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Czesław BŁASZAK

Systematic Studies on the Family *Zerconidae*. IV. Asian *Zerconidae* (*Acari, Mesostigmata*)

[With 87 text-figs.]

Badania systematyczne nad rodziną *Zerconidae*. IV. *Zerconidae* (*Acari, Mesostigmata*) Azji

Abstract. The author describes *Icozercon* subgen. nov. of the genus *Zercon* C. L. KOCH with 7 new species: *Z.* (*I.*) *acrochordus* sp. nov., *Z.* (*I.*) *jammicus* sp. nov., *Z.* (*I.*) *kashmiricus* sp. nov., *Z.* (*I.*) *prasadi* sp. nov., *Z.* (*I.*) *sonamargus* sp. nov., *Z.* (*I.*) *srinagaricus* sp. nov., *Z.* (*I.*) *tarpanicus* sp. nov., as well as 14 new species of the subgenus *Zercon* s. str.: *Z. adoxyphes* sp. nov., *Z. agnostus* sp. nov., *Z. apladellus* sp. nov., *Z. bajcalensis* sp. nov., *Z. caucasicus* sp. nov., *Z. henoticus* sp. nov., *Z. ignobilis* sp. nov. *Z. insperatus* sp. nov., *Z. lepurus* sp. nov., *Z. michejdai* sp. nov., *Z. notabilis* sp. nov., *Z. rigidus* sp. nov., *Z. rupestrinus* sp. nov., *Z. schrammi* sp. nov., and one new species of the genus *Prozercon* SELLNICK: *P. dominiaki* sp. nov. Author gives a key to all known species from Asia and all genera of the family *Zerconidae*.

CONTENTS

INTRODUCTION

The family *Zerconidae* belonged until recently to the investigated groups of Mesostigmatic mites in the Asiatic part of Palearctis. Until 1972 only 7 species were known in single localities of Japan, China and Israel (AOKI 1964, 1966; PETROVA and TASKAEVA 1968; ISHIKAVA 1969, 1972; COSTA 1966). In 1976 ATHIAS-HENRIOT described a new genus of Nepal: *Syskenozercon* ATHIAS-HENRIOT. PETROVA (1977) described for the asiatic part of the USSR 7 new species and new genus *Neozercon* PETROVA. The author described in his works dealing with *Zerconidae* of Asia from the territory of North Korea, Mongolia, Japan, Pakistan and India 22 new species belonging to 5 new genera (BŁASZAK 1975, 1976a, 1976b, 1976c, 1977a, 1977b, 1978a, 1978b). In this way the number of presently known Asian species of the family *Zerconidae* amounts to 37 species.

The material elaborated by author referring to Palearctic part of Asia comprises 241 females, 39 males and 10 deutonymphs. The author based his work on material from the territory of Turkey, Iran, Afghanistan, USSR and India collected by the members of the following expeditions:

1. Six Hungarian Expeditions to Mongolia in 1963—1968. Leader Dr. Z. KASZAB;
2. Polish High Mountain Club Expedition „Iran 69". Leader Prof. dr. hab. J. MICHEJDA;
3. Polish Students Association of Silesian University (Katowice) — „Middle East Expedition 72". Leader: Dr. B. DOMINIAK;
4. Polish Students Association of A. Mickiewicz University (Poznań) — „Middle East Expedition 73". Leader: Dr. B. DOMINIAK;
5. Two Polish Expeditions of the Institute of Systematic and Experimental Zoology of the Polish Academy of Sciences in Kraków to North Korea in years 1971, 1974. Leader: Prof. dr. hab. J. PAWŁOWSKI;
6. Polish Mountaineering Club — Poznań „Afghanistan Darwaz Expedition 1975". Leader: Prof. dr. hab. R. W. SCHRAMM;
7. Expedition of Department of Animal Morphology A. MICKIEWICZ University (Poznań) — „India 76". Leader: author;
8. Expedition of the Institute of Systematic and Experimental Zoology of the Polish Academy of Sciences in Kraków to Middle East in year 1977. Leader: Prof. dr. K. KOWALSKI.

Author found in that material 22 species which are new for science, furthermore 7 of them he counted to a new subgenus *Icozercon* subgen. nov. of *Zercon* C. L. KOCH. Thus the total number of the hitherto known species from the Asian part of Palearctis amounts to 59 species belonging to 11 genera. The supplement containing new datas of HALAŠKOVA, PETROVA and the author will be published in near future.

THE PRESENT LIST OF THE ASIAN *ZERCONIDAE*

I. *Zercon* C. L. KOCH, 1836
— *Zercon* s. str.
1. *Zercon adoxyphes* sp. nov.
2. *Zercon agnostus* sp. nov.
3. *Zercon apladellus* sp. nov.

4. *Zercon bajcalensis* sp. nov.
5. *Zercon caucasicus* sp. nov.
6. *Zercon henoticus* sp. nov.
7. *Zercon ignobilis* sp. nov.
8. *Zercon insperatus* sp. nov.
9. *Zercon lepurus* sp. nov.
10. *Zercon michejdai* sp. nov.
11. *Zercon notabilis* sp. nov.
12. *Zercon rigidus* sp. nov.
13. *Zercon rupestrinus* sp. nov.
14. *Zercon schrammi* sp. nov.
15. *Zercon acanticus* Błaszak, 1978
16. *Zercon adoxellus* Błaszak, 1978
17. *Zercon amidrytus* Błaszak, 1978
18. *Zercon amphibolus* Błaszak, 1978
19. *Zercon armatus* Aoki, 1966
20. *Zercon asaphus* Błaszak, 1976
21. *Zercon barumi* Błaszak, 1977
22. *Zercon caenolestes* Błaszak, 1976
23. *Zercon comaliatus* Błaszak, 1978
24. *Zercon ectopicus* Błaszak, 1976
25. *Zercon forsslundi* Sellnick. 1958
26. *Zercon hispanicus* Sellnick, 1958
27. *Zercon japonicus* Aoki, 1964
28. *Zercon kaszabii* Błaszak, 1978
29. *Zercon mahunkai* Błaszak, 1978
30. *Zercon mongolicus* Błaszak, 1978
31. *Zercon pakistanicus* Błaszak, 1977
32. *Zercon pawlowskii* Błaszak, 1976
33. *Zercon sinensis* Petrova & Taskaeva, 1968
34. *Zercon szeptyckii* Błaszak, 1976
35. *Zercon tuberosus* Willmann, 1936

— *Icozercon* subgen. nov.

36. *Zercon (Icozercon) acrochordus* sp. nov.
37. *Zercon (Icozercon) jammicus* sp. nov.
38. *Zercon (Icozercon) kashmiricus* sp. nov.
39. *Zercon (Icozercon) prasadi* sp. nov.
40. *Zercon (Icozercon) sonamargus* sp. nov.
41. *Zercon (Icozercon) srinagaricus* sp. nov.
42. *Zercon (Icozercon) tarpanicus* sp. nov.

II. *Parazercon* Trägardh, 1931

43. *Parazercon radiatus* (Berlese, 1910)
44. *Parazercon sichotensis* Petrova, 1977

III. *Prozercon* Sellnick, 1943

45. *Prozercon dominiaki* sp. nov.
46. *Prozercon fimbriatus* (C. L. Koch, 1839)
47. *Prozercon halaskovae* Petrova, 1977
48. *Prozercon micherdzinskii* Błaszak, 1978
49. *Prozercon satapliae* Petrova, 1977

IV. *Mixozercon* Halašková, 1963

50. *Mixozercon stellifer* (Aoki, 1964)

V. *Mesozercon* Błaszak, 1975

51. *Mesozercon plumatus* (AOKI, 1966)
52. *Mesozercon coreanus* BŁASZAK, 1975

VI. *Echinozercon* BŁASZAK, 1975
53. *Echinozercon orientalis* BŁASZAK, 1975
54. *Echinozercon nipponicus* BŁASZAK, 1977

VII. *Metazercon* BŁASZAK, 1975
55. *Metazercon athiasae* BŁASZAK, 1975

VIII. *Syskenozercon* ATHIAS-HENRIOT, 1976
56. *Syskenozercon kosiri* ATHIAS-HENRIOT, 1976

IX. *Xenozercon* BŁASZAK, 1976
57. *Xenozercon glaber* BŁASZAK, 1976

X. *Neozercon* PETROVA, 1977
58. *Neozercon insularis* PETROVA, 1977

XI. *Indozercon* BŁASZAK, 1978
59. *Indozercon janinae* BŁASZAK, 1978

SYSTEMATIC PART

Zercon C. L. KOCH, 1836

Zercon s. str.

Zercon C. L. KOCH, 1836: 4. *Zercon*: BERLESE, 1892: 41; SELLNICK, 1958a: 316; EVANS, 1958: 236; HALAŠKOVÁ, 1969a: 206; KARG, 1971: 306; BŁASZAK, 1974a: 119; BŁASZAK, 1975: 563; PETROVA, 1977a: 589; HALAŠKOVÁ, 1977: 34. *Triangulozercon* JACOT, 1938: 56.

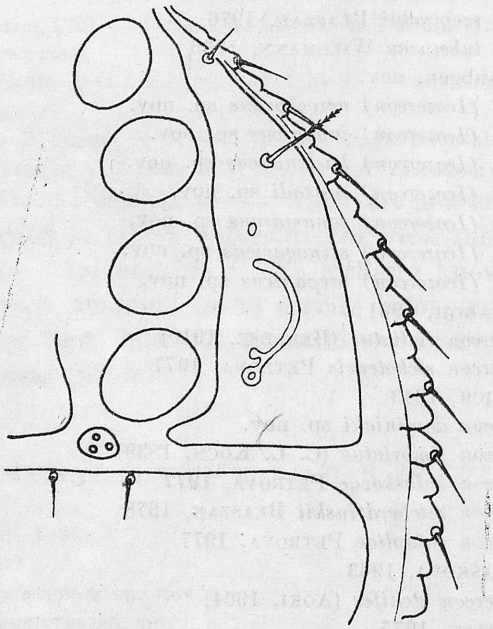

Fig. 1. *Zercon triangularis* C. L. KOCH, 1836 — region of the peritremal shield

Typus generis: *Zercon triangularis* C. L. Koch, 1836

Diagnosis: The peritremal shield terminates truncately behind the fourth pair of coxae (Fig. 1). On the peritremal shield, there are two setae, the first one short and smooth — *p1* and second one long and pilose or feathered — *p2*. Between the peritremal shield and the margin of the podonotum is a fairly wide weakly sclerotized slit. The adgenital shields are present with 2-4 pores. On the margin of the opisthonotum there are 7 setae. On the anterior margin of the ventro-anal shield, there are two or four setae.

Zercon adoxyphes sp. nov.

Description of the holotype. Female. Length 456 μm, width 402 μm.

Dorsal side (Fig. 2). Setae: On the podonotum seta *i1* feathered, setae *r4-r6* delicately barbed. The remaining setae of the podonotum are smooth. On the opisthonotum setae *I1-I5* short and smooth. Seta *I6* is feathered and lie 140 μm distant from one another. Setae *Z1-Z3* short and smooth. Seta *Z4* long, feathered and reaches to the posterior margin of the opisthonotum. The distance between *Z5* and *I6* is 30 μm. Setae *S1* and *S2* short and smooth. Seta *S2* does not reach to the margin of the opisthonotum. Seta *S3* reaches by half of its length over the margin of the opisthonotum. Setae *S3* and *S4* long, similar to seta *I6*. In the marginal row of the opisthonotum the setae *R1-R4* delicately barbed, the remaining setae of this row are smooth. Lengths of setae of the opisthonotum and distances between the setae of particular rows in μm are given in the following table:

S1 — 20		*Z1* — 16		*I1* — 20	
44		46		40	
S2 — 20		*Z2* — 16		*I2* — 20	
56		40		40	
S3 — 54		*Z3* — 16		*I3* — 16	
60		40		34	
S4 — 70		*Z4* — 54		*I4* — 16	
		64		30	
		Z5 — 36		*I5* — 16	
				44	
				I6 — 70	

Pores: On the opisthonotum the pore *Po1* are situated anteroparaxially to the insertion of seta *Z1*. Pore *Po2* lies on the line connecting setae *Z2-S1* shifted toward the seta *Z2* and away from it by its two diameters. The pore *Po3* lies on the line connecting setae *Z4-I3* shifted toward the seta *Z4* and away from it by its two diameters. Sculpture: The whole podonotum has an irregular tile-like sculpture. On the opisthonotum this sculpture reaches to the base of seta *Z3*. The lower corners of the opisthonotum covered with delicate and little spots. The remaining part of the opisthonotum are smooth. The dorsal cavities distinct with axes parallel to the body axis.

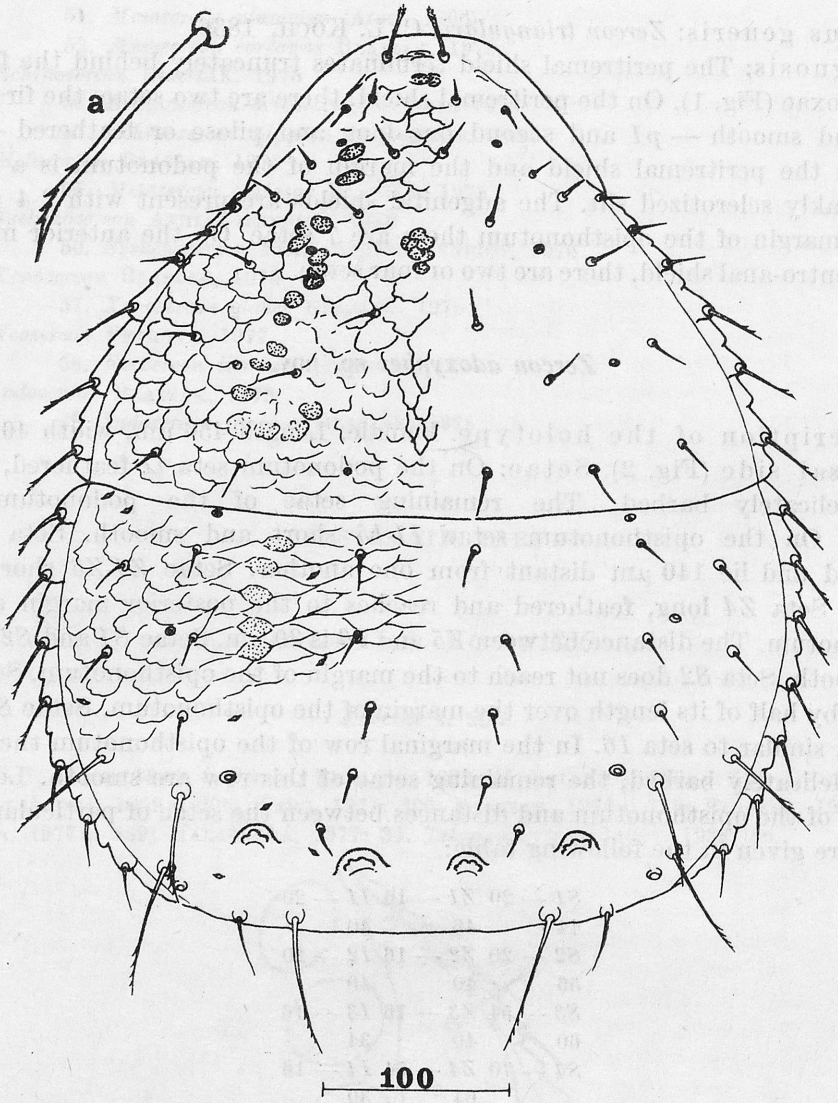

Fig. 2. *Zercon adoxyphes* sp. nov. ♀ — dorsal view; a — seta *I6*

Ventral side. The chetotaxy and the shape of the peritremal shield are typical to the genus *Zercon* C. L. KOCH. The adgenital shields are present. On the anterior margin of the ventro-anal shield there are two setae.

Systematic position: This species is most similar to *Zercon hungaricus* SELLNICK, 1958 from which it differs by the following features:

Zercon adoxyphes sp. nov.	*Zercon hungaricus* SELLNICK
1. Seta *Z3* reaches as far as half the distance to *Z4*.	1. Seta *Z3* reaches to the base of the seta *Z4*.
2. Setae *I5* and *I4* shorter than the seta *I1*.	2. Setae *I5* and *I4* twice as long as the seta *I1*.
3. The pore *Po3* lies on the line connecting setae *Z4* and *I3*.	3. The pore *Po3* lies on the line connecting setae *Z4* and *I5*.

Locality: Iran. Shahsavar, about 20 km. south of settlement. Valley of mountain river, beech forest with sycamore and lime-tree, about 2400 m a. s. l.; litter; 23 VIII 1972. Leg. B. Dominiak. Holotype ♀. Paratypes 2 ♀♀.

Zercon agnostus sp. nov.

Description of the holotype. Female. Length 460 μm, width 357 μm.

Dorsal side (Fig. 3). Setae: On the podonotum seta *i1* feathered. In the marginal row of the podonotum, the setae *r1-r3* delicately feathered. The remaining setae of this row broadened at the termination with delicately hyaline

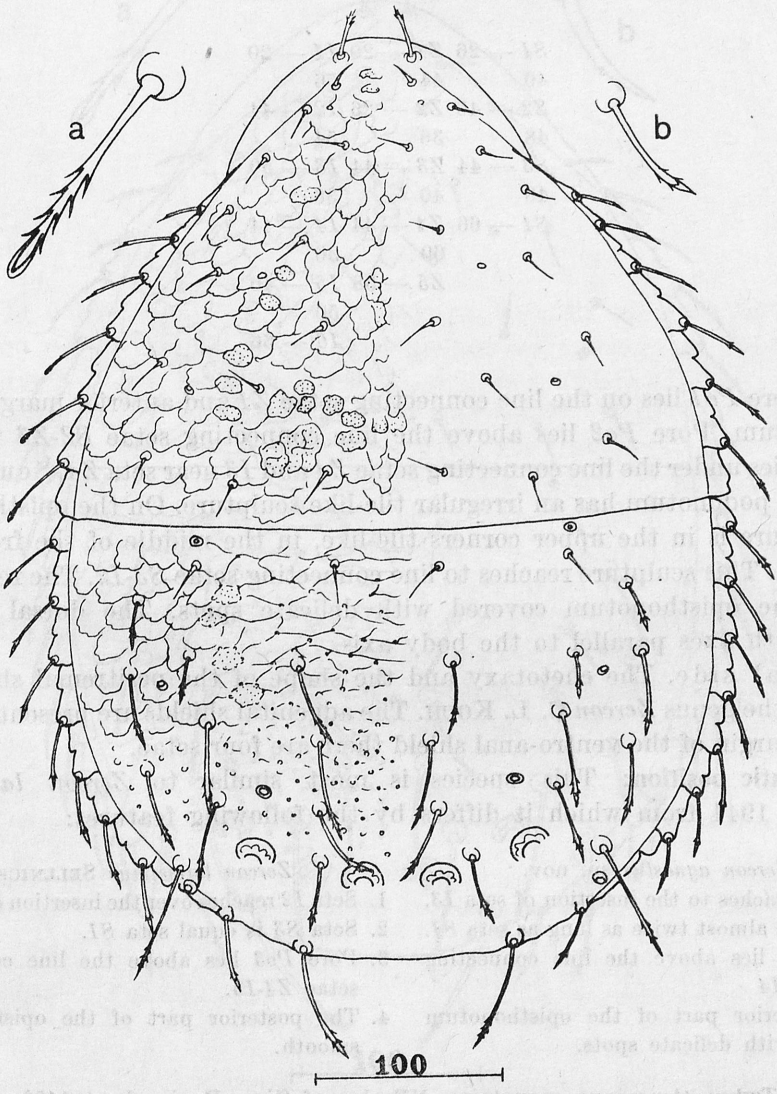

Fig. 3. *Zercon agnostus* sp. nov. ♀ — dorsal view; a — seta *I6*, b — seta *R1*

ending. The remaining setae of the podonotum short and smooth. On the opisthonotum seta *I1* short and smooth. Setae *I2-I6* long barbed with hyaline ending. Seta *I2* reaches to the insertion of seta *I3*. Seta *I5* does not reach to the posterior margin of the opisthonotum. Setae *I6* lie 110 μm distant from one another. Seta *Z1* short and smooth. Seta *Z2* also short but barbed with delicately hyaline ending reaches to the base of seta *Z3*. Setae *Z3-Z5* similar to setae *I2-I6*. The distance between the seta *Z5* and *I6* is 40 μm. The setae of the row *S* extend in the posterior direction. All setae of this row are barbed with hyaline ending. All marginal setae of the opisthonotum are similar to the setae *r4-r6* on the podonotum. Lengths of setae of the opisthonotum and distances between the setae of particular rows in μm are given in the following table:

S1	26	*Z1*	20	*I1*	20
40		44		56	
S2	40	*Z2*	26	*I2*	44
48		36		54	
S3	44	*Z3*	44	*I3*	50
48		40		38	
S4	66	*Z4*	44	*I4*	44
		60		30	
		Z5	38	*I5*	40
				50	
				I6	66

Pores: Pore *Po1* lies on the line connecting setae *Z1* and anterior margin of the opisthonotum. Pore *Po2* lies above the line connecting setae *S2-Z3* near *S2*. Pore *Po3* lies under the line connecting setae *Z4* and *I3* near seta *Z4*. Sculpture: The whole podonotum has an irregular tile-like sculpture. On the opisthonotum the sculpture is in the upper corners tile-like, in the middle of the front part reticulated. This sculpture reaches to line connecting setae *S3-I2*. The remaining part of the opisthonotum covered with delicate spots. The dorsal cavities distinct with axes parallel to the body axis.

Ventral side. The chetotaxy and the shape of the peritremal shield are typical to the genus *Zercon* C. L. Koch. The adgenital shields are present. On the anterior margin of the ventro-anal shield there are four setae.

Systematic position: This species is most similar to *Zercon latissimus* Sellnick, 1944 from which it differs by the following features:

Zercon agnostus sp. nov.	*Zercon latissimus* Sellnick
1. Seta *I2* reaches to the insertion of seta *I3*.	1. Seta *I2* reaches over the insertion of seta *I4*.
2. Seta *S3* is almost twice as long as seta *S1*.	2. Seta *S3* is equal seta *S1*.
3. Pore *Po3* lies above the line connecting setae *Z4-I4*	3. Pore *Po3* lies above the line connecting setae *Z4-I5*.
4. The posterior part of the opisthonotum covered with delicate spots.	4. The posterior part of the opisthonotum smooth.

Locality: Turkey. Ammanus mountains, NE slop of Giau Dagi, about 1400 m a. s. l.; litter; 19 VIII 1973. Leg. B. Dominiak. Holotype ♀, Paratypes: 2 ♀♀, 3 ♂♂.

Zercon apladellus sp. nov.

Description of the holotype. Female. Length 490 μm, width 352 μm.

Dorsal side (Fig. 4). Setae: On the podonotum seta *i1* feathered. The marginal setae of the podonotum are delicately barbed. The remaining setae of the podonotum are short and smooth. On the opisthonotum setae *I1*, *Z1-Z2* short and smooth. Seta *I2* longer and barbed reaches to the base of seta *I3*. Setae *I3-I6* long barbed with hyaline ending. Seta *I4* reaches by half of its

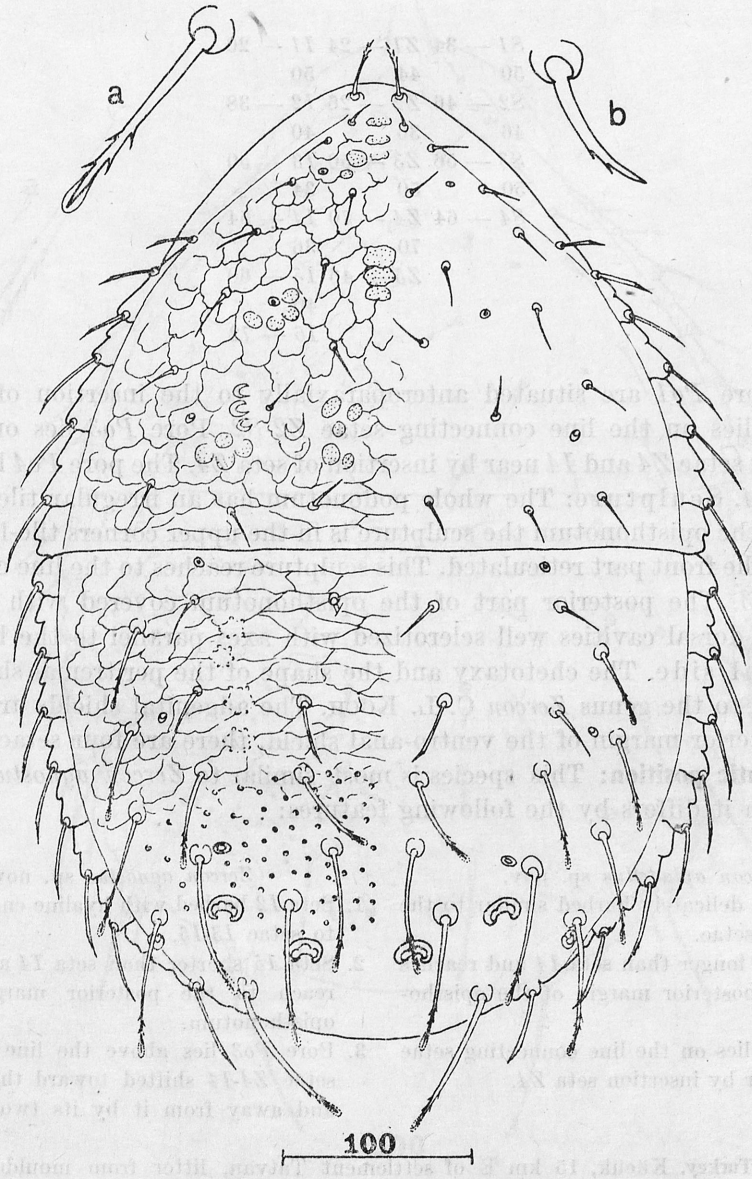

Fig. 4. *Zercon apladellus* sp. nov. ♀ — dorsal view; a — seta *I6*, b — *I2*

length over the base of seta *I5*. Seta *I5* reaches over the posterior margin of the opisthonotum. Setae *Z3-Z4* long similar to seta *I6*. Seta *Z3* reaches to the base of seta *Z4*. The distance between the seta *Z5* and *I6* is 25 μm. Setae *I6* lie 120 μm distant from one another. In row *S* all setae are barbed with hyaline ending. The setae of this row extend in the posterior direction. Seta *S1* reaches to the insertion of seta *S2*. All marginal setae of the opisthonotum and seta *Z5* are delicately barbed similar to marginal setae of the podonotum. Lengths of setae of the opisthonotum and distances between the setae of particular rows in μm are given in the following table:

S1 — 34	*Z1* — 24	*I1* — 20
50	44	50
S2 — 46	*Z2* — 26	*I2* — 38
46	36	40
S3 — 56	*Z3* — 50	*I3* — 50
50	50	34
S4 — 64	*Z4* — 70	*I4* — 54
	70	36
	Z5 — 46	*I5* — 60
		40
		I6 — 72

Pores: Pore *Po1* are situated anteroparaxially to the insertion of seta *Z1*. Pore *Po2* lies on the line connecting setae *Z2-S2*. Pore *Po3* lies on the line connecting setae *Z4* and *I4* near by insertion of seta *Z4*. The pore *Po4* lies behind the seta *S4*. Sculpture: The whole podonotum has an irregular tile-like sculpture. On the opisthonotum the sculpture is in the upper corners tile-like, in the middle of the front part reticulated. This sculpture reaches to the line connecting setae *S3-I3*. The posterior part of the opisthonotum covered with distinctly spots. The dorsal cavities well sclerotized with axes parallel to the body axis.

Ventral side. The chetotaxy and the shape of the peritremal shield there are typical to the genus *Zercon* C. L. Koch. The adgenital shields are present. On the anterior margin of the ventro-anal shield, there are four setae.

Systematic position: This species is most similar to *Zercon agnostus* sp. nov. from which it differs by the following features:

Zercon apladellus sp. nov.

1. Seta *I2* is delicately barbed similar to the marginal setae.
2. Seta *I5* is longer than seta *I4* and reaches over the posterior margin of the opisthonotum.
3. Pore *Po3* lies on the line connecting setae *Z4-I4* near by insertion seta *Z4*.

Zercon agnostus sp. nov.

1. Seta *I2* barbed with hyaline ending similar to setae *I3-I5*.
2. Seta *I5* shorter than seta *I4* and does not reach to the posterior margin of the opisthonotum.
3. Pore *Po3* lies above the line connecting setae *Z4-I4* shifted toward the setae *Z4*, and away from it by its two diameters.

Locality: Turkey. Kücük, 15 km E of settlement Tatvan, litter from moulder ash-tree; 7 VIII 1972. Leg. B. Dominiak. Holotype ♀.

Zercon bajcalensis sp. nov.

Description of the holotype. Female. Length 475 μm, width 367 μm.

Dorsal side (Fig. 5). Setae: On the podonotum setae *i1* feathered. All marginal setae are feathered, similar to seta *i1*. The remaining setae of the podonotum there are smooth. On the opisthonotum setae *I1—I2* short and smooth. Setae *I3-I4* longer and delicately feathered. Seta *I4* does not reach to

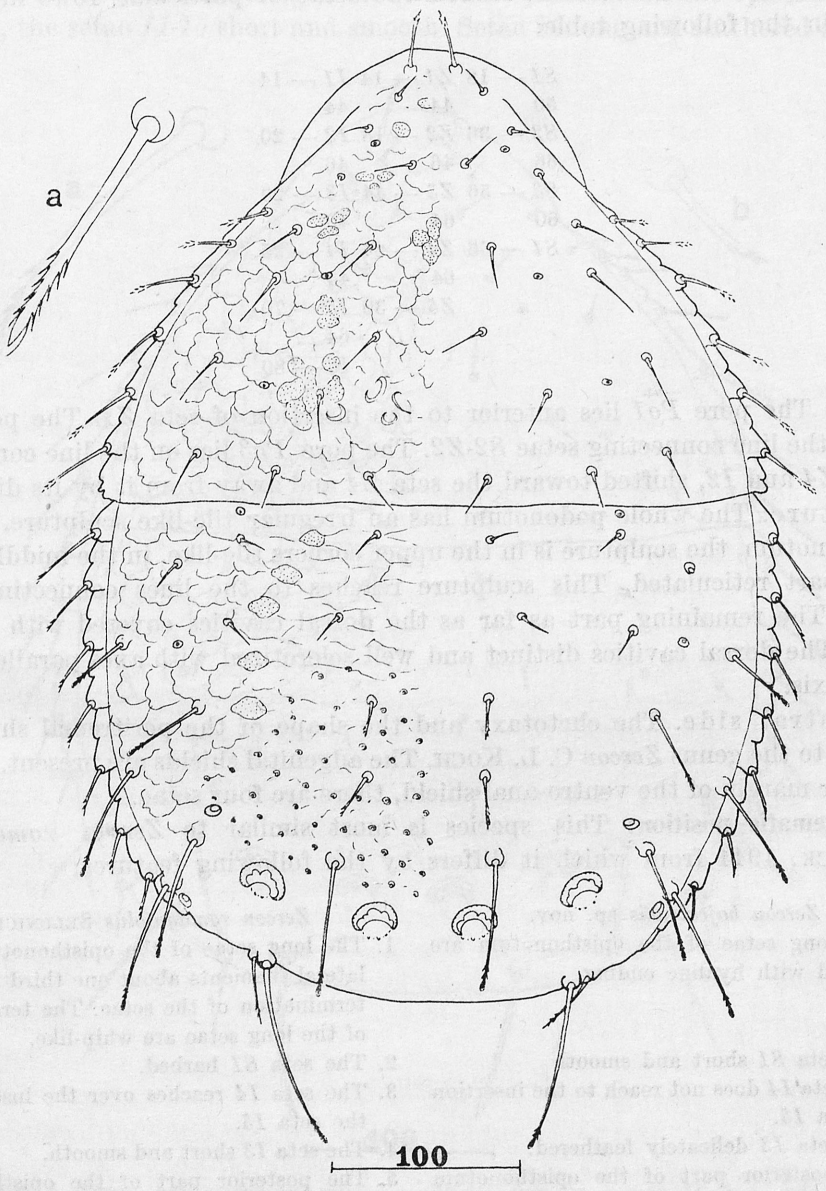

Fig. 5. *Zercon bajcalensis* sp. nov. ♀ — dorsal view; a — seta *I6*

the insertion of seta *I5*. Seta *I5* long barbed with hyaline ending reaches to the posterior margin of the opisthonotum. Setae *I6* long similar to seta *I5* and lie 160 μm distant from one another. The insertions of setae *I6* and *Z5* are in close proximity. Setae *Z1-Z2* short and smooth. Seta *Z3* long, similar to seta *I5*, and does not reach to the base of the seta *Z4*. Seta *Z4* long, similar to seta *Z3*. In row S, the seta *S1* short and smooth. The setae *S2-S4* barbed with hyaline ending. Seta *S2* reaches over the margin of the opisthonotum. All marginal setae of the opisthonotum and setae *Z5* are feathered. Lengths of setae of the opisthonotum and distances between the setae of particular rows in μm are given in the following table:

S1 — 18	*Z1* — 14	*I1* — 14
50	44	44
S2 — 36	*Z2* — 18	*I2* — 20
66	46	46
S3 — 56	*Z3* — 44	*I3* — 20
60	64	40
S4 — 66	*Z4* — 64	*I4* — 25
	64	44
	Z5 — 30	*I5* — 70
		64
		I6 — 80

Pores: The pore *Po1* lies anterior to the insertion of seta *Z1*. The pore *Po2* lies on the line connecting setae *S2-Z2*. The pore *Po3* lies on the line connecting setae *Z4* and *I2*, shifted toward the seta *Z4* and away from it by its diameter. Sculpture: The whole podonotum has an irregular tile-like sculpture. On the opisthonotum, the sculpture is in the upper corners tile-like, in the middle of the front part reticulated. This sculpture reaches to the lines connecting setae *S3-I3*. The remaining part as far as the dorsal cavities covered with distinct spots. The dorsal cavities distinct and well sclerotized with axes parallel to the body axis.

Ventral side. The chetotaxy and the shape of the peritremal shield are typical to the genus *Zercon* C. L. KOCH. The adgenital shields are present. On the anterior margin of the ventro-anal shield, there are four setae.

Systematic position: This species is most similar to *Zercon romagniolus* SELLNICK, 1944 from which it differs by the following features:

Zercon bajcalensis sp. nov.	*Zercon romagniolus* SELLNICK
1. The long setae of the opisthonotum are barbed with hyaline ending.	1. The long setae of the opisthonotum have lateral filaments about one third from the termination of the setae. The termination of the long setae are whip-like.
2. The seta *S1* short and smooth	2. The seta *S1* barbed.
3. The seta *I4* does not reach to the insertion of seta *I5*.	3. The seta *I4* reaches over the insertion of the seta *I5*.
4. The seta *I3* delicately feathered.	4. The seta *I3* short and smooth.
5. The posterior part of the opisthonotum covered with delicately spots.	5. The posterior part of the opisthonotum are smooth.

Locality: USSR. Lake Bajkal, Listwianka, region outflow of Angara river, slops of valley, alder-birch-rovan forest, litter from ferns; 30 VI 1974; Leg. J. Pawłowski and A. Szeptycki. Holotype ♀.

Zercon caucasicus sp. nov.

