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## On the Siberio-Nearctic erigonine spider genus *Silometopoides* (Araneida: Linyphiidae)

With 15 figures

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The genus *Silometopoides* ESKOV, 1990 was erected as monobasic to comprise *Minyriolus pampia* CHAMBERLIN, 1948. This species, initially known only from Arctic Canada (LEECH, 1966; LEECH & RYAN, 1972), was recorded later all over North Asia, west up to Yamal Peninsula and south up to Mongolia (ESKOV, 1985; 1989). *Silometopoides* has been considered by ESKOV (1990) as a close relative of the genera *Silometopus* SIMON, 1926, *Mecopisthes* SIMON, 1926, *Hypococephalus* MILLIDGE, 1977 and *Yakutopus* ESKOV, 1990, as well as of *Metopobactrus tibialis* HEIMER, 1987 stated to be a non-congener of the remaining *Metopobactrus* species. Besides, *S. pampia* has been noted as possessing male carapace polymorphism, and it has been united in this respect by ESKOV (1990: p. 52) with such species as *Hybauchenidium aquilonare* (L. KOCH, 1879) (s. HOLM, 1973: figs. 38-40) and *Dactylopisthes diphysus* (HEIMER, 1987) (s. HEIMER, 1987: figs. 4-5), as well as with *Dactylopisthes video* (CHAMBERLIN & IVIE, 1947) and *Walckenaeria nodosa* (O. P.-CAMBRIDGE, 1873).

It should be emphasized that such a dimorphism has recently proved to be a very simple, Mendelian, genetic character; as a result, both well-known *Oedothorax gibbosus* (BLACKWALL, 1841) and *O. tuberosus* (BLACKWALL, 1841) have been stated to be the "male carapace morphs" of a single species, *O. gibbosus* by priority (MAELFAIT et al., 1990). Based on this result, we take the opportunity to formally synonymize the two species, already presupposed by ESKOV (1990) as "carapace morphs" only, i. e. *Walckenaeria nodosa* (O. P.-CAMBRIDGE, 1873) = *W. mayumiae* H. SAITO, 1986, *syn. nov.*, and *Dactylopisthes video* (CHAMBERLIN & IVIE, 1947) = *D. komi* TANASEVITCH, 1984, *syn. nov.*

However, a recent re-study of the collection of *S. pampia* has led us to a different conclusion: we face in fact not "carapace morphs", but several valid species. These species are distinguished from each other by minor but invariable details of genitalia of both sexes, in particular by the shape of the male palpal tibia. On the contrary, no differences have been observed in the shape of the embolic division, and these structures have even not been figured here by us. Hence, the subject of the present paper is reconsideration of the composition of *Silometopoides*, including the descriptions of the species, both new and newly transferred into this genus.

The materials have been shared between the collections of the Zoological Museum of the Moscow State University, Biological Institute of the Siberian Branch of Russian Acad. Sci., Novosibirsk (BIN), Staatliches Museum für Tierkunde, Dresden (SMTD) and Senckenberg Museum, Frankfurt a. M. (SMF). All measurements in the descriptions are given in mm. Besides our own collectings abbreviated in the text as (KE) and (YM), respectively, the materials treated herein derive from Mrs. T. R. ANDREEVA (TA), Dr. Y. I. CHERNOV (YC), Dr. T. ROSSOLIMO (TR), Mr. A. B. RYVKIN (ABR), Dr. S. A. SERBENIUK (SS), Dr. B. I. SHEFTEL (BS), Dr. N. V. VEKHOV

(NV), Dr. V. V. ZHERIKHIN (all - Moscow), Dr. B. P. CHEVRIZOV (BC), the late Dr. I. N. OBUSHENKOV (IO), Mr. A. S. RYABUKHIN (ASR) (Magadan), Mrs. O. KHRULEVA (OK) (Wrangel Island State Reserve), and Dr. D. V. LOGUNOV (DL) (Novosibirsk). We wish to express our deep gratitude to all the collectors and to Dr. S. I. GOLOVATCH (Moscow) who checked the English of the final draft.

