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A New Record for the Oribatid Mite Fauna of Turkey: *Lepidozetes singularis* Berlese, 1910 (Acari, Oribatida, Tegoribatidae)

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Özet. *Lepidozetes singularis* Berlese, 1910 (Oribatida, Tegoribatidae) Türkiye'de ilk defa rapor edilir. Erciyes Dağı'ndan toplanan örneklere dayanarak, türün genel dağılımı ve ekolojisi üzerine notlarla birlikte morfolojik özellikleri sunulur.

Anahtar Kelimeler. *Lepidozetes singularis*, Oribatida, Tegoribatidae, yeni kayıt, Erciyes Dağı, Türkiye.

Abstract. *Lepidozetes singularis* Berlese, 1910 (Oribatida, Tegoribatidae) is reported for the first time in Turkey. On the basis of the specimens collected from Erciyes Mountain, its morphological features are presented, along with notes on general distribution and ecology.

Keywords. *Lepidozetes singularis*, Oribatida, Tegoribatidae, new record, Erciyes Mountain, Turkey.

1. Introduction

The genus *Lepidozetes* Berlese, 1910 (Oribatida, Tegoribatidae) was established by Berlese (1910) with the type species *Lepidozetes singularis* from Italy. It is currently represented by five species known only from Holarctic regions in the world, namely *L. singularis* Berlese, 1910; *L. latipilosus* Hammer, 1952; *L. dashidorzsi* Balogh and Mahunka, 1965; *L. trifolius* Fujikawa, 1972; and *L. umbellatus* Bugrov, 1991 [1]. The genus can be distinguished by lamellae completely fused together and covering almost the whole dorsal part of prodorsum; lamellar cusps never separated, well-developed and movable pteromorphae extending beyond the dorsosejugal suture of their anterior margins; four pairs of porose areas; ten pairs of notogastral and six pairs of genital setae; and monodactylous or heterotridactylous legs [2]. To date, there has been no record of the genus *Lepidozetes* in Turkey [3-5].

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This paper deals with the first record of *Lepidozetes singularis* Berlese, 1910 in Turkey.

2. Material and Methods

The materials of this study were collected during an investigation of the soil mites of Erciyes Mountain. Oribatid mites were extracted by using Berlese funnels from soil and litter samples. Light microscopic examination of the specimens was conducted with traditional methods [6]. The specimens to be examined in a scanning electron microscope (SEM) were firstly cleaned by using the Terg-A-Zyme and ultrasonic bath, and then placed on stubs and covered with Au-Pd. Photographs were taken with a LEO 440 computer controlled digital SEM. All the examined specimens were stored in 70% alcohol and a few drops of glycerol mix, and deposited in the Acarological Collection of the Zoological Museum, Erciyes University, Kayseri, Turkey (ZMEU).