Description of the holotype. Female. Length 455 μm, width 377 μm. Dorsal side (Fig. 6). Setae: On the podonotum the setae *i1* and *i2* pilose. In the marginal row of the podonotum all setae delicately feathered. The remaining setae of the podonotum there are short and smooth. On the opisthonotum in row *I*, the setae *I1-I5* short and smooth. Setae *I6* long and feathered and lie

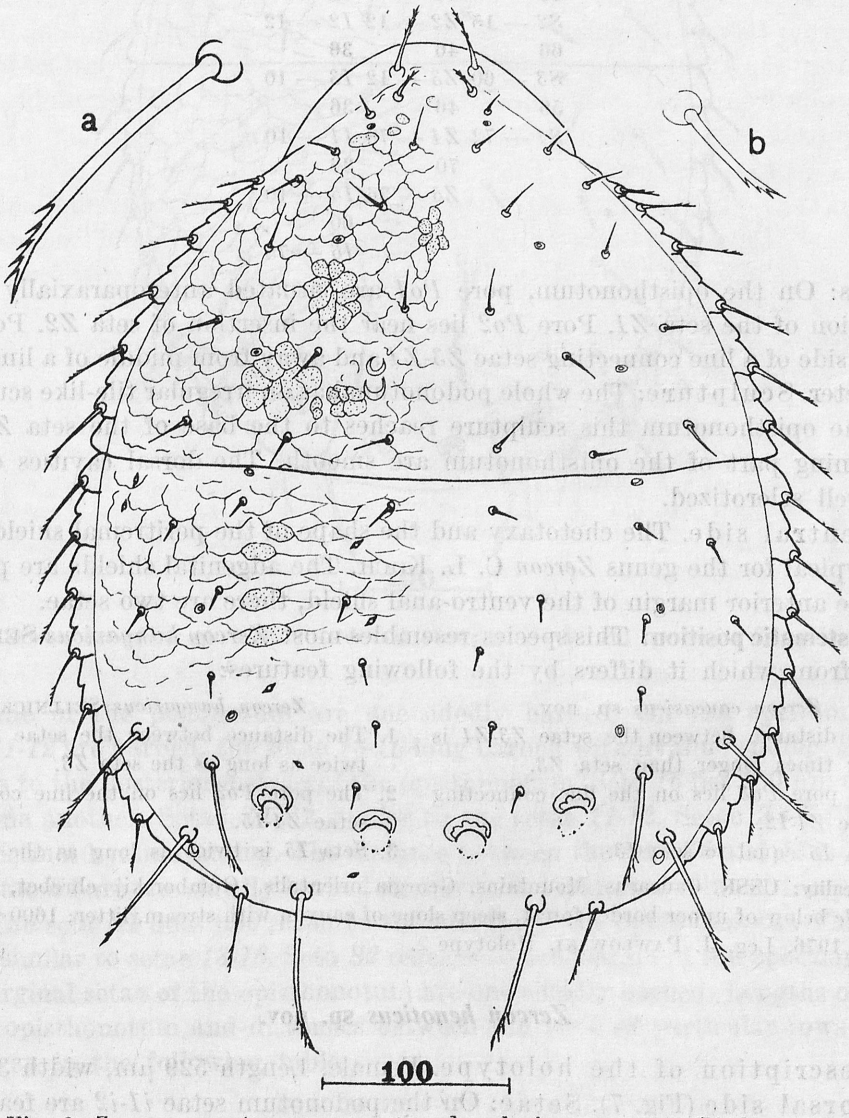

Fig. 6. *Zercon caucasicus* sp. nov. ♀ — dorsal view; a — seta *I6*, b — seta *R1*

124 μm distant from one another. The setae *Z1-Z3* short and smooth. The distance between the setae *Z3-Z4* is four times longer than seta *Z3*. Seta *Z4* long similar to seta *I6* and reaches to the posterior margin of the opisthonotum. Seta *Z5* delicately feathered, the distance between seta *Z5* and *I6* is 30 μm. The setae *S1-S2* short and smooth. Setae *S3* and *S4* long, similar in shape to the seta *I6*. Seta *S3* reaches more than by half of its length over the margin of the opisthonotum. All marginal setae of the opisthonotum, there are delicately feathered. Lengths of setae of the opisthonotum and distances between the setae of particular rows in μm are given in the following table:

S1 — 12		*Z1* — 12		*I1* — 12	
46		46		52	
S2 — 15		*Z2* — 12		*I2* — 12	
66		46		36	
S3 — 60		*Z3* — 12		*I3* — 10	
56		46		36	
S4 — 72		*Z4* — 70		*I4* — 10	
		70		36	
		Z5 — 36		*I5* — 10	
				60	
				I6 — 78	

Pores: On the opisthonotum, pore *Po1* are situated anteroparaxially to the insertion of the seta *Z1*. Pore *Po2* lies near the insertion of seta *Z2*. Pore *Po3* lies inside of a line connecting setae *Z3-Z4* and away from middle of a line by its diameter. Sculpture: The whole podonotum has an irregular tile-like sculpture. On the opisthonotum this sculpture reaches to the base of the seta *Z3*. The remaining part of the opisthonotum are smooth. The dorsal cavities distinct and well sclerotized.

Ventral side. The chetotaxy and the shape of the peritremal shield, there are typical for the genus *Zercon* C. L. Koch. The adgenital shields are present. On the anterior margin of the ventro-anal shield, there are two setae.

Systematic position: This species resembles most *Zercon hungaricus* Sellnick, 1958 from which it differs by the following features:

Zercon caucasicus sp. nov.	*Zercon hungaricus* Sellnick
1. The distance between the setae *Z3-Z4* is four times longer than seta *Z3*.	1. The distance between the setae *Z3-Z4* is twice as long as the seta *Z3*.
2. The pore *Po3* lies on the line connecting setae *Z4-I2*.	2. The pore *Po3* lies on the line connecting setae *Z4-I5*.
3. Seta *I5* equal to seta *I3*.	3. Seta *I5* is twice as long as the seta *I3*.

Locality: USSR. Caucasus Mountains. Georgia orientalis, Gomborskij chrebet, *Fagetum orientale* below of upper border forest, steep slope of canyon with stream, litter; 1600 m a. s. l. 23 IX 1976. Leg. J. Pawłowski. Holotype ♀.

Zercon henoticus sp. nov.

Description of the holotype. Female. Length 529 μm, width 382 μm.

Dorsal side (Fig. 7). Setae: On the podonotum setae *i1-i2* are feathered. The remaining setae of this row and the setae *z* and *s* rows are barbed. All margi-

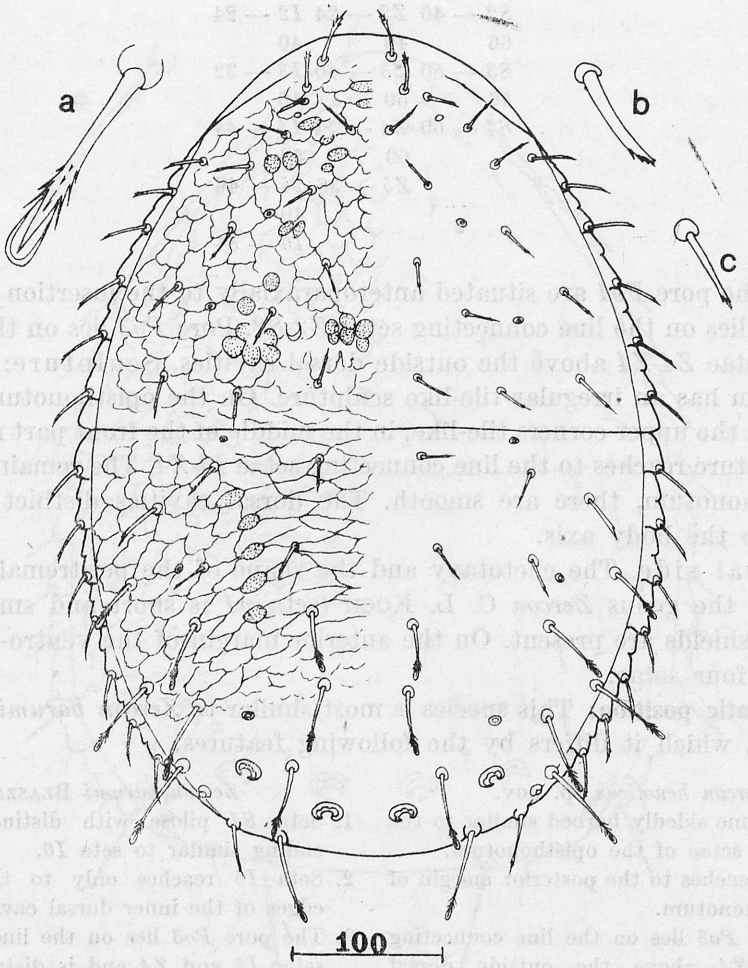

Fig. 7. *Zercon henoticus* sp. nov. ♀ — dorsal view; a — seta *I6*, b — seta *S1*, c — seta *I2*

nal setae of the podonotum are one-sidedly barbed. On the opisthonotum, setae *I1-I2* are barbed, the setae *I3-I6* long barbed with hyaline ending. Seta *I5* reaches to the posterior margin of the opisthonotum. Seta *I6* lies 130 μm distant from one another. Setae *Z1-Z2* similar to the setae *I1-I2*. Setae *Z3-Z4* barbed with distinct hyaline ending. The distance between the seta *Z5* and *I6* is 37 μm. The setae *S1* are one sidedly barbed similar to the marginal setae of the podonotum. The seta *S1* does not reach to the margin of the opisthonotum. The setae *S2-S4* similar to setae *I3-I6*. Seta *S2* reaches to the margin of the opisthonotum. All marginal setae of the opisthonotum are one sidedly barbed. Lengths of setae of the opisthonotum and distances between the setae of particular rows in μm are given in the following table:

S1 — 30	*Z1* — 24	*I1* — 24
56	56	60

S2 — 40	*Z2* — 24	*I2* — 24
66	46	40
S3 — 50	*Z3* — 40	*I3* — 32
56	50	46
S4 — 60	*Z4* — 54	*I4* — 44
	60	56
	Z5 — 38	*I5* — 46
		40
		I6 — 54

Pores: The pore *Po1* are situated anteroparaxially to the insertion of seta *Z1*. Pore *Po2* lies on the line connecting setae *Z2-S2*. Pore *Po3* lies on the line connecting setae *Z4-Z4* above the outside dorsal cavities. Sculpture: The whole podonotum has an irregular tile-like sculpture. On the opisthonotum the sculpture is in the upper corners tile-like, in the middle of the front part reticulated. This sculpture reaches to the line connecting setae *I4-Z4*. The remaining part of the opisthonotum, there are smooth. The dorsal cavities distinct with axes parallel to the body axis.

Ventral side. The chetotaxy and the shape of the peritremal shield are typical to the genus *Zercon* C. L. KOCH (seta *p1* is short and smooth). The adgenital shields are present. On the anterior margin of the ventro-anal shield there are four setae.

Systematic position: This species is most similar to *Zercon barumi* BŁASZAK, 1977 from which it differs by the following features:

Zercon henoticus sp. nov.	*Zercon barumi* BŁASZAK
1. Seta *S1* one sidedly barbed similar to the marginal setae of the opisthonotum.	1. Seta *S1* pilose with distinctly hyaline ending similar to seta *I6*.
2. Seta *I5* reaches to the posterior margin of the opisthonotum.	2. Seta *I5* reaches only to the posterior edges of the inner dorsal cavities.
3. The pore *Po3* lies on the line connecting setae *Z4-Z4* above the outside dorsal cavities.	3. The pore *Po3* lies on the line connecting setae *I5* and *Z4* and is distant from *Z4* by its diameter.

Locality: India. Kashmir. Valley of the tributary of Indus river, 6 km from settlement Khalsi, litter under shrubbery *(Papilionacae)*; 10 IX 1976. Leg. C. BŁASZAK and J. BŁOSZYK. Holotype ♀, paratypes 20 ♀♀, 20 ♂♂.

Zercon ignobilis sp. nov.

Description of the holotype. Female. Length 416 μm, width 343 μm.

Dosal side (Fig. 8). Setae: On the podonotum setae *i1* are pilose, the remaining setae of the podonotum are short and smooth. On the opisthonotum, setae *I1-I5* short and smooth. Setae *I6* are delicately barbed and lie 116 μm distant from one another. Setae *Z1-Z3* short and smooth. Seta *Z3* reaches as far as half the distance to *Z4*. Seta *Z4* similar to *I6*. Seta *Z5* smooth and distance between the seta *Z5* and *I6* is 30 μm. Setae *S1* and *S2* short and smooth. Seta *S2* does not reach to the margin of the opisthonotum. Setae *S3* and *S4* similar to

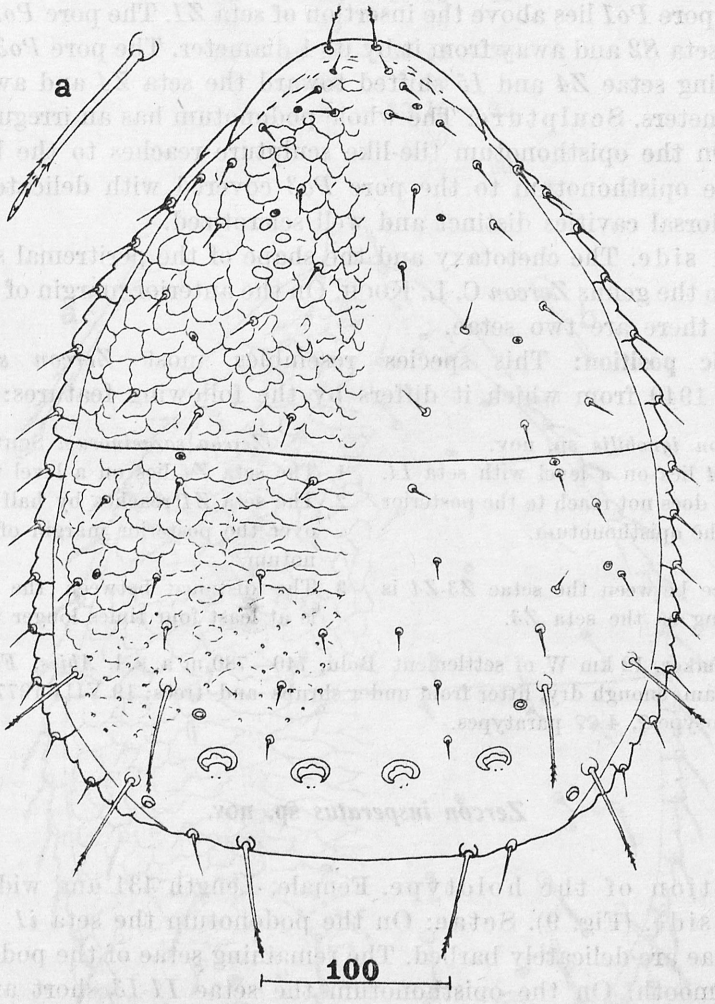

Fig. 8. *Zercon ignobilis* sp. nov. ♀ — dorsal view; a — seta *I6*

I6. Seta *S3* reaches by half of its length over the margin of the opisthonotum. Lengths of setae of the opisthonotum and distances between the setae of particular rows in μm are given in the following table:

S1 — 14	*Z1* — 14	*I1* — 14
44	56	56
S2 — 16	*Z2* — 14	*I2* — 14
50	36	40
S3 — 44	*Z3* — 16	*I3* — 14
60	30	38
S4 — 56	*Z4* — 56	*I4* — 14
	70	34
	Z5 — 24	*I5* — 14
		56
		I6 — 60

Pores: The pore *Po1* lies above the insertion of seta *Z1*. The pore *Po2* lies at the insertion of seta *S2* and away from it by its 1 diameter. The pore *Po3* lies on the line connecting setae *Z4* and *I5* shifted toward the seta *Z4* and away from it by its 2 diameters. Sculpture: The whole podonotum has an irregular tile-like sculpture. On the opisthonotum tile-like sculpture reaches to the base of the seta *S3*. The opisthonotum to the pore *Po3* covered with delicate and little spots. The dorsal cavities distinct and well sclerotized.

Ventral side. The chetotaxy and the shape of the peritremal shield there are typical to the genus *Zercon* C. L. KOCH. On the anterior margin of the ventro-anal shield there are two setae.

Systematic position: This species resembles most *Zercon sarasinorum* SCHWEIZER, 1949 from which it differs by the following features:

Zercon ignobilis sp. nov.	*Zercon sarasinorum* SCHWEIZER
1. The seta *Z4* lies on a level with seta *I4*.	1. The seta *Z4* lies on a level with seta *I5*.
2. The seta *Z4* does not reach to the posterior margin of the opisthonotum.	2. The seta *Z4* reaches by half of its length over the posterior margin of the opisthonotum.
3. The distance between the setae *Z3-Z4* is twice as long as the seta *Z3*.	3. The distance between the setae *Z3-Z4* is at least four times longer than seta *Z3*.

Locality: Turkey. 12 km W of settlement Bolu, 740—780 m a. s. l. *Abies*, *Fagus*, *Hedera helix*, near stream, enough dry, litter from under shrubs and trees; 19 VIII 1977. Leg. J. PAWŁOWSKI. Holotype ♀, 4 ♀♀ paratypes.

Zercon insperatus sp. nov.

Description of the holotype. Female. Length 431 μm, width 328 μm.

Dorsal side. (Fig. 9). Setae: On the podonotum the seta *i1* pilose, the marginal setae are delicately barbed. The remaining setae of the podonotum are short and smooth. On the opisthonotum the setae *I1-I3* short and smooth. Setae *I4-I5* longer, barbed with hyaline ending. The seta *I4* reaches to the insertion of seta *I5*. The setae *I6* long barbed with hyaline ending and lie 100 μm distant from one another. In row *Z*, the setae *Z1-Z2* short and smooth. Setae *Z3-Z4* similar to seta *I6*. Seta *Z3* reaches to the base of the seta *Z4*. Seta *Z4* reaches to the posterior margin of the opisthonotum. The distance between *Z5* and *I6* is 30 μm. Seta *S1* short and smooth. Seta *S2* longer and barbed similar to marginal setae of the podo- and opisthonotum. Seta *S2* reaches as far as half the distance to seta *S3*. Setae *S3* and *S4* long similar to setae *I6*. All marginal setae of the opisthonotum are barbed. Lengths of setae of the opisthonotum and distances between the setae of particular rows in μm are given in the following table:

S1 — 16	*Z1* — 14	*I1* — 14
48	46	52
S2 — 26	*Z2* — 14	*I2* — 16
50	40	40

S3	— 46	*Z3*	— 26	*I3*	— 16
50		36		30	
S4	— 58	*Z4*	— 58	*I4*	— 30
		64		30	
		Z5	— 30	*I5*	— 30
				50	
				I6	— 60

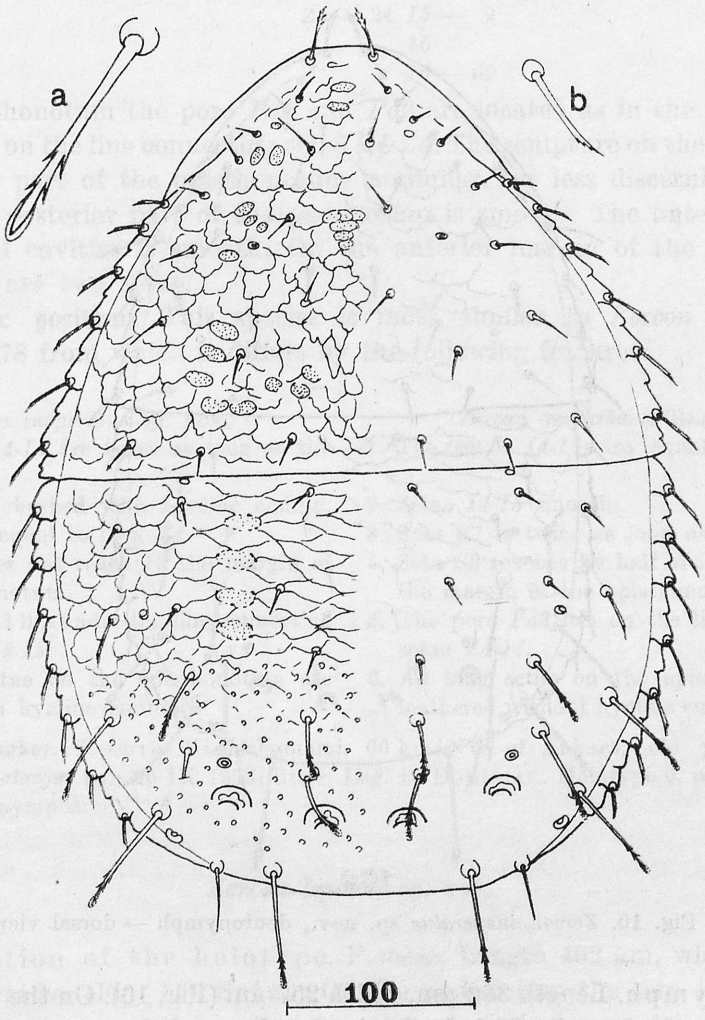

Fig. 9. *Zercon insperatus* sp. nov. ♀ — dorsal view; a — seta *I6*, b — seta *S2*

Pores: The pore *Po1* are situated anteroparaxially to the insertion of seta *Z1*. Pore *Po2* lies under the line connecting setae *Z2-S2*. The pore *Po3* lies under the line connecting setae *Z4-I5* above the outer corners of the outside dorsal cavities. Sculpture. The whole podonotum has an irregular tile-like sculpture. On the opisthonotum the sculpture is in the upper corners tile-like, in the middle

of the front part reticulated. This sculpture reaches to the base of seta *I3*. The remaining part of the opisthonotum covered with distinct spots. The dorsal cavities distinct and well sclerotized.

Ventral side. The chetotaxy and the shape of the peritremal shield are typical to the genus *Zercon* C. L. Koch. The adgenital shields are present. On the anterior margin of the ventro-anal shield there are two setae.

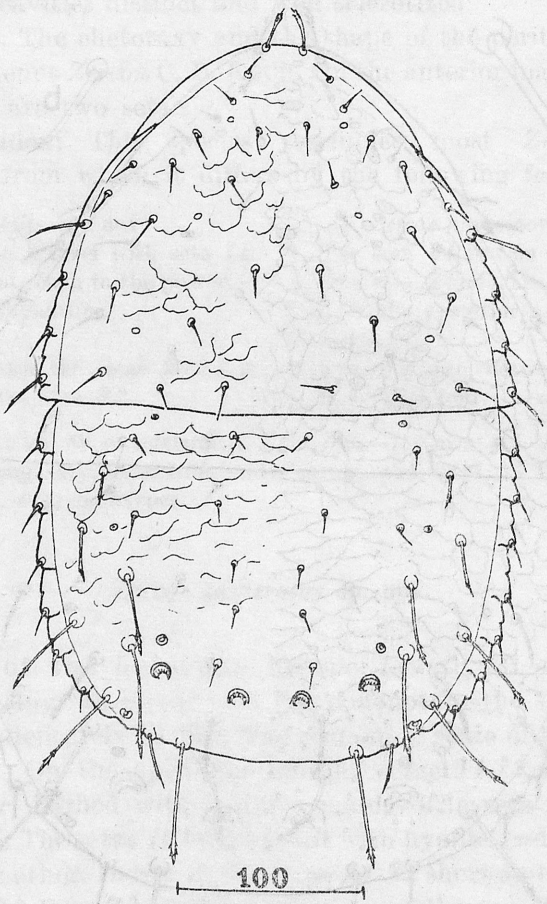

Fig. 10. *Zercon insperatus* sp. nov., deutonymph — dorsal view

Deutonymph. Length 362 μm, width 257 μm (Fig. 10). On the podonotum, setae *i1*, *r3* and *r6* are barbed similar in the shape of the marginal setae as in adults. The remaining setae of the podonotum smooth. On the opisthonotum the setae *I1-I5*, *Z1-Z2* and all marginal setae are short and smooth. The setae *S1-S2* and *Z5* are barbed. The setae *I6*, *Z3-Z4*, *S3-S4* are long, barbed with hyaline ending. Seta *Z3* reaches over the base of the seta *Z4*. The distance between the setae *I6-I6* is 92 μm. Lengths of setae of the opisthonotum and distances between the setae of particular rows in μm are given in the following table:

S1	16	*Z1*	9	*I1*	9
30		44		40	
S2	28	*Z2*	9	*I2*	9
46		28		32	
S3	44	*Z3*	38	*I3*	9
42		34		24	
S4	54	*Z4*	54	*I4*	9
		44		24	
		Z5	24	*I5*	9
				46	
				I6	60

On the opisthonotum the pore *Po1* and *Po2* are located as in the femals. The pore *Po3* lies on the line connecting setae *Z4-Z4*. The sculpture on the podonotum and anterior part of the opisthonotum is similar but less discernible than in female. The posterior part of the podonotum is smooth. The anterior margin of the dorsal cavities is smooth. On the anterior margin of the ventro-anal shield there are two setae.

Systematic position: This species is most similar to *Zercon amphibolus* BŁASZAK, 1978 from which it differs by the following features:

Zercon insperatus sp. nov.	*Zercon amphibolus* BŁASZAK
1. The setae *I4-I5* are twice as long as the seta *I3*.	1. The setae *I4-I5* are equal to seta *I3*.
2. Setae *I4-I5* barbed with hyaline ending.	2. Setae *I4-I5* smooth.
3. Seta *S1* is equal to seta *Z1*.	3. Seta *S1* is twice as long as the seta *Z1*.
4. Seta *S2* does not reach to the margin of the opisthonotum.	4. Seta *S2* reaches by half of its length over the margin of the opisthonotum.
5. The pore *Po3* lies under the line connecting the setae *Z4-I5*.	5. The pore *Po3* lies on the line connecting setae *Z4-I4*.
6. All long setae on the opisthonotum are barbed with hyaline ending.	6. All long setae on the opisthonotum are feathered without hyaline ending.

Locality: Turkey. Reserve Kizilcahamami, 60 km NW of Ankara, old pine-forest, in brush-wood *Crataegus* sp.; 26 IX 1973; litter. Leg. B. DOMINIAK. Holotype ♀, paratypes 8 ♀♀, 2 ♂♂, 4 deutonymphs.

Zercon lepurus sp. nov.

Description of the holotype. Female. Length 402 μm, width 338 μm.

Dorsal side. (Fig. 11). Setae: On the podonotum the seta *i1* is barbed. In the marginal row of the podonotum the setae *r4-r6* very delicately pilose. The remaining setae of the podonotum are short and smooth. Seta *s1* is absent. On the opisthonotum setae *I1-I5* short and smooth. The seta *I6* long, pilose with delicately hyaline ending, and being 106 μm away from one another. The setae *Z1* and *Z2* short and smooth. The seta *Z3* smooth reaches to the base of the seta *Z4*. Seta *Z4* similar to *I6* and reaches to the posterior margin of the opisthonotum. Seta *Z5* smooth, the distance between seta *Z5* and *I6* is 30 μm. Setae *S1-S2* short and smooth. Seta *S3* smooth and reaches to the margin of the

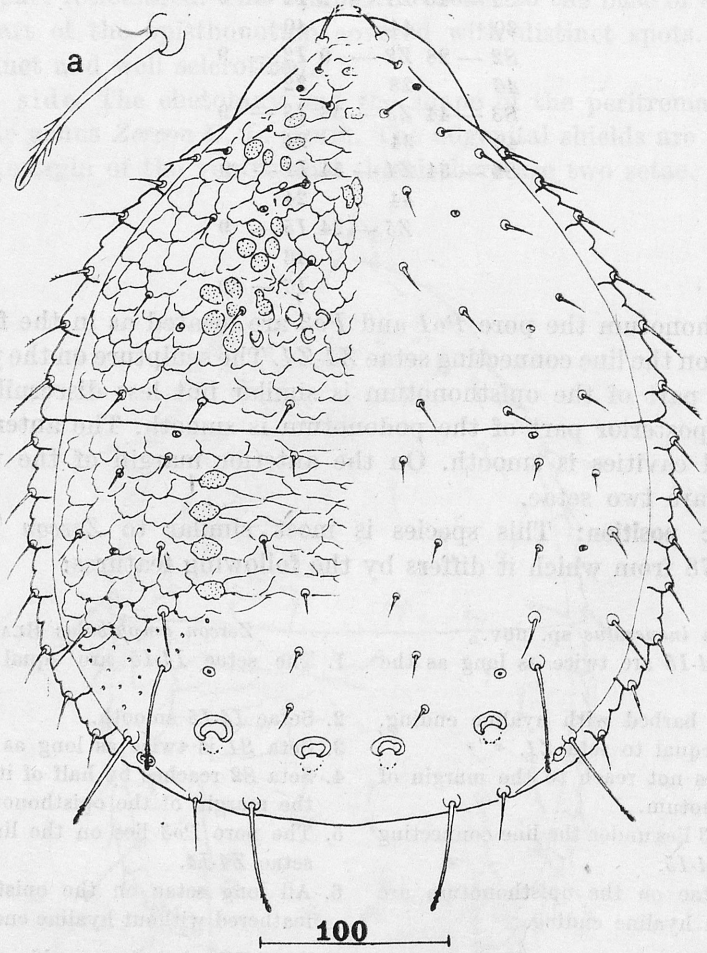

Fig. 11. *Zercon lepurus* sp. nov. ♀ — dorsal view; a — seta *I6*

opisthonotum. Seta *S4* similar in shape and length to *I6*. Marginal setae of the opisthonotum there are smooth. Lengths of setae of the opisthonotum and distances between the setae of particular rows in μm are given in the following table:

S1 — 12		*Z1* — 12		*I1* — 12	
40		50		44	
S2 — 18		*Z2* — 12		*I2* — 12	
46		32		36	
S3 — 26		*Z3* — 18		*I3* — 12	
64		22		32	
S4 — 56		*Z4* — 56		*I4* — 12	
		64		26	
		Z5 — 26		*I5* — 12	
				50	
				I6 — 56	

Pores: On the opisthonotum pore *Po1* are situated anteroparaxially to the insertion of the seta *Z1*. The pore *Po2* lies under the line connecting setae *S2-Z2*. The pore *Po3* lies on the line connecting setae *Z4* and *I5* above the outside dorsal cavities. Sculpture: The whole podonotum has an irregular tile-like sculpture. On the opisthonotum the sculpture is in the upper corners tile-like, in the middle of the front part reticulated. This sculpture reaches to the base of seta *S3*. The remaining part of the opisthonotum are smooth. The dorsal cavities distinct with axes parallel to the body axis.

Ventral side. The chetotaxy and the shape of the peritremal shield are typical to the genus *Zercon* C. L. KOCH. The adgenital shields are present. On the anterior margin of the ventro-anal shield there are two setae.

Systematic position: This species is most similar to *Zercon hungaricus* SELLNICK, 1958 from which it differs by the following features:

Zercon lepurus sp. nov.	*Zercon hungaricus* SELLNICK
1. Seta *S3* smooth and reaches to the margin of the opisthonotum.	1. Seta *S3* feathered and reaches by half of its length over the margin of the opisthonotum.
2. Seta *I4* reaches as far as half the distance to *I5*.	2. Seta *I4* reaches at least to the insertion of seta *I5*.
3. Seta *I5* equal to seta *I3*.	3. Seta *I5* is twice as long as the seta *I3*.

Locality: Turkey. 12 km W of settlement Bolu. 740—800 m a. s. l. *Abies*, *Fagus*, *Hedera helix*, near stream, enough dry, litter from under shrubs and trees; 19 VIII 1977. Leg. J. PAWŁOWSKI. Holotype ♀, 8 ♀♀ paratypes.

Zercon michejdai sp. nov.

Description of the holotype. Female. Length 548 μm, width 475 μm.

Dorsal side (Fig. 12). Setae: On the podonotum seta *i1* feathered. The remaining setae of the podonotum and all marginal setae (*r1-r6*) are smooth. On the opisthonotum setae *I1-I2* smooth, the setae *I3-I5* also smooth but shorter. The setae *I5* lie above the inner dorsal cavities. The setae *I6* delicately pilose and lie 150 μm distant from one another. In row *Z*, the setae *Z1* and *Z2* short and smooth. Seta *Z3* longer, delicately pilose and reaches to the insertion of seta *Z4*. Seta *Z4* similar to seta *I6* and does not reach to the posterior margin of the opisthonotum. Seta *S1* similar in length to *I2* and smooth. Seta *S2* longer and delicately pilose, and reaches to the margin of the opisthonotum. The setae *S3-S4* long and delicately pilose. All marginal setae of the opisthonotum and setae *Z5* are smooth. The distance between the seta *Z5* and *I6* is 30 μm. Lengths of setae of the opisthonotum and distances between the setae of particular rows in μm are given in the following table:

S1 — 26	*Z1* — 20	*I1* — 28
70	74	70
S2 — 40	*Z2* — 28	*I2* — 32
70	50	56

* The species is named in honour of Prof. Dr. J. MICHEJDA (Institute of Biology, A. MICKIEWICZ University — Poznań).

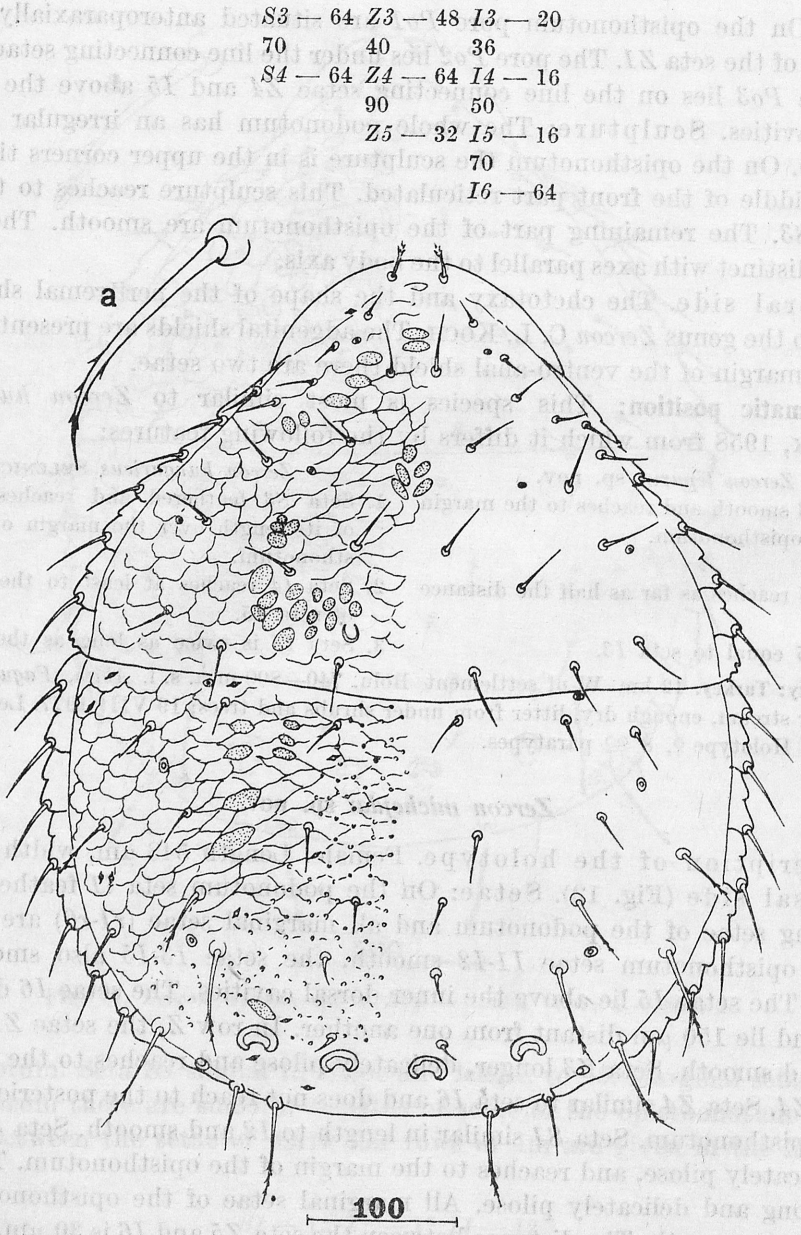

Fig. 12. *Zercon michejdai* sp. nov. ♀ — dorsal view; a — seta *I6*

Pores: The pore *Po1* are situated anteroantiaxially to the seta *Z1*. The pore *Po2* lies on the line connecting setae *S2* and *Z1*. The pore *Po3* lies above the line connecting setae *Z4* and *S3* shifted toward the seta *Z4* and away from it by its diameter. Pore *Po4* lies in middle of a line connecting setae *S4-Z5*. Sculpture: The whole podonotum has an irregular tile-like sculpture. On the opisthonotum the sculpture is in the upper corners tile-like, the middle of the top part there is

a net-like ornamentation with dots at the connecting points. The posterior part of the opisthonotum covered with delicate spots. The dorsal cavities distinct and well sclerotized with axes parallel to the body axis.

Ventral side. The chetotaxy and the shape of the peritremal shield there are typical to the genus *Zercon* C. L. KOCH. The adgenital shields are present. On the anterior margin of the ventro-anal shield there are four setae.

Systematic position: This species is most similar to *Zercon keiseri* SCHWEIZER, 1949 from which it differs by the following features:

Zercon michejdai sp. nov.	*Zercon keiseri* SCHWEIZER
1. Seta *S2* reaches to the margin of the opisthonotum.	1. Seta *S2* not reach to the margin of the opisthonotum.
2. Seta *S3* reaches by half of its length over the margin of the opisthonotum.	2. Seta *S3* reaches only to the margin of the opisthonotum.
3. Seta *Z3* reaches to the insertion of seta *Z4*.	3. Seta *Z3* does not reach to the insertion of seta *Z4*.

Localities: Iran. Settlement Rudbarek in mountains Elburs, beech forest with hornbeam on valley-slopes with stream; about 1000 m a. s. l., litter; 31 VIII 1969; Leg. J. MICHEJDA. Holotype ♀.

Iran. Shahsavar, about 20 km S of settlement, valley of mountain river, beech forest with sycamore and lime-tree, 2400 m a. s. l., litter; 23 VIII 1972. Leg. B. DOMINIAK. Paratypes 13 ♀♀.

Iran. Shahsavar, 20 km S of settlement. Valley of mountain river, lateral stream; litter from sheer limestone rock with mosses and herbaceous vegetation; 22 VIII 1972. Leg. B. DOMINIAK. Paratypes 18 ♀♀.

Zercon notabilis sp. nov.

Description of the holotype. Female. Length 416 μm, width 343 μm.

