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Two new species of the genus *Zercon* KOCH from Turkey (*Acari*: *Gamasida*: *Zerconidae*)

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ABSTRACT. *Zercon septemporus* and *Z. nemoralis*, new to the science, are described from Turkey.

Keywords: acarology, taxonomy, new species, *Zercon*, *Acari*, *Gamasida*, Turkey.

INTRODUCTION

The first faunistic data on the zerconid mites of Turkey were published by BŁASZAK (1979) followed later by URHAN & AYYILDIZ (1994a, 1994b, 1996a, 1996b, 1996c) and URHAN (1997a, 1997b, 1998, 2001a, 2001b). During these studies 26 species of *Zercon* have been recorded. In this study, two new species of the genus *Zercon* KOCH, 1836 are described. Morphological terminology used in the description follows that of SELLNICK (1958) and BŁASZAK (1974). The type materials are deposited at the Zoological Museum of Atatürk University (Turkey).

SYSTEMATICS

Zercon septemporus n. sp.

(Figs 1-5)

Female (Figs.1, 2) - Length of idiosoma (excluding gnathosoma) in holotype 534 µm, width 408 µm. Measurements of 24 paratypes; lenght 528 (513-544) µm,

width 402 (384-412) µm. **Dorsal setae** (Fig.1). On podonotum seta j1 feathered, the remaining setae of podonotum sort and smooth. On opisthonotum setae J_1, J_2, Z_1, Z_2 and S_1 short and smooth. Setae J_3-J_5 long and delicately barbed. Seta J_3 does not reach base of seta J_4. Seta J_4 reaches base of seta J_5. Seta J_6 long, barbed with hyaline ending. Setae J_6 136 µm apart from one another. Seta Z_3 long, barbed with hyaline ending and not reaching base of seta Z_4. Seta Z_4 similar to seta J_6 and exceeding posterior margin of opisthonotum by half length. Seta Z_5 short and smooth. Distance between setae Z_5 and J_6 31 µm. Seta S_2 similar to seta Z_3 and reaching margin of opisthonotum. Seta S_3 and S_4 similar to seta J_6. Seta S_3 exceeds opisthonotum margin by half length. All marginal setae of opisthonotum similar to those of podonotum. Length of opisthonotal setae and distances between setae within longitudinal rows are as follows:

S_1-20	**Z_1**-17	**J_1**-14
44	58	58
S_2-41	**Z_2**-17	**J_2**-14
61	51	51
S_3-58	**Z_3**-41	**J_3**-24
58	44	41
S_4-65	**Z_4**-75	**J_4**-31
	37	31
	Z_5-24	**J_5**-31
		27
		J_6-72

Pore Po_1 located above insertion of seta Z_1. Pore Po_2 lies on the line connecting setae Z_3-S_3 shifted toward seta Z_2. Pore Po_3 lies below the line connecting setae Z_4-J_4 shifted toward setae Z_4. Pore Po_4 located under insertion of seta S_4.

Ornamentation of dorsal shields shown in Fig. 1. Dorsal cavities distinct, of equal size, with axes parallel to the body axis.

Chaetotaxy and shape of peritremal shields typical for the genus. Adgenital shields present. On anterior margin of ventro-anal shield four seate (Fig. 2).

Male (Fig.3-4) – Idiosoma (excluding gnathosoma) in 12 specimens 410 (395-418) µm long, 287 (272-291) µm wide. Setae, pores and sculpture pattern of podo- and opisthonotum as in female. Distance between setae J_6-J_6 and Z_5-J_6 97 µm and 22 µm, respectively. Length of opisthonotal setae and distances between setae within longitudinal rows are as follows:

