

A new record of zerconid mites (Acari, Mesostigmata, Zerconidae) from the Thrace region of Turkey

Mehmet KARACA*, Raşit URHAN

Department of Biology, Faculty of Arts and Sciences, Pamukkale University, Kinikli, Denizli, Turkey

Received: 23.12.2013 • Accepted: 29.04.2014 • Published Online: 02.01.2015 • Printed: 30.01.2015

Abstract: In this study, *Prozercon martae* Ujvári, 2010 is recorded for the first time from Turkey. On the basis of the samples collected from the Thrace region of Turkey, its morphological features are given with drawings.

Key words: *Prozercon martae*, Acari, Zerconidae, new record, Turkey

Zerconid mites are important members of the soil fauna, and they colonize various soil substrates. Out of the 38 genera of the family Zerconidae known from the northern hemisphere, only 3 (*Prozercon*, *Rafas*, and *Zercon*) are known from Turkey. According to Ujvári (2011a), the genus *Rafas* Blaszak, 1979, which was defined earlier on the basis of its divided sternal shield, was proposed as a junior synonym of *Prozercon*. The genus *Prozercon* is the second richest genus of Zerconidae in Turkey. So far, 23 species of this genus have been recorded from Turkey (Urhan, 2008, 2010, 2013). In this paper, we report an additional species of this genus for Turkey, namely *Prozercon martae* Ujvári, 2010. It has been described by Ujvári (2010, 2011b) on the basis of material collected from Croatia.

The mites in soil and litter samples taken from the Thrace region were extracted in a Berlese funnel apparatus. They were then fixed and preserved in 75% ethanol. The examination and drawing of the mites was carried out using an Olympus BX50 microscope with DP25 camera. Morphological terminology used in the descriptions follows that of Mašán and Fendá (2004).

Family: Zerconidae Canestrini, 1891

Genus: *Prozercon* Sellnick, 1943

Type species: *Zercon fimbriatus* C.L. Koch, 1839

Prozercon martae Ujvári, 2010

(Figures 1A and 1B)

Materials: 4 ♀♀ and 1 ♂; Martyrdom Soğanlıdere, Kilitbahir, Gelibolu Peninsula, Çanakkale Province, Turkey, 50 m, 20.01.2013. Sample of litter and soil underlying *Olea europaea* in graveyard. 1 ♀; Çavuşköy village, Enez, Edirne Province, Turkey, 59 m, 08.06.2013. Sample of litter and soil underlying *Quercus* sp. from edge

of Büyükevren highway. Materials were deposited in the Department of Zoology of Pamukkale University, Denizli (Turkey).

Female (Figure 1A). Idiosoma (excluding gnathosoma) in the 5 specimens; mean length 329 (315–337) µm, mean width 221 (213–235) µm.

Dorsal side. (Figure 1A). Twenty pairs of different setae present on podonotum's dorsal side: j-row with 6 pairs, z-row with 2 pairs, s-row with 5 pairs, r-row with 7 pairs. Two pairs of different setae present on podonotum's ventral side: p-row with 2 pairs (only seta p1 present on dorsal figure, above seta r1, seta p2 visible on ventral view). All podonotal setae pilose (except setae j3 and j5). Setae j3 and j5 smooth and needle-like (seta j5 3/2 as long as seta j3). j6 is longest seta on podonotum. Remaining setae on podonotum are pilose and brush-like. Twenty-two pairs of different setae present on opisthonotum's dorsal side: J-row with 6 pairs, Z-row with 5 pairs, S-row 4 four pairs, R-row with 7 pairs. All opisthonotal setae pilose or plumose (except setae R5–7). Setae J1–3, Z1–3, S1, and S3 densely plumose and elongated. Setae J4–6, Z4–5, S2, and S4 pilose and brush-like. Setae S2–4, Z4–5, and J6 reaching beyond the margins of opisthonotum (seta J5 does not reach beyond the margins of opisthonotum in female specimens, but it reaches beyond the margins of opisthonotum in male specimens). Seta R1 pilose, setae R2–4 plumose, remaining R setae smooth, thickened, and pointed. Average length of opisthonotal setae and distances between setae within longitudinal rows: see Table.

Pores (Figure 1A). Three different pores present on podonotum. Pore po1 located between setae j2 and s1, po2 on the line connecting j4 and s3, closer to s3, po3 situated

