

A revision of some species of *Microcreagris* Balzan, 1892 (Neobisiidae, Pseudoscorpiones) from the USSR and adjacent regions

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Summary

The accessible neobisiid pseudoscorpions assigned to the genus *Microcreagris* Balzan, 1892, and present in the USSR and adjacent countries were revised. The type material previously described by V. Redikorzev from different regions of Asia was re-examined. The presence of one genus (*Acanthocreagris* Mahnert, 1976) was established, and one genus (*Bisetocreagris* Čurčić, 1983) previously reported from this region was confirmed. The occurrence of a further two genera and nine species previously unknown from the USSR and adjacent regions, was demonstrated. All are newly described. The genera and species studied are as follows: *Acanthocreagris aucta* (Redikorzev, 1949), *A. abaris* n. sp., *Bisetocreagris kaznakovi* (Redikorzev, 1918), *B. tenuis* (Redikorzev, 1934), *B. gracilis* (Redikorzev, 1934), *B. ussuriensis* (Redikorzev, 1934), *B. egeria* n. sp., *B. phoebe* n. sp., *B. erytheia* n. sp., *B. merope* n. sp., *B. gorgo* n. sp., *Orientalcreagris syrinx* n. g. and n. sp., *O. (?) latona* n.g. and n. sp., and *Pedalocreagris tethys* n. g. and n. sp. Available zoogeographical information on these taxa is briefly described.

A key to genera and illustrations of diagnostic characters of each new genus and each species are provided.

Introduction

The genus *Microcreagris* Balzan, 1892, was re-defined by Mahnert (1979). According to the concept presented in this study, *Microcreagris* is a genus of two species confined to China and Afghanistan respectively (Čurčić, 1983).

Although new forms of pseudoscorpions are still being described, phylogenetic and taxonomic studies of the higher categories have, in general, lagged far behind the description of species. This study of the genus *Microcreagris* in the USSR and adjacent regions represents a second contribution to the knowledge of the "*Microcreagris*" complex in Asia (see Čurčić,

1983); it was undertaken to add to our knowledge of taxonomy and to offer a better understanding of the systematic positions of the species of pseudoscorpions in the light of modern concepts of higher taxa. Taxonomic investigations were carried out by studying the variation of morphological characters, especially those with high taxonomic weight. This resulted in the redescription of five species, and in the description of two genera and nine species new to science.

Five of the species included in *Microcreagris* by Redikorzev (1918, 1934, 1949) were removed from the genus in the present treatment. The excluded species fall into two genera. The first to be considered, *Acanthocreagris* Mahnert, 1976, comprises the former *Microcreagris ronciformis aucta* Redikorzev, 1949, and a new species from the Turkmenian SSR.

The second group of excluded species comprises the former *Microcreagris gracilis* Redikorzev, 1934, *M. tenuis* Redikorzev, 1934, *M. ussuriensis* Redikorzev, 1934, and *M. kaznakovi* Redikorzev, 1918, and five new species from the USSR and adjacent countries. The differences between this species group and *Microcreagris* are manifested in features with high taxonomic weight; the distinctions established, however, have ensured recognition of this group of pseudoscorpions as members of a separate genus: *Bisetocreagris* Čurčić, 1983.

The remaining three species fall into two new genera, of which the first, *Orientalcreagris*, comprises two new species from the Soviet Far East and Turkmenistan respectively (the latter species is provisionally included in the genus). The next newly-established genus, *Pedalocreagris*, is based on a new species, also from the Soviet Far East. Both species groups and all species are distinct from each other as well as from the representatives of *Microcreagris* s.str.

In the determination of generic limits, anatomical evidence played a significant role, particularly with regard to the identification of probable synapomorphic characters of the species.

The aim of this paper is to demonstrate the heterogeneity of "*Microcreagris*" in the USSR and adjacent regions, to offer evidence supporting the view that the newly-established taxa are generically and specifically distinct, and to present valid criteria for the identification of some species of "*Microcreagris*" from the USSR and other regions in Asia. These

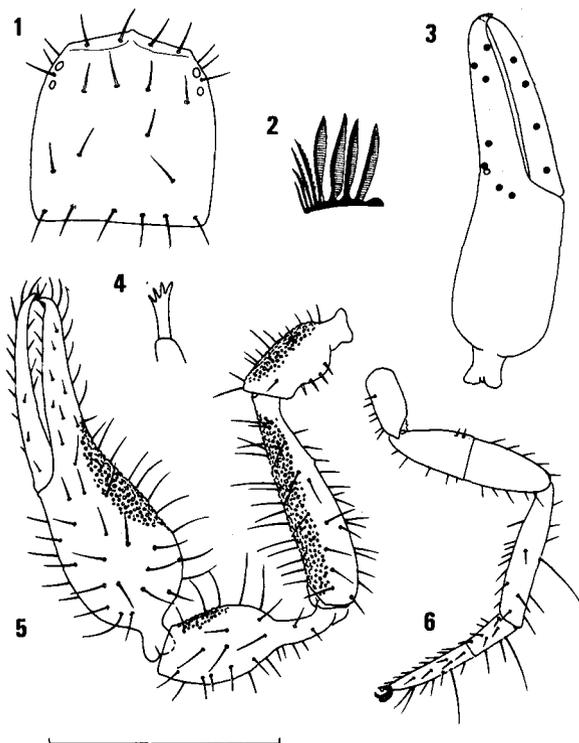
studies, however, impose the necessity of further confirmation of the taxonomic status of all other Asian species currently included in the genus *Microcreagris*.

Abbreviations: ZIL = Zoological Institute in Leningrad; IEMAE = Institute of Evolutionary Morphology and Animal Ecology in Moscow.

Family NEOBISIIDAE Chamberlin, 1930

Genus *Acanthocreagris* Mahnert, 1976

This genus was established by Mahnert (1976) with *Microcreagris gallica* Beier as the type species. According to Gardini (1983), it comprises 38 species, ranging from SW Europe to Iran. In the present treatment, two more species are included in this genus, one of which was erroneously placed in *Microcreagris* by Redikorzev (1949), whilst the other is new to science.



Figs. 1-6: *Acanthocreagris aucta* (Redikorzev, 1949), male. 1 Carapace; 2 Flagellum; 3 Chela; 4 Galea; 5 Pedipalp; 6 Leg IV. Scale line = 1.0 mm (1, 3, 5, 6), 0.25 mm (2, 4).

Acanthocreagris aucta (Redikorzev, 1949) (Figs. 1-6)

Microcreagris ronctiformis aucta Redikorzev, 1949.

Material examined: One male (Coll. IEMAE), from Kopet-Dagh, Ay-Dere, Turkmenian SSR, M. S. Ghilarov leg.

Description: Carapace longer than broad (Fig. 1; Table 1); epistome small and tubercular; four eyes resembling eye-spots; setal formula of carapace: 4-6,24 (including two setae in front of each anterior eye; Fig. 1).

Tergite I with 12 setae; tergites II and III with 10 and 11 setae respectively; tergites IV-X with 12 setae each. Male genital area: sternite II with a group of 18 posterior and median setae, sternite III with two pairs of anterior and median setae, and a transverse row of 10 posterior setae; sternite IV with 9, and sternites V-X with a total of 13-16 setae each (sternites VI-VIII each with a pair of anterior discal setae). Sternite III with 2, and sternite IV with 3-4 suprastigmal microsetae on each side. Female genital area: unknown. Pleural membranes granulostriate.

Galea irregularly branched, with four terminal and subterminal branchlets (Fig. 4). Cheliceral palm with six setae, movable finger with one seta. Flagellum eight-bladed (Fig. 2).

Manducatory process with 3 long acute setae. Pedipalpal trochanter with 4 interior short and stout setae (Fig. 5). Trochanter, femur, tibia and chelal palm granulate (Fig. 5). Fixed chelal finger with 72 pointed teeth, movable finger with 55 rounded and close-set teeth. Trichobothriotaxy as in Fig. 3. Chelal fingers as long as chelal palm (Table 1).

Leg IV: tibia, basitarsus and telotarsus with a tactile seta each (Fig. 6).

Morphometric ratios and measurements are presented in Table 1.

Diagnosis: *A. aucta* is easily distinguished from *A. abaris* n. sp. by the carapacial chaetotaxy, tergal and sternal chaetotaxy, form of the pedipalpal articles, and by some linear measurements and morphometric ratios.

Distribution: Turkmenian SSR.

Acanthocreagris abaris new species (Figs. 7-12)

Etymology: *Abaris* was a legendary servant of Apollo; he lived without food, and travelled everywhere bearing a golden arrow, the symbol of god.

Material examined: Holotype male and paratype male (Coll. IEMAE), from Kara Kali, "Syuit-Hassardaghskiy zapoved.", mouth of the river El-Dere, Turkmenian SSR, under stones, 2 February 1981, S. K. Alekseev leg. Specimens previously unnamed.

Description: Anterior carapacial margin slightly convex, with rounded epistome (Fig. 7); carapace longer than broad. Anterior eyes with somewhat more prominent lenses than posteriors. Carapacial formula: 4-6,22.

Tergites I and II each with 8-10 setae; tergites III-X each with 11-14 setae. Male genital area: sternite II with 20-26 median and posterior setae, sternite III with two pairs of anteromedian setae, and 10 or 11 setae along its posterior margin. Stigmatic plates with 3 or 4 small setae each. Sternites VI and VII biseriata, with two anterior discal setae each. Pleural membranes granulostriate.

Cheliceral galea with four terminal and sub-terminal branchlets (Fig. 8). Cheliceral palm with six, movable finger with one seta. Flagellum eight-bladed, characteristic of the genus *Acanthocreagris* (Fig. 9).

Apex of pedipalpal coxa with 3 long acuminate setae. Pedipalpal trochanter with 4 or 5 interior short and stout setae, and a small rounded tubercle. Pedipalpal articles granulate (Fig. 12). Fixed chelal finger with 57 or 58 teeth, movable finger with 53 or 54 rounded and close-set teeth. Chelal fingers somewhat longer than chelal palm (Table 1). Trichobothrial pattern (Fig. 10) and disposition of pedal tactile setae on leg IV (Fig. 11) similar to those of the other species of *Acanthocreagris* (Mahnert, 1976).

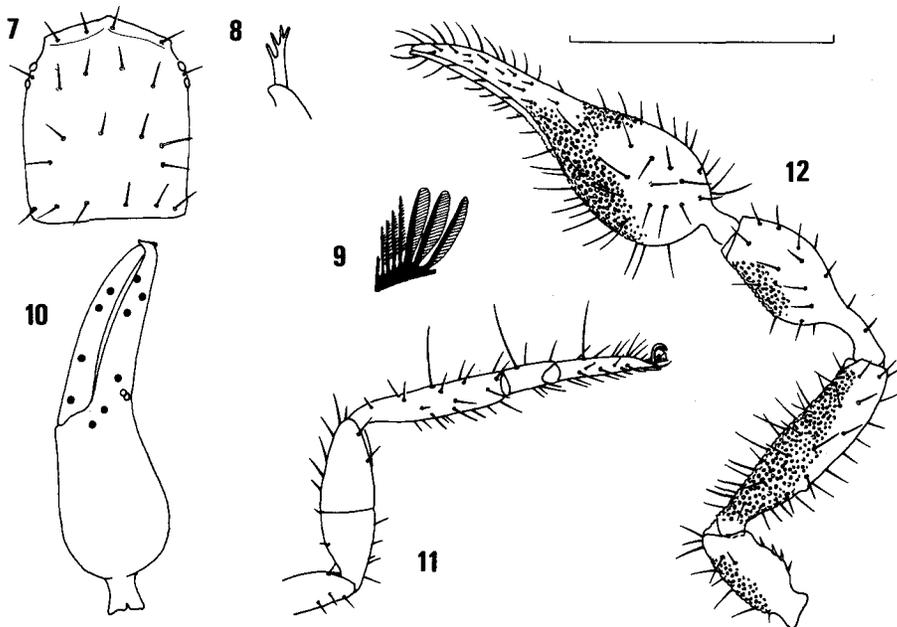
Morphometric ratios and measurements are presented in Table 1.