S_1-16	**Z_1**-12	**J_1**-12
37	42	39
S_2-31	**Z_2**-12	**J_2**-12
39	28	32

S_3-46	**Z_3**-22	**J_3**-16
41	28	25
S_4-56	**Z_4**-56	**J_4**-20
	45	21
	Z_5-17	**J_5**-18
		34
		J_6-60

Deutonymph (Fig.5) – Length of idiosoma (excluding gnathosoma) in 5 paratypes 412 (408-415) µm, width 304 (292-313) µm. Podonotal seta j1 feathered, the reminder smooth. Opisthonotal seate J_1-J_5, Z_1-Z_3 and S_1 short and smooth. Setae J_6, Z_4 and S_2-S_4 long, barbed with hyaline ending. Seate J_6-J_6 102 µm apart from one another. Seta Z_4 exceeds opisthonotum margin by half lenght. Seta Z_5 short and smooth. Distance between seate Z_4-J_4 20 µm Seta S_2 exceeds one third length of opisthonotum margin. All marginal setae smooth. Pore Po_2 lies on the line connecting setae Z_4-J_4 shifted toward seta Z_4. Length of opisthonotal setae and distances between setae within longitudinal rows are as follows:

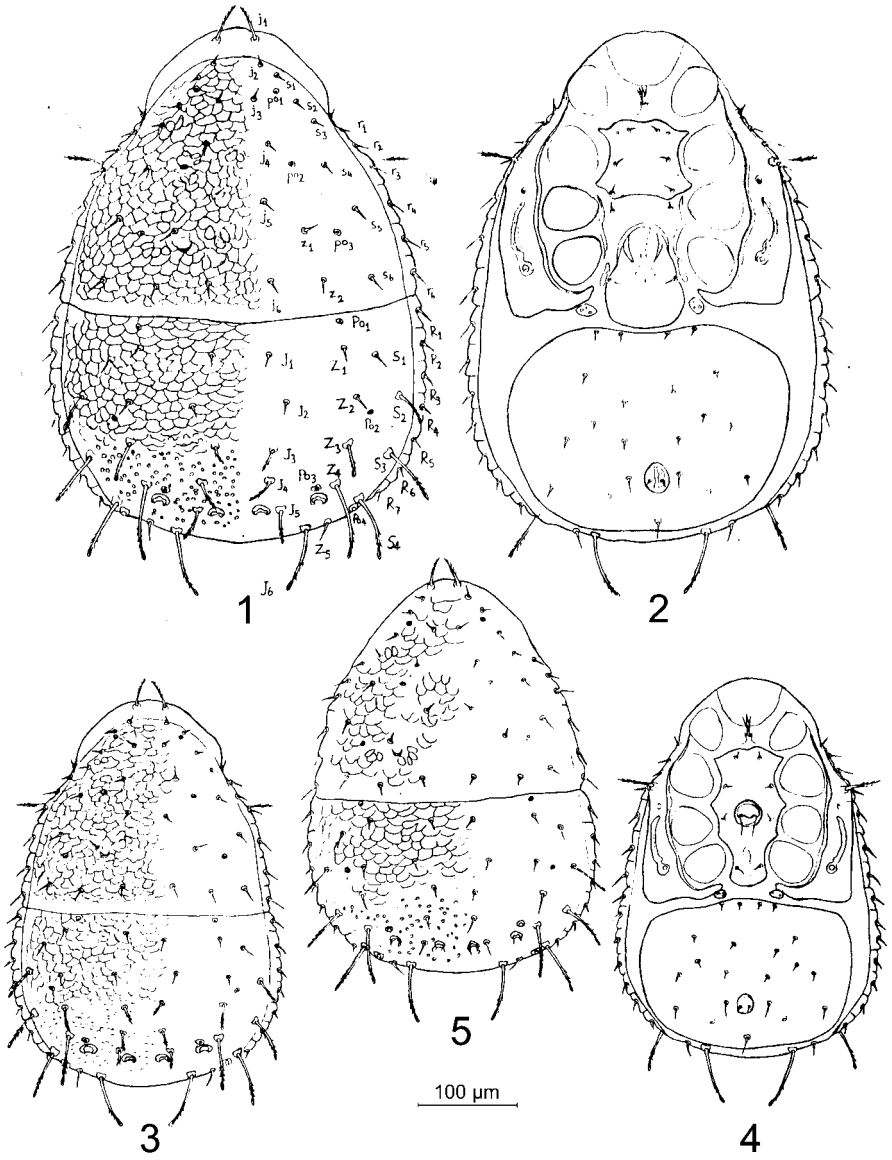
S_1-17	**Z_1**-10	**J_1**-10
44	46	44
S_2-36	**Z_2**-10	**J_2**-10
42	32	34
S_3-50	**Z_3**-16	**J_3**-12
40	31	22
S_4-58	**Z_4**-58	**J_4**-12
	36	20
	Z_5-16	**J_5**-12
		34
		J_6-60

TYPE MATERIAL

Holotype: female, paratypes 24 females, 12 males and 5 deutonymphs; Turkey, Artvin, Yusufeli, Çevreli village, 1160 m, 17.8.1993. Sample of litter and soil under *Corylus avellana* in a garden.

