

Contribution to the knowledge of the harvestman fauna in the Russian Far East and Eastern Siberia (Arachnida: Opiliones)

К познанию сенокосцев фауны Русского Дальнего Востока и Восточной Сибири (Arachnida: Opiliones)

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KEY WORDS: Opiliones, faunistics, re-descriptions, distribution, Far East, Eastern Siberia.

КЛЮЧЕВЫЕ СЛОВА: Opiliones, фаунистика, переописания, распространение, Дальний Восток, Восточная Сибирь.

ABSTRACT: Ten opilionid species from families Phalangidae, Gagrellidae and Ischyropsalididae occurring in the Russian Far East and adjacent regions of Eastern Siberia are reviewed. Four species, *Bidentolophus bidens* (Simon, 1880), *Melanopa grandis* Roewer, 1910, *Metagagrella tenuipes* (Suzuki, 1949) and *Nelima* sp., are redescribed on the basis on newly collected materials. Eight species are illustrated and provided with distributional maps.

РЕЗЮМЕ: Фаунистический обзор десяти видов сенокосцев из семейств Phalangidae, Gagrellidae and Ischyropsalididae, встречающихся на русском Дальнем Востоке и в сопредельных регионах Восточной Сибири. Четыре вида, *Bidentolophus bidens* (Simon, 1880), *Melanopa grandis* Roewer, 1910, *Metagagrella tenuipes* (Suzuki, 1949) и *Nelima* sp., переописаны на основе свежесобранных экземпляров. Восемь видов иллюстрированы и снабжены картами распространения.

Introduction

At present, the harvestman fauna of the Russian Far East is known to be rather poorly studied. In both the origin and species composition, this fauna is rather specific, differing from opilionid faunas of Europe and Siberia. Scanty data on the harvestmen of Eastern Siberia and the Russian Far East can be found only in Redikorzev [1936], Starega [1978], Gritsenko [1979a,b], Suzuki [1941], Suzuki & Tsurusaki [1983]. Therefore, almost every species encountered/collected from the Far East requires a careful study. The present study contributes to the knowledge of ten harvestman species from the Russian Far East.

Abbreviations for the institutions, where specimens were borrowed from, are as follows: ISEA — the Siberian Zoolog-

ical Museum, Institute for Systematics and Ecology of Animals, Novosibirsk, Russia (Dr. D. V. Logunov); IZPAN — Institute of Zoology, Warszawa, Poland (Dr. T. Huflejt); ZMMU — the Zoological Museum of the Moscow State University, Russia (Dr. K. G. Mikhailov).

Abbreviations used in the text and tables: Fm — femur, Mt — metatarsus, Pt — patella, s.l. — same locality, Tb — tibia, Tr — tarsus. "Clypeus" is accepted as a space between ocularium and front margin of carapace. Names of some collectors are abbreviated as follows: D.L. — Dr. D.V. Logunov, Y.M. — Dr. Yu. M. Marusik. All measurements are in mm.

Survey of species

Family PHALANGIIDAE Simon, 1879

Bidentolophus bidens (Simon, 1880)

Figs 1–11; Map 1.

Euphalangium transbaicalicum: Redikorzev, 1936: 33; Silhavy, 1972: 102–105, figs. 1–8; Gritsenko, 1979a: 131, fig. 17; Gritsenko, 1979b: 38, fig. 34.

Egaenus bidens: Starega 1978: 221.

Opilio multidentatus: Suzuki, 1956: 91–95, figs. 1–10.

MATERIAL. Khabarovsk Province: 1 ♂, 1 ♀ (ISEA), 20–25 km SE of Khabarovsk, Bolshoi Khekhtsyur Mt. Range [ca. 48°14'N, 134°49'E], 400 m a.s.l., 6.09.1987, S. V. Ivanov.

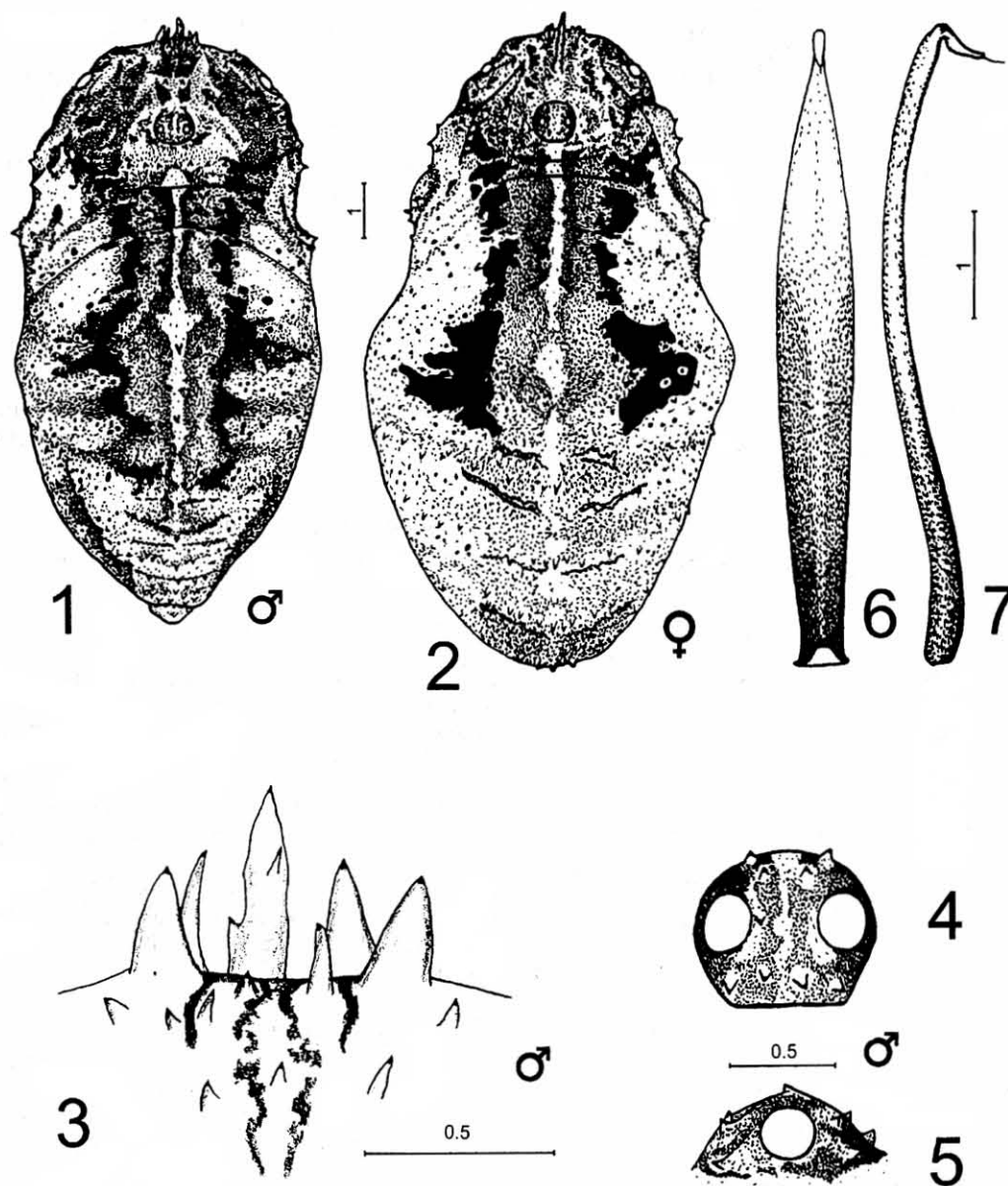
COMPARATIVE MATERIAL. RUSSIA: Buryatia: 1 ♂ (IZPAN), "Tarakanov nad Selenga", 24.08.1898, E. Csiki. — MONGOLIA: 1 ♂, 1 ♀ (IZPAN), "Wewngtrznna, Cinning", 18.09.1959, B. Pisarski. — N-KOREA: 1 ♂ (IZPAN), Pyongyang [39°02'N, 125°44'E], 12.09.1959, B. Pisarski.

DISTRIBUTION. Russia: Transbaikalia and the Russian Far East (Khabarovsk Province) [present data], Mongolia, North Korea [Starega, 1978; Gritsenko, 1979a,b], NE-China (Southern Manchuria) [Suzuki, 1956].

HABITAT. On tree trunks.

DESCRIPTION (both sexes from Khabarovsk Province).

MALE. Measurements. Body: length 10.41; width 5.13. Cephalothorax length 3.55. Eye tubercle width 0.85. "Clypeus"



Figs. 1-7. *Bidentolophus bidens* (Simon, 1880): 1 — ♂ body, dorsal view; 2 — ♀ body, dorsal view; 3 — ♂ front edge of carapace; 4 — ♂ ocularium, dorsal view; 5 — ♂ ocularium, lateral view; 6 — penis, dorsal view; 7 — penis, lateral view.

Рис. 1-7. *Bidentolophus bidens* (Simon, 1880): 1 — тело самца, дорзально; 2 — тело самки, дорзально; 3 — самец, передний край карапакса; 4 — глазной бугор самца, дорзально; 5 — глазной бугор самца, латерально; 6 — пенис, дорзально; 7 — пенис, латерально.