### **Silometopoides ESKOV, 1990**

*Silometopoides* ESKOV, 1990; 52.

**Type species** *Minyriolus pampia* CHAMBERLIN, 1948

**Definition.** Small dark coloured erigonines. Male carapace with a low table-shaped cephalic elevation or unmodified, postocular pits present. Male chelicera unmodified. Tibial spines 1111, extremely short in male; femur I in male with several short ventral spines in its distal portion. Metatarsi I-IV each with a trichobothrium, Tm I 0,80. Abdomen dorsally with four slightly sclerotized small spots. Palpal tibia with a single trichobothrium. Male palpal tibia with a long finger-like dorsofrontal projection close to cymbium. Cymbial proximal surface with a fold. Paracymbium medium-sized, hook-shaped, vertical. Suprategulum without apophysis. Embolic division with a long, coiled embolus and a curved pointed frontal apophysis. Epigyne flattened, with a more or less bilobated medial plate. Vulva with quite large, elongated, widely separated receptacula and with medially situated loops of quite long entrance ducts.

**Composition and distribution.** The genus comprises four species: *S. pampia* (CHAMBERLIN, 1948) from northern North America and extreme Northeast of Asia, *S. sphagniculus* sp. n. from northern Asia, and *S. mongolensis* sp. n. and *Metapobactrus tibialis* HEIMER, 1987, both from Central Asia. A single known case of sympatric distribution of congeners concerns *S. sphagniculus* and *S. mongolensis* in Sokhonda Reserve (southern Transbaikalia).

### ***Silometopoides pampia* (CHAMBERLIN, 1948) (Figs. 1, 2, 7, 10, 13, 15)**

*Minyriolus pampia* CHAMBERLIN, 1948; 539, figs. 83-87 (♂)

*Minyriolus pampia*; LEECH, 1966; 189, figs. 47-50 (♂, ♀)

*Minyriolus pampia* (part.); ESKOV, 1985; 125

*Minyriolus pampia* (part.); ESKOV, 1988; 122

**Material.** 1 ♂ - Canada, Northwest Territories, Ellesmere Island, Alexandra Fjord, 15.-26. VII. 1991 (leg. TR); 2 ♂♂, 7 ♀♀ USSR, Chukotka Autonomous Region, Wrangel Island, middle Neizvestnaya River, dwarfish *Salix* with mosses and *Carex*, 27. VI.-23. VIII. 1983 (leg. OK); 2 ♂♂, 2 ♀♀ - Wrangel Island, lower Gusinaya River, VI.-VIII. 1984 (leg. OK); 1 ♂ - Chaun Guba Gulf, delta of Chaun River, 10.-20. VII. 1982 (leg. IO); 2 ♂♂, 5 ♀♀ - same locality, VI.-VIII. 1986 (leg. ASR); 1 ♀ - environs of Anadyr Town, 26. VI. 1988 (leg. YM); 1 ♂, 2 ♀♀ (SMTD) - northwestern coast of Kresta Gulf, floodland *Salix* bushes, 28. VII. 1988 (leg. YM); 1 ♂ - same locality, *Salix* bushes with mosses, 28. VII. 1988 (leg. YM); 2 ♂♂ - same locality, Konenmyveem River 5 km upstream off delta, in shore flood debris, 28. VII. 1988 (leg. YM); 1 ♂, 1 ♀ (SMF) - Amguema River near Amguema Village, *Salix* bushes with sparse *Betula*, 22. VIII. 1988 (leg. YM); 1 ♀ - same locality, *Sphagnum-Carex* bog, 22. VIII. 1988 (leg. YM); 3 ♂♂, 2 ♀♀ Vulvyveem River (source of Amguema River), 66° 55' N, 178° 30' E. *Salix* and *Alnus fruticosa* bushes on sandy beech, 12. VIII. 1988 (leg. YM); 7 ♀♀ - upper Osinovaya River (left tributary of Belya River, basin of Anadyr River), forest of *Chosenia*, 13. VII. 1989 (leg. YM); 1 ♀ - environs of Lavrentiya Village, Utaveem River, IX. 1991, (leg. NV).

