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A new species of *Rafas* BŁASZAK from Turkey
(Acari: Zerconidae)

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ABSTRACT. A new zerconid mite, *Rafas blaszaki* sp.n., is described from Turkey and illustrated.

Key words: Acarology, taxonomy, new species, *Zerconidae*, *Rafas*, Turkey.

INTRODUCTION

The genus *Rafas* was described by BŁASZAK (1979) based on the completely divided sternal shield; *Rafas bisternalis* BŁASZAK, 1979 from Tunisia, was designated as its type species.

During an investigation of the zerconid mites of Artvin province, Turkey, an undescribed species of this genus was found.

Types: Holotype (female), allotype (male) and 42 paratypes at the Zoological Museum of Atatürk University, Erzurum, Turkey; 2 paratypes (1 female, 1 male) in BŁASZAK's collection (Poland).

The locality data are given below. Under the species description we only give the respective numbers referring to samples, except the type locality.

LIST OF LOCALITIES:

No. 08-04-49: Turkey, Artvin, about 5 km S Borçka, 260 m, 26.10.1993.
Sample of litter and soil under *Cydonia oblonga* in a garden.

No. 08-08-51: Turkey, Artvin, Yusufeli, Çevreli village, 1430 m, 17.8.1993.
Sample of litter and soil in a coniferous forest (mostly *Picea orientalis*).

No. 08-08-57: Turkey, Artvin, Yusufeli, Çevreli village, 1450 m, 17.8.1993.
Sample of litter and soil in a coniferous forest (mostly *Pinus* sp.).

SYSTEMATICS

Family: *ZERCONIDAE* CANESTRINI, 1891

Genus: *Rafas* BŁASZAK, 1979

Type-species: *Rafas bisternalis* BŁASZAK, 1979

DIAGNOSIS OF THE GENUS

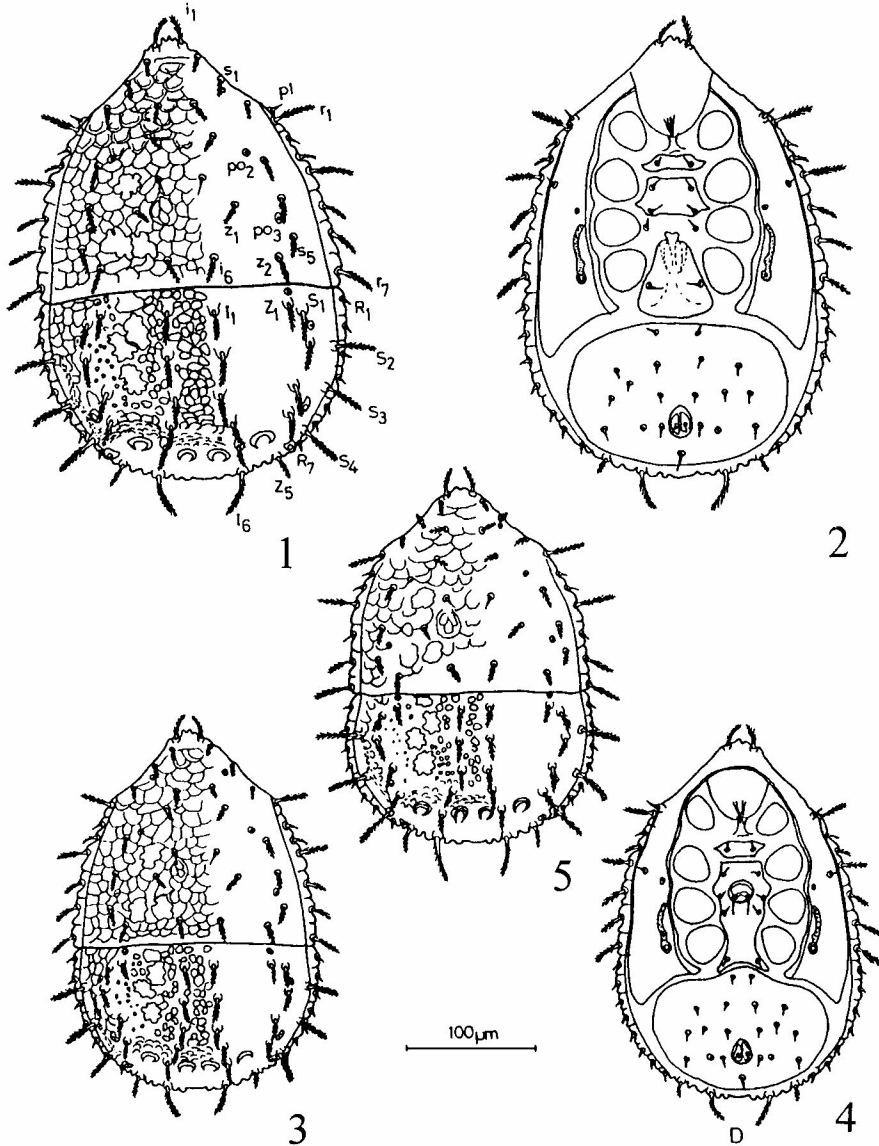
Peritremal shields extend posteriorly, especially lateral external ends which reach up to seta R_3 . Peritremal shield with two setae p_1 and p_2 , both short and smooth. Adgenital shields and the opening of the glands gv_2 are absent. Sternal shield completely divided in two parts, anterior with one pair of setae, posterior with two pairs of setae. Margin of the opisthonotum with 7 or 8 setae. On the anterior margin of the ventro-anal shield, there are two setae.

