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Two new species of the genus *Zercon* C.L. KOCH from Bulgaria (*Acari*: *Gamasida*: *Zerconidae*)

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ABSTRACT. *Zercon villosus* and *Z. serenoides* are described from Bulgaria.

Key words: acarology, taxonomy, new species, *Acari*, *Gamasida*, *Zerconidae*.

The family *Zerconidae* belongs in Bulgaria to a poorly known group of *Gamasida* mites. When studying mites of this family from Southern Europe we found females representing new species of the genus *Zercon* C.L. KOCH.

***Zercon villosus* sp. nov.**

DESCRIPTION OF HOLOTYPE

Female, length 480μm, width 350μm. Other females: length 460-505μm, width 340-370μm.

Dorsal side (Fig. 1).

Setae: Podonotal row i with six pairs of setae, z with two pairs, s with six pairs and r with six pairs. In row i seta i1 and i2 strongly barbed (Fig. 2e), remaining setae of row i and all setae of rows z and s1-s4 delicately barbed, setae s5-s6 strongly barbed. On podonotum, in row r setae r1-r4 barbed, r5-r6 barbed with delicate hyaline sheath at the extremity.

Opisthonotal row I with six pairs, Z with five pairs, S with four pairs and R with seven pairs of setae. In row I seta I1 barbed (Fig. 2 d), I2 longer, barbed with hyaline sheath at the extremity and reaching to the insertion of seta I3 (Fig. 2c). Seta I3 long with hyaline sheath at the extremity and reaching to the insertion of seta I5. Seta I4 and I5 similar in shape. Setae I4 and I5 have lateral filaments about one third from the whip-like termiantion (Fig. 2i). Seta I4 reaching to the posterior margin of opisthonotum. Seta I6 long and smooth, separated from each other by 193 µm. interval. The insertions of setae I6 and Z5 are strikingly close.

Z1 nad Z2 barbed, similar in shape to seta I1 (Fig. 2b). Seta Z3 long with hyaline sheath at the extremity and reaching to the posterodorsal cavities. Seta Z4 similar in shape to setae I4 and I5. Z5 smooth twice as short as seta I6. Seta S1 barbed reaching the insertion of seta S2. Seta S2 similar to seta I3. Seta S2 reaching to the opisthonotal margin. Seta S3 similar in shape to setae I4 and I5. Seta S4 long and smooth similar to seta I6. Setae R1 barbed with delicate hyaline sheath at the extremity similar to r5-r6. Setae R2 and R3 barbed (Fig. 2g, h). The remaining marginal setae smooth and longer than R1-R3.

Lengths of setae of opisthonotum and longitudinal distances between setae of single rows (in micrometres)