**Description.** Total length of male / female 1.50-1.84 / 1.75-2.00. Carapace brown with a brownish-grey medial spot and radial stripes, its length / width 0.65-0.73 / 0.63-0.68 in male, 0.68-0.78 / 0.60-0.65 in female; male carapace as in Fig. 7. Legs yellowish-brown, length of joints of legs I/IV 0.55 / 0.63 + 0.20 / 0.20 + 0.40 / 0.53 + 0.33 / 0.38 + 0.28 / 0.30 in male, 0.55 / 0.65 + 0.20 / 0.20 + 0.43 / 0.55 + 0.35 / 0.43 + 0.28 / 0.33 in female. Abdomen dark grey, almost black. Genitalia of both male and female as in Figs. 1, 2, 10, 13.

**Distribution.** Arctic Canada - Baffin, Ellesmere, Devon, Banks and Hershel Islands (LEECH, 1966; LEECH & RYAN, 1972), Wrangel Island (ESKOV, 1985, 1988) and Chukotka Peninsula (Fig. 15).

***Silometopoides sphagnicola* sp. n. (Figs. 3, 4, 8, 11, 14, 15)**

*Minyriolus pampia* non CHAMBERLIN (part.); ESKOV, 1985; 125

*Minyriolus pampia* non CHAMBERLIN; ESKOV, 1988; 122

**Material.** Holotype, ♂ - USSR, Taimyr Autonomous Region, Putorana Plateau, Ayan Lake, source of Ayan River, alpine belt (h - 1200 m), polygonal mossy mountain tundra, 19. VIII. 1983 (leg. KE). Paratypes: 4 ♂♂, 5 ♀♀ - together with holotype; 4 ♂♂, 26 ♀♀ - same locality, lake shore, tundra-like heath with dwarffish *Salix*, 3.-23. VIII. 1983 (leg. KE); 4 ♂♂, 2 ♀♀ - Ayan Lake, mouth of Kapchug River, *Salix* and *Alnus fruticosa* bushes on shingle river bank, in leaf litter, 22. V. 1983 (leg. KE); 2 ♂♂, 12 ♀♀ - same locality, tundra-like heath with *Betula nana* along river, 6.-7. VI. 1983 (leg. KE); 1 ♀ - middle Pyasina River, Tareya, polygonal tundra, 5. VIII. 1972 (leg. YC); 1 ♂ - Yamal Autonomous Region, Stchuchya River, mouth of Tanlova-Yakha River, 13. VII. 1979 (leg. TA); 2 ♂♂, 2 ♀♀ (SMTD), 2 ♂♂, 2 ♀♀ (SMF), 5 ♂♂, 19 ♀♀ - Evenk Autonomous Region, Taimura River (left tributary of Nizhnyaya Tunguska River), mouth of Chambe River, boggy *Larix* taiga, 18.-23. VIII. 1983 (leg. KE); 1 ♂ - Yakut Autonomous Republic, Aldan River, Khandyga, 1. VII. 1984 (leg. ABR); 1 ♂, 1 ♀ - Magadan Area, upper Kolyma River, Sibit-Tyellakh, taiga belt of Bolshoi Annachag Mt. Range, small *Carex* swamp in boggy *Larix* taiga, 3. IX. 1984 (leg. KE & YM); 1 ♂, 2 ♀♀ - same locality, *Larix* taiga with green mosses, 3. VIII. 1984 (leg. BC); 2 ♀♀ - Buryat Autonomous Republic, upper Vitim River, 40 km upstream off Zaza River mouth, boggy depression with *Betula midden-dorfi* in *Larix* taiga, 20. VIII. 1983 (leg. VZ); 5 ♂♂, 1 ♀ (BIN), 2 ♂♂, 1 ♀ - Chita Area, Kyra District, Sokhonda State Reserve, Khentei Mts., Ingoda River, h - 1350 m, dwarffish *Alnus fruticosa* thicket with green mosses, 8.-9. VI. 1991 (leg. DL); 1 ♂ - Amur Area, environs of Zeya Town, *Sphagnum* bog, 1.-11. IX. 1979 (leg. SS). Another material: 3 ♀♀ - Yakut Autonomous Republic, Kempendyai River (right tributary of Vilyui River), 40 km upstream off Kempendyai Village, *Sphagnum-Aulacomium* bog, 7. VIII. 1988 (leg. KE); 1 ♀ - Markha River (left tributary of Vilyui River), 21. VII. 1926 (leg. M. TKACHENKO); 1 ♀ - delta of Yana River, Kazatchye, 19. VI. 1923 (unknown collector); 1 ♀ - Magadan Area, source of Kolyma River, Kulu River, mouth of Kontaktovy Spring, 10.-11. VIII. 1986 (leg. YM).

