

## Record of the water mite *Limnesia caucasica* Tuzovskij from Karelia with description of the deutonymph (Acariformes: Limnesiidae)

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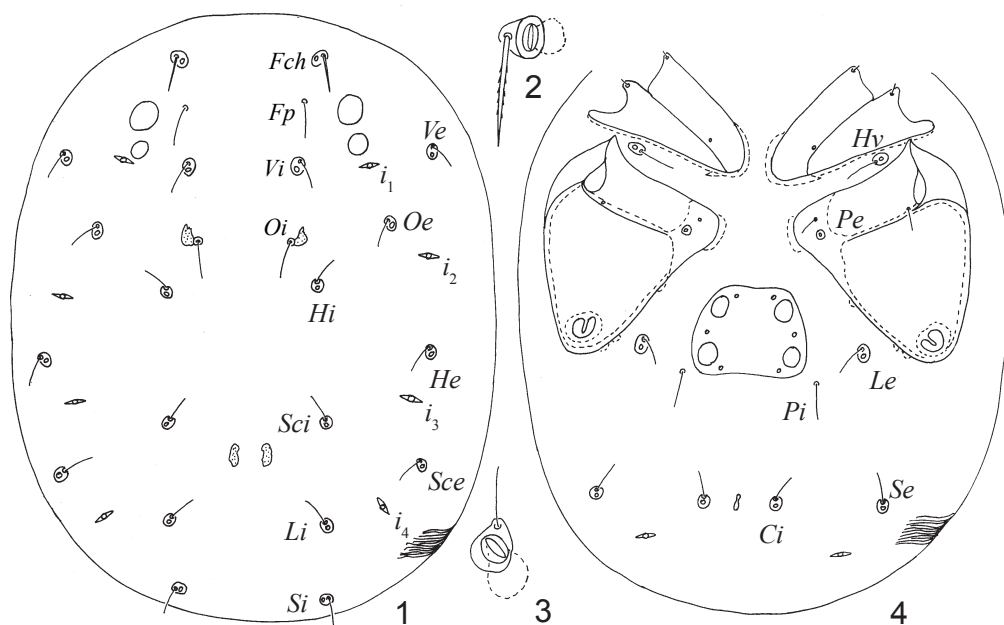
The water mite *Limnesia caucasica* is recorded from Karelia. An illustrated description of the deutonymph is given.

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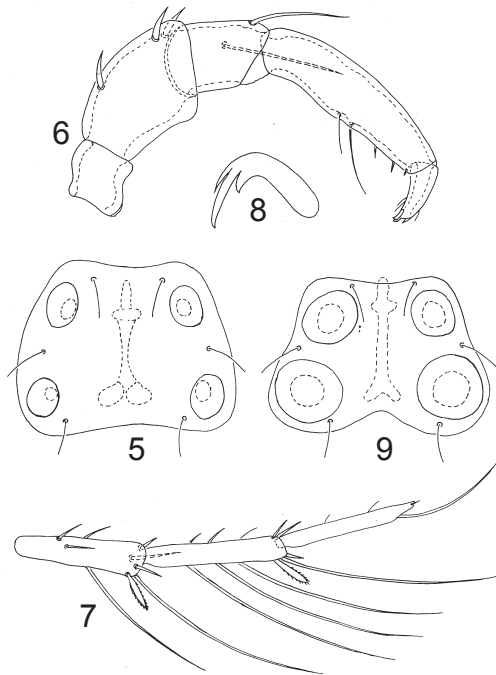
The water mite *Limnesia caucasica* was described from adult specimens and was known only from the Northern Caucasus (Tuzovskij, 1997). In the material collected by A.B. Shatrov in Rudnichnoe and Krivoje lakes, Kandalaksha National Park, Northern Karelia, on 27.VII.2001, females, males and deutonymph of this species were found. The deutonymph of *L. caucasica* is described in this paper.

