

A new species of the water mite genus *Frontipoda* from Magadan Province of Russia (Acariformes: Oxidae)

P.V. Tuzovskij

Tuzovskij, P.V. 2002. A new species of the water mite genus *Frontipoda* from Magadan Province of Russia (Acariformes: Oxidae). *Zoosystematica Rossica*, 10(2), 2001: 293-297.

An illustrated description of the water mite *Frontipoda variabilis* sp. n. (male and female) from a thermokarstic lake in Magadan Province is given.

P.V. Tuzovskij, Institute of Inland Waters Biology, Russian Academy of Sciences, Borok 152742, Yaroslavl Prov., Russia. E-mail: tuz@ibiw.yaroslavl.ru

Frontipoda variabilis sp. n. (Figs 1-17)

Holotype. ♂, Russia, Magadan Prov., Anadyr Distr., thermokarstic lake on the right bank of Anadyr River, 12 km downstream of Markovo, 18.VII.1981 (P.V. Tuzovskij), deposited at the Institute of Inland Waters Biology.

Paratypes. Russia, 18 ♂, 3 ♀, collected in July – September 1981 in the same lake, deposited with holotype.

Description. (Nomenclature of body setae and lyriform organs follows Tuzovskij, 1987).

Male (Figs 1-7, 9-17). Colour dark brown. Body high and laterally compressed (Fig. 1). Coxae of legs extremely large, fused in one shield and covering almost entire surface of body, except for narrow dorsal strip. Most of body setae situated along lateral edges of dorsal shield; setae Oe and Se slightly removed from these edges; setae Hv close to ventral edge of shield. Setae Fch thick and plumose, with short projection close to base (Fig. 2). Other body setae thin and smooth. Trichobothria Fp, Oi and setae Pi without accompanying glandularia, whereas other body setae with glandularia. Anterior end of coxa I with small hyaline knee-shaped projection pointed at apex, and with two plumose setae almost equal in length (Fig. 3).

Soft interscutal membrane usually with seven unpaired narrow plates and five pairs of lyriform organs. Setae Oi on anterior plate (Fig. 4) sometimes represented by two or three separated fragments (Fig. 5). Other dorsal plates sometimes divided into parts.

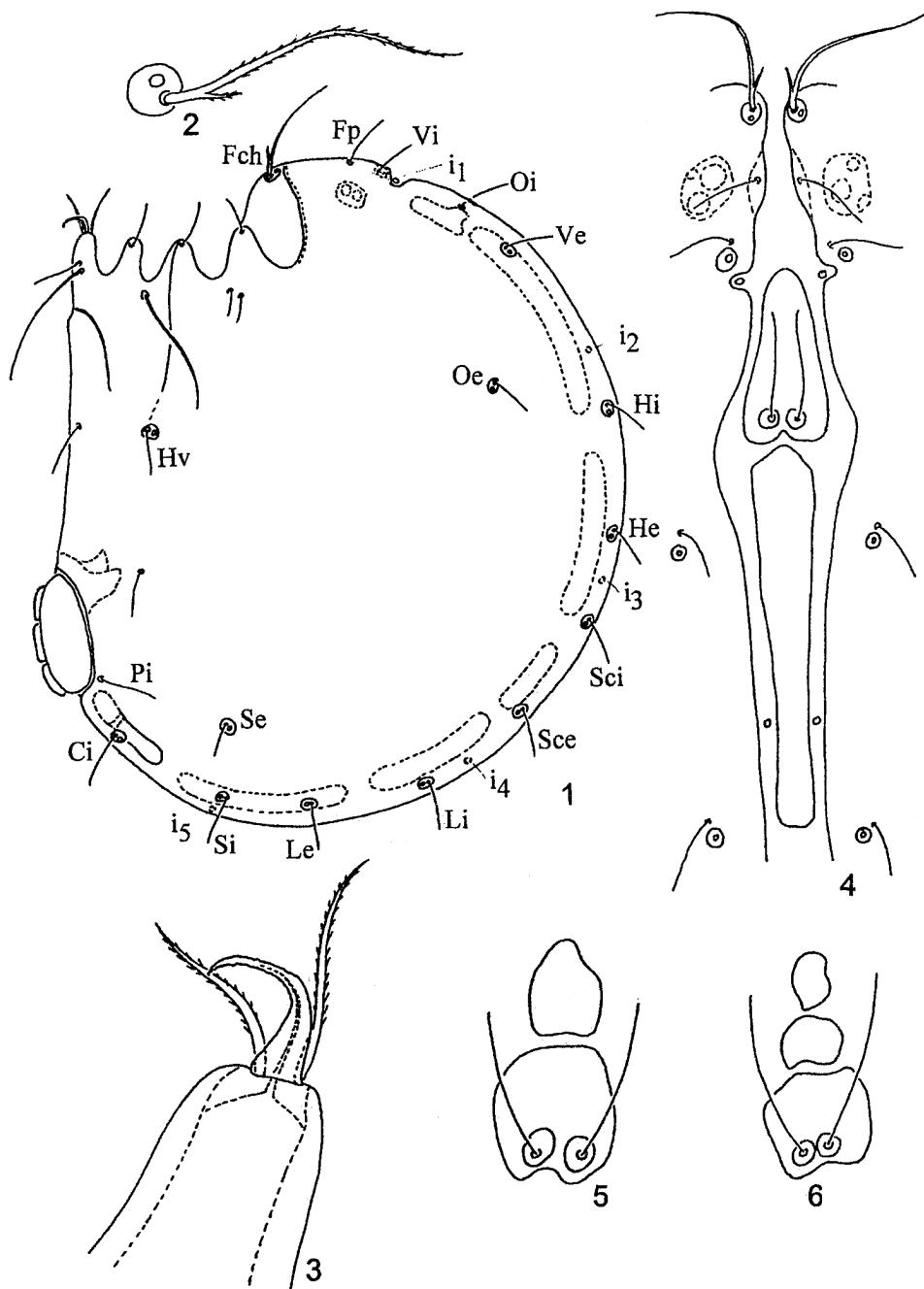
External genital organ situated in posterior part of ventral body surface. All genital acetabulae narrow, oblong and nearly equal in size; their total length somewhat less than flap length (Fig. 7).