Diagnosis: *A. abaris* differs from *A. aucta* in the number and disposition of carapacial setae, in the tergal and sternal chaetotaxy, in the shape of the pedipalpal articles, and in some morphometric ratios and linear measurements.

Distribution: Turkmenian SSR.

Genus *Bisetoacreagris* Ćurčić, 1983

This genus was established (Ćurčić, 1983) to accommodate seven species of Asian pseudoscorpions, previously included in the heterogeneous complex of *Microcreagris* by Beier (1931, 1951,



Figs. 7-12: *Acanthocreagris abaris* n. sp., holotype male. 7 Carapace; 8 Galea; 9 Flagellum; 10 Chela; 11 Leg IV; 12 Pedipalp. Scale line = 1.0 mm (7, 10-12), 0.25 mm (8, 9).

1959, 1979). In the present treatment, nine more species are allocated to this genus, five of which are new to science. The remaining four species were erected by Redikorzev (1918, 1934) and erroneously placed either in *Microcreagris* or in other genera.

***Bisetocreagris egeria* new species (Figs. 13-18)**

Etymology: In mythology, *Egeria* was a goddess, probably of water.

Material examined: Holotype female and paratype female (Coll. IEMAE), Kara-Kalinskiy Region, mouth of the river Ay-Dere, Turkmenian SSR, 2 February 1982, K. G. Mikhailov leg. Specimens previously unnamed.

Description: Epistome small, rounded and tubercular; carapace longer than broad (Fig. 13); four eyes, with prominent lenses. Setal formula of carapace: 4-6, 24.

Tergite I with 8 or 9 setae, tergite II with 9 setae; tergites III-X each with 12 to 14 setae. Female genital area: sternite II with a group of 2 or 3 small setae on either side of the middle; sternite III carries 9 or 10 posterior setae. Sternite IV with 9 setae, sternites

V-X each with 14-16 setae. Stigmatic plates with 3 or 4 microsetae each. Female genital area: unknown. Tergites and sternites uniseriate. Pleural membranes granulostriate.

Galea has four apical branchlets (Fig. 15). Fixed cheliceral finger with seven, movable finger with one seta. Flagellum of eight blades, with a form characteristic of the genus (Fig. 14).

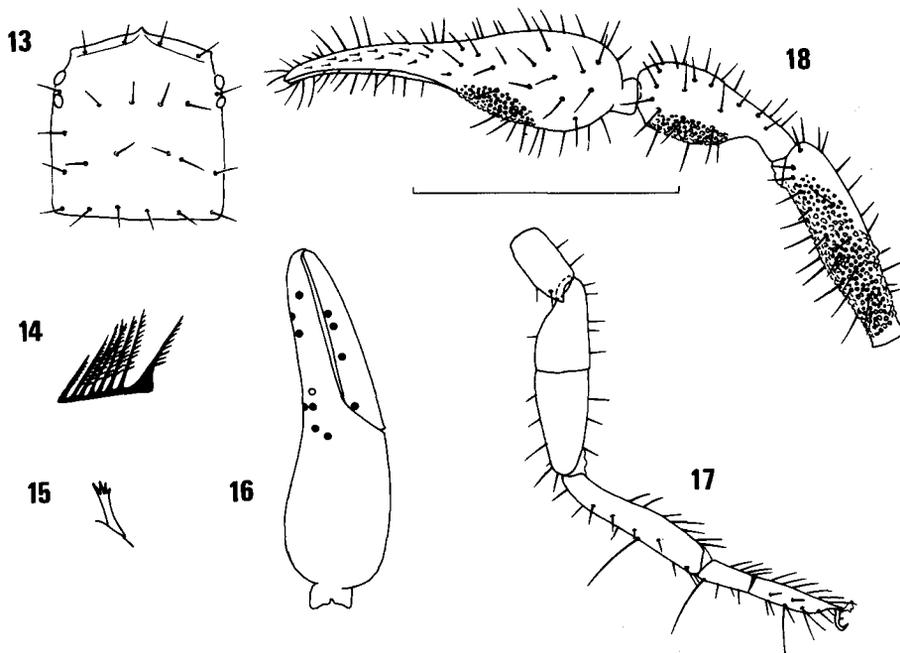
Manducatory process with 4 long and acute setae. Pedipalpal trochanter with a small tubercle; femur, tibia and chelal palm granulate (Fig. 18). Fixed chelal finger with 57-61 contiguous teeth, movable finger with 55-59 teeth. Chelal fingers somewhat longer than chelal palm (Table 1). Trichobothrial pattern as in Fig. 16.

Pedal tactile setae of leg IV as in Fig. 17.

Morphometric ratios and measurements are given in Table 1.

Diagnosis: *B. egeria* is distinguished from *B. gracilis* by the abdominal chaetotaxy, by the form of the pedipalps, by the number of teeth on the pedipalpal chela, and by some morphometric ratios.

Distribution: Turkmenian SSR.



Figs. 13-18: *Bisetocreagris egeria* n. sp., holotype female. 13 Carapace; 14 Flagellum; 15 Galea; 16 Chela; 17 Leg IV; 18 Pedipalp. Scale line = 1.0 mm (13, 16-18), 0.25 mm (14, 15).

	<i>A. aucta</i> ♂	<i>A. abaris</i> ♂♂	<i>B. egeria</i> ♀♀	♂	<i>B. gracilis</i> tritonymph
Body					
Length (1)	3.15	2.915-3.24	3.31 -3.95	3.64	2.74
Cephalothorax					
Length (2)	0.82	0.72 -0.84	0.77 -0.78	1.17	0.75
Breadth	0.78	0.63 -0.665	0.64 -0.69	0.95	0.64
Abdomen					
Length	2.33	2.195-2.40	2.54 -3.17	2.47	1.99
Breadth	1.23	0.69 -1.03	1.17 -1.58	1.17	0.96
Chelicerae					
Length (3)	0.51	0.43 -0.46	0.51	0.70	0.44
Breadth	0.27	0.205-0.22	0.26	0.34	0.32
Length of movable finger (4)	0.36	0.29	0.33 -0.36	0.46	0.26
Ratio 3/4	1.42	1.48 -1.59	1.42 -1.55	1.52	1.69
Length of galea	0.07	0.06 -0.07	0.05 -0.06	0.05	0.05
Pedipalps					
Length with coxa (5)	4.83	4.07 -4.29	4.08 -4.095	7.04	3.85
Ratio 5/1	1.53	1.32 -1.40	1.04 -1.23	1.93	1.405
Length of coxa	0.58	0.54 -0.57	0.58 -0.59	0.70	0.445
Length of trochanter	0.58	0.48 -0.53	0.48 -0.49	0.83	0.425
Length of femur (6)	1.01	0.86 -0.92	0.85 -0.86	1.54	0.86
Breadth of femur (7)	0.24	0.22 -0.23	0.205-0.23	0.29	0.20
Ratio 6/7	4.21	3.91 -4.00	3.695-4.20	5.31	4.30
Ratio 6/2	1.23	1.095-1.19	1.09 -1.12	1.32	1.15
Length of tibia (8)	0.90	0.75 -0.81	0.69 -0.70	1.43	0.69
Breadth of tibia (9)	0.33	0.30 -0.305	0.27 -0.28	0.36	0.25
Ratio 8/9	2.73	2.50 -2.655	2.46 -2.59	3.97	2.76
Length of chela (10)	1.76	1.44 -1.46	1.45 -1.485	2.54	1.43
Breadth of chela (11)	0.51	0.425-0.44	0.37 -0.40	0.59	0.39
Ratio 10/11	3.45	3.32 -3.39	3.71 -3.92	4.305	3.67
Length of chelal palm (12)	0.87	0.70 -0.71	0.66 -0.69	1.10	0.68
Ratio 12/11	1.705	1.61 -1.65	1.73 -1.78	1.86	1.74
Length of finger (13)	0.89	0.74 -0.75	0.79 -0.795	1.44	0.75
Ratio 13/12	1.02	1.06	1.15 -1.20	1.31	1.10
Leg IV					
Total length	3.055	2.53 -2.605	2.75	4.40	2.60
Length of coxa	0.425	0.37 -0.41	0.44 -0.45	0.55	0.40
Length of trochanter (14)	0.34	0.29 -0.30	0.30 -0.31	0.445	0.28
Breadth of trochanter (15)	0.14	0.29 -0.30	0.14 -0.15	0.205	0.16
Ratio 14/15	2.43	1.93 -2.31	2.07 -2.14	2.17	1.75
Length of femur (16)	0.74	0.67 -0.69	0.76 -0.78	1.255	0.73
Breadth of femur (17)	0.185	0.185-0.21	0.195-0.25	0.31	0.205
Ratio 16/17	4.00	3.285-3.62	3.80 -3.90	4.05	3.56
Length of tibia (18)	0.67	0.60 -0.64	0.64	1.19	0.62
Breadth of tibia (19)	0.13	0.12	0.11 -0.12	0.15	0.11
Ratio 18/19	5.15	5.00 -5.33	5.33 -5.82	7.93	5.64
Length of basitarsus (20)	0.22	0.205-0.22	0.23	0.41	0.23
Breadth of basitarsus (21)	0.10	0.10	0.09 -0.10	0.13	0.08
Ratio 20/21	2.20	2.05 -2.20	2.30 -2.56	3.15	2.875
Length of telotarsus (22)	0.44	0.37	0.36	0.55	0.34
Breadth of telotarsus (23)	0.08	0.07 -0.075	0.075-0.08	0.085	0.08
Ratio 22/23	5.50	4.93 -5.285	4.50 -4.80	6.47	4.25
Tactile setae ratio					
tibia IV	0.64	0.53 -0.54	0.595-0.60	0.54	0.50
basitarsus IV	0.29	0.23 -0.28	0.205-0.22	0.15	0.18
telotarsus IV	0.33	0.30 -0.31	0.43 -0.50	0.50	0.41

Table 1: Range in measurements (mm) of various structures, together with selected ratios, in *Acanthocreagris aucta* (Redikorzev), *A. abaris* n. sp., *Bisetocreagris egeria* n. sp. and *B. gracilis* (Redikorzev).

Bisetocreagris gracilis* (Redikorzev, 1934) (Figs. 19-24)Microcreagris gracilis* Redikorzev, 1934.

Material examined: Holotype male and paratype tritonymph (Coll. ZIL No. 1082), from Semiretschje, Alexander-Gebirge, Schlucht des Flusses Tujuk, steiniger Abhang", Kazakhskaya SSR, 13 June 1931, V. Schnitnikov leg.