Dorsal side (Fig. 13). Setae: On the podonotum setae *i1* and all marginal setae are delicately feathered. The remaining setae of the podonotum are smooth. On the opisthonotum setae *I1-I2* smooth, setae *I3-I6* long broadened at the termination with delicately hyaline ending. Seta *I3* reaches to the base of seta *I4*. Seta *I6* lies 104 μm distant from one another. Setae *Z1-Z2* smooth similar in length to the setae *I1-I2*. Setae *Z3-Z4* similar to seta *I6*. Seta *Z3* reaches to the base of seta *Z4*. Seta *S1* broadened at the termination pilose without hyaline ending. Setae *S2-S4* long similar to seta *I6*, with hyaline ending. All marginal setae of the opisthonotum, and the seta *Z5* are similar in the shape to the seta *S1*. The distance between the seta *Z5* and *I6* is 25 μm. Lengths of setae of the opisthonotum and distances between the setae of particular rows in μm are given in the following table:

S1 — 24	*Z1* — 20	*I1* — 20
50	46	46
S2 — 36	*Z2* — 24	*I2* — 26
46	30	40
S3 — 48	*Z3* — 42	*I3* — 36
40	46	36

S4 — 56 *Z4* — 56 *I4* — 42
56 34
Z5 — 30 *I5* — 44
36
I6 — 54

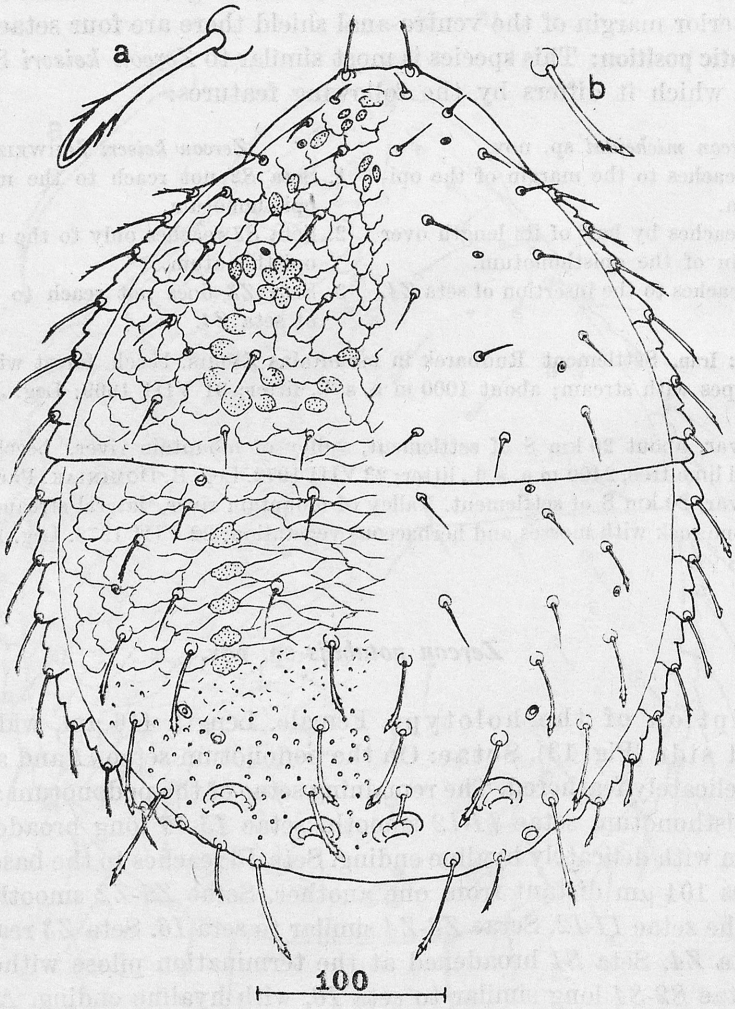

Fig. 13. *Zercon notabilis* sp. nov. ♀ — dorsal view; a — seta *I6*, b — seta *S1*

Pores: Pore *Po1* are situated anteroparaxially to the insertion of seta. *Z1*. Pore *Po2* lies outside of a line connecting setae *S1-S2*. Pore *Po3* lies on a line connecting setae *Z4-S2* shifted toward the seta *Z4* and away from it by its two diameters. Sculpture. The whole podonotum has an irregular tile-like sculpture. On the opisthonotum, the sculpture is in the upper corners tile-like, in the middle of the front part reticulated. This sculpture reaches to the line connecting setae *S3* and *I3*. The remaining part of the opisthonotum covered with spots. The dorsal cavities large and well sclerotized with axes parallel to the body axis.

Ventral side. The chetotaxy and the shape of the peritremal shield there are typical to the genus *Zercon* C. L. KOCH. The adgenital shields are present. On the anterior margin of the ventro-anal shield there are four setae.

Systematic position: This species is most similar to *Zercon occultus* BŁASZAK, 1972 from which it differs by the following features:

Zercon notabilis sp. nov.	*Zercon occultus* BŁASZAK
1. The setae *S2-S4, Z3-Z4, I3-I6* are broadened at the termination with hyaline ending.	1. The setae *S2-S4, Z3-Z4, I3-I6* delicately pilose.
2. Seta *Z2* reaches to the base of seta *Z3*.	2. Seta *Z2* reaches as far as half the distance to *Z3*.
3. Seta *I5* reaches almost to the posterior margin of the opisthonotum.	3. Seta *I5* reaches almost half of its length over the posterior margin of the opisthonotum.

Locality: Turkey. Ammanus Mountains. NE slope of Giau Dagi, 1400 m a. s. l., 19 VIII 1973; litter. Leg. B. DOMINIAK, Holotype ♀, paratypes 5 ♀♀, 3 ♂♂.

Zercon rigidus sp. nov.

Description of the holotype. Female. Length 490 μm, width 377 μm.

Dorsal side (Fig. 14). Setae: On the podonotum the setae *i1-i2* are feathered. In the marginal row of the podonotum all setae are barbed. The remaining setae of the podonotum there are short and smooth. On the opisthonotum setae *I1-I2* short and smooth. The seta *I3* is barbed and similar to the marginal setae of the podonotum. The setae *I3* reaches as far as half the distance to *I4*. The setae *I4-I5* big, with distinct hyaline ending. The setae *I4* does not reach to the base of seta *I5*. Seta *I6* is similar to *I5* and lies 126 μm distant from one another. The setae *Z1-Z2* short and smooth. Setae *Z3* and *Z4* similar to seta *I4-I5*. Seta *Z5* is barbed. The distance between setae *Z5* and *I6* is 30 μm. In row *S*, the seta *S1* is short and smooth. The seta *S2* with hyaline ending does not reach to the margin of the opisthonotum. Setae *S3-S4* long similar in the shape to the setae *I4-I6*. The marginal setae of the opisthonotum, there are barbed. Lengths of setae of the opisthonotum and distances between the setae of particular rows in μm are given in the following table:

S1 — 16	*Z1* — 16	*I1* — 16
56	60	56
S2 — 26	*Z2* — 16	*I2* — 16
66	40	50
S3 — 46	*Z3* — 36	*I3* — 16
66	50	44
S4 — 56	*Z4* — 56	*I4* — 26
	70	50
	Z5 — 36	*I5* — 30
		46
		I6 — 60

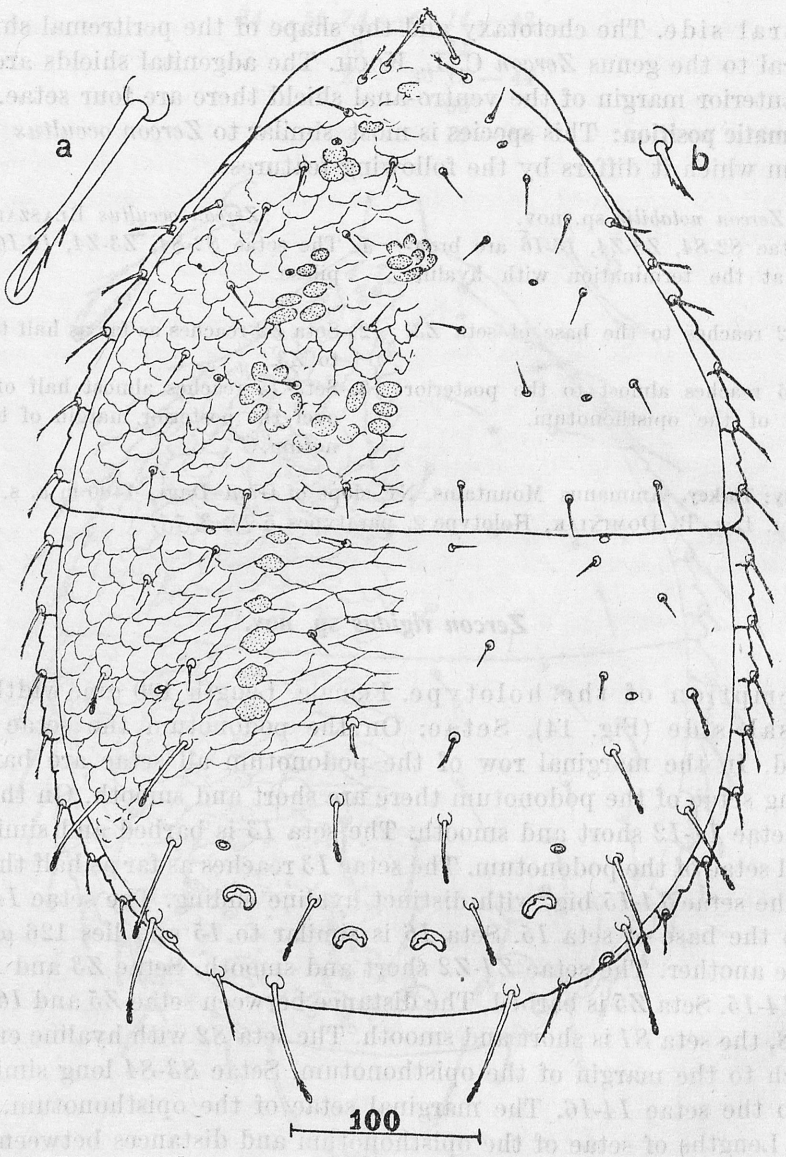

Fig. 14. *Zercon rigidus* sp. nov. ♀ — dorsal view; a — seta *I6*, b — seta *I3*

Pores: The pore *Po1* are situated anteroantiaxally to the insertion of the seta *Z1*. The pore *Po2* lies posteroantiaxally to the insertion of the seta *Z2*. The pore *Po3* lies on the line connecting setae *Z4-Z4*, above the exterior corners of the outside dorsal cavities. Sculpture: The whole podonotum has an irregular tile-like sculpture. On the opisthonotum the sculpture is in the upper corners tile-like, in the middle of the front part reticulated. This sculpture reaches to the base of seta *S3*. The remaining part of the opisthonotum is smooth. Dorsal cavities distinct with axes parallel to the body axis.

Ventral side. The chetotaxy and the shape of the peritremal shield are

typical of the genus *Zercon* C. L. KOCH. The adgenital shields are present. On the anterior margin of the ventro-anal shield, there are four setae.

Systematic position: This species is most similar to *Zercon barumi* BŁASZAK, 1977 from which it differs by the following features:

Zercon rigidus sp. nov.	*Zercon barumi* BŁASZAK, 1977
1. Setae *I1-I2, Z1-Z2* smooth.	1. Setae *I1-I2, Z1-Z2* barbed.
2. Seta *I3* barbed similar in length to the setae *I1-I2*.	2. Seta *I3* pilose with hyaline ending similar in length to seta *I4*.
3. Seta *S1* short and smooth similar to seta *Z1*	3. Seta *S1* with hyaline ending similar to the long setae of the opisthonotum.
4. The posterior part of the opisthonotum is smooth.	4. The posterior part of the opisthonotum covered with delicate spots.

Locality: USSR. Tian-Šan Mountains. Bajtylskaja wpadlina, grasses from wet meadow over the stream-side; 2500 m a. s. l.; 20 IX 1977. Leg. M. KALISZEWSKI. Holotype ♀.

Zercon rupestrinus sp. nov.

Description of the holotype. Female. Length 500 μm, width 382 μm.

Dorsal side (Fig. 15). Setae: On the podonotum the setae *i1-i2* feathered. In the marginal row of the podonotum all setae are delicately barbed. The remaining setae of the podonotum, there are short and delicately barbed. On the opisthonotum setae *I1-I2* short and delicately barbed, *I3-I5* also short and delicately barbed but bigger. Seta *I6* long with characteristic hyaline ending and being 120 μm away from one another. The setae *Z1-Z2* short and barbed similar to the setae *I1-I2*. Setae *Z3-Z4* long and similar in shape to the seta *I6*. The seta *Z4* reaches over the posterior margin of the opisthonotum. Seta *S1* is barbed and twice as long as the seta *I3*. Setae *S2-S4* long with hyaline ending. The seta *S2* reaches over the margin of the opisthonotum. The distance between seta *Z5* and *I6* is 30 μm. All marginal setae of the opisthonotum, there are barbed similar to seta *S1* and marginal setae of the podonotum. Lengths of setae of the opisthonotum and distances between the setae of particular rows in μm are given in the following table:

S1 — 28	*Z1* — 16	*I1* — 16
60	56	50
S2 — 42	*Z2* — 16	*I2* — 16
60	46	50
S3 — 56	*Z3* — 50	*I3* — 14
56	60	46
S4 — 66	*Z4* — 66	*I4* — 14
	60	56
	Z5 — 40	*I5* — 14
		46
		I6 — 66

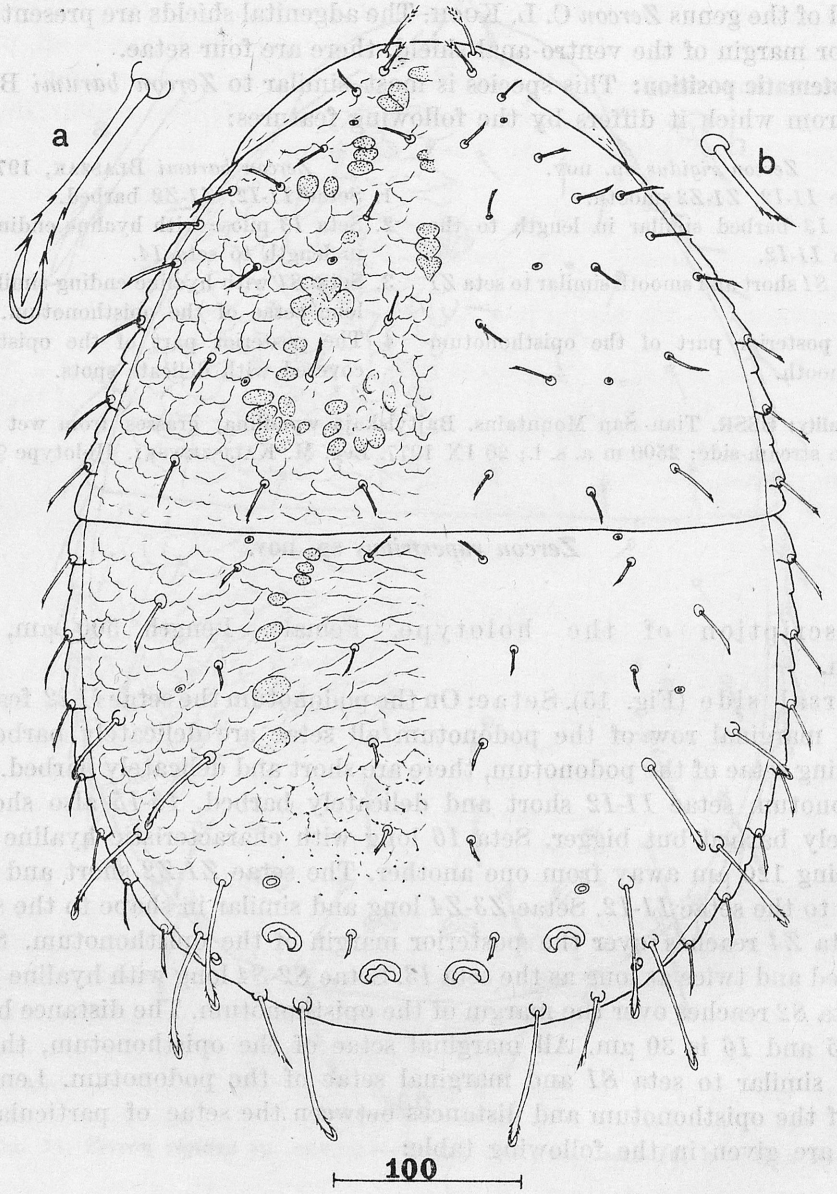

Fig. 15. *Zercon rupestrinus* sp. nov. ♀ — dorsal view; a — seta *I6*, b — seta *I3*

Pores: On the opisthonotum, the pore *Po1* are situated anteroparaxially to the insertion of the seta *Z1*. The pore *Po2* lies on the line connecting setae *Z2-S2* near *Z2*. The pore *Po3* lies on the line connecting setae *Z4-Z4* above the outer corners of the outside dorsal cavities. Sculpture: The whole podonotum has an irregular tile-like sculpture. The opisthonotum has in the centre of the anterior

half a reticulated and laterally a tile-like sculpture. This sculpture reaches to the base of seta *S3*. The remaining part of the opisthonotum are smooth. The dorsal cavities distinct and well sclerotized with axes parallel to the body axis.

Ventral side. The chetotaxy and the shape of the peritremal shield are typical to the genus *Zercon* C. L. Koch. The adgenital shields are present. On the anterior margin of the ventro-anal shield there are four setae.

Male. Length 407 μm, width 304 μm. The setae, pores and sculpture on the podo- and opisthonotum similarly as in female. The setae *I6* lie 110 μm distant from one another. The distance between the setae *Z5* and *I6* is 20 μm. Lengths of setae of the opisthonotum and distances between the setae of particular rows in μm are given in the following table:

S1 — 20	*Z1* — 12	*I1* — 12
50	40	44
S2 — 36	*Z2* — 12	*I2* — 12
36	30	34
S3 — 56	*Z3* — 42	*I3* — 12
56	44	34
S4 — 66	*Z4* — 64	*I4* — 12
	50	40
	Z5 — 34	*I5* — 12
		46
		I6 — 66

Deutonymph. Length 420 μm, width 318 μm. (Fig. 16). On the podonotum the setae *i1-i2* pilose. All marginal setae of the podonotum are delicately barbed similar than in female. The remaining setae of the podonotum are smooth. On the opisthonotum the setae *I1-I5* and *Z1-Z2* short and smooth. Setae *I6* are long and pilose with delicately hyaline ending and lie 110 μm distant from one another. Setae *Z3-Z4* long similar to seta *I6*, seta *Z3* reaches to the insertion of the seta *Z4*. Seta *Z4* reaches by half of its length over the posterior margin of the opisthonotum. In row *S*, the seta *S1* is barbed and twice as long as the seta *Z1*. The remaining setae of this row are long with hyaline ending similar to seat *I6*. Seta *S2* reaches by half of its length over the margin of the opisthonotum. The pore *Po3* lies on the line connecting setae *Z4-Z4* above the outside dorsal cavities. Lengths of setae of the opisthonotum and distances between the setae of particular rows in μm are given in the following table:

S1 — 30	*Z1* — 16	*I1* — 16
56	50	50
S2 — 54	*Z2* — 16	*I2* — 16
56	40	40
S3 — 66	*Z3* — 56	*I3* — 12
50	50	36
S4 — 80	*Z4* — 80	*I4* — 12
	60	36
	Z5 — 40	*I5* — 12
		40
		I6 — 80

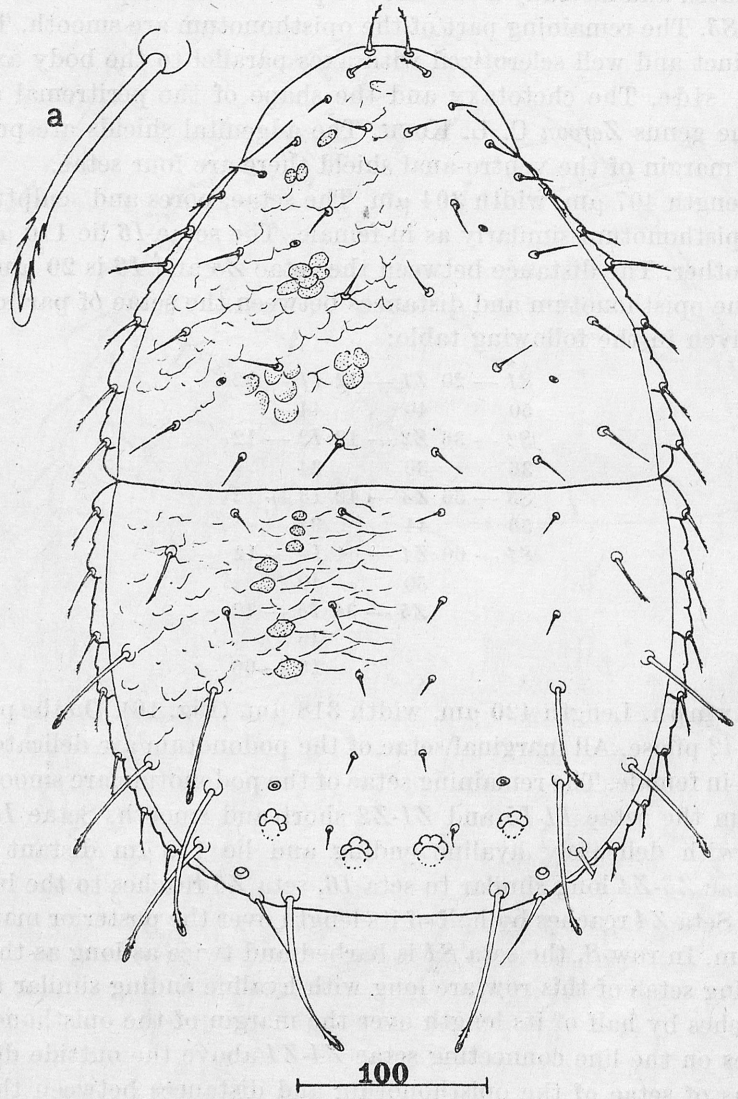

Fig. 16. *Zercon rupestrinus* sp. nov. deutonymph — dorsal view; a — seta *I6*

Dorsal cavities are lobed in the front. On the anterior margin of the ventro-anal shield there are four setae.

Systematic position: This species is most similar to *Zercon berlesei* SELLNICK, 1958 from which it differs by the following features:

Zercon rupestrinus sp. nov.	*Zercon berlesei* SELLNICK
1. Seta *Z3* reaches to the insertion of seta *Z4*.	1. Seta *Z3* reaches as far as half the distance to *Z4*.
2. Seta *S1* is twice as long as the seta *Z1*.	2. Seta *S1* is equal to seta *Z1*.
3. Seta *S2* long with hyaline ending.	3. Seta *S2* short and smooth.

4. The long setae of the opisthonotum with hyaline ending.
5. The posterior part of the opisthonotum smooth.

4. The long setae of the opisthonotum are broadened at the termination and a bit flattened.
5. The posterior part of the opisthonotum covered with distinct spots.

Locality: USSR. Tian-Šan Mountains. Bajtylskaja wpadlina, grasses from wet meadow over the stream-side; 2500 m a. s. l.; 20 IX 1977. Leg. M. KALISZEWSKI. Holotype ♀, Paratypes 2 ♀♀, 5 ♂♂, 6 DN.

Zercon schrammi sp. nov. *

Description of the holotype. Female. Length 563 μm, width 436 μm.

Dorsal side (Fig. 17). Setae: On the podonotum the setae *i1-i2* are feathered. In the marginal setae of the podonotum all setae are barbed. The remaining setae of the podonotum are smooth. On the opisthonotum, setae *I1-I3* short and smooth, the setae *I4-I5* also short but delicately barbed. The setae *I6* long with hyaline ending and lie 140 μm distant from one another. The setae *Z1-Z3* short and smooth. Seta *Z4* long similar to seta *I6* and reaches over the posterior margin of the opisthonotum. Seta *Z5* feathered and lies 30 μm from seta *I6*. Seta *S1* with hyaline ending and reaches as far as half the distance to seta *S2*. The setae *S2-S4* long with hyaline ending. In the marginal row of the opisthonotum the setae *R1-R3*, barbed, the remaining setae of this row smooth. Lengths of setae of the opisthonotum and distances between the setae of particular rows in μm are given in the following table:

S1 — 34	*Z1* — 20	*I1* — 20
70	60	60
S2 — 56	*Z2* — 16	*I2* — 16
70	50	46
S3 — 76	*Z3* — 16	*I3* — 14
75	64	40
S4 — 85	*Z4* — 88	*I4* — 14
	80	60
	Z5 — 48	*I5* — 14
		80
		I6 — 92

Pores: The *Po1* lies above the insertion of seta *Z1*. Pore *Po2* lies under the line connecting setae *Z2-S2* nearer seta *Z2*. Pore *Po3* lies on the line connecting setae *Z4* and *I4* above the outside dorsal cavities. Sculpture: The whole podonotum has an irregular tile-like sculpture. On the opisthonotum, the sculpture is in the upper corners tile-like, in the middle of the front part reticulated. This sculpture reaches to the base of seta *S3*. The remaining part as far as posterior margin of the opisthonotum covered with spots. Above the dorsal cavities the spots are connected with delicate lines. The dorsal cavities distinct and well sclerotized with axes parallel to the body axis.

* The species is named in honour of Prof. Dr. R. W. SCHRAMM (Institute of Biology, A. MICKIEWICZ University — Poznań).

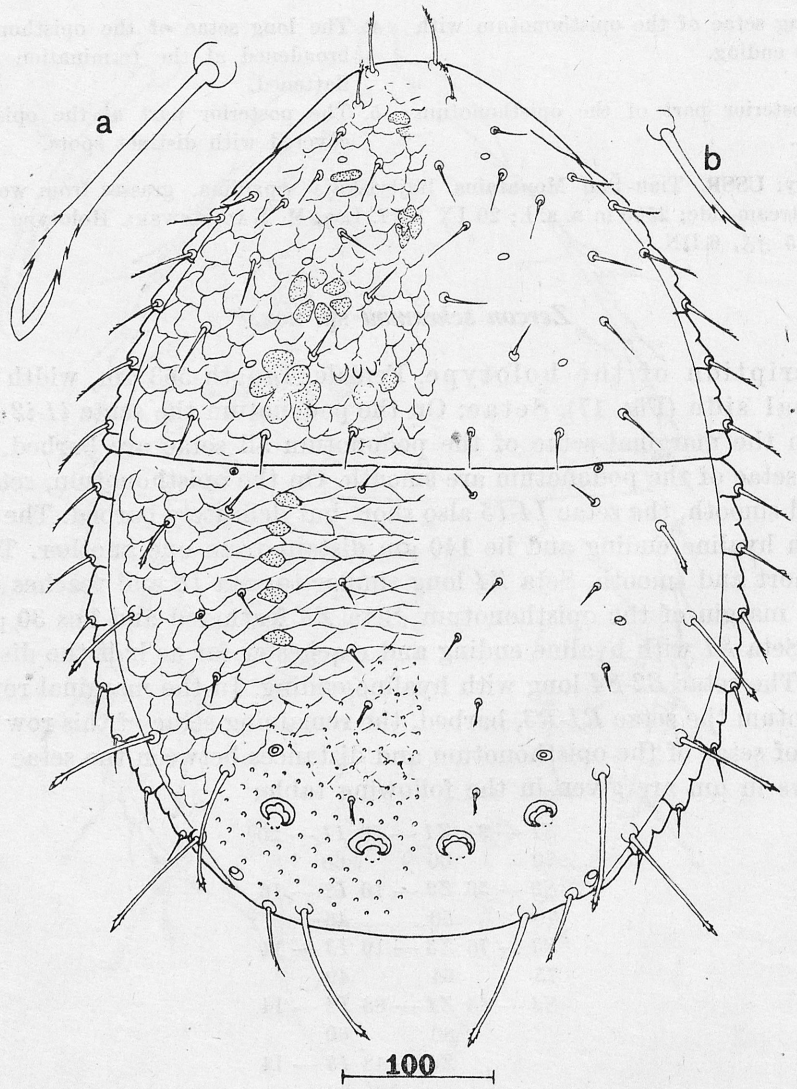

Fig. 17. *Zercon schrammi* sp. nov. ♀ — dorsal view; a — seta *I6*, b — seta *I5*

Ventral side. The chetotaxy and the shape of the peritremal shield are typical to the genus *Zercon* C. L. Koch. The adgenital shields are present. On the anterior margin of the ventro-anal shield there are four setae.

Systematic position: This species is most similar to *Zercon ectopicus* Błaszak, 1976 from which it differs by the following features:

Zercon schrammi sp. nov.

1. Seta *Z2* is present.
2. Seta *Z3* short and smooth.
3. Pore *Po3* lies on the line connecting setae *Z4-I4*.
4. Pore *Po2* lies under the line connecting setae *Z2-S2*.

Zercon ectopicus Błaszak, 1976

1. Seta *Z2* is absent.
2. Seta *Z3* long with hyaline ending.
3. Pore *Po3* lies on the line connecting setae *Z4-I3*.
4. Pore *Po2* lies on the line connecting setae *Z1-Z2*.

Locality: Afghanistan. Northern Badakshan Mts, the rand of Darwaz airport upon Darya-i--Panj river (38° 27′ N, 70°52′ E). Mosses from rocks (crystalline schist); 1690 m a. s. l., N. slope; 7 VII 1975. Leg. R. W. SCHRAMM. Holotype ♀.

Zercon acanticus BŁASZAK, 1978

Zercon acanticus BŁASZAK, 1978a: 308.

Female. (Fig. 18). Length 495 μm, width 400 μm. Setae *I1-I5*, *Z1-Z2* and *S1* short and smooth. The marginal setae of the opisthonotum are short, smooth and thorn-like. The remaining setae of the opisthonotum long and

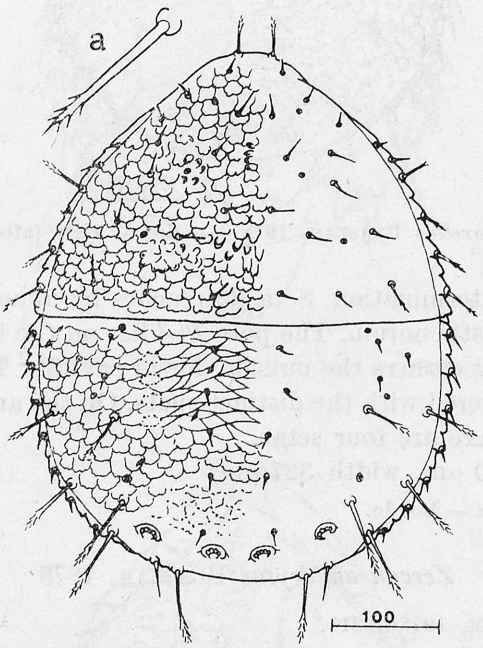

Fig. 18. *Zercon acanticus* BŁASZAK, 1978 — dorsal view; a — seta *I6* (after BŁASZAK 1978 a)

barbed. Setae *Z3* lie on the line connecting setae *S2-S2*. The pore *Po3* lies on the line connecting setae *Z4-Z3* near *Z4*. On the anterior margin of the ventro--anal shield, there are two setae.

Male. Length 370 μm, width 300 μm.

Locus typicus: Mongolia — Bogdo.

Zercon adoxellus BŁASZAK, 1978

Zercon adoxellus BŁASZAK, 1978a: 306.

Female. (Fig. 19). Length 520 μm, width 430 μm. On the opisthonotum the setae *I1-I5*, *Z1-Z2* short and smooth. Seta *S1* also smooth but longer and does not reach to the margin of the opisthonotum. The setae *I6*, *Z3-Z4*, *S2-S4* long

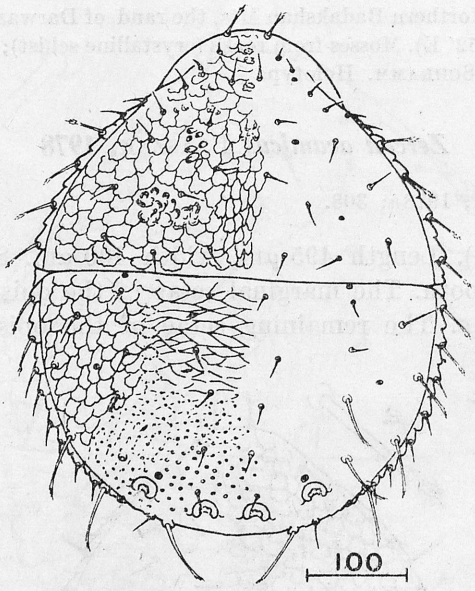

Fig. 19. *Zercon adoxellus* BŁASZAK, 1978 ♀ — dorsal view (after BŁASZAK 1978 a)

and feathered at the termination. Seta *S2* reaches by almost of its length over the margin of the opisthonotum. The pore *Po3* lies on the line connecting setae *Z4-I5* above the inner corners the outside dorsal cavities. The posterior part of the opisthonotum covered with the distinct spots. On the anterior margin of the ventro-anal shield there are four setae.

Male. Length 410 μm, width 327 μm.

Locus typicus: Mongolia — Bogdo.

Zercon amidrytus BŁASZAK, 1978

Zercon amidrytus BŁASZAK, 1978a: 311.

Male. (Fig. 20). Length 405 μm, width 300 μm. On the opisthonotum the setae *I1-I5*, *Z1-Z2* short and smooth. The remaining setae of the opisthonotum there are long and feathered. Seta *Z3* reaches to the insertion of seta *Z4*. Seta *S1* reaches to the margin of the opisthonotum. Seta *S2* reaches by almost half of its length over the margin of the opisthonotum. Pore *Po3* lies on the line connecting setae *Z3-Z4* near *Z4*. On the anterior margin of the ventro-anal shield, there are four setae.

Deutonymph. (Fig. 21). Length 450 μm, width 234 μm. On the podonotum all setae are delicately feathered. On the opisthonotum setae *I1-I5* and *Z1-Z2* short and smooth. The setae *S1-S4* and *I6* are feathered. Seta *S1* reaches to the margin of the opisthonotum. The position of the pores on the opisthonotum is the same as in male. On the anterior margin of the ventro-anal shield there are four setae.

Locus typicus: Mongolia — Tosgoni ovoo.

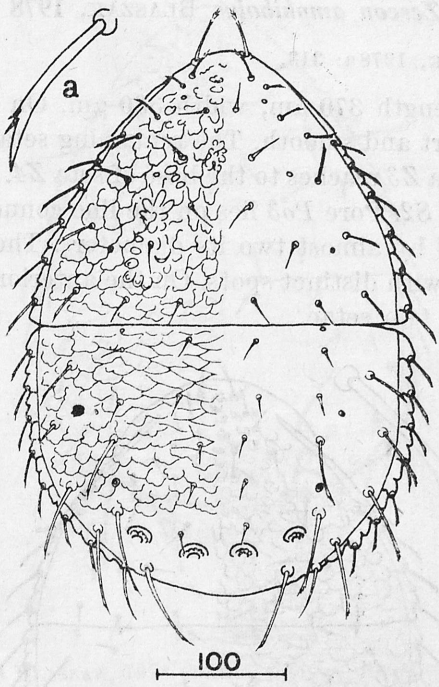

Fig. 20. *Zercon amidrytus* BŁASZAK, 1978 ♂ — dorsal view; a — seta *I6* (after BŁASZAK, 1978 a)

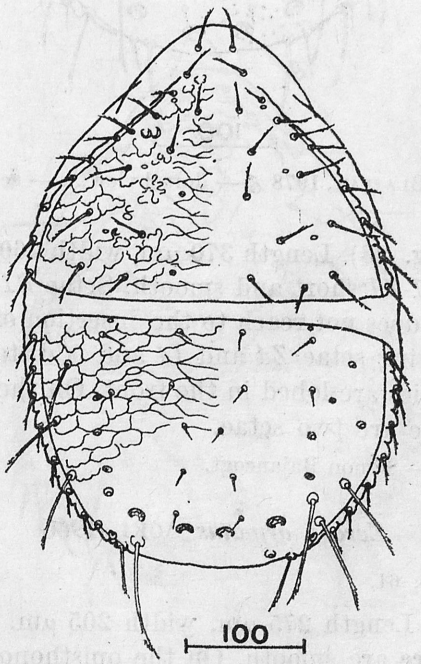

Fig. 21. *Zercon amidrytus* BŁASZAK, 1978 deutonymph — dorsal view (after BŁASZAK 1978 a)

Zercon amphibolus Błaszak, 1978

Zercon amphibolus Błaszak, 1978a: 313.

Male. (Fig. 22). Length 370 μm, width 330 μm. On the opisthonotum the setae *I1-I5*, *Z1-Z2* short and smooth. The remaining setae of the opisthonotum long and feathered. Seta *Z3* reaches to the base of seta *Z4*. Seta *S1* does not reach to the insertion of seta *S2*. Pore *Po3* lies on the line connecting setae *Z4* and *I4* and is distant from *Z4* by almost two its diameters. The posterior part of the opisthonotum covered with distinct spots. On the anterior margin of the ventro-anal shield, there are two setae.

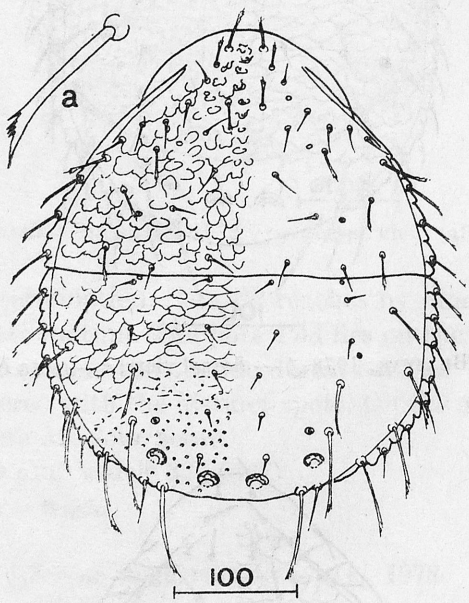

Fig. 22. *Zercon amphibolus* Błaszak, 1978 ♂ — dorsal view; a — seta *I6* (after Błaszak 1978 a)

Deutonymph. (Fig. 23). Length 370 μm, width 260 μm. On the opisthonotum setae *I1-I5* and *Z1-Z1* short and smooth. Setae *S1-S4*, *Z3-Z4* and I6 long and feathered. Seta *S1* does not reach to the insertion of seta *S2*. The pore *Po3* lies on the line connecting setae *Z4* and *I4* and is distant from *Z4* by two its diameters. Dorsal cavities are lobed in the front. On the anterior margin of the ventro-anal shield there are two setae.

Locus typicus: Mongolia — Somon Bajancogt.

Zercon armatus Aoki, 1966

Zercon armatus Aoki, 1966: 61.