**Description.** Total length of male / female 1.75-1.85 / 1.85-2.05. Carapace brown with brownish-yellow medial spot and radial stripes, its length / width 0.70-0.73 / 0.60-0.63 in male, 0.68-0.73 / 0.55 / 0.60 in female; male carapace as in Fig. 8. Legs yellowish-brown, length of joints of legs I / IV 0.55 / 0.63 + 0.20 / 0.20 + 0.43 / 0.53 + 0.33 / 0.43 + 0.30 / 0.33 in male, 0.48 / 0.55 + 0.20 / 0.20 + 0.40 / 0.50 + 0.35 / 0.38 + 0.28 / 0.30 in female. Abdomen dark grey, almost black. Genitalia of both male and female as in Figs. 3, 4, 11, 14.

**Comparison.** By the shape of the genitalia of both sexes, the new species is extremely close to *S. pampia*, but distinguished by the tibial projection more swollen distad and lacking the small black ectomarginal tooth at its base, by the medial plate of the epigyne less clearly bilobated longitudinally, as well as by the male carapace devoid of a table-shaped cephalic elevation.

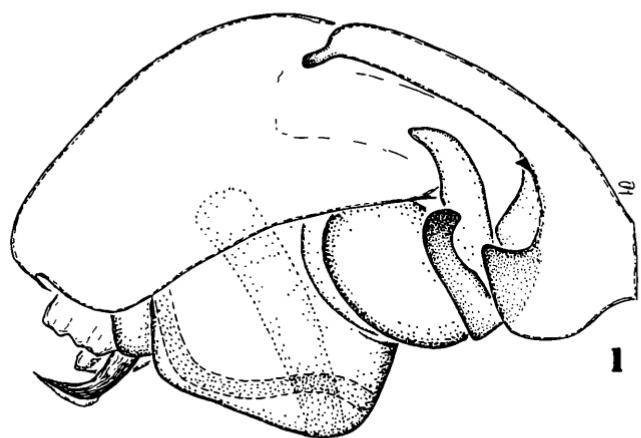
**Distribution.** Siberia from Yamal Peninsula east up to Kolyma River, and from Taimyr Peninsula south up to Transbaikalia and Cisamuria (Fig. 15).

***Silometopoides mongolensis* sp. n. (Figs. 5, 6, 9, 12, 15)**

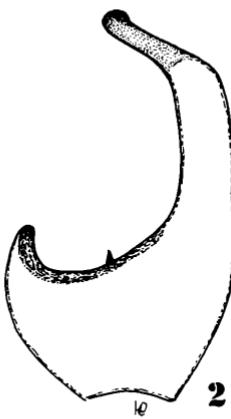
*Minyriolus pampia* non CHAMBERLIN; ESKOV, 1989; 63.

*Silometopoides pampia* (non CHAMBERLIN); ESKOV, 1990; 52.