1.03. Chelicera: basal segment 2.86; distal segment 1.87; length of forceps 1.21. Penis: length 5.72; width at base 0.54. Lengths of palp and legs:

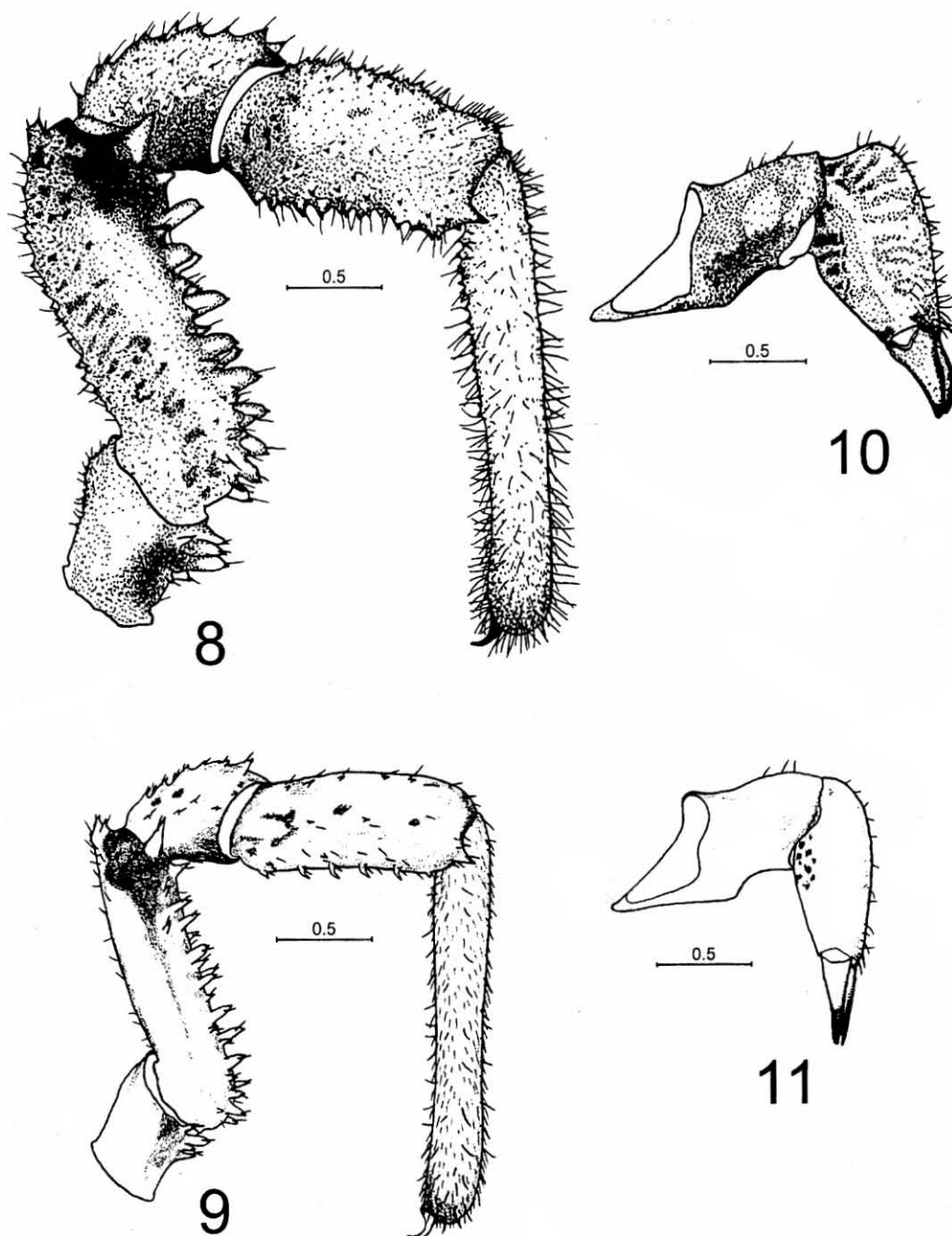
	Fm	Pt	Tb	Mt	Tr	Total
Palp	2.11	0.83	1.26	—	2.45	6.65
Legs						
I	5.73	2.44	4.82	5.71	8.62	33.43
II	10.44	2.75	7.48	6.91	17.63	45.21
III	5.74	2.42	3.71	6.45	9.13	27.45
IV	7.67	2.22	5.34	9.81	13.46	38.50

Carapace (Fig. 1) with numerous black-tipped denticles situated in groups as follows: before the ocularium, on sides,

in corners, on anterior and posterior edge of glands, 3-4 near eye tubercle closer to the front edge and in transverse rows on thoracic tergites. In the middle of front edge, carapace possesses a group of 5 large teeth (Fig. 3), central of them is stronger but lower than others. Glands are visible. Eye tubercle (Figs. 4-5) dorsally carries two longitudinal rows of 4-5 tubercles.

Abdomen dorsally with transverse rows of sharp-pointed tubercles (Fig. 1).

Chelicera as in Fig. 10. Basal segment dorsally with separated denticles. Distal segment dorsally with numerous small denticles.



Figs. 8–11. *Bidentolophus bidens* (Simon, 1880): 8 — ♂ palp, lateral view; 9 — ♀ palp, lateral view; 10 — ♂ chelicera, lateral view; 11 — ♀ chelicera, lateral view.

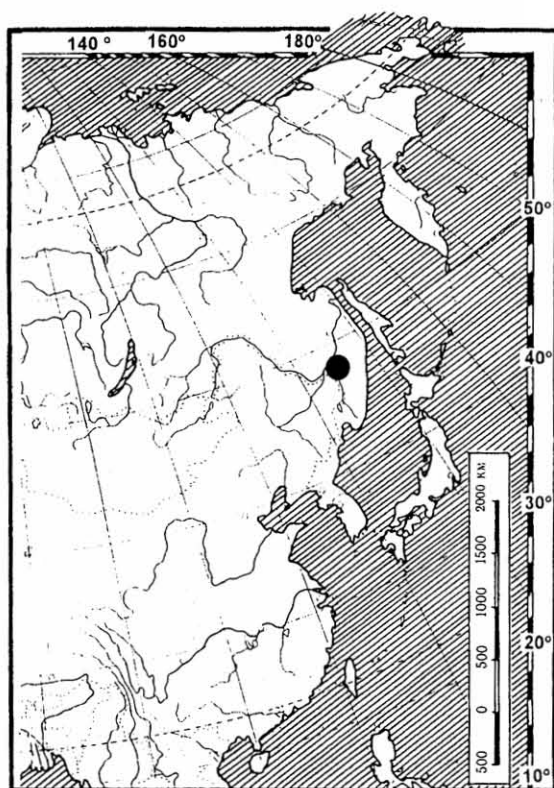
Рис. 8–11. *Bidentolophus bidens* (Simon, 1880): 8 — пальпа самца, латерально; 9 — пальпа самки, латерально; 10 — хелицера самца, латерально; 11 — хелицера самки, латерально.

Palp as in Fig. 8. Femur, patella and tibia swollen. Femur dorsally with numerous denticles, ventrally with large spine-tipped tubercles, and laterally with apical spine. Patella dorsally and laterally with denticles, of which apical ones are biggest. Tibia evenly covered with scattered denticles, ventrally carries larger denticles, and laterally surface with apical spine. Tarsus carries small ventral denticles in its proximal half. Tarsal claw smooth.

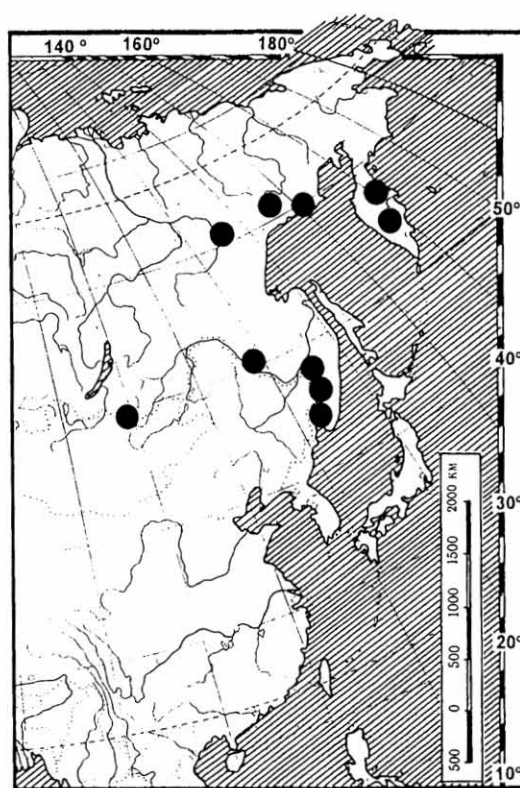
Legs pentagonal in cross section, I and III pairs thickened. Femora, patellae and tibiae with sharp inclined tubercles on the edges. Metatarsi ventrally with numerous small denticles.

Penis (Figs. 6–7) with the extended corpus.

