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A NEW SPECIES OF *CTENOBELBA* (ACARI: ORIBATIDA: CTENOBELBIDAE) FROM THE CAUCASUS REGION

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ABSTRACT: A new species, *Ctenobelba heterosetosa* sp. n., is described based on specimens from Ajara in the subtropical region of Western Georgia, collected from soil in a *Castanea* forest. The species differs from all described *Ctenobelba* species world-wide by the heteromorphic notogastral setae, which are broadened and phylliform in the anterior and centrodorsal part, strongly bacilliform in the posterior submarginal *h*-row, thin and fine in the posterior marginal *p*-row. The main characters of the new species are compared with those other *Ctenobelba* species with more or less phylliform notogastral setation.

KEY WORDS: Acari; Soil mites; Ctenobelbidae; Mtirala National Park; Georgia

INTRODUCTION

In the course of an ecological sampling program in the Western Georgian region of Ajara two specimens of *Ctenobelba* Balogh, 1943 were collected which proved to represent a new species. Up to now, only two species of Ctenobelbidae have been found in Georgia, *C. pectinigera* Berlese, 1908 and *C. pilosella* Jeleva, 1962 (Murvanidze and Darejanashwili 2000). An additional Caucasian species from Azerbaijan, *C. tuberculata* Kulijev, 1966 (Kulijev 1966, Karppinen et al. 1987) is probably a junior synonym of *C. pilosella*, following Ghilarov and Krivolutski (1975). The new species has some pairs of broadened notogastral setae, which is true in only six of the 18 species of *Ctenobelba* described world-wide. Below, we will describe the new species and compare it with others in the genus.

MATERIAL AND METHODS

The material was collected as part of an ecological research expedition conducted in Mtirala National Park located in the Western Georgian subtropical region — Ajara. The site was a *Castanea* forest with *Rhododendron ponticum* and *Laurocerrasus officinalis* understory, visited on 31.07.2005 (41,62472° N; 41,82333° E). The mites were extracted by use of modified Berlese-funnels. The specimens were stored in ethanol and after clearing were studied in lactic acid in an open hollow-ground microscope slide. The terminology of morphological structures follows van der Hammen (1980) and Weigmann (2006).

SYSTEMATICS

Family Ctenobelbidae Grandjean, 1965

Genus *Ctenobelba* Balogh, 1943

Ctenobelba heterosetosa Murvanidze et Weigmann, sp. n.

Fig. 1.

Diagnosis. Body length 375–410 μm; anterior part of lamellae I long and parallel; prodorsal setae pointed, moderately long; lamellar setae on tip of lamellae; sensilli long, pectinate, with about 10 very short rami. Anterior border of notogaster straight to concave, with rounded shoulder corners and one tubercle opposite each bothridium; 10 pairs of notogastral setae: four anterior and dorsocentral pairs (c_2, *la*, *lm*, *lp*) phylliform, widened and strongly barbed, distally obtuse; three pairs of submarginal posterior setae (h_1–h_3) strong, bacilliform and pointed; marginal posterior setae (p_1–p_3) small, thin, smooth.

General characters. Body length 375–410 μm, width 200–205 μm. Colour yellow-brown. Cuticle with light cerotegument tubercles.

Prodorsum. Rostrum conical, with two tooth-like projections. Rostral setae at lateral edges, curved mediad, apically pointed. Lamellae distinct, long anterior part parallel, with indistinct line distally. Lamellar setae about 35 μm long, inserted on the anterior tip of lamellae. Interlamellar setae about 25 μm long, finely serrated. Bothridia bowl-shaped, sensilli about 90 μm long, pectinate, with 9–11 very short lateral rami. Pedotecta I and II large. Dorsosejugal area depressed (Fig. 1a).