***Rafas blaszaki* sp. n.**

(Figs 1-5)

Female (Figs 1-2) Length of idiosoma (excluding gnathosoma) in holotype 374 μm , width 255 μm . Measurements of 34 paratypes; mean length 365 (357-374) μm , mean width 244 (238-255) μm .

Dorsal setae (Fig. 1): On the podonotum setae i_3 , r_2 short and smooth. All marginal setae of the podonotum plumose, seta r_3 shorter and more delicately plumose than the others. The remaining setae of the podonotum plumose. On the opisthonotum setae I_1 - I_6 plumose. Seta I_1 not reaching the base of the seta I_2 , but seta I_2 reaching the base of seta I_3 . Setae I_6 68 μm apart from each other. Setae Z_1 - Z_5 plumose but shorter than seta I_6 . Seta Z_2 not reaching to the base of seta Z_3 . Distance between seta Z_5 and I_6 31 μm . Seta S_1 similar to seta Z_1 and reaches to the base of seta Z_2 . The remaining seta of row S similar to seta I_6 . Setae S_2 - S_3 exceed the opisthonotum margin by half their length. All marginal setae of the opisthonotum are short and thorn-like. Length of opisthonotal setae and distance between setae of particular rows as follows:



1-5. *Rafas blaszaki* sp. n.: 1, 2 - female: 1 - dorsal idiosoma, 2 - ventral idiosoma; 3, 4 - male: 3 - dorsal idiosoma, 4 - ventral idiosoma; 5 - deutonymph, dorsal idiosoma

S ₁ -24	Z ₁ -20	I ₁ -31
41	37	37
S ₂ -34	Z ₂ -27	I ₂ -31
41	34	31
S ₃ -34	Z ₃ -27	I ₃ -31
41	24	27
S ₄ -34	Z ₄ -24	I ₄ -24
	34	20
	Z ₅ -24	I ₅ -20
		24
		I ₆ -34

Pores: Pore po_1 situated just behind seta s_1 . Pore po_2 lies on the line connecting setae s_3-i_4 . Pore po_3 lies inside the line connecting setae s_4-s_5 . On the opisthonotum pore Po_1 between anterior margin of the opisthonotum and insertion of seta Z_1 . Pore Po_2 lies outside the line connecting setae S_1-Z_2 . Pore Po_3 lies on the line connecting setae S_3-Z_4 . Pore Po_4 lies on the line connecting setae S_4-Z_5 .

Sculpturing pattern: Entire podonotum has irregular areas. On the opisthonotum the sculpture in the upper corners is reticulated and reaches seta Z_2 . The middle part of the opisthonotum covered with distinct and large spots, the biggest ones between setae of row *I*. Dorsal cavities are small, well sclerotized and smooth anteriorly.

