

A New Species of *Hemicheyletia* (Acari: Cheyletidae) from Kure Atoll, Northwestern Hawaiian Islands

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ABSTRACT

Hemicheyletia kureatollensis is described as new from leaf litter and soil collected on Kure Atoll, Northern Hawaiian Islands.

Kure Atoll (28 25'N, 178 20'W) lies at the extreme northwestern end of the Hawaiian Islands and consists of 2 land masses: Green Island and Sand Island. The total land mass for both islands is 96.1 hectares (Green I. 91.8, Sand I. 4.3) and the maximum elevation is 6 m. Kure Atoll is under federal military jurisdiction with a landing strip on the larger of the 2 islands. Little collecting for soil dwelling acarines has been done on Kure Atoll or any of the other islands of the Northwestern Hawaiian Islands, which extend from Nihoa I. (23 4'N, 161 55'W) to Kure Atoll. Examination of litter and soil samples taken on Kure Atoll during July 1980 by LTCDR C.H. Sengbusch, U.S. Navy, EPMU #6, Pearl Harbor revealed the presence of 2 species of cheyletid mites: *Hemicheyletia bakeri* (Ehara, 1962) and *Hemicheyletia kureatollensis*, n. sp. *Hemicheyletia bakeri* has previously been reported from Oahu I. by Garrett and Haramoto (1967) and Nihoa I. by Goff (in press). *Hemicheyletia kureatollensis*, n. sp., is described and illustrated following. All measurements are given in micrometres. The holotype is in the collection of the Bishop Museum, Honolulu, Hawaii, and paratypes there and in the collection of the U.S. National Museum of Natural History, Washington.

Hemicheyletia kureatollensis Goff, new species (figs. 1-2)

Description of species. ♀. *Idiosoma.* Measuring 320 x 225. *Dorsum.* Propodosomal plate granulate, measuring 155 x 144, 1 pair of eyes present on anterolateral margin; 4 pairs of fanlike lateral setae, measuring 28-34; 7 pairs of branched, dendritic dorsomedian setae. 1 pair of humeral setae, similar in form to lateral setae, measuring 36-38. Hysterosomal plate granulate, measuring 130 x 125; 5 pairs of lateral setae, similar to propodosomal setae, measuring 25-30; 7 pairs of medians, similar to propodosomals. 1 pair of fanlike setae free on cuticle posterior to hysterosomal plate. 24 pairs of setae on dorsum of idiosoma. Both dorsal plates surrounded by rows of dotted striations. *Venter.* 4 pairs of smooth, acicular medioventrals, measuring 20-23; genitalia (Fig. 2A) with 1 pair of smooth paragenital setae, 2 pairs of genital setae and 3 pairs of anal setae (anterior 2 pairs smooth, posterior pair fanlike). *Gnathosoma.* Palpal tarsus with 2 comblike and 2 sicklelike setae, inner comb with ca. 24 teeth, outer comb with ca. 12 teeth, sicklelike setae normal, distally expanded solenidion present lateroventrally. Palpal claw with 7-9 teeth basally. Palpal tibia with 3 setae, dorsal and

