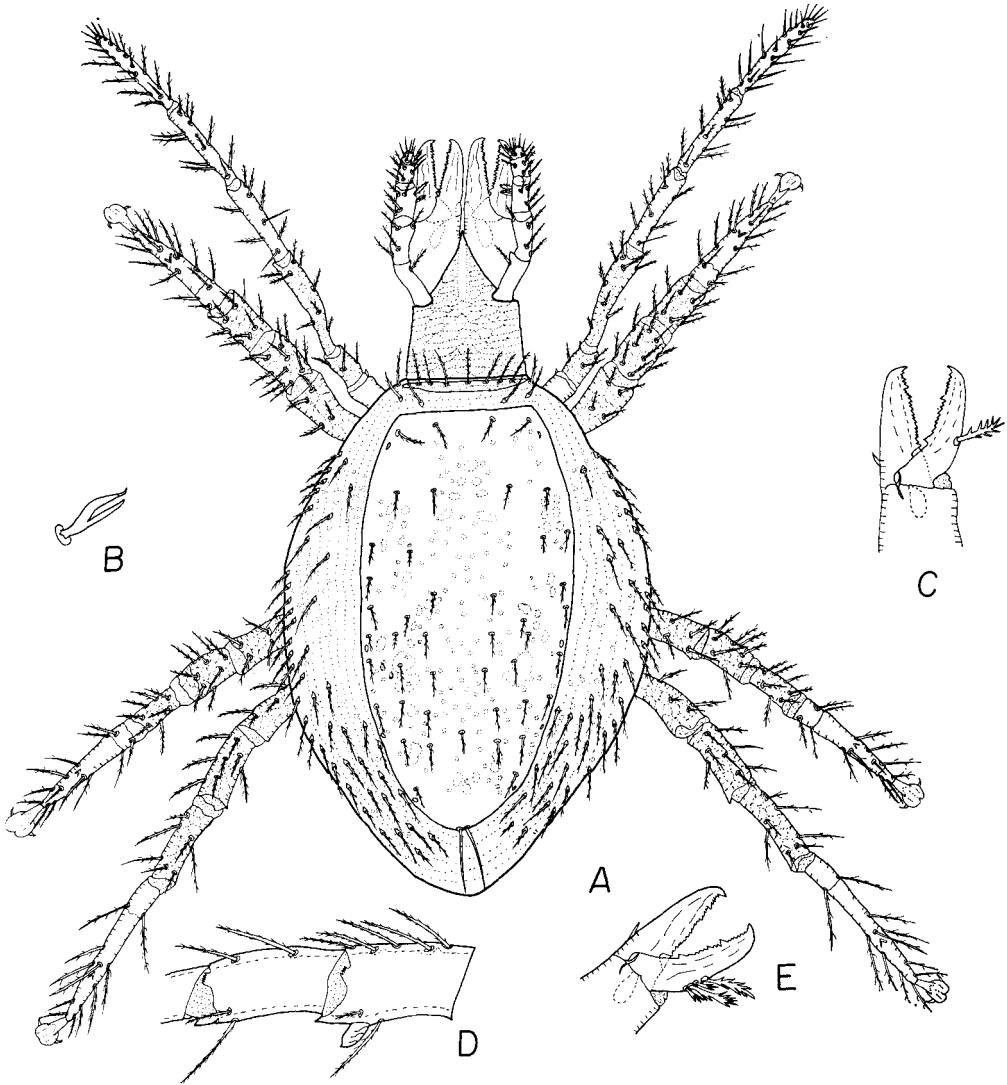


FIG. 1. — *Hoplomegistus truittae* n. sp.

Female : A, dorsum ; B, apotele ; C, chelicerae, Male : D, lateral view of genu II ; E, chelicerae.

attached to each lateral margin of anal plate. Stigmata between coxae III and IV; peritreme extending anterior of coxa I; peritremal plate extending posteriorly around coxa IV and fusing with endopodal plate. Numerous pilose setae arising from integument at margin of body between ventral and metapodal plates, and

between metapodals and ventral and anal plate. Prominent tritosternum consisting of base and 2 feathered lacinae.