**Limnesia (Limnesia) caucasica** Tuzovskij, 1997 (Figs 1-9)

*Description. Deutonymph* (nomenclature of body setae and lyriform organs according to Tuzovskij, 1987). Body oval. Eyes in dorsal position (Fig. 1), anterior ones larger than posterior ones. Integument with thin wrinkles. Dorsum



Figs 1-4. *Limnesia caucasica* deutonymph: 1, dorsal surface; 2, seta Fch; 3, seta Vi; 4, ventral surface.



**Figs 5-9.** 5-8, *Limnesia caucasica*, deutonymph: 5, genital plate; 6, pedipalp; 7, genu, tibia and tarsus of leg IV; 8, ambulacra; 9, *L. koenikei*, deutonymph, genital plate.

with two pairs of plates. Anterior plates very small, adjoin the bases of setae Oi; posterior plates longitudinal, located in interval between setae Sci and Li. Setae Fch (Fig. 2) thick, other body setae thin (Fig. 3). Trichobothria Fp and Oi without glandularia, other dorsal setae with accompanying glandularia. Anterior pair of lyriform organs ( $i_1$ ) situated slightly behind posterior eyes;  $i_2$ - $i_4$  located along lateral margins of body.

Anterior groups of coxae (Fig. 4) separated; apodemes very weakly developed. Coxae IV in the shape of an equilateral triangle. Suture line between coxae III+IV in their median part not developed. Bases of setae Pe located at anterior margin of coxae III, and glandularia Pe open at posterior margin of these coxae. Anal opening situated between setae Ci. Setae Pi without accompanying glandularia. Fifth pair of lyriform organs ( $i_5$ ) in posterior part of ventral side. Genital plate trapezoid, with 4 acetabulae and 6 setae. Anterior and posterior margins of plate almost straight (Fig. 5). Acetabulae small, of subequal size. Distance between anterior and posterior acetabulae greater than diameter of one acetabula.

Trochanter of pedipalp (Fig. 6) short, without setae. Femur with three short dorsal setae. Ventral surface of femur with small, convex distal protuberance. Genu with two long setae, dorsal

seta a little shorter than lateral seta. Tibia slender. Simple ventral setae located in middle of tibia, proximal seta longer and thicker than distal seta. Three short ventral solenidia situated in distal part of tibia.

Genu of leg IV (Fig. 7) with two, tibia with four, tarsus with one swimming seta. Ambulacrae with large median and short dorsal and ventral teeth (Fig. 8).

Measurements,  $\mu\text{m}$ . Length: body 495, setae Fch 115; genital plate 70 (width 100); segments of pedipalp 25, 70, 50, 95, 25; segments of legs: I – 30, 55, 55, 60, 70, 85; II – 35, 55, 60, 78, 102, 110; III – 55, 50, 60, 90, 108, 115; IV – 85, 65, 85, 115, 125, 130.

**Comparison.** Adult mites of *Limnesia caucasica* are similar to those of *L. koenikei* Piersig, 1894, which especially clearly differ in the structure of the external genital organ in both sexes (Tuzovskij, 1997). The deutonymphs of *L. caucasica* and *L. koenikei* also differ clearly in the structure of genital plates. In the deutonymph of *L. koenikei* (Fig. 9), the posterior margin of genital plate is concave, posterior acetabulae larger than anterior ones, distance between anterior and posterior acetabulae less than length of anterior acetabulae. In the deutonymph of *L. caucasica*, the posterior margin of genital plate is almost straight, anterior and posterior acetabulae of subequal size, distance between anterior and posterior acetabulae greater than diameter of one acetabula (Fig. 5). The shape of genital plate in the deutonymph of *L. caucasica* is more similar to that of the deutonymph of *L. connata* Koenike, 1895, but in the latter species the ventral surface of pedipalpal femur is without protuberance, posterior dorsal plates fused, coxae of legs IV elongate, and tibia of leg IV with 2 swimming setae (Tuzovskij, 1979, 1997).

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