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A NEW SPECIES OF *GAHRLIEPIA (GAHRLIEPIA)* (ACARI: TROMBICULIDAE) FROM JAVA[1]

M. Lee Goff[2]

Abstract. *Gahrliepia (Gahrliepia) sagitta*, n. sp., is described from specimens taken from an Old World flying squirrel, *Pteromys sagitta*, collected in Java, Indonesia.

Examination of chiggers collected from preserved mammals in the collection of the Rijksmuseum van Natuurlijke Historie, Leiden, by Dr F.S. Lukoschus, Katholieke Universiteit, Nijmegen, has revealed a new and unusual species of the genus and subgenus *Gahrliepia* Oudemans, 1912. The holotype is in the Rijksmuseum van Natuurlijke Historie, Leiden, and paratypes are in the B.P. Bishop Museum, Honolulu, and the U.S. National Museum of Natural History/Smithsonian Institution (chigger collection currently housed at B.P. Bishop Museum). All measurements are given in micrometres. Terminology follows Goff et al. (1982).

Gahrliepia (Gahrliepia) sagitta Goff, new species Fig. 1–2

Description of species. Larva. *Idiosoma.* Measuring 380 × 345 in engorged specimen. Eyes absent. Two pairs of humeral setae, internal stout, measuring 36–38, external finely ciliated, measuring 48–49; 78 dorsal idiosomal setae, irregularly arranged, anterior setae finely ciliated (Fig. 2Cb), posterior setae heavy (Fig. 2Cc), measuring 34–50, anterior setae longest; 2 pairs of sternal setae, anterior 42–43, posterior 34–40; 52 preanal setae, 30–38; 28 postanal setae, 40–51; total idiosomal setae (excluding scutal setae) 166. *Gnathosoma.* Palpal setae formula B/B/NNB/4B; palpal claw 3-pronged; galeala N; cheliceral blade (37–40) with dorsal subapical tooth and tricuspid cap; gnathobase moderately punctate, bearing a pair of branched setae. *Scutum.* Moderately punctate, with concave anterior margin; posterior margin produced tonguelike posterior to level of PL bases; PL bases posterior to SB; 32–44 usurped setae present on scutum, finely ciliated, measuring 44–51; AL and PL setae stout with heavy setules; PL > AL; sensillae clavate with large setules basally, fine setules distally (Fig. 1); PW/SD = 0.55–0.57. Scutal measurements of holotype followed by means and ranges of type series in parentheses: AW 62 (60, 58–62); PW 92 (90, 89–92); SB 60 (58, 56–60); ASB 21 (20, 19–21); PSB 146 (140, 137–146); AP 36 (35, 34–36); AL 36 (34, 32–36); PL 37 (37, 36–39); sens. 38 × 11 (38–40 × 11–12). *Legs.* 7-6-6 segmented, terminating in a pair of claws and a clawlike empodium. Onychotriches absent. IP 701–710. *Leg I.* 216–224; coxa with 1 branched seta (1B); trochanter 1B; basifemur 1B; telofemur 5B; genu 4B, 2 genualae (σ), microgenuala (k); tibia

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2. Department of Entomology, B.P. Bishop Museum, P.O. Box 19000-A, Honolulu, Hawaii 96819, USA. Present address: Department of Entomology, University of Hawaii at Manoa, Gilmore Hall, Honolulu, Hawaii 96822.

FIG. 1. Scutum of *Gahrliepia* (*Gahrliepia*) *sagitta*.

8B, 2 tibialae (ϕ), microtibiala (k); tarsus (45 × 22) 20B, tarsala (ω) (13–14), microtarsala (e), subterminala (ζ), parasubterminala, pretarsala (ζ). *Leg II.* 210–218; coxa 1B; trochanter 1B; femur 5B; genu 3B, genuala (σ); tibia 6B, 2 tibialae (ϕ); tarsus (46 × 21) 15B, tarsala (ω) (12–13), microtarsala (e), pretarsala (ζ). *Leg III.* 267–272; coxa 1B; trochanter 2B; femur 4B; genu 3B, genuala (σ); tibia 6B; tarsus (59 × 17) 15B.

Type data. Holotype and 2 paratypes from INDONESIA: Java, ex Old World flying squirrel, *Pteromys* (=*Sciuropterus*) *sagitta* (Leiden 883), 1849 (Junghuhn).

Remarks. *G. sagitta* will run to couplet 27 of the key to species of the subgenus *Gahrliepia* given by Traub & Morrow (1955) along with *G. fletcheri* Gater, 1932, and *G. darita* Traub & Morrow, 1955. *G. sagitta* may easily be separated from these 2 species and the remaining species in the subgenus by the large number of usurped setae on the scutum (maximum of 20 usurped setae listed for other species, 34–44