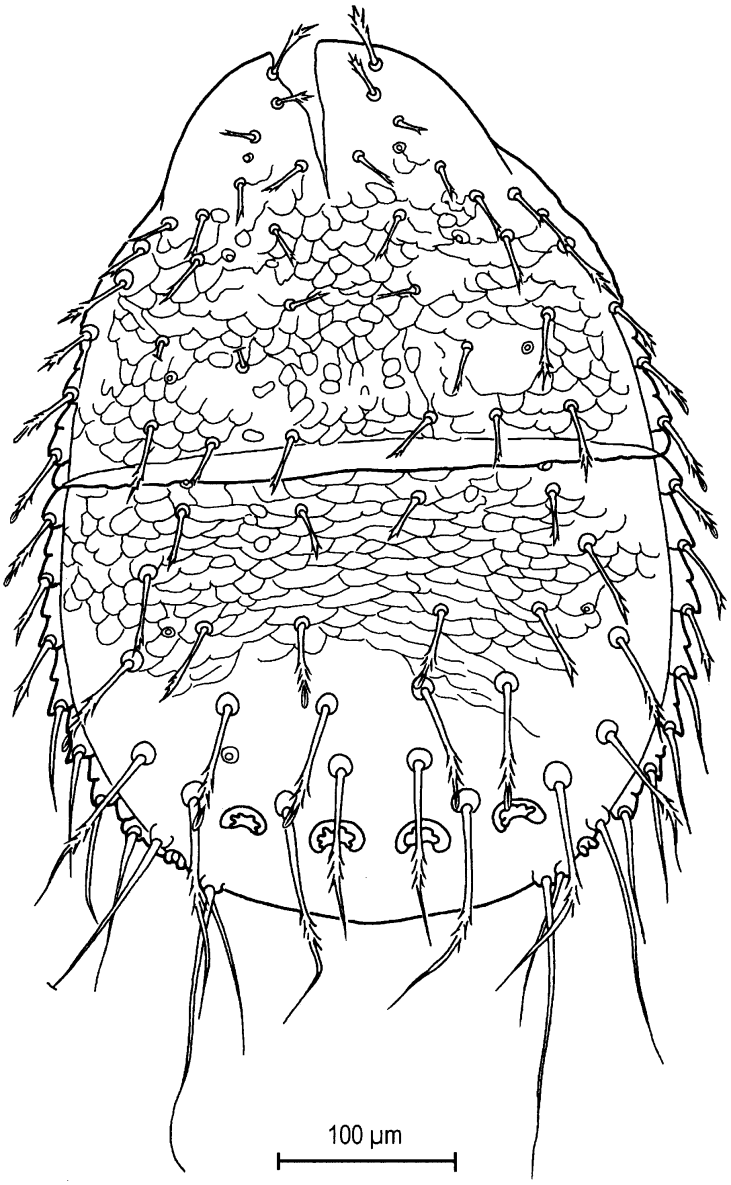
S1 - 50	Z1 - 30	I1 - 30
50	60	60
S2 - 60	Z2 - 50	I2 - 45
45	40	45
S3 - 85	Z3 -70	I3 - 65
40	50	30
S4 - 135	Z4 - 120	I4 - 100
	50	25
	Z5 - 95	I5 - 130
		50
		I6 - 165

Pores: On podonotum pores po1 lie behind seta s1. Pores po2 lie on line connecting setae s4 and i4. Pores po3 on line connecting setae s5 and z2 but nearer to s5. On opisthonotum pore Po1 situated anteroparaxially to insertion of setae Z1; Po2 above the line connecting setae Z2 and S2. Po3 on line connecting setae Z4 and I3, but nearer to Z4. Po4 behind seta S4.

Sculpture: Podonotum covered with irregular tile-like sculpture except area near setae s1, i3 and z1. The sculpture is tile-like in the upper corners of the opisthonotum, it is reticulated in the middle of the front part of the opisthonotum, and it disappears towards the posterior, which is smooth.

Tectum typical for the genus *Zercon* C.L. KOCH, 1836 (Fig. 2f)

Ventral side: Chaetotaxy and shape of the peritremal shields typical of the genus *Zercon* C.L. KOCH. Anterior margin of ventroanal shield with four setae.