Legs. Leg measurements as follows : I-1520 μ ; II-1260 μ ; III-1330 μ ; IV-1790 μ . Claws and caruncle on legs II to IV. All leg setae pilose except the following : simple setae—4 on tibia I, distal setae on tarsi I, 1 on trochanter II, 2 on

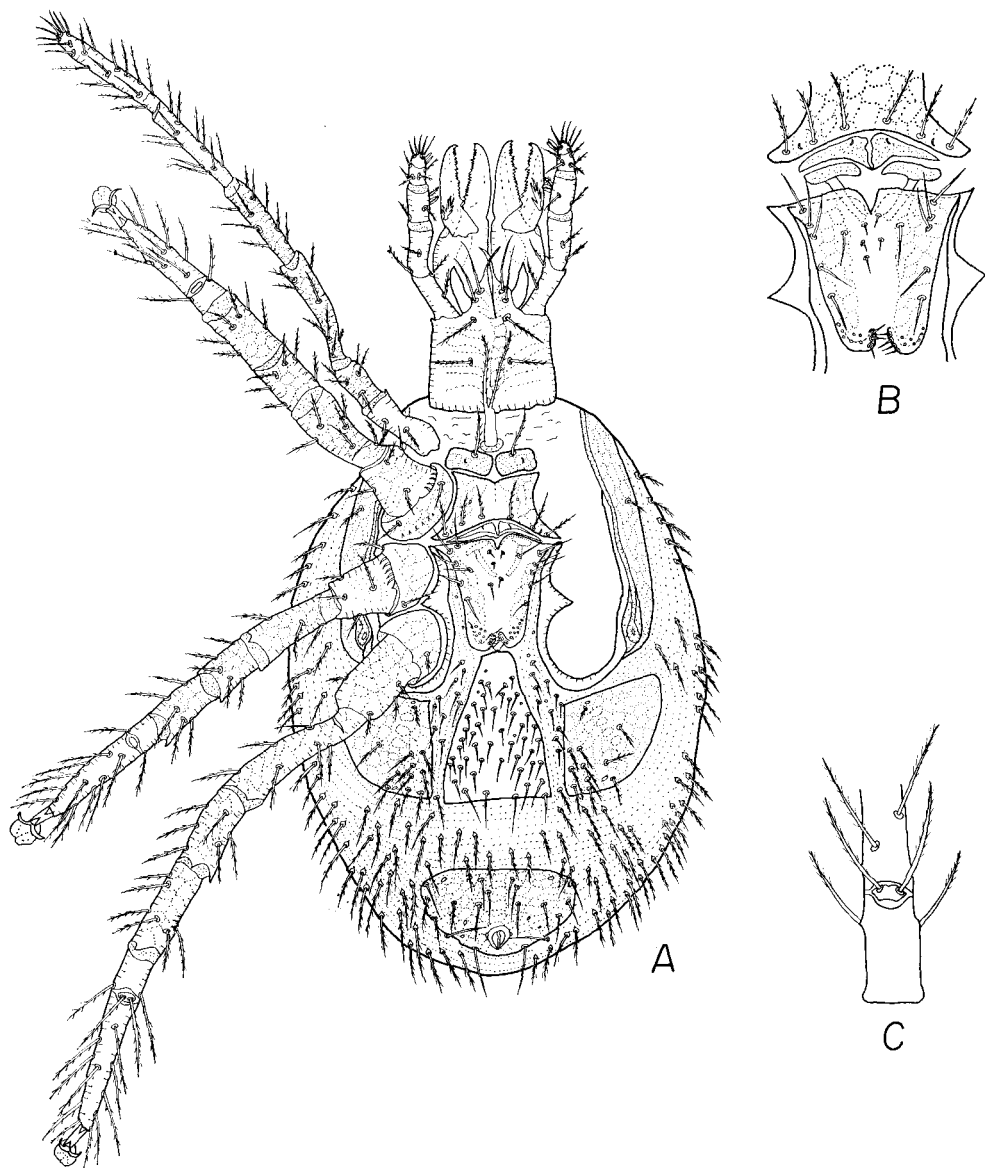


FIG. 2. — *Hoplomegistus truitiae* n. sp.
Female : A, ventrum ; B, genital area ; C, ventrum of tarsus IV.

tibia II, 2 on genu IV, 2 on tibia IV ; short spined setae—1 on femur I, 2 on tibia I. Small plate ventrally on tarsi II to IV ; plate on tarsi IV bearing two long setae. V-shaped slit dorsally on tarsi II to IV.