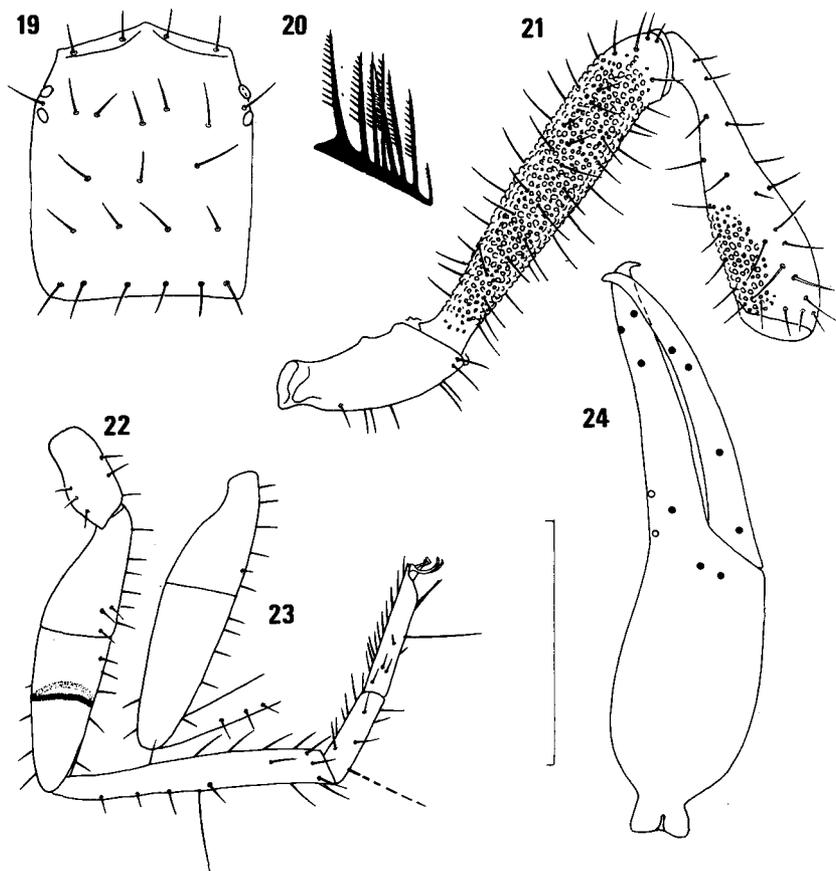
Description: Epistome small and rounded; carapace longer than broad (Fig. 19; Table 1). Four eyes, with flattened lenses. Carapacial chaetotaxy: 4-6,22 (tritonymph), and 4-6,24 (male).

Tergite I with 9 setae, tergites II-X each with 11 (tritonymph), or 11-13 setae (male). In tritonymph, sternite II with 2 setae, and sternite III with 9 posterior setae. Male genital area: sternite II with a

group of 34 median and posterior setae; sternite III bears an anteromedian bisetous groove, followed by a transverse row of 18 posterior setae (in this specimen, no intermediary setae occur on the sternite). Sternites III and IV each with four supra-stigmatic setae on each side in both tritonymph and male. Tergites and sternites uniseriate, sternites V-X each with 10-13 (tritonymph), or 13-15 setae (male). Female genital area: unknown. Pleural membranes granulostriate.

Galea of the tritonymph triple (with three terminal branchlets); in male, galea has only two apical branchlets. Fixed cheliceral finger with 6 (tritonymph), or 7 setae (male); movable finger with one seta. Flagellum eight-bladed (Fig. 20).

Apex of pedipalpal coxa with 3 (tritonymph), or



Figs. 19-24: *Bisetocreagris gracilis* (Redikorzev, 1934), holotype male. 19 Carapace; 20 Flagellum; 21 Pedipalpal trochanter, femur and tibia; 22 Right leg IV; 23 Left femur IV; 24 Chela. Scale line = 1.0 mm (19, 21-24), 0.25 mm (20).

4 (male) long and acute setae. Pedipalpal trochanter smooth, with a small tubercle, tibia with small and faint granulations, femur and chelal palm granulate (Fig. 21). Fixed chelal finger with 54 close-set teeth (tritonymph), movable finger with 53 teeth. In male, fixed finger is damaged, movable finger with 77 teeth. Chelal fingers longer than palm. Disposition of trichobothria as in Fig. 24.

Number and position of pedal tactile setae are shown in Fig. 22. Morphometric ratios and measurements are given in Table 1.

Diagnosis: *B. gracilis* differs from *B. egeria* n. sp. in the number of setae on tergites and sternites, in the shape of the pedipalpal articles, in the number of teeth on the pedipalpal chela, and in some morphometric ratios and linear measurements.

Distribution: Káзахskaya SSR.

Teratology: The right femur of leg IV in the holotype male has a secondary constriction on the telo-

femur similar to a secondary joint (Fig. 22). The left telofemur IV is normal (Fig. 23).

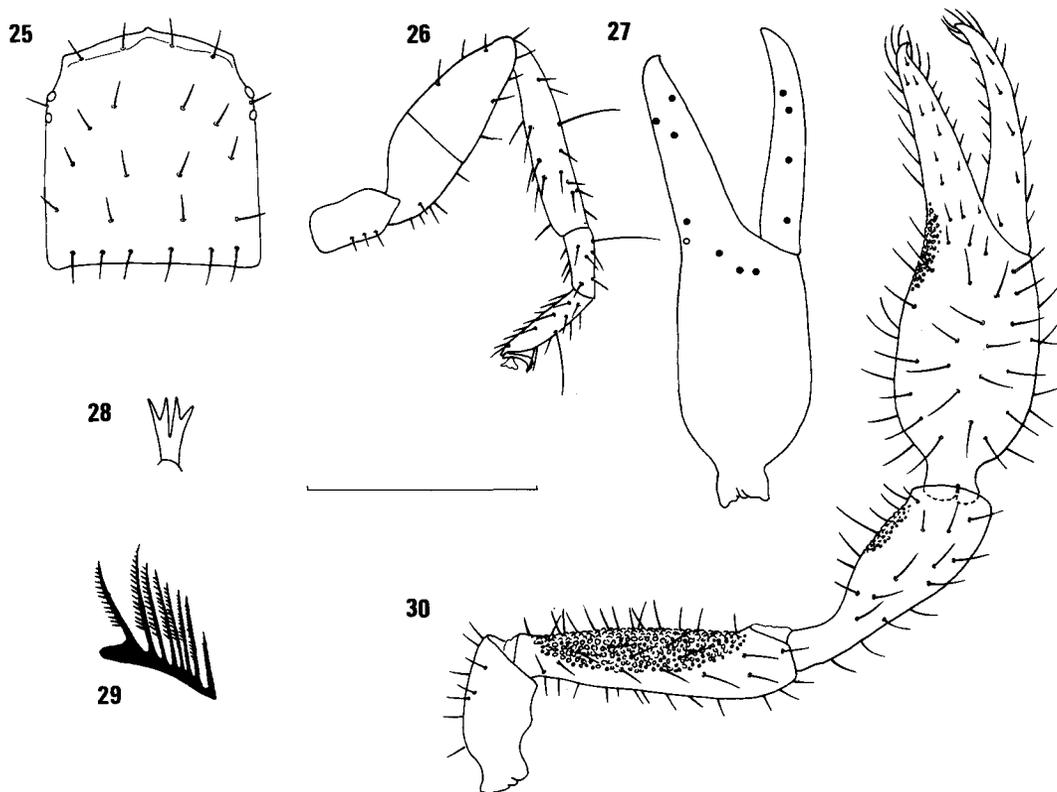
***Bisetocreagris kaznakovi* (Redikorzev, 1918) (Figs. 25-30)**

Ideobisium (Microcreagris) kaznakovi Redikorzev, 1918; in part.

Material examined: Holotype female (Coll. ZIL No. 72), from "Thibet: monts Amnenkor (14-15,000', June (July?) 1900; Expédition au Thibet 1899-1901".

Description: Epistome small and rounded (Fig. 25); four eyes with flattened lenses, anteriors somewhat more prominent than posteriors. Carapace longer than broad (Table 2). Setal formula of carapace: 4-6,24.

Tergite I with 9, and tergite II with 10 setae; tergites III-X each with 13-16 setae. Female genital area: sternite II with 4 small setae on either side of



Figs. 25-30: *Bisetocreagris kaznakovi* (Redikorzev, 1918), holotype female. 25 Carapace; 26 Leg IV; 27 Chela; 28 Galea; 29 Flagellum; 30 Pedipalp. Scale line = 1.0 mm (25-27, 30), 0.25 mm (28, 29).

mid-line, sternite III with a posterior row of 16 setae and 4-5 microsetae along each stigma; sternite IV bears 4-6 suprastigmal setae on each side, and a transverse row of 18 setae. Sternites V-X uniseriate. Male genital area: unknown. Pleural membranes granulostriate.

Cheliceral galea bifurcate, each branch with two terminal branchlets (Fig. 28). Fixed cheliceral finger with 6 setae, movable finger with one seta. Flagellum eight-bladed, characteristic of the genus (Fig. 29).

Apex of pedipalpal coxa with 4 long and acuminate setae. Pedipalpal trochanter smooth, with a small tubercle; femur, tibia and chelal palm granulate (Fig. 30). Fixed chelal finger with 63 retroconical teeth, movable finger with 61 rounded and close-set teeth. Disposition and number of trichobothria characteristic of the genus *Bisetocreagris* (Fig. 27).

Tibia IV, basitarsus IV and telotarsus IV with a single tactile seta each (Fig. 26).

Morphometric ratios and measurements are presented in Table 2.

Diagnosis: This species seems to be close to *B. phoebe* n. sp. From this new species it differs notably in the carapacial chaetotaxy, in the form of the pedipalpal articles, and in some linear measurements and morphometric ratios.

Distribution: Tibet.

Remarks: The type series of *M. kaznakovi* consists of two female specimens, one of them conforming well to the description of Redikorzev (1918), and designated by him as the holotype. The other specimen (paratype of *M. kaznakovi*) belongs to a separate taxon; it is therefore designated here as the holotype of *Bisetocreagris phoebe* n. sp.

***Bisetocreagris phoebe* new species (Figs. 31-36)**

Ideobisium (Microcreagris) kaznakovi Redikorzev, 1918; in part.

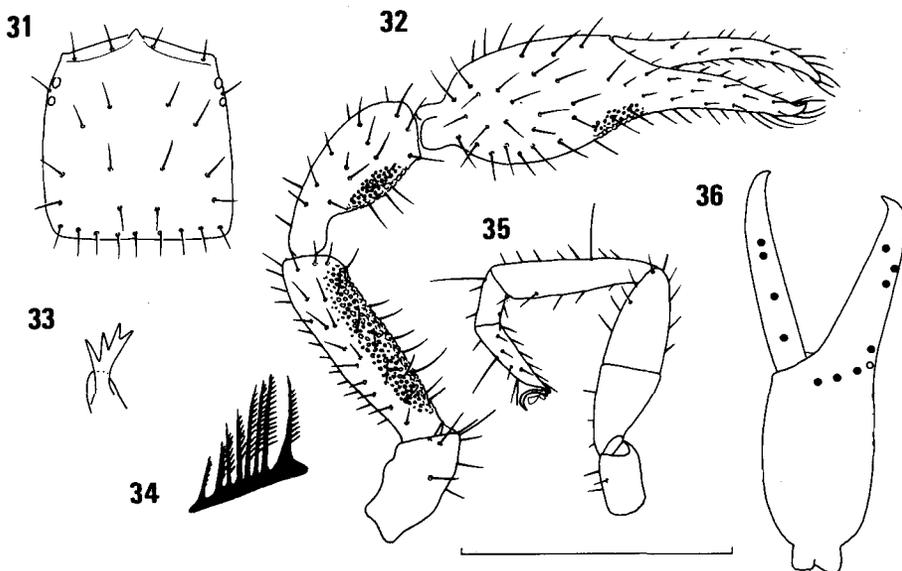
Microcreagris kaznakovi (Redikorzev, 1918) in part.; *M. Beier* misident. (on label in vial).

Etymology: *Phoebe* was a Titaness, daughter of Heaven and Earth.