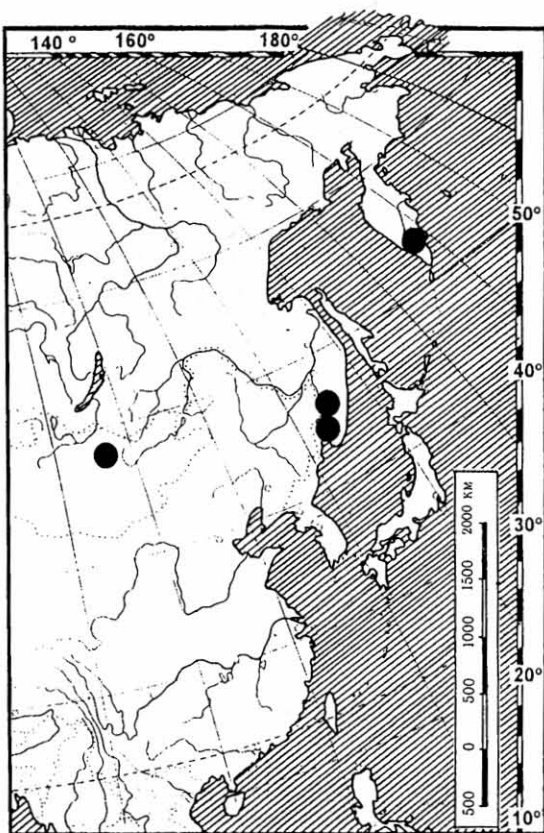
FEMALE. Measurements. Body: length 11.33; width 6.71. Cephalothorax length 2.27. Eye tubercle width 0.82. "Clypeus" 0.94. Chelicera: basal segment 2.93; distal segment 1.92; length of forceps 1.21. Length of palp and legs:



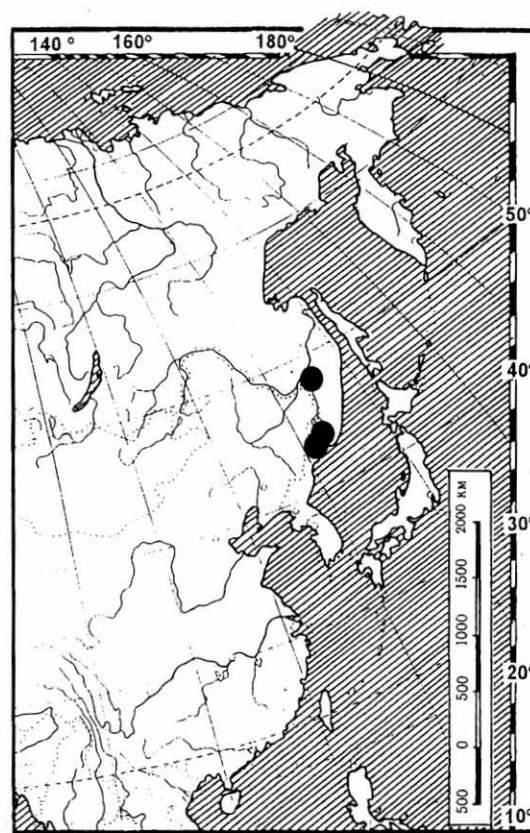
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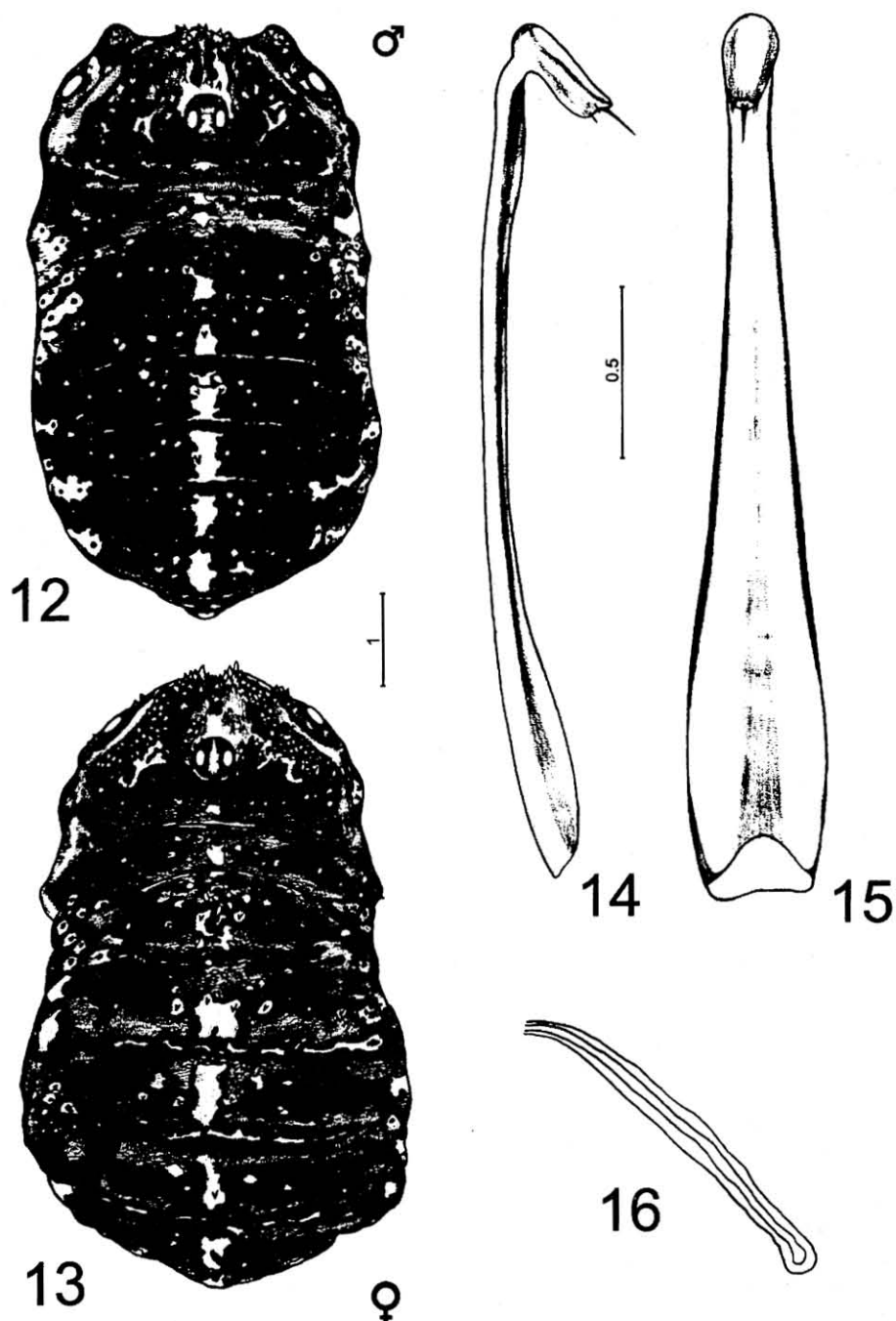
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3



4



Figs. 12–20. *Homolophus articus* Banks, 1893: 12 — ♂ body, dorsal view; 13 — ♀ body, dorsal view; 14 — penis, lateral view; 15 — penis, dorsal view; 16 — seminal receptacle; 17 — ♂ palp, lateral view; 18 — ♀ palp, lateral view; 19 — ♂ chelicera, lateral view; 20 — ♀ chelicera, lateral view.

Рис. 12–20. *Homolophus articus* Banks, 1893: 12 — тело самца, дорзально; 13 — тело самки, дорзально; 14 — пенис, латерально; 15 — пенис, дорзально; 16 — семяприемник; 17 — пальпа самца, латерально; 18 — пальпа самки, латерально; 19 — хелицера самца, латерально; 20 — хелицера самки, латерально.

Maps 1–4. Far Eastern and Eastern Siberian localities of Opiliones: 1 — *Bidentolophus bidens* (Simon, 1880); 2 — *Homolophus articus* Banks, 1893; 3 — *Mitopus mongolicus mongolicus* Roewer, 1912; 4 — *Oligolophus tienmushanensis* Wang, 1941; One dot may represent more than one locality.

Карты 1–4. Дальневосточные и Восточно-Сибирские локалитеты Opiliones: 1 — *Bidentolophus bidens* (Simon, 1880); 2 — *Homolophus articus* Banks, 1893; 3 — *Mitopus mongolicus mongolicus* Roewer, 1912; 4 — *Oligolophus tienmushanensis* Wang, 1941. Каждая точка может представлять больше чем один локалитет.

	Fm	Pt	Tb	Mt	Tr	Total
Palp	1.83	1.65	0.92	—	1.85	6.25
Legs						
I	5.13	1.96	3.08	5.22	7.36	22.75
II	10.64	2.28	6.57	7.32	16.54	43.35
III	5.29	1.82	3.56	5.81	7.74	24.22
IV	7.98	1.83	5.22	7.31	10.82	33.16

Female (Figs. 2, 9, 11) similar to male, but larger, legs I and III not so thickened, and metatarsi lack denticles.

