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## New Records of Water Mites of the Genus *Monatractides* K.Viets (Acari: Hydrachnidia: Torrenticolidae) from Turkey

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**Abstract:** New records of water mites of the genus *Monatractides* K.Viets (Acari: Hydrachnidia, Torrenticolidae) for the fauna of Turkey are presented in this study. Three species, *Monatractides lusitanicus* (Lundblad, 1941), *M. aberratus* (Lundblad, 1941), and *M. vafaei* Pešić, 2004, are reported for the first time from Turkey.

**Key Words:** Water mites, *Monatractides*, new records, running water, Turkey

### Türkiye Faunası İçin Yeni *Monatractides* K.Viets (Acari: Hydrachnidia: Torrenticolidae) Türleri

**Özet:** Bu çalışmada, Türkiye faunası için yeni kayıt olarak belirlenen, *Monatractides lusitanicus* (Lundblad, 1941), *M. aberratus* (Lundblad, 1941) ve *M. vafaei* Pešić, 2004'in tanımı örneklerimiz üzerinden gözden geçirilmiştir.

**Anahtar Sözcükler:** Su keneleri, *Monatractides*, Yeni kayıtlar, Akarsu, Türkiye

### Introduction

Water mites of the family Torrenticolidae have been found in all biogeographic regions, except for Antarctica (Wiles, 1997). In Turkey, the family Torrenticolidae is represented by 3 genera, *Pseudotorrenticola* Walter, *Torrenticola* Piersig, and *Monatractides* K.Viets. The aim of this paper was to contribute elements on an extended revision of the diversity, distribution, and ecology of torrenticolid water mites in Turkey.

Previously, only one species of the genus *Monatractides* K.Viets was known from Turkey (Turan and Pešić, 2005): *M. stadleri* (Walter, 1921). During a survey of the freshwater fauna of Elazığ and Malatya provinces, several species of water mite were collected, including 3 species of the genus *Monatractides*, which are new for the fauna of Turkey.

### Materials and Methods

Water mites were collected by hand netting, sorted on the spot from other living material, conserved in

Koenike's fluid, and dissected as described elsewhere (e.g., Gerecke, 1991). Slide-mounted specimens and material preserved in fluid are kept in the collection of the first author; further material will be deposited in the collection of the second author.

The composition of the material is given as: males/females/deutonymphs, and the following abbreviations are used: Cx-1 = first coxae; L = length; P-1 = palp, first segment; W = width. All measurements are given in micrometres.