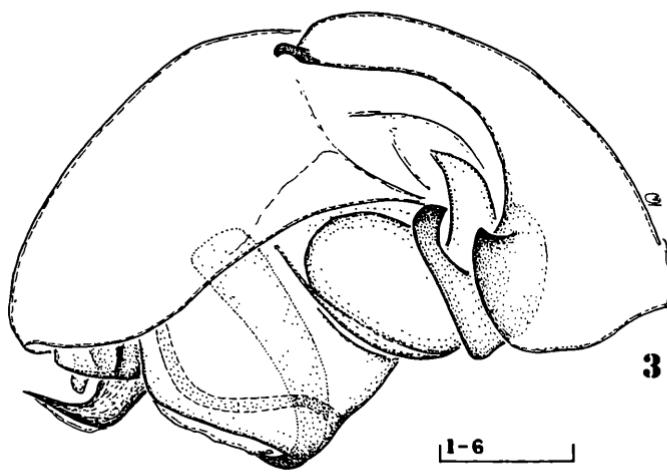
**Material.** Holotype, ♂ - Mongolia, Khubsugul Aimak, Jargalant Somon, Khangai Mts, Tarbagatai Mt. Range, valley of Taingol River (right tributary of Ider River), *Sphagnum* bog,



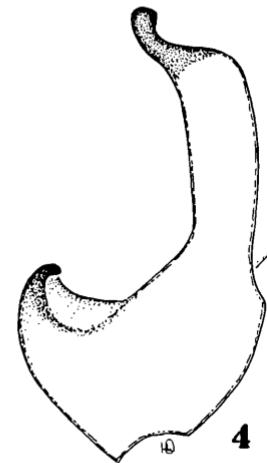
1



2

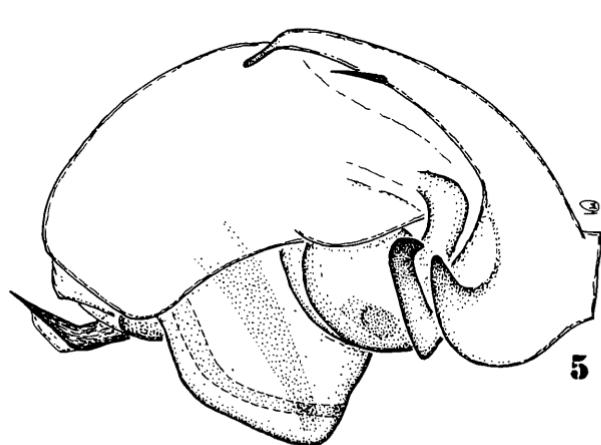


3

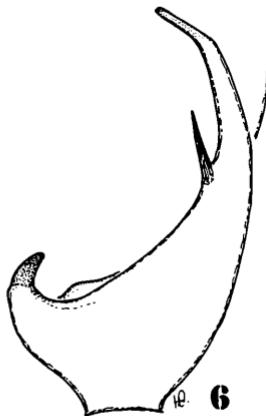


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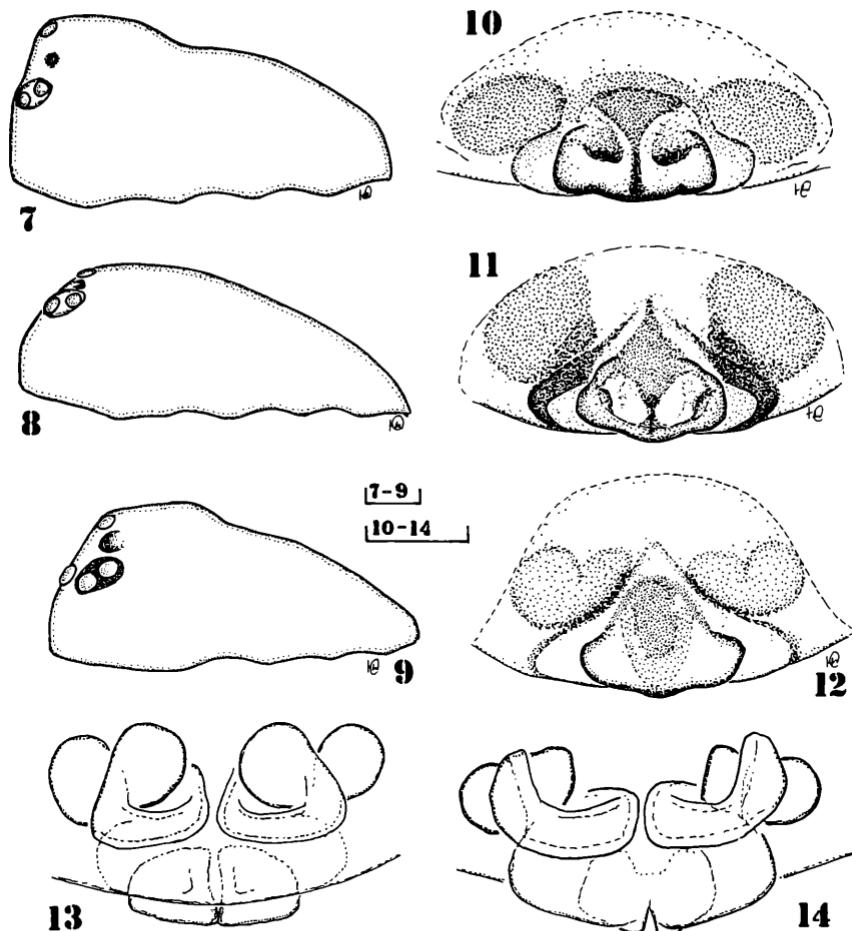
1-6