Gnathosome. Tectum covered with fine striations ; margin smooth. Ventrally 4 pairs of gnathosomal setae, posterior 2 pairs pilose, anterior 2 pairs simple ; deutosternal groove present, but not distinct ; faint striations on integument. Corniculi thick, heavily sclerotized. Chelicerae chelate, heavily sclerotized ; movable chela with 2 large and 13 smaller teeth and 1 brush ; fixed chela with 2 large and 18 smaller teeth. Palpal setae pilose except the following : genu with 1 median trough-shaped seta with membrane along one side ; dorsal setae on tibia and all setae on tarsi simple ; one thick, barbed seta medially on genu. Apotele two-tined.

Male. Body elongate ; 1630 μ long, 1120 μ wide.

Dorsum. As in female except the large plate with only simple setae ; setae proportionately shorter than in female ; large plate 1180 μ long, 695 μ wide.

Ventrum. Jugular plates as in female. Sterno-genital plate 495 μ long, 370 μ wide ; bearing 5 to 9 pairs of pilose setae (arrangement may not be symmetrical), 2 anterior pairs longer than others ; 2 small, thick pilose setae on each side of genital opening. Posterior to genital opening 5 or 6 pairs of small clawlike setae. Ventral plate 470 μ long, 250 μ wide ; with 28 pairs simple setae and usually several unpaired setae ; a small circular pattern at the center of the posterior margin. Metapodal plate large, each plate with 4 pores and usually with 15 setae (1 specimen with only 8 setae). Anal plate 265 μ long, 315 μ wide ; with 6 pairs of setae, including one long pair on posterior margin of plate ; 1 pair of long simple setae on small platelets attached to side of anal plate at level of anal opening ; 4 pairs of pores and a variable number of small knoblike structures in surface of plate. About 40 pairs of pilose setae, each on a tiny platelet, in integument posterior to metapodals ; pilose setae in integument between metapodal and ventral plates. Stigmatal opening and peritremal plate as in female. Endopodal plates II and IV attaching to sterno-genital at level of coxa III. Tritosternum as in female. All plates with striated patterns ; pattern most distinct on jugular and metapodal plates. All non-sclerotized areas with very fine striations.

Legs. Lengths as follows : I-1550 μ ; II-1390 μ ; III-1475 μ and IV-2045 μ . Claws and caruncle on tarsi II to IV. All leg setae pilose with the following exceptions : simple setae—4 on tibia I, distal setae on tarsi I, 2 on trochanter II, 2 each on genu and tibia II, 2 on trochanter III, 1 on genu III, some simple setae on tibia III, 1 on coxa IV, 2 on trochanter IV, and some simple setae on tibia IV including one short stout seta. A row of small teeth at distal margin of coxae III and IV. Ventrally femur II with a heavy spur, which is grooved medially, and a modified seta with its base bulbous and grooved. A small grooved knob ventrally on femur III. Tarsi II to IV with a small plate ventrally as in female. V-shaped structures dorsally on tarsi II to IV.

Gnathosome. Tectum and gnathosome as in female. Movable chela of chelicerae with 4 brushes. Cheliceral teeth as in female.

Two male specimens were greatly enlarged with idiosoma averaging $2425\ \mu$ long and $1375\ \mu$ wide. Most of the added length came from an extension of the integument between the ventral and anal plates and not from a general enlargement of the plates themselves (Fig. 3). The idiosoma length of the large male was 33 % greater than that of the small, while there was less than a 10 % increase in the plate length.