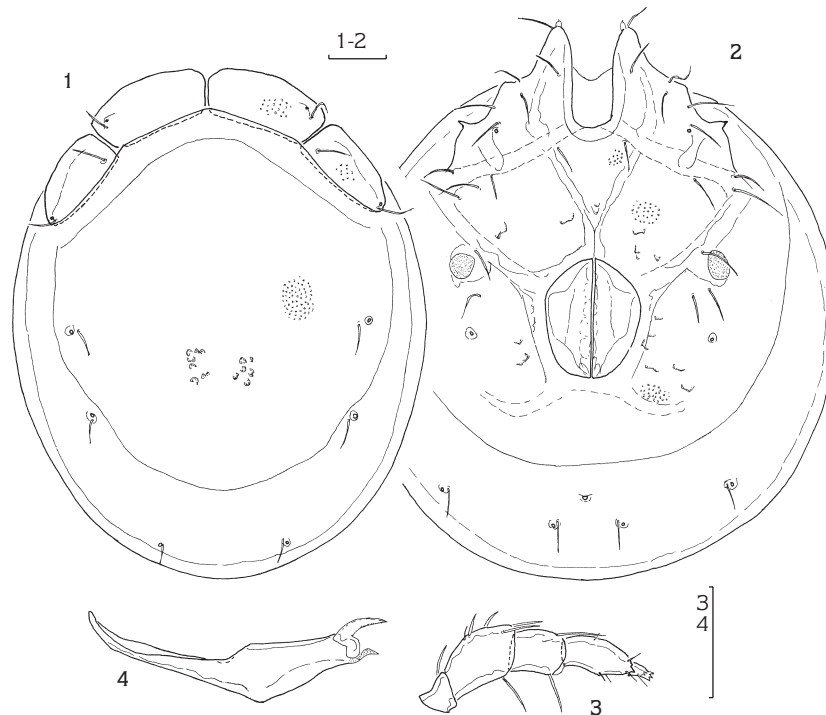
### Results

*Monatractides* (s.str.) *aberratus* (Lundblad, 1941)  
(Figures 1-4)

**Material examined:** Elazığ, Alacakaya, Halkalı stream, 07.10.2004, leg. Esen (2/0/0).

**Description:** *Male:* Idiosoma (Figure 2) L 856, W 744; dorsal shield (Figure 1) L 788, W 538, L/W ratio

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Figures 1-4. *Monatractides aberratus* (Lundblad, 1941), male: 1 = dorsal shield; 2 = idiosoma, ventral view; 3 = palp, lateral view; 4 = chelicera. Scale bars = 0.1 mm.

1.46; dorsal plate L 725; shoulder plate L/W 155/72, L/W ratio 2.15; frontal plate L/W 195/91, L/W ratio 2.14; shoulder/frontal plate L ratio 0.8; gnathosomal bay L 156; Cx-1 L 306, median L 153; Cx-2+3 median L 44; ratio Cx-1 L/Cx-2+3 median L 20; Cx-1 median L/Cx-2+3, median L 6.96; genital field L/W 185/141, L/W ratio 1.3; ejaculatory complex L 259; distance genital field–excretory pore 173; genital field–caudal body margin 300; chelicera (Figure 4) L 230, H 45, L/H ratio 5.1; cheliceral basal segment L 194; claw L 44, basal segment/claw L ratio 4.4; palp (Figure 3) total L 201; dorsal length and relative length (% of total length in parentheses) of palp segments: P-1 29 (14.4); P-2 62 (30.9); P-3 36 (18.1); P-4 56 (27.9); P-5 18 (9.0); P-2/P-4 ratio 1.1.

**Remarks:** *M. aberratus* differs from all other species of the genus in its large frontal plates, which in general are larger than or at least of equal dimensions as the shoulder plates (Di Sabatino et al., 2003).

**Distribution:** Southern France, Spain, Greece, Israel (Di Sabatino et al., 2003).

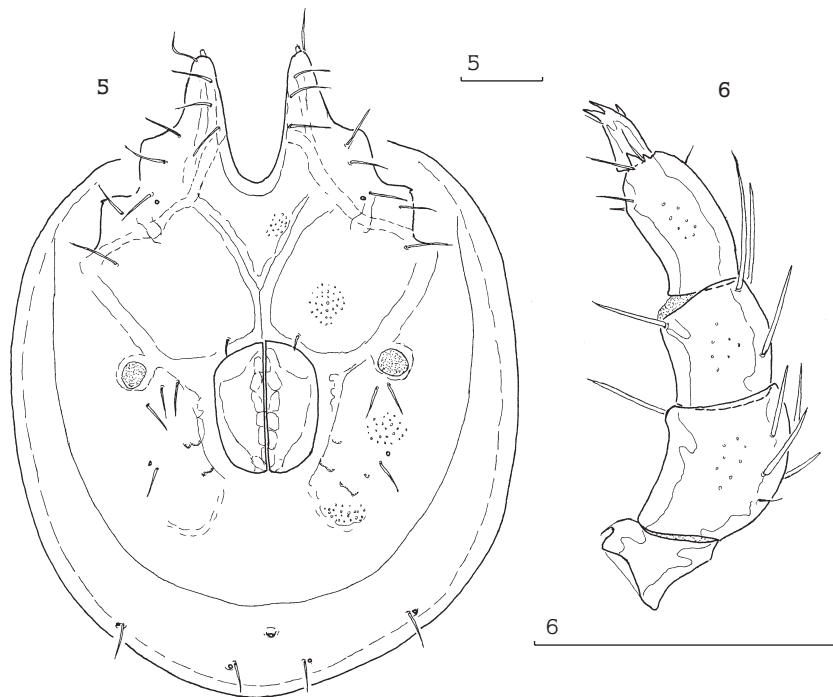
New for Turkey.