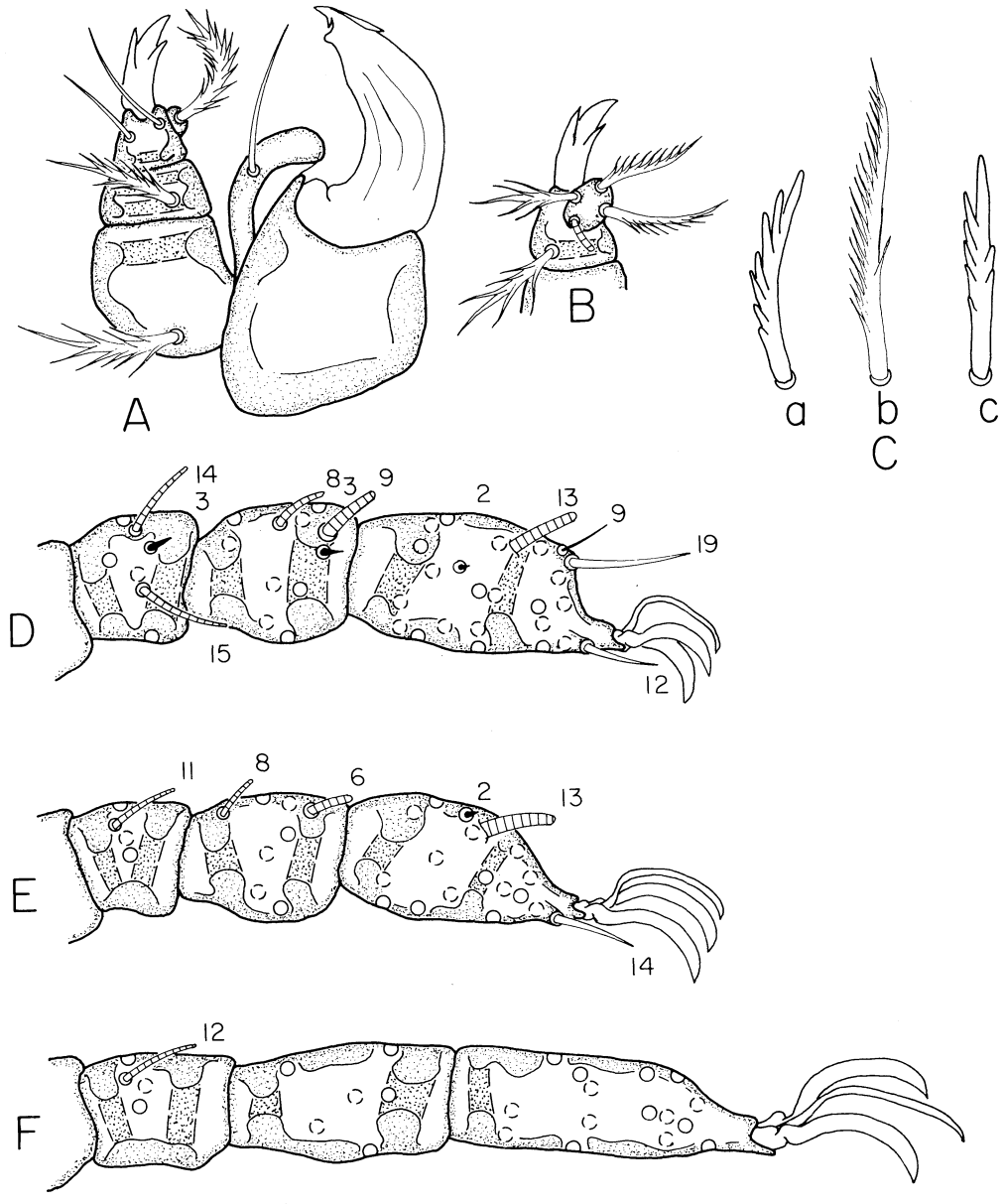

FIG. 2. *Gahrliepia (Gahrliepia) sagitta.* **A,** dorsal aspect of gnathosoma. **B,** ventral aspect of palpal tibia and tarsus. **C,** selected idiosomal setae: a, humeral seta; b, anterior dorsal idiosomal seta; c, posterior dorsal idiosomal seta. **D,** leg I distal 3 segments, showing specialized setae (measurements in μm) and bases of branched setae. **E,** leg II as above. **F,** leg III as above.

for *G. sagitta*). *G. sagitta* may further be separated from *G. darita* in having 78 dorsal idiosomal setae (30 in *G. darita*), 2 pairs of humeral setae (1 pair in *G. darita*), and lacking eyes (eyes 2/2 in *G. darita*). The above characters also serve to distinguish *G. sagitta* from *G. fletcheri*, which also has 30 dorsal idiosomal setae, 1 pair of humeral setae, and eyes 2/2. In addition, *G. sagitta* has the scutum uniformly punctate while *G. fletcheri* shows an irregular pattern of punctation with 2 distinct sizes of punctae. *G. sagitta* shows departures from normal leg setation for Trombiculinae as given in Goff et al. (1982) for the trochanter and femur of leg III. The trochanter of *G. sagitta* has 2B rather than the normal 1B, and the femur has only 4B rather than 5B. While the reduced setation of the femur appears to be unique, the 2B condition of trochanter III has been observed in other species of the genus by Nadchatram (1979) for *G. (Schoengastiella) doratanae* Nadchatram, 1979.

The species name is based on the name of the host for the type series, *Pteromys sagitta*.

LITERATURE CITED

Goff, M.L., R.B. Loomis, W.C. Welbourn & W.J. Wrenn. 1982. A glossary of chigger terminology (Acari: Trombiculidae). *J. Med. Entomol.* **19:** 221–38.

Nadchatram, M. 1979. Two new species of chigger mites (Acari: Trombiculidae) from India and Indonesia. *Oriental Insects* **13:** 75–80.

Traub, R. & M.L. Morrow. 1955. A revision of the chiggers of the subgenus *Gahrliepia* (Acarina: Trombiculidae). *Smithson. Misc. Coll.* **128**(6): 1–89.