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Three interesting halacarid mite species (Acari: Halacaroidea) from Montenegro and Italy

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With 9 Figures

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Three halacarid water mite species (Acari: Halacaroidea) are reported from Montenegro and Italy. Two of them, *Halacarellus chersoensis* Bartsch, 1998, and *Lobmannella stammeri* Viets, 1939, are reported for the first time in the Mediterranean and Balkan areas, respectively. The latter was previously known only from one anchihaline cavity in Southern Italy.

1 Introduction

Halacarids are mainly marine Acari, though some live in brackish or freshwater (Bartsch, 1996). So far, only six halacarid mite species (Acari: Halacaroidea) are reported from Montenegro (Pešić, in press). In this paper we present new data that contribute to our knowledge about the morphology, geographical distribution, and habitat preference of two halacarid mites of the genera *Halacarellus* and *Lobmannella*, and one species of the genus *Agauopsis*, from Montenegro and Italy, respectively.

2 Material and Methods

Halacarid mites were collected from the interstitial habitat by Karaman-Chapuis digs and sorted in the laboratory under a stereo microscope. The Slide-mounted specimens are curated in the collections of the authors. The collecting site abbreviations in the section «Material examined» are from the database of the author.

Further abbreviations are used: asl = above sea level, II-L-6 = Leg 2, sixth segment, L = length, P-1 = palp, first segment. All measurements are given in μm .

3 Systematic part

Lobmannella stammeri Viets, 1939 (Figs. 1-5)

Material examined: Montenegro: CG96 Durmitor Mountains, Mlinski Potok stream near Crno Lake, interstitial dig, 1450 m asl., 24.08.1995, leg. Karanović; one male.

Description: Male: Idiosoma 320 μm in length, 212 in width. Two hairs are inserted on the anterior part of the gnathosomal rostrum (Fig. 3). P-2 bears two hairs in the anterior part, ventral surface convexely protruding. Setae ds-1 on the anterior dorsal plate very long. Posterior dorsal plate with truncated anterior margin. Ocular plates large and each presenting a seta (ds-2) on the anterior margin, with pointed posterior margin (Fig. 1). The anterior epimeral plate with three pairs of setae. Genital field: 59 μm in length, 36 in width, surrounded by 37 genital setae (Fig. 2). Ejaculatory complex (Fig. 5) 99 μm in length. Chaetotaxy of first leg as in figure 4. Two bipectinate setae inserted on the ventral surface of femur I, three bipectinate setae on genu I, a two pairs of bipectinate setae on tibia I and two bipectinate setae on tarsus I. Number of bipectinate setae of II-L-3-6, respectively: 2-3, 2, 4, 2; III-L-3-6: 2, 1, 3, 2; IV-L-3-6: 1, 1, 3, 2.

Remarks: *Lobmannella stammeri* is a well-defined species, but has no more been recorded since the first description. According to Bartsch (in press), *L. stammeri* differs from the rather similar species *L. cvetkovi* (Petrova, 1965), a species so far only known from Bulgaria (Petrova, 1965, 1969), in the following features: both gnathosomal hairs are inserted on the anterior part of the rostrum, three bipectinate setae are inserted on the ventral surface of genu I, and genital field is oval with rounded anterior margin.

The Montenegrin specimens show a general conformity with the Italian specimens. Differences are found in the shape of posterior margin of the anterior dorsal plate which is more rounded in our specimens (more pointed in Italian specimens), as in two other species of the genus *Lobmannella* of the Balkan peninsula, *L. curvimandibulata* (Petrova, 1969) and *L. cvetkovi* (Petrova, 1965).

Biology: *L. stammeri* is so far only known from the cave L'Abisso (Southern Italy), a large breakdown anchialine cavity which opens 200 m far from the sea (Viets, 1939). According to Viets (1950) accompanying fauna in L'Abisso includes both true freshwater taxa and brackish water species. The new record demonstrates that *L. stammeri* is able to pass the mixing zone between marine and inland waters and to colonize rhithral interstitial habitats at high elevation (1450 m asl.).

Distribution: Italy, Serbia and Montenegro.

