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New *Torrenticola* Piersig (Acari: Hydrachnidia: Torrenticolidae) Species for the Turkish Fauna

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Abstract: In this study, the morphological characteristics, measurements, habitats and distribution of *Torrenticola nana* Di Sabatino & Gerecke, 2003 and *Torrenticola jasminae* Bader, 1988, which are new records for the Turkish fauna, are presented.

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

Türkiye Faunası İçin Yeni *Torrenticola* Piersig (Acari: Hydrachnidia: Torrenticolidae) Türleri

Özet: Bu çalışmada, Türkiye faunası için yeni kayıt olarak belirlenen, *Torrenticola nana* Di Sabatino ve Gerecke, 2003 ve *Torrenticola jasminae* Bader, 1988'in morfolojik özellikleri, ölçümleri, habitatları ve dağılımları verilmiştir.

Anahtar Sözcükler: Su keneleri, Torrenticola, Yeni kayıtlar, Akarsu, Türkiye

Introduction

Water mites of the genus *Torrenticola* Piersig have been found in all biogeographic regions, except for Australia and Antarctica (Wiles, 1997). The aim of this paper was to contribute elements for an extended revision of the diversity, distribution, and ecology of torrenticolid water mites in Turkey.

At present, only 6 species of the genus *Torrenticola* Piersig are known from Turkey (Smit, 1995; Özkan, 1982; Turan and Pesic, 2005): *Torrenticola elliptica* (Maglio, 1909), *T. anomala* (Koch, 1837), *T. brevirostris* (Halbert, 1911), *T. barsica* (Szalay, 1933), *T. ungeri* (Szalay, 1927) and *T. amplexa* (Koenike, 1908).

During a survey of the freshwater fauna of Turkey, several species of the water mite were collected, including 2 species of the genus *Torrenticola* Piersig, which are new for the fauna of Turkey.

Material and Methods

Water mites were collected by hand netting, sorted on the spot from the living material, conserved in Koenike's fluid and dissected as described elsewhere (e.g., Gerecke, 1991). Slide-mounted specimens and material preserved in fluid were lodged 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 and W = width. All measurements are given in µm.

Results

Torrenticola nana Di Sabatino & Gerecke, 2003

(Figures 1-2)

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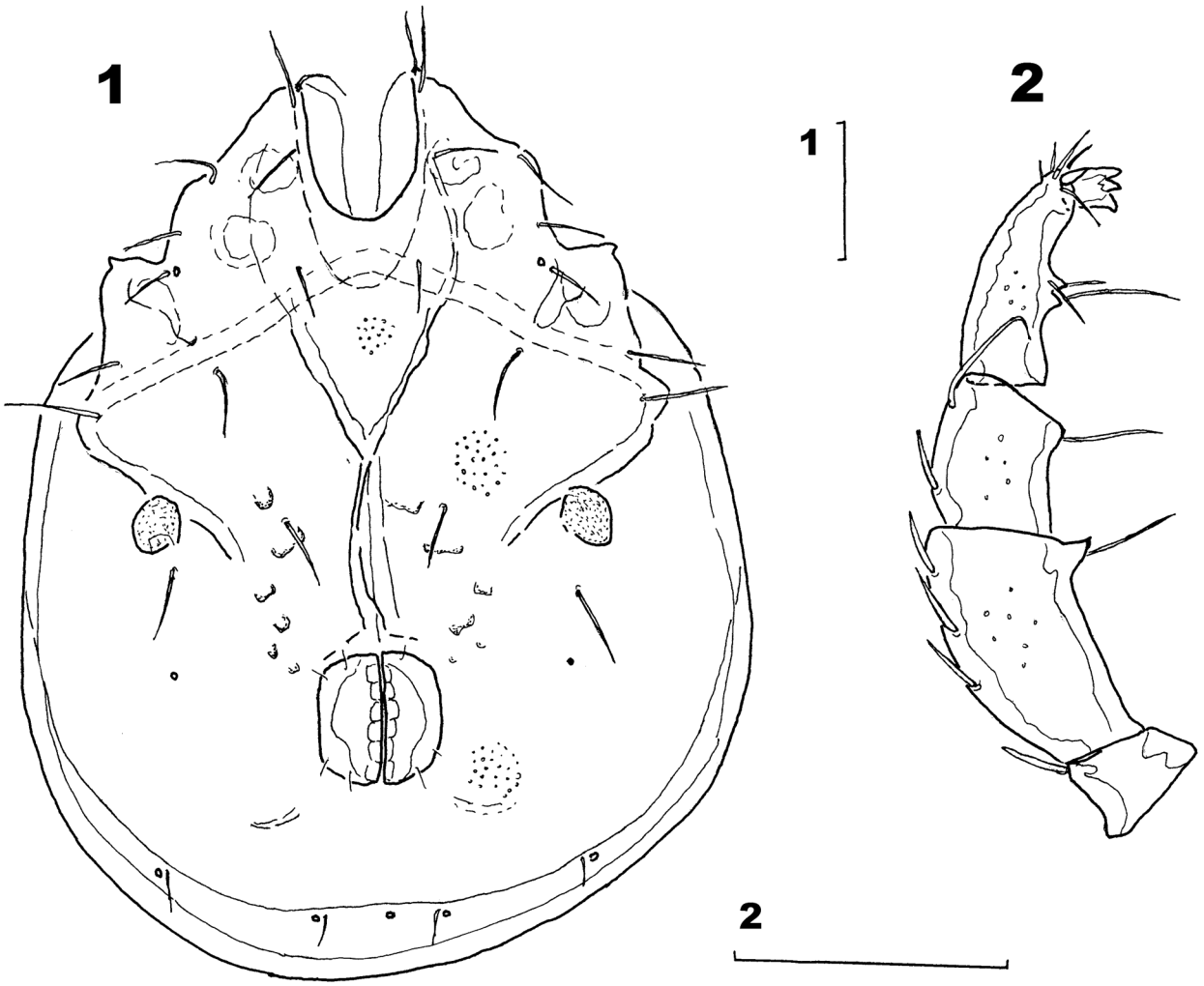