Female. (Fig. 24). Length 275 μm, width 205 μm. All setae on the podo- and opisthonotum, there are smooth. On the opisthonotum all setae are long. The seta *S1* reaches to the margin of the opisthonotum. The seta *Z1* does not

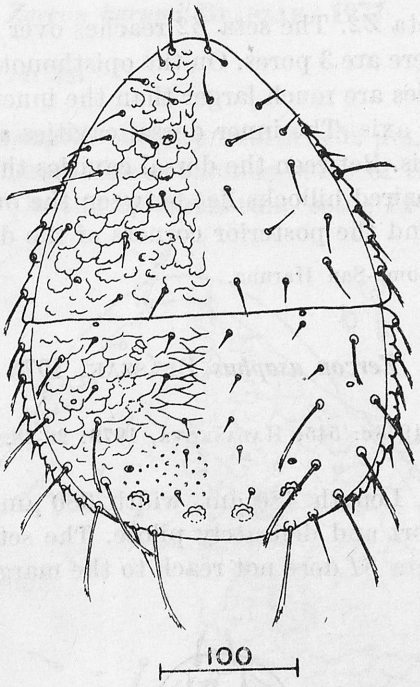

Fig. 23. *Zercon amphibolus* Błaszak, 1978 deutonymph — dorsal view (after Błaszak 1978 a)

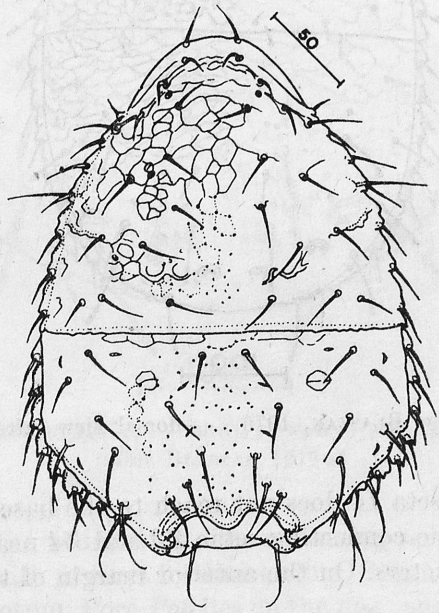

Fig. 24. *Zercon armatus* Aoki, 1966 ♀ — dorsal view (after Aoki, 1966)

reach to the base of seta *Z2*. The seta *Z2* reaches over the insertion of seta *Z3*. On the podonotum, there are 3 pores. On the opisthonotum the pores are absent. The outer dorsal cavities are much larger than the inner ones and lie diagonally in respect to the body axis. The inner dorsal cavities are contiguous with axes parallel to the body axis. Between the dorsal cavities there are three well sclerotized hillocks. The unpaired hillocks lies between the outer dorsal cavities. The paired hillocks lie behind the posterior corners of the dorsal cavities.

Locus typicus: Japan — Soma-San Haruna.

Zercon asaphus Błaszak, 1976

Zercon asaphus Błaszak, 1976c: 545; Halašková, 1979: 26-28.

Female. (Fig. 25). Length 480 μm, width 380 μm. On the opisthonotum setae *I1-I3* and *Z1* short and delicately pilose. The setae *S1-S4*, *Z3-Z4*, *I4-I6* with hyaline ending. Seta *S1* does not reach to the margin of the opisthonotum.

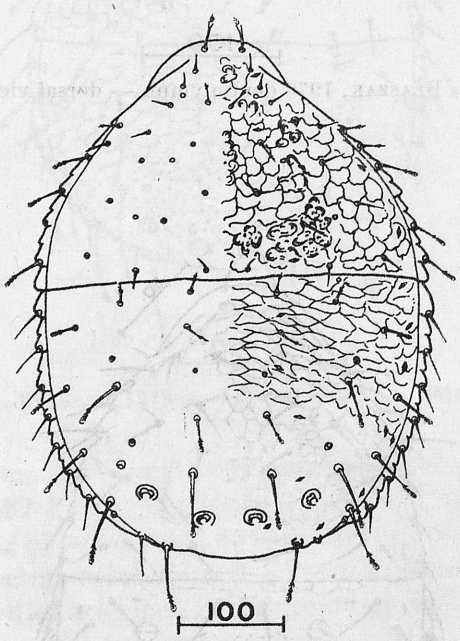

Fig. 25. *Zercon asaphus* Błaszak, 1976 ♀ — dorsal view (after Błaszak 1976 c)

Seta *Z2* is absent. The seta *I4* does not reach to the base of seta *I5*. The pore *Po3* lies inside of the line connecting setae *Z3* and *Z4* near to the seta *Z4* and away from it by 3 diameters. On the anterior margin of the ventro-anal shield there are four setae.

Locus typicus: — North Korea — Namphothe-san Mt.

Zercon barumi Błaszak, 1977

Zercon barumi Błaszak, 1977a: 381.

Female. (Fig. 26). Length 563 μm, width 402 μm. On the podonotum setae *i1* and *i2* are feathered. The remaining setae of this row and the setae *z* and *s* row are barbed. On the opisthonotum, setae *I1-I2*, *Z1-Z2* are barbed

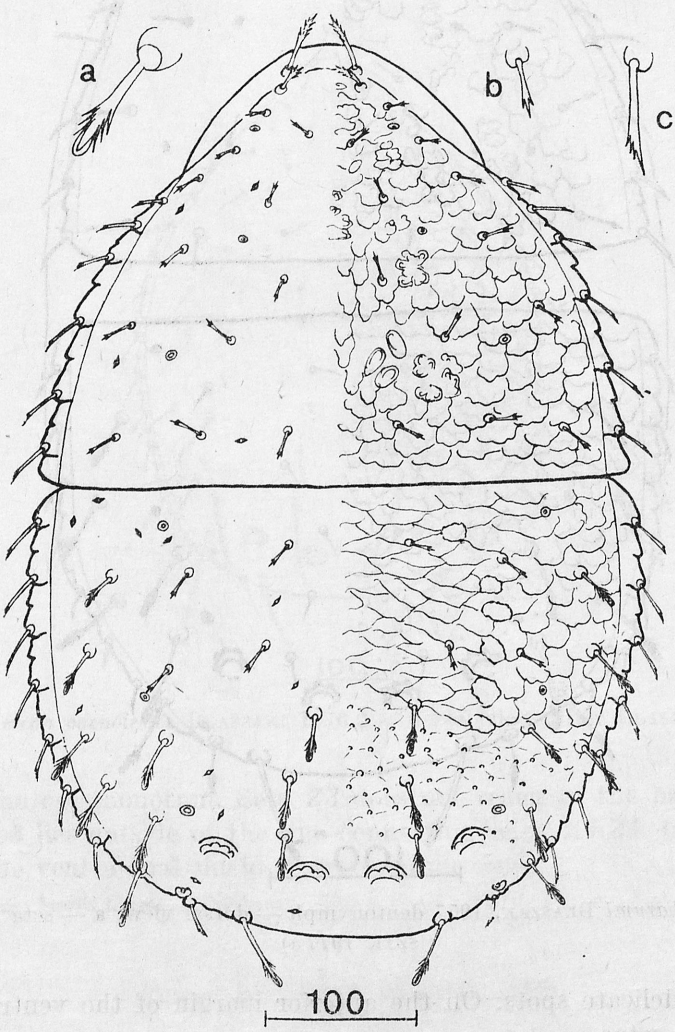

Fig. 26. *Zercon barumi* Błaszak, 1977 ♀ — dorsal view; a — seta *I6*, b — seta *I2*, c — seta *R1* (after Błaszak 1977 a)

similar to the setae of the podonotum. The remaining setae of the opisthonotum longer, big and pilose with distinct hyaline ending. Seta *S1* does not reach to the margin of the opisthonotum. Pore *Po3* lies on the line connecting setae *I5* and *Z4* and is distant from *Z4* by its diameter. The posterior part of the opisthonotum

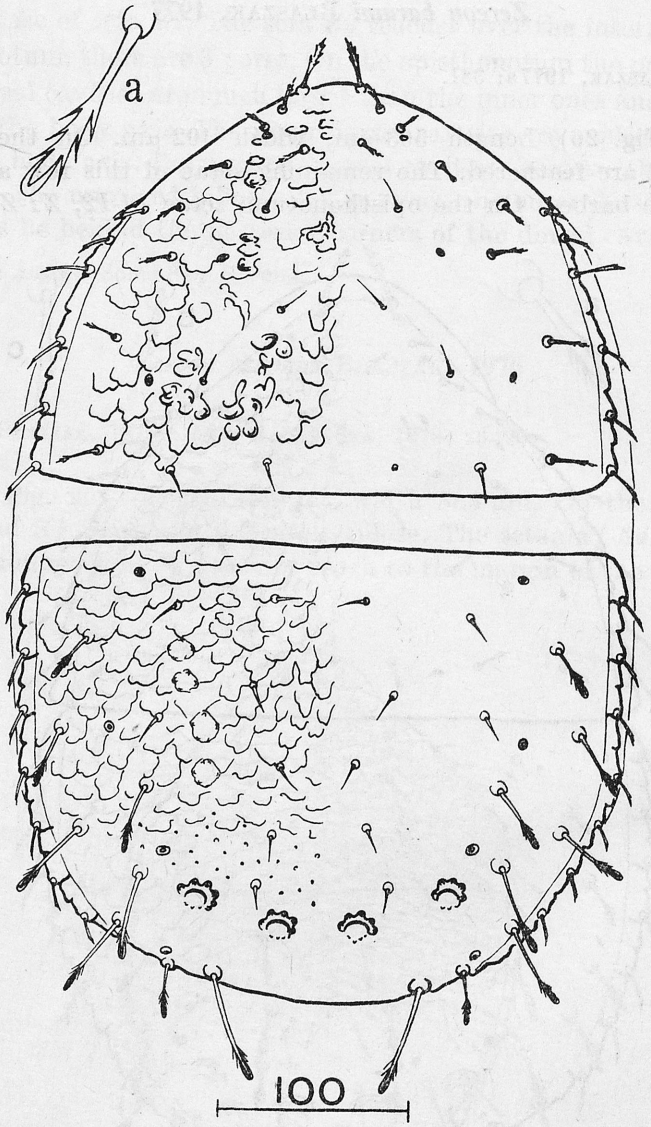

Fig. 27. *Zercon barumi* BŁASZAK, 1977 deutonymph — dorsal view; a — seta *I6* (after BŁASZAK 1977 a)

covered with delicate spots. On the anterior margin of the ventroanal shield there are four setae.

Deutonymph. (Fig. 27). Length 465 μm, width 318 μm. On the opisthonotum setae *I1-I5* and *Z1-Z2* short and smooth. Setae *S1-S4*. *Z3-Z5* and *I6* are pilose with distinct hyaline ending. The pore *Po3* is situated on the line connecting setae *I3* and *Z4* and is distant from *Z4* by its diameter. Dorsal cavities are lobed in the front. On the anterior margin of the ventro-anal shield there are four setae.

Locus typicus: Pakistan — Tirich Mir Mt., Barum valley.

Zercon caenolestes Błaszak, 1976

Zercon caenolestes Błaszak, 1976c; 531.

Female. (Fig. 28). Length 530 μm, width 420 μm. On the opisthonotum setae *I1-I3*, *Z1-Z2* are short and smooth. The setae *S1* and *I4* are pilose. The setae *S2-S4*, *Z3-Z4* and *I4-I6* are long and feathered. Seta *S2* reaches over the

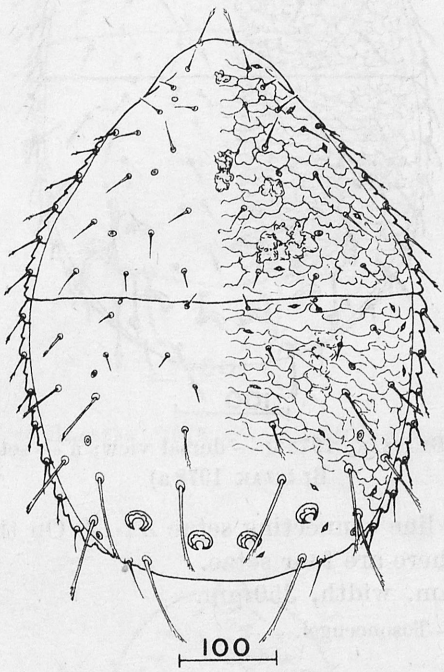

Fig. 28. *Zercon caenolestes* Błaszak, 1976 ♀ — dorsal view (after Błaszak 1976 c)

margin of the opisthonotum. Seta *Z3* does not reach to the base of seta *Z4*. The pore *Po3* lies outside of the line connecting setae *Z3-Z4*. On the anterior margin of the ventro-anal shield, there are four setae.

Locus typicus: North Korea — Pektu-san Mt.

Zercon comaliatus Błaszak, 1978

Zercon comaliatus Błaszak, 1978a: 315.

Female. (Fig. 29). Length 490 μm, width 345 μm. On the opisthonotum the setae *I1-I3*, *Z1-Z2* short and smooth. Setae *I4-I5* longer and delicately barbed. The seta *I4* reaches as far as half the distance to seta *I5*. The setae *I6*, *Z3-Z4* and all setae of row *S* are long, barbed with hyaline ending. Seta *Z3* reaches almost to insertion of seta *Z4*. Seta *S2* reaches to the margin of the opisthonotum.

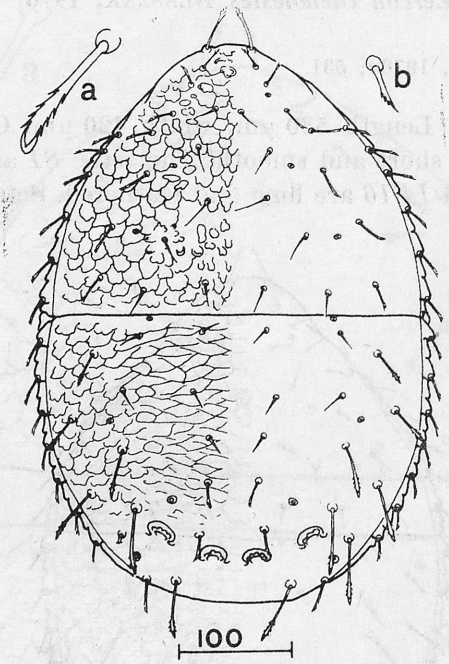

Fig. 29. *Zercon comaliatus* BŁASZAK, 1978 ♀ — dorsal view; a — seta *I6*, b — seta *I5* (after BŁASZAK 1978 a)

Pore *Po3* lies under the line connecting setae *Z4-I4*. On the anterior margin of the ventro-anal shield there are four setae.

Male. Length 500 μm, width, 350 μm.

Locus typicus: Mongolia — Tosoncengel.

Zercon ectopicus BŁASZAK, 1976

Zercon ectopicus BŁASZAK, 1976c: 540

Male. (Fig. 30). Length 390 μm, width 290 μm. On the opisthonotum setae *I1-I5* and *Z1* short and smooth. The setae *S1-S4*, *Z3-Z4* and *I6* long with hyaline ending. Seta *Z2* is absent. Seta *S2* reaches over the margin of the opisthonotum. Seta *Z3* does not reach to the base of seta *Z4*. The pore *Po3* lies on the line connecting setae *Z4-I3* shifted toward the seta *Z4* and away from it by its 3 diameters. On the anterior margin of the ventro-anal shield there are four setae.

Locus typicus: North Korea — Namphothe-san Mt.

Zercon forsslundi SELLNICK, 1958

Zercon forsslundi SELLNICK, 1958a: 349; PETROVA, 1977a: 621.

Female. (Fig. 31). Length 495 μm, width 375—405 μm. The insertions of setae *I6* and *Z5* are in close proximity. On the opisthonotum setae *I1-I4*, *Z1-Z3*, *S1-S2* short and smooth. Setae *I5-I6*, *Z4* and *S3-S4* long. Seta *I5* reaches over the posterior margin of the opisthonotum. Seta *S3* twice as long as the seta *S2*

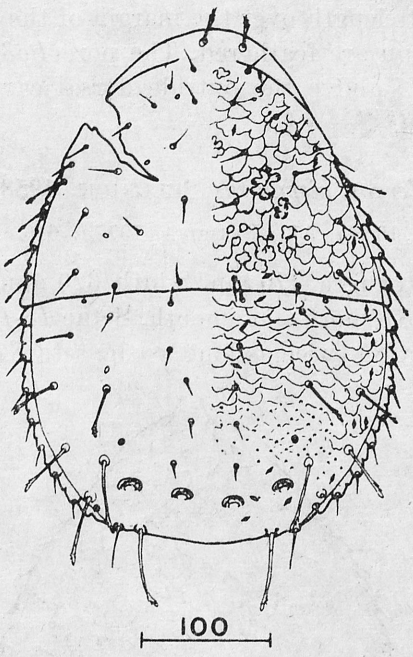

Fig. 30. *Zercon ectopicus* Błaszak, 1976 ♂ — dorsal view (after Błaszak 1976 c)

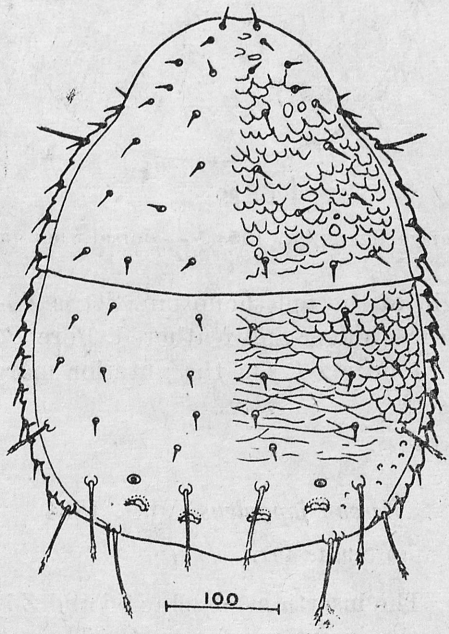

Fig. 31. *Zercon forsslundi* Sellnick, 1958 ♀ — dorsal view (after Sellnick 1958 a)

and reaches by half of its length over the margin of the opisthonotum. All long setae of the opisthonotum are feathered. The pore *Po3* lies over the line connecting setae *Z4* and *I5* above the outside dorsal cavities.

Distribution: Sweden, USSR.

Zercon hispanicus SELLNICK, 1958

Zercon hispanicus SELLNICK, 1958a: 353; PETROVA, 1977a: 616.

Female. (Fig. 32). Length 420 μm, width 320 μm. On the opisthonotum setae *I1-I2*, *Z1-Z2* and *S1* short and smooth. Setae *I3-I5* feathered three times longer than seta *I1*. Seta *S3* twice as long as the seta *S1*. Setae *S2* and *S3* does

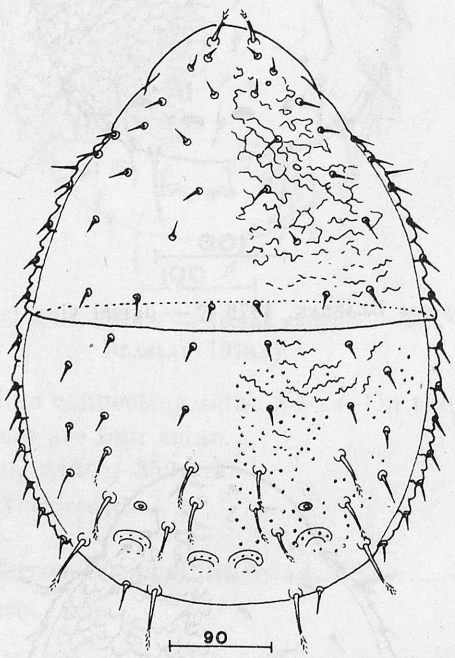

Fig. 32. *Zercon hispanicus* SELLNICK, 1958 ♀ — dorsal view (after SELLNICK 1958 a)

not reach to the margin of the opisthonotum. Setae *Z3-Z4* similar to seta *I3*. Setae *I3-I6*, *Z3-Z4* and *S4* longer and feathered. Pore *Po3* lies on the line connecting setae *Z4* and *I4* near *Z4*. On the anterior margin of the ventro-anal shield there are two setae.

Distribution: Spain, Israel.

Zercon japonicus AOKI, 1964

Zercon badensis japonicus AOKI, 1964: 491.

Female (Fig. 33). The insertions of setae *I6* and *Z5* are in close proximity. The seta *I1* reaches to the insertion of seta *I2*. The seta *S1* is equal or little longer as the seta *Z1*. Seta *Z2* reaches to the base of the seta *Z3*. The pore *Po3*

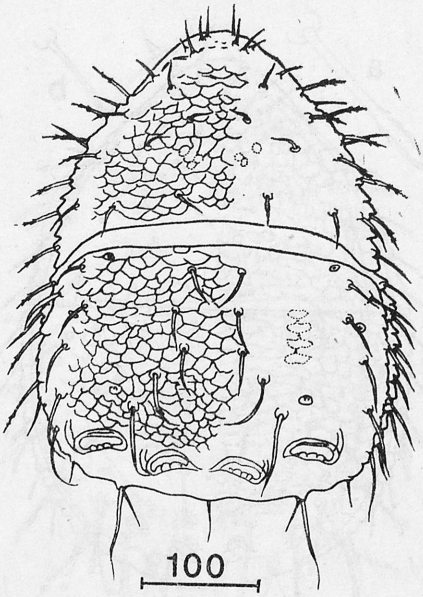

Fig. 33. *Zercon japonicus* (Aoki, 1964) ♀ — dorsal view (after Aoki, 1964)

lies on the line connecting setae *I5-Z3*. The dorsal cavities are large, irregular and well sclerotized.

Locus typicus: Japan — Shichizawa-Onsen.

Zercon kaszabii Błaszak, 1978

Zercon kaszabii Błaszak, 1978a: 301.

Female. (Fig. 34). Length 490 μm, width 370 μm. On the opisthonotum setae *I1-I3* and *Z1-Z2* short and barbed. Setae *I4-I6* long broadened with hyaline ending. Seta *I4* reaches to the insertion of seta *I5*. Setae *Z3-Z4* and all setae of *S* row similar in length and shape to seta *I6*. Seta *S1* does not reach to the margin of the opisthonotum. Pore *Po3* on the line connecting setae *Z3-Z4*. On the anterior margin of the ventro-anal shield there are four setae.

Deutonymph. (Fig. 35). Length 407 μm, width 304 μm. On the opisthonotum setae *I1-I5*, *Z1-Z2* short and smooth. Setae *S1-S4*, *Z3-Z5* and *I6* are pilose. Seta *S1* does not reach to the base of seta *S2* but reaches to the margin of the opisthonotum. The position of the pores on the opisthonotum is the same as in the female. Dorsal cavities are lobed in the front. On the anterior margin of the ventro-anal shield there are four setae.

Protonymph. (Fig. 36.) Length 352 μm, width 220 μm. On the opisthonotum setae *I1-I5* and *Z1-Z2* and *R2* short and smooth. The remaining setae of the opisthonotum are long and pilose. Seta *S1* reaches to the insertion of seta *S2*. Dorsal cavities are very lobed in the front. The position of the pores on the opisthonotum is the same as in deutonymph.

Locus typicus: Mongolia — Uubulan.

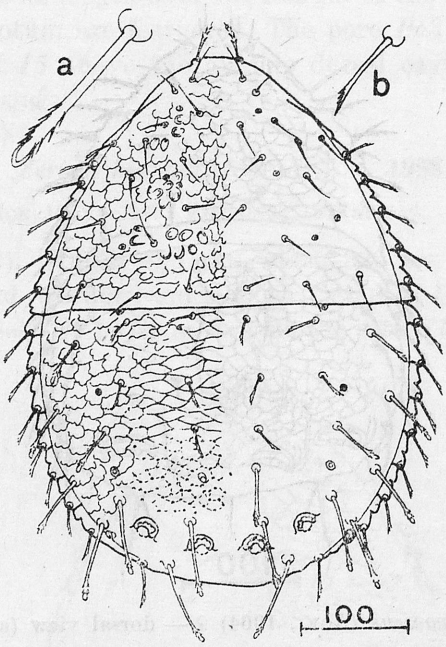

Fig. 34. *Zercon kaszabii* BŁASZAK, 1978 ♀ — dorsal view; a — seta *16*, b — seta *13* (after BŁASZAK 1978 a)

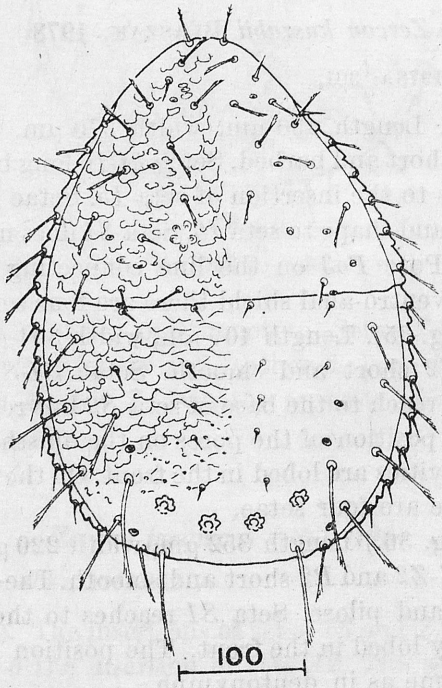

Fig. 35. *Zercon kaszabii* BŁASZAK, 1978 deutonymph — dorsal view (after BŁASZAK 1978 a)

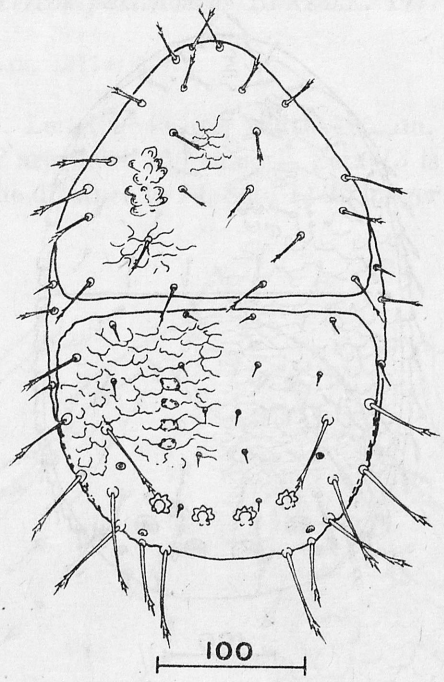

Fig. 36. *Zercon kaszabii* BŁASZAK, 1978 protonymph — dorsal view (after BŁASZAK 1978 a)

Zercon mahunkai BŁASZAK, 1978

Zercon mahunkai BŁASZAK, 1978a: 304.

Female. (Fig. 37). Length 510 μm, width 345 μm. On the podonotum all setae are finely barbed and delicately broadened at the end. On the opisthonotum the setae *I1-I2*, *Z1-Z2*, *S1*, *Z5* and all marginal setae are similar in the shape to the setae of the podonotum. The remaining setae of the opisthonotum barbed and considerably broadened at the end. Seta *I4* reaches to the insertion of seta *I5*. Seta *S1* reaches as far as half the distance to *S2*. The pore *Po3* lies on the line connecting setae *Z4-Z4* above the outer dorsal cavities. On the anterior margin of the opisthonotum there are four setae.

Male. Length 440 μm, width 280 μm.

Locus typicus: Mongolia — Delgerchangai.

Zercon mongolicus BŁASZAK, 1978

Zercon mongolicus BŁASZAK, 1978a: 309.

Female. (Fig. 38). Length 514 μm, width 430 μm. On the opisthonotum the setae *I1-I3*, *Z1-Z2* are short and smooth. The remaining setae of the opisthonotum long and feathered. Seta *I4* does not reach to the insertion of seta *I5*.

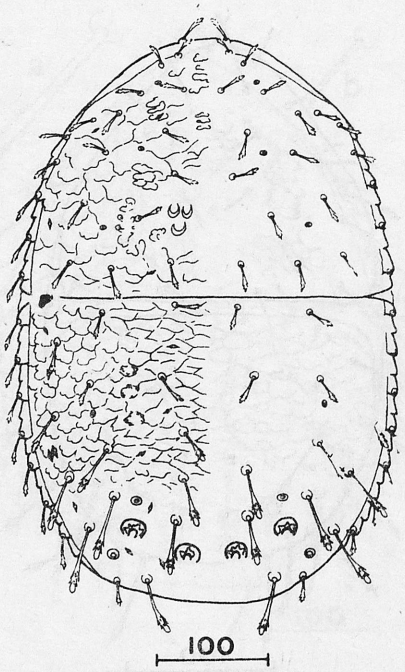

Fig. 37. *Zercon mahunkai* Błaszak, 1978 ♀ — dorsal view (after Błaszak 1978 a)

Seta *Z3* does not reach to the base of the seta *Z4*. The pore *Po3* lies on the line connecting setae *Z4-I5* above the outside dorsal cavities. On the anterior margin of the ventro-anal shield are four setae.

Locus typicus: Mongolia — Bajancogt.

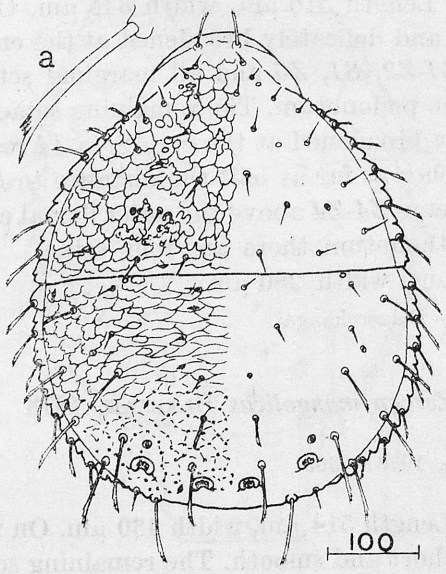

Fig. 38. *Zercon mongolicus* Błaszak, 1978 ♀ — dorsal view; a — seta *I6* (after Błaszak 1978 a)

Zercon pakistanicus Błaszak, 1977

Zercon pakistanicus Błaszak, 1977a: 377.

Female. (Fig. 39). Length 540 μm, width 406 μm. On the opisthonotum the setae *I1-I2*, *Z1-Z2* are short and smooth. Seta *I3* is delicately barbed and reaches as far as half the distance to *I4*. Seta *I4-I5* longer and delicately barbed.

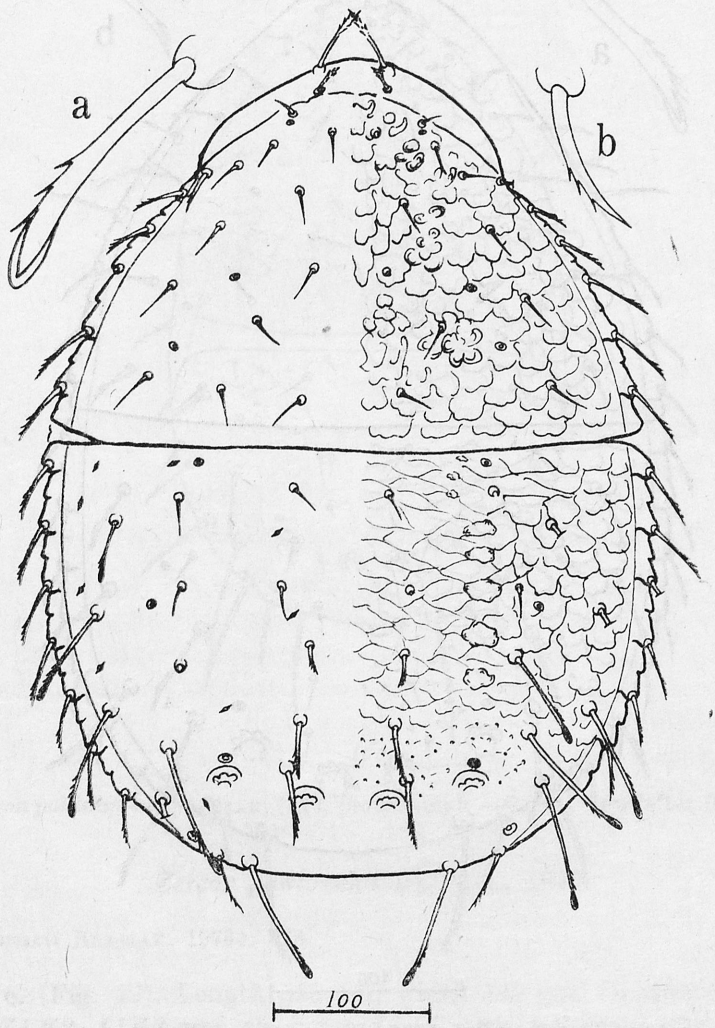

Fig. 39. *Zercon pakistanicus* Błaszak, 1977 ♀ — dorsal view; a — seta *I6*, b — seta *I4* (after Błaszak 1977 a)

Seta *I4* reaches to the insertion of seta *I5*. The setae *S1-S4*, *Z3-Z4* and *I6* are barbed with hyaline ending. The seta *S1* does not reach to the margin of the opisthonotum. The pore *Po3* lies on the line connecting setae *I5* and *Z4* near

above the outside dorsal cavities. The posterior part of the opisthonotum covered with delicate and little spots. On the anterior margin of the ventro-anal shield there are four setae.

Deutonymph. (Fig. 40). Length 440 μm, width 320 μm. On the opisthonotum the setae *I1-I5*, *Z1-Z2* short and smooth. The setae *S1-S4*, *Z3-Z4* and *I6*

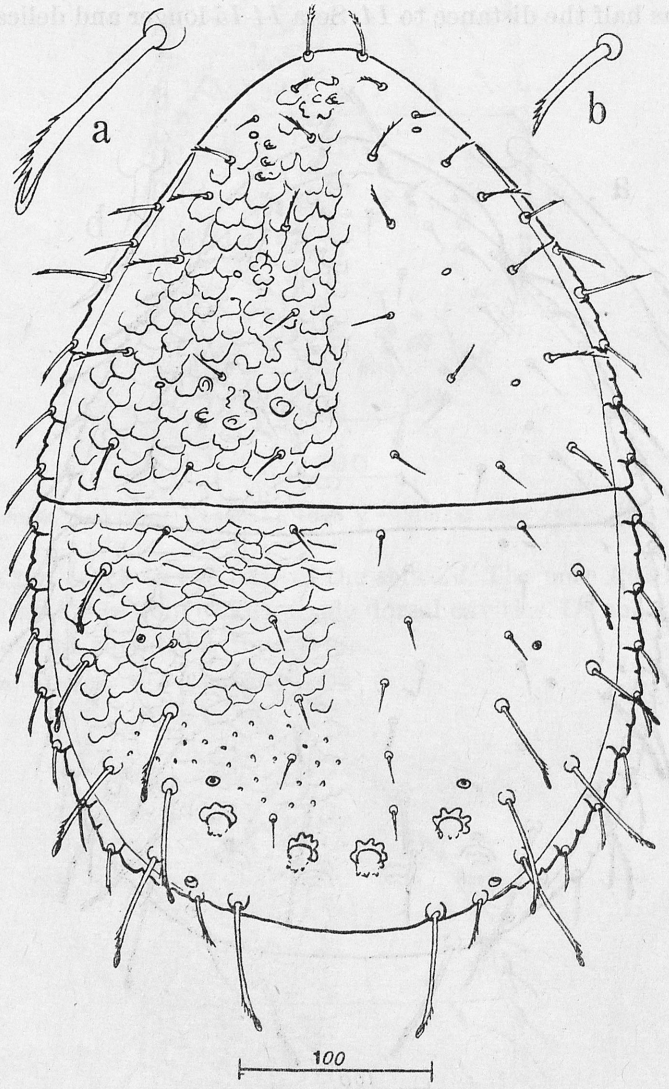

Fig. 40. *Zercon pakistanicus* BŁASZAK, 1977, deutonymph — dorsal view; a — seta *I6*, b — seta *R1* (after BŁASZAK 1977 a)

are long barbed with hyaline ending. The seta *S1* does not reach to the base of the seta *S2*. The pore *Po3* lies on the line connecting setae *Z4* and *I4* nearer *Z4*. Dorsal cavities are lobed in the front. On the anterior margin of the ventro-anal shield there are four setae.

Protonymph. (Fig. 41). Length 320 μm, width 210 μm. On the opisthonotum the setae *I1-I5*, *Z1-Z2* are short and smooth. The remaining setae of the opisthonotum are long and feathered. The seta *S1* reaches over the margin of the opisthonotum. The pore *Po3* lies on the line connecting setae *Z4* and *I4*. The dorsal cavities are lobed in the front.

Locus typicus: Pakistan — Tirich Mir Mt., Barum valley.

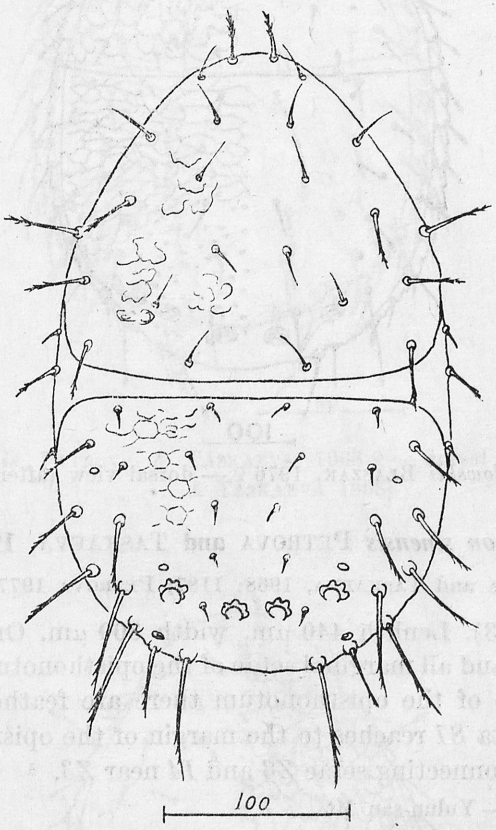

Fig. 41. *Zercon pakistanicus* BŁASZAK, 1977, protonymph — dorsal view (after BŁASZAK 1977 a)

Zercon pawlowskii BŁASZAK, 1976

Zercon pawlowskii BŁASZAK, 1976c: 538.

Female. (Fig. 42). Length 590 μm, width 440 μm. On the opisthonotum setae *S1*, *Z1-Z2*, *I1-I2* smooth, setae *I3-I4* very delicately pilose. The setae *S2-S4*, *Z3-Z4*, *I5-I6* are long with hyaline endings. Seta *S2* reaches by almost half of its length over the margin of the opisthonotum. Seta *I5* reaches to the posterior margin of the opisthonotum. The pore *Po3* lies inside of a line connecting setae *Z3-Z4*. On the anterior margin of the ventro-anal shield there are four setae.