Material examined: Holotype female (Coll. ZIL No. 114), from "Thibet: rivièrè Tschok-tschio (12,000')", basin of Maychoktschikam, August 1900, "Expédition au Thibet 1899-1901."

Description: Epistome small and knob-like; carapace somewhat longer than broad (Fig. 31; Table 2); four eyes, with flattened lenses. Carapacial chaetotaxy: 4-9,27.

Tergite I with 10, tergites II-X each with 12-17



Figs. 31-36: *Bisetocreagris phoebe* n. sp., holotype female. 31 Carapace; 32 Pedipalp; 33 Galea; 34 Flagellum; 35 Leg IV; 36 Chela. Scale line = 1.0 mm (31, 32, 35, 36), 0.25 mm (33, 34).

setae. Female genital area: sternite II with a group of three setae on either side of mid-line; sternite III with a transverse row of 11 setae and 3-5 microsetae along each stigma. Male genital area: unknown. Tergites and sternites V-X uniseriate. Pleural membranes granulostriate.

Cheliceral galea with four apical and subapical branchlets (Fig. 33). Fixed cheliceral finger with six, movable finger with one seta. Flagellum composed of eight blades (Fig. 34).

Apex of pedipalpal coxa (manducatory process) with 4 long and acute setae. Pedipalpal trochanter smooth, with a small and rounded tubercle; femur, tibia and chelal palm granulate (Fig. 32). Fixed chelal finger with 52 teeth, movable finger with 50 close-set teeth. Number and disposition of trichobothria as in Fig. 36. Chelal fingers shorter than chelal palm (Table 2).

Pedal tactile setae of leg IV as in Fig. 35.

Morphometric ratios and measurements are presented in Table 2.

Diagnosis: *B. phoebe* n. sp. is distinguished from *B. kaznakovi* by the carapacial chaetotaxy, the form of the pedipalps, and some morphometric ratios and linear measurements.

Distribution: Tibet.

Remarks: The holotype of *B. phoebe* n. sp. was included in the type series of *M. kaznakovi* by Redikorzev (1918), and therefore represented a paratype of Redikorzev's species until it was designated by the present author as the holotype of the new species (*B. phoebe* n. sp.).

***Bisetocreagris tenuis* (Redikorzev, 1934)** (Figs. 37-42)

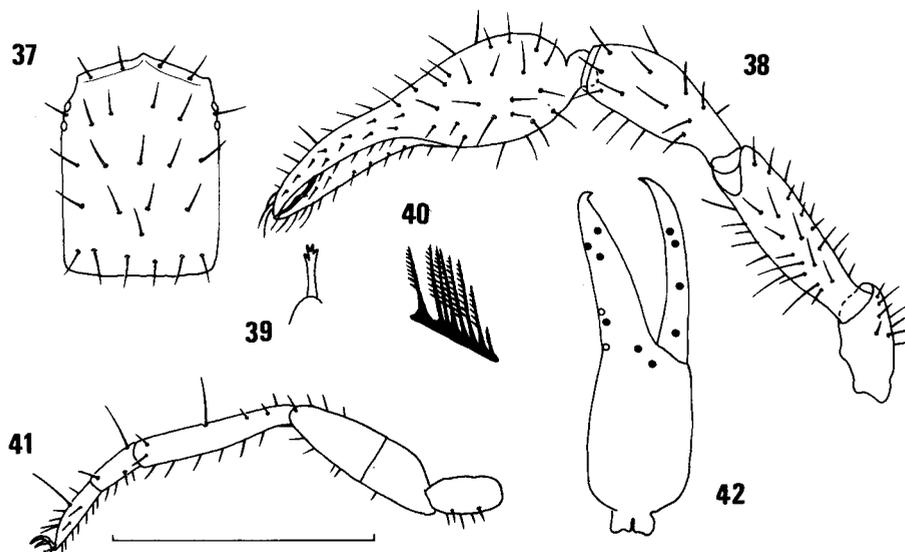
Ideobisium kiritschenkoi Redikorzev; *nomen nudum* (name not published, but written only by Redikorzev on the label designating the type of *M. tenuis*).

Microcreagris tenuis Redikorzev, 1934.

Material examined: Holotype female (Coll. ZIL No. 725), from Mongolia, "Gobi-Alatau, Iche-Bogdò, unter Steinen", 16 August 1926, A. N. Kiritschenko leg.

Description: Anterior carapacial margin slightly convex; epistome knob-like; carapace longer than broad (Fig. 37); four eyes, with flattened lenses. Setal formula of carapace: 4-6,26.

Tergal formula: 10-11-14-14-16-16-17-16-15-15. Female genital area: sternite II carries a group of 3 or 4 setae on either side of mid-line; sternite III with 14 posterior setae, and sternite IV with a transverse row



Figs. 37-42: *Bisetocreagris tenuis* (Redikorzev, 1934), holotype female. 37 Carapace; 38 Pedipalp; 39 Galea; 40 Flagellum; 41 Leg IV; 42 Chela. Scale line = 1.0 mm (37, 38, 41, 42), 0.25 mm (39, 40).

of 13 marginal setae; four microsetae along each stigma on sternites III and IV. Tergites and sternites V-X uniseriate, each with 14-19 setae. Pleural membranes granulostriate.

Galea present, with four apical branchlets (Fig. 39). Pedipalpal articles smooth, trochanter with a small and rounded tubercle (Fig. 38). Fixed chelal finger with 63 retroconical teeth, movable finger with 51 rounded and close-set teeth. Chelal palm shorter than chelal fingers. Number and disposition of trichobothria as in Fig. 42.

Tactile setae of leg IV as in Fig. 41.

Morphometric ratios and measurements are presented in Table 2.

Diagnosis: *B. tenuis* differs considerably from *B. kaznakovi* and *B. phoebe* n. sp. in the carapacial chaetotaxy, in the tergal and sternal formulae, in the chelal dentition, and in some morphometric ratios and linear measurements.

Distribution: Mongolia.

***Bisetocreagris ussuriensis* (Redikorzev, 1934) (Figs. 43-54)**

Microcreagris ussuriensis Redikorzev, 1934.

Material examined: Holotype male (Coll. ZIL No. 824), from Maritime Province, Soviet Far East, "Ussurigebiet, Station Tigrovaja, in abgefallenem Laub", 10 June 1927, P. Rezvoy leg.; one male and one tritonymph (Coll. ZIL), from Maritime Province, Soviet Far East, Chuguevka Region, Verkhne-Ussurijsky Station, *Picea* wood litter, 26 August 1974.

Description: Epistome small and tubercular; four eyes, with almost flattened lenses; carapace only somewhat longer than broad (Figs. 43, 48; Table 2). Setal carapacial formulae: 4-7,24 (holotype), or 4-6,22 (tritonymph and another male).

Tergal formulae: 7-12-11-11-12-11-11-12-11-12 (holotype male), 7-10-12-12-11-13-13-11-13-12 (male), and 7-9-12-12-11-12-11-11-11-11 (tritonymph). In tritonymph, sternite II bears no setae, sternites III and IV each with 8 setae; sternites V-X each bear 10-13 setae. Sternite III with 3 or 4, and sternite IV with 2 small suprastigmal setae. Male genital area: sternite II with 24 or 31 scattered median and posterior setae; sternite III with an anteromedian bisetous groove, 4 or 6 intermediary,

and 10 posterior setae. Sternite IV with 10, and sternites V-X each with 14-18 posterior setae. Stigmatic plates each with 4-5 (sternite III), or 4 microsetae (sternite IV). Tergites and sternites V-X uniseriate; pleural membranes granulostriate.

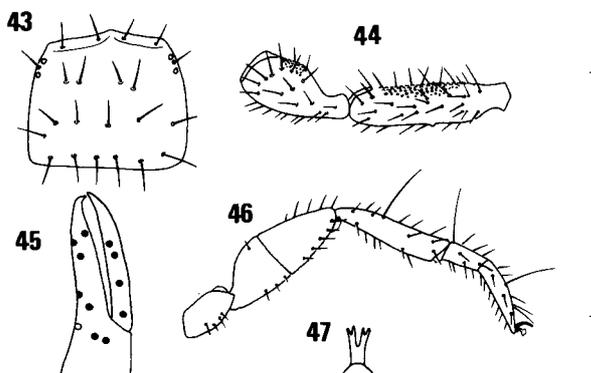
Galea small and triple (tritonymph) or quadrispinose (male; Figs. 47, 53). Flagellum eight-bladed (Fig. 54).

Manducatory process with 3 (tritonymph), or 4 long acuminate setae (male); trochanter with a small tubercle. Pedipalpal articles (femur, tibia and chelal palm) with inconspicuous granulations (holotype), which may be reduced on femur and tibia (tritonymph and another male; Figs. 44, 51). Fixed chelal finger with 38 (tritonymph), 52 (holotype), or 56 teeth (male); movable finger with 41 (tritonymph), 55 (holotype), and 52 teeth respectively (male). Number and disposition of trichobothria are shown in Figs. 45, 49, 50. Chelal fingers longer than chelal palm (Table 2).

Leg IV: tibia, basitarsus and telotarsus with one tactile seta each (Figs. 46, 52). Measurements and morphometric ratios are presented in Table 2.

Diagnosis: *B. ussuriensis* is easily distinguished from *B. erytheia* n. sp. by the number and disposition of setae on the abdominal sternites, by the form of the pedipalpal articles, and by some morphometric ratios.

Distribution: Maritime Province, Soviet Far East.



Figs. 43-47: *Bisetocreagris ussuriensis* (Redikorzev, 1934), holotype male. 43 Carapace; 44 Pedipalpal femur and tibia; 45 Chela; 46 Leg IV; 47 Galea. Scale line = 1.0 mm (43-46), 0.25 mm (47).