Venter (Fig. 2): The chaetotaxy and shape of the peritremal shield typical of the genus. Adgenital shields and pores gv_2 absent. Sternal shield completely divided in two parts, anterior with one pair of setae, posterior with two pairs of setae. Anterior margin of the ventro-anal shield with two setae.

Male (Figs 3-4): Idiosoma (excluding gnathosoma) in 14 specimens: mean length 297 (286-306) μm , mean width: 201 (197-204) μm . Setae, pores and sculpturing pattern on the podo- and opisthonotum as in female. Distances between setae I_6-I_6 and Z_5-I_6 are 50 μm and 24 μm , respectively. Sterno-genital shield completely divided in two parts, anterior with one pair of setae, posterior with four pairs of setae. Shape and chaetotaxy of peritremal shield as in female. Length of opisthonotal setae and distance between setae of particular rows as follows:

S ₁ -18	Z ₁ -17	I ₁ -20
26	26	26
S ₂ -27	Z ₂ -20	I ₂ -20
29	24	22
S ₃ -27	Z ₃ -20	I ₃ -20
31	20	17

S ₄ -27	Z ₄ -17	I ₄ -17
	31	14
	Z ₅ -17	I ₅ -14
		18
		I ₆ -27

Deutonymph (Fig. 5) Idiosoma (excluding gnathosoma) in 4 paratypes: mean length 286 (272-296) μm , mean width 208 (204-211) μm . On the podonotum setae i_5 , r_2 , r_3 short and smooth. The remaining setae of the podonotum plumose, seta r_3 shorter and more delicately plumose than the others. On the opisthonotum only the marginal setae short thorn-like and smooth. The remaining setae of the opisthonotum plumose. Seta I_2 not reaching to the base of seta I_3 . Setae I_6 56 μm apart. Seta Z_2 not reaching to the base of seta Z_3 . Distance between seta Z_5 and I_6 24 μm . Setae S_2 - S_4 similar to seta I_6 . The position of pores on the podo- and opisthonotum is the same as in the adult stage. Length of opisthonotal setae and distance between setae of particular rows as follows:

S ₁ -18	Z ₁ -16	I ₁ -20
24	27	25
S ₂ -31	Z ₂ -18	I ₂ -22
31	24	24
S ₃ -31	Z ₃ -18	I ₃ -20
31	20	17
S ₄ -31	Z ₄ -31	I ₄ -18
	24	17
	Z ₅ -16	I ₅ -16
		16
		I ₆ -31

MATERIAL EXAMINED

Holotype; female. No. 08-08-57: Turkey, Artvin, Yusufeli, Cevreli village, 1450 m, 17.8.1993. Sample of litter and soil in a coniferous forest (mostly *Pinus* sp.). Paratypes 21 females, 10 males, 3 deutonymphs: from the same sample; other paratypes from: 08-04-49: 7 females, 3 males; 08-08-51: 6 females, 1 male, 1 deutonymph.

REMARKS

The new species is closely related to *Rafas bisternalis* BŁASZAK, 1979, from which it can be easily distinguished by the following features:

Rafas blaszaki sp. n.

1. Seta r_2 smooth.
2. Seta R_1 smooth.
3. Seta S_3 exceeds the margin of opisthonotum by half its own length.
4. Seta I_1 not reaching to the base of seta I_2 .
5. Dorsal cavities smooth anteriorly.
6. Opisthonotum covered with reticulated sculpture in the upper corners, and large spots in the middle.

Rafas bisternalis BŁASZAK, 1979

1. Seta r_2 delicately plumose.
2. Seta R_1 long and delicately plumose.
3. Seta S_3 phylliform with serrated margin.
4. Seta I_1 reaching to the base of seta I_2 .
5. Dorsal cavities lobed anteriorly.
6. Opisthonotum covered with regular spots.

ETYMOLOGY

The species is named in honour of Dr. CZ. BŁASZAK (Poland).

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REFERENCE

BŁASZAK, CZ., 1979. Tunisian *Zerconidae* (Acari: *Gamasida*). Fol. Entomol. hung., **32** (2): 13-26.