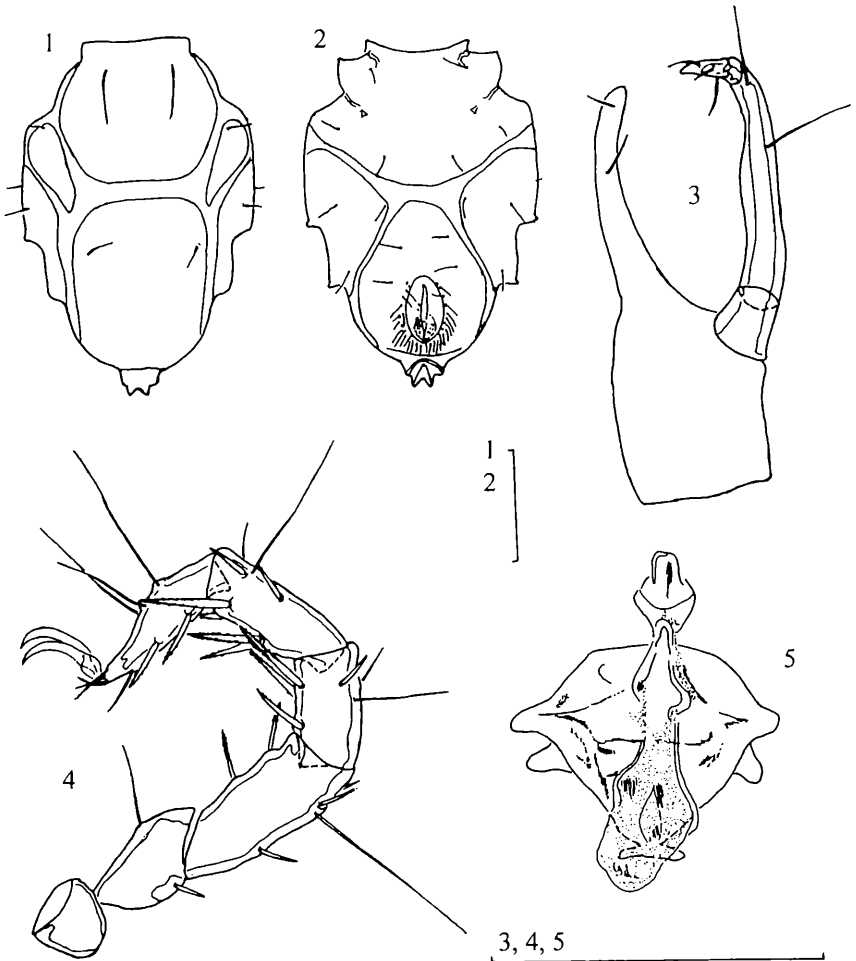


Fig 1-5: *Lohmannella stammeri*, male. 1 = idiosoma, dorsal view; 2 = idiosoma, ventral view; 3 = gnathosoma and palp, lateral; 4 = first leg; 5 = ejaculatory complex. Scale bars = 0.1 mm

Halacarellus chersoeneus Bartsch, 1998 (Figs. 6-7)

Material examined: Montenegro: CGh1 mouth of stream on beach Canj (Adriatic Sea) near Sutomore, interstitial dig, 26.04.2003, temperature 18 C°, pH 7.1, conductivity 0.485 ms/cm, leg. Vukasinović & Pešić; one male.

Remarks: So far, only two species of *Halacarellus* – *H. petiti* Angelier, 1950, and *H. phreaticus* Petrova, 1972 – are recorded from the Mediterranean area. Due to the tibia I bearing 2 spurs and 4 ventral setae, *H. chersoeneus* is most similar to *H. capuzinus* (Lohmann, 1893). The specimen from Montenegro show a general conformity with the specimen of *H. chersoeneus* from Crimea and differs from *H. capuzinus* due to the longer idiosoma, L 369 μm ; 291-332 μm in *H. capuzinus*, in a specimen of *H. chersoeneus* from Crimea 371 (from Bartsch 1998), and tibia II has only 2 ventral setae (Fig. 6); 2 short bipectinate ventromedial setae and one slender smooth ventrolateral seta in *H. capuzinus* (from Bartsch 1998). Differences are found in the shape of posterior margin of the genital field which is more pointed (Fig. 7) in our specimen vs rounded in specimen from Crimea.