	<i>B. kaznakovi</i> ♀	<i>B. phoebe</i> ♀	<i>B. tenuis</i> ♀	<i>B. ussuriensis</i> ♂♂	tritonymph
Body					
Length (1)	4.45	3.75	3.51	2.46 -2.75	2.185
Cephalothorax					
Length (2)	1.02	0.80	0.90	0.61 -0.69	0.47
Breadth	0.96	0.71	0.63	0.60 -0.63	0.48
Abdomen					
Length	3.43	2.95	2.61	1.85 -2.06	1.715
Breadth	2.06	1.34	1.10	0.85 -1.17	0.69
Chelicerae					
Length (3)	0.71	0.535	0.48	0.40 -0.425	0.30
Breadth	0.36	0.28	0.23	0.205-0.23	0.16
Length of movable finger (4)	0.49	0.38	0.30	0.27 -0.29	0.205
Ratio 3/4	1.45	1.41	1.60	1.38 -1.57	1.46
Length of galea	0.09	0.07	0.06	0.05	0.04
Pedipalps					
Length with coxa (5)	6.06	4.285	4.11	3.21 -3.23	2.315
Ratio 5/1	1.36	1.14	1.17	1.17 -1.31	1.06
Length of coxa	0.82	0.60	0.64	0.51 -0.58	0.40
Length of trochanter	0.71	0.51	0.48	0.34 -0.37	0.28
Length of femur (6)	1.30	0.89	0.82	0.66 -0.68	0.45
Breadth of femur (7)	0.32	0.23	0.23	0.18 -0.19	0.15
Ratio 6/7	4.06	3.87	3.565	3.47 -3.78	3.00
Ratio 6/2	1.27	1.11	0.91	0.96 -1.11	0.96
Length of tibia (8)	1.17	0.77	0.74	0.52	0.35
Breadth of tibia (9)	0.39	0.32	0.29	0.22 -0.23	0.19
Ratio 8/9	3.00	2.41	2.55	2.26 -2.36	1.84
Length of chela (10)	2.06	1.515	1.43	1.11 -1.15	0.835
Breadth of chela (11)	0.61	0.43	0.38	0.315-0.32	0.25
Ratio 10/11	3.38	3.52	3.76	3.52 -3.59	3.34
Length of chelal palm (12)	1.10	0.795	0.69	0.49 -0.55	0.40
Ratio 12/11	1.81	1.85	1.815	1.555-1.72	1.60
Length of finger (13)	0.96	0.72	0.74	0.60 -0.62	0.435
Ratio 13/12	0.87	0.905	1.07	1.09 -1.265	1.09
Leg IV					
Total length	3.765	2.78	2.705	2.22 -2.39	1.585
Length of coxa	0.58	0.425	0.445	0.34 -0.40	0.24
Length of trochanter (14)	0.44	0.32	0.30	0.27	0.21
Breadth of trochanter (15)	0.205	0.17	0.16	0.14 -0.15	0.11
Ratio 14/15	2.15	1.88	1.875	1.80 -1.93	1.91
Length of femur (16)	1.03	0.795	0.75	0.62 -0.66	0.425
Breadth of femur (17)	0.27	0.23	0.21	0.22	0.16
Ratio 16/17	3.81	3.46	3.57	2.82 -3.00	2.66
Length of tibia (18)	0.93	0.64	0.69	0.49 -0.53	0.34
Breadth of tibia (19)	0.16	0.13	0.11	0.11 -0.12	0.09
Ratio 18/19	5.81	4.92	6.27	4.42 -4.45	3.78
Length of basitarsus (20)	0.315	0.23	0.22	0.19 -0.22	0.14
Breadth of basitarsus (21)	0.13	0.11	0.09	0.08	0.075
Ratio 20/21	2.42	2.09	2.44	2.375-2.75	1.87
Length of telotarsus (22)	0.47	0.37	0.30	0.31	0.23
Breadth of telotarsus (23)	0.11	0.11	0.075	0.07 -0.075	0.07
Ratio 22/23	4.27	3.36	4.00	4.13 -4.43	3.285
Tactile setae ratio					
tibia IV	0.48	0.43	0.46	0.40 -0.49	0.46
basitarsus IV	0.17	0.29	0.25	0.125-0.16	0.24
telotarsus IV	0.48	0.435	0.45	0.38 -0.39	0.35

Table 2: Range in measurements (mm) of various structures, together with selected ratios, in *Bisetocreagris kaznakovi* (Redikorzev), *B. phoebe* n. sp., *B. tenuis* (Redikorzev) and *B. ussuriensis* (Redikorzev).

Bisetocreagris erytheia new species (Figs. 55-71)

Microcreagris macropalpus Morikawa, 1955; M. Beier misident. (on label in vial).

Etymology: In mythology, "the red or blushing one", i.e. sunset-coloured; also the daughter of Gerion.

Material examined: Holotype female and paratype female (Coll. ZIL), from Maritime Province, Soviet Far East, *Picea* wood litter, 25 September 1977, R. G. Fedorova leg.; paratype male and paratype female (Coll. ZIL), from Maritime Province, Soviet Far East, *Abies holophylla* wood litter, 25 October 1977, R. G. Fedorova leg.; and paratype tritonymph (Coll. ZIL), from Maritime Province, Soviet Far East, Ussuri Reservation, *Abies holophylla* wood litter, 29 July 1977, R. G. Fedorova leg.

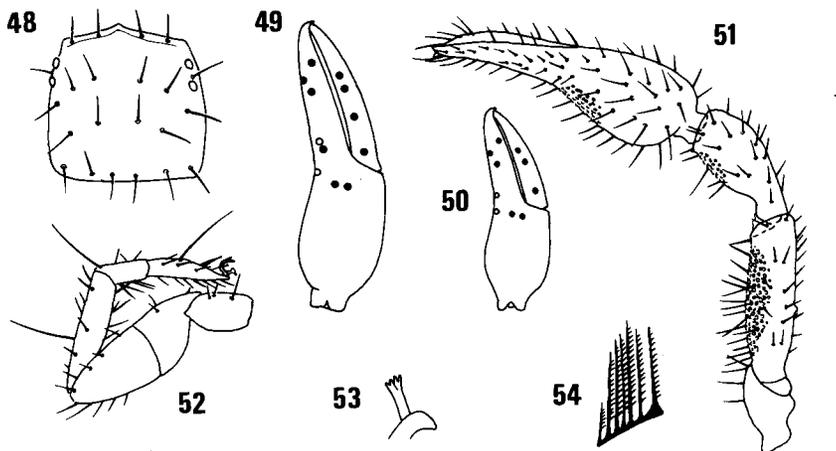
Description: Anterior carapacial margin slightly convex, no distinct epistome developed; four eyes with flattened lenses (Figs. 55, 66). Carapacial setal formulae: 4-6,23 (tritonymph), and 4-6,23 (holotype), or 4-6, (23-24) (other adults).

Tergal formulae: 6-8-9-11-12-11-11-10-11-10 (tritonymph), 8-11-12-12-11-11-11-11-12-11 (paratype male), 7-11-11-11-12-13-11-11-12-12, and 7-10-11-12-11-11-11-11-10 (paratype females), and 8-9-11-11-11-11-11-10-10-10 (holotype). Tritonymph: sternite II with no setae; sternite III with 8, and sternite IV with 5 marginal setae. Stigmatic plates

with 2 or 3 setae each. Sternites V-X each with 11-13 setae. Female genital area: sternite II with 2-4 small setae on either side of mid-line, sternite III with 9-11 posterior setae and 5-7 small setae along each stigma; sternite IV bears a transverse row of 9 or 10 setae and 4-5 small setae along each stigma. Sternites V-X each with 13-17 posterior setae. Male genital area: sternite II with 36 scattered posteromedian setae, sternite III with an anteromedian bisetous groove, an intermediary row of 7, and a series of 10 posterior setae; sternite IV with a transverse row of 9 setae; six (sternite III) or four microsetae along each stigma (sternite IV). Sternites V-X uniseriate, each with 14-17 setae. Pleural membranes granulostriate.

Galea with three (tritonymph), or four apical branchlets (adult; Figs. 59, 63, 70). Fixed cheliceral finger with 6 (tritonymph), or 7 setae (adult); movable finger with one seta. Flagellum seven- (tritonymph), or six- to eight-bladed (adult; Figs. 56, 64, 69).

Apex of pedipalpal coxa with 3 (tritonymph), or 4 long acuminate setae (adult). Pedipalpal trochanter with a small tubercle; femur, tibia and chelal palm smooth (tritonymph; Fig. 68), or inconspicuously granulate (adult; Figs. 57, 62). Fixed chelal finger with 35 (tritonymph), 51-56 (female), or 56 teeth (male); movable finger with 38 (tritonymph), 44-58 (female), or 54 teeth (male). Chelal fingers longer than palm (Table 3). Disposition of trichobothria as



Figs. 48-54: *Bisetocreagris ussuriensis* (Redikorzev, 1934), another male. 48 Carapace; 49 Chela; 50 Chela (tritonymph); 51 Pedipalp; 52 Leg IV; 53 Galea; 54 Flagellum. Scale line = 1.0 mm (48-52), 0.25 mm (53, 54).

in Figs. 58, 60, 65, 67.

Tibia IV, basitarsus IV and telotarsus IV each with a long tactile seta (Figs. 61, 71).

Measurements and morphometric ratios are presented in Table 3.

Diagnosis: *B. erytheia* n. sp. differs from *B. ussuriensis* in the sternal chaetotaxy, in the form of the pedipalpal articles, and in some morphometric ratios and linear measurements.

Distribution: Maritime Province, Soviet Far East.

Remarks: Collected together with *B. merope* n. sp., and *Orientocreagris syrinx* n. gen. and n. sp.

***Bisetocreagris merope* new species (Figs. 72-77)**

Microcreagris macropalpus Morikawa, 1955; M. Beier misident. (on label in vial).

Etymology: In mythology, *Merope* is a Pleiad, wife of Sisyphus; she is the nearly invisible star of the group, for she hides her face for shame at having married a mortal, while all her sisters mated with gods.

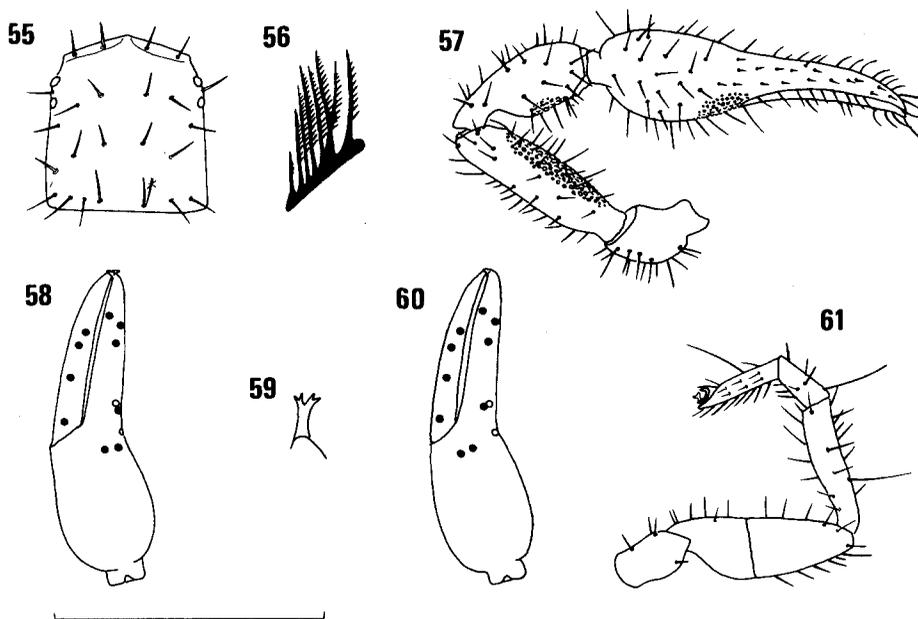
Material examined: Holotype male (Coll. ZIL), from Maritime Province, Soviet Far East, *Picea* wood litter, 25 September 1977, R. G. Fedorova leg.

Description: Epistome small, rounded, and knob-like; four eyes, with flattened lenses (Fig. 72); carapace longer than broad (Table 3); setal formula of carapace: 4-7,23.

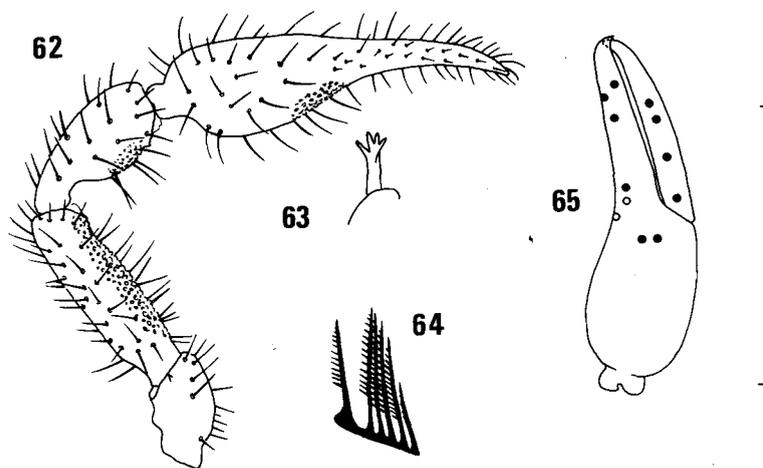
Tergite I with 8, tergite II with 11 setae; tergites III-X each with 12-15 setae. Male genital area: sternite II with a group of 43 scattered postero-medial setae, sternite III with an anteromedian bisetous groove, an intermediary row of 3 setae, and a transverse row of 17 setae; sternite IV with 14 marginal setae; sternites III and IV with 6 and 4-6 small setae along each stigma respectively. Tergites and sternites V-X uniseriate; sternites V-X each with 16-20 setae. Pleural membranes granulostriate.

