

***Zercon foveolatus* Halaskova, 1969, a New Record of a Zerconid Mite (Acari, Zerconidae) for the Turkish Fauna**

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Abstract: *Zercon foveolatus* Halaskova, 1969 is recorded from Turkey for the first time. The morphological characters of this species are reviewed and figures are drawn. Its geographic distribution is given.

Key Words: Acari, systematic, Zerconidae, *Zercon foveolatus*, Turkey

***Zercon foveolatus* Halaskova, 1969, Türkiye Faunası İçin Yeni Bir Zerconid Akar (Acari: Zerconidae) Türü**

Özet: *Zercon foveolatus* Halaskova, 1969 Türkiye'den ilk defa kaydedildi. Türün şekilleri çizilerek morfolojik karakterleri yeniden gözden geçirildi. Ayrıca, coğrafik dağılımı verildi.

Anahtar Sözcükler: Acari, sistematik, Zerconidae, *Zercon foveolatus*, Türkiye

Introduction

Zerconid mites are predators and constitute an important zoedaphon component in all soil microhabitats of the temperate zone of the northern hemisphere. They colonise various soil substrates, especially leaf litter and decomposing organic detritus substantially contaminated by fungal mycelium. When compared with other families of the mesostigmatic mites, zerconid mites are relatively well known in Europe and some parts of Asia and North America (Masan and Fenda, 2004). Out of the 38 genera of the family of Zerconidae known from the northern hemisphere, only 3 (*Prozercon*, *Rafas*, and *Zercon*) are known from Turkey. The genus *Zercon* is the most species-rich genus of Zerconidae in Turkey. So far, 36 species of this genus have been recorded from Turkey (Urhan, 2007a, 2007b). In this paper I report an additional species of this genus for Turkey, namely *Zercon foveolatus* Halaskova, 1969. It has been described by Halaskova (1969) on the

basis of material collected from Czechoslovakia. Later, the species was found in Slovakia, Romania, and Ukraine by Petrova (1977), Karg (1993), and Masan and Fenda (2004), respectively.

Materials and Methods

Soil and litter samples were collected from Kocaeli province. The samples were placed into plastic bags, labelled, and transferred to the laboratory. Afterwards, the soil and samples were placed into combined Berlese funnels and mites were extracted for 5-7 days according to their humidity. At the end of this process, the contents of bottles were transferred into petri dishes and mites were separated under a stereo-microscope. They were placed in lactic acid (60%) in order to facilitate examination. The examination and drawing of mites were performed under an Olympus BX50 microscope.

Results

Family: Zerconidae Canestrini, 1891

Genus: *Zercon* C.L.Koch, 1836

Type-species: *Zercon triangularis* C.L.Koch, 1836

Zercon foveolatus Halaskova, 1969

(Figure 1A, B)

Materials: 3 ♀♀; Kurtyeri village, Kefken, Kocaeli province, Turkey, 20 m, 15.04.2007. Sample of litter and soil underlying *Alnus* sp. in graveyard. Materials are deposited in the Department of Zoology of Pamukkale University, Denizli (Turkey).

Female (Figure 1A, B). Idiosoma (excluding gnathosoma) in the 3 specimens; mean length 465 (440-483) µm, mean width 370 (360-388) µm.

Dorsal setae (Figure 1A): Podonotal setae j_1 feathered the remainder short and smooth. Opisthonotal setae J_1 - J_3 , Z_1 , Z_2 , Z_5 , S_1 , and S_2 short and smooth. Setae J_4 and J_5 with finely pilose tips. Seta J_6 long and barbed with hyaline ending. The insertions of setae J_6 - J_6 110 (108-113) µm apart from one another. Setae Z_3 and Z_4 similar

to seta J_6 . Seta Z_3 does not reach seta Z_4 . Seta Z_4 reaches posterior margin of opisthonotum. The distance between setae J_6 and Z_5 23 (20-25) µm. Seta S_2 does not reach margin of opisthonotum. Setae S_3 and S_4 similar to seta J_6 . Seta S_3 reaches by half of its length over the margin of opisthonotum. Setae R_1 - R_7 short and smooth. Length of opisthonotal setae and distances between setae within longitudinal rows; see Table 1.

Pores (Figure 1): Pores po_1 and po_2 lie in the usual places, po_3 under the line connecting setae z_1 - s_5 . Pore Po_1 situated above bases of setae Z_1 . Pore Po_2 lies on the line connecting setae Z_2 - S_2 . Pore Po_3 lies above the line connecting setae Z_4 - J_5 shifted toward seta Z_4 . Pore Po_4 behind insertion of setae S_4 .