Locus typicus: North Korea — Pektu-san Mt.

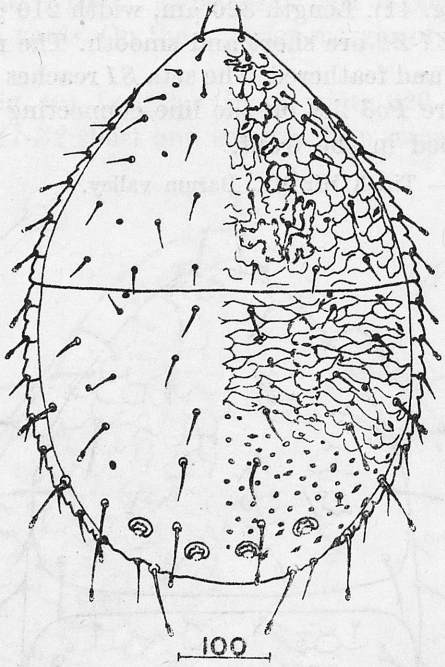

Fig. 42. *Zercon pawlowskii* BŁASZAK, 1976 ♀ — dorsal view (after BŁASZAK 1976 c)

Zercon sinensis PETROVA and TASKAEVA, 1968

Zercon sinensis PETROVA and TASKAEVA, 1968: 1187; PETROVA 1977 a: 598.

Female. (Fig. 43). Lenhth 440 μm, width 300 μm. On the opisthonotum the setae *Z1* and *Z5* and all marginal setae of the opisthonotum there are smooth. The remaining setae of the opisthonotum there are feathered. In row *I*, the seta *I5* is absent. Seta *S1* reaches to the margin of the opisthonotum. The pore *Po3* lies on the line connecting setae *Z3* and *I4* near *Z3*.

Locus typicus: China — Yulun-san Mt.

Zercon szeptyckii BŁASZAK, 1976

Zercon szeptyckii BŁASZAK, 1976c: 531; HALAŠKOVÁ, 1979: 21-23.

Female. (Fig. 44). Length 400 μm, width 320 μm. On the opisthonotum the setae *I1-I3*, *Z1-Z2* are short and smooth. The setae *S1-S4*, *Z3-Z4* and *I4-I6*, there are feathered. Seta *S1* does not reach to the margin of the opisthonotum. Seta *I4* reaches to the insertion of seta *I5*. The insertions of setae *I6* and *Z5* are in close proximity. The dorsal cavities are large and well sclerotized, the inside ones are removed from each other by about one third of their width. On the anterior margin of the ventro-anal shield there are two setae. The pore *Po3* lies over the line connecting setae *I5* and *Z4*.

Male. Length 305 μm, width 230 μm.

Locus typicus: North Korea — Manmur-san Mt.

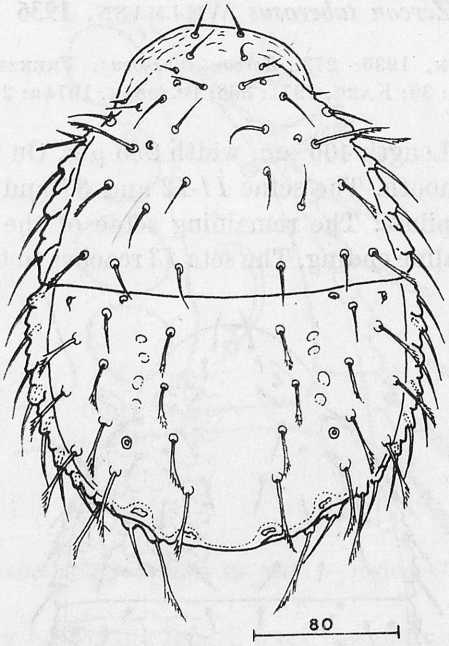

Fig. 43. *Zercon sinensis* PETROVA & TASKAEVA 1968 ♀ — dorsal view (after PETROVA & TASKAEVA 1968)

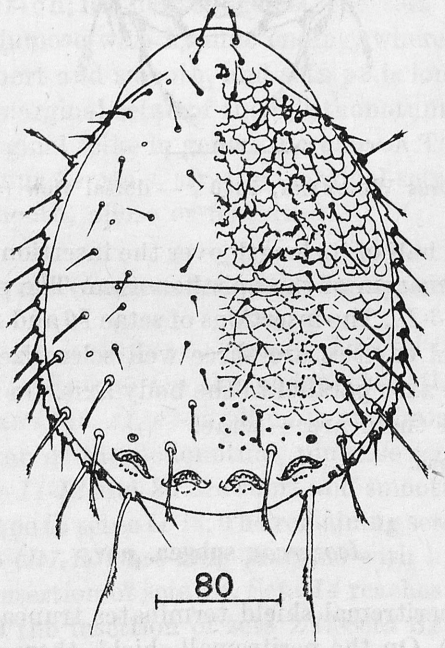

Fig. 44. *Zercon szeptyckii* BŁASZAK, 1976 ♀ — dorsal view (after BŁASZAK 1976 c)

Zercon tuberosus WILLMANN, 1936

Zercon tuberosus WILLMANN, 1936: 273. *Zercon tuberosus*: FRENZEL, 1936: 29; SELLNICK, 1958a: 329; ISHIKAVA, 1969: 39; KARG, 1971: 306; BŁASZAK, 1974a: 269; PETROVA, 1977a: 591.

Female. (Fig. 45). Length 400 μm, width 285 μm. On the opisthonotum the seta *Z1* is short and smooth. The setae *I1-I2* and *S1* and all marginal setae of the opisthonotum are pilose. The remaining setae of the opisthonotum, there are long, pilose with hyaline ending. The seta *I3* reaches to the base of the seta *I4*

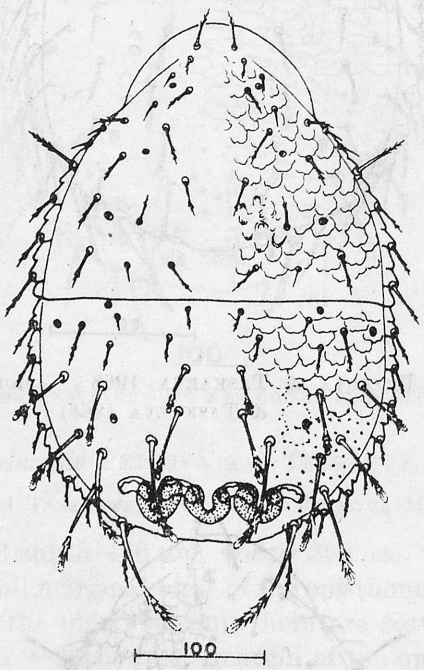

Fig. 45. *Zercon tuberosus* WILLMANN, 1936 ♀ — dorsal view (after BŁASZAK 1974 a)

The seta *I4* reaches by half of its length over the insertion of seta *I5*. The seta *S1* does not reach to the margin of the opisthonotum. The pore *Po3* lies under the line connecting setae *Z3-I5*. The insertions of setae *I6* and *Z5* are close in proximity. Between the dorsal cavities are three well sclerotized hillocks. The dorsal cavities are equal with axes parallel to the body axis. On the anterior margin of the ventro-anal shield there are 4 setae.

Distribution: Poland, Japan.

Icozercon subgen. nov.

Diagnosis: The peritremal shield terminates truncately behind the fourth pair of coxae (Fig. 46). On the peritremall shield, there are two setae, the first one 20 μm long and barbed, and the second one long plumose with hyaline

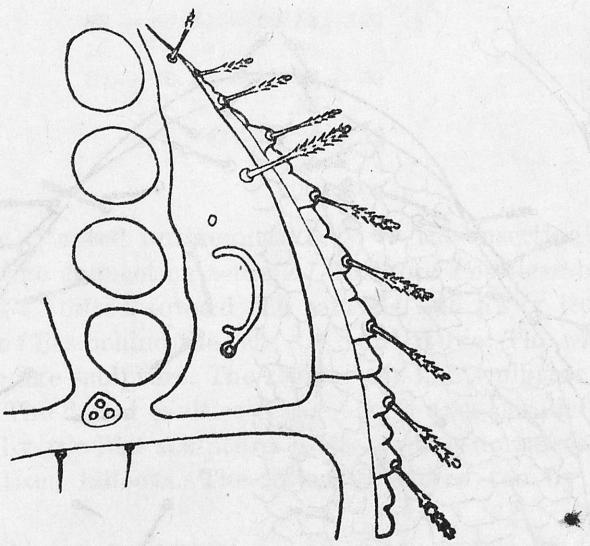

Fig. 46. *Zercon (Icozercon) acrochordus* sp. nov. — region of the peritremal shield

ending and reaches by half of its length over the margin of the opisthonotum. Between the peritremal shield and the margin of the podonotum is a fairly wide weakly sclerotized slit. The adgenital shields are present with 2-4 pores. On the margin of the opisthonotum there are 7 plumose setae with hyaline ending. On the anterior margin of the ventro-anal shield, there are two or four setae.

Systematic position: In new subgenus, the seta *p1* is 20 μm long and barbed, and *p2* long plumose with hyaline ending, whereas in subgenus *Zercon* s. str., the seta *p1* is short and smooth, and seta *p2* is long, pilose or feathered. In new subgenus, the marginal setae of the opisthonotum are long and plumose similar in shape to marginal setae in genera *Parazercon* TRÄGARDH and *Mesozercon* BŁASZAK. In subgenus *Zercon* s. str. the marginal setae of the opisthonotum are short or longer, smooth, pilose or feathered.

Zercon (Icozercon) acrochordus sp. nov.

Description of the holotype. Female. Length 490 μm, width 382 μm. Dorsal side. (Fig. 47). Setae: On the podonotum, the setae *s1* and *z2* are short and smooth. Setae *i1-i6*, *z1*, *s2-s6* plumose and broadened at the termination. The marginal setae of the podonotum, plumose with hyaline ending. On the opisthonotum setae *I1-I2* and *Z1* are short and smooth. Setae *Z2* are absent. Seta *Z5* is similar in shape to setae *i1-i6*. The remaining setae of the opisthonotum and all marginal setae (*R1-R7*) are long plumose with hyaline ending. Seta *I3* does not reach to the insertion of seta *I4*. Seta *I4* reaches to the base of the seta *I5*. Seta *Z3* reaches to the insertion of seta *Z4*. Seta *S1* does not reach to the margin of the opisthonotum. Seta *S2* reaches over the margin of the opisthonotum. Setae *I6* lie 160 μm distant from one another. The insertions of setae *I6*

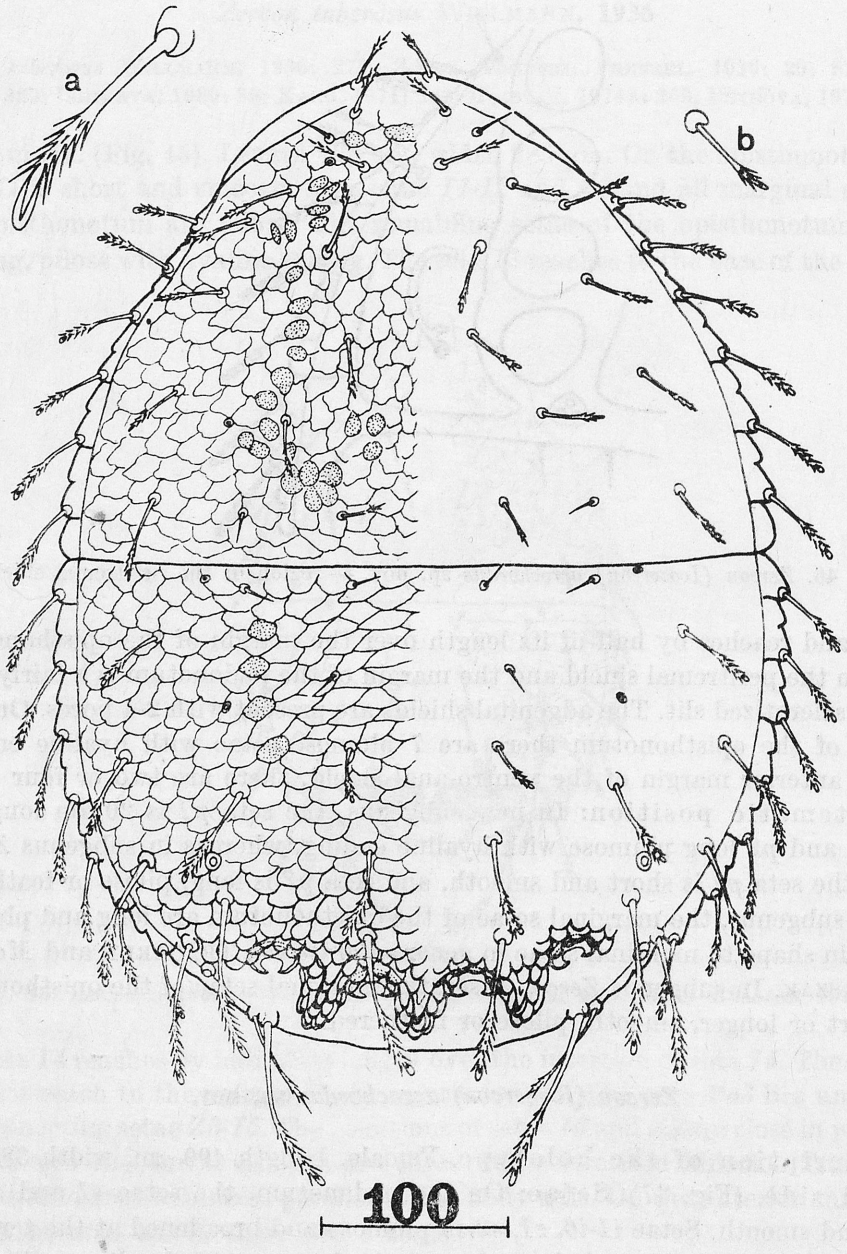

Fig. 47. *Zercon (Icozercon) acrochordus* sp. nov. ♀ — dorsal view; a — seta *I6*, b — seta *I3*

and *Z5* are in close proximity. Lengths of setae of the opisthonotum and distances between the setae of particular rows in μm are given in the following table:

S1	— 42	*Z1*	— 16	*I1*	— 16
64				50	
S2	— 46	106		*I2*	— 16
56				36	

S3	— 66	*Z3*	— 50	*I3*	— 28
50		50		50	
S4	— 76	*Z4*	— 80	*I4*	— 50
		56		50	
		Z5	— 56	*I5*	— 72
				50	
				I6	— 90

Pores: Pore *Po1* are situated anteroantiaxially to the insertion of seta *Z1*. Pore *Po2* lies on the line connecting setae *Z1-Z3*. Pore *Po3* lies above the line connecting setae *Z4-S2* shifted toward the seta *Z4* and away from it by its diameter. The pore *Po4* lies behind the seta *S4*. Sculpture: The whole podonotum has a regular tile-like sculpture. The regular tile-like sculpture covered the whole opisthonotum. The dorsal cavities distinct with axes parallel to the body axis covered partial by tile-like sculpture. Between the dorsal cavities, there are three well sclerotized hillocks. The hillocks covered too by the tile-like sculpture.

Ventral side. On the peritremal shield the seta *p1*—26 μm long and barbed, seta *p2* long plumose with hyaline ending. The adgenital shields are presnt. On the anterior margin of the ventroanal shield there are four setae.

Locality: India. Kashmir, on the road Srinagar-Kargil, after settlement Sorbal in the direction of the Sonamarg, old fire tree on the river bank; litter, 13 IX 1976. Leg. C. Błaszak, J. Błoszyk. Holotype ♀, 38 ♀♀ — paratypes.

Zercon (*Icozercon*) *jammicus* sp. nov.

Description of the holotype. Female. Length 480 μm, width 352 μm.

Dorsal side (Fig. 48). Setae: On the podonotum only the setae *s1* and *z2* short and smooth. Setae *s2*, *z1* and *i6* are short and pilose. The remaining setae and the marginal setae of the podonotum are long and plumose with hyaline ending. On the opisthonotum in row *I*, setae *I1* short and smooth. Seta *I2* also short but pilose. Setae *I3-I6* long and plumose with hyaline ending. Seta *I3* does not reach to the insertion of seta *I4*. Seta *I4* reaches to the base of seta *I5*. Setae *I6* lie 110 μm distant from one another. Setae *Z1* short and smooth, similar to the setae *I1*. Setae *Z2* also short but pilose. Setae *Z3-Z5* long and plumose with hyaline ending. Setae *S1-S4* long and plumose with hyaline ending. Seta *S1* does not reach to the margin of the opisthonotum. Seta *S2* reaches to the margin of the opisthonotum. The distance between the seta *Z5* and *I6* is 30 μm. All marginal setae *R1-R7* are long plumose with hyaline ending. Lengths of setae of the opisthonotum and distance between the setae of particular rows in μm are given in the following table:

S1	— 30	*Z1*	— 14	*I1*	— 14
70		46		46	
S2	— 40	*Z2*	— 14	*I2*	— 16
60		64		54	
S3	— 52	*Z3*	— 46	*I3*	— 36
50		56		40	

S4 — 56 *Z4* — 50 *I4* — 46
64 54
Z5 — 40 *I5* — 50
40
I6 — 56

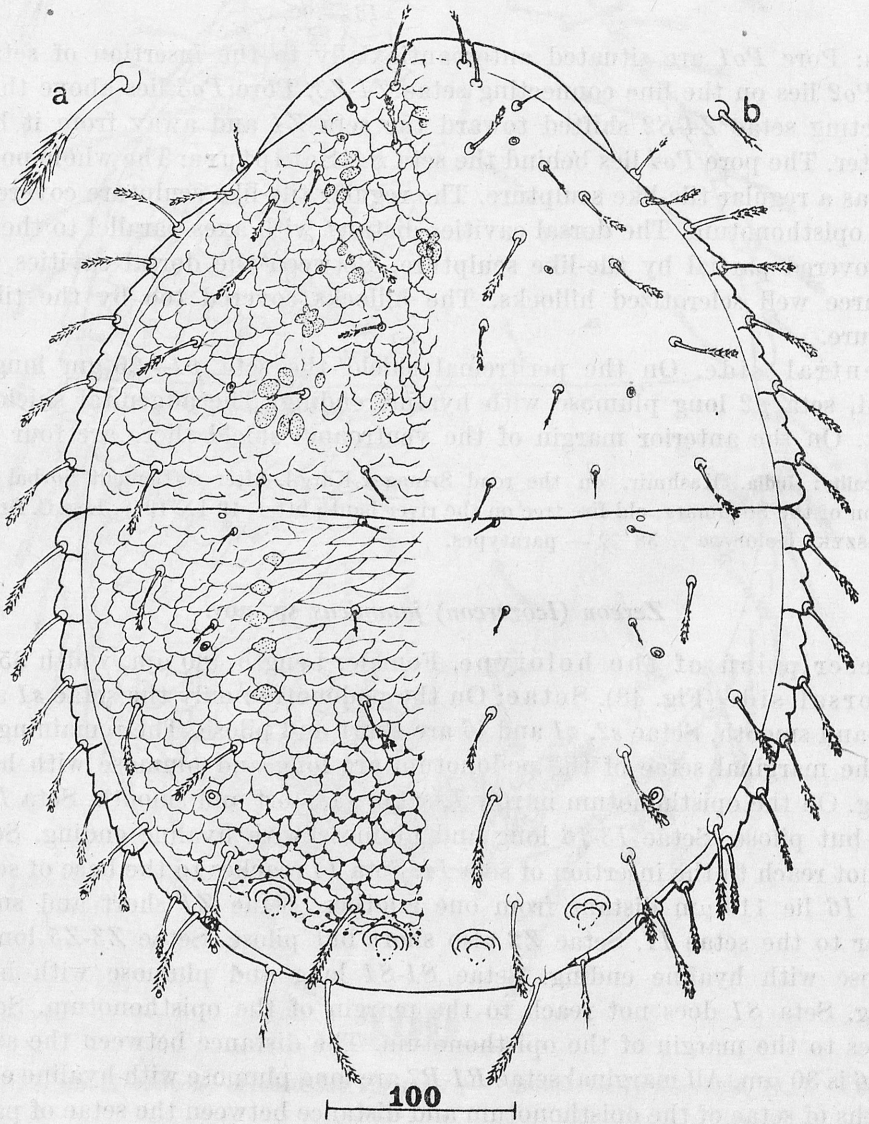

Fig. 48. *Zercon (Icozercon) jammicus* sp. nov. ♀ — dorsal view; a — seta *I6*

Pores: Pore *Po1* are situated anteroantiaxially to the insertion of seta *Z1*. Pore *Po2* lies under the line connecting setae *Z2-S2* but near *Z2*. Pore *Po3* lies above the line connecting setae *Z4-S2* on a level with the insertion of seta *I4*. The pore *Po4* lies behind the seta *S4*. Sculpture: The whole podonotum has

an irregular tile-like sculpture. On the opisthonotum the sculpture is in the upper corners tile-like, in the middle of the front part reticulated. This sculpture reaches to the base of seta *S3*. The middle of the posterior part of the opisthonotum covered with delicate and little spots. The spots are connected with the delicate lines. The dorsal cavities distinct and well sclerotized with axes parallel to the body axis.

Ventral side. The shape of the peritremal shield are typical to the genus *Zercon* C. L. Koch. On the peritremal shield seta *p1*—20 μm long and barbed, seta *p2* long plumose with hyaline ending. The adgenital shields are present. On the anterior margin of the ventro-anal shield there are four setae.

Systematic position: This species is most similar to *Zercon (Icozercon) acrochordus* sp. nov. from which it differs by the following features:

Zercon (*I.*) *jammicus* sp. nov.

1. Seta *Z2* is present.
2. The distance between the seta *Z5* and *I6* is 30 μm.
3. In the region of the dorsal cavities without hillocks.

Zercon (*I.*) *acrochordus* sp. n.

1. Seta *Z2* is absent.
2. The insertions of setae *I6* and *Z5* are in close proximity.
3. In the region of the dorsal cavities there are three well sclerotized hillocks.

Localities: India. Kashmir, on the road Jammu-Srinagar, 15 km before settlement Kud, old larch with pine-trees; litter; 15 IX 1976. Leg. C. Błaszak, J. Błoszyk. Holotype ♀, paratypes 7 ♀♀.

India. Kashmir, 128 km after Jammu on the direction of the Srinagar, before settlement Batote, old pine forest; litter; 15 IX 1976. Leg. C. Błaszak, J. Błoszyk. 7 ♀♀.

Zercon (Icozercon) kashmiricus sp. nov.

Description of the holotype. Female. Length 475 μm, width 377 μm

Dorsal side (Fig. 49). Setae: On the podonotum setae *s1* and *z2* short and barbed similar to seta *p1*. Setae *i1-i2* are distinctly barbed. The remaining setae and all marginal setae of the podonotum are long and plumose with hyaline ending. On the opisthonotum, setae *I1-I2*, *Z1-Z2* are barbed similar to seta *z2* on the podonotum. The setae *Z5* are distinctly barbed. The remaining setae of the opisthonotum are long plumose with hyaline ending. Seta *I3* does not reach to the insertion of seta *I4*. Seta *Z3* does not reach to the insertion of seta *Z4*. Seta *S1* does not reach to the margin of the opisthonotum. Seta *I5* reaches to the posterior margin of the opisthonotum. All marginal setae of the opisthonotum there are long and plumose with hyaline ending. Seta *I6* being 100 μm away from one another. The distance between the seta *Z5* and *I6* is 36 μm. Lengths of setae of the opisthonotum and distances between the setae of particular rows in μm are given in the following table:

S1 — 36	*Z1* — 15	*I1* — 15
60	38	46
S2 — 42	*Z2* — 15	*I2* — 15
56	54	50

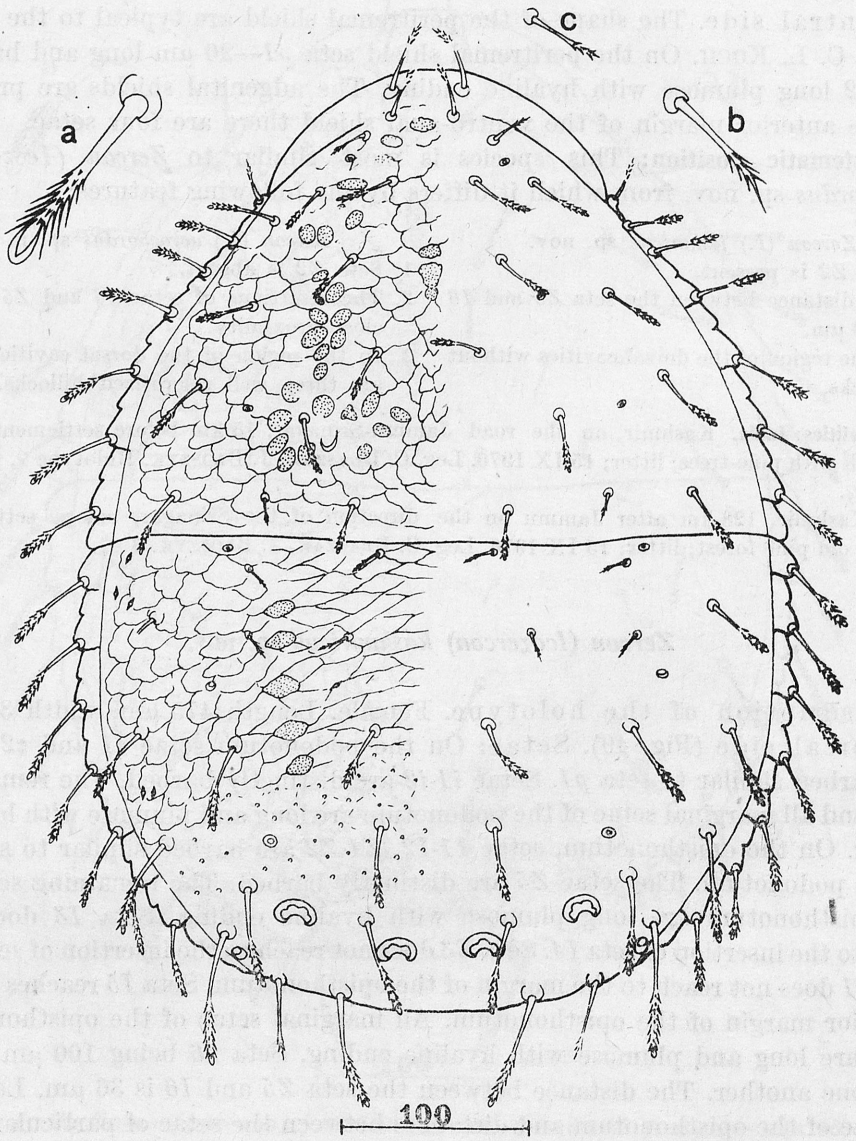

Fig. 49. *Zercon (Icozercon) kashmiricus* sp. nov. ♀ — dorsal view a — seta *I6*, b — seta *Z5* c — seta *I1*

Pores: Pore *Po1* are situated anteroantiaxially to the insertion of seta *Z1*. Pore *Po2* lies on the line connecting setae *Z2-S2* near *Z2*. Pore *Po3* lies on the

line connecting setae *Z4* and *I2* shifted toward the seta *Z4* and away it by its 3 diameters. Sculpture: The whole podonotum has an irregular tile-like sculpture. On the opisthonotum the sculpture is in the upper corners tile-like. In the middle of the front part reticulated. This sculpture reaches to the line connecting setae *S3-I3*. The remaining part of the opisthonotum covered with delicately spots. The dorsal cavities distinct and well sclerotized with axes parallel to the body axis.

Ventral side. On the peritremal shield seta *p1*—26 μm long and barbed, seta *p2* long plumose with hyaline ending. The adgenital shields are present. On the anterior margin of the ventro-anal shield there are two setae.

Systematic position: This species is most similar to *Zercon (Icozercon) prasadi* sp. nov. from which it differs by the following features:

Zercon (*I.*) *kashmiricus* sp. nov.

1. Setae *Z1-Z2* and *I1* barbed.
2. Seta *I2* short and barbed.
3. Seta *I5* reaches to the posterior margin of the opisthonotum.

Zercon (*I.*) *prasadi* sp. nov.

1. Setae *Z1-Z2* and *I1* smooth.
2. Seta *I2* long plumose with hyaline ending.
3. Seta *I5* reaches by half of its length over the posterior margin of the opisthonotum.

Localities: India. Kashmir, on the road Srinagar-Kargil, after settlement Sorbal in the direction of the Sonamarg, old fire tree on the river bank; litter; 13 IX 1976. Leg. C. Błaszak, J. Błoszyk. Holotype ♀, paratype ♀.

India. Kashmir, on the road Srinagar — Kargil, after settlement Sorbal in the direction of the Sonamarg, sycamore forest on the river bank; litter; 13 IX 1976. Leg. C. Błaszak, J. Błoszyk 15 ♀♀.

India. Kashmir, 75 km on the road from Jammu to Srinagar, pine forest on road side; litter; 4 IX 1976. Leg. C. Błaszak, J. Błoszyk. 11 ♀♀.

India. Kashmir, on the road Srinagar — Kargil, 20 km before settlement Sonamarg. Pine-spruce-fir forest with hazel on the slope mountains; litter; 6 IX 1976. Leg. C. Błaszak, J. Błoszyk. 12 ♀♀.

Zercon (*Icozercon*) *prasadi* sp. nov. *

Description of the holotype. Female. Length 475 μm, width 328 μm.

Dorsal side (Fig. 50). Setae: On the podonotum, the seta *z2* is short and smooth. Setae *i1-i2*, *s1-s2* and *r1* are barbed. The remaining setae of the podonotum and all marginal setae are long, plumose with hyaline ending. On the opisthonotum, setae *I1*, *Z1-Z2* are short and smooth. The remaining setae of the opisthonotum and all marginal setae are long and plumose with hyaline ending. Seta *I3* reaches to the insertion of seta *I4*. Seta *I4* reaches to the base of seta *I5*. Seta *I5* reaches by half of its length over the posterior margin of the opisthonotum. Seta *Z3* reaches to the insertion of seta *Z4*. Seta *S1* does not reach to the margin of the opisthonotum. Setae *I6* lie 124 μm distant from one another. The distance between the seta *Z5* and *I6* is 22 μm. Lenghts of setae of the opisthonotum and distances between the setae of particular rows in μm are given in the following table:

S1 — 44	*Z1* — 16	*I1* — 16
60	56	42

* The species is named in honour of Dr. V. Prasad (Punjab).

S2 — 52 *S2* — 16 *I2* — 38
54 44 42
S3 — 66 *Z3* — 54 *I3* — 44
60 66 56
S4 — 66 *Z4* — 76 *I4* — 60
66 56
Z5 — 50 *I5* — 66
30
I6 — 76

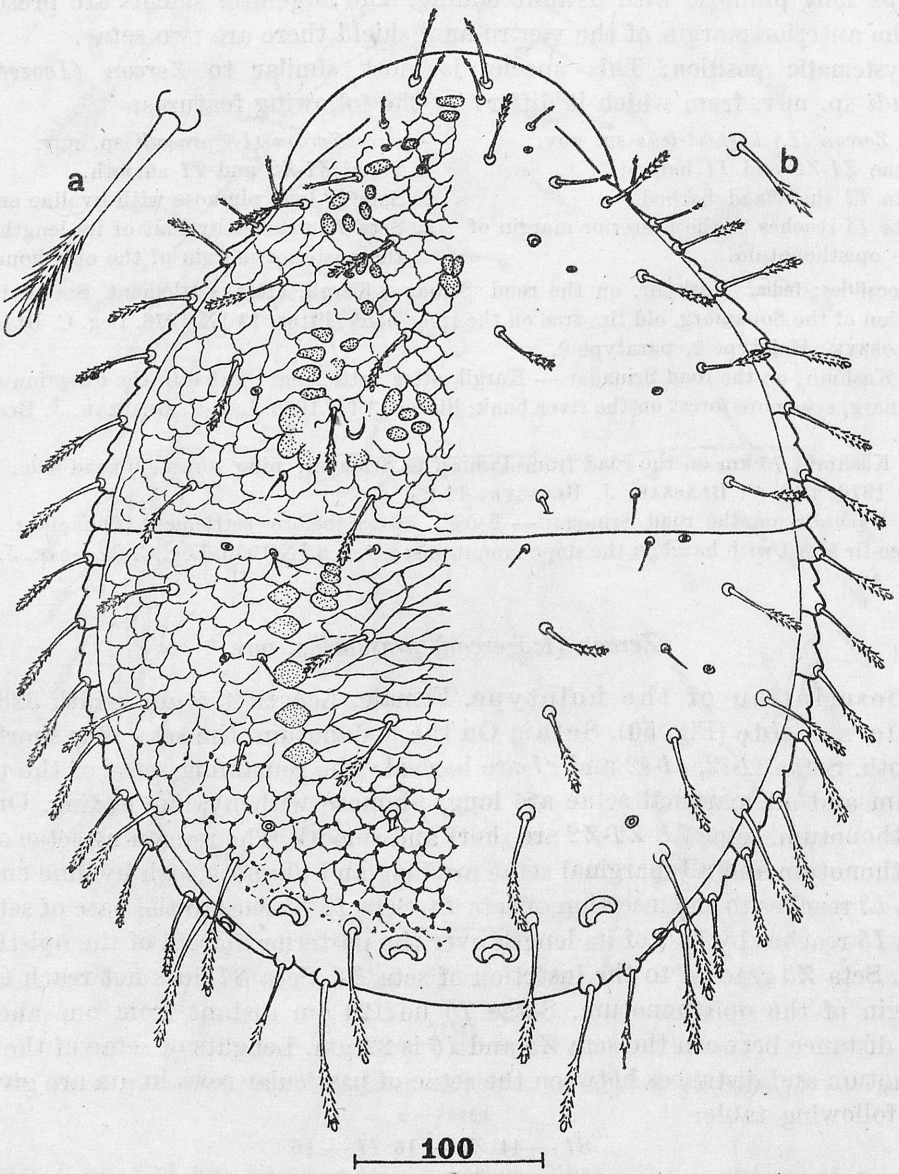

Fig. 50. *Zercon (Icozercon) prasadi* sp. nov. ♀ — dorsal view; a — seta *I6*, b — seta *I1*

Pores: Pore *Po1* are situated anteroantiaxially to the insertion of seta *Z1*. Pore *Po2* lies on the line connecting setae *Z2-S2*. Pore *Po3* lies on the line connecting setae *Z4-I3* shifted toward the seta *Z4* and away from it by its two diameters. Sculpture: The whole podonotum has an irregular tile-like sculpture. On the opisthonotum the sculpture is in the upper corners tile-like, in the middle of the front part reticulated. This sculpture reaches to the base of seta *S3*. The middle of the posterior part of the opisthonotum covered with delicate spots. The spots are connected with the delicate line. The dorsal cavities distinct and well sclerotized with axes parallel to the body axis.

Ventral side. The new species belongs to the group with one paris of the setae on the anterior margin of the ventro-anal shield. On the peritremal shield the seta *p1*—25 μm long and barbed, seta *p2* long plumose with hyaline ending. The adgenital shields are present. On the anterior margin of the ventro-anal shield there are two setae.

Systematic position: This species is most similar to *Zercon (Icozercon) kashmiricus* sp. nov. (see pp. 63-65).

Localities: India. Kashmir, 75 km on the road from Jammu to Srinagar, near settlement Domel, pine forest on road side; litter; 4 IX 1976. Leg. C. Błaszak, J. Błoszyk. Holotype ♀. **India.** Kashmir, on the road Srinagar — Kargil, 20 km before settlement Sonamarg. Pine — spruce — fir forest with hazel on the mountains slope; litter; 6 IX 1976. Leg. C. Błaszak, J. Błoszyk. 1 ♀.

Zercon (*Icozercon*) *sonamargus* sp. nov.