5



6



Figs. 7-14: *Silometopoides pampia* (CHAMBERLIN) (7, 10, 13), *Silometopoides sphagniculus* sp. n. (8, 11, 14), *Silometopoides mongolensis* sp. n. (9, 12); 7, 8, 9 - male carapace, lateral view; 10, 11, 12 - epigyne, frontal view; 13, 14 - vulva, inner view. Scales = 0,1 mm.

11. VIII. 1985 (leg. BS). Paratypes: 1 ♀ - together with holotype; 1 ♂ - USSR, Chita Area, Kyra District, Sokhonda State Reserve, Khentei Mts., Lukovaya River, h - 1700 m, moss-lichen bog, 11. VI. 1991 (leg. DL); 3 ♀ ♀ (BIN), 2 ♀ ♀ - same locality, Lukovaya River, h - 1700-1750 m, forest of *Pinus sibirica* and *Larix* with *Pinus pumila* thicket, 11. VII. 1991 (leg. DL).

**Description.** Total length of male / female 1.45-1.50 / 1.55-1.80. Carapace brown with brownish-grey medial spot and radial stripes, its length / width 0.63-0.65 / 0.58-0.60 in male, 0.65-0.68 / 0.55-0.58 in female; male carapace as in Fig. 9. Legs yellowish-brown, length of joints of legs I/IV

◀  
 Figs. 1-6: *Silometopoides pampia* (CHAMBERLIN) (1, 2), *Silometopoides sphagniculus* sp. n. (3, 4), *Silometopoides mongolensis* sp. n. (5, 6); 1, 3, 5 - male palp, ectal view; 2, 4, 6 - male palpal tibia, dorsal view. Scale = 0,1 mm.