COLORATION. Bodies of both male and female light yellow-ochre. Carapace darker than abdomen, with dark brown spots, saddle covers almost whole surface of carapace. Body color markings consist of the Latin X (beginning from back edge of carapace and extending to the middle of abdomen) and large dark brown spots (Figs. 1–2). Abdomen with brown spots situated in transverse rows. Legs yellow-brown. Chelicerae and palps yellow, with dark brown stains and spots.

Homolophus arcticus Banks, 1893

Figs 12–20; Map 2.

Homolophus arcticus: Starega, 1978: 209; Cokendolpher, 1987: 91; Tsurusaki, 1987: 97, figs. 1(A–B), 2(A–D), 3(A–F), 4(A–E).

Euphalangium albofasciatum: Gritsenko, 1979a: 130, fig. 16; Gritsenko, 1979b: 38, fig. 36.

Opilio sachaliensis: Suzuki, 1941: 245–247, figs. 8–13.

MATERIAL. MAGADAN AREA: 37 ♂♂, 79 ♀♀ (ISEA), ca. 50 km W of Magadan [59°50'N, 151°55'E], Ola River, summer 1994, D. I. Berman; 1 ♀ (ISEA), Bol'shoi Annachag Mt. Range, the upper reaches of Kolyma River [ca. 62°00'N, 149°18'E], 25.08.1986, Y.M. — KAMCHATKA: 1 ♂, 1 ♀ (ZMMU), Dolina Geizerov, 06.09.1987, A. V. Tanasevitch; 2 ♀♀ (ZMMU), near Mil'kovo, Kamchatka River, 23.08.1987, A. V. Tanasevitch. — YAKUTIA: 1 ♂ (ISEA), near Khandyga, 01.09.1990, G. Sukacheva. — CHITA AREA: 1 ♂ (ISEA), 60–65 km SW of Kyr, Sokhondo Reserve, Ernichnyi Stream [ca. 49°38'N, 111°05'E], 1300–1400 m a.s.l., 12.08.1991, V. P. Pekin. — Khabarovsk PROVINCE: 1 ♀ (ISEA), Bol'shoi Khehtsyr Mt. Range, Ussuri River [ca. 48°14'N, 134°49'E], 10.09.1987, S. V. Ivanov. — AMUR AREA: 1 ♀ (ISEA), near Blagoveshchensk [50°11'N, 127°18'E], 27.07.1996, A. N. Strel'tsov. — MARITIME PROVINCE: 2 ♀♀ (ISEA), Chuguevka Field Station [43°50'N, 134°15'E], 31.07–5.08.1998, Y.M.; 2 ♂♂ 3 ♀♀ (ISEA), near Anisimovka, Kangas River [ca. 43°06'N, 132°47'E], 28.07–9.08.1998, Y.M.; 3 ♀♀ (ISEA), Ussuri Reserve [43°39'N, 132°33'E], 29–31.07.1998, S. Koponen.

DIAGNOSIS. *H. arcticus*, differs from other *Homolophus* species in the following characters: body small with relatively short legs; carapace covered with numerous sharp-pointed tubercles on the front edge, but in females over whole carapace (to ocularium); penis with the broad base; corpus narrowing from the base to the glans.

DISTRIBUTION. Russia: Chita Area, Yakutia [present data], Sakhalin Area (Commander Islands) [Starega, 1978; Tsurusaki, 1987], Magadan Area and Kamchatka [present data], and Maritime Province [Gritsenko, 1979ab]; Japan (Hokkaido) and North Korea [Tsurusaki, 1987; Cokendolpher, 1987]. The species is recorded from Chita Area, Yakutia and Kamchatka for the first time.

DESCRIPTION. MALE. Measurements. Body: length 5.62; width 3.66. Cephalothorax length 1.58. Eye tubercle width 0.53. "Clypeus" 0.38. Chelicera: basal segment 2.08; distal segment 1.77; length of forceps 0.62. Penis: length 2.58; width at base 0.32. Length of palp and legs:

	Fm	Pt	Tb	Mt	Tr	Total
Palp	1.49	0.61	0.98	—	1.52	
Legs						
I	3.04	1.22	2.53	3.71	3.68	14.18
II	4.61	1.24	3.78	3.48	8.79	21.90
III	2.99	1.28	2.32	3.12	5.06	14.77
IV	4.48	1.28	3.02	4.68	7.22	20.68

Carapace with numerous sharp-pointed tubercles (Fig. 12) on the front edge. Preocular area with groups of black-tipped tubercles; in front of and near ocularium, in cornes, in front of and behind glands. Glands are visible. Ocularium low, with two longitudinal rows of 2–4 tubercles. Both thoracic and abdominal tergites with a transverse row of black-tipped tubercles.

Chelicera (Fig. 19). Basal segment dorsally with black-tipped denticles. Distal segment swollen and stout, dorsally with scattered denticles.

Palp (Fig. 17) short. Femur ventrally and dorsally with numerous sharp-pointed tubercles. Patella swollen distally, dorsally with numerous tubercles, laterally with smaller scattered tubercles. Tibia with numerous scattered tubercles, especially dense ventrally. Tarsus ventrally with dense rows of tubercles extending its proximal two-thirds. Tarsal claw smooth.

Legs relatively short, hexagonal in cross section, but poorly marked at first glance. Legs I and III swollen and robust, femora with rows of numerous sharp-pointed tubercles being especially dense ventrally and dorsally; patella with scattered tubercles; tibia ventrally with rows of numerous sharp-pointed tubercles, laterally with scattered tubercles; metatarsi ventrally with two rows of sharp-pointed tubercles. Legs II and IV thin, their edges with a row of sharp-tipped tubercles. Coxae smooth. Trochanters with scattered tubercles.

Penis (Figs. 14–15). Corpus with relatively wide base gradually narrowing to the glans, slightly broaden in its medial part. Glans oval, with two bristles on sides from stylus.

FEMALE. Measurements. Body: length 7.82; width 3.68. Cephalothorax length 1.52. Eye tubercle width 0.52. "Clypeus" 0.66. Chelicera: basal segment 1.42; distal segment 1.23; length of forceps 0.53. Length of palp and legs:

	Fm	Pt	Tb	Mt	Tr	Total
Palp	1.19	0.94	0.84	—	1.51	4.48
Legs						
I	2.52	1.26	2.21	2.27	4.16	12.42
II	3.98	1.32	3.51	3.02	9.64	21.47
III	2.49	1.18	2.07	2.81	4.71	13.26
IV	4.18	1.26	2.88	4.48	7.68	20.48

Females are generally similar to males, body larger and differ as follows (Fig. 13): preocular area completely covered with black-tipped tubercles; chelicerae relatively small (Fig. 20), with basal segments dorsally with a few denticles without arms; palpal tarsi ventrally without tubercles, the others palpal segments with sparse denticles (Fig. 18); legs without arms, only with sparse tubercles on the tips of femora and patellae. Seminal receptacle as in Fig 16.

Coloration (Fig. 12). Males darker than females. Carapace with yellow, brown and black-brown spots and patches. Abdomen dark brown, on sides with large light grey-ochre spots and stains; dorsally with medial white-ochre spots on the each tergite (each spot laterally with black-brown piping). Legs yellow (in female light gray-ochre), I and III darker, with dark brown patches and small brown spots, II and IV only with small brown spots. Chelicerae and palps yellow, with dark brown patches and spots.