Description of the holotype. Female. Length 429 μm, width 300 μm

Dorsal side (Fig. 51). Setae: On the podonotum setae *i1-i2* plumose at the termination. The seta *s1* barbed similar to seta *p1*. The remaining setae of the podonotum and all marginal setae there are plumose with hyaline ending similar in shape to seta *S1*. Seta *z2* is absent. On the opisthonotum in row *I*, the setae *I3* are absent. The remaining setae of this row long and plumose. The seta *I4* reaches almost to the insertion of seta *I5*. Setae *I6* lie 96 μm distant from one another. In row *Z* the setae *Z2* are absent. Seta *Z1* plumose with hyaline ending. Setae *Z3-Z5* long plumose similar in shape to seta *I6*. Seta *Z3* does not reach to the insertion of seta *Z4*. Setae *S1-S4* long and plumose with hyaline ending. Seta *S1* does not reach to the base of the seta *S2*. Seta *S2* reach over the margin of the opisthonotum. The marginal setae of the opisthonotum long and plumose with hyaline ending. The distance between the seta *Z5* and *I6* is 20 μm. Lengths of setae of the opisthonotum and distances between the setae of particular rows in μm are given in the following table:

S1 — 34		*Z1* — 26		*I1* — 26	
44				50	
S2 — 36	76			*I2* — 40	
50					
S3 — 44		*Z3* — 40	60		
44		60			

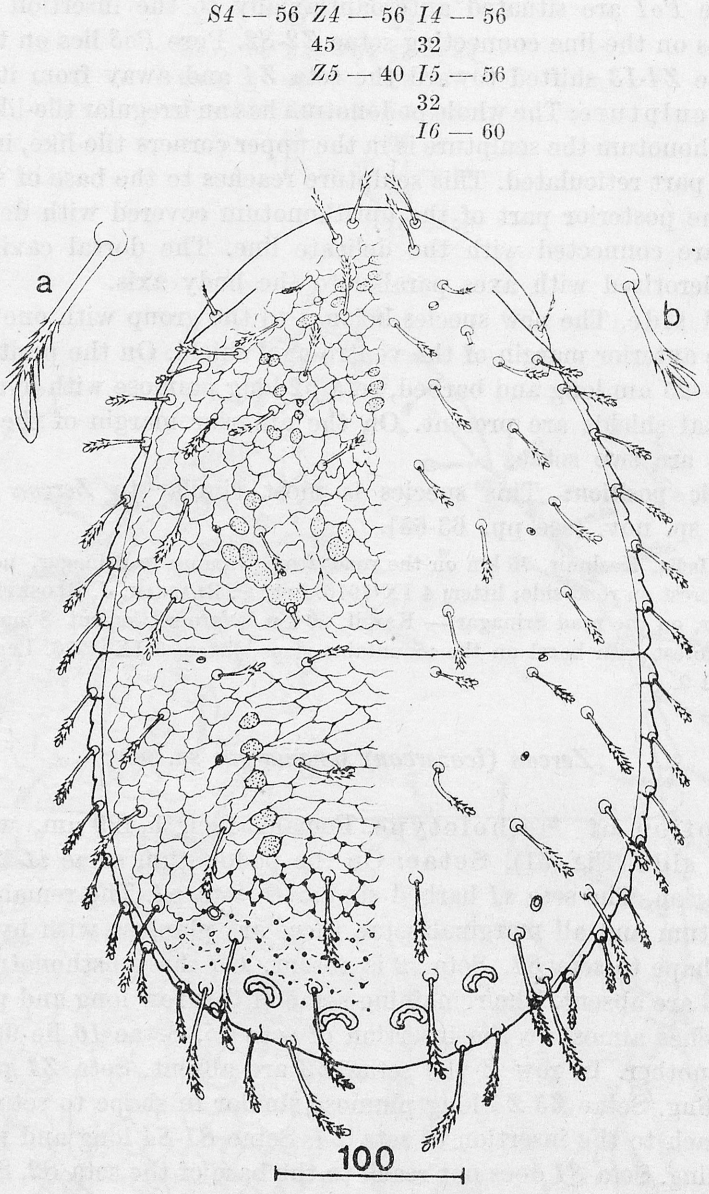

Fig. 51. *Zercon (Icozercon) sonamargus* sp. nov. ♀ — dorsal view; a — seta *I6*, b — seta *S1*

Pores: Pore *Po1* are situated anteroantiaxially to the insertion of seta *Z1*. The pore *Po2* lies on the line connecting setae *Z1-Z2*. Pore *Po3* lies on the line connecting setae *Z4* and *S2* shifted toward the seta *Z4* and away from it by its diameter. Sculpture: The whole podonotum has an irregular tile-like sculpture. On the opisthonotum the sculpture is in the upper corners tile-like. In the middle of the front part reticulated. This sculpture reaches to the base of seta *S3*. The middle of the posterior part of the opisthonotum covered with delicate

spots. The spots are connected with delicate lines. The dorsal cavities distinct and well sclerotized with axes parallel to the body axis.

Ventral side. On the peritremal shield the seta *p1*—24 μm long and barbed, seta *p2* long plumose with hyaline ending. The adgenital shields are present. On the anterior margin of the ventro-anal shield there are four setae.

Systematic position: This species is most similar to *Zercon (Icozercon) jammicus* sp. nov. from which it differs by the following features:

Zercon (*I.*) *sonamargus* sp. nov.
1. Setae *I3*, *z2* and *Z2* are absent.
2. Setae *I1* and *Z1* long and plumose.
3. Setae *i6* and *z1* long and plumose.

Zercon (*I.*) *jammicus* sp. nov.
1. Setae *I3*, *Z2* and *z2* are present.
2. Setae *I1* and *Z1* short and smooth.
3. Setae *i6* and *z1* short and pilose.

Localities: India. Kashmir, on the road Srinagar — Kargil after settlement Sorbal in the direction of the Sonamarg, old fire tree on the river bank; litter; 13 IX 1976. Leg. C. Błaszak, J. Błoszyk. Holotype ♀.

India. Kashmir, 215 km from Jammu on the direction of Srinagar, dogwood on the S mountains side; litter; 14 IX 1976. Leg. C. Błaszak, J. Błoszyk. 1 ♀.

Zercon (Icozercon) srinagaricus sp. nov.

Description of the holotype. Male. Length 343 μm, width 274 μm.

Dorsal side. (Fig. 52). Setae: On the podonotum setae *s1* and *z2* short and barbed. Setae of row *i* and setae *z1* ary distinctly barbed. The setae *s2-s6* and all marginal setae of the podonotum, there are long and plumose with hyaline ending. On the opisthonotum the setae *I1-I5*, *Z1-Z2* short and delicately barbed. Seta *Z5* long and distinctly barbed. The remaining setae of the opisthonotum there are long and plumose with hyaline ending. Seta *Z3* reaches to the base of the seta *Z4*. Seta *S1* does not reach to the margin of the opisthonotum. Seta *S2* reaches to the margin of the opisthonotum. Setae *I6* lie 80 μm distant from one another. The distance between the seta *Z5* and *I6* is 20 μm. Lengths of setae of the opisthonotum and distances between the setae of particular rows in um are given in the following table:

S1 — 24	*Z1* — 14	*I1* — 14
40	40	30
S2 — 32	*Z2* — 14	*I2* — 14
40	30	30
S3 — 46	*Z3* — 40	*I3* — 12
40	40	32
S4 — 46	*Z4* — 50	*I4* — 12
	40	30
	Z5 — 30	*I5* — 12
		30
		I6 — 50

Pores: The pore *Po1* are situated anteroantiaxially to the insertion of seta *Z1*. Pore *Po2* lies on the line connecting setae *Z2* and *S2*. The pore *Po3* lies on the line connecting setae *Z4* and *I2* shifted toward the seta *Z4* and away it by its 2 diameters. Sculpture: The whole podonotum has an irregular tile-like scul-

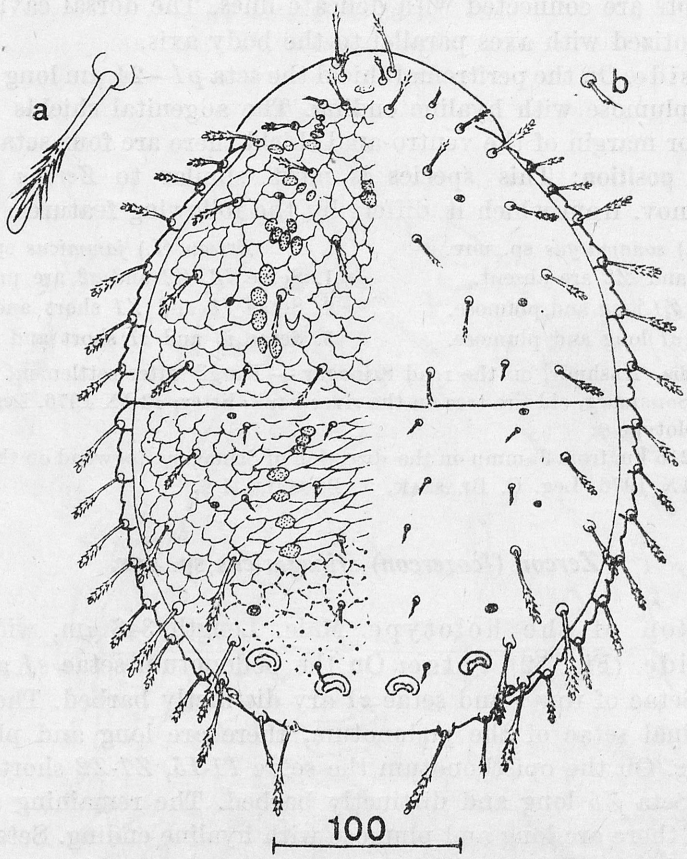

Fig. 52. *Zercon (Icozercon) srinagaricus* sp. nov. ♂ — dorsal view; a — seta *I6*, b — seta *I5*

pture. On the opisthonotum the sculpture is in the upper corners tile-like. In the middle of the front part reticulated. This sculpture reaches to the line connecting setae *S3* and *I3*. The remaining part of the opisthonotum covered with the delicately spots. The dorsal cavities distinct and well sclerotized with axes parallel to the body axis.

Ventral side. On the peritremal shield seta *p1*—20 μm long and barbed, seta *p2* long plumose with hyaline ending. The adgenital shields are present. On the anterior margin of the ventro-anal shield, there are two setae.

Systematic position: This species is most similar to *Zercon (Icozercon) tarpanicus* sp. nov. from which it differs by the following features:

Zercon (*I.*) *srinagaricus* sp. nov.	*Zercon* (*I.*) *tarpanicus* sp. n.
1. Seta *S1* plumose, long with hyaline ending.	1. Seta *S1* short and delicately barbed.
2. Seta *S2* reaches over the margin of the opisthonotum.	2. Seta *S2* does not reach to the margin of the opisthonotum.
3. Setae *i5-i6* and *z1* long and distinctly barbed.	3. Setae *i5-i6* and *z1* short and smooth.

Localities: India. Kashmir, 75 km on the road from Jammu to Srinagar, pine forest on road side; litter; 4 IX 1976. Leg. C. Błaszak, J. Błoszyk. Holotype ♂.
India. Kashmir, on the road Srinagar — Kargil, 20 km before settlement Sonamarg. Pine--spruce-fir forest with hazel on the slope mountains; litter; 6 IX 1976. Leg. C. Błaszak, J. Błoszyk. 2 ♂♂.
India. Kashmir, on the road Srinagar — Kargil, after settlement Sorbal in the direction of the Sonamarg, sycamore forest on the river bank; litter, 13 IX 1976. Leg. C. Błaszak, J. Błoszyk. 2 ♂♂.
India. Kashmir, 215 km from Jammu on the direction of Srinagar, dogwood on the S mountains side; litter; 14 IX 1976. Leg. C. Błaszak, J. Błoszyk. 1 ♂.

Zercon (*Icozercon*) *tarpanicus* sp. nov.

Description of the holotype. Female. Length 421 μm, width 352 μm. Dorsal side. (Fig. 53). Setae: On the podonotum setae *s1-s2*, *i5-i6*, *z1-z2* are short and smooth. The setae *i1-i2* and *s5* barbed without hyaline ending.

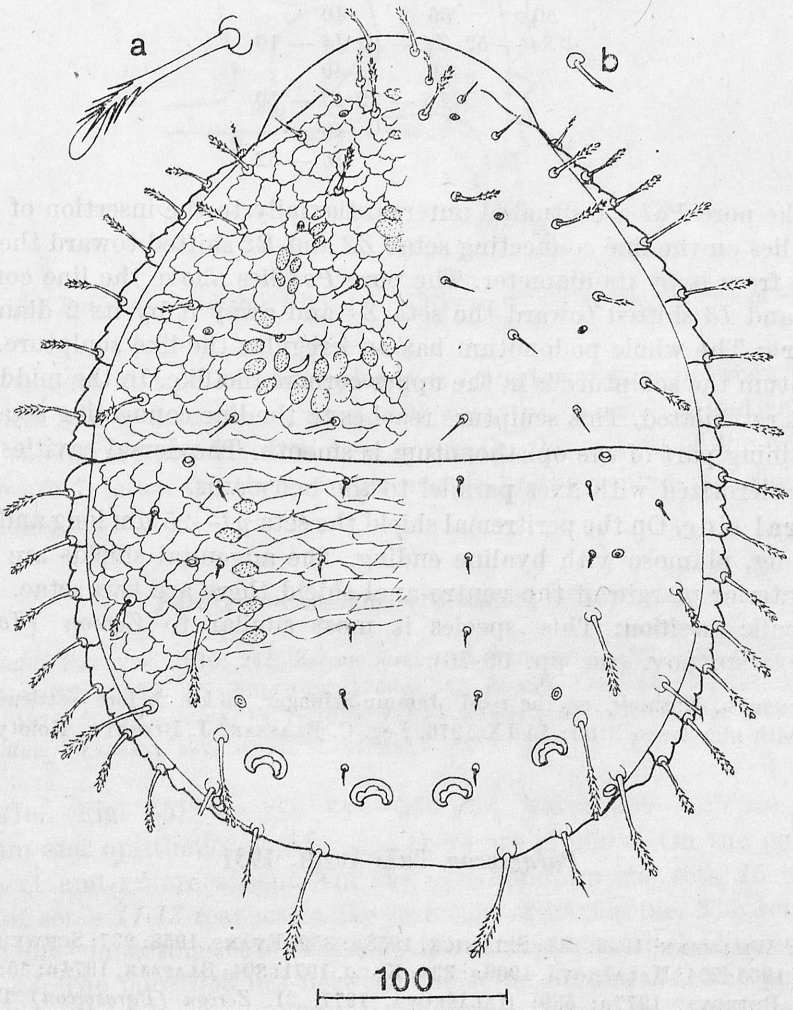

Fig. 53. *Zercon (Icozercon) tarpanicus* sp. nov. ♀ — dorsal view; a — seta *I6*, b — seta *I5*

The remaining setae and all marginal setae of the podonotum are long and plumose with hyaline ending. On the opisthonotum setae *I1-I5*, *Z1-Z2* and *S1* are short and delicately barbed. Seta *Z5* long and distinctly barbed. The remaining setae and all marginal setae on the opisthonotum are long and plumose with hyaline ending. Seta *Z3* does not reach to the insertion of seta *Z4*. Seta *S2* does not reach to the margin of the opisthonotum. Setae *I6* lie 100 μm distant from one another. The distance between the seta *Z5* and *I6* is 32 μm. Lengths of setae of the opisthonotum and distances between the setae of particular rows in μm are given in the following table:

S1 — 10	*Z1* — 10	*I1* — 10
46	34	40
S2 — 24	*Z2* — 10	*I2* — 10
56	30	40
S3 — 52	*Z3* — 45	*I3* — 10
50	56	40
S4 — 52	*Z4* — 52	*I4* — 10
	56	40
	Z5 — 32	*I5* — 10
		40
		I6 — 52

Pores: The pore *Po1* are situated anteroantiaxially to the insertion of seta *Z1*. Pore *Po2* lies on the line connecting setae *Z2* and *R2* shifted toward the seta *Z2* and away from it by its diameter. The pore *Po3* lies above the line connecting setae *Z4* and *I3* shifted toward the seta *Z4* and away it by its 2 diameters.
Sculpture: The whole podonotum has an irregular tile-like sculpture. On the opisthonotum the sculpture is in the upper corners tile-like. In the middle of the front part reticulated. This sculpture reaches to the line connecting setae *I3-S3*. The ramaining part of the opisthonotum is smooth. The dorsal cavities distinct and well sclerotized with axes parallel to the body axis.

Ventral side. On the peritremal shield the seta *p1*—25 μm long and barbed, seta *p2* long, plumose with hyaline ending. The adgenital shields are present. On the anterior margin of the ventro-anal shield there are two setae.

Systematic position: This species is most similar to *Zercon (Icozercon) srinagaricus* sp. nov. (see pp. 69-70).

Locality: India. Kashmir, on the road Jammu-Srinagar, 15 km before settlement Kud. Old larch with pine-trees; litter; 15 IX 1976. Leg. C. Błaszak, J. Błoszyk. Holotype ♀.

Parazercon Trägårdh, 1931

Parazercon: Willmann, 1943: 211; Sellnick, 1958a: 359; Evans, 1958: 237; Schweizer, 1961: 158; Karg, 1965: 294; Halašková, 1969a: 334; Karg, 1971: 304; Błaszak, 1974a: 55; Błaszak, 1975: 563; Petrova, 1977a: 589; Halašková, 1977: 21. *Zercon (Parazercon)* Trägårdh, 1931: 18. *Trizerconoides* Jacot, 1938: 56.

Typus generis: *Zercon radiatus* BERLESE, 1910.

Diagnosis: The peritremal shields extends posteriorly, especially the lateral external ends which extend to seta *R4* where it joins the ventro-anal shield. (Fig. 54). On the peritremal shield there are three setae, *p1* and *p3*

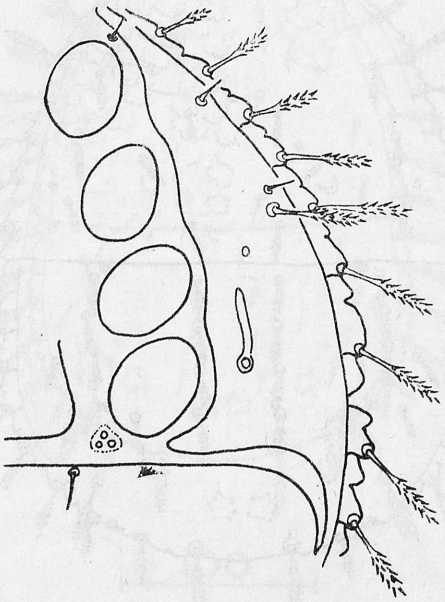

Fig. 54. *Parazercon radiatus* (BERLESE, 1910) — region of the peritremal shield

short and smooth and *p2* long and plumose. In anterior part between the peritremal shield and 1 coxae there are fourth setae *px* — smooth and short. The adgenital shields are present with 2—4 pores. On the margin of the opisthonotum there are 7 setae. On the anterior margin of the ventro-anal shield there are two setae.

Parazercon radiatus (BERLESE, 1910)

Zercon radiatus BERLESE, 1910: 245. *Zercon sarekensis* WILLMANN, 1939: 436 *Parazercon sarekensis*: WILLMANN, 1943b: 211; SELLNICK, 1958a: 360; EVANS, 1958: 237; HALAŠKOVÁ, 1969a: 335; KARG, 1971: 304; PETROVA, 1977a: 589. *Trizerconoides misgenatus* JACOT, 1938: 56; *Parazercon radiatus*: BŁASZAK, 1974a: 55; HALAŠKOVÁ, 1977: 23.

Female. (Fig. 55). Length 345—360 μm, width 250—265 μm. On the podonotum and opisthonotum all setae there are plumose. On the podonotum the setae r1 and *z2* are absent. On the opisthonotum the seta *I5* is absent. The end of setae *I1-I3* reaches to the insertion of next setae. The setae *Z4* lie under the line connecting setae *I4* and *Z3*. The seta *S1* lies on the line connecting setae *Z1-Z2*. The pore *Po3* lies between the setae *Z3* and *Z4*. The podonotum covered with tile-like sculpture. The opisthonotum is smooth. The dorsal cavities

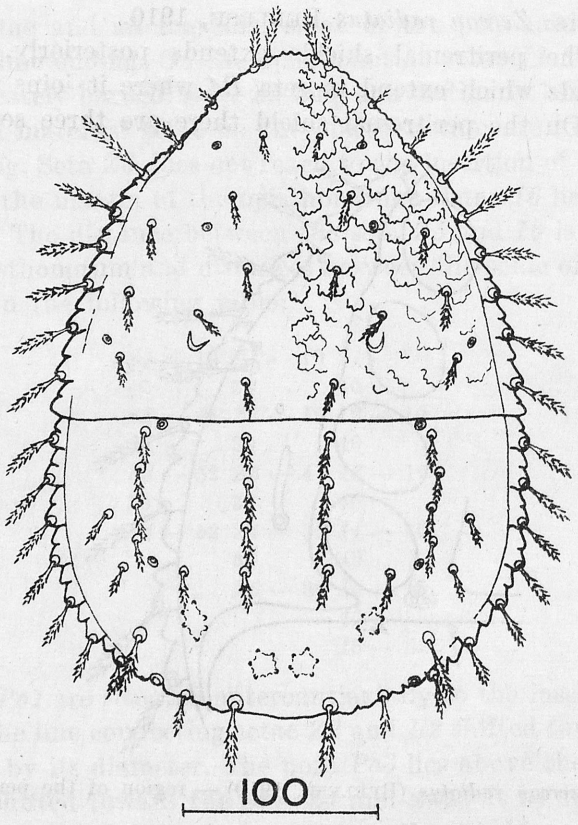

Fig. 55. *Parazercon radiatus* (Berlese, 1910) ♀ — dorsal view (after Błaszak 1974 a)

are sligthly sclerotized and poorly discernible. On the anterior margin of the ventro-anal shield there are two setae.

Male. Length 270—290 μm, width 185—205 μm. The sculpture and setae on the podo- and opisthonotum is similar to the female. The pore *Po3* lies above the seta *Z4*.

Deutonymph. (Fig. 56). Length 275—290 μm, width 200—215 μm. The setae *r1*, *z2* and *I5* similar as in adult are absent. On the podonotum the setae *s1*, *i5* and *i6* short and smooth. The setae *i3*, *z1*, *s4-s6* longer and delicately plumose. The remaining setae of the podonotum are long and plumose. On the opisthonotum only the seta *I3* and *I4* short and smooth. The remaining setae of the opisthonotum are plumose. The pore *Po3* lies on the line connecting setae *Z3* and *I4* near *Z3*.

Protonymph. (Fig. 57). Length 240-258 μm, width 140—170 μm. On the podonotum only the setae *i5*, *i6* and *z1* short and smooth. The seta *i3* short and plumose. The remaining setae of the podonotum are long and plumose. On the opisthonotum, the setae *I1-I4* and *Z4* short and smooth. The setae *I1-I2*, *Z1-Z3* short and delicately plumose. The remaining setae of the opisthonotum are long and plumose. The dorsal cavities are round.

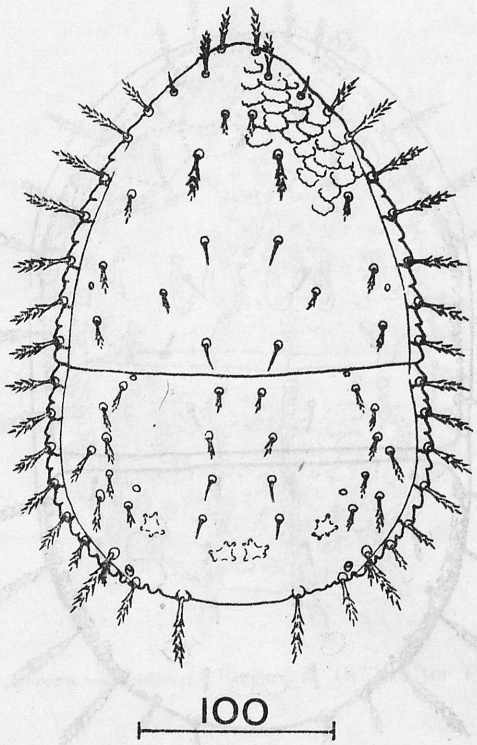

Fig. 56. *Parazercon radiatus* (BERLESE, 1910) deutonymph — dorsal view (after BŁASZAK 1974 a)

Larva. (Fig. 58). Length 186 μm, width 148 μm. On the podonotum the setae *i1*, *i4*, *s2*, *s4* (35μ) and *s5* (40μm) are barbed. The remaining setae of the podonotum short and smooth. On the opisthonotum, the setae *I2-I4*, *Z2* and *S2* short and smooth. The setae *I6*, *S3* and *Z4* long and plumose.

Distribution: Holarctic.

Parazercon sichotensis PETROVA, 1977

Parazercon sichotensis PETROVA, 1977a: 589; 1977b: 58.

Female. (Fig. 59). Length 340—360, width 220—240 μm. All setae onthe podo- and opisthonotum are very plumose. On the podonotum in row *s* there are 5 setae. The seta *z2* is present. In row *r* are 6 seate. On the opisthonotum in row *I*, there are 7 setae. Between the setae *I4* and *I5* is the additional one pair of setae *Ix*. The pore *Po3* lies on the line connecting setae *Z4-Ix*. The dorsal cavities are distinct. The distance between the inner and outer dorsal cavities is 6 times larger than the distance between the inner dorsal cavities. On the anterior margin of the ventro-anal shield there are two setae.

Locus typicus: USSR — Sichote-Alin.

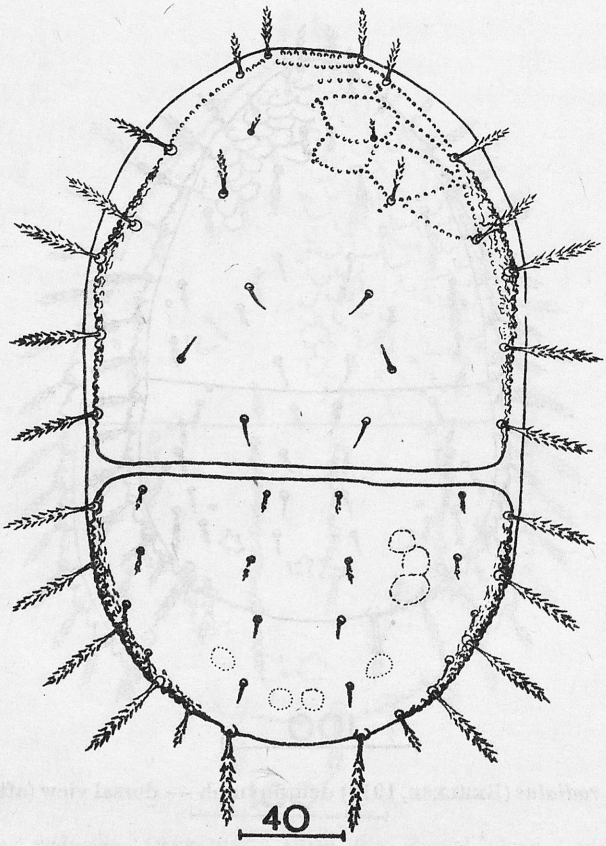

Fig. 57. *Parazercon radiatus* (Berlese, 1910) protonymph — dorsal view (after Błaszak 1974 a)

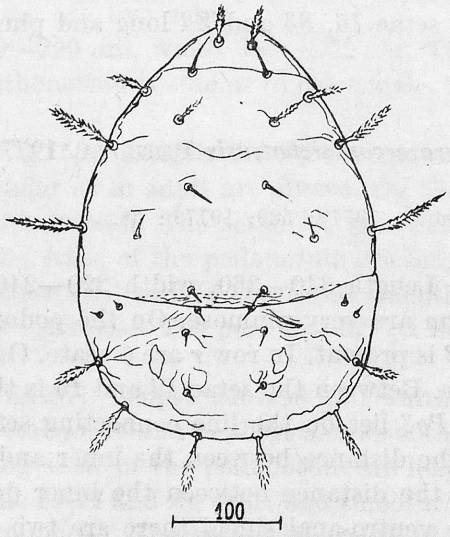

Fig. 58. *Parazercon radiatus* (Berlese, 1910) — larva — dorsal view (after Halašková, 1969 a)

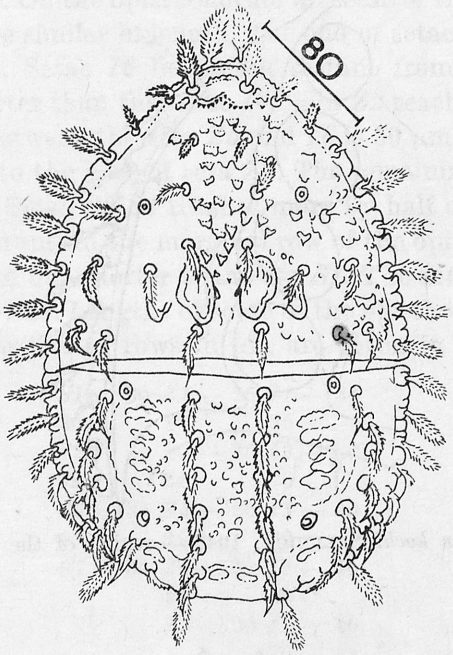

Fig. 59. *Parazercon sichotensis* PETROVA, 1977 (after PETROVA 1977a)

Prozercon SELLNICK, 1943

Prozercon SELLNICK, 1943: 211; *Prozercon*: SELLNICK, 1958a: 362; HALAŠKOVÁ, 1963a: 145; KARG, 1965: 294; HALAŠKOVÁ, 1969a: 344; KARG, 1971: 303; BŁASZAK, 1974a: 65; 1975; 565; PETROVA, 1977a: 583.

Diagnosis: The peritremal shield extends posteriorly, especially its lateral end which extends to seta *R5*. On the peritremal shield, there are two setae *p1* and *p2*, both short and smooth *. The adgenital shields and the opening of the glands *gv2* are absent. On the margin of the opisthonotum there are 8 setae. On the anterior margin of the ventro-anal shield, there are two setae. (Fig. 60).

Prozercon dominiaki sp. nov. **

Description of the holotype. Female. Length 340 μm, width 285 μm.

Dorsal side. (Fig. 61). Setae: On the podonotum setae *i3-i5* and *s3* short and smooth. All marginal setae of the podonotum are plumose, setae *r2-r3* are shorter and delicately plumose than the others. The remaining setae of the

* An exception in genus *Prozercon* SELLNICK is *Prozercon halaskovae*, PETROVA, 1977 whose setae *p1* are plumose. Because there are no detailed data concerning the morphology of the ventral side, we cannot tell whether this species belongs to genus *Prozercon* SELLNICK, sine all presently known species of this genus have smooth setae *p1*.

** The species is named in memory of Dr. B. DOMINIAK.

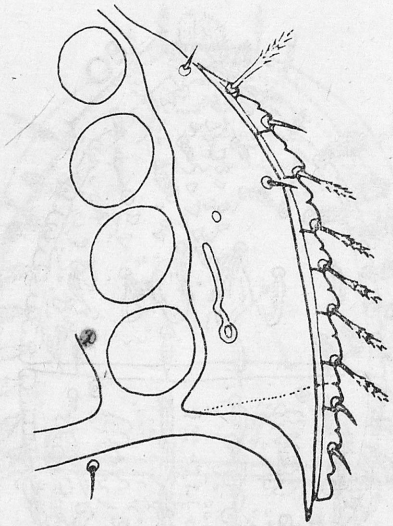

Fig. 60. *Prozercon kochi* SELLNICK, 1943 — region of the peritremal shield

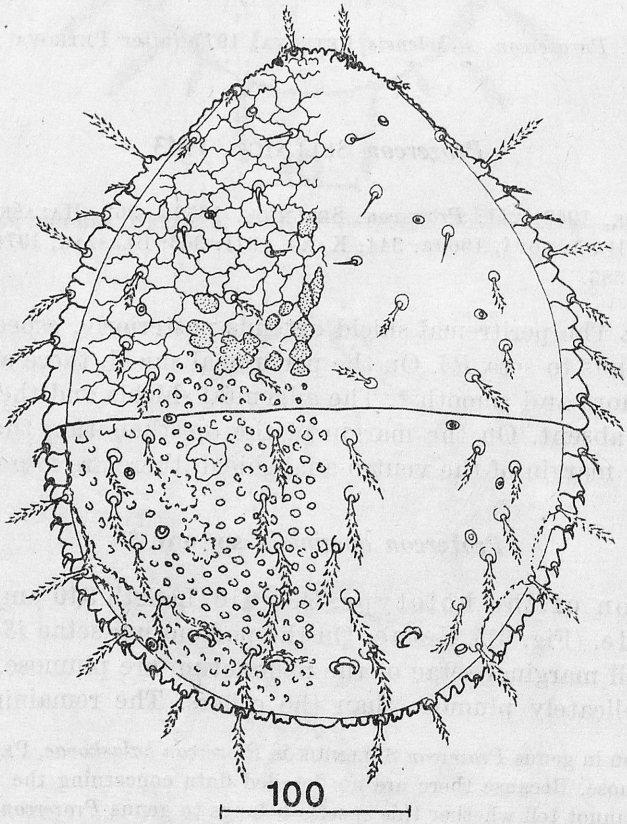

Fig. 61. *Prozercon dominiaki* sp. nov. ♀ — dorsal view

podonotum are plumose. On the opisthonotum all setae of the I row are plumose. The setae of this row are similar in length. The end of setae *I1-I5* reaches to the insertion of next setae. Setae *I6* lie 72 μm distant from one another. Setae *Z1-Z5* plumose but shorter than the setae *I6*. Seta *Z2* reaches to the base of the seta *Z3*. The distance between the seta *Z5* and *I6* is 30 μm. The seta *S1* similar to seta *Z1* and reaches to the base of seta *Z2*. The remaining setae of row *S* are similar to the setae *I6*. Setae *S2-S4* reaches more by half of its length over the margin of the opisthonotum. In the marginal row of the opisthonotum, there are 8 setae, seta *R1* plumose but shorter than seta *S1*. The remaining setae of this row are short and thorn-like. Lengths of setae of the opisthonotum and distances between the setae of particular rows in μm are given in the following table:

S1 — 30	*Z1* — 25	*I1* — 34
30	36	30
S2 — 34	*Z2* — 30	*I2* — 40
38	24	26
S3 — 34	*Z3* — 30	*I3* — 40
40	24	22
S4 — 34	*Z4* — 30	*I4* — 40
	46	26
	Z5 — 30	*I5* — 40
		30
		I6 — 40

Pores. The pore *Po1* are situated anteroparaxially to the insertion of the seta *Z1*. The pore *Po2* lies on the line connecting setae *Z1-Z2* near *Z2*. The pore *Po3* lies on the line connecting setae *Z3* and *I1* shifted toward the seta *Z3* and away from it by its diameter. The pore *Po4* are situated posteroparaxially to the insertion of seta *S4*. On the podonotum pore *po1* lies on the line connecting setae *s1* and *i3*. Pore *po2* lies on the line connecting setae *s3—i4* near *s3*. Pore *po3* lies inside of a line connecting setae *s4-s5*. Sculpture: The whole podonotum has an irregular areas. In the middle of the posterior part of the podonotum there are distinctly spots. The whole opisthonotum covered with distinct and large spots. The biggest ones between the setae of row *I*. Dorsal cavities are small and delicately lobed in the front.

Ventral side. The chetotaxy and the shape of the peritremal shield there are typical to the genus *Prozercon Sellnick*. The adgenital shields and pore *gv2* are absent. On the anterior margin of the ventro-anal shield there are two setae.

Systematic position: The new species belongs to the group with plumose seta *R1*. This species is most similar to *Prozercon lutulentus* HALAŠKOVÁ, 1963 from which it differs by the following features:

Prozercon dominiaki sp. nov.	*Prozercon lutulentus* HALAŠKOVÁ
1. Setae *s1-s2, s4-s5* plumose.	1. Setae *s1-s2, s4-s5* smooth.
2. Setae *z1-z2* and *i6* plumose.	2. Setae *z1-z2* and *i6* smooth.
3. Seta *S1* plumose.	3. Seta *S1* smooth.
4. Seta *I2* reaches to the insertion of seta *I3*.	4. Seta *I2* reaches as far as half the distance to seta *I3*.

5. The pore *Po1* are situated anteroparaxially to the base of seta *Z1*.
6. The pore *Po2* lies on the line connecting setae *Z2-Z1*.
7. The pore *Po3* lies on the line connecting setae *Z3-I2* near seta *Z3*.

5. The pore *Po1* are situated anteroantiaxially to the base of seta *Z1*.
6. The pore *Po2* lies on the line connecting setae *S1-R2*.
7. The pore *Po3* lies on the line connecting setae *Z3-R6* near *Z3*.

Localities: Iran. Settlement Rudbarek in mountains Elburs, beech forest with hornbeam on valley-slopes with stream, about 1000 m a. s. l., litter; 31 VIII 1969; Leg. J. Michejda. 2 ♀♀. **Iran.** Shahsavar, 20 km on S from settlement. Valley of mountain river, lateral stream, litter from sheer limestone rock with mosses and herbaceous vegetation; 22 VIII 1972. Leg. B. Dominiak. Holotype ♀, 12 ♀♀ partypes.
Iran. Shahsavar, about 20 km on S from settlement, valley of mountain river, beech forest with sycamore and lime-tree, 2400 m a. s. l., litter; 23 VIII 1972. Leg. B. Dominiak. 29 ♀♀.
Iran. Shahsavar. Valley of mountain river, 500 m a. s. l., litter from foot of limestone rocks; 21 VIII 1972. Leg. B. Dominiak. 1 ♀.

Prozercon fimbriatus (C. L. Koch, 1839)

Zercon fimbriatus C. L. Koch, 1839: 7; *Zercon trigonus* Berlese, 1904: 268; *Prozercon fimbriatus*: Sellnick, 1958a: 366; Halašková, 1963a: 153; Karg, 1971: 304; Błaszak, 1974a: 73; Petrova, 1977a: 588.

Female. (Fig. 62). Length 345—365 μm, width 240—280 μm. On the podonotum the setae *i1*, *r1*, *r3-r7* are plumose, the setae *s5* and *z2* are delicately pilose, the remaining setae of the podonotum are short and smooth. On the

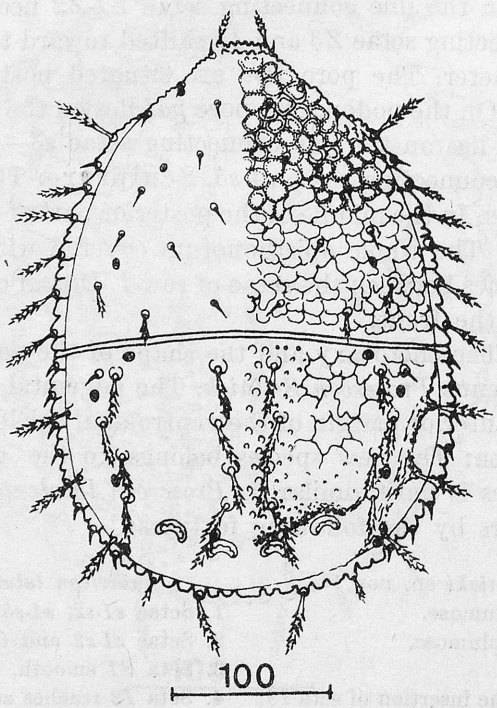

Fig. 62. *Prozercon fimbriatus* (C. L. Koch, 1839) ♀ — dorsal view (after Błaszak 1974 a)

opisthonotum the setae *S1* and all marginal setae, there are short and smooth. The remaining setae of the opisthonotum are plumose. The pore *Po2* lies on the line connecting setae *S1* and *Z2*, pore *Po3* lies on the line connecting setae *Z4* and *S2* shifted toward the seta *Z4* and away from it by its 2 diameters.