REMARKS

The new species is closely related to *Zercon foveolatus* HALASKOVA, 1969 and *Zercon ovalis* BALAN, 1972. They may be distinguished on the basis of the following features:



1-5. *Zercon septemporus* n. sp.: 1-2 - female (1 - dorsal view of idiosoma, 2 - ventral view of idiosoma), 3-4 - male (3 - dorsal view of idiosoma, 4 - ventral view of idiosoma), 5 - deutonymph, dorsal view of idiosoma

Z. foveolatus	*Z. ovalis*	*Z. septemporus* n. sp.
1. Seta j2 pilose	1. Seta j2 smooth	1. Seta j2 smooth
2. All marginal setae of podonotum pilose	2. All marginal seta of podonotum delicately barbed	2. All marginal setae of podonotum smooth
3. Seta J_3 smooth	3. Seta J_3 smooth	3. Seta J_3 delicately barbed
4. Base of seta J_5 located on the line connecting setae Z_4-Z_4	4. Base of seta J_5 located under the line connecting setae Z_4-Z_4	4. Base of seta J_5 located under the line connecting setae Z_4-Z_4
5. Seta Z_3 long, barbed with hyaline ending	5. Seta Z_3 short and delicately barbed	5. Seta Z_3 long, barbed with hyaline ending
6. Seta S_2 short, smooth and not reaching margin of opisthonotum	6. Seta S_2 short, delicately barbed and not reaching margin of opisthonotum	6. Seta S_2 long, barbed with hyaline ending and reaching margin of opisthonotum
7. All marginal setae of opisthonotum finely pilose	7. All marginal setae of opisthonotum delicately barbed	7. All marginal setae of opisthonotum smooth
8. Pore Po_3 lies on the line connecting setae Z_4-J_5	8. Pore Po_3 lies on the line connecting setae Z_4-J_4	8. Pore Po_3 lies below the line connecting setae Z_4-J_4

ETYMOLOGY

The specific epitet refers to seven pores located on the dorsal side of idiosoma.

Zercon nemoralis n. sp.

(Figs 6-10)

Female (Fig.6, 7) - Length of idiosoma (excluding gnathosoma) in holotype 510 µm, width 394 µm. Measurements of 36 paratypes; length 500 (480-510) µm, width 379 (364-394) µm. **Dorsal setae** (Fig.1). On podonotum seta j1 feathered, setae r4-r6 delicately barbed. The remaining setae of podonotum smooth. On opisthonotum setae J_1, J_2, Z_1, Z_2 and S_1 short and smooth. Setae J_3-J_5 delicately barbed. Seta J_6 long, barbed with hyaline ending. Setae J_6-J_6 129 µm apart from one another. Seta Z_3 barbed with hyaline ending and not reaching base of seta Z_4. Seta Z_4 similar to seta J_6 and exceeding posterior margin of opisthonotum. Seta Z_5 smooth. Distance between setae Z_5-J_6 37 µm. Setae S_2 barbed with hyaline ending and not reaching margin of opisthonotum. Setae S_3 and S_4 similar to seta J_6. Seta S_3 exceeds margin of opisthonotum by 2/3 its length. Setae R_1-R_4 delicately barbed, the remainder of this row smooth. Length of opisthonotal setae and distances between setae within longitudinal rows are as follows:

S_1-17	**Z_1**-14	**J_1**-14
41	48	58
S_2-31	**Z_2**-17	**J_2**-14
61	37	51
S_3-68	**Z_3**-24	**J_3**-24
58	37	41

S_4-78	**Z_4**-78	**J_4**-31
	68	31
	Z_5-27	**J_5**-20
		37
		J_6-85

Pore Po_1 located above the insertion of seta Z_1. Pore Po_2 lies on the line connecting setae Z_2-S_2. Pore Po_3 lies below the line connecting setae Z_4-J_4 shifted toward setae Z_4. Pore Po4 lies on the line connecting setae S_4-Z_5 shifted toward seta S_4.