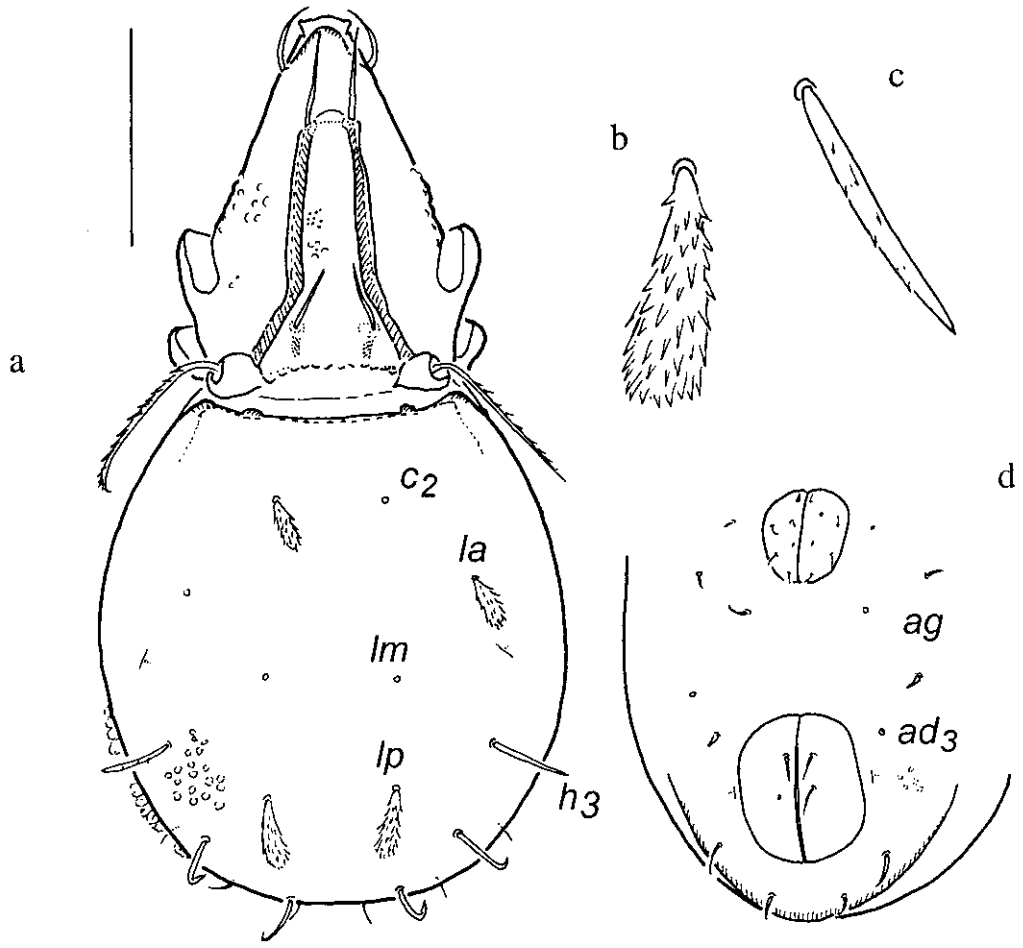

Fig. 1. *Ctenobelba heterosetosa* sp. n.: a — dorsal aspect; b — notogastral seta la; c — notogastral seta h_3; d — ano-genital region, ventral aspect. Scale bar: 100 μm (for a, d). (The figure shows the holotype. Some setae on the notogaster are broken and indicated only by their alveoli)

Notogaster. Anterior border of notogaster straight to concave, with distinct rounded shoulder corners and one tubercle opposite to each bothridium (Fig. 1a). With 10 pairs of differently formed notogastral setae: anterior and central pairs (c_2, *la*, *lm*, *lp*) phylliformly widened and strongly barbed, about 25 μm long (Fig. 1b; *lm*-setae missing in type specimen, Fig. 1a); submarginal posterior pairs of setae (h_1–h_3) strong bacilliform, barbed and pointed, about 35 μm long (Fig. 1c); marginal posterior pairs of setae (p_1–p_3) small, thin, smooth, about 10 μm long.

Ventral region. Structures as normal for the genus, without specific characters (Fig. 1d): Ventral plate with posterior ridge bowed around anal plates; 6 pairs of small genital setae, 3 pairs of aggenital setae, 2 pairs of anal setae, 3 pairs of moderately thickened adanal setae; adanal and anal setae about 15 μm long.

Legs. With 1 claw.

Type depositories. Material in alcohol is deposited in collections of Institute of Biology FU Berlin.

Etymology. This species name relates to the presence of heteromorphic notogastral setae.

DISCUSSION

Only six described species of *Ctenobelba* have broadened and more or less phylliform notogastral setae: *C. pilosella* Jeleva, 1962, *C. foliata* Hammer, 1961, *C. serrata* Mahunka, 1965, *C. tuberculata* Kulijev, 1966, *C. parafoliata* Perez-Iñigo Jr, 1992, and *C. pulchellula* Gil-Martin et Subias, 1997. None of these species has heteromorphic notogastral setation as described in *C. heterosetosa* sp. n. Other differential characters are as follows.

Ctenobelba pilosella is larger, 485–504 μm body length, the notogastral setae are only moderately broadened, strongly barbed and pointed; the sensilli have 7–8 longer rami, and the prodorsal setae are distinctly barbed (cf. Csiszar and Jeleva 1962; Mahunka 1965, 1977; records from Eastern Europe and Caucasus). *C. tuberculata* shows no substantial differences with *C. pilosella*, and we follow Ghilarov and Krivolutski (1975) and Subias

(2004) in considering it a junior synonym of the latter species. *C. serrata* is a small species, also, 416–431 μm length. But it has isomorphic notogastral setae, pointed, slightly thickened with fine barbation; the shorter sensilli have 4–5 very long rami (cf. Mahunka 1965, 1977; records from Italy).

The following three species are similar to each other in regard of the shape of the notogastral setae. In *C. foliata* all notogastral setae are leaf-like and long flagelliform tips; after Mahunka (1965) the setae c_2 and *lm* are somewhat smaller than the other long dorsal notogastral setae (*la*, *lp*, h_1–h_3); the sensilli have 5 long rami. The body length is indicated about 420 μm (Hammer 1961; recorded in Italy), with 435 μm after Mahunka (1965), but 345 μm (lapsus?) after Mahunka (1977), without length indication in Subias and Gil-Martin (1995; recorded from Spain). *C. pulchellula* from Spain most resembles *C. foliata*, all notogastral setae are long, leaf-like with smooth edges and long flagelliform tips; yet, setae c_2 and *lm* are of the same length as the other dorsal notogastral setae; body length 456 μm (cf. Gil-Martin and Subias 1997). *C. parafoliata* is a large species, 462–516 μm length; the notogastral setae are similar in shape to those of *foliata*, but distinctly shorter and with serrated edges; the sensilli have 6–8 long rami (cf. Perez-Iñigo Jr. 1992; Perez-Iñigo 1997; from Spain: Menorca Island).

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