Deutonymph. (Fig. 63). Length 280—300 μm, width 215—230 μm. On the podonotum the setae *s1-s5*, *z1-z2*, *i2*, *i4-i6*, *r2* and *r5* are short and smooth. The seta *r3* is short but pilose. The remaining setae of the podonotum are long and plumose. On the opisthonotum only the marginal setae are short thorn-

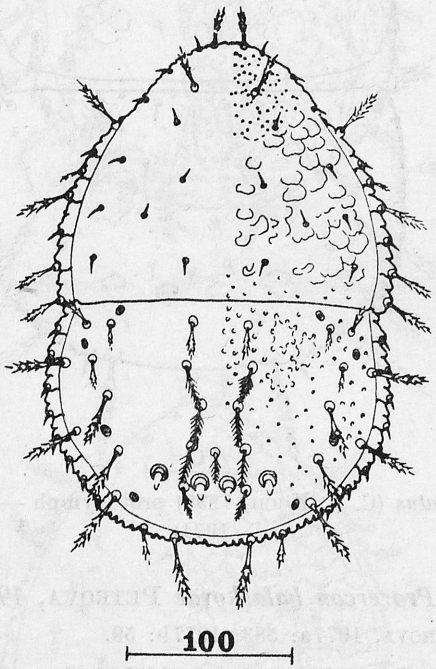

Fig. 63. *Prozercon fimbriatus* (C. L. Koch, 1839) deutonymph — ventral view (after Błaszak 1974 a)

-like and smooth. The remaining setae of the opisthonotum are plumose. The position of the pores on the opisthonotum is the same as in the adult stage. In some deutonymphs, there are additional unpaired seta *I4'*.

Protonymph. (Fig. 64). Length 240—260 μm, width 150—170 μm. On the podonotum the setae *i1*, *i3*, *s4*, *s5*, *r3* long and plumose. The remaining setae of the podonotum there are short and smooth. On the opisthonotum the setae *I3-I5*, *Z1* and *Z5* short and smooth. The setae *I1-I2* and *Z2* short but pilose. The remaining setae of the opisthonotum there are long and plumose. The pore *Po3* lies inside of a line connecting setae *Z3-Z4*. In some protonymphs there are additional unpaired seta *I4'*.

Distribution: Europe and Caucasus Mts.

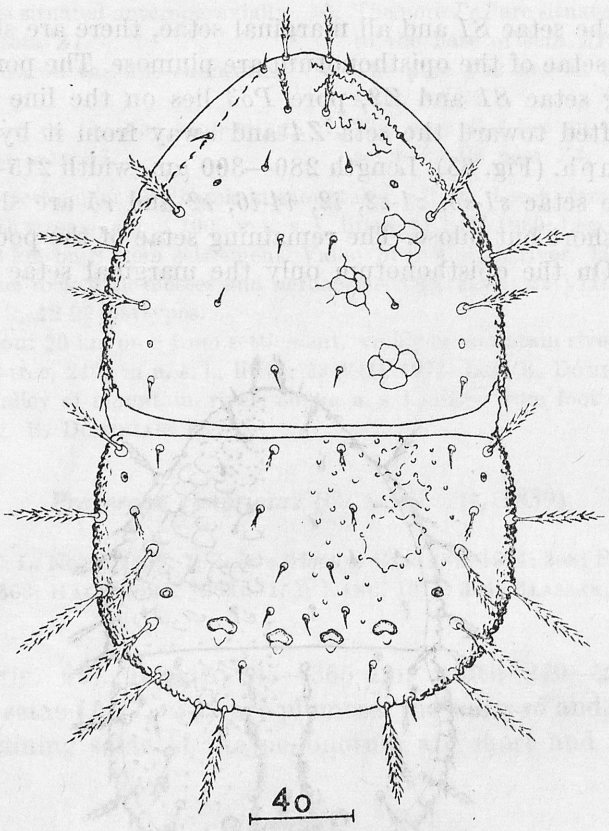

Fig. 64. *Prozercon fimbriatus* (C. L. Koch, 1839) protonymph — dorsal view (after Błaszak 1974)

Prozercon halaskovae Petrova, 1977

Prozercon halaskovae Petrova, 1977a: 583; 1977b: 59.

Female. (Fig. 65). Length 320 μm, width 240 μm. On the podonotum the seta *i5* is short and smooth. The remaining setae of the podonotum, there are plumose. The remaining marginal setae are short, smooth and thorn-like. All setae on the opisthonotum are plumose. The seta *S1* lies in row *Z* of setae. The pore *Po1* lies anteroparaxially to the insertion of seta *Z1*. The pore *Po2* lies between the setae *S1* and *Z2*. On the peritremal shield the setae *p1* is plumose. This is an exception in the genus *Prozercon* Sellnick. All presently known species of this genus have smooth setae — *p1*.

Locus typicus: USSR — Caucaus, Teberda.

Prozercon micherdzinskii Błaszak, 1978

Prozercon micherdzinskii Błaszak, 1978a: 317.

Female. (Fig. 66). Length 330 μm, width 260 μm. On the podonotum *i1*, *r1*, *r3-r7* plumose, setae *s5* and *z2* pilose, the remaining setae of the podonotum short and smooth. On the opisthonotum marginal setae are short and smooth.

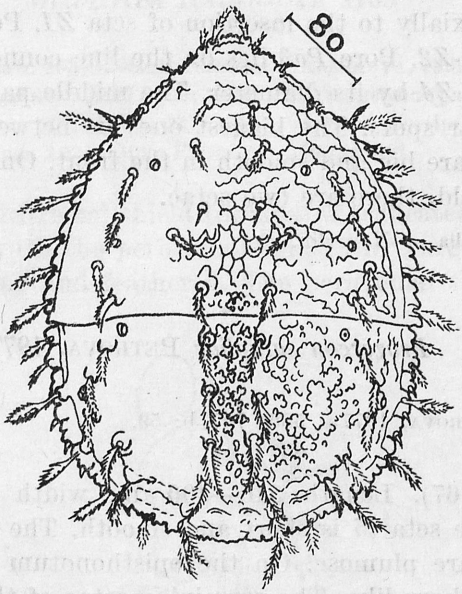

Fig. 65. *Prozercon halaskovae* PETROVA, 1977 ♀ — dorsal view (after PETROVA 1977 a)

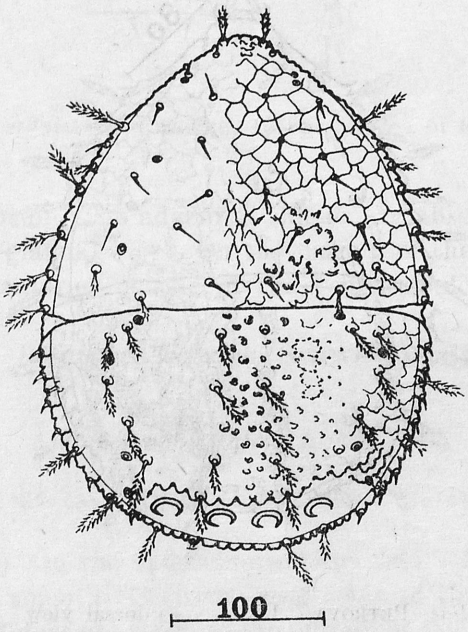

Fig. 66. *Prozercon micherdzinskii* BŁASZAK, 1978, ♀ — dorsal view (after BŁASZAK 1978 a)

The remaining setae of the opisthonotum are long and plumose. The end of setae *I2-I4* reaches to the insertion of next setae. Seta *Z1* lies above the line connecting setae *S1*. Seta *S1* reaches to the insertion of seta *Z2*. Pore *Po1* are

situated anteroparaxially to the insertion of seta *Z1*. Pore *Po2* lies on the line connecting setae *S1-Z2*. Pore *Po3* lies on the line connecting setae *Z4* and *S3* and is distant from *Z4* by its diameter. The middle part of the opisthonotum covered with regular spots. The biggest ones lie between the setae of row *I*. The dorsal cavities are big and smooth in the front. On the anterior margin of the ventro-anal shield, there are two setae.

Locus typicus: Mongolia — Norovlin.

Prozercon satapliae PETROVA, 1977

Prozercon satapliae PETROVA, 1977a: 586; 1977b: 59.

Female. (Fig. 67). Length 340—400 μm, width 260—280 μm. On the podonotum only the seta *i5* is short and smooth. The remaining setae of the podonotum, there are plumose. On the opisthonotum all marginal setae are short, smooth and thorn-like. The remaining setae of the opisthonotum, there are plumose. The pore *Po1* lies anteroparaxially to the insertion of seta *Z1*.

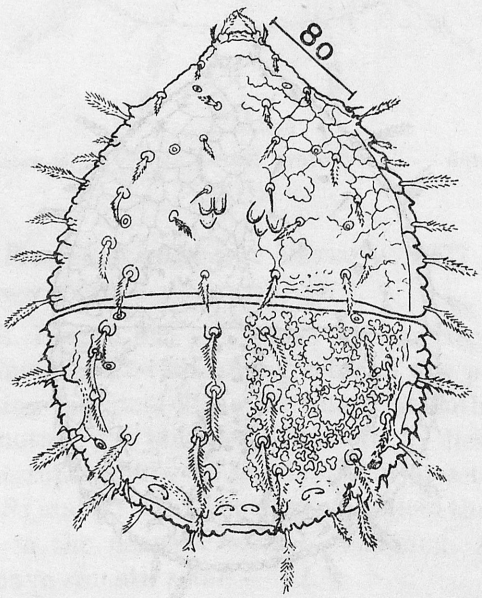

Fig. 67. *Prozercon satapliae* PETROVA, 1977, ♀ — dorsal view (after PETROVA 1977a)

The pore *Po2* are situated posteroparaxially to the base of seta *S1*. The pore *Po3* lies under the line connecting setae *Z3* and *S3*. The whole podonotum covered with the characteristically spots.

Locus typicus: USSR — Sataplia-Chaltubsk.

Mixozercon HALAŠKOVÁ 1963

Mixozercon HALAŠKOVÁ, 1963 b: 203—208. *Mixozercon*: HALAŠKOVÁ, 1969 a: 343; BŁASZAK, 1974 a: 48; BŁASZAK, 1975: 565; HALAŠKOVÁ, 1977: 66; 1979: 40. *Parazercon* (partim): SCHWEIZER, 1948: 23—25. *Zercon* (partim): SELLNICK, 1958 a: 337—339. *Prozercon* (partim): AOKI, 1964: 489—493. *Zercon (Mixozercon *)*: KARG, 1971: 309; PETROVA, 1977 a: 591.

Diagnosis: The peritremal shield terminates truncately behind the fourth pair of coxae (Fig. 68). On the peritremal shield there are two setae, *p1* short and smooth and *p2* long and feathered. The peritremal shield reaches to the

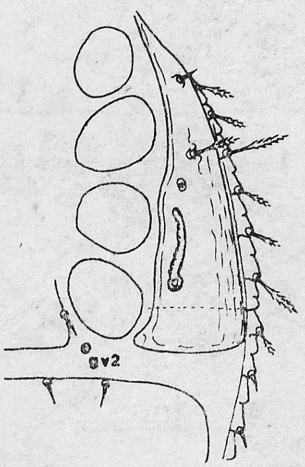

Fig. 68. *Mixozercon sellnicki* (SCHWEIZER, 1948) — region of the peritremal shield

margin of the podonotum. The adgenital shields are absent. There is only the single opening of the glands — *gv2*. On the margin of the opisthonotum, there are 8 setae. On the anterior margin of the ventro-anal shield there are four setae.

Typus generis: *Parazercon sellnicki* SCHWEIZER, 1948.

Mixozercon stellifer (AOKI, 1964)

Prozercon stellifer AOKI, 1964: 489—493. *Mixozercon stellifer*: HALAŠKOVÁ, 1977: 67—69.

Female. (Fig. 69). On the opisthonotum the seta *R1* are pilose, the setae *R2-R8* are short and smooth. The remaining setae of the opisthonotum there are pilose. The seta *S1* does not reach to the margin of the opisthonotum. On the

* This genus has been counted by KARG, 1971 and PETROVA, 1977 a as a subgenus in the genus *Zercon* C. L. KOCH. Features discriminating genus *Mixozercon* from *Zercon* C. L. KOCH are so distinct (see HALAŠKOVÁ, 1963, 1969, 1977 and BŁASZAK, 1975) that it is beyond any (doubt that *Mixozercon* HALAŠKOVÁ is a separate genus.

podonotum setae *i3-i6*, *r1*. *z1*, *s1-s5* are short and smooth. The remaining setae of the podonotum, there are pilose. The pore *Po2* lies on the line connecting setae *Z1-Z2*. Pore *Po3* lies on the line connecting setae *Z4-I3* near *Z4*. The dorsa

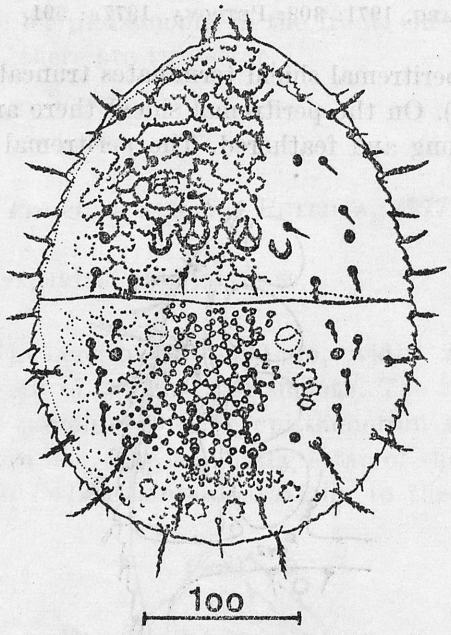

Fig. 69. *Mixozercon stellifer* (AOKI, 1964), ♀ — dorsal view (after AOKI 1964)

cavities are lobed in the front. The middle part of the opisthonotum covered with characteristic ornament. On the anterior margin of the ventro-anal shield there are four setae.

Distribution: Japan, Canada.

Mesozercon BŁASZAK, 1975

Mesozercon BŁASZAK, 1975: 554—558, 566—567; 1976c: 547—561. HALAŠKOVÁ, 1977: 70; 1979: 5

The genus *Mesozercon* BŁASZAK, 1975, was created according to the same principle as the genus *Mixozercon* HALASKOVA, 1963. *Mixozercon* HALAŠKOVÁ differs from the *Zercon* C. L. KOCH by the lack of the adgenital shield, there occurs only the single opening of the glands *gv2*. In the row of marginal setae of the opisthonotum in the *Mixozercon* there occur 8 setae, while in *Zercon* C. L. KOCH there are only 7 setae. In case of the genus *Mesozercon* BŁASZAK it differs from *Prozercon* by the occurrence of gland *gv2*, which does not occur in *Prozercon* SELLNICK. In *Mesozercon* BŁASZAK, there are 7 marginal setae of the opisthonotum, while in *Prozercon* SELLNICK 8 setae occur. HALAŠKOVÁ (1977) informs that

in some species of the genus *Prozercon* SELLNICK, i. e. *Prozercon kochi* SELLNICK, 1943, *Prozercon fimbriatus* (C. L. KOCH, 1839) and *Prozercon traegaerdhi* (HALBERT, 1923) there occurs the gland *gv2* situated close to the genital shield. In the species comprised by the material available the author did not find the occurrence of gland *gv2*. The genus *Prozercon* SELLNICK requires a thorough revision, a proof of this fact is HALAŠKOVÁ'S (1977) transferring of genus *Prozercon stellifer* AOKI, 1964 to the genus *Mixozercon* HALAŠKOVÁ, 1963, or the creation by the author of separate genera: *Microzercon* BŁASZAK, 1975 for *Prozercon californicus* SELLNICK, 1958 and *Macrozercon* BŁASZAK, 1975 for *Prozercon praecipuus* SELLNICK, 1958.

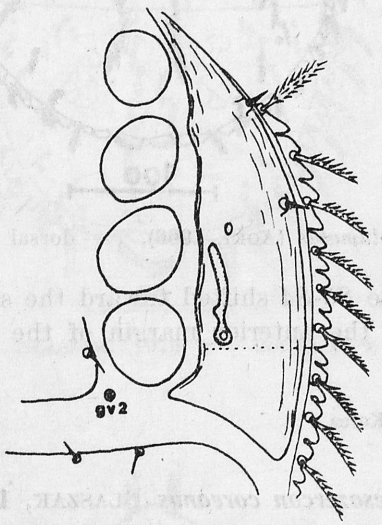

Fig. 70. *Mesozercon coreanus* BŁASZAK, 1975 — region of the peritremal shield

Diagnosis: The peritremal shields extends posteriorly especially the lateral external ends which extend over the seta *R3* (Fig. 70). On the peritremal shield, there are two setae, *p1* and *p2*, booth short and smooth. The adgenital shields are absent. There are only opening of the glands *gv2*. On the margin of the opisthonotum there are 7 setae. On the anterior margin of the ventro-anal shield there are four setae.

Typus generis: *Mesozercon coreanus* BŁASZAK, 1975.

Mesozercon plumatus (AOKI, 1966)

Prozercon plumatus AOKI, 1966: 64—67; *Mesozercon plumatus*: BŁASZAK, 1976b: 548—551; HALAŠKOVÁ 1979: 7, 9.

Female. (Fig. 71). Length 300 μm, width 230 μm. On the podonotum and opisthonotum all setae there are plumose. On the opisthonotum the distances between the setae in row *Z* are equal. The setae *Z1* and *Z2* are in the same distance from the anterior margin of the opisthonotum. The pore *Po3* lies on

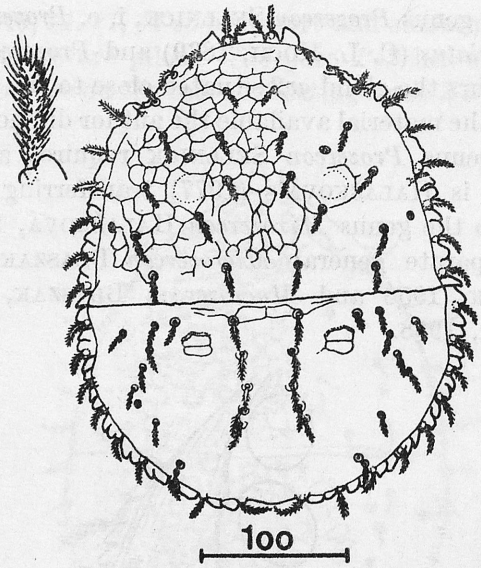

Fig. 71. *Mesozercon plumatus* (Aoki, 1966), ♀ — dorsal view (after Aoki 1966)

the line connecting setae *S3-S4* shifted toward the seta *S3* and away from it by its 3 diameters. On the anterior margin of the ventro-anal shield, there are four setae.

Distribution: Japan, North Korea.

Mesozercon coreanus Błaszak, 1975

Mesozercon coreanus Błaszak, 1975: 555—557, 566; 1976b: 550—551; Halasková, 1979: 6—7

Female. (Fig. 72). Length 368 μm, width 224 μm. On the podonotum and opisthonotum all setae are plumose. On the opisthonotum the setae of the *Z* row are characteristically arranged. *Z1-Z3* lie very close to each other and the distance from *Z3* to *Z4* is twice the distance from *Z1* to *Z2*. The seta *Z2* lies twice as far from the anterior margin of the opisthonotum as the seta *Z1*. The pore *Po3* lies on the line connecting setae *S4-S3* shifted toward the seta *S4* and away from it by its 3 diameters. On the anterior margin of the ventro-anal shield there are four setae.

Deutonymph. (Fig. 73). Length 210 μm, width 160 μm. On the podonotum the setae *i3-i6* and *z1* are smooth, the remaining setae of the podonotum are plumose. On the opisthonotum setae *I1-I5* smooth, the remaining setae of the opisthonotum setae *I1-I5* smooth, the remaining setae of the opisthonotum plumose. The position of the pores on the opisthonotum is similar to that in adult stage. The whole opisthonotum is smooth. The dorsal cavities are not visible.

Locus typicus: North Korea — Kymgangsan Mts.

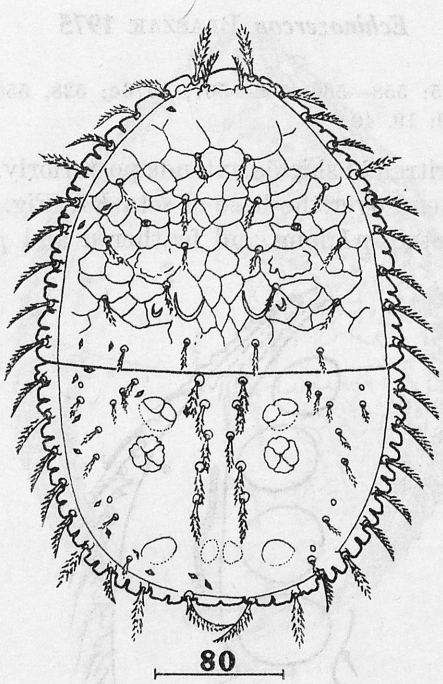

Fig. 72. *Mesozercon coreanus* Błaszak, 1975, ♀ — dorsal view (after Błaszak 1975)

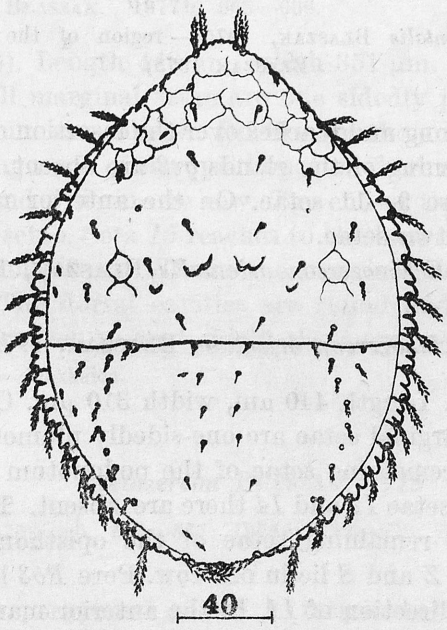

Fig. 73. *Mesozercon coreanus* Błaszak, 1975 deutonymph — dorsal view (after Błaszak 1976b)

Echinozercon Błaszak 1975

Echinozercon Błaszak, 1975: 558—560, 566—567; 1976c: 528, 550. Petrova, 1977a: 583; Halašková, 1977: 70; 1979: 19, 40.

Diagnosis: The peritremal shields extends posteriorly, especially the lateral external ends which extend over the base of seta *R4*. (Fig. 74). On the peritremal shield, there are two setae, *p1* long and feathered and *p2* short and smooth.

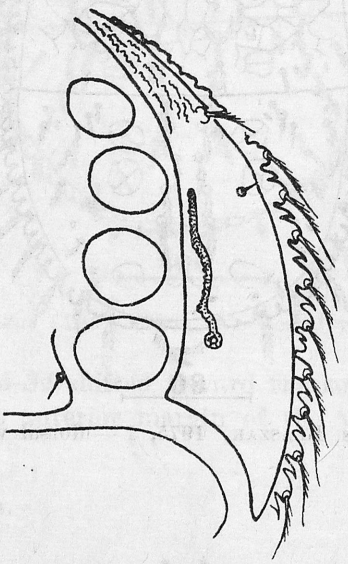

Fig. 74. *Echinozercon orientalis* Błaszak, 1975 — region of the peritremal shield (after Błaszak 1975)

The peritreme is very long and reaches over the insertion of seta *p2*. The adgenital shields and the opening of the glands *gv2* are absent. On the margin of the opisthonotum there are 9—11 setae. On the anterior margin of the ventro-anal shield there are two setae.

Typus generis: *Echinozercon orientalis* Błaszak, 1975.

Echinozercon orientalis Błaszak, 1975

Female. (Fig. 75). Length 440 μm, width 310 μm. On the podonotum the setae *i1-i2* and the marginal setae are one-sidedly plumose, *s7* and *i6* there are delicately pilose, the remaining setae of the podonotum there are smooth. On the opisthonotum the setae *I2* and *I4* there are absent. The setae *I1*, *I3* and *I5* delicately pilose. The remaining setae of the opisthonotum are one-sidedly plumose. Setae of row *Z* and *S* lie in one row. Pore *Po3* lies distant from *S3* by once diameter in the direction of *I1*. In the anterior margin of the ventro-anal shield there are two setae.

Locus typicus: North Korea — Onpho-ri.

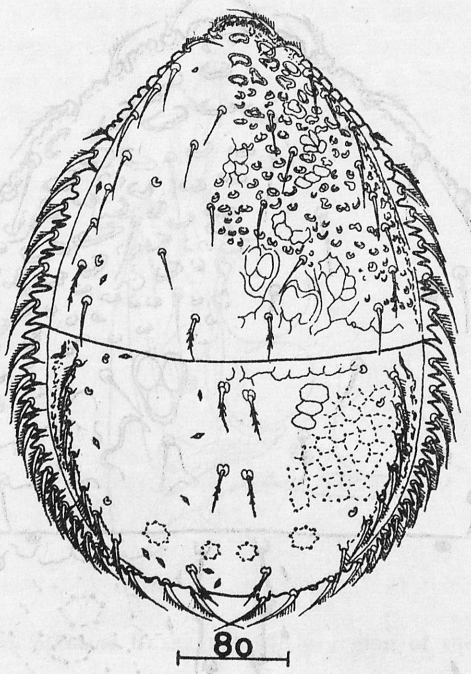

Fig. 75. *Echinozercon orientalis* BŁASZAK, 1975, ♀ — dorsal view (after BŁASZAK 1975)

Echinozercon nipponicus BŁASZAK, 1977

Echinozercon nipponicus BŁASZAK, 1977b: 663—666.

Female. (Fig. 76). Length 448 μm, width 351 μm. On the podonotum the setae *i1-i2*, *s1* and all marginal setae are one sidedly plumose. The remaining setae of the podonotum are smooth. On the opisthonotum the setae *I1-I5* are smooth. The remaining setae of the opisthonotum there are one-sidedly plumose. The setae of row *Z* and *S* lie in one row. The end of the setae *I1-I3* reaches to the insertion of next setae. Seta *I5* reaches to the base of seta *I6*. The pore *Po3* lies above the insertion of seta *S3*. In the marginal row of the opisthonotum there are 10 setae. The dorsal cavities are round and very delicate. On the anterior margin of the ventro-anal shield there are two setae.

Locus typicus: Japan — Hokkaido.

Metazercon BŁASZAK, 1975

Metazercon BŁASZAK, 1975: 560, 566—567; 1976c: 529—530, 550. HALAŠKOVÁ, 1977: 69; 1979: 28, 40.

Diagnosis: The peritremal shield is terminated truncately behind the fourth pair of coxae. On the peritremal shield, there are two setae, *p1* (20 μm) smooth, *p2* twice as long as the seta *p1* and delicately pilose. (Fig. 77). The

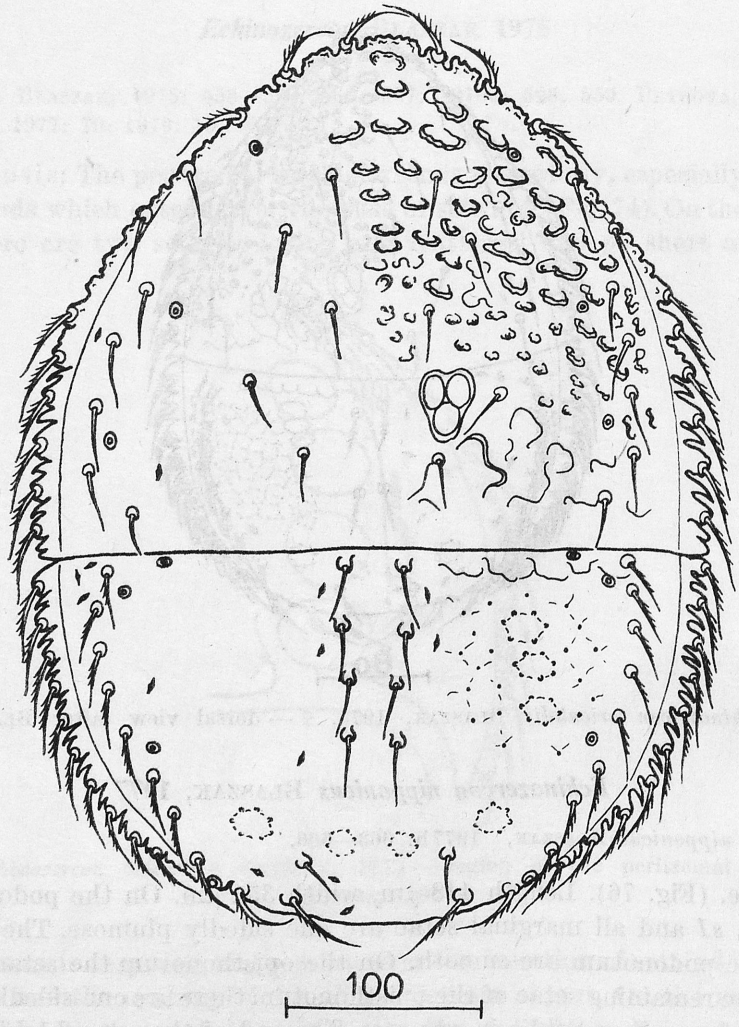

Fig. 76. *Echinozercon nipponicus* Błaszak, 1977, ♀ — dorsal view (after Błaszak 1977 b

peritreme is very short reaches only to the posterior margin of the third pair of coxae. The adgenital shields are present with two pores. Between the genital shield and the ventro-anal lie two narrow sclerites without setae. On the margin of the opisthonotum, there are 8 setae. On the anterior margin of the ventro-anal shield there are four setae.

Typus generis: *Metazercon athiasae* Błaszak, 1975.

Metazercon athiasae Błaszak, 1975

Metazercon athiasae Błaszak, 1975: 561—563, 566; 1976c: 530, 550. Halašková, 1979: 29—30.

Female. (Fig. 78). Length 320 μm, width 220 μm. All setae on the podo- and opisthonotum are smooth. On the opisthonotum all setae with the exception

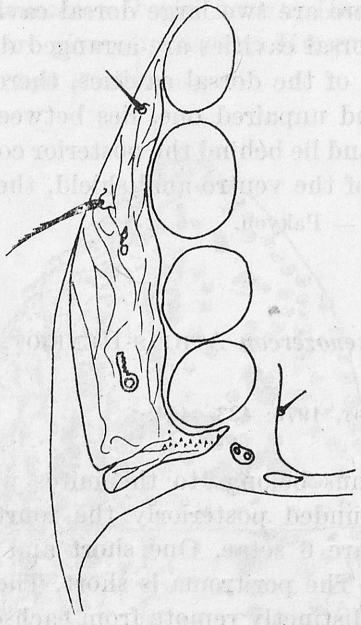

Fig. 77. *Metazercon athiasae* Błaszak, 1975 — region of the peritremal shield

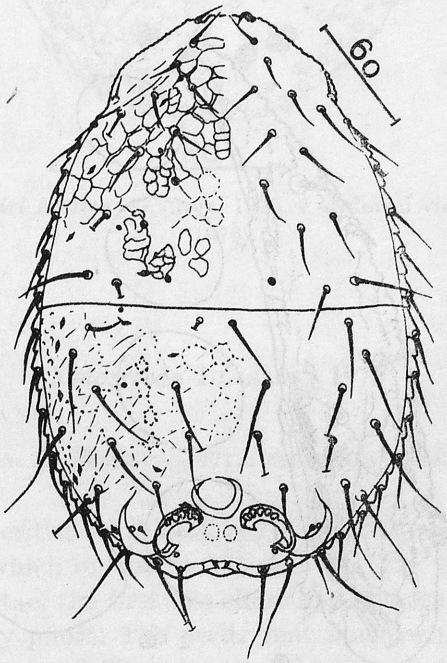

Fig. 78. *Metazercon athiasae* Błaszak, 1975, ♀ — ventral view (after Błaszak, 1975)

of seta *I5* long. The seta *I5* are very short and lie 96 μm distant from one another. The pore *Po3* lies on the line connecting setae *I5* and the lateral margin of the opisthonotum and is distant from *I5* by once its diameter. In the posterior part

of the opisthonotum, there are two large dorsal cavities. The width the dorsal cavities is 35 μm. The dorsal cavities are arranged diagonally in respect to the body axis. In the region of the dorsal cavities, there are three well sclerotized hillocks. The smallest and unpaired one, lies between the dorsal cavities. The others are paired, larger and lie behind the posterior corners of the dorsal cavities. On the anterior margin of the ventro-anal shield, there are four setae.

Locus typicus: North Korea — Pakyon.

Syskenozercon Athias-Henriot, 1976

Syskenozercon Athias-Henriot, 1976: 433—444.

Diagnosis: This genus belongs to the mites with dorsal neotrichy. The peritremal shield are rounded posteriorly the fourth pair of coxae. On the peritremal shield there are 6 setae. One short and smooth and four barbed, and one pilose (Fig. 79). The peritrema is short. The pore *gv2* has the form of three separate openings distinctly remote from each other. Between the genital and ventro-anal shield there are four setae.

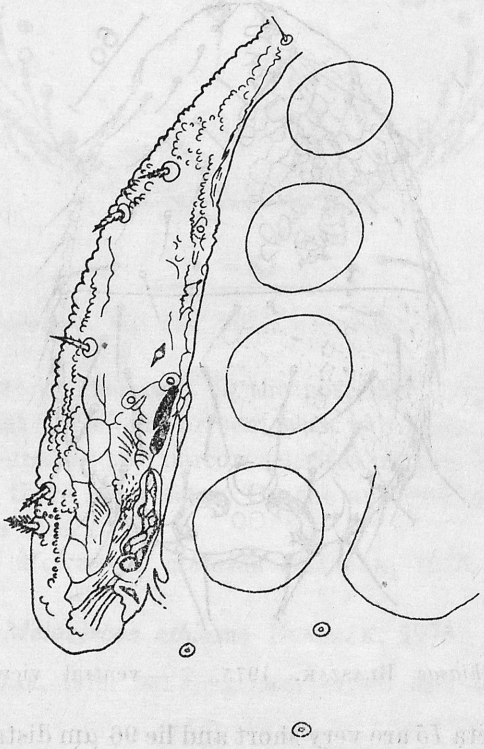

Fig. 79. *Syskenozercon kosiri* Athias-Henriot, 1976 — region of the peritremal shield (after Athias-Henriot, 1976 — some modified)

Typus generis: *Syskenozercon kosiri* ATHIAS-HENRIOT, 1976. The detailed diagnosis and description are given by ATHIAS-HENRIOT, 1976 (Fig. 80).

Distribution: **Austria** (Alps), **Nepal** (Himalayas).

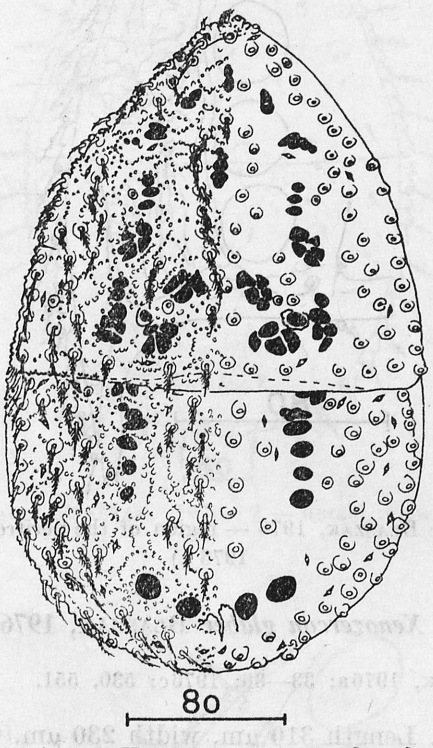

Fig. 80. *Syskenozercon kosiri* ATHIAS-HENRIOT, 1976, ♀ — dorsal view (after ATHIAS-HENRIOT 1976)

Xenozercon BŁASZAK, 1976

Xenozercon BŁASZAK, 1976a: 33: PETROVA, 1977a: 583: HALAŠKOVÁ, 1977: 70; 1979: 40.

Diagnosis: The peritremal shields are extended posteriorly, especially the lateral external ends which extend to the seta *R5* (Fig. 81). On the peritremal shield there are two setae, the first one short and smooth — *p1* and the second one long and delicately pilose. The peritremal shield with deep incision which reaches to the level of seta *r6*. The adgenital shields are absent, there is only the single opening of the gland — *gv2*. On the margin of the opisthonotum there are 8 setae. On the anterior margin of the ventro-anal shield there are four setae.

Typus generis: *Xenozercon glaber* BŁASZAK, 1976.

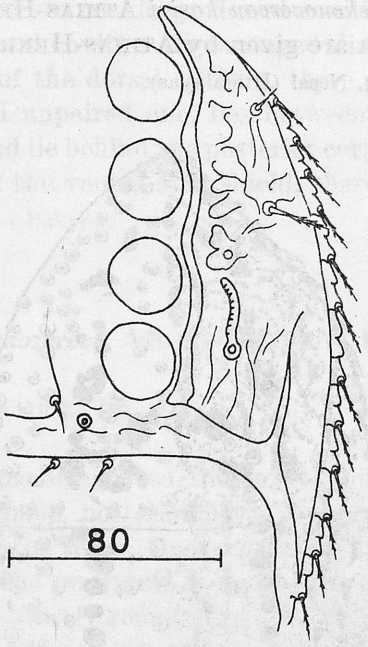

Fig. 81. *Xenozercon glaber* BŁASZAK, 1976 — region of the peritremal shield (after BŁASZAK 1976 a)

Xenozercon glaber BŁASZAK, 1976

Xenozercon glaber BŁASZAK, 1976a: 33—36; 1976c: 530, 551.