Galea bifurcate, each branch with two apical branchlets (Fig. 74). Fixed cheliceral finger with seven, movable finger with one seta. Flagellum eight- or nine-bladed, characteristic of the genus (Fig. 73).

Apex of pedipalpal coxa with 4 long acuminate setae. Pedipalpal trochanter with a small tubercle; femur, tibia and chelal palm with small and inconspicuous granulations (Fig. 76). Fixed chelal finger with 65 close-set teeth, movable finger with 64 teeth. Trichobothrial pattern as in Fig. 75. Chelal



Figs. 55-61: *Bisetocreagris erytheia* n. sp., paratype male. 55 Carapace; 56 Flagellum; 57 Pedipalp; 58 Chela (paratype female); 59 Galea; 60 Chela; 61 Leg IV. Scale line = 1.0 mm (55, 57, 58, 60, 61), 0.25 mm (56, 59).



Figs. 62-65: *Bisetocreagris erytheia* n. sp., holotype female. 62 Pedipalp; 63 Galea; 64 Flagellum; 65 Chela. Scale line = 1.0 mm (62, 65), 0.25 mm (63, 64).

fingers longer than chelal palm (Table 3).

Leg IV: tibia, basitarsus and telotarsus each with one long tactile seta (Fig. 77).

Measurements and morphometric ratios are presented in Table 3.

Diagnosis: *B. merope* n. sp. differs from *B. ussuriensis* in the tergal chaetotaxy, in the sternal formula, in the form of the pedipalpal articles, and in some morphometric ratios and measurements.

Distribution: Maritime Province, Soviet Far East.

Remarks: Collected together with *B. erytheia* n. sp., and *Orientocreagris syrinx* n. gen. and n. sp.

Bisetocreagris gorgo new species (Figs. 78-82)

Microcreagris insularis Redikorzev; *nomen nudum* (name not published, but written only on the label attached to the slide containing this specimen).

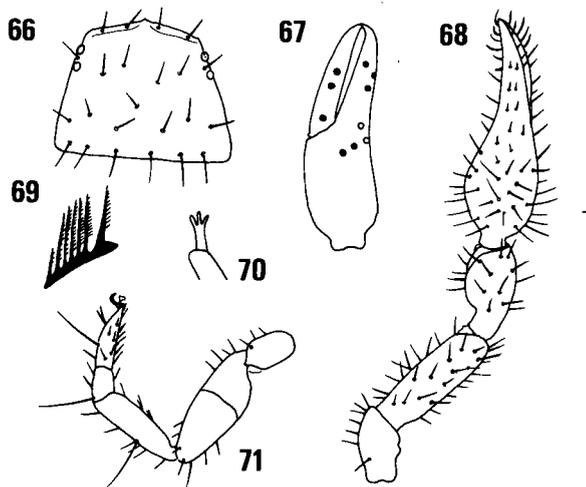
Etymology: *Gorgo*, or Medusa, a terrible monster in Greek mythology, a daughter of the marine deities Phorcys and Ceto.

Material examined: Holotype female (Coll. ZIL No. 1265), from the Island of Petrov in the Pacific Ocean, in leaf-litter, A. Diakonov leg.

Description: Epistome small, in the form of a sclerotic knob; four eyes, with flattened lenses; carapace somewhat longer than broad (Fig. 78). Setal formula of carapace: 4-6,22.

Tergal formula: 9-10-10-14-15-16-14-13-15-15.

Female genital area: sternite II with a group of 3 small setae on either side of mid-line, sternite III with 12 posterior setae; sternite IV with a transverse row of 9 setae; stigmatic plates with 6 (sternite III) and 4 small setae (sternite IV). Tergites and sternites uniseriate; sternites V-X each with 13-17 setae. Pleural membranes granulostriate.



Figs. 66-71: *Bisetocreagris erytheia* n. sp., paratype tritonymph. 66 Carapace; 67 Chela; 68 Pedipalp; 69 Flagellum; 70 Galea; 71 Leg IV. Scale line = 1.0 mm (66-68, 71), 0.25 mm (69, 70).

Galea present and bifurcate; each ramus with two apical branchlets (Fig. 82). Flagellum eight-bladed, characteristic of the genus (Fig. 79). Fixed cheliceral finger with six setae, movable finger with one seta.

Manducatory process with 4 long and acute setae. Pedipalpal trochanter with a small tubercle. Femur, tibia and chelal palm with inconspicuous and sparse granulations (Fig. 81). Fixed chelal finger with 62 retroconical and close-set teeth, movable finger with 64 teeth. Chelal fingers somewhat longer than chelal palm. Trichobothrial pattern as shown in Fig. 80.

Morphometric ratios and measurements are given in Table 3.

Leg IV: tibia, basitarsus and telotarsus each with a single tactile seta.

Diagnosis: According to several specific characters, especially the chaetotaxy, *B. gorgo* is easily distinguished from other members of the genus.

Distribution: Island of Petrov, Soviet Far East.

Bisetocreagris silvicola (Beier, 1979)

Microcreagris silvicola Beier, 1979.

Material examined: One female (Coll. ZIL), from Maritime Province, Soviet Far East, Chuguevka Region, Verkhne-Ussurijsky Station, *Pinus coreensis*

wood litter, 9 September 1974, G. F. Kurčeva leg.

Distribution: Maritime Province, Soviet Far East.

Remarks: This specimen conforms well with the description of *B. silvicola* given by Čurčić (1983).

Measurements and morphometric ratios are presented in Table 4.

Genus *Orientocreagris* new genus

Etymology: After the distribution area of its representatives, ranging from the Middle East to the (Soviet) Far East.

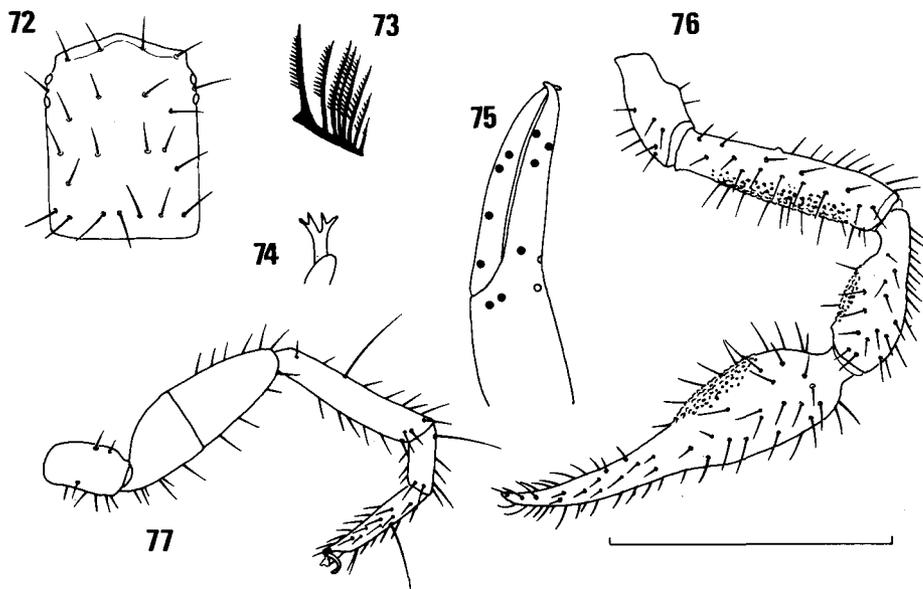
Type species: *Orientocreagris syrinx* new species.

Diagnosis: Carapace longer than broad; epistome small and rounded; four eyes present; setal formula of carapace: 4-6,22.

Cheliceral palm with seven setae, movable finger with one seta. Flagellum eight-bladed, the most distal blade dilated basally and close to other blades. Subdistal blades of equal size; subproximal blades diminish in size from distal to proximal; the most proximal blade is the shortest. All flagellar blades pinnate along their anterior margins.

Galea quadrispinose (male).

Abdominal tergites and sternites uniseriate. Pleural membranes granulostriate. Male genital area:



Figs. 72-77: *Bisetocreagris merope* n. sp., holotype male. 72 Carapace; 73 Flagellum; 74 Galea; 75 Chela; 76 Pedipalp; 77 Leg IV. Scale line = 1.0 mm (72, 75-77), 0.25 mm (73, 74).

sternite II with a cluster of median and posterior setae; sternite III ungrooved, with a single transverse row of 11 setae. Female genital area: unknown.

Manducatory process with 3 or 4 long and acuminate setae. Pedipalpal articles granulate. Trichobothriotaxy: *eb* and *esb* on the bulb of the chela, *esb* slightly distal to *eb*. Setae *ib*, *isb* and *ist* on base of finger, *est* closer to *it* than to *ist*; *st* closer to *t* than to *sb*.

Leg IV: tibia, basitarsus and telotarsus with one tactile seta each. Subterminal tarsal setae furcate, each branch with few spinules.

Remarks: The type species of the genus, *O. syrinx* n. sp., is found in the Soviet Far East, while *O. (?) latona* n. sp. occurs in Tajikistan, USSR.

***Orientocreagris syrinx* new species (Figs. 83-88)**

Microcreagris macropalpus Morikawa, 1955; M. Beier misident. (on label in vial).

Etymology: In mythology, *Syrinx* was a nymph loved by Pan. She ran away from him and begged the earth, or the river-nymphs, to help her; she became a reed-bed, from which Pan made his pipe.

Material examined: Holotype male (Coll. ZIL), from Maritime Province, Soviet Far East, *Picea* wood

litter, 25 September 1977, R. G. Fedorova leg. Specimen previously unnamed.

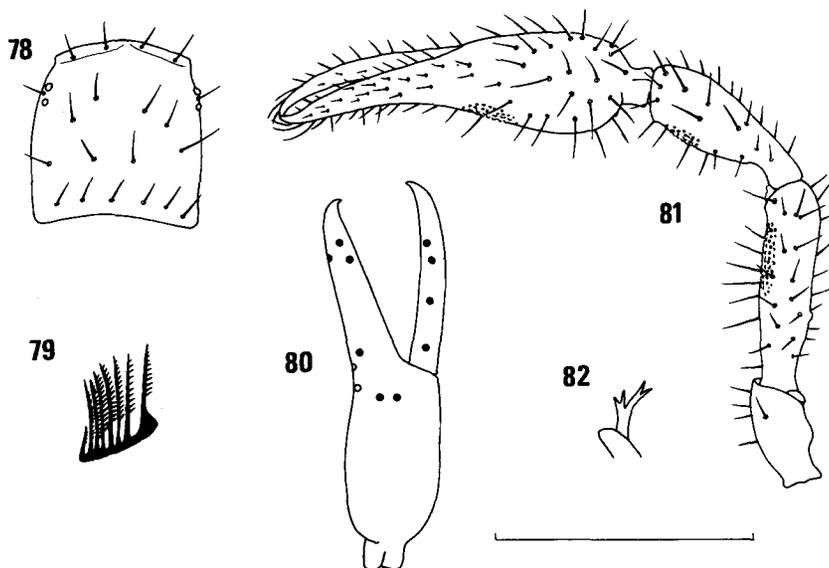
Description: Epistome rounded and small; four eyes, with flattened lenses; setal formula of carapace: 4-6,22.

