Description of a new water mite species of the genus *Monatractides* K. Viets (Acari: Hydrachnidia, Torrenticolidae) from Russia

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**Abstract**

A description of a new water mite species, *Monatractides rarus* (female) from running waters of North Caucasus (Republic Adygheya) is given.

**Key words**: Torrenticolidae, *Monatractides rarus*, water mite, female, new species, identification key.

**Introduction**

Water mites of the genus *Monatractides* were found in the territory of Russia comparatively recently (Tuzovskij 2000). At present three species of this genus are known from Russia: *M. caucasicus* Tuzovskij, 2000 and *M. ubinicus* Tuzovskij, 2000 from the northern Caucasus (Tuzovskij 2000), and *M. abei* Pešić, Semenchenko & Lee, 2013 from the Far East (Pešić *et al.* 2013). In material sent to me for identification I have discovered one more species from this genus. The aim of the paper is to describe this new species and to give an identification key for the adults found in Russia.

**Material and Methods**


The following abbreviations are used: P–1–5 - pedipalp segments (trochanter, femur, genu, tibia and tarsus); I–Leg–1–6 - first leg, segments 1–6 (trochanter, basifemur, telofemur, genu, tibia and tarsus), i.e. III–L–4 refers to the genu of the third leg; L – length, W – width; n - number of specimens measured. Length of the segments was measured along their dorsal margin; all measurements are given in micrometers (µm).

**Systematics**

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Family Torrenticolidae Piersig, 1902

Genus Monatractides (K. Viets, 1926)

Monatractides rarus sp. n.
(Figs 1–7)

Holotype: female, slide 9806, Russia, North Caucasus, Republic Adygheya, Maykop District, Kurdghips River near settlement Red Bridge, 18 May 2013, leg. M. Shapovalov. Holotype is deposited in the collection of the Institute for Biology of Inland Waters (Borok, Russia).

Diagnosis. Female: Idiosoma oval-shaped, dorsal shield primary sclerotization bearing a single pair of glandularia, suture lines between coxal plates III and IV strongly curved, medially forming a nearly right angle with longitudinal idiosoma axis, P–4 stout, slightly longer than P–3 (P–4/P–3 ratio 1.07), P–4 all ventral setae short, subequal and situated distally.

Description. Female. Frontal edge between setae Fch wide and straight (Fig. 1). Dorsum with main shield and two pairs of anterior platelets (medial and lateral). All platelets are separated from the dorsal shield. Anteriomedial plates trapezoid (L/W ratio 2.2); anteriolateral platelets triangular, with broad anterior and narrow posterior part (L/W ratio 2.16). Dorsal shield wide (L/W ratio 1.15), covering about 5/6 of dorsal surface, primary sclerotization bearing a single pair of glandularia (Sci) which are slightly distant from the lateral margins; two muscle attachment sites with rough sculpture situated between glandularia Sci; secondary sclerotization moderately developed. Setae Fch thicker than others idiosomal setae. Setae Vi located on anteriomedial platelets, setae Oi and Hi on anterolateral platelets; Li and Si situated in the zone of secondary sclerotization of the dorsal shield; Fch, Fp, Ve, Oe, He, Le occupy a peripheral position on the dorsum.
Coxal shield large, covering about 2/3 of venter (Fig. 2). Suture lines between coxal plates III and IV strongly curved, originating from the anterior edges of the genital field forming a right angle with the longitudinal axis of the idiosoma. Genital field pentagonal in shape with six pairs of subequal acetabula and rather numerous short, thin setae and situated anteriorly to the middle of the idiosoma. Glandularia Sce opening at level of posterior margin of genital field. Fragments of suture lines of coxal plates IV in the medial part directed posteriorly, laterally curved. Excretory pore, setae Ci and Se far away from the line of primary sclerotization, and Pi situated near to this line.

