A Newly Recorded Mite Species from Turkey: *Eupalopsellus deformatus* Fan (Acari: Eupalopsellidae)

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**Abstract**

*Eupalopsellus deformatus* Fan was herein described and figured based on specimen collected from moss and lichen in Örümek Forests (Turkey). This species is a new record for the mite fauna of Turkey.

**Keywords:** Acari, Eupalopsellidae, *Eupalopsellus*, New record, Turkey.

**1. Introduction**

Eupalopsellidae Willmann is a family within the superfamily Raphignathoidea. This family comprises five genera, including *Eupalopsellus* Sellnick. Up to now nineteen species belonging to the genus *Eupalopsellus* are known in the world and three of which, *E. olandicus* Sellnick, *E. rostridius* Summers and *E. prasadi* Bagheri & Khanjani, are recorded from Turkey, previously. An additional species, *E. deformatus* Fan is herein described and illustrated. This species was given before from the type of locality China, and later Iran [1, 2]. This is the third report of the species up to date.

**2. Materials and Methods**

The mite specimens were extracted in the lichen and moss collected from Örümek Forests using Berlese funnels, cleared in 60% lactic acid and mounted on microscopic slides in Hoyer’s medium under stereo microscope. Drawings were made with the aid of a Leica DM 4000 B phase-contrast light microscope. Body size and measurements of various structures of the body were taken in micrometers (µm) with the aid of The Leica Application Suite (LAS) Software Version 3.8. Dorsal idiosomal and leg setal designations follow [3] and [4] respectively. Specimen examined was deposited in Acarology Laboratory of Erzincan University, Erzincan, Turkey.

**3. Results**

**Family:** Eupalopsellidae Willman

**Genus:** Eupalopsellus Sellnick

**Type species:** Eupalopsellus olandicus Sellnick

**Diagnosis**

Females of the genus *Eupalopsellus* can be distinguished by the following characters: Subcapitulum bearing two pairs of subcapitular setae (*m*, *n*) and two pairs of adoral setae (*or*1, *or*2). Palpus elongate, five segmented, number of setae and solenidia from pulprochanter to
palptarsus: 0, 3, 1, 2−3+1claw, 4+1o+1subterminal eupathidium+1terminal eupathidium. Prodorsum covered with a triangular shield that bears one pair of eyes, one pair of postocular bodies (pob) and 3−4 pairs of setae (vi, ve, sci, sce; sce may be on platelets), metapodosomal shield with 2−3 pairs of setae (c1, d1 and d2; c1 may be on platelets), opisthosomal shield with 3 pairs of setae (e1, e2 and f1), suranal shield with 2 pairs of setae (h1 and h2). Humeral setae c2 on platelets or integument, venter with three pairs of intercoxal setae (1a, 3a, and 4a), three pairs of aggenital setae (ag1−3), a pair of genital setae (g), and three pairs of anal setae (ps1−3) [1, 5].

**Eupalopsellus deformatus**

**Female** (Figures 1, 2)

Idiosoma elongated. Length of body 340, 138 wide.

**Gnathosoma.** 80, chelicerae 92 long. Subcapitulum with two pairs of adoral setae (ot1,2) and two pairs of subcapitular setae (m, n). Lengths and distance between subcapitular setae, m: 16, n: 18, m−m: 7, n−n: 15, m−n: 22. Palp five segmented, number of setae and solenidia from palp to palptarsi: 0, 3, 1, 3, 4+1o+1subterminal eupathidium+1terminal eupathidium (Fig. 2E).

**Dorsum.** All dorsal shields with tubercles except for suranal shield (Fig. 1). Humeral shields absent. Propodosomal shield bearing three pairs of setae (vi, ve, sci), a pair of eyes and postocular bodies. Diameter of eyes 7, postocular bodies 12. Setae sce, c2 located on striaed integument, c1 located on edge of metapodosomal shields. d1 and d2 located on metapodosomal shields. Opisthosomal shields bearing three pairs of setae (e1, e2, f1). Suranal shield entire and with two pairs of setae (h1,2). Dorsal idiosomal setae smooth. Lengths and distances of dorsal idiosomal setae as follows: vi: 9, ve: 11, sci: 10, sce: 15, c1: 9, d1: 8, e1: 9, f1: 33, h1: 34, h2: 20, vi−vi: 15, ve−ve: 41, vi−ve: 19, sci−sci: 9, ve−sci: 39, sce−sce: 65, sci−sce: 25, c1−c1: 44, e1−d1: 56, d1−e1: 42, d1−e2: 66, e1−e: 32, f1−f1: 33, e1−f1: 12, e2−f1: 44, f1−h1: 33, f1−h2: 32, h1−h1: 17, h2−h2: 42, h1−h2: 8 (ratio of h1:h2 1.7).

**Venter.** Coxisternal shields absent, 1a, 3a and 4a on striated integument, 1a the longest. Anogenital shields bearing a pair of genital setae (g1) and three pairs of pseudanal setae (ps1−3). Three pairs of aggenital setae (ag1−3) present (Fig. 1).

**Legs.** All segments of leg with punctate, leg I 146, leg II 110, leg III 105, leg IV 121 long. Setal formulae of legs I−IV: trochanters 1−1−1−1 femora 4−4−3−1, genua 1(1+1)−1−1−1, tibiae 5(1+1φ−φ)+4(1+1φ−φ)+4(1+1φ−φ), tarsi 10(1+1ω−ω)+9(1+1ω−ω)+6(1+1ω−ω)−6 (Fig. 2).

**Male:** Not found.

**Immature stages:** Unknown.

**Material examined:** One female collected from lichen and moss on a stone, Örümcek Forests (Turkey), 40° 39' 36"N, 39° 00' 38"E, 1605 m, 08 March 2014.

**Distribution:** China and Iran [1, 2], and Turkey (this paper).

**4. Discussion**

*Eupalopsellus deformatus* Fan is close to *E. trudis* Summers, but it can be distinguished from the latter by opisthosomal shield is incised in front of e1, metapodosomal shield is not expanded at the level of setae d2, the suranal setae h2 are longer [6].

This species was given before from China and Iran [1, 2]. The type specimens of the species were collected from leaves of an unidentified grass (Gramineae), whereas the Turkish specimen was collected from lichen and moss.

The Turkish specimen resembles the type specimens, but some morphological differences were observed. Dorsal shields with tubercles, the body is longer, dorsal idiosomal setae smooth, h2 is shorter (ratio of h1:h2 1.7), segments of leg with punctate in the Turkish specimen. Length of body 301, dorsal idiosomal setae with small spines, dorsal shields smooth, ratio of h1:h2 1.3 in the type specimens [1].
Figure 1. *Eupalopsellus deformatus* (Female). A. Body, dorsal, B. Body, ventral.
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Figure 2. *Eupalopsellus deformatus* (Female). A. Leg I, B. Leg II, C. Leg III, D. Leg IV, E. Palp.

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6. References