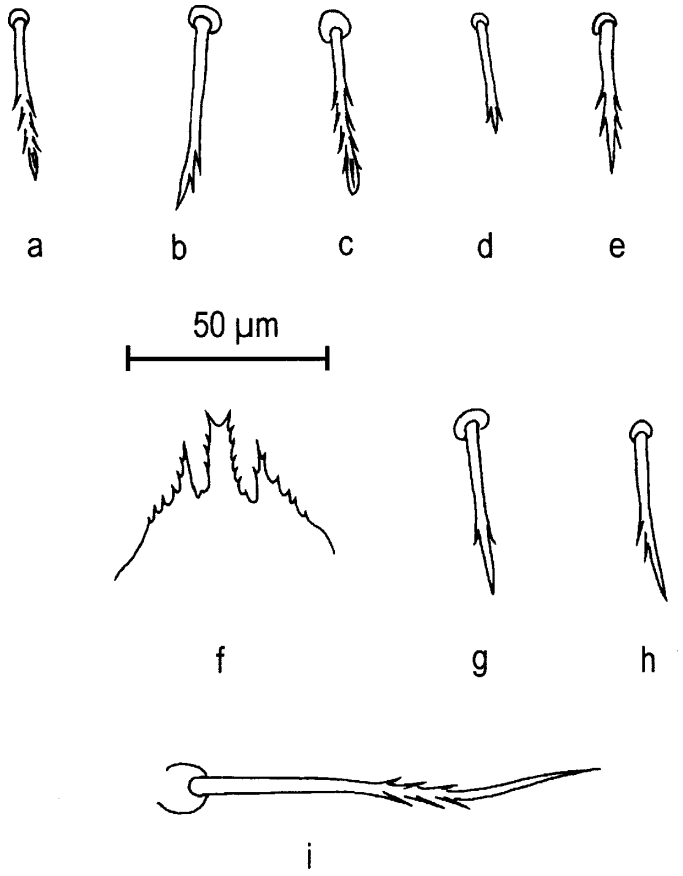


1. *Zercon villosus* sp. nov., dorsum of female

SYSTEMATIC POSITION

This species resembles *Zercon romagniolus* SELLNICK, 1944, from which it differs in the following features:

Zercon villosus sp. nov.	*Zercon romagniolus* SELLNICK
1. Seta I3 long with hyaline sheath at the extremity and reaching to the insertion of seta I5	1. Seta I3 short and smooth and twice shorter than distance I3-I4.
2. Setae Z2 barbed reaching to Z3.	2. Seta Z2 short and smooth and twice shorter than distance Z2-Z3.
3. Setae I6 and S4 long and smooth	3. Setae I6a nd S4 have lateral filaments about one third from the termination.



2. *Zercon villosus* sp. nov.: a - seta R1; b - seta Z2; c - seta I2; d - seta I1; e - seta i1; f - tectum; g - seta R3; h - seta R2; i - seta I4.

Lengths of opisthonotal setae of other females (in micrometres): I1-27, I2-39, I3-69, I4-100, I5-138, I6-159, Z1-28, Z2-44,Z3-68,Z4-128,Z5-96, S1-53,S2-68,S3-95,S4-138

TYPE LOCALITY

Holotype, female, Bulgaria, Rila Mountains. Partyzancka Glade. Old mixed forest on granite slope, about 1500 m.a.s.l. 5.09.1959, litter. Leg. J. URBAŃSKI. Paratypes: 23 females, 11 males, 8 deutonymphs

OTHER LOCALITIES

Bulgaria, Rila Mountains. Rilska River Valley, about 2 km below monastery. Old deciduous forest (beech in majority) on granite slope, litter, 850 m.a.s.l., 25.09.1959. Leg. J. URBAŃSKI.

29 females, 2 males, 7 deutonymphs.

Bulgaria Rila Mountains Rilski Monastyr. Rocky slope at a stream in beech forest, from rock crevices, 24. 09. 1965,. Leg. A. DZIABASZEWSKI.

20 females, 4 males, 2 deutonymphs.

ETYMOLOGY

Latin *villosus* mean villose, after dorsal setae.

Zercon serenoides sp. nov.