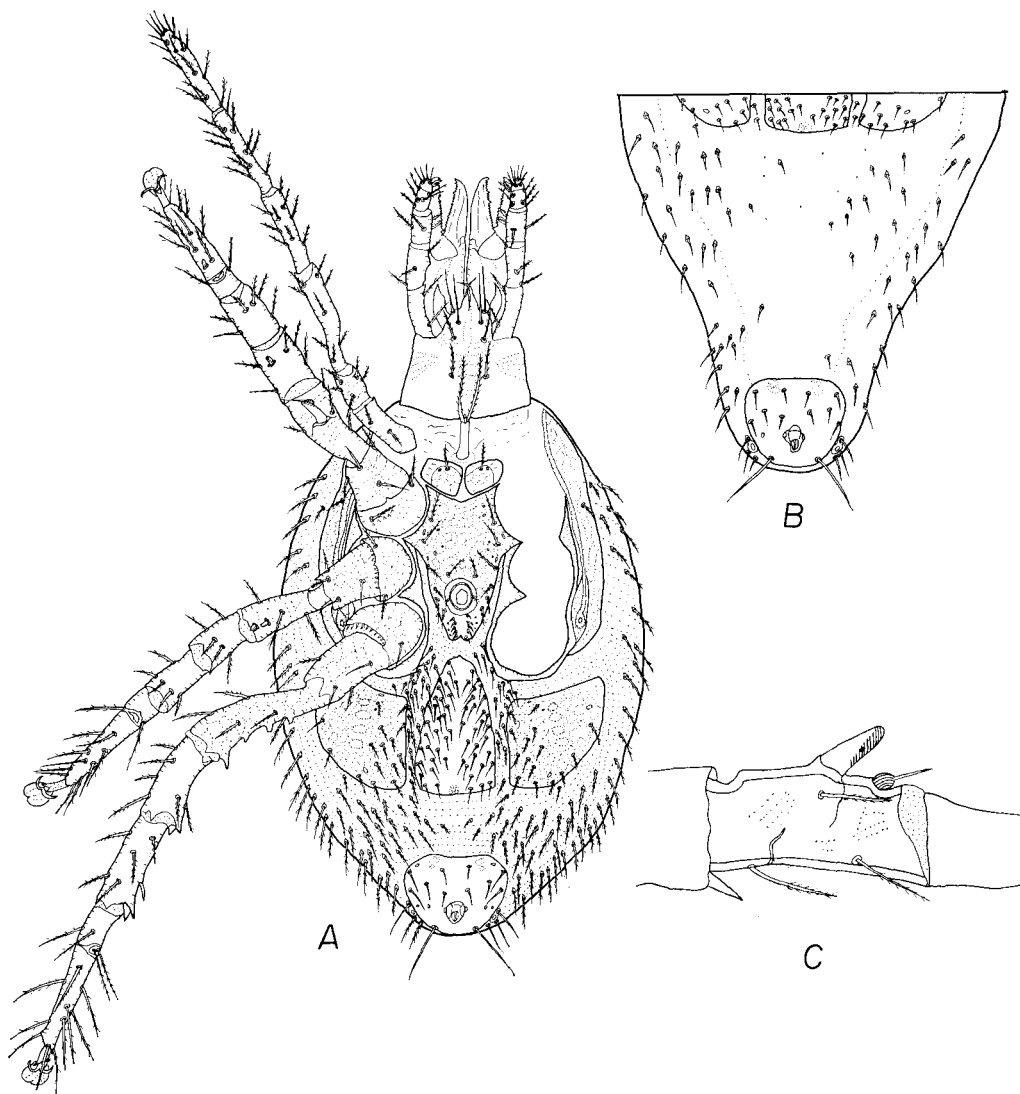


FIG. 3. — *Hoplomegistus truittae* n. sp.

Male : A, ventrum ; B, posterior of ventrum of large specimen ; C, lateral view of femur II.

This species was described from a series of 20 ♀♀ and 5 ♂♂ from Costa Rican passalid beetles. Holotype (female) data : La Selva, Costa Rica ; ex. *Passalus* or *Pseudacanthus* ; 6-III-1965 ; M. V. TRUITT collector. Allotype (male) data : San Vito, Costa Rica ; ex. *Passalus* or *Pseudacanthus* ; 18-II-1965 ; M. V. TRUITT collector. Female paratypes data : 6 specimens-San Vito, Costa Rica, 18-II-1965, ex. *Passalus* or *Pseudacanthus* ; 4 specimens-San Vito, Costa Rica, 8-II-1965, ex. *Passalus* ; 9 specimens-same data as holotype. Male paratypes data : 3 specimens-La Selva, Costa Rica, 6-III-1965, ex. *Passalus* or *Pseudacanthus* ; 1 specimen-San Vito, Costa Rica, 8-II-1965 ; ex. *Passalus*. All paratypes were collected by M. V. TRUITT.

The holotype (female), four female paratypes, and two male paratypes will be deposited with the United States National Museum, Washington, D. C. Three female paratypes will be deposited with the Institute of Acarology, Wooster, Ohio, and three with the Bishop Museum, Honolulu, Hawaii. The remaining paratypes will remain with the department of Entomology, University of Georgia.

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