Each genital flap with 12-16 medial and 6-10 lateral thin hairs. Excretory aperture on separate plate, very variable in shape and size, especially in posterior part (Figs 9-12). Ejaculatory complex (Fig. 13) with large proximal chamber bearing small horn. Proximal projections moderate in length; distal projections very small.

Dorsal edge of pedipalp trochanter (Fig. 14) 3 times as long as ventral edge and bearing a large seta. Ventral edge of pedipalp femur weakly concave, its dorsal edge with 5 setae: two thick proximal and three thin distal, one being twice longer than two others. Genu of pedipalp with one short and four long setae. Dorsal edge of pedipalp tibia straight, ventral edge convex. Distal part of tibia with short thick lateral spine and three thin dorsal hairs. Ventral hairs of tibia widely spaced. Tarsus of pedipalp short, with minute distal spines.

Fore legs without swimming hairs (Fig. 15). Genu of leg I with very long thick ventral setae in distal part. Tibiae of legs II-IV with numerous long swimming setae. Ambulacra of legs I-III with long central claw and two additional denticles, dorsal and ventral (Fig. 16). Tarsus of leg IV with two large and one short plumose seta in distal part (Fig. 17); both large setae equal in size and almost twice as long as short seta.

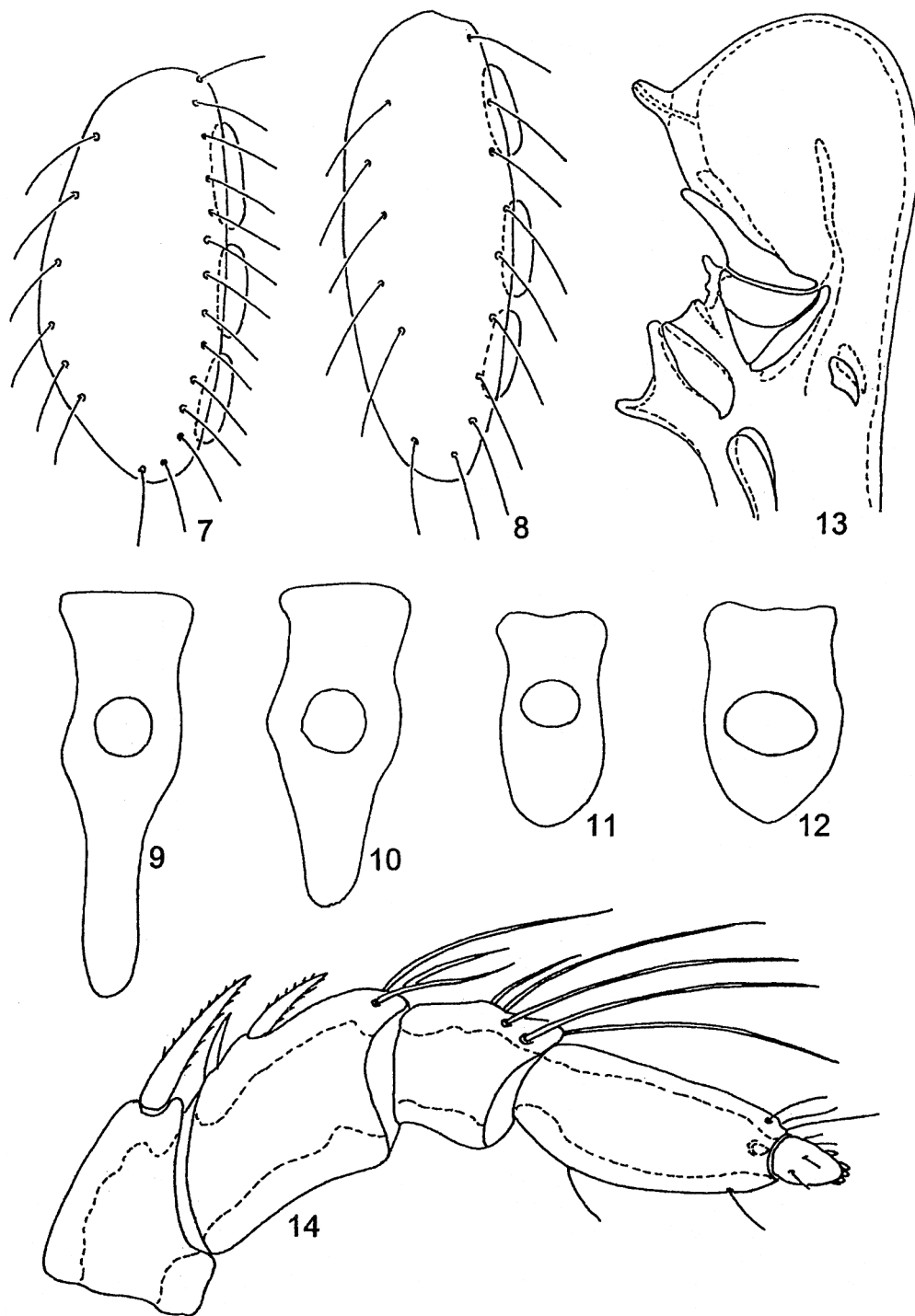
Measurements, in μm . Length of body, 840-980; length of genital flap, 165-175; its width, 65-70; length of genital acetabulae, 42-48; length of hypostomal plate, 145-170; length of basal segment of chelicera, 90; length of mobile segment of chelicera, 45; length of pedipalp segments: 40, 40, 27, 40-50, 15-18; length of segments of legs: I – 55-60, 40-42, 30-35, 65-75,



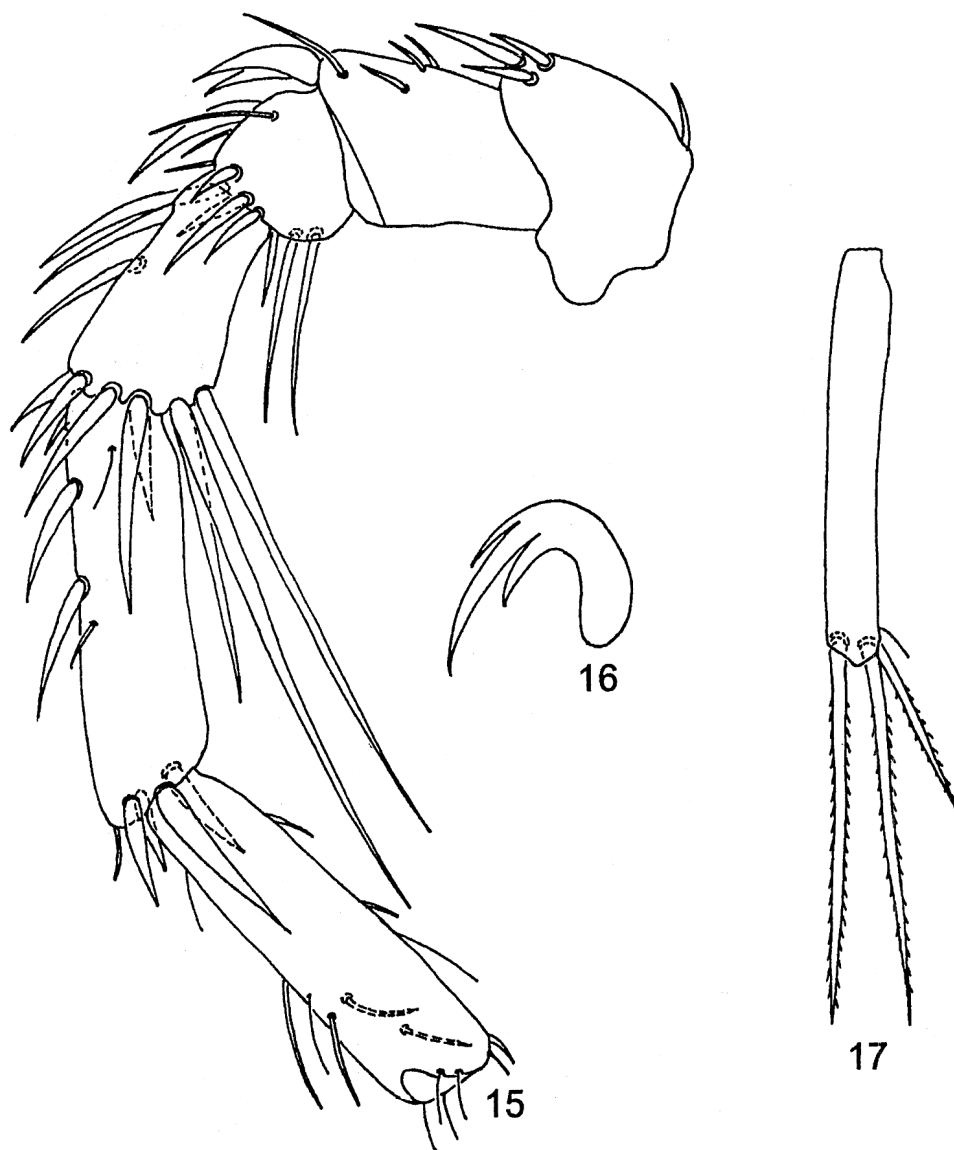
Figs 1-6. *Frontipoda variabilis* sp. n., male: 1, lateral view; 2, seta Fch; 3, anterior part of coxa of leg I; 4, anterior part of body, dorsal view; 5-6, anterior dorsal plates.