3. Results

Order: Oribatida Dugès, 1834

Family: Tegoribatidae Grandjean, 1954

Genus: *Lepidozetes* Berlese, 1910

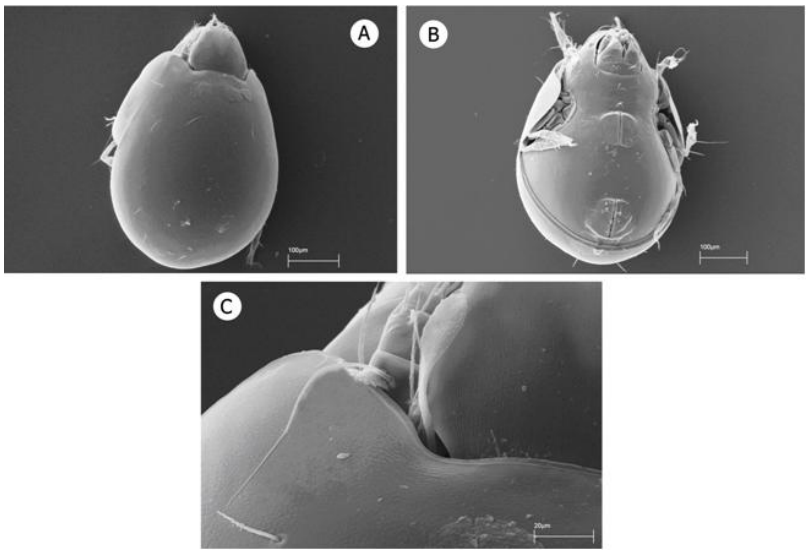

FIGURE 1. *Lepidozetes singularis* Berlese 1910 (Oribatida, Tegoribatidae): (A) Dorsal view, (B) Ventral view, (C) Sensillus.

Measurements: Length, 440-500 (460) μm; width, 312-350 (327) μm (n=4).

Prodorsum (Figure 1A, C): Rostrum rounded anteriorly. Rostral setae not visible from the dorsal view and invisible even in ventral view. Lamellae completely fused medially, covering the whole surface of prodorsum, its anterior margin smoothly rounded, notched in the middle. Lamellar setae 26 μm in length and unilaterally barbed. Interlamellar setae short, fine, its insertion pores concealed by the anterior margin of notogaster. Sensillus club-shaped, its head densely barbed; about 60 μm long. Bothridium completely concealed under anterior part of notogaster.

Notogaster (Figure 1A): Oval, longer than wide. Dorsosejugal furrow slightly arched medially. Pteromorphae well-developed, movable, rounded in front; its anterior margin protruding markedly to the front, much further than the level of the dorsosejugal furrow. Ten pairs of notogastral setae present. All setae short (ca. 20-25 μm) and barbed bilaterally. Four pairs of porose areas present; Aa the largest, about two or three times as large as others; A2 and A3 smallest (8×6 and 6×4 μm).

Ventral regions (Figure 1B): Subcapitulum diarthric; setae *h* short (16 μm). Epimeral setal formula: 3-1-2-3; all setae thin and smooth. Genital and anal apertures 48×64 μm and 72×80 μm in size, respectively. Distance between them 96 μm. Six pairs of genital, one pair of aggenital, two pairs of anal and three pairs of adanal setae short and slender. Lyrifissures *iad* adjacent to the anterior lateral border of anal plates.

Legs: All tarsi heterotridactylous, the median claw slightly thicker than the lateral ones.

Examined materials: Kayseri: Erciyes Mountain, Perikartin dome, 38°35′09.73″ N, 35°27′40.34″ E, 2265 m, 01.VI.2002, lichen on a rock, four adults, leg. S. Per.

4. Discussion

Berlese's original description of this species is very short, but nevertheless it contains some important characteristics. He describes it as follows: "Castaneus, ovalis, pilis consuetis abdominis curtis. Pteromorphae anterius rotundatae, sat productae. Unci pedum terni. Squama Anticum obtegens longe trapezina, anterius rotundata, sub marginem Anticum curte bipila, basi coarctata, in margina postico excavato-angulata, totum fere Anticum obtegens. Organa pseudostigmatica sat longe, et bene clavata, anterius directa. Ad 540 μ. Long.; 360 μ. Lat." [7]. Later this species was redescribed in detail by several authors [2, 8-10]. The synonymy of the

species *conjunctus* Schweizer, 1922 with this species was rejected by Mahunka and Mahunka-Papp [11]. The body size in this species has been reported in the range of 373-540×280-360 μm by some authors [2, 7, 9, 12-14]. In this regard, the Turkish specimens (440-500×312-350 μm) are in the range of the known dimensions of the species. The morphological characters of Turkish specimens agree well in detail with the redescription by the other authors [2, 9, 10].

The distribution of *Lepidozetes singularis* based on records in the literature seems to be the Holarctic region [2, 9, 11, 13-18].

This species has been generally found in moss, lichens, liverworts and grass heathland in mountainous regions [13, 16, 19]. Our data are consistent with those reported by the researchers. On the basis of these data, it is concluded that *L. singularis* is an alpine and epiphytic species.

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