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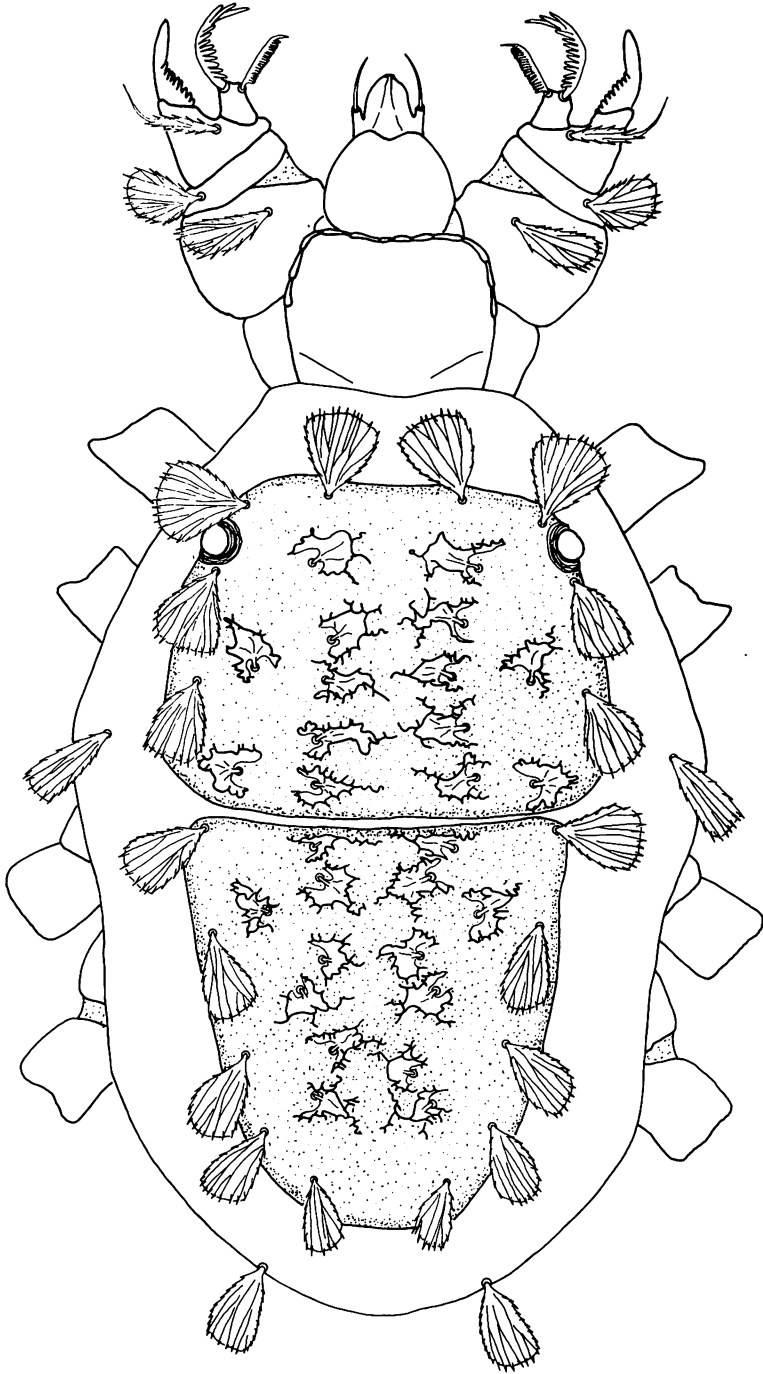


FIGURE 1. *Hemicheyletia kureatollensis* Goff, n. sp. Dorsal aspect of female.