DESCRIPTION OF HOLOTYPE

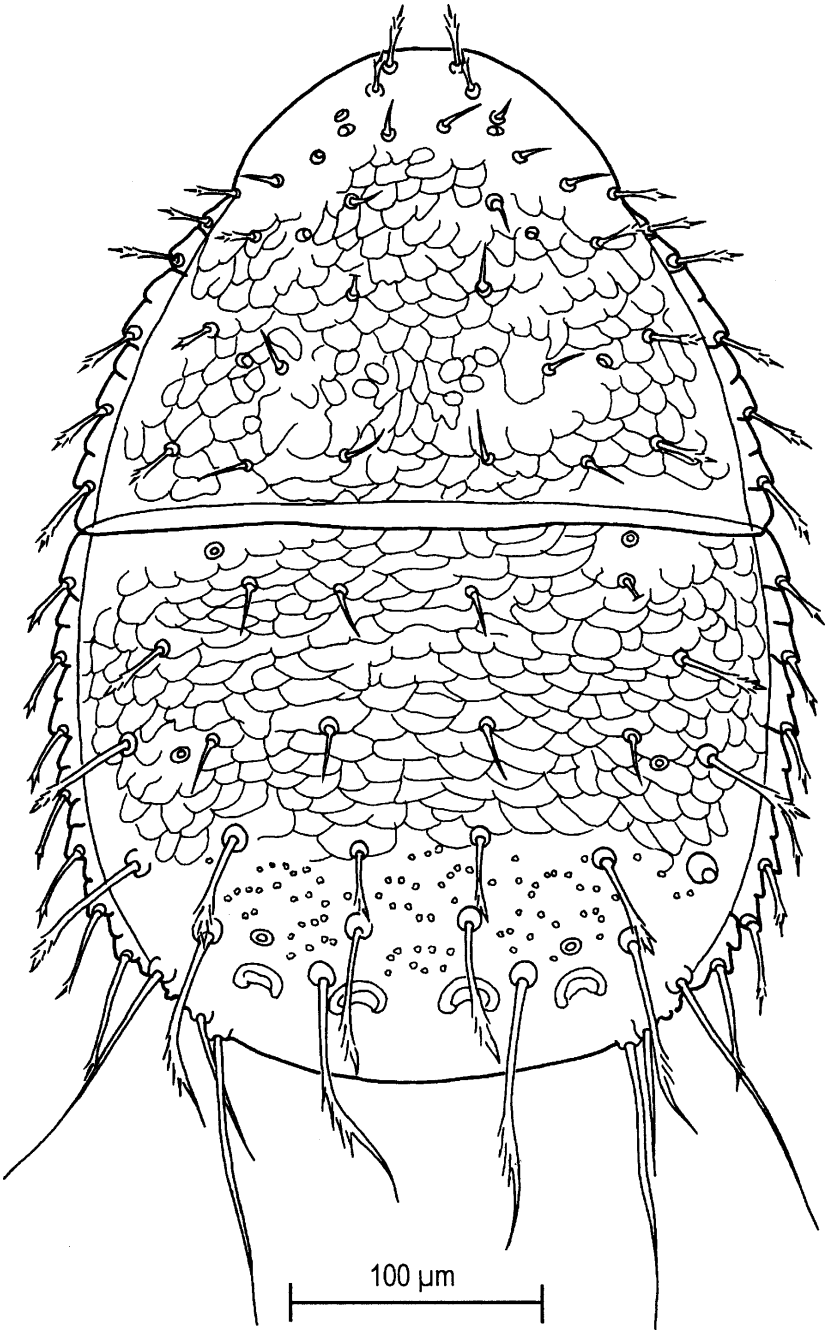
Female, length 435 µm, width 315 µm. Other females: length 435-470 µm, width 310-340 µm.

Dorsal side (Fig. 3).

Setae: Podonotal row i with six pairs of setae, z with two pairs, s with six pairs and r with six pairs. On podonotum, seta i1 and i2 feathered, remaining setae of row i and all setae of row z and setae s1-s3 smooth. Setae s4-s6 feathered similar to setae i1-i2. All marginal setae of the podonotum barbed (Fig. 4d). Opisthonotal row I with six pairs, Z with five pairs, S with four pairs and R with seven pairs of setae.