Ornamentation of dorsal shields shown in Fig. 6. Dorsal cavities distinct, of equal size and with axes parallel to the body axis.

Chaetotaxy and shape of peritremal shields typical for the genus. Adgenital shields present. On anterior margin of ventro-anal shield two setae (Fig. 7).

Male (Fig.8-9) – Idiosoma (excluding gnathosoma) in 17 specimens 384 (367-418) µm long, 290 (276-306) µm wide. Setae, pores and sculpture pattern of podo- and opisthonotum as in female. Distance between setae J_6-J_6 and Z_5-J_6 95 µm and 24 µm respectively. Length of opisthonotal setae and distances between setae within longitudinal rows are as follows:

S_1-14	**Z_1**-10	**J_1**-10
31	29	32
S_2-26	**Z_2**-10	**J_2**-10
42	23	26
S_3-50	**Z_3**-16	**J_3**-12
42	32	23
S_4-61	**Z_4**-54	**J_4**-12
	52	31
	Z_5-24	**J_5**-12
		37
		J_6-68

Deutonymph (Fig.10) – Length of idiosoma (excluding gnathosoma) in 3 paratypes 378 (340-415) µm, width 292 (282-302) µm. Podonotal seta j1 pilose, setae r5, r6 delicately barbed and the remainder smooth. Opisthonotal setae J_1-J_5, Z_1-Z_3 and S_1 short and smooth. Seta J_6 long, barbed with hyaline ending. Setae J_6-J_6 102 µm apart from one another. Setae Z_4 and S_2-S_4 similar to seta J_6. Seta Z_4 reaches posterior margin of opisthonotum. Distance between setae Z_5-J_6 26 µm. Seta S_2 exceedes margin of opisthonotum. Setae R_1-R_2 delicately barbed, the remainder of this row smooth. Pore Po_3 lies on the line connecting setae Z_4-J_4 shifted toward seta Z_4. Length of opisthonotal setae and distances between setae within longitudinal rows are as follows:

S_1-14	**Z_1**-10	**J_1**-10
34	32	34
S_2-36	**Z_2**-10	**J_2**-10
43	24	26
S_3-54	**Z_3**-16	**J_3**-10
41	33	23
S_4-65	**Z_4**-61	**J_4**-10
	50	24
	Z_5-30	**J_5**-10
		33
		J_6-74

TYPE MATERIAL

Holotype: female, paratypes 36 females, 17 males and 3 deutonymphs; Turkey, Artvin, Yusufeli, Çevreli village, 1550 m, 17.8.1993. Sample of litter and soil in coniferus forest (mostly *Pinus* sp. and *Picea orientalis*).