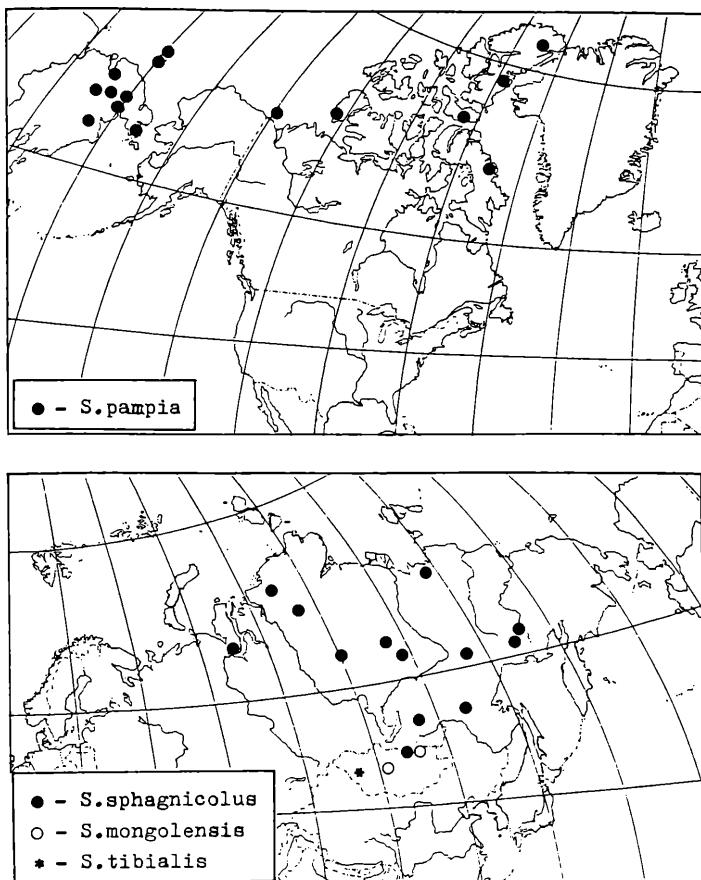


Fig. 15: Distribution of *Silometopoides* species.

$0.48 / 0.55 + 0.20 / 0.20 + 0.38 / 0.48 + 0.30 / 0.38 + 0.25 / 0.28$  in male,  $0.45 / 0.53 + 0.20 / 0.20 + 0.35 / 0.48 + 0.28 / 0.35 + 0.23 / 0.28$  in female. Abdomen dark grey, almost black. Genitalia of both male and female as in Figs. 5, 6, 12.

**Comparison.** By the shape of the male carapace, the new species is similar to *S. pampia*, but is clearly distinguished from all congeners by the long, spine-like ectomarginal tooth at mid-length of the palpal tibial projection, as well as by the medial plate of the epigyne regularly rounded posteriorly.

**Distribution.** Khangai Mts. (central Mongolia) and Khentei Mts. (southern Transbaikalia) (Fig. 15).

***Silometopoides tibialis* (HEIMER, 1987) comb. nov. (Fig. 15)**

*Metopobactrus tibialis* HEIMER, 1987; 146, figs. 18-21 (♂)

**Remarks** The genus *Silometopoides* has been distinguished from the related *Metopobactrus tibialis* by »the pointed frontal apophysis of the embolic division« (ESKOV, 1990: p. 52). A good accordance in the shape of the remaining palpal structures in both taxa has led us to the following conclusion. A single known specimen of *M. tibialis* was collected by pitfall traps. Its palp is semi-expanded, and the frontal apophysis seems to be broken off due to the collecting techniques applied. Hence, *M. tibialis* can be attributed to the genus *Silometopoides* with fair certainty.

**Distribution.** This species has been recorded only in its type locality, i. e. the alpine belt of Charchiraa-Uul Mt. in Mongolian Altai Mts. (western Mongolia) (HEIMER, 1987) (Fig. 15).

#### Key to the *Silometopoides* species

- 1 (8) Males.
- 2 (5) Carapace with a table-shaped cephalic elevation and very distinct postocular pits; palpal tibial projection with an ectomarginal tooth.
- 3 (4) A small ectomarginal tooth at base of the projection. *S. pampia* (CHAMBERLIN)
- 4 (3) A long, spine-like ectomarginal tooth at midlength of the projection. *S. mongolensis* sp. n.
- 5 (2) Carapace without table-shaped cephalic elevation and with small, poorly distinguishable postocular pits; palpal tibial projection without ectomarginal tooth.
- 6 (7) Tip of the projection digitiform and bent angularly. *S. sphagniculus* sp. n.
- 7 (6) Tip of the projection pointed and direct. *S. tibialis* (HEIM.)
- 8 (1) Females (female of *S. tibialis* (HEIM.) is still unknown).
- 9 (12) Epigynal plate longitudinally divided, its posterior margin with a small medial notch.
- 10 (11) Epigynal plate with two distinct lateral excavations. *S. pampia* (CHAMBERLIN)
- 11 (10) Epigynal plate without such lateral excavations. *S. sphagniculus* sp. n.
- 12 (9) Epigynal plate longitudinally undivided, its posterior margin more or less regularly rounded. *S. mongolensis* sp. n.

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