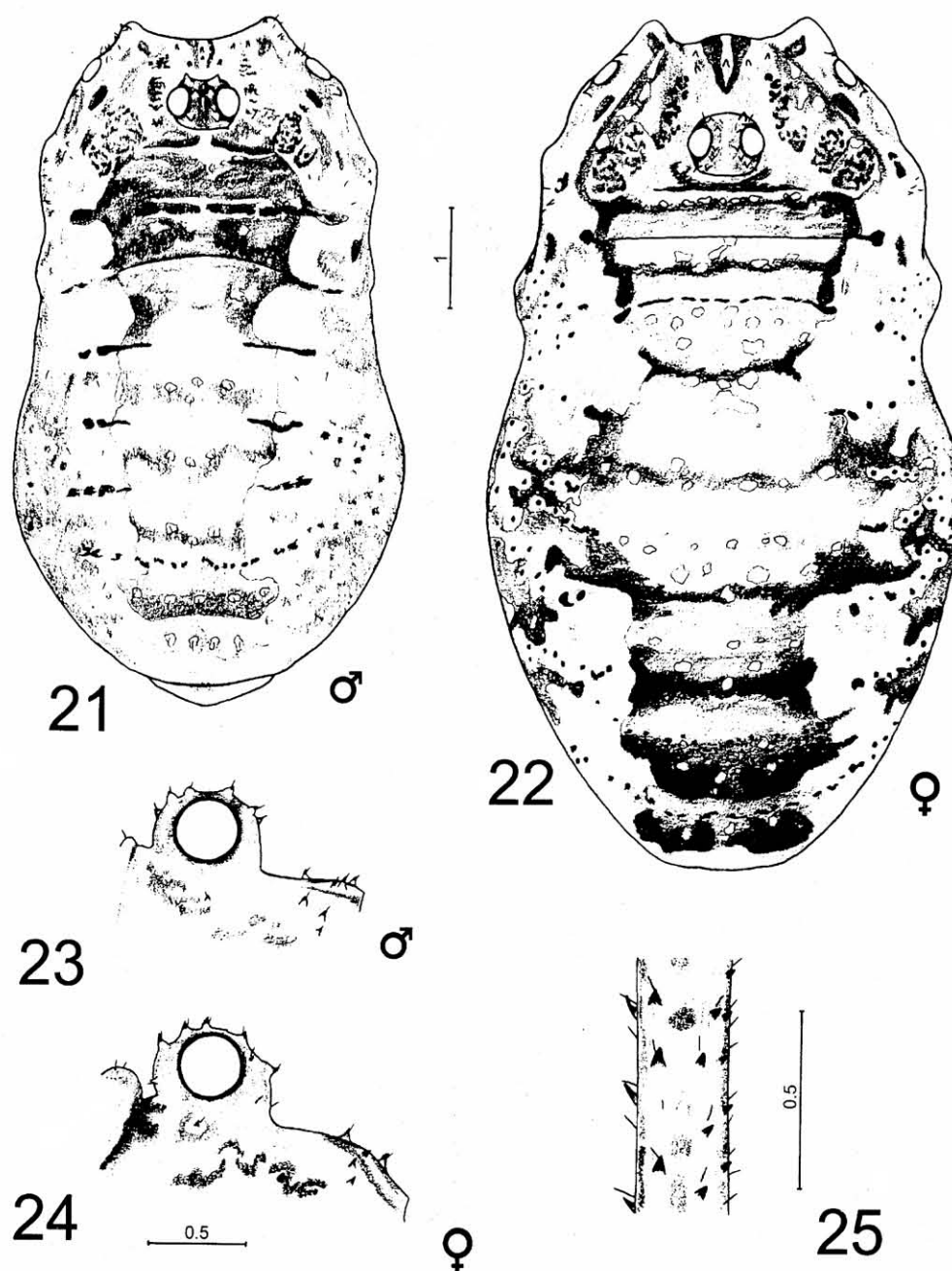
Mitopus mongolicus mongolicus Roewer, 1912

Figs 21–32; Map 3.

Mitopus mongolicus: Gritsenko, 1979a: 34.

Mitopus mongolicus mongolicus: Starega, 1978: 211.

MATERIAL. KAMCHATKA: 1 ♂ (ZMMU), Petropavlovsk-Kamchatskii [53°02'N, 158°41'E], coast of bay, 22.08.1987, A. V.



Figs. 21–25. *Mitopus mongolicus mongolicus* Roewer, 1912: 21 — ♂ body, dorsal view; 22 — ♀ body, dorsal view; 23 — ♂ ocularium, lateral view; 24 — ♀ ocularium, lateral view; 25 — parts of femora legs (♂ and ♀).

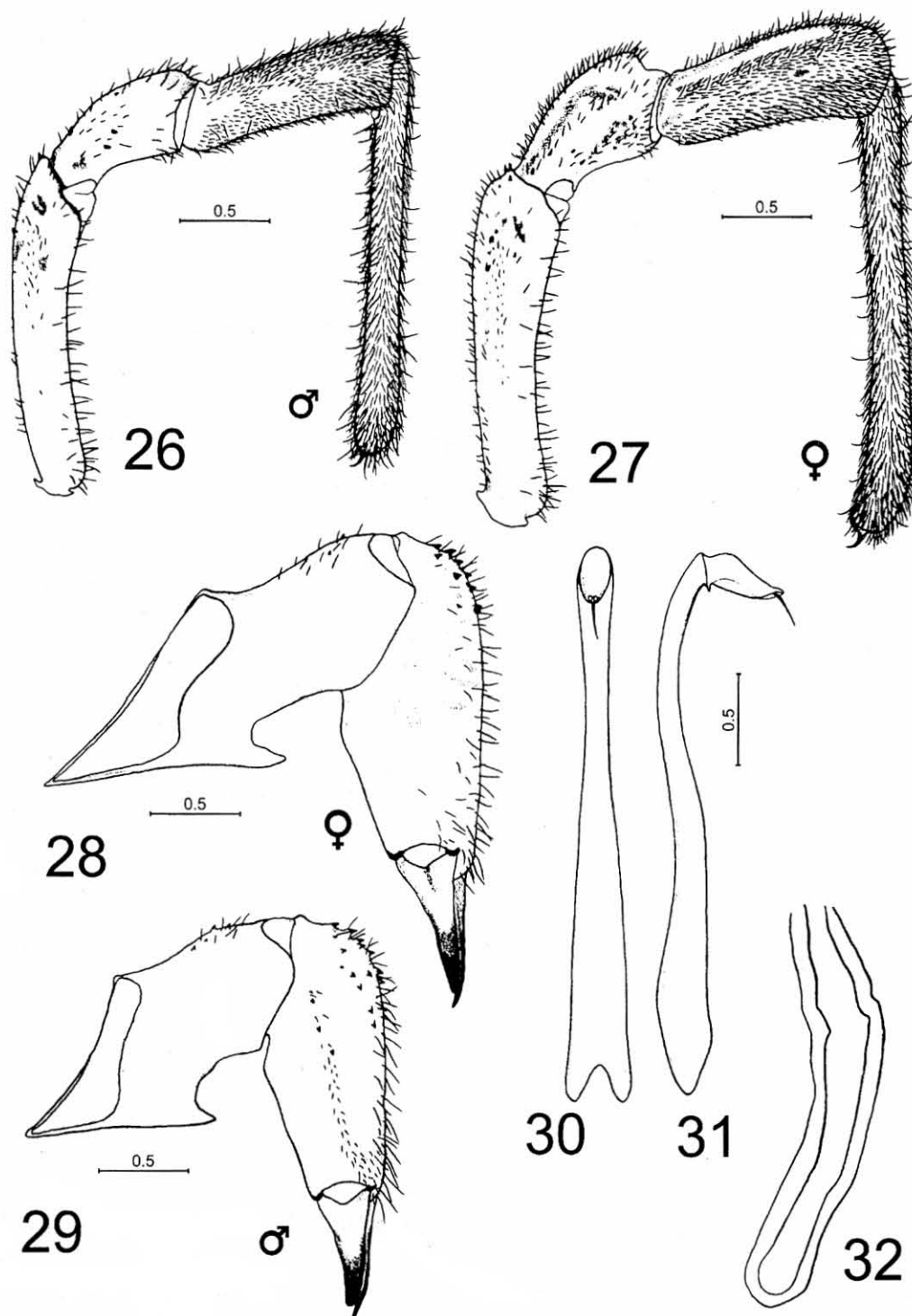
Рис. 21–25. *Mitopus mongolicus mongolicus* Roewer, 1912: 21 — тело самца, дорзально; 22 — тело самки, дорзально; 23 — глазной бугор самца, латерально; 24 — глазной бугор самки, латерально; 25 — части бедер ног (самец и самка).

Tanasevitch. — MARITIME PROVINCE: 2 ♂♂, 3 ♀♀ (ISEA), Anisimovka [43°06'N, 132°47'E], 4.07.1997 L. A. Trilikauskas; 1 ♂, 2 ♀♀ (ISEA), Ussuri Reserve, [43°39'N 132°33'E], 29–31.07.1998, S. Koponen.

COMPARATIVE MATERIAL. MONGOLIA: 3 ♂♂, 1 ♀ (IZPAN), N of Ulan-Bataar [ca. 47°57'N, 107°00'E], 12–15.08.1963, B. Burakowski & H. Szelegiewicz.

DIAGNOSIS. *Mitopus mongolicus mongolicus* is closest to widespread *Mitopus morio*. For diagnostic characters between these species see in the table:

	<i>M. mongolicus mongolicus</i>	<i>M. morio</i>
Legs	Very long (femora I longer than body) and cylindrical in cross section	Relatively short, angular in cross section, patella and tibia of pentagonal structure
Penis	Corpus bending evenly (arc-shaped)	Corpus bending at obtuse angle



Figs. 26-32. *Mitopus mongolicus mongolicus* Roewer, 1912: 26 — ♂ palp, lateral view; 27 — ♀ palp, lateral view; 28 — ♀ chelicera, lateral view; 29 — ♂ chelicera, lateral view; 30 — penis, dorsal view; 31 — penis, lateral view; 32 — seminal receptacle.

Рис. 26-32. *Mitopus mongolicus mongolicus* Roewer, 1912: 26 — пальпа самца, латерально; 27 — пальпа самки, латерально; 28 — хелицера самки, латерально; 29 — хелицера самца, латерально; 30 — пенис, дорзально; 31 — пенис, латерально; 32 — семяприемник.

DISTRIBUTION. Russia: Kamchatka and Maritime Province [Starega, 1978; Gritsenko, 1979a; present data]; and Mongolia [Gritsenko, 1979a].