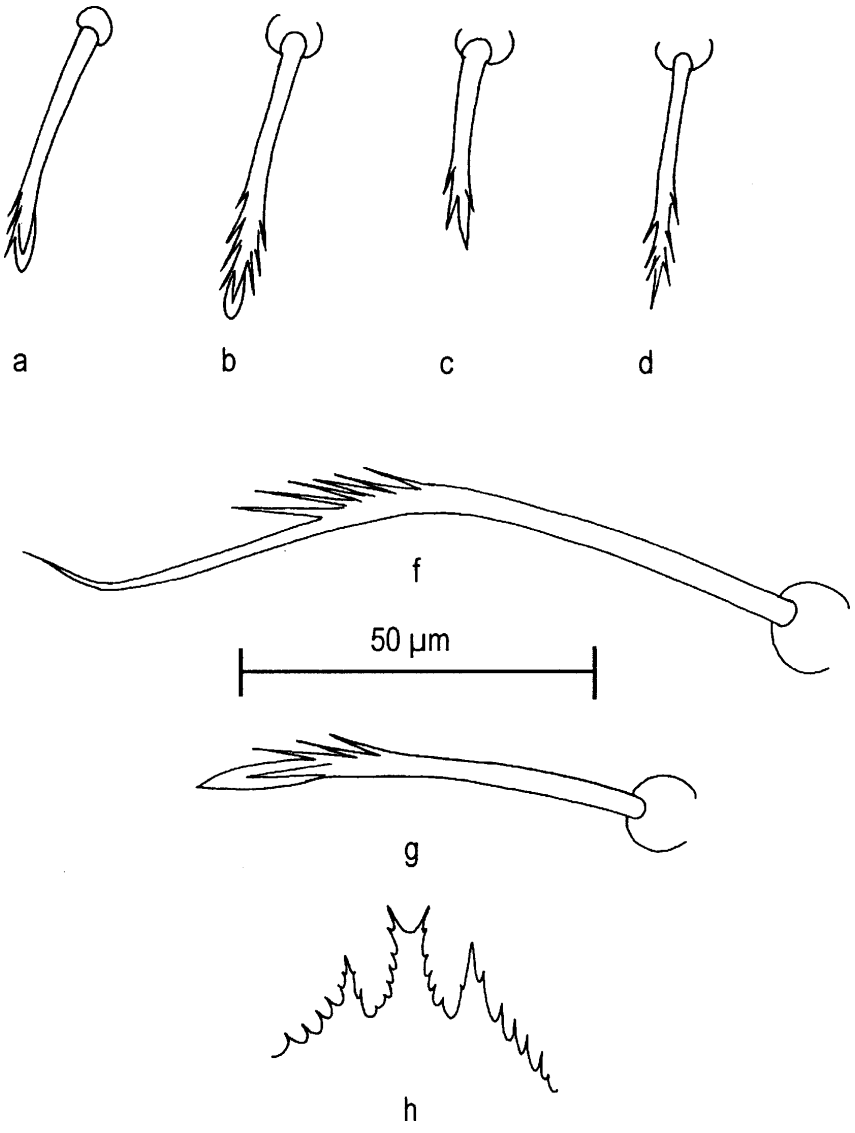
In row I seta I1and I2 short and smooth, I3 longer and feathered (Fig.4a) reaching the insertion of seta I4. Seta I4 long feathered (Fig. 4 f) and reaching to the posterior margin of opisthonotum. Seta I5 has lateral filaments about one third from the whip-like termiantion (Fig. 4e). Setae I6 long and smooth, separated from each other by 170 µm interval. The insertions of setae I6 and Z5 are strikingly close.

In row Z seta Z1and Z2 short and smooth. Z3 longer and feathered, reaching the insertion seta Z4. Seta Z4 similar in shape to seta I5. Setae S1-S3 feathered



3. *Zercon serenoides* sp. nov., dorsum of female

(Fig. 4b) similar in shape to seta Z3. Seta S1 not reaching to the margin of opisthonotum. All marginal setae of the opisthonotum barbed (Fig. 4c). Seta R7 twice as long as seta R1.