***Monatractides* (s.str.) *lusitanicus* (Lundblad, 1941)**

(Figures 5-6)

Material examined: Malatya, Pütürge, Mezra stream, 05.10.2003, leg. Esen (5/13/0); same place, 17.10.2004, leg. Esen (2/4/0).

**Description:** *Male:* Idiosoma (Figure 5) L 806, W 538; dorsal shield L 688, W 481, L/W ratio 1.43; dorsal plate L 638; shoulder plate L/W 169/72, L/W ratio 2.35; frontal plate L/W 123/66, L/W ratio 1.88; shoulder/frontal plate L ratio 1.37; gnathosomal bay L 161; Cx-1 L 290, median L 128; Cx-2+3 median L 60; ratio Cx-1 L/Cx-2+3 median L 2.27; Cx-1 median L/Cx-2+3 median L 4.8; genital field L/W 162/123, L/W ratio 1.3; ejaculatory complex L 250; distance genital field–excretory pore 191; genital field–caudal body margin 272; gnathosoma ventral L 179; chelicera L 208, H 33, L/H ratio 6.4, cheliceral basal segment L 168; claw L 39, basal segment/claw L ratio 4.3; palp (Figure 6) total L 181; dorsal length and relative length (% of total length



Figures 5-6. *Monatractides lusitanicus* (Lundblad, 1941), male: 5 = idiosoma, ventral view; 6 = palp, lateral view. Scale bars = 0.1 mm.

in parentheses) of palp segments: P-1 25 (13.8); P-2 53 (29.3); P-3 35 (19.3); P-4 48 (26.5); P-5 20 (11.1); P-2/P-4 L ratio 1.1; distal margins of P-2 and P-3 without denticles.

**Remarks:** In view of its small dimensions, a rather short medial suture line of Cx-2+3 in males, a relatively long P-1 (13.8% of total length), distal margins of P-2 and P-3 without denticles, and absence of an elongated ventral seta on P-4, the Turkish specimens show a general conformity with *Monatractides lusitanicus* (Lundblad, 1941). The dimensions of Turkish specimens agree well with the variability range of the type series and of Sicilian populations (Di Sabatino et al., 1992). Differences are found in a longer ejaculatory complex, L 250 (230-234 in Sicilian populations and 240 in Iberian specimens from Di Sabatino et al. (1992). In view of the good agreement in other measurements, these differences are most probably age-dependent and/or due to geographical variability.