Tergal formula: 7-10-12-12-13-13-12-11-12-11. Male genital area: sternite II with a cluster of 19 posterior and median setae; sternite III with a transverse row of 15 setae only (Fig. 84); sternite IV with 8 posterior setae; suprastigmal microsetae total 7-9 (sternite III), or 5-6 setae along each stigma (sternite IV). Female genital area: unknown. Tergites uniseriate; sternites V-X uniseriate, each with 16-20 setae. Pleural membranes granulostrate.

Galea quadrispinose (male; Fig. 86). Fixed chelicerai finger with 7, movable finger with one seta. Flagellum eight-bladed (Fig. 85).

Apex of pedipalpal coxa with 3 or 4 long and acuminate setae. Pedipalpal trochanter with a small tubercle. Femur, tibia and chelal palm inconspicuously granulate (Fig. 88). Fixed chelal finger with 59, movable finger with 64 close-set teeth. Trichobothriotaxy as in Fig. 87. Chelal fingers longer than palm (Table 4).

Tibia IV, basitarsus IV and telotarsus IV with a



Figs. 78-82: *Bisetocreagris gorgo* n. sp., holotype female. 78 Carapace; 79 Flagellum; 80 Chela; 81 Pedipalp; 82 Galea. Scale line = 1.0 mm (78, 80, 81), 0.25 mm (79, 82).

	♂	<i>B. erytheia</i> ♀♀	tritonymph	<i>B. merope</i> ♂	<i>B. gorgo</i> ♀
Body					
Length (1)	2.95	2.62 -3.22	2.06	2.985	3.38
Cephalothorax					
Length (2)	0.69	0.66 -0.71	0.55	0.79	0.77
Breadth	0.63	0.75 -0.80	0.51	0.58	0.69
Abdomen					
Length	2.26	1.96 -2.51	1.51	2.195	2.61
Breadth	1.10	1.03 -1.07	0.69	1.03	1.10
Chelicerae					
Length (3)	0.44	0.47 -0.48	0.34	0.46	0.48
Breadth	0.23	0.24 -0.25	0.18	0.24	0.26
Length of movable finger (4)	0.27	0.32 -0.34	0.23	0.32	0.33
Ratio 3/4	1.63	1.41 -1.47	1.48	1.44	1.45
Length of galea	0.06	0.06 -0.065	0.04	0.065	0.065
Pedipalps					
Length with coxa (5)	3.615	3.66 -3.80	2.445	4.03	4.27
Ratio 5/1	1.225	1.14 -1.45	1.19	1.35	1.26
Length of coxa	0.535	0.58 -0.63	0.38	0.71	0.62
Length of trochanter	0.41	0.42 -0.44	0.38	0.44	0.47
Length of femur (6)	0.77	0.73 -0.79	0.29	0.85	0.88
Breadth of femur (7)	0.20	0.21 -0.22	0.15	0.20	0.22
Ratio 6/7	3.85	3.48 -3.59	3.27	4.25	4.00
Ratio 6/2	1.115	1.03 -1.20	0.89	1.075	1.14
Length of tibia (8)	0.61	0.59 -0.62	0.39	0.64	0.75
Breadth of tibia (9)	0.25	0.26 -0.27	0.19	0.24	0.27
Ratio 8/9	2.44	2.27 -2.30	2.05	2.67	2.78
Length of chela (10)	1.29	1.29 -1.37	0.895	1.39	1.55
Breadth of chela (11)	0.35	0.36 -0.37	0.26	0.34	0.425
Ratio 10/11	3.685	3.58 -3.70	3.44	4.09	2.12
Length of chelal palm (12)	0.55	0.58 -0.62	0.425	0.59	0.73
Ratio 12/11	1.57	1.61 -1.675	1.63	1.735	1.72
Length of finger (13)	0.74	0.71 -0.75	0.47	0.80	0.82
Ratio 13/12	1.345	1.21 -1.22	1.105	1.355	1.12
Leg IV					
Total length	2.61	2.56 -2.78	1.74	2.94	3.035
Length of coxa	0.40	0.41 -0.45	0.27	0.40	0.47
Length of trochanter (14)	0.30	0.30 -0.32	0.20	0.34	0.36
Breadth of trochanter (15)	0.16	0.18	0.13	0.18	0.17
Ratio 14/15	1.875	1.67 -1.78	1.54	1.89	2.12
Length of femur (16)	0.73	0.71 -0.74	0.49	0.82	0.82
Breadth of femur (17)	0.25	0.24 -0.26	0.18	0.25	0.25
Ratio 16/17	2.92	2.85 -2.96	2.72	3.28	3.28
Length of tibia (18)	0.58	0.58 -0.68	0.38	0.665	0.665
Breadth of tibia (19)	0.12	0.13 -0.14	0.10	0.13	0.13
Ratio 18/19	4.83	4.46 -4.86	3.80	5.115	5.115
Length of basitarsus (20)	0.24	0.21 -0.23	0.15	0.29	0.29
Breadth of basitarsus (21)	0.09	0.09	0.08	0.10	0.10
Ratio 20/21	2.67	2.33 -2.555	1.875	2.90	2.90
Length of telotarsus (22)	0.36	0.35 -0.36	0.25	0.425	0.43
Breadth of basitarsus (23)	0.075	0.075-0.08	0.075	0.08	0.075
Ratio 22/23	4.80	4.50 -4.67	3.33	5.31	5.73
Tactile setae ratio					
tibia IV	0.42	0.36 -0.46	0.47	0.44	0.44
basitarsus IV	0.16	0.14 -0.16	0.16	0.21	0.17
telotarsus IV	0.38	0.38 -0.39	0.35	0.39	0.37

Table 3: Range in measurements (mm) of various structures, together with selected ratios, in *Bisetocreagris erytheia* n. sp., *B. merope* n. sp. and *B. gorgo* n. sp.

single tactile seta each (Fig. 83).

Measurements and morphometric ratios are presented in Table 4.

Diagnosis: *O. syrinx* n. sp. differs from *O. (?) latona* n. sp. in the tergal and sternal chaetotaxy, in the form of the pedipalpal articles, and in some morphometric ratios and measurements.

Distribution: Maritime Province, Soviet Far East.

Remarks: Collected together with *B. erytheia* n. sp. and *B. merope* n. sp.

***Orientocreagris (?) latona* new species (Figs. 89-94)**

Microcreagris turkestanica Beier, 1929 (?); M. Beier misident.

Etymology: *Latona*, in mythology, a Titaness, daughter of Coeus and Phoebe.

Material examined: Holotype female (Coll. ZIL No. 71-1947) (with 8 embryos attached), from Tajikistan, "Varzobskiy Region, nr. mouth of the river Kondara (left bank of the river Varzob)", 28 April 1944, E. C. Kriyanova leg.

Description: Anterior carapacial margin slightly

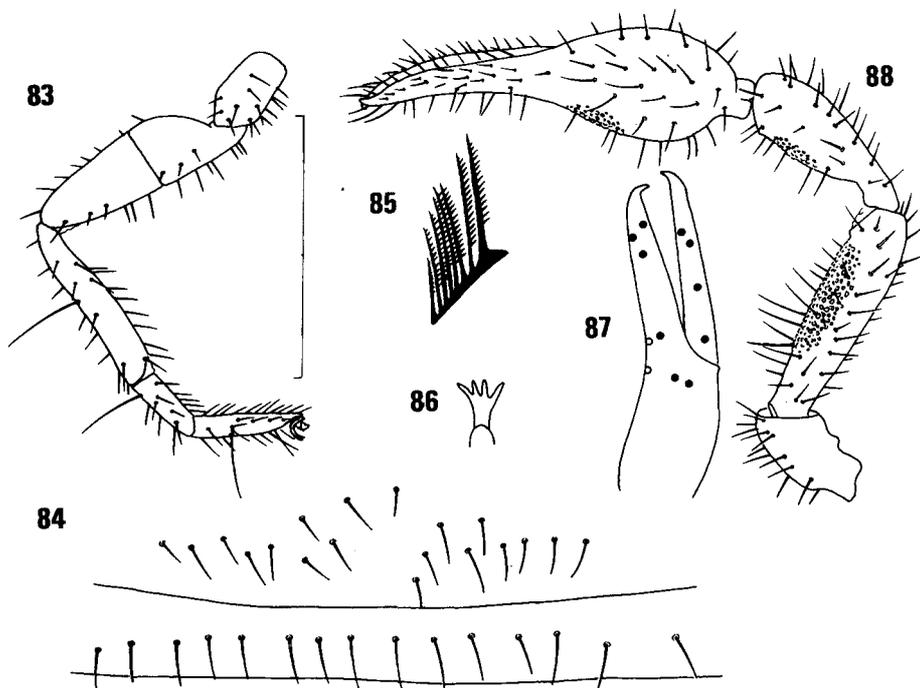
convex (epistome small and tubercular); four eyes, with flattened lenses (Fig. 89). Setal formula of carapace: 4-6,22.

Tergal formula: 8-11-13-12-14-14-13-14-13-13. Female genital area: sternite II with 3 small setae on either side of mid-line, sternite III with a transverse row of 13 setae only, and 3-4 microsetae along each stigma. Sternite IV with 10 posterior setae and 3 suprastigmal setae on each side. Male genital area: unknown. Tergites and sternites uniseriate, sternites V-X each with 13-19 setae. Pleural membranes granulostrate.

Cheliceral galea quadrispinose (Fig. 91). Fixed cheliceral finger with six, movable finger with one seta. Flagellum eight-bladed (Fig. 90).

Manducatory process with 4 long and acuminate setae. Trochanter bears a small interior tubercle; femur and chelal palm granulate, tibia smooth (Fig. 92). Fixed chelal finger with 59 teeth, movable finger with 64 teeth. Chelal fingers somewhat longer than chelal palm. Trichobothrial pattern as in Fig. 94.

Leg IV: tibia, basitarsus and telotarsus with one



Figs. 83-88: *Orientocreagris syrinx* n. gen. and n. sp., holotype male. 83 Leg IV; 84 Genital area; 85 Flagellum; 86 Galea; 87 Chela; 88 Pedipalp. Scale line = 1.0 mm (83, 87, 88), 0.25 mm (84, 85, 86).

long tactile seta each (Fig. 93).

Morphometric ratios and measurements are presented in Table 4.

Diagnosis: *O. (?) latona* n. sp. differs considerably from *O. syrinx* in the shape of the pedipalpal articles, in the chaetotaxy of the abdomen, and in some morphometric ratios and linear measurements.

Distribution: Tajikistan.

Remarks: This species is placed provisionally in this genus, together with *O. syrinx* n. sp. A final decision on the more definite taxonomic position of this new species can only be made after the collection of further material, especially male specimens. If it is confirmed that *O. (?) latona* n. sp. belongs in *Orientocreagris* n. gen., this would pose an interesting biogeographical problem bearing in mind the vast disjunction of the distribution area of the genus.

Genus *Pedalocreagris* new genus

Etymology: Referring to the absence of pedal tactile setae on telotarsi III and IV.