Figures 3–7. Monattractides rarus sp.n., female: 3 – capitulum, ventral view; 4 – pedipalp; 5 – I-Leg-3-6; 6 – IV-Leg-4-6; 7 – claw IV. Scale bars: 3–4, 7 = 50 μm, 5-6 = 100 μm.
Capitulum (Fig. 3) elongate with moderately long dorsal projection. Basal segment of chelicera long, cheliceral stylet short, crescent and pointed.

Pedipalp (Fig. 4) robust: P–1 short, with single dorsodistal seta; P–2 thick, with straight ventral margin, five subequal dorsal setae and one distoventral thick seta; P–3 rather long, with three unequal dorsodistal setae and one distoventral thick seta; P–4 stout, slightly longer than P–3 (P–4/P–3 ratio 1.07), all three ventral setae short, thin and located distally; P–5 short, its length larger than height, with single solenidion, four thin setae and four short spines.

Morphology and chaetotaxy of terminal segments of leg I and IV as illustrated in figures 5 and 6, respectively. All legs without swimming setae. Tarsi of legs II–IV gradually slightly thickened distally, their ventral margin straight. Ambulacra with long external and short internal clawlets, ventral margin of blade nearly straight (Fig. 7).

**Measurements** (n=1). Idiosoma, dorsal L 710, W 625; anteromediale platelets L 135, W 62; anterolateral platelets L 160, W 75; length of dorsal shield 585, W 510; genital flaps L 160, W 87; capitulum L 160; basal segment of chelicera L 165, cheliceral stylet L 36; distance genital field – excretory pore 216, genital field – caudal idiosoma margin 382; pedipalpal segments (P–1–5) L: 24, 55, 42, 45, 15; leg segments L: I–Leg–1–6: 40, 55, 75, 95, 100, 100; II–Leg–1–6: 40, 55, 85, 110, 130, 125; III–Leg–1–6: 40, 55, 85, 125, 150, 110; IV–Leg–1–6: 110, 100, 135, 185, 200, 185.

**Remarks.** The presented species is closely related to *Monatractides fridericianus* Di Sabatino & Gerecke, 2003, but differs in the smaller size (the idiosoma in the mature female *M. rarus* sp. n. is comparatively small, L 710 µm). In addition, the dorsal shield bears only a single pair of setae (Fig. 1), P–4/P–3 ratio 1.07. In contrast, the idiosoma in the female *M. fridericianus* is large (L 900 µm), the dorsal shield bears two pairs of setae, P–4/P–3 ratio 1.34 (Di Sabatino et al. 2003).

**Habitat.** Running waters.

**Distribution.** Europe, Russia, North Caucasus, Republic Adygheya.

**Key to adults of the species of the genus Monatractides found in Russia**

1 (2) Suture lines between coxal plates III and IV strongly curved, medially forming a nearly right angle with the longitudinal idiosoma axis (Fig. 2), P–4 all ventral setae short, subequal and situated distally (Fig. 4).........................

2 (1) Suture lines between coxal plates III and IV straight, medially forming at an acute angle with the longitudinal idiosoma axis, P–4 all ventral setae situated near middle of segment, one seta from them much longer than other setae.......................................................... *M. rarus* sp.n.

3 (4) Idiosoma elongate, L/W ratio 1.3–1.33 (Pešić et al. 2013)..................*M. abei* Pešić, Semenchenko & Lee 2013

4 (3) Idiosoma circular or nearly circular, L/W ratio < 1.30 .......................................................... *M. ubinicus* Tuzovskij, 2000

5 (6) Shoulder angles distinctly developed, dorsum with two pairs of narrow lateral platelets, P–4 with a long ventral seta as long as dorsal margin of segment................................................. *M. caucasicus* Tuzovskij, 2000

6 (5) Shoulder angles not developed, dorsum without lateral platelets, P–4 with a long ventral seta shorter than dorsal margin of segment .......................................................... *M. ubinicus* Tuzovskij, 2000

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**References**