**Distribution:** Iberian Peninsula, Tyrrhenian Islands, Sicily (Di Sabatino et al. 1992), Iran (Pešić, 2004).

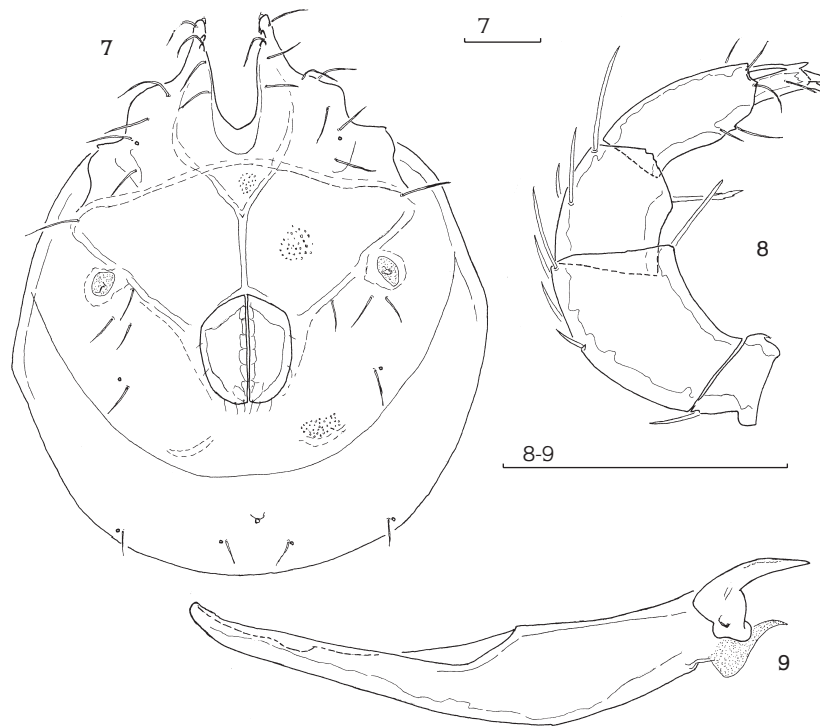
New for Turkey.

*Monatractides* (s.str.) *vafaei* Pešić, 2004

(Figures 7-9)

**Material examined:** Malatya, Arapkir, running water, 05.08.2005, leg. Esen (1/0/0).

**Male:** Idiosoma (Figure 7) L 844, W 706; dorsal shield L 725, W 544, L/W ratio 1.3; dorsal plate L 656; shoulder plate L/W 219/91, L/W ratio 2.4; frontal plate L/W 138/91, L/W ratio 1.5; shoulder/frontal plate L ratio 1.59; gnathosomal bay L 159, its lateral margin with knob-shaped protrusions: one pair at the apical tip of Cx-1, 2 additional pairs distally and proximally from the subapical seta; Cx-1 L 296, median L 123; Cx-2+3 median L 115; ratio Cx-1 L/Cx-2+3 median L 2.4; Cx-1 median L/Cx-2+3 median L 2.57; genital field L/W 159/134, L/W ratio 1.19; ejaculatory complex L 195; distance genital field-excretory pore 166; genital field-caudal body margin 253; chelicera (Figure 9) L 226, H 36, L/H ratio 6.2; cheliceral basal segment L 182; claw L 43, basal segment/claw L ratio 4.2; palp (Figure 8) total L 226; dorsal length and relative length (% of total length



Figures. 7-9. *Monatractides vafaei* Pešić, 2004, male: 7 = idiosoma, ventral view; 8 = palp, medial view; 9 = chelicera. Scale bars = 0.1 mm.

in parentheses) of palp segments: P-1 23 (10.2); P-2 71 (31.4); P-3 46 (20.4); P-4 59 (26.1); P-5 27 (11.9); P-2/P-4 ratio 1.2; distal margins of P-2 and P-3 with denticles.

**Remarks:** The combination of 3 pairs of knob-shaped protrusions at the margin of the gnathosomal bay, a rather long medial suture line of Cx-2+3 in males, similar dimensions of the genital field (L/W 159/134) and ejaculatory complex (L 195), a thicker (L/H 6.2) chelicera, and distal margins of P-2 and P-3 that bear at least one pointed denticle, the Turkish specimens show a general conformity with *Monatractides vafaei* Pešić, 2004. The male from Turkey is in good agreement with the specimens from Iran. Differences (in parentheses [from

Pešić and Saboori, 2004]) are found in a slightly shorter medial suture line of Cx-2+3 (L 119-129 in specimens from Iran) and ejaculatory complex (L 213-238 in specimens from Iran) dimensions. In view of the good agreement in other measurements, these differences are most probably age-dependent and/or due to geographical variability.

**Distribution:** Iran (Pešić and Saboori, 2004).

New for Turkey.

#### Acknowledgements

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