Female. (Fig. 82). Length 310 μm, width 230 μm. On the podonotum the marginal setae and the setae *i1-i2* are long and pilose. The remaining setae are short and smooth. On the opisthonotum the marginal setae and the setae *Z5* and *I6* are long and pilose. The remaining setae of the opisthonotum there are short and smooth. The pore *Po3* lies on the line connecting setae *Z3-Z4*. On the anterior margin of the ventro-anal shield, there are four setae.

Locus typicus: North Korea — Onpho-ri.

Neozercon PETROVA, 1977

Neozercon PETROVA, 1977a: 591; 1977b: 56.

Diagnosis: The peritremal shields extends posteriorly, especially the lateral external ends which extend over the base of seta *R4*. On the peritremal shield, there are two setae, *p1* short and smooth; *p2* long and plumose (Fig. 83). The adgenital shields and glands *gv2* are absent. On the margin of the opisthonotum there are 7 setae. On the anterior margin of the ventro-anal shield there are two setae.

Typus generis: *Neozercon insularis* PETROVA, 1977.

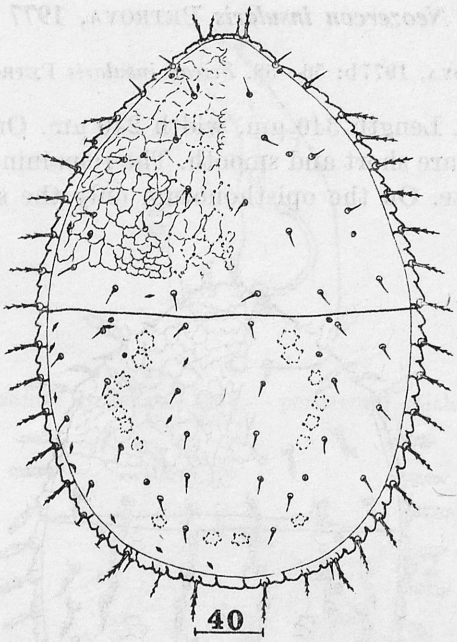

Fig. 82. *Xenozercon* glaber BŁASZAK, 1976, ♀ — dorsal view (after BŁASZAK 1976 a)

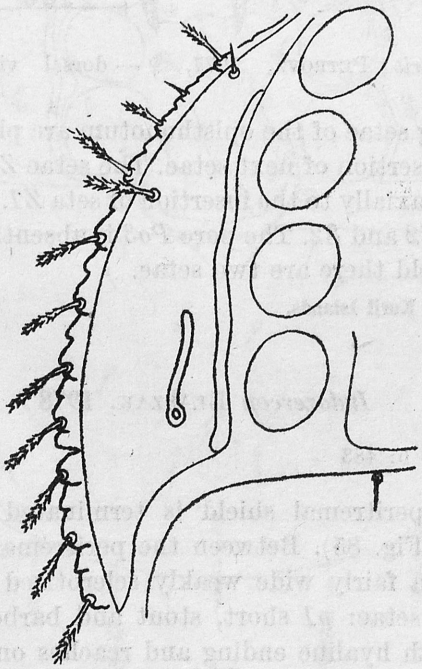

Fig. 83. *Neozercon insularis* PETROVA, 1977 — region of the peritremal shield (after PETROVA 1977 a — some modified)

Neozercon insularis PETROVA, 1977

Neozercon insularis PETROVA, 1977b: 56—58. *Zercon insularis* PETROVA, 1977a: 591.

Female (Fig. 84). Length 340 μm, width 240 μm. On the podonotum, the setae *s1*, *s2*, *r2* and *i5* are short and smooth. The remaining setae of the podonotum there are plumose. On the opisthonotum only the seta *R7* are short and

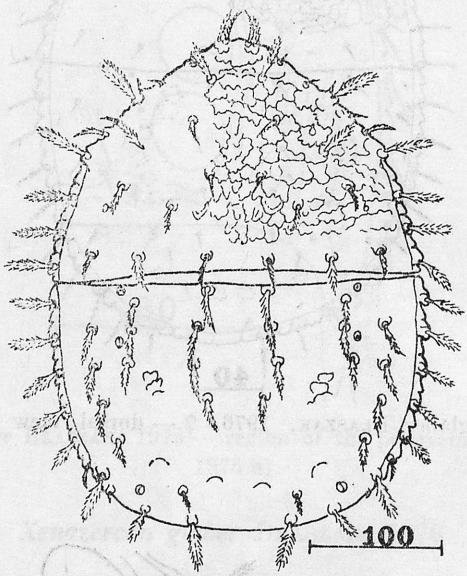

Fig. 84. *Neozercon insularis* PETROVA, 1977, ♀ — dorsal view (after PETROVA 1977a)

smooth. The remaining setae of the opisthonotum are plumose. The end of setae *I1-I3* reaches to the insertion of next setae. The setae *Z1-Z3* lie in one row. The pore *Po1* lie anteroantiaxially to the insertion of seta *Z1*. The pore *Po2* lies on the line connecting setae *Z2* and *S2*. The pore *Po3* is absent. On the anterior margin of the ventro-anal shield there are two setae.

Locus typicus: USSR — Kuril Islands.

Indozercon BŁASZAK, 1978

Indozercon BŁASZAK, 1978 b: 483

Diagnosis: The peritremal shield is terminated truncately behind the fourth pair of coxae (Fig. 85). Between the peritremal shield and the margin of the podonotum is a fairly wide weakly sclerotized slit. On the peritremal shield, there are two setae: *p1* short, stout and barbed, *p2* longer, broadened at the termination with hyaline ending and reaches only to the margin of the podonotum (Fig. 86). The adgenital shields are present and they have 4 pores. On the margin of the opisthonotum, there are 7 setae, seta *R1* plumose with

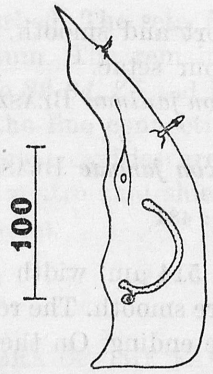

Fig. 85. *Indozercon janinae* BŁASZAK, 1978 — peritremal shield (after BŁASZAK 1978b)

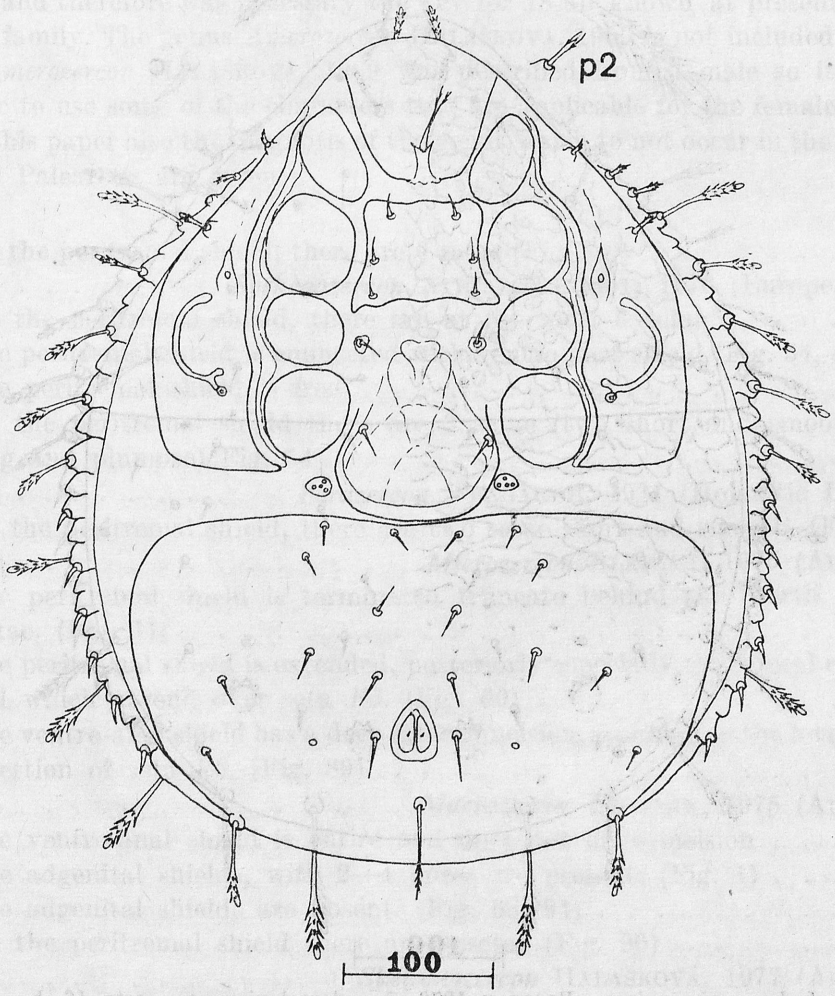

Fig. 86. *Indozercon janinae* BŁASZAK, 1978, ♀ — ventral view (after BŁASZAK 1978b)

hyaline ending and *R2-R7* short and smooth. On the anterior margin of the ventro-anal shield there are four setae.

Typus generis: *Indozercon janinae* Błaszak, 1978.

Indozercon janinae Błaszak, 1978

Indozercon janinae Błaszak, 1978 b: 484

Female. (Fig. 87). Length 514 μm, width 465 μm. On the podonotum the setae *i2*, *i4-i6*, *s1-s3*, *s5*, *z1-z2* are smooth. The remaining setae of the podonotum there are plumose with hyaline ending. On the opisthonotum, the setae *I1-I5*,

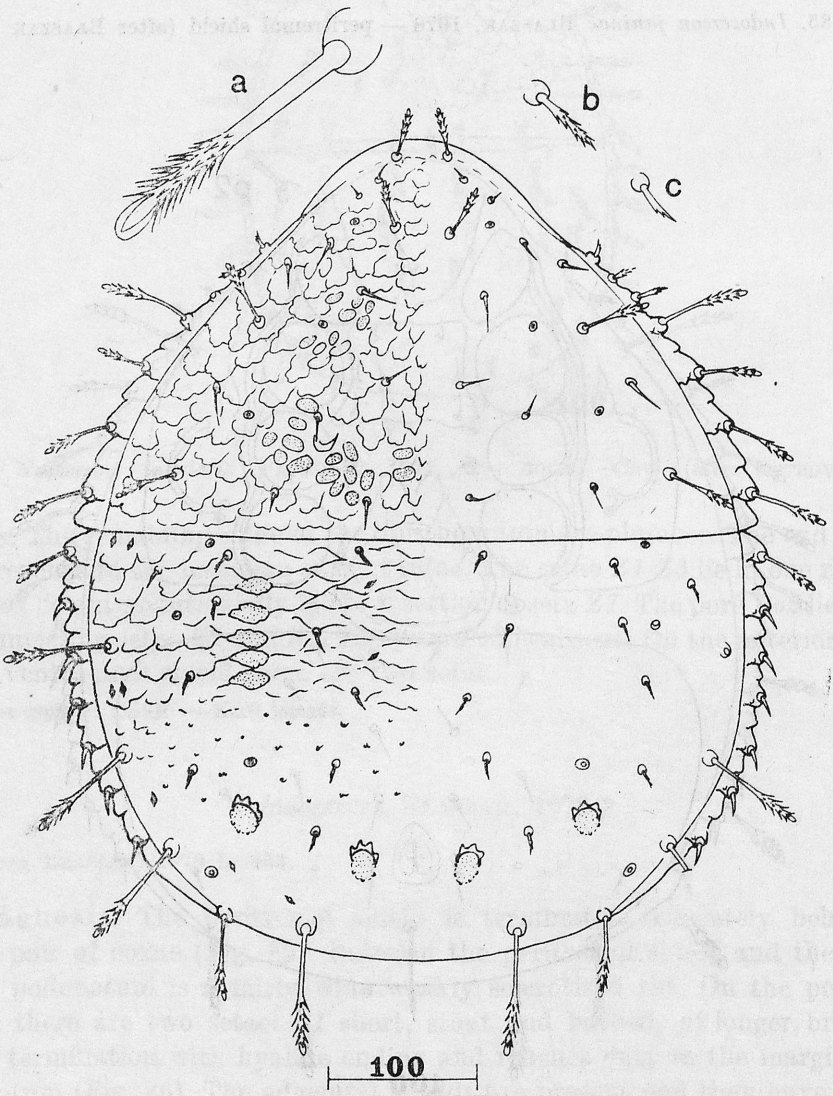

Fig. 87. *Indozercon janinae* Błaszak 1978, ♀ — dorsal view; a — seta *I6*, b — seta *I1*, c — seta *I1* (after Błaszak 1978b)

Z1-Z4 and *S1* are short and barbed. The seta *R1* long and plumose similar to marginal setae of the podonotum. The remaining marginal setae are short, smooth and thorn-like. The setae *S2-S4*, *Z5* and *I6* are long plumose with hyaline ending. The pore *Po3* lies on the line connecting setae *Z4* and *I4* above the outside dorsal cavities. The dorsal cavities are oval and lobed in the front. On the anterior margin of the ventro-anal shield there are four setae.

Locus typicus: India — Kashmir.-Sorbal.

KEY TO THE GENERA OF THE FAMILY *ZERCONIDAE*

On account of description of some new genus of family *Zerconidae* hitherto existing keys for 10 and 13 genus (Błaszak, 1975, Halašková, 1977) are out of date and therefore was necessary the key for 18 all known at present genus of this family. The genus *Amerozercon* Halaškova, 1969 is not included to this key. *Amerozercon* Halaškova, 1969 was described from a male so it is not possible to use some of the characters that are applicable for the females.

In this paper also the diagnosis of the genus which to not occur in the Asiatic part of Palearctis are given.

1. On the peritremal shield, there are 6 setae (Fig. 79). . . . . ***Syskenozercon*** Athias-Henriot, 1976 (Europe, Asia).
—. On the peritremal shield, there are at the most 3 setae . . . . . 2.
2. The peritremal shield is connected with ventro-anal shield (Fig. 54, 88) 3.
—. The peritremal shield is free . . . . . 4.
3. On the peritremal shield there are 3 setae (two short and smooth, one long and plumose) Fig. 54 . . . . . ***Parazercon*** Trägårdh, 1931 (Holarctic Region).
—. On the peritremal shield, there are two setae short and smooth. (Fig. 88). . . . . ***Microzercon*** Błaszak, 1975 (America).
4. The peritremal shield is terminated truncate behind the fourth pair of coxae. (Fig. 1). . . . . 5.
—. The peritremal shield is extended, posteriorly especially the lateral external end which extend over seta *R3*. (Fig. 60) . . . . . 12.
5. The ventro-anal shield has a deep lateral incision, reaching to the level of the insertion of seta *R6*. (Fig. 89) . . . . . ***Macrozercon*** Błaszak, 1975 (America).
—. The ventro-anal shield is entire and does not have incision . . . . 6.
6. The adgenital shields, with 2—4 pores are present. (Fig. 1) . . . . 7.
—. The adgenital shields are absent. (Fig. 68, 94) . . . . . 11.
7. On the peritremal shield there are 3 setae (Fig. 90) . . . . . ***Skeironozercon*** Halašková, 1977 (America).
—. On the peritremal shield there are 2 setae . . . . . 8.

8. Between the genital and ventro-anal shield there are two sclerites (Fig. 77). . . . . ***Metazercon*** BŁASZAK, 1975 (East Asia).
—. Between the genital and ventro-anal shield the sclerites are absent . . . 9.
9. On the margin of the opisthonotum there are 8 setae (Fig. 91) . . . . . ***Bledas*** HALAŠKOVÁ, 1977 (North America).
—. On the margin of the opisthonotum there are 7 setae . . . . . 10.
10. On the peritremal shield, seta *p2* broadened at the termination with hyaline ending and reaches only to the margin of the podonotum (Figs. 85, 86) . . . . . ***Indozercon*** BŁASZAK, 1978 (South Asia).
—. On the peritremal shield seta *p2* long, pilose or feathered and reaches at least by half of its length over the margin of the podonotum (Fig. 1) . . . . . ***Zercon*** C. L. KOCH, 1836 (Holarctic Region).
a. On the peritremal shield, seta p1 smooth. (Fig. 1). . . . . subgen. ***Zercon*** s. str. (Holarctic Region).
b. On the peritremal shield, seta *p1* barbed (Fig. 46) . . . . . subgen. nov. ***Icozercon*** (South Asia).
11. The single opening of the glands *gv2* are present (Fig. 68). In the marginal row of the opisthonotum there are 8 setae. . . . . ***Mixozercon*** HALAŠKOVÁ, 1963 (Holarctic Region).
—. The single opening of the glands *gv2* are absent. In the marginal row of the opisthonotum there are 7 setae (Fig. 94). . . . . ***Polonozercon*** BŁASZAK, 1978 (Central Europe).
12. The adgenital shields with 2—4 pores are present (Fig. 92) . . . . . ***Caurozercon*** HALAŠKOVÁ, 1977 (North America).
—. The adgenital shields are absent (Figs. 60, 70, 74) . . . . . 13.
13. The single opening of the glands *gv2* are present (Fig. 70 and 81). . . 14.
—. The single opening of the glands *gv2* are absent . . . . . 15.
14. On the peritremal shield, seta *p2* is at least twice longer than seta *p1* and pilose. The peritremal shield with deep incision which reaches to the level of seta *r6* (Fig. 81) . . . . . ***Xenozercon*** BŁASZAK, 1976 (East Asia).
—. On the peritremal shield, seta *p2* is equal to seta *p1* and smooth. The peritremal shield without deep incision (Fig. 70) . . . . . ***Mesozercon*** BŁASZAK, 1975 (East Asia).
15. On the peritremal shield there are 3 setae (Fig. 93) . . . . . ***Aspar*** HALAŠKOVÁ, 1977 (North America).
—. On the peritremal shield there are two setae . . . . . 16.
16. On the peritremal shield seta *p2* long and feathered (Fig. 83) . . . . . ***Neozercon*** PETROVA, 1977 (East Asia).
—. On the peritremal shield seta *p2* short and smooth . . . . . 17.
17. On the peritremal shield seta *p1* pilose is twice longer than seta *p2* (Fig. 74). . . . . ***Echinozercon*** BŁASZAK, 1975 (East Asia).
—. On the peritremal shield seta *p1* short and smooth, equal to seta *p2* (Fig. 60). . . . . ***Prozercon*** SELLNICK, 1943 (Europe, Asia).

Microzercon Błaszak, 1975

Microzercon Błaszak, 1975: 565; Halašková, 1977: 69.

Diagnosis: The peritremal shields extends posteriorly, especially the lateral external ends, which are connected with the ventro-anal shield, the last shield exhibits deep incisions reaching to the base of seta *R4*. On the peritremal shield there are two setae *p1* and *p2*, both short and smooth. The peritremal shields reaches to the margin of the podonotum. On the margin of the opisthonotum, there are 8 setae. Only the single opening of the gland gv2.

Typus generis: *Prozercon californicus* Sellnick, 1958.

Macrozercon Błaszak, 1975

Macrozercon Błaszak, 1975: 565; Halašková, 1977: 69.

Diagnosis: The peritremal shield terminates truncately behind the fourth pair of coxae. On the peritremal shield, there are two setae, *p1* and *p2*, both short and smooth. The ventro-anal shield has two deep lateral incisions reaching over seta *R5*. On the margin of the opisthonotum there are 8 setae. The adgenital shields are present.

Typus generis: *Prozercon praecipuus* Sellnick, 1958.

Skeironozercon Halašková, 1977

Diagnosis (after Halašková, 1977): The peritremal shield is truncated posteriorly at the level of the insertion of the seta *R1*, and is separated from the body margin by a slit in the sclerotization. It has three setae, two short smooth and thorn-like, the third one long (42 μm) and barbed. The adgenital plates with 2 pores. On anterior margin of the ventro-anal shield, there are two setae. The R row has 7 members. The depressions on the posterior margin of the opisthonotum are conspicuous, well sclerotized and of the same size. The middle ones are contiguous or coalescent.

Typus generis: *Skeironozercon embersoni* Halašková, 1977.

Bledas Halašková, 1977

Diagnosis (after Halašková, 1977): The peritremal shield is truncate posteriorly and separated from the body margin by a broad triangle of the membranous cuticle. It bears two short, bristle-like, smooth setae. The adgenital shields, with two pores, are clearly conspicuous. On the anterior margin of the ventro-anal shield there is only one pair of setae. The *R-row* has 8 setae. The depressions are conspicuous, well sclerotized, strikingly large with axes of the interior depressions parallel to the body axis, while the axes of the exterior depressions are a little convergent anteriorly.

Typus generis: *Bledas hespersius* Halašková, 1977.

Caurozercon HALAŠKOVÁ, 1977

Diagnosis (after HALAŠKOVÁ, 1977): The peritremal shield is prolonged behind the insertion of the setae *R6* on the outside margin. It has two setae *p1* is short (7 μm) thorn-like and smooth, *p2* is long (27 μm) and richly barbed. The peritremal shield coalescens with the body margin. The peritremas are very short. The adgenital plates on the sides of the genital shield are weakly developed with two pores. The ventro-anal shield has on its anterior margin two paris of the setae. The number of the marginal setae is double (16). In the places of the depressions there are small star-like formations bordered by refracting dots.

Typus generis: *Caurozercon duplex* HALAŠKOVÁ, 1977.

Aspar HALAŠKOVÁ, 1977

Diagnosis (after HALAŠKOVÁ, 1977):On the peritremal shield, whose posterior exterior edge proiects to the insertion of seta *R5*, there are three setae, two short, bristle-like and a third long (35 μm) and distinctly barbed. There is no distinct slit in the sclerotisation between the peritremal shield and the margin of the body. Neither adgenital shields nor pores (the outlets of glands) are visible. On the anterior margin of the ventro-anal there are two pairs of setae. The setal row *R* has 7 members. The depressions are inconspicuous.

Typus generis: *Aspar anisotrichus* HALAŠKOVÁ, 1977.

Polonozercon BŁASZAK, 1978

Diagnosis: The peritremal shield terminates truncately behind the fourth pair of coxae. On the peritremal shield, there are two setae, the first one short and smooth — *p1* and the second one longer and barbed. Between the peritremal shield and the margin of the podonotum, is a fairly wide weakly sclerotized slit. The adgenital shields and the glands *gv2* are absent. All setae on the dorsal side with exception seta *i1* are short and smooth. On the margin of the opisthonotum, there are 7 setae. On the anterior margin of the opisthonotum, there are 7 setae. On the anterior margin of the ventro-anal shield there are four setae.

Typus generis: *Zercon tatrensis* BŁASZAK, 1974.

KEYS TO THE SPECIES OF THE ASIAN *ZERCONIDAE*

Key to the Asian species of the genus *Zercon* C. L. KOCH subgenus *Zercon* s. str. (adult stage)

1. Between the dorsal cavities there are three well sclerotized hillocks (Fig. 24, 45) . . . . . 2.
—. Between the dorsal cavities well sclerotized hillocks are absent . . 3.

2. The outer dorsal cavities are much larger than the inner ones and lie diagonally in respect to the body axis. (Fig. 24) . . ***Zercon armatus*** AOKI, 1966.
—. The outer dorsal cavities are equal to the inner ones, with axes parallel to the body axis. (Fig. 45) . . . . . ***Zercon tuberosus*** WILLMANN, 1936.
3. The insertions of setae *I6* and *Z5* are in close proximity (Figs. 5, 31, 33, 44) . . . . . 4.
—. The distance between the insertions of setae *I6* and *Z5* is at least 20 μm (Fig. 2) . . . . . 7.
4. The seta *I3* reaches almost by half of its length over the base of the seta *I4* (Fig. 33) . . . . . ***Zercon japonicus*** AOKI, 1964.
—. The seta *I3* reaches at the most as far as half the distance to seta *I4.* (Fig. 31) . . . . . 5.
5. The seta *Z3* is equal to seta *Z1.* (Fig. 31) . . . . . ***Zercon forsslundi*** SELLNICK, 1958.
—. The seta *Z3* is at least twice as long as the seta *Z1* . . . . . 6.
6. On the anterior margin of the ventro-anal shield there are 2 setae. The seta *I4* is at least three times longer than seta *I3* (Fig. 44) . . . . . ***Zercon szeptyckii*** BŁASZAK, 1976.
—. On the anterior margin of the ventro-anal shield there are 4 setae. The seta *I4* is at the most 1·5 times longer than seta *I3.* (Fig. 5) . . . . . ***Zercon bajcalensis*** sp. nov.
7. The number of the setae on the opisthonotum in row *I*, *Z* or *S* is incomplete (Figs. 25, 30, 43) . . . . . 8.
—. The number of the setae on the opisthonotum in row *I*, *Z* and *S* is complete (row *I* — 6 setae, row *Z* — 5 setae, row *S* — 4 setae) . . . . . 10.
8. In row *I* the seta *I5* is absent. In row *Z*, there are all setae (Fig. 43) . . . . . ***Zercon sinensis*** PETROVA, TASKAEVA, 68.
—. In row *I*, there are all setae. In row Z the seta Z2 is absent . . . 9.
9. The seta *I5* is equal to seta *I1* (Fig. 30) . . . . . ***Zercon ectopicus*** BŁASZAK, 1976.
—. The seta *I5* is three times longer than seta *I1* (Fig. 25) . . . . . ***Zercon asaphus*** BŁASZAK, 1976.
10. On the anterior margin of the ventro-anal shield there are 2 setae . . . 11.
—. On the anterior margin of the ventro-anal shield there are 4 setae . . . 18.
11. The seta *I5* is equal to the seta *I1* (Figs. 2, 6, 8) . . . . . 12.
—. The seta *I5* is at least twice as long as the seta *I1* (Fig. 9, 32) . . . . . 17.
12. The seta *S2* does not reach to the margin of the opisthonotum (Figs. 8, 11) 13.
—. The seta *S2* reaches over the margin of the opisthonotum (Figs. 18) 22) 16.
13. The seta *S3* reaches at the most to the margin of the opisthonotum (Fig. 11) . . . . . ***Zercon lepurus*** sp. nov.
—. The seta *S3* reaches by half of its length over the margin of the opisthonotum . . . . . 14.
14. The pore *Po3* lies on or below the line connecting setae *Z4-I5* (Fig. 8) . . . . . ***Zercon ignobilis*** sp. nov.

—. The pore *Po3* lies above the line connecting setae *Z4-I4* . . . . . 15.
15. The pore *Po3* lies on the line connecting setae *Z4-I2* (Fig. 6) . . . . . *Zercon caucasicus* sp. nov.
—. The pore *Po3* lies under the line connecting setae *Z4-I3* (Fig. 2) . . . . *Zercon adoxyphes* sp. nov.
16. The pore *Po3* lies on the line connecting setae *Z4* and *I4* (Fig. 22) . . . *Zercon amphibolus* Błaszak, 1978.
—. The pore *Po3* lies on the line connecting setae *Z3-Z4* (Fig. 18) . . . . . *Zercon acanticus* Błaszak, 1978.
17. The seta *S3* does not reach to the margin of the opisthonotum (Fig. 32) . . . *Zercon hispanicus* Sellnick, 1958.
—. The seta *S3* reaches by half of its length over the margin of the opisthonotum (Fig. 9) . . . . . *Zercon insperatus* sp. nov.
18. The pore *Po3* lies on the line connecting setae *Z4-Z1* or between the *Z* and *S* rows of setae . . . . . 19.
—. The pore *Po3* lies between the *Z* and *I* rows of setae. . . . . 24.
19. The seta *I4* reaches to the insertion of seta *I5* (Fig. 13, 34) . . . . . 20.
—. The seta *I4* does not reach to the insertion of seta *I5* (Figs. 12, 28, 42). . . . . 21.
20. The pore *Po3* lies on the line connecting setae *Z3-Z4* (Fig. 34) . . . . . *Zercon kaszabii* Błaszak, 1978.
—. The pore *Po3* lies on the line connecting setae *Z4-S2* shifted toward the seta *Z4* and away from it by its 2 diameters (Fig. 13) . . . . . *Zercon notabilis* sp. nov.
21. Setae *S2-S4*, *Z4* and *I6* pilose with hyaline ending (Fig. 42) . . . . . *Zercon pawlowskii* Błaszak, 1976.
—. The setae *S2-S4*, *Z4*, *I6* feathered without hyaline ending . . . . . 22.
22. The seta *I5* is at least twice as long as the seta *I1* (Fig. 28) . . . . . *Zercon caenolestes* Błaszak, 1976.
—. The seta *I5* is equal or shorter than the seta *I1* . . . . . 23.
23. The seta *S2* reaches at the most to the margin of the opisthonotum (Fig. 12). . . . . *Zercon michejdai* sp. nov.
—. The seta *S2* reaches by half of its length over the margin of the opisthonotum (Fig. 20). . . . . *Zercon amidrytus* Błaszak, 1978.
24. The seta *I2* reaches to the insertion of seta *I3* (Fig. 3, 4) . . . . . 25.
—. The seta *I2* reaches at the most as far as half the distance to *I3* (Fig. 14, 19) . . . . . 26.
25. The pore *Po3* lies on the line connecting setae *Z4-I4* near base of seta *Z4* (Fig. 4) . . . . . *Zercon apladellus* sp. nov.
—. The pore *Po3* lies on the line connecting setae *Z4-I3*, shifted toward the seta *Z4* and away from it by its two diameters (Fig. 3) . . . . . *Zercon agnostus* sp. nov.
26. The long setae of the opisthonotum feathered without hyaline ending (Figs. 19, 38) . . . . . 27.

—. The long setae of the opisthonotum barbed or pilose with hyaline ending (Fig. 26) . . . . . 28.
27. The seta *I5* is equal to seta *I1* (Fig. 19) . . . . . *Zercon adoxellus* Błaszak, 1978.
—. The seta *I5* is at the most twice as long as the seta *I1* (Fig. 38) . . . . . *Zercon mongolicus* Błaszak, 1978.
28. The seta *S2* does not reach to the margin of the opisthonotum (Fig. 14). . . . . *Zercon rigidus* sp. nov.
—. The seta S2 reaches to the over the margin of the opisthonotum (Figs. 7, 39) . . . . . 29.
29. The seta *I5* reaches to the posterior margin of the opisthonotum (Fig. 7). . . . . *Zercon henoticus* sp. nov.
—. The seta *I5* does not reach to the posterior margin of the opisthonotum 30.
30. The seta *I4* reaches to the base of the seta *I5* (Figs. 26, 37, 39) . . . . 31.
—. The seta *I4* reaches at the most as far as half the distance to *I5* (Figs. 15, 17, 29) . . . . . 33.
31. The seta *Z3* reaches to or over the insertion of seta *Z4* (Figs. 37, 39). . . 32.
—. The seta *Z3* does not reach to the base of seta *Z4* (Fig. 26) . . . . . *Zercon barumi* Błaszak, 1977.
32. The setae *Z1-Z2*, *I1-I2* smooth (Fig. 39) . . . . . *Zercon pakistanicus* Błaszak, 1977.
—. The setae *Z1-Z2*, *I1-I2* is broadened at the end with hyaline ending (Fig. 37) . . . . . *Zercon mahunkai* Błaszak, 1978.
33. The seta *Z3* is equal to seta *Z1* (Fig. 17) . . . . . *Zercon schrammi* sp. nov.
—. The seta *Z3* is at least twice as long as the seta *Z1* . . . . . 34.
34. The distance between the setae *I4-I5* is four times longer than the seta *I4*. The setae *I1-I3* delicately barbed (Fig. 15) . . . . . *Zercon rupestrinus* sp. nov.
—. The distance between the setae *I4-I5* is twice longer than the seta *I4*. The setae *I1-I3* smooth (Fig. 29) . . . *Zercon comaliatus* Błaszak, 1978.

Key to the known deutonymph of the genus *Zercon* s. str.

1. On the anterior margin of the ventro-anal shield there are 2 setae . . . 2.
—. On the anterior margin of the ventro-anal shield there are four setae 3.
2. The seta *S2* feathered reaches as far as half the distance to seta *S3* (Fig. 10). . . . . *Zercon insperatus* sp. nov.
—. The seta *S2* feathered reaches over the insertion of seta *S3* (Fig. 23) . . . . . *Zercon amphibolus* Błaszak, 1978.
3. The pore *Po3* lies on the line connecting setae *Z3-Z4* (Figs. 21, 35) . . . 4.
—. The pore *Po3* lies between the *Z* and *I* rows of setae (Figs. 16, 27, 40) 5.
4. The dorsal cavities are lobed in the front (Fig. 35) . . . . . *Zercon kaszabii* Błaszak, 1978.

—. The dorsal cavities are smooth in the front (Fig. 21) . . . . . *Zercon amidrytus* BŁASZAK, 1978.

5. The seta *S1* feathered without hyaline ending (Fig. 16) . . . . . *Zercon rupestrinus* sp. nov.

—. The seta *S1* feathered or barbed with hyaline ending (Figs. 27, 40) . . . 6.

6. The pore *Po3* lies on the line connecting setae *Z4-I4* (Fig. 40) . . . . . *Zercon pakistanicus* BŁASZAK, 1977.

—. The pore *Po3* lies on the line connecting setae *Z4-I3* (Fig. 27) . . . . . *Zercon barumi* BŁASZAK, 1977.

Key to the Asian species of the genus *Zercon* C. L. KOCH *Icozercon* subgen. nov. (adult stage)

1. Between the dorsal cavities, there are three well sclerotized hillocks (Fig. 47) . . . . . *Z. (Icozercon) acrochordus* sp. nov.

—. Between the dorsal cavities well sclerotized hillocks are absent . . . . 2.

2. The pore *Po3* lies between the *S* and *Z* rows of setae . . . . . 3.

—. The pore *Po3* lies between the *Z* and *I* rows of setae . . . . . 4.

3. On the opisthonotum the setae *I3* and *Z2* are absent. The seta *I1* plumose with hyaline ending (Fig. 51) . . . . . *Z. (Icozercon) sonamargus* sp. nov.

—. On the opisthonotum the setae *I3* and *Z2* are present. The seta *I1* short and smooth (Fig. 48) . . . . . *Z. (Icozercon) jammicus* sp. nov.

4. The seta *I5* is equal to seta *I1* (Figs. 52, 53) . . . . . 5.

—. The seta *I5* is at least twice as long as the seta *Z1* (Figs. 49, 50) . . . 6.

5. The seta S2 reaches to or over the margin of the opisthonotum. The setae *i5* and *i6* plumose (Fig. 52) . . . *Z. (Icozercon) srinagaricus* sp. nov.

—. The seta S2 does not reach to the margin of the opisthonotum. The setae i5 and i6 are short and smooth (Fig. 53) . . . . . *Z. (Icozercon) tarpanicus* sp. nov.

6. The seta I2 long plumose with hyaline ending (Fig. 50) . . . . . *Z. (Icozercon) prasadi* sp. nov.

—. The seta I2 short and pilose without hyaline ending. (Fig. 49) . . . . . *Z. (Icozercon) kashmiricus* sp. nov.

Key to Asian species of the genus *Prozercon* SELLNICK (adult stage)

1. Seta *R1* longer than the remaining setae of this row and plumose (Figs. 61, 65) . . . . . 2.

—. Seta *R1* short, smooth and thorn-like similar to the remaining setae of this row (Figs. 62, 66, 67) . . . . . 3.

2. Seta *R2* plumose similar to the seta *R1* . . . . . *Prozercon halaskovae* PETROVA, 1977

—. Seta *R2* short, smooth and thorn-like similar to the setae *R3-R8* (Fig. 61). . . . . ***Prozercon dominiaki*** sp. nov.

3. Seta *S1* short and smooth (Fig. 62) . . . . . ***Prozercon fimbriatus*** (C. L. KOCH, 1839).

—. Seta *S1* is long and plumose (Figs. 66, 67) . . . . . 4.

4. The setae *s1-s4*, *i2-i4* and *i6* are smooth (Fig. 66) . . . . . ***Prozercon micherdzinskii*** BŁASZAK, 1978.

—. The setae s1-s4, i2-i4 and i6 are plumose (Fig. 67) . . . . . ***Prozercon satapliae*** PETROVA, 1977.

Key to the Asian species of the genus *Parazercon* TRÄGÅRDH (adult stage)

1. In row *I* only 5 setae (the seta *I5* is absent) (Fig. 55) . . . . . ***Parazercon radiatus*** (BERLESE, 1910).

—. In row *I* are 7 setae. Between the setae *I4* and *I5* there are one pair the additional setae *Ix* (Fig. 59) . . . . . ***Parazercon sichotensis*** PETROVA, 1977.

Key to Asian species of the genus *Echinozercon* BŁASZAK, 1975 (Females)

1. In row *I* only 4 setae (the setae *I2* and *I4* are absent) (Fig. 75) . . . . . ***Echinozercon orientalis*** BŁASZAK, 1975.

—. The number in row *I* is complete i. e. 6 setae (the setae *I2* and *I4* are present) (Fig. 76) . . . . . ***Echinozercon nipponicus*** BŁASZAK, 1977.

Key to the Asian species of the genus *Mesozercon* BŁASZAK, 1975 (Females)

1. The setae *Z1* and *Z2* are equally removed from the anterior margin of the opisthonotum (Fig. 71) . . . . ***Mesozercon plumatus*** (AOKI, 1966).

—. The seta *Z2* lies twice as far from the anterior margin of the opisthonotum as the seta *Z1* (Fig. 72) . . . . ***Mesozercon coreanus*** BŁASZAK, 1975.

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STRESZCZENIE

Autor opisuje nowy podrodzaj *Icozercon* rodzaju *Zercon* C. L. Koch z 7 nowymi gatunkami. Zamieszcza również opisy 14 nowych gatunków z podrodzaju *Zercon* s. str., a także jeden nowy gatunek z rodzaju *Prozercon* Selln. Praca uzupełniona jest kluczami do oznaczania wszystkich dotychczas znanych gatunków *Zerconidae* z Azji oraz wszystkich znanych rodzajów tej rodziny z obszaru holarktycznego.

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