Figures 1-2. *Torrenticola nana* Di Sabatino & Gerecke, 2003; male: 1 = idiosoma, ventral view; 2 = palp. Scale bars = 0.1 mm.

Material examined**:** Malatya, Darende, Tohma Stream, 03.07.2004, leg. Y. Esen (3/10/0).

Description: Male: Idiosoma (Figure 1) L 659, W 531, dorsal shield L 587, W 400, L/W ratio 1.47; dorsal plate L 544; shoulder plate L/W 186/57, L/W ratio 3.26; frontal plate L/W 112/52, L/W ratio 2.15; shoulder/frontal plate L ratio 1.66; gnathosomal bay L 111, Cx-1 L 231, median L 159, Cx-2+3 median L 141; ratio Cx-1 L/Cx-2+3 median L 1.45, Cx-1 median L/Cx-2+3 median L 1.64; genital field L/W 100/91, L/W ratio 1.1, with roundish anterior angles; ejaculatory complex L 106; distance genital field–excretory pore 89, genital field–caudal body margin 134; gnathosoma ventral L 300, with weakly curved ventral margin and well-developed rostrum; chelicera L 334; palp (Figure 2) total L 288, dorsal length and relative length (% of total length in parentheses) of palp segments: P-1 31 (10.9), P-2 99 (34.4), P-3 56 (19.4), P-4 83 (28.8), P-5 18(6.3); P-2/P-4 ratio 1.19; laterodistal margin of P-2 protruding in form of an obtuse angle, ventral protuberances of P-4 ending in 2 tips separated by a concavity.

Remarks: Due to the reduced size of the genital field and the relatively long median suture line of Cx-2+3 in males and the complete reduction of the median suture of Cx-2+3 in the females, the Turkish specimens show a general conformity with *Torrenticola nana* Di Sabatino & Gerecke, 2003.

Habitat: Rhithral.

Distribution: Israel (Di Sabatino et al., 2003), Iran (Asadi et al., 2003; Pesic et al., 2004).