Sculpture: The ornamentation of the dorsal shields is shown in Figure 1A. Dorsal cavities are distinct, well-sclerotized, equal in size and appearance, star-like and with undulated anterior margin.

Venter side (Figure 1B): The chaetotaxy and shape of the peritremal shield are typical for the genus. Adgenital shields present with 3 pores. With 4 setae on the anterior margin of the ventro-anal shield.

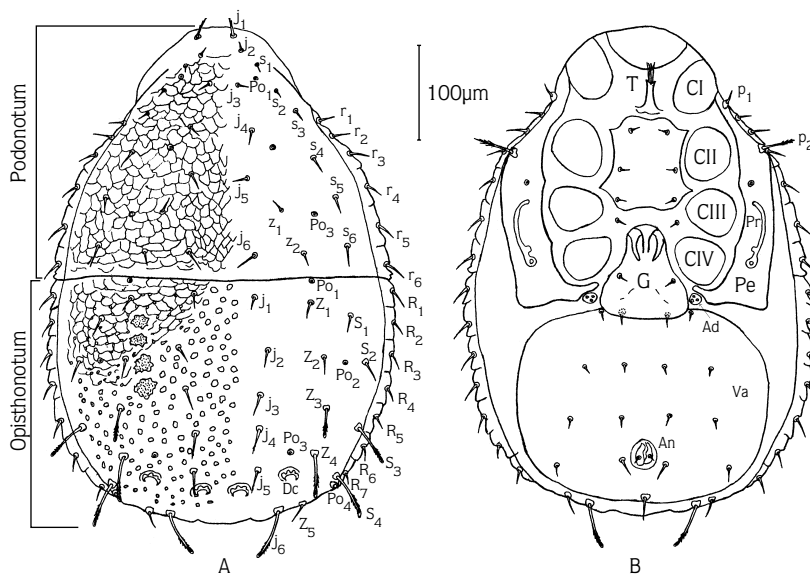


Figure 1. *Zercon foveolatus*: Female: A- dorsum of idiosoma, Dc: Dorsal cavities; B- Venter of idiosoma. An: Anus, Va: Venti-anal shield, Pe: Peritremal shield, Pr: Peritrem, Ad: Adgenital shield, G: Genital shield, S: Sternal shield, T: Tritosternum, CI: Coxa I, CII: Coxa II, CIII: Coxa III, CIV: Coxa IV.

Table 1. Lengths of opisthonotal setae and distances between setae within longitudinal rows (measurements in μm).

	Setae	Lengths	Setae	Lengths	Setae	Lengths
Distances	S_1	19 (18-20)	Z_1	18 (15-20)	J_1	18 (15-20)
		45 (43-48)		58 (55-63)		55 (53-58)
Distances	S_2	29 (28-30)	Z_2	19 (18-20)	J_2	20
		66 (63-70)		49 (48-50)		40 (38-43)
Distances	S_3	44 (43-45)	Z_3	36 (33-38)	J_3	24 (23-25)
		55 (50-58)		48 (43-50)		41 (40-43)
Distances	S_4	49 (48-50)	Z_4	49 (48-50)	J_4	27 (25-28)
				43 (38-50)		34 (30-40)
Distances			Z_5	18	J_5	27 (25-28)
						40 (28-48)
					J_6	53 (50-55)

Remarks

The morphological and setal characters of most specimens examined were very similar to published descriptions but there are some differences. The length and width were compared on the basis of the available literature (Table 2). According to Table 2, our specimens are slightly smaller than the type specimen (Halaskova, 1969) and literature records (Petrova, 1977; Karg, 1993).

Seta Z_3 reaches base of seta Z_4 in the type specimen (Halaskova, 1969) and literature records (Petrova, 1977; Karg, 1993; Masan and Fenda, 2004), but in our specimens seta Z_3 does not reach the base of seta Z_4 .

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Table 2. Length and width intervals of idiosoma of *Zercon foveolatus* Halaskova, 1969 (measurements in μm).

	♀♀: Length × width
Halaskova (1969)	482-514 × 371-392
Petrova (1977)	480-510 × 370-390
Karg (1993)	480-510 × 370-400
Turkish specimens	440-483 × 360 -388

Pore Po_3 lies above the line connecting setae Z_4 - J_5 in our specimens but in the type specimen (Halaskova, 1969) and literature records (Petrova, 1977; Karg, 1993; Masan and Fenda, 2004) it lies on the line connecting setae Z_4 - J_5 .