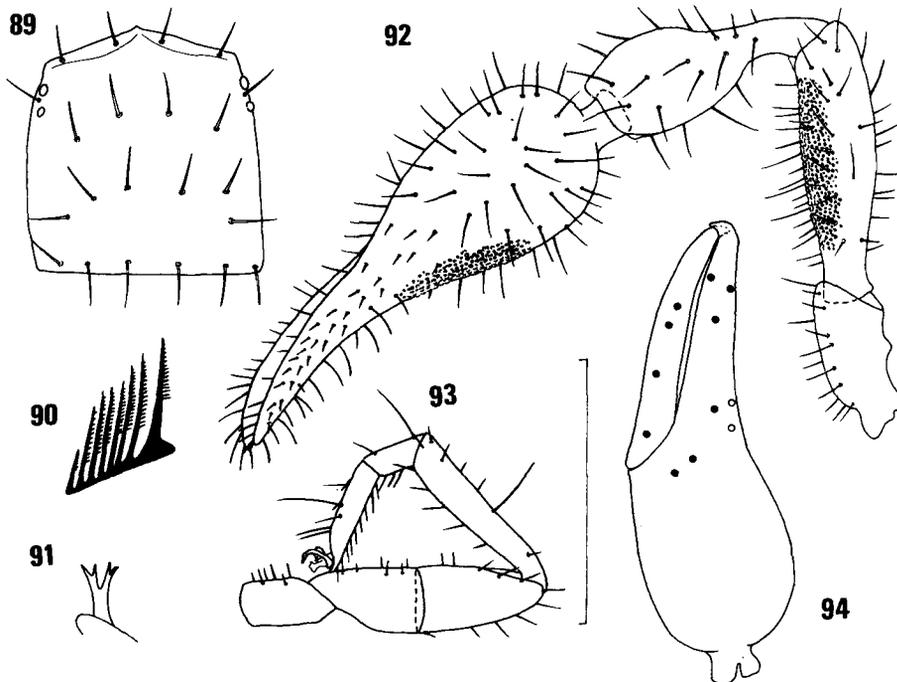
Type species: *Pedalocreagris tethys* new species.

Diagnosis: Carapace somewhat longer than broad; epistome rounded, with few tiny points; four eyes, with slightly flattened lenses; setal carapacial formula: 4-6,24.

Cheliceral palm with 7 setae, movable finger with one seta; flagellum eight-bladed, the most distal blade dilated basally and somewhat further from other blades. Subdistal blades of nearly equal size; subproximal blades diminish in size from distal to proximal; all flagellar blades pinnate or dentate along their anterior margins. Galea quadrispinose.

Male genital area: sternite II with a cluster of median and posterior setae; sternite III with an anteromedian bisetous groove, an intermediary row of setae, and a posterior setal series. Female genital area: unknown. Tergites and sternites V-X uniseriate, pleural membranes granulostriate.

Manducatory process with 4 acuminate setae. Pedipalpal articles granulate. Trichobothriotaxy: *eb* and *esb* on bulb of chela, setae *ib-ibb-ist* on base of finger, *est* closer to *it* than to *ist*; seta *st* closer to *t*



Figs. 89-94: *Orientocreagris (?) latona* n. sp., holotype female. 89 Carapace; 90 Flagellum; 91 Galea; 92 Pedipalp; 93 Leg IV; 94 Chela. Scale line = 1.0 mm (89, 92-94), 0.25 mm (90, 91).

than to *sb.*

Legs III and IV: tibiae and basitarsi with a single tactile seta each; telotarsi bear no pedal tactile setae.

***Pedalocreagris tethys* new species (Figs. 95-99)**

Microcreagris macropalpus Morikawa, 1955; *M. Beier* misident. (on label in vial).

Etymology: In mythology, *Tethys* was a daughter of Earth and Heaven, sister of Ocean.

Material examined: Holotype male (Coll. IEMAE), from Maritime Province (Primorsky krai), Ussuri Reservation, *Abies holophylla* wood litter, 7 July 1976, G. F. Kurčeva & E. V. Mikhaljova leg.

Description: Epistome small and rounded; four small eyes developed; carapace longer than broad; setal formula of carapace: 4-6,24.

Tergal formula: 6-9-10-11-11-11-11-11-10. Male genital area: sternite II with 26 posterior and median setae; sternite III with an anterior and median bisetous groove, an intermediary row of 6 setae, and a series of 11 posterior setae. Sternite IV with a transverse row of 9 setae. Stigmatic plates with 5-6 (sternite III), or 4 setae each (sternite IV). Female genital area: unknown. Tergites and sternites uniseriate. Sternites V-X uniseriate, with 14-16 setae

each. Pleural membranes granulostriate.

Galea with four terminal branchlets (quadrispinose; Fig. 96). Fixed cheliceral finger with seven, movable finger with one seta. Flagellum eight-bladed (Fig. 99), characteristic of the genus.

Manducatory process with 4 long acuminate setae. Trochanter smooth, with a small tubercle; other pedipalpal articles granulate (Fig. 95). Fixed chelal finger with 53, movable finger with 52 close-set teeth. Trichobothrial pattern as in Fig. 97.

Tibiae III and IV, and basitarsi III and IV, each with a single tactile seta; telotarsi III and IV each carry no pedal tactile setae.

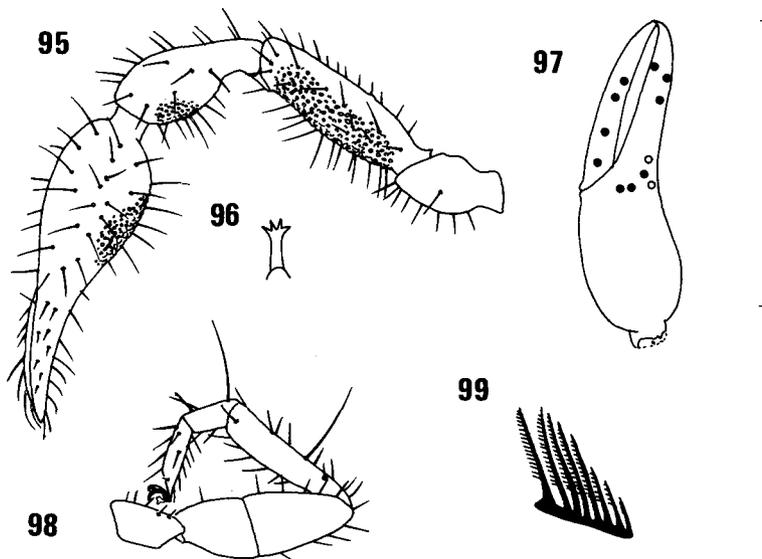
Measurements and morphometric ratios are presented in Table 4.

Distribution: Maritime Province, Soviet Far East.

Key to genera

The genus *Microcreagris* and related Asian genera may be distinguished by means of the following key:

- 1. All flagellar blades of approximately same size. Sternite III of male with anterior transverse row of setae and central group of elevated and dense setae in middle of posterior setal row *Microcreagris* Balzan



Figs. 95-99: *Pedalocreagris tethys* n. gen. and n. sp., holotype male. 95 Pedipalp; 96 Galea; 97 Chela; 98 Leg IV; 99 Flagellum. Scale line = 1.0 mm (95, 97, 98), 0.25 mm (96, 99).

	<i>B. silvicola</i> ♀	<i>O. syrinx</i> ♂	<i>O. (?) latona</i> ♀	<i>P. tethys</i> ♂
Body				
Length (1)	3.42	3.15	3.30	3.21
Cephalothorax				
Length (2)	0.87	0.75	0.97	0.66
Breadth	0.67	0.71	0.84	0.61
Abdomen				
Length	2.55	2.40	2.33	2.55
Breadth	1.02	1.10	0.84	0.61
Chelicerae				
Length (3)	0.50	0.51	0.64	0.43
Breadth	0.23	0.25	0.305	0.22
Length of movable finger (4)	0.33	0.34	0.44	0.23
Ratio 3/4	1.515	1.50	1.45	1.87
Length of galea	0.05	0.07	0.07	0.05
Pedipalps				
Length with coxa (5)	4.35	4.335	5.305	3.285
Ratio 5/1	1.27	1.38	1.61	1.02
Length of coxa	0.54	0.65	0.68	0.535
Length of trochanter	0.50	0.49	0.64	0.34
Length of femur (6)	0.93	0.98	1.08	0.72
Breadth of femur (7)	0.21	0.23	0.28	0.20
Ratio 6/7	4.43	4.26	3.86	3.60
Ratio 6/2	1.07	1.31	1.11	1.09
Length of tibia (8)	0.78	0.665	1.00	0.57
Breadth of tibia (9)	0.265	0.27	0.45	0.23
Ratio 8/9	2.94	2.46	2.22	2.48
Length of chela (10)	1.60	1.55	1.905	1.12
Breadth of chela (11)	0.39	0.41	0.58	0.34
Ratio 10/11	4.10	3.78	3.28	3.29
Length of chelal palm (12)	0.66	0.65	0.89	0.53
Ratio 12/11	1.69	1.585	1.53	1.56
Length of finger (13)	0.94	0.90	1.015	0.69
Ratio 13/12	1.42	1.38	1.14	1.30
Leg IV				
Total length	3.00	—	3.37	2.295
Length of coxa	0.46	—	0.52	0.39
Length of trochanter (14)	0.39	—	0.36	0.22
Breadth of trochanter (15)	0.13	—	0.19	0.14
Ratio 14/15	3.00	—	1.89	1.57
Length of femur (16)	0.82	—	0.96	0.64
Breadth of femur (17)	0.255	—	0.26	0.23
Ratio 16/17	3.215	—	3.69	2.78
Length of tibia (18)	0.60	—	0.80	0.54
Breadth of tibia (19)	0.13	—	0.14	0.12
Ratio 18/19	4.615	—	5.71	4.50
Length of basitarsus (20)	0.29	—	0.27	0.21
Breadth of basitarsus (21)	0.10	—	0.11	0.14
Ratio 20/21	2.90	—	2.45	1.50
Length of telotarsus (22)	0.44	—	0.46	0.295
Breadth of telotarsus (23)	0.09	—	0.10	0.13
Ratio 22/23	4.89	—	4.60	2.27
Tactile setae ratio				
tibia IV	0.59	—	0.49	0.44
basitarsus IV	0.175	—	0.20	0.22
telotarsus IV	0.36	—	0.42	—

Table 4: Range in measurements (mm) of various structures, together with selected ratios, in *Bisetocreagris silvicola* (Beier), *Orientocreagris syrinx* n. gen. and n. sp., *O. (?) latona* n. gen. and n. sp., and *Pedalocreagris tethys* n. gen. and n. sp.

- Subproximal flagellar blades diminish in size. Sternite III of male with a group of anteromedian setae, followed or not by some intermediary setae, and a posterior series of marginal setae 2
- 2. Sternite III of male with some anteromedian, intermediary and posterior setae 3
- Sternite III of male only with some anteromedian and posterior setae *Orientocreagris* Čurčić
- 3. Telotarsi III and IV with one or more tactile setae each 4
- Telotarsi III and IV lack tactile setae
 *Pedalocreagris* Čurčić
- 4. Sternites uniseriate *Bisetocreagris* Čurčić
- Some sternites biseriate 5
- 5. Pedipalpal trochanter with short and stout interior setae *Acanthocreagris* Mahnert
- Pedipalpal trochanter lacks interior stout setae . 6
- 6. Two distal flagellar blades dilated at their bases and somewhat further from other blades. Tibia IV, basitarsus IV and telotarsus IV with one tactile seta each *Chinacreagris* Čurčić
- Only the most distal flagellar blade somewhat dilated at its base. Tibia IV, basitarsus IV and telotarsus IV with two to four tactile setae each
 *Levigatocreagris* Čurčić

Acknowledgements

I am indebted to Academician M. Ghilarov and Dr S. Golovatch of the Institute of Evolutionary Morph-

ology and Animal Ecology in Moscow, and to Dr G. Medvedev, Dr L. Zhiltzova and Dr V. Zaitzev of the Zoological Institute in Leningrad, for the loan of the material upon which this study is based.

I am grateful to the Serbian Academy of Sciences and Arts, Belgrade, and to the Academy of Sciences of the USSR, Moscow, for financial support of my visit to Moscow and Leningrad in 1982.

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