DESCRIPTION. MALE. Measurements. Body: length 6.79; width 4.03. Cephalothorax: length 1.37. Eye tubercle width 0.59. "Clypeus" 0.52. Chelicera: basal segment 1.74;

distal segment 1.98; length of forceps 0.63. Penis: length 2.99; width of base: 0.36. Length of palp and legs:

	Fm	Pt	Tb	Mt	Tr	Total
Palp	1.83	0.86	1.12	—	2.14	5.95
Legs I	7.13	1.82	6.09	8.68	10.67	34.39
II	12.54	2.17	10.22	14.44	22.06	61.43
III	7.41	1.72	5.91	10.32	13.98	39.34
IV	10.46	1.92	7.93	15.54	20.34	56.19

Carapace (Fig. 21) with 5–7 denticles situated in front of the ocularium, in corners, anterior and posterior edges of glands. Glands clearly expressed. Supra-cheliceral lamella without denticles. Eye tubercle (Fig. 23) dorsally carries two longitudinal rows of 3–5 (in female 6–7) tubercles. Abdomen dorsally with transverse rows of setae.

Chelicera (Fig. 29). Basal segment ventrally with ventral spur. Basal and distal segments dorsally with small black-tipped denticles and setae.

Palp (Fig. 26). Femur and patella with sparse denticles. Patella with small apophysis in its distal part. Tarsal claw smooth. All segments with setae and hairs.

Legs (Fig. 25) long, cylindrical in cross section. Femora and patella with longitudinal rows of denticles (on patella these denticles smaller).

Penis (Figs. 30–31) bending evenly (arc-shaped).

FEMALE. Measurements. Body: length 8.42; width 4.74. Cephalothorax: length 1.72. Eye tubercle width 0.68. "Clypeus" 0.71. Chelicera: basal segment 2.27; distal segment 1.87; length of forceps 0.81. Length of palp and legs:

	Fm	Pt	Tb	Mt	Tr	Total
Palp	2.13	0.82	1.23	—	2.59	6.77
Legs						
I	6.07	1.94	5.22	7.68	9.43	30.34
II	12.42	2.39	10.51	13.64	20.27	59.23
III	6.42	1.96	5.19	8.83	11.08	33.48
IV	10.44	2.18	7.02	13.58	16.21	49.43

Females similar to males, but body larger (Figs. 22, 24, 27, 27).

Coloration. Males paler than females. Males: carapace with small light brown spots; saddle is well marked (ochre), abdomen laterally of saddle with ochre stains and spots. Females: carapace with brown spots and light green-grey stains, the saddle is clearly marked (light green-grey in the center, green-gray on its sides), with green-brown stains and brown spots on both sides of the saddle. Legs, palps and chelicerae light ochre, with light brown spots.

Mitopus morio (Fabricius, 1779)

MATERIAL. MAGADAN AREA: 5 ♂♂, 5 ♀♀ (ISEA), ~29 km S of Magadan, Dukcha River [59°34'N, 150°30'E], 22.07.1987, Y.M.; 16 ♂♂ (ISEA), near Magadan [59°34'N, 150°30'E], 24.08.1987, Y.M. — KAMCHATKA: 3 ♂♂, 1 ♀ (ZMMU), Petropavlovsk-Kamchatskii [53°02'N, 158°41'E], coast of bay, 22.08.1987, A. V. Tanasevitch; 2 ♂♂, 2 ♀♀ (ZMMU), near Elizovo, 11.08.1987 [53°10'N, 158°24'E], A. V. Tanasevitch.

NOTES. For description and distribution of the species, see Tcherneris *et al.* [1998].

Oligolophus tienmushanensis Wang, 1941

Figs 33–41; Map 4.

Oligolophus tienmushanensis: Starega, 1965: 5; Gritsenko, 1979a: 34; 1979b: 127.

MATERIAL. KHABAROVSK PROVINCE: 1 ♂, 1 ♀ (ISEA), Bolshoi Khekhtsyur Mt. Range [48°14'N, 134°49'E], 400 m a.s.l., 16.09.1987, S. V. Ivanov. — MARITIME PROVINCE: 1 ♀ (ISEA), Kedrovaya Pad' Reserve [43°11'N, 131°23'E], 6.09.1978, B. P.

Zakharov; 2 ♂♂, 2 ♀♀ (ZMMU), near Vladivostok, Peter-the-Great Gulf [ca. 42°58'N, 131°44'E], 7.09.1991, K. G. Mikhailov; 1 ♀ (ISEA), Khasan Dist., near Andreevka [42°35'N, 131°13'E], 11–15.08.1998, Y.M.

DIAGNOSIS. From Siberian species, this species is most closely related to *O. tridens* (Koch), with main differences are provided in the table:

	<i>O. tienmushanensis</i>	<i>O. tridens</i>
Ocularium	with 2 longitudinal rows of 4–5 spine-tipped tubercles (Fig. 33)	with 2 longitudinal rows of 4–5 very small denticles
Penis	Base broad, distal part of corpus with excavation (Figs. 37–38)	Base narrow, corpus lengthened with no distal excavation

DISTRIBUTION. Russia: Khabarovsk and Maritime provinces [Gritsenko, 1979a,b; present data]; N-Korea [Starega, 1965].

HABITAT. Mixed forest (tree trunks and under stones).

DESCRIPTION. MALE. Measurements. Body: length 4.77; width 3.18. Cephalothorax length 1.58. Eye tubercle width 0.65. "Clypeus" 0.61. Chelicera: basal segment 1.25; distal segment 1.03; length of forceps 0.71. Penis: length 2.95, width of base 0.34. Length of palp and legs:

	Fm	Pt	Tb	Mt	Tr	Total
Palp	1.32	0.65	0.82	—	1.77	4.56
Legs						
I	4.86	1.46	3.27	5.18	6.37	25.70
II	9.22	2.14	7.26	9.07	18.42	46.11
III	5.18	1.27	3.42	5.93	7.31	23.11
IV	8.42	1.51	5.04	8.17	14.93	38.07

Carapace (Fig. 33) with black-tipped denticles situated in groups as follows: in front of the eye tubercle, on sides, in corners, in anterior and posterior edges of glands. Carapace front edge with trident supplied with a pair of smaller denticles. Glands well-visible. Ocularium (Figs. 40–41) dorsally with longitudinal rows of 4–5 spine-tipped tubercles.

Abdomen with transverse rows of denticles.

Chelicera (Fig. 35). Basal segment ventrally with a medial spur, dorsally with sparse small denticles. Distal segment haired, with longest hairs occurring near cheliceral claw.

Palp (Fig. 39). Femur, patella and tibia with apophyses in distal part. Tarsus ventrally with micro-denticles. Tarsal claw smooth. All segment with setae.

Legs thin and long. Femur with a black conspicuous tubercle.

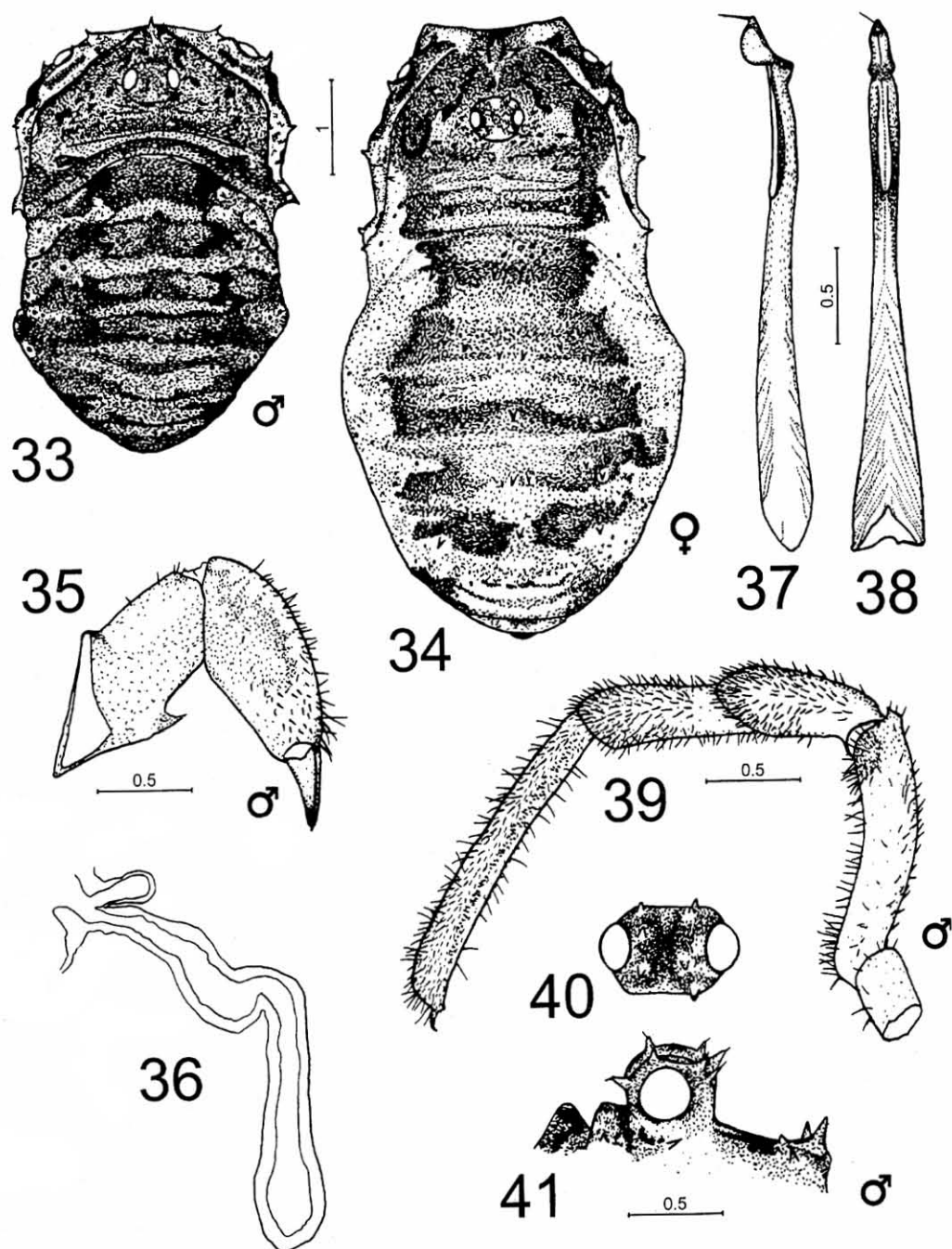
Penis (Figs. 37–38) with a broad base. Corpus dorsally, in apical part with concave plate (groove), longer than wide. Glans ventrally with a keel.