* Correspondence: m.karaca_86@hotmail.com

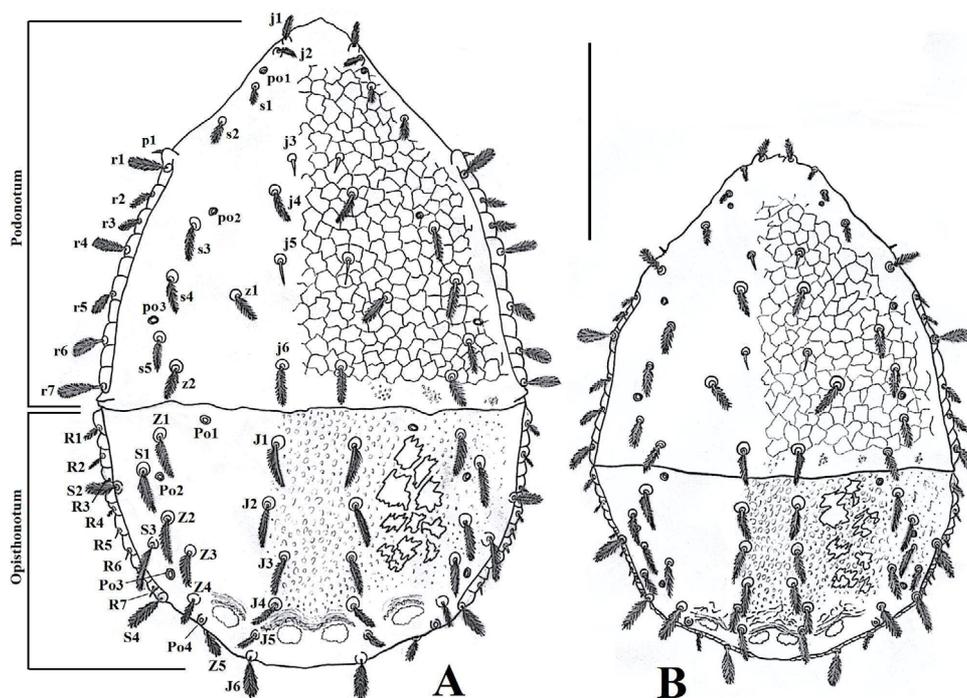


Figure 1. *Prozercon martae* dorsal view of the idiosoma: A) female, B) male (scale bar = 100 µm).

Table. Lengths of opisthonotal setae and the distances between their bases in J-, Z-, and S-rows of female specimens of *Prozercon martae* Ujvári, 2010 (values as means, in micrometers; F: female, M: male).

Seta	F	M	Seta	F	M	Seta	F	M
J1	25	21	Z1	18	14	S1	20	16
J1-J2	33	25	Z1-Z2	35	28	S1-S2	22	17
J2	24	19	Z2	27	21	S2	24	19
J2-J3	35	27	Z2-Z3	24	19	S2-S3	30	24
J3	20	15	Z3	18	15	S3	18	15
J3-J4	25	20	Z3-Z4	21	16	S3-S4	21	17
J4	13	10	Z4	19	14	S4	24	18
J4-J5	18	14	Z4-Z5	23	18			
J5	16	12	Z5	14				
J5-J6	13	10						
J6	19	15						

anterolaterally to seta s5. Podonotum covered by tile-like pattern. Four different pores present on opisthonotum. Pore Po1 located outside the line connecting J1 and Z1, closer to Z1, Po2 inside the line connecting S1 and Z2, closer to S1, Po3 on line connecting Z3 and S4, Po4 near base of Z5. Dorsal fossae well sclerotized. Opisthonotum covered with spot-like bulbs.

Ventral side. Ventral shields' shape and chaetotaxy typical for the genus *Prozercon*. Setae p1 and p2 (peritremal

setae) smooth, short, and needle-like. Lateral ends of peritremal shield reach R5. Adgenital shields absent (an important feature of the genus *Prozercon*). Ventroanal shield with 8 pairs of setae. Anterior margin of ventroanal shield with 1 pair of setae, and postanal seta is single (not paired). All of them smooth, short, and needle-like. The shapes of peritremes typical for genus *Prozercon*.

Male (Figure 1B). Idiosoma (excluding gnathosoma) in 1 specimen; length 261 µm, width 190 µm.

Dorsal side, ventral side, and sculpture of podonotum and opisthonotum basically similar to that of female.

Pores (Figure 1B). On podonotum, pore po1 located under seta s1, po2 on the line connecting r1 and s3, po3 situated between setae s4 and s5. On opisthonotum, pore Po1 located outside the line connecting J1 and Z1, closer to Z1, pore Po2 between setae S1 and Z2, Po3 between setae Z3 and S4, Po4 located between setae Z4 and Z5.

Most Turkish specimens' setal and morphological characters are very similar to type specimens. The body dimensions of *Prozercon martae* (Ujvári, 2010, 2011b) have been given as 321–333/240–248 µm for the females and 268–280/183–199 µm for the males in Croatian specimens. Turkish specimens are 315–337/213–235 µm (females) and 261/190 µm (males). According to this information, our female specimens are approximately the same size as type

specimens (Ujvári, 2010), but our male specimen is slightly smaller than type specimens (Ujvári, 2011b). Additionally, on the podonotum, seta j6 never reaches the margin of the podonotum, except in males. Pore po2 lies above the line connecting setae j4–s3 in our female specimens, but in the type specimen (Ujvári, 2010) it lies on the line connecting setae s2–s4. Pore po3 is located outside the line connecting s4 and s5, closer to s5 in our female specimens, but in the type specimen (Ujvári, 2010) it is between setae s5 and s6. The different positions of pores can be a result of geographical variation in Zerconidae members.

Acknowledgments

This study was financially supported by the Pamukkale University Scientific Research Projects (PAUBAP), Project Number: 2012FBE067.

References

- Mašán P, Fenda P (2004). Zerconid Mites of Slovakia (Acari, Mesostigmata, Zerconidae). Bratislava, Slovakia: Institute of Zoology, Slovak Academy of Sciences.
- Ujvári Z (2010). Zerconid mites (Acari: Mesostigmata: Zerconidae) from Croatia with description of four new species. *J Nat Hist* 44: 1671–1696.
- Ujvári Z (2011a). Six new species of *Prozercon* Sellnick, 1943 (Acari, Mesostigmata, Zerconidae) from Greece, with remarks on the genus. *Zootaxa* 2785: 1–31.
- Ujvári Z (2011b). New records of *Prozercon* Sellnick, 1943 species from Croatia, with description of a new species (Acari: Mesostigmata: Zerconidae). *Genus* 22: 677–689.
- Urhan R (2008). Contributions to the genus *Prozercon* (Acari: Zerconidae) from Turkey. *Zool Middle East* 45: 97–104.
- Urhan R (2010). Two new species of zerconid mites from Turkey (Acari: Zerconidae). *Zool Middle East* 50: 111–118.
- Urhan R (2013). Two new species of zerconid mites (Acari: Zerconidae) from Giresun Province (Turkey). *Turk J Zool* 37: 172–178.