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HALACARUS CTENOPUS GOSSE, 1855 (ACARI, HALACARIDAE),
DESCRIPTION OF THE NEOTYPE

BY I. BARTSCH*

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NEOTYPE, DESCRIPTION


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Abstract: Halacarus ctenopus from the English Channel coast and described by Gosse (1855a) proved to be identical with Acarus basteri Johnston, 1836 nowadays known under the generic name Thalassarachna, whereas a redescription of H. ctenopus, prepared by Lohmann (1893) and based on a specimen from off the Bermuda Islands, proved to be neither conspecific nor congeneric with Gosse’s species. Subsequent records or redescriptions of H. ctenopus referred to the species described by Lohmann (1893). For the purpose of stability in nomenclature a neotype was selected and is described herein.

HALACARUS CTENOPUS,
NEOTYPUS, BESCHREIBUNG.


INTRODUCTION

For mites from tidal low water edge, Gosse (1855a) introduced the genus Halacarus, a name derived from halos (Greek), the sea, and acaros (Greek), a mite. Gosse (1855a) presented a short diagnosis and described and illustrated two species, Halacarus ctenopus and H. rhodostigma. The description of H. ctenopus was based on a single specimen, a second one was mentioned in Gosse (1855b). The description, figures and collecting data are sufficient to recognize the species as being conspecific with Acarus basteri Johnston, 1836, now called Thalassarachna basteri. When Murray (1876) introduced the family Halacaridae, for ‘mites living habitually under the sea’, Halacarus Gosse was designated the type genus.

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In 1893 Lohmann presented a detailed ‘redescription’ of Halacarus ctenopus Gosse. The description was based on a single male from algae taken off the Bermuda Islands. The male had a length of 420 μm, a wide frontal spine, large gland pores, and the genua of the legs were longer than the tibiae and telofemora. This specimen is not conspecific, not even congenic with the species described by Gosse.

In the past century diagnoses and figures referring to Halacarus ctenopus (e.g. Viets, 1927, 1936; André, 1946; Newell, 1947; Green & MacQuitty, 1987) were either based directly on the description presented by Lohmann (1893) or on specimens from the western Atlantic. For the purpose of maintaining stability in the taxonomic diagnosis of the genus Halacarus, Bartsch (1991) recommended the usage of H. ctenopus Lohmann (1893) for the mite generally named H. ctenopus. But the usage of H. ctenopus Lohmann (1893), being the type species of the genus Halacarus, would conflict with the date of the family name Halacaridae Murray, 1876, the latter predating its type genus. Accordingly, Bartsch (2001) proposed conservation of the usage Halacarus ctenopus Gosse by designation of a neotype for Halacarus ctenopus according to Article 75.6 of the International Code of Zoological Nomenclature (1999). As the halacarid from the Bermuda Islands described by Lohmann (1893) must be regarded lost, a neotype from Florida was chosen, which is housed in the United States National Museum of Natural History, Collection I. M. Newell. According to present knowledge, corresponding habitats of Florida and Bermuda contain similar faunas.

ABBREVIATIONS: AD, anterior dorsal plate; AE, anterior epimeral plate; ds-1 to ds-6, first to sixth pair of dorsal setae; GA, genitoanal plate; GO, genital opening; OC, ocular plate(s); P-2 to P-4, second to fourth palpal segment; pas, parambularcal setae; PD, posterior dorsal plate; PE, posterior epimeral plate(s).

DESCRIPTION

Halacarus ctenopus Gosse, 1855

(Figs 1-13)

Halacarus ctenopus Gosse, 1855 — Lohmann, 1893: 82, 83, Pl. 9, Figs 2, 4, 5; Viets, 1927: 16, Fig. 1; Viets, 1936: 542, 543, Fig. 636; André, 1946: 58-60, Figs 26, 27; Newell, 1947: 82-87, Figs 83-93; Sokolov, 1952: 70.

Halacarus ctenopus Gosse, 1855 sensu Lohmann, 1893 — Green & MacQuitty, 1987: 114, 115, Fig. 46.

non Gosse, 1855a: 28, 29, Pl. 3, Figs 6-10; Gosse, 1855b: 306.

Material examined: Neotype male, United States of America, Florida, from Soldier’s Key, Biscayne Bay, on Halimeda opuntia, July, 1st, 1944, coll. H. W. Baird.


Other material. One female, two deutonymphs. Same slide as above.