FEMALE. Measurements. Body: length 6.83; width 4.34. Cephalothorax: length 1.71. Eye tubercle width 0.68. "Clypeus" 0.63. Chelicera: basal segment 1.31; distal segment 1.08; length of forceps 0.69. Length of palp and legs:

	Fm	Pt	Tb	Mt	Tr	Total
Palp	1.62	0.78	0.97	—	1.76	5.13
Legs						
I	3.65	1.12	2.74	3.96	3.47	14.94
II	9.07	1.88	6.63	9.18	14.55	41.31
III	3.84	0.83	2.53	4.37	5.16	16.73
IV	6.88	1.39	4.93	8.68	7.73	29.61

Females similar to males, but larger (Figs. 34, 36).

Coloration. Carapace and abdominal sides milk-white, tinged with gray and with dark brown patches. Carapace (including saddle) black-brown, with transverse rows of white denticles. Legs dark brown in males, and light ochre in females. Palp and chelicerae ochre. Palpal apophyses white.



Figs. 33–41 *Oligolophus tienmushanensis* Wang, 1941: 33 — ♂ body, dorsal view; 34 — ♀ body, dorsal view; 35 — ♂ chelicerae, lateral view; 36 — seminal receptacle; 37 — penis, lateral view; 38 — penis, dorsal view; 39 — ♂ palp, mesal view; 40 — ♂ ocularium, dorsal view; 41 — ♂ ocularium, lateral view.

Рис. 33–41. *Oligolophus tienmushanensis* Wang, 1941: 33 — тело самца, дорзально; 34 — тело самки, дорзально; 35 — хелицера самца, латерально; 36 — семяприемник; 37 — пенис, латерально; 38 — пенис, дорзально; 39 — пальпа самца, мезально (вид изнутри); 40 — глазной бугор самца, латерально; 41 — глазной бугор самца, латерально.

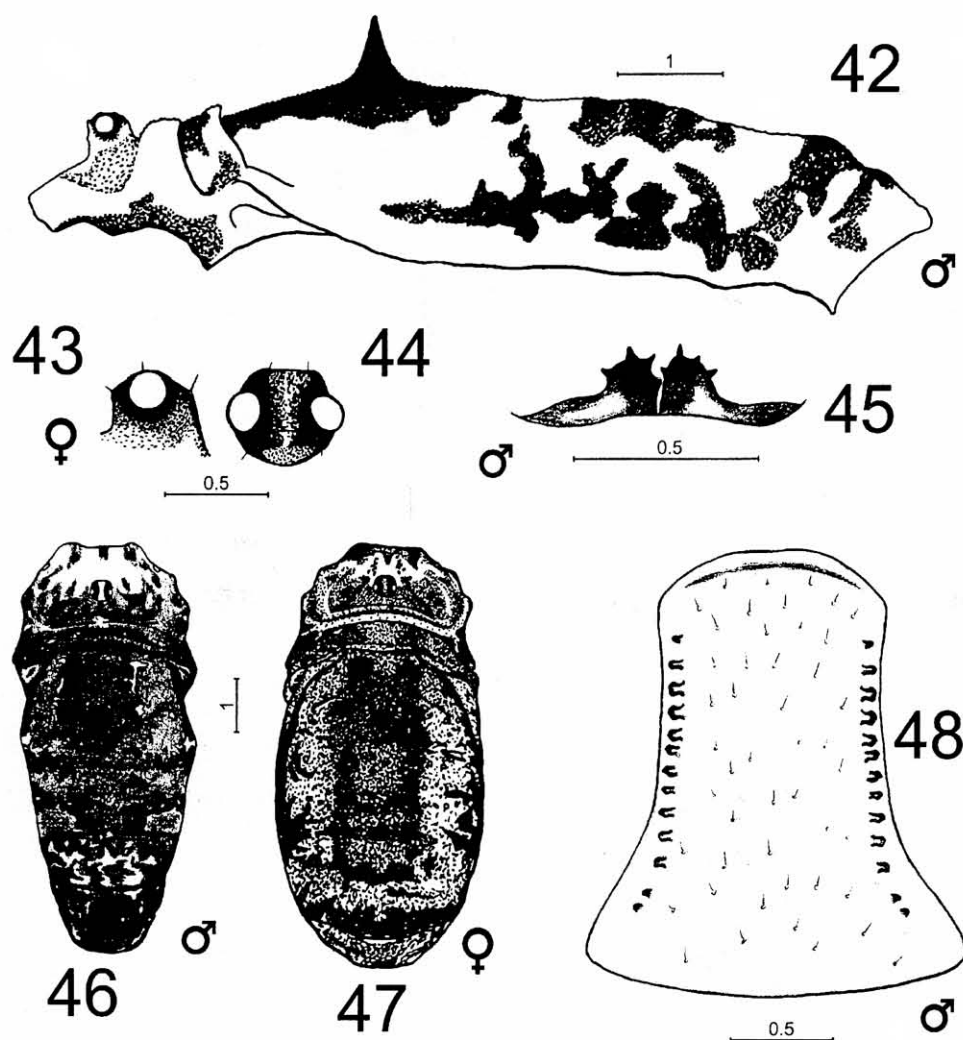
Family GAGRELLIDAE Thorell, 1889

Hamitergum eobius (Redikorzev, 1936)

MATERIAL. MARITIME PROVINCE: 2 ♂♂, 3 ♀♀ (ISEA), near Anisimovka, Kangaus River [43°06'N, 132°47'E], 28.07–

9.08.1998, Y.M.; 1 ♂ (ISEA), Chuguevka Field Station [43°50'N, 134°15'E], 31.07–5.08.1998, Y.M.

NOTES. This is an additional record of the species from the Russian Far East. For description and distribution of the species, see Tchemeris *et al.* [1998].



Figs. 42-48. *Melanopa grandis* Roewer, 1910: 42 — ♂ body (dorsum), lateral view; 43 — ♀ ocularium, lateral view; 44 — ♀ ocularium, dorsal view; 45 — ♂ supra-chelicer al lamellae; 46 — ♂ body, dorsal view; 47 — ♀ body, dorsal view; 48 — ♂ genital operculum.

Рис. 42-48. *Melanopa grandis* Roewer, 1910: 42 — тело самца (верх), латерально; 43 — глазной бугор самки, латерально; 44 — глазной бугор самки, дорзально; 45 — надхелицерные пластинки самца; 46 — тело самца, дорзально; 47 — тело самки, дорзально; 48 — половая крышечка самца.

Melanopa grandis Roewer, 1910

Figs 42-55; Map 5.

Melanopa grandis: Starega, 1978: 208-210.

Metagagrella ussuriensis: Redikorzev, 1936: 47; Starega, 1965: 10-11; Gritsenko, 1979a: 33; 1979b: 124.

MATERIAL. MARITIME PROVINCE: 2 ♂♂, 7 ♀♀ (ISEA), S part Lazo Reserve, Korpud' Stand [43°16'N, 134°08'E], cliff, 6-9.08.1998, Y.M.; 2 ♂♂, 2 ♀♀ (ISEA), S part of Province [43°44'N, 133°52'E], cliff, 3.08.1998, Y.M.; 1 ♀ (ISEA), SW part of Khasan Dist., near Andreevka [42°35'N, 131°13'E], 11-15.08.1998, Y.M.; 1 ♂, 1 ♀ (ISEA), Khasan Dist., Bryus Peninsula, Kruglaya Bay, 6.08.1998, E. V. Mikhajlova; 5 ♂♂, 5 ♀♀ (ISEA), near Anisimovka, Kangas River [43°06'N, 132°47'E], 28.07-9.08.1998, Y.M.; 3 ♂♂, 4 ♀♀ (ISEA), Ussuri Reserve, [43°39'N, 132°33'E], 29-31.07.1998, S. Koponen & Yu. M.; 1 ♀ (ZMMU), near Vladivostok, Peter-the-Great Gulf [ca. 42°58'N, 131°44'E], 8.09.1991, K. G. Mikhailov; 1 ♀ (ZMMU), Kedrovaya Pad' Reserve [43°11'N, 131°23'E], 23.09.1966, coll. ?.