105-115, 112-115; II – 55-60, 63-67, 55-75, 115-130, 150-160, 130-140; III – 57-65, 70-75, 80-90, 145-155, 195-205, 170-190; IV – 74-80, 65-70, 95-100, 145-170, 185-205, 145-165.

Female (Fig. 8). Similar to male, differs in the larger size and smaller number of setae on genital flaps. Each flap with 10-13 medial and 4-7 lateral setae.



Figs 7-14. *Frontipoda variabilis* sp. n. (7, 9-14, male; 8, female): 7-8, genital plate; 9-12, anal plate; 13, ejaculatory complex; 14, pedipalp.



Figs 15-17. *Frontipoda variabilis* sp. n., male: 15, leg I; 16, claw of leg II; 17, tarsus of leg IV.

Measurements (in μm). Length of body, 980-1225; length of genital flap, 220-245; its width, 85-95; length of genital acetabulae, 55-60; length of hypostomal plate, 170; length of pedipalp segments: 40, 50, 25-30, 40-50, 15-18; length of segments of legs: I – 55-60, 55-60, 30-40, 70-75, 120-139, 115-120; II – 65-75, 75-80, 80-85, 135-145, 185-190, 155-165; III – 74-81, 80-85, 95-100, 170-180, 220-230, 185-210; IV – 80-90, 75-80, 105-110, 170-180, 220-230, 163-170.

Comparison. The new species is similar to *F. carpenteri* Halbert, from which it differs especially distinctly in the shape of the hyaline projection on the anterior end of coxa I and structure of tarsus of leg IV. Information on morphology of the adult mites *F. carpenteri* is given in the following papers: Halbert (1911), Soar & Williamson (1927), Viets (1956), Schwoerbel (1959), and Lundblad (1962). In *F. carpenteri* adults, the hyaline projection on the anterior part

of coxa I is straight, broad, with flat top, and all distal setae on tarsus of leg IV are different in length (Lundblad, 1962), whereas in *F. variabilis* the hyaline projection is knee-shaped with sharp top, and tarsus IV bears two long setae of equal length and one short seta.

References

- Halbert, J.N. 1911. Clare Island survey. Acarinida. Section 1. Hydracarina. *Proc. Roy. Irish Acad.*, 31 (Sect. 2, pt. 39i): 1-44.
- Lundblad, O. 1962. Die Hydracarina Schwedens. II. *Arkiv för Zoologi*, 14(1): 1-635.
- Schwoerbel, J. 1959. Zur Kenntnis der Wassermilbenfauna der südlichen Hochvogesen (Hydrachnellae, Acari). *Vie et Milieu*, 10(1): 14-67.
- Soar, C.D. & Williamson, W. 1927. *The British Hydracarina*. II. Ray Soc., 112. 215 p. London.
- Tuzovskij, P.V. 1987. *Morfologiya i postembrional'noe razvitie vodyanykh kleshchei* [Morphology and postembryonic development of water mites]. 172 p. Nauka, Moscow. (In Russian).
- Viets, K.O. 1956. Die europäischen *Frontipoda*-Arten (Hydrachnellae, Acari). *Zool. Anz.*, 156 (9/10): 243-248.

Received 28 March 2001