Description: Male. Idiosoma 457 μm long, 239 μm wide. Major portions of idiosoma covered by mainly parallelly striated epicuticula, striae rarely anastomosing. Idiosoma with five pairs of large gland pores (Fig. 1); first pair on PD, second pair marginally within membraneous integument, third pair on OC, fourth and fifth pair of pores on PD. AD 162 μm long, 94 μm wide, with triangular frontal process. That process and lateral portions of plate bearing striated epicuticula. Gland pores large. OC 85 μm long, 42 μm wide; with cornea, gland pore and pore canaliculus as illustrated. PD oblong, 210 μm long, 92 μm wide; anterior margin rounded, extending almost to the level of insertion of leg III. PD with pair of costae; median and lateral portion of PD faintly reticulated, costae covered by striated epicuticula. Posterior pair of gland pores extending beyond median margin of PD. Dorsal setae short; ds-1 on PD posterior to pair of gland pores; ds-2, ds-3 and ds-4 within membraneous integument, ds-5 and ds-6 on PD medial to fourth and fifth gland pores, respectively.

Ventral plates AE and PE, as well as anterior and marginal portions of GA covered by striated epicuticula (Fig. 3). AE 117 μm long, 220 μm wide. Ventral setae long; AE with three pairs of setae, PE with one dorsal and three ventral setae (Fig. 2). GA slender, 222 μm long, 102 μm wide. Anterior margin ovate and extending to the level of insertion of leg III. GO 45 μm long, 32 μm wide. GA with 11 long outlying setae, and 28 slightly shorter setae around the GO. Genital sclerites with four pairs of subgenital setae. Spermatopositor extending beyond GO.
Gnathosoma slender, 147 μm long, 62 μm wide. Rostrum 85 μm long, 35 μm wide, longer than gnathosomal base (Fig. 4). Gnathosomal base and palps covered by striated epicuticula. Basal pair of maxillary setae long, near base of rostrum; apical pair of setae shorter and near end of rostrum. Two pairs of rostral setae, one pair lamelliform, the other pair of setae shorter and near end of rostrum. Two maxillary setae long, near base of rostrum; apical setae covered by striated epicuticula. Basal pair of setae within triangular portion and one seta bipectinate, two setae long, tapering and smooth, and one seta conspicuously short when compared with the other setae (Fig. 5 and 7). Tibiae III and IV each with four bristle-like ventral setae (Figs. 8 and 9).

Claws on tarsus I with delicate tines on accessory process but no distinct pecten. Pectines of claws II and III extending to base of claws and bearing numerous tines. Claws of tarsus IV with tines on accessory process but not on shaft of claws.

**FEMALE.** Larger than male. Idiosoma 538 μm long, 295 μm wide. **AD** 172 μm long, 107 μm wide. **OC** more slender than in male, 82 μm long, 37 μm wide. **PD** distinctly shorter and more slender than plate of male (Fig. 10); **PD** 207 μm long, 84 μm wide, its anterior margin ovate. **AE** 107 μm long, faintly excravate. **GA** 178 μm long, 140 μm wide. Anterior triangular portion with striated epicuticula; bean-shaped lateral areas with thick epicuticular layers (Fig. 11). One pair of setae within triangular portion and one pair between GO and bean-shaped areas. Each genital sclerite with four slender subgenital setae (one anterior and three posterior setae).

**DEUTONYMPH.** Idiosoma 380–420 μm long. **PD** distinctly smaller than that of adults, slightly extending beyond fourth pair of gland pores (Fig. 12). Genital plate small; with two pairs of perigenital setae (Fig. 13).

**Remarks**

Almost 80 species of *Halacarus* are presently known. On the base of the plates and position of gland pores, the ornamentation of the plates, gnathosoma and legs, the shape of the genital plate, and the shape and number of setae on the legs, *Halacarus* species can be attributed to species groups. One of them, the *ctenopus* group, is characterized by the combination: **AD, OC** and **PD** well developed. Striated epicuticula covering dorsal and ventral plates, gnathosoma and legs. Fourth pair of gland pores within the **PD**. Female **GA** with two pairs of perigenital setae; integument on either side of **GO** swelled and set off from anterior portion of **GA**. Tibia I with two pairs of tapering spiniform setae. Ventromedial spine on tibia II bipectinate. Tarsi III and IV each with four and three dorsal, but no ventral setae.

Species of this group are spread world-wide, from tropical to cold temperate shores. The species described and their localities are:

- **H. borealis** Trouessart, 1893, northern Atlantic, Iceland (Trouessart, 1894).
- **H. ctenopus** Gosse, 1855, northwestern Atlantic, Bermuda Island and Caribbean Sea (Lohmann, 1893, Newell, 1947) (records from the northeastern Atlantic are in need of verification).
- **H. malaysius** Bartsch, 1993, South China Sea, Peninsular Malaysia (Bartsch, 1993b).
- **H. mitrellus** Bartsch, 1993, Indian Ocean, southwestern Australia (Bartsch, 1993a).
- **H. oblongus** Lohmann, 1893, southwestern Pacific, southeastern Australia, off Sydney (Lohmann, 1893).
- **H. subtilis** Viets, 1940, Mediterranean (Viets, 1940).
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REFERENCES


MURRAY (A.), 1876. — Economic Entomology. Aptera. — South Kensington Museum Science Handbooks. 433 pp