4. *Zercon serenoides* sp. nov., a - seta I3; b - seta S1; c - seta R1; d - seta r5; e - seta I5; f - seta I4; g - tectum

Lengths of setae of opisthonotum and longitudinal distances between setae of single rows (in micrometres)

S1 - 40	Z1 - 12	I1 - 15
35	60	50
S2 - 50	Z2 - 16	I2 - 20
40	40	40
S3 - 60	Z3 - 50	I3 -40
40	30	25
S4 - 110	Z4 - 80	I4 - 60
	30	20
	Z5 - 68	I5 - 110
		40
		I6 - 140

Pores: On podonotum pores po1 lie behind seta s1. Pores po2 lie behind the line connecting setae s4 and i4. Pores po3 on line connecting setae s5 and z2.

On opisthonotum pore Po1 situated anteroantiaxially to insertion of setae Z1; Po2 under the line connecting setae Z2 and S2. Po3 on the line connecting setae Z4 and I5 above outer dorsal cavities. Po4 behind seta S4.

Sculpture: Podonotum covered with irregular tile-like sculpture except area near setae s1, and z1. The sculpture is tile-like in the upper corners of the opisthonotum, it is reticulated in the middle of the front part of the opisthonotum. The sculpture reaching base of seta I3. Remaining part of opisthonotum covered with distinct spots.

Tectum typical for the genus *Zercon* C.L. KOCH, 1836 (Fig. 4g)

Ventral side

Chaetotaxy and shape of the peritremal shields typical of the genus *Zercon* C.L. KOCH. Anterior margin of ventroanal shield with four setae.

SYSTEMATIC POSITION

This species resembles *Zercon serenus* HALASKOVA, 1970 and *Zercon blaszaki* SOLOMON,1982 from which it differs in the following features:

Zercon serenoides sp. nov.	*Zercon serenus* HALASKOVA
1. Opisthonotum behind seta I3 covered with distinct spots	1. Opisthonotum behind seta I3 smooth.
2. Seta I4 reaching to the posterior margin of the opisthonotum	2. Seta I4 reaching to the dorsal cavities

Zercon serenoides sp. nov.	*Zercon blaszaki* SOLOMON
1. Seta I4 three times longer than seta I1	1. Seta I4 and I1 short similar in length
2. Opisthonotum behind seta I3 covered with distinct spots	1. Opisthonotum behind seta I3 smooth.

Lengths of opisthonotal setae of other females (in micrometres): I1-22, I2-26, I3-43, I4-63, I5-118, I6-138, Z1-17, Z2-27, Z3-55, Z4-93, Z5-74, S1-38, S2-48, S3-68, S4-120

TYPE LOCALITY

Holotype, female, Bulgaria, Rila Mountains, Rilski Monastyr. Rocky slope at a stream in beech forest, from rock crevices, 24.09.1965. Leg. A. DZIABASZEWSKI.

Paratypes12 females, 3 males, 2 deutonymphs.

OTHER LOCALITIES

Bulgaria, Rila Mountains. Rilska River Valley, about 2 km below monastery. Old deciduous forest (beech in majority) on granite slope, litter, 850 m.a.s.l., 25.09.1959. Leg. J. URBAŃSKI. 12 females, 5 males.

Bulgaria, Rila Mountains. Partyzancka Glade. Old mixed forest on granite slope, about 1500 m.a.s.l. 5.09.1959, litter. Leg. J. URBAŃSKI. 7 females, 6 males.

Holotype deposited at the Coollection of the Department of Animal Morphology, A. Mickiewicz University, Poznań (Poland).

REFERENCES

HALAŠKOVA, V., 1970. *Zerconidae* of Czechoslovakia (*Acari*:*Mesostigmata*). Acta Univ.Carolinae - Biol.Praha, **3-4**:175-352.

SELLNICK, M., 1944. *Zercon* C.L.KOCH. *Acari*. Acari-Blätter f.Milbenkunde, Königsberg, **5**:30-41, 1944.

SOLOMON, L., 1982. Two species of *Zerconidae* and some new ones for the Romanian fauna, Ann. Sc. Univ. Al. I. Cuza, IASI. Ser. Nov. Sce. II.Biol., **28**: 82-86.