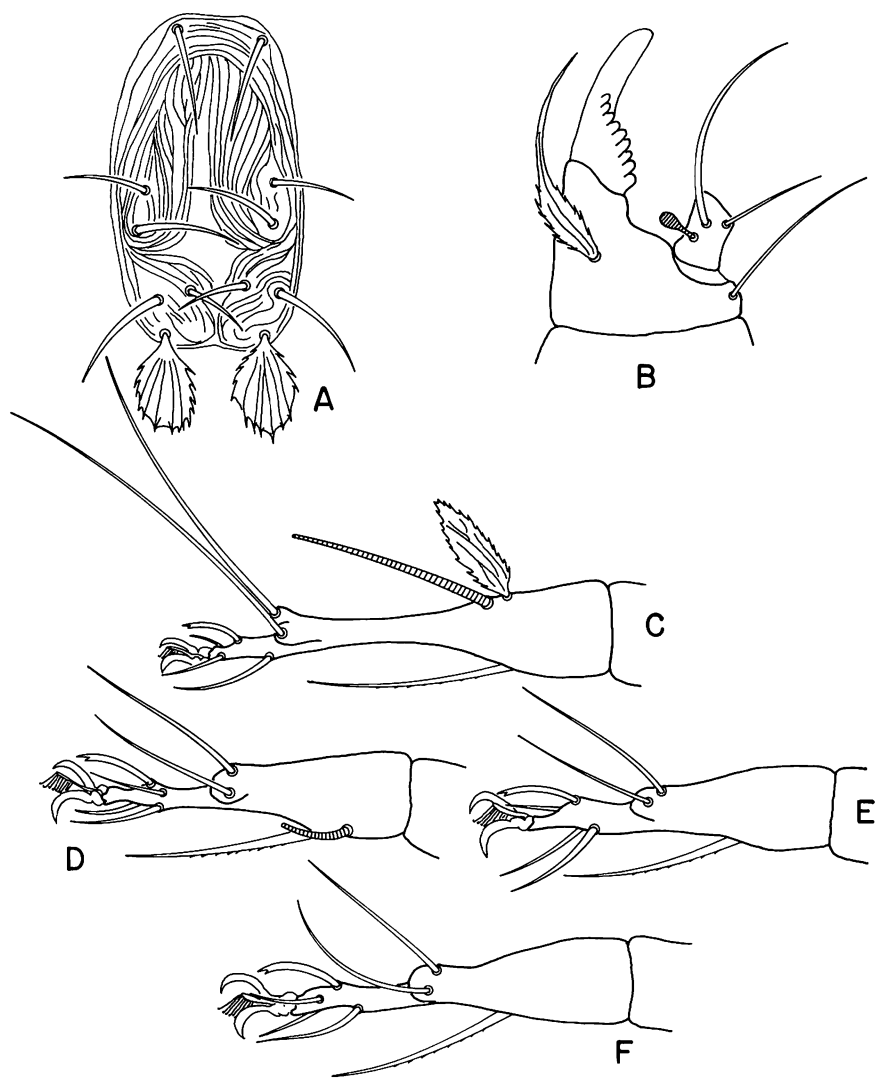


FIGURE 2. *Hemicheyletia kureatollensis* Goff, n. sp. (A) female genital area; (B) ventral aspect of palpal tibia and tarsus; (C) tarsus I; (D) tarsus II; (E) tarsus III; (F) tarsus IV.

ventrolateral expanded, ventral smooth (Fig. 1 & 2B). Palpal genu with 2 fanlike setae. Palpal femur with 3 fanlike setae. Coxae maculate, striate. 1 pair of hypostomal setae, measuring 56. Rostrum normally produced. Superior adoral setae measuring 21, inferior adoral setae 28. Protegmen covered with large granules. Peritremes each with 6 cells. Tegmen with bacilliform granules, some striations basally. *Legs*: Leg I 240, II 203, III 207, IV 242. Leg setal formulae (number, condition and length of solenidia given in parentheses) for legs I-IV: coxae 2-1-2-2; trochanters 1-1-2-1; femora 2-2-2-1; genua 2(1, cylindrical, measuring 6)-2-2-2; tibiae 6(1, distally expanded, measuring 6)-4(1, distally expanded, measuring 5)-4-4; tarsi 8(1, cylindrical, measuring 37-39)-7(1, cylindrical, measuring 13)-7-7. Guard seta on tarsus I fanlike.

Type data. Holotype ♀ (BISHOP 11,981) and 19 ♀ paratypes from Hawaiian Is., Kure Atoll, ex leaf litter near pier, 31. VII. 1980, C.H. Sengbusch, coll.

Remarks. In keys given by Summers and Price (1970), *Hemicheyletia kureatollensis* is clearly placed into the genus *Hemicheyletia*, Volgin, 1969, however some affinities with species of *Mexacheles* DeLeon, 1962, are apparent. The most notable of these is the presence of a fanlike guard seta on tarsus I. This species differs from species of *Mexacheles* in having leg I shorter than the idiosoma and only 1 seta on femur IV (2 setae on femur IV of *Mexacheles* species). Among the known species of *Hemicheyletia* given by Thewke and Enns (1979), *H. kureatollensis* may be easily distinguished by the fanlike guard seta (simple in all other species of the genus) and having 7 pairs of dorsomedian setae on the propodosomal plate (1-4 pairs in other species of *Hemicheyletia*). At present this species is known only from the female.

The species name is based on the type locality, Kure Atoll.

ACKNOWLEDGMENTS

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