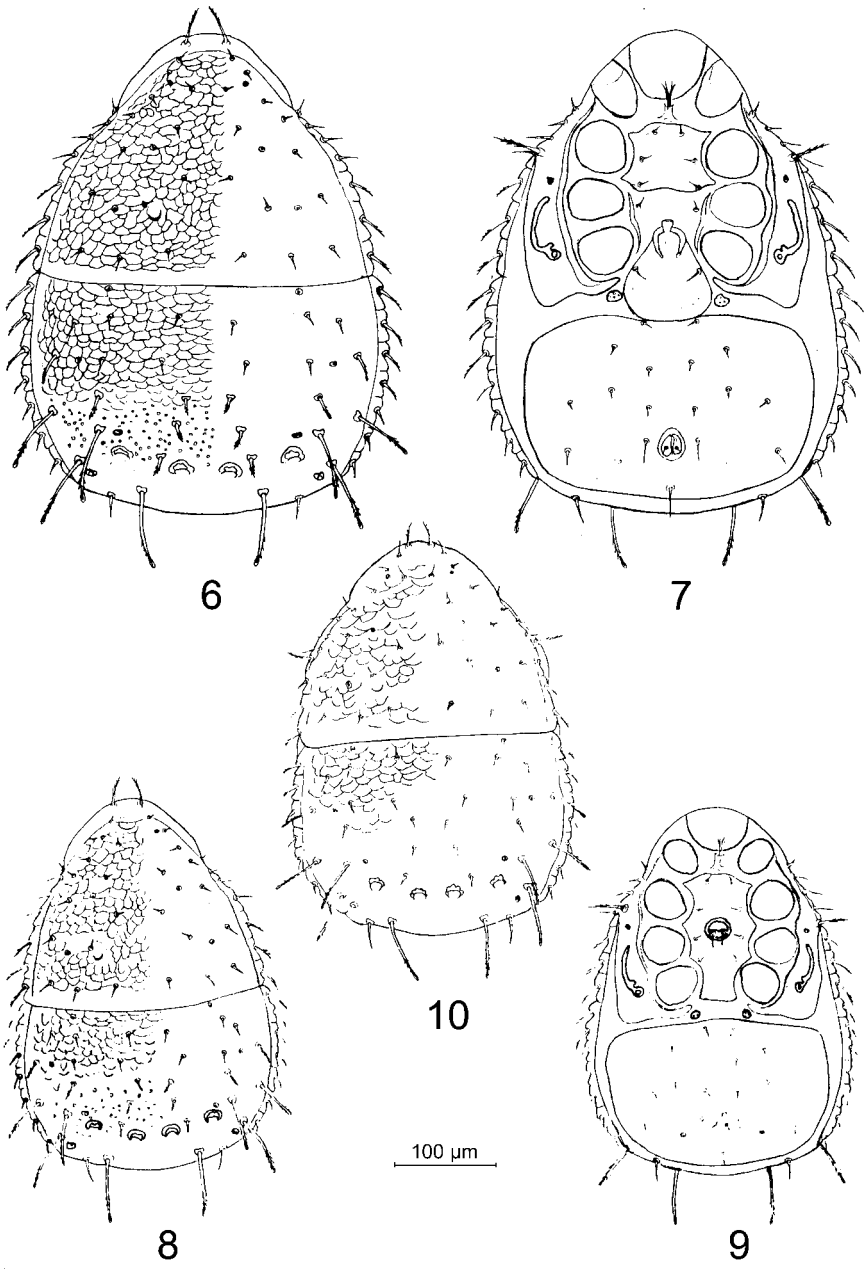
REMARKS

The new species is closely related to *Zercon solenites* HAARLOV, 1942 and *Z. lepurus* BŁASZAK, 1979. They may be distinguished on the basis of the following features:

Zercon solenites	*Zercon lepurus*	*Zercon nemoralis* n. sp.
1. Setae J_3-J_5 smooth	1. Setae J_3-J_5 smooth	1. Setae J_3-J_5 delicately barbed
2. Seta Z_3 short and smooth	2. Seta Z_3 long and smooth	2. Seta Z_3 long and barbed with hyaline ending
3. Seta Z_5 delicately barbed	3. Seta Z_5 smooth	3. Seta Z_5 smooth
4. Seta S_2 long, barbed with hyaline ending and reaching margin of opisthonotum	4. Seta S_2 short , smooth and not reaching margin of opisthonotum	4. Seta S_2 long, barbed with hyaline ending and not reaching margin opisthonotum
5. Seta S_3 long, barbed with hyaline ending and exceeding margin of opisthonotum by half length	5. Seta S_3 smooth and reaching margin of opisthonotum	5. Seta S_3 long, barbed hyaline ending and exceeds margin of opisthonotum2 /3 of its length
6. Setae R_1-R_7 delicately barbed	6. Setae R_1-R_7 smooth	6. Setae R_1-R_4 delicately barbed, the remainder of this row smooth

ETYMOLOGY

The new species is named after its habitat which is forest.



6-10. *Zercon nemoralis* n. sp.: 6-7 - female (6 - dorsal view of idiosoma, 7 - ventral view of idiosoma), 8-9 - male (8 - dorsal view of idiosoma, 9 - ventral view of idiosoma), 10 - deutonymph, dorsal view of idiosoma

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