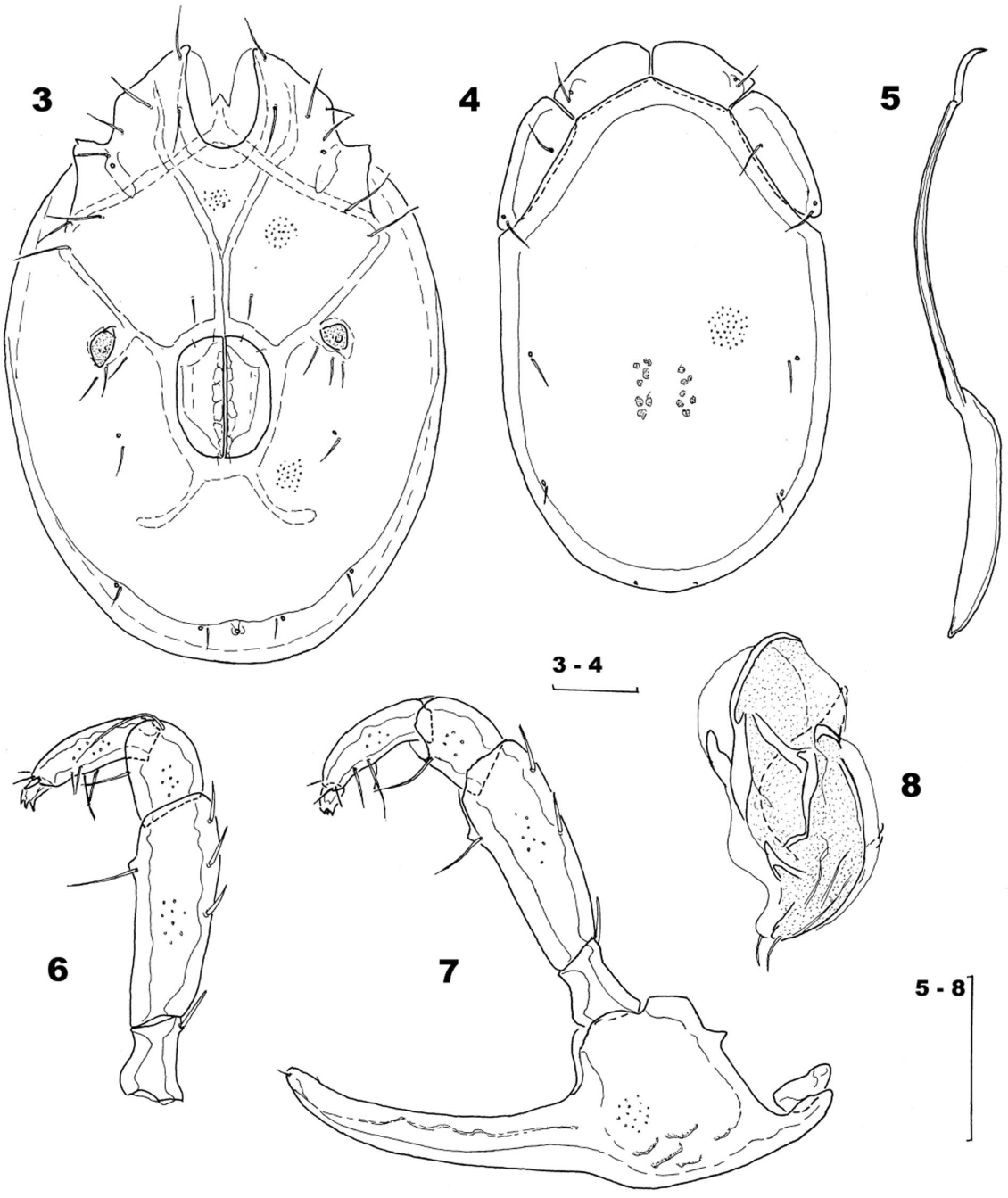
New record for the Turkish fauna.

Torrenticola jasminae Bader, 1988

(Figures 3-8)

Material examined: Malatya, Pütürge, Siro Stream, 08.08.2003, leg. Y. Esen (2/0/0).

Description: Male: Idiosoma (Figure 3) L 756, W 531, dorsal shield (Figure 4) L 659, W 200; dorsal plate L 625 (L/W ratio 3.12); shoulder plate L/W 167/62, L/W ratio 2.69; frontal plate L/W 122/63, L/W ratio 1.94; shoulder/frontal plate L ratio 1.37; gnathosomal bay L



Figures 3-8. *Torrenticola jasminae* Bader, 1988; male: 3 = idiosoma, ventral view; 4 = dorsal shield; 5 = chelicera; 6 = palp; 7 = gnathosoma and palp; 8 = ejaculatory complex. Scale bars = 0.1 mm.

122, Cx-1 L 256, median L 136, Cx-2+3 median L 84; ratio Cx-1 L/Cx-2+3 median L 1.88, Cx-1 median L/Cx-2+3 median L 3.05; genital field L/W 150/113, L/W ratio 1.33; ejaculatory complex (Figure 8) L 194; distance genital field–excretory pore 200, genital field–caudal body margin 244; gnathosoma (Figure 7) ventral L 334; chelicera (Figure 5) L 356, cheliceral basal segment L 323, cheliceral claw L 38, (basal segment/claw L ratio 8.6); palp (Figures 6-7) total L 340, dorsal length and relative length (% of total length in parentheses) of palp segments: P-1 53 (15.5), P-2 133 (39.1), P-3 52 (39.1), P-4 82 (24.1), P-5 20 (58.3); P-2/P-4 ratio 1.62; ventral seta of P-2 inserted on a well-developed ventral projection.

Remarks: After the original description from Elburz Mountain (Bader, 1988) based on a single male, the only further records of *T. jasminae*, each based on a single female, were published from Israel (Di Sabatino et al., 2003) and another one from Iran (Pesic et al., 2004). Since in the original description (Bader, 1988), the key characteristic (basal segment/claw ratio of chelicera) has not been reported. Our attribution of *T. jasminae* is very provisional, based mainly on the approved non-identity with the alternative species (Di Sabatino et al., 2003). Furthermore, the attribution of the populations from Israel and Iran to the species should be verified by studies on male specimens from these populations and from Elburz Mountain.

Distribution: Iran (Bader, 1988; Pesic et al., 2004), Israel (Di Sabatino et al., 2003).

New record for the Turkish fauna.

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