Biology: Psammobiont.

Distribution: Black Sea (Crimea), Adriatic Sea (Montenegro). First record of the species in the Mediterranean region.

Agauopsis marinovi Petrova, 1976 (Figs. 8-9)

Material examined: Italy: Sicily, Sciacca, beach above town, interstitial dig, 29.08.1998, leg. Karanović; one female. Accompanying fauna: *Lohmanella falcata* (Hodge, 1863).

Remarks: In Figs. 8-9 we give some morphological details of of the specimen from Sicily, which represent the first record of the species in Italy.

Biology: Psammobiont.

Distribution: Black Sea, also known from the French Channel coast (Bartsch, pers. comm.).

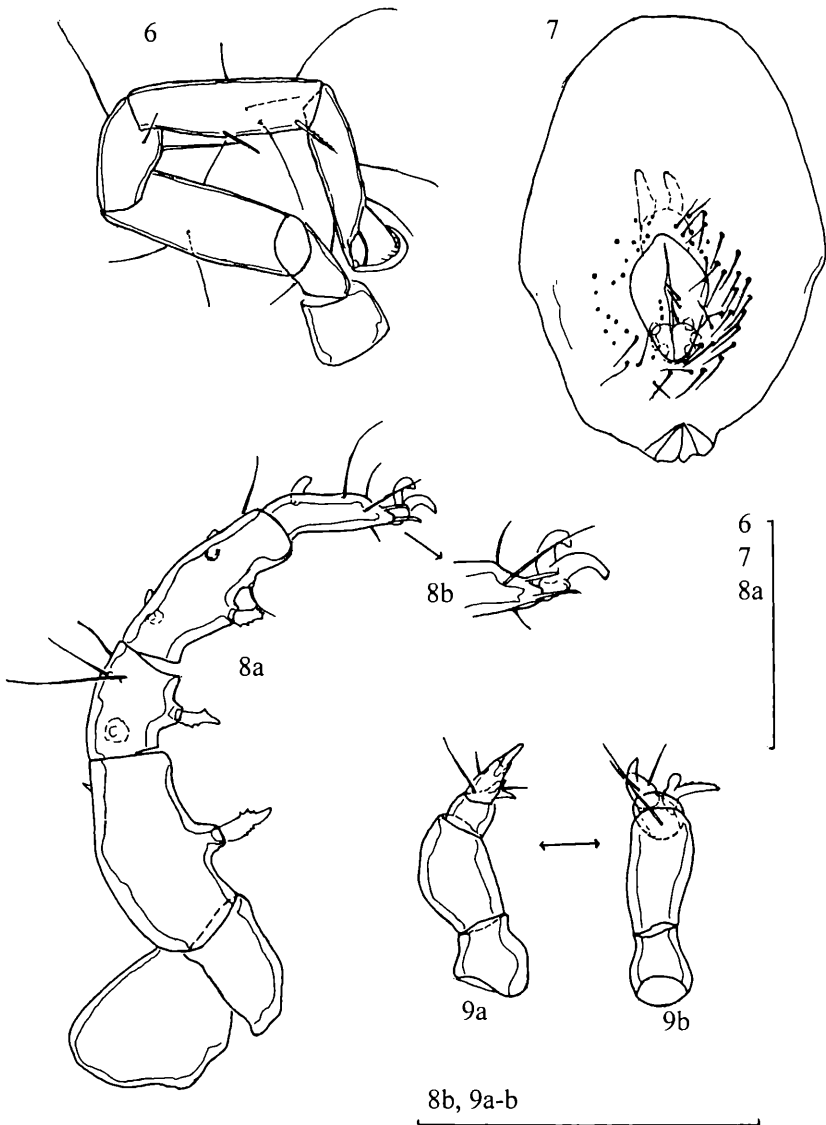


Fig. 6-7: *Halacarellus chersoenesus*, male. 6 = second leg; 7 = genitaloanal palpe. Scale bars = 0.1 mm

Fig. 8-9: *Agauopsis marinovi*, female. 8a = first leg, 8b = distal part of I-L-6; 9 = palp: a = lateral, b = dorsal. Scale bars = 0.1 mm

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