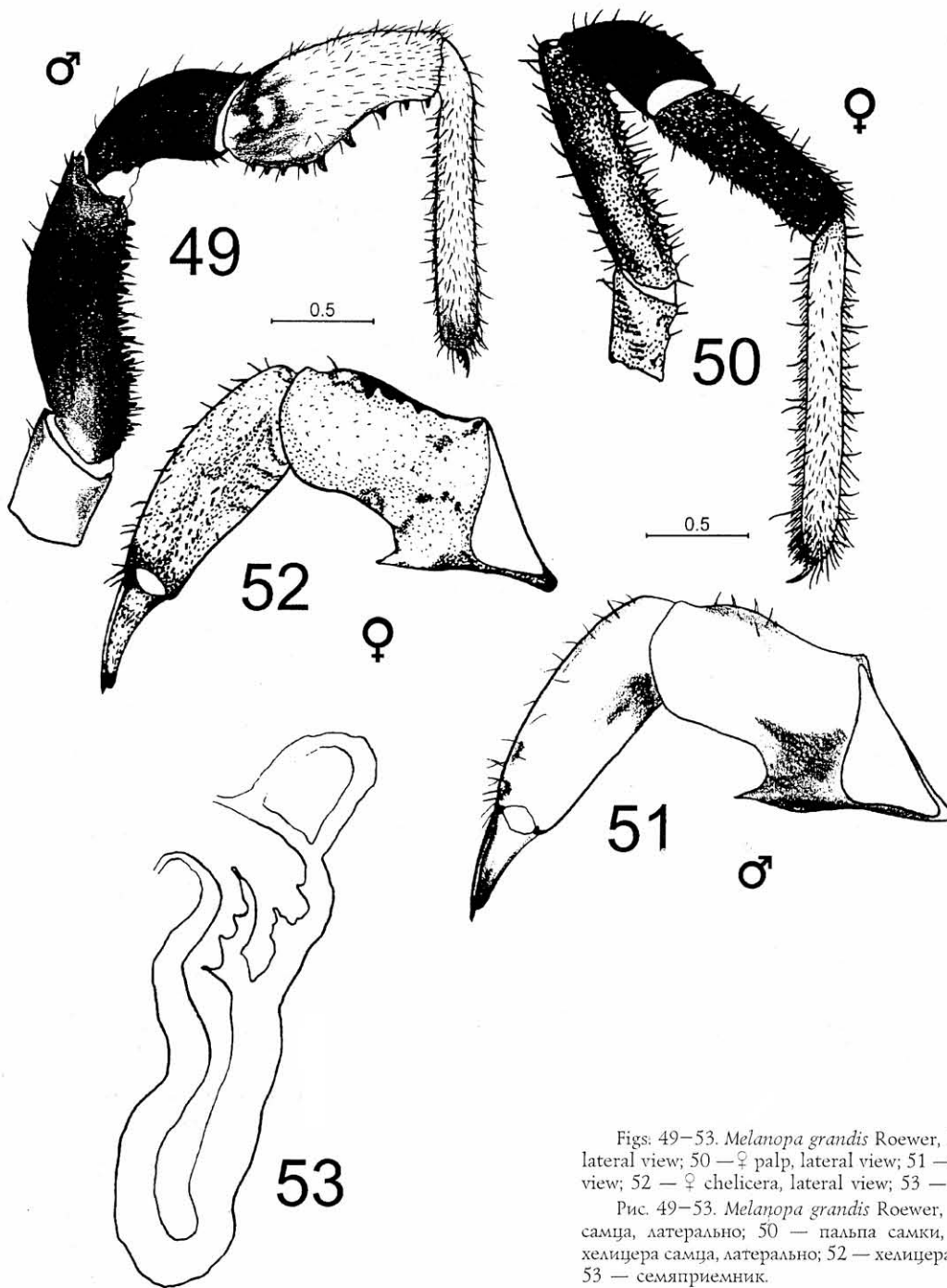
Comparative material. NORTH KOREA: 1 ♀ (IZPAN), "Onpho ad Chongjin", 14-18.08.1959, B. Pisarski & J. Prószyński.

DISTRIBUTION. Russia (Maritime Province) [Redikorzev, 1936; Starega, 1965, 1978; Gritsenko, 1979ab; present data], Japan and Korea [Suzuki & Tsurusaki, 1983].

HABITAT. Broad-leaved woods with *Pinus sibirica*, black fir woods and oak wood.

DESCRIPTION. MALE. Measurements. Body: length 7.98; width 3.53. Cephalothorax length 1.42. Eye tubercle width 0.57. "Clypeus" 0.71. Chelicera: basal segment 1.68; distal segment 1.24; length of forceps 0.44. Penis: length 5.99; width of base 0.75. Length of palp and legs:

	Fm	Pt	Tb	Mt	Tr	Total
Palp	1.44	0.84	1.02	—	1.46	4.76
Legs						
I	5.97	1.78	5.48	6.98	10.52	30.73
II	10.72	1.62	10.83	12.64	22.68	58.49
III	5.98	1.67	5.31	7.72	9.64	30.32
IV	8.63	1.68	7.72	11.46	15.03	44.52



Figs. 49–53. *Melanopa grandis* Roewer, 1910: 49 — ♂ palp, lateral view; 50 — ♀ palp, lateral view; 51 — ♂ chelicera, lateral view; 52 — ♀ chelicera, lateral view; 53 — seminal receptacle.

Рис. 49–53. *Melanopa grandis* Roewer, 1910: 49 — пальпа самца, латерально; 50 — пальпа самки, латерально; 51 — хелицера самца, латерально; 52 — хелицера самки, латерально; 53 — семяприемник.

Body with granular surface, (pappils). Carapace (Figs. 42, 46) unarmed, with small odoriferous glands. Supra-cheliceral lamellae (Figs. 45) with 4 pointed tubercles on their distal margin. Eye tubercle (Fig. 42) dorsally without tubercles.

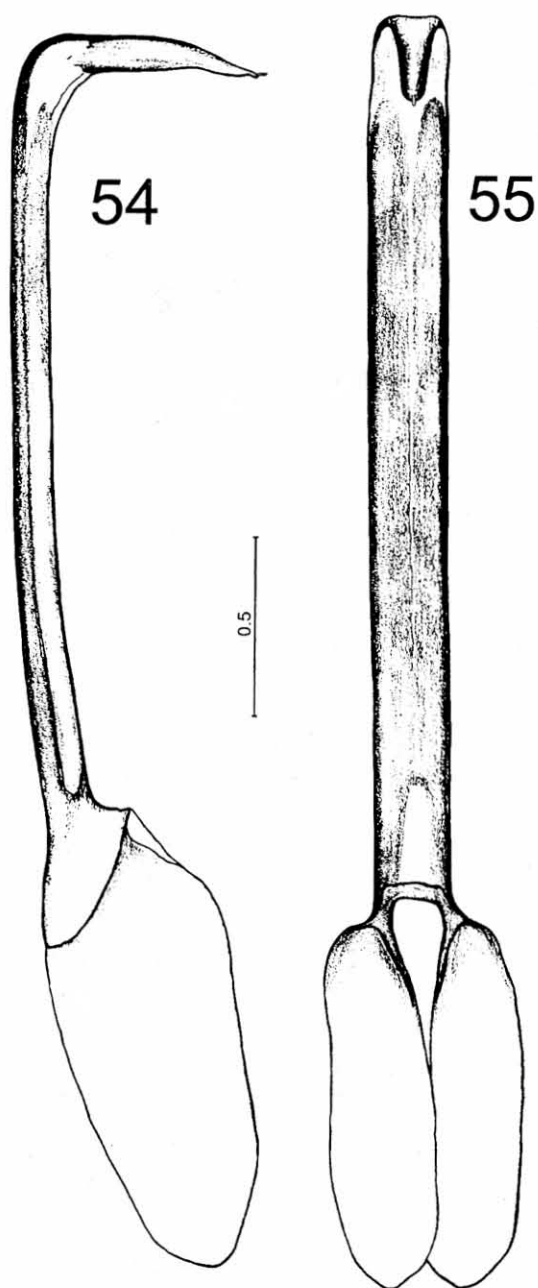
Abdomen long, elongated and narrowed to its posterior part (Figs. 46). The second tergite dorsally with a high spine. Genital operculum (Figs. 48) with lateral rows of 11–13 humps.

Chelicera (Fig. 51). Basal segment ventrally with medial spur. Distal segment elongated. All segments with setae.

Palp (Fig. 49). Femur swollen in the medial part, ventrally with numerous sharp pointed tubercles. Patella without arms. Tibia swollen at base, ventrally with a medial row of large sharp pointed tubercles. Tarsus ventrally with a medial row of denticles. Tarsal claw pectinated.

Legs slender and long. In lateral view, coxae edged with rows of coarse tubercles being larger than those in the middle part. Femora and tibia with rows of sparse pointed tubercles.

Penis very long, (Figs. 54–55) with large and broad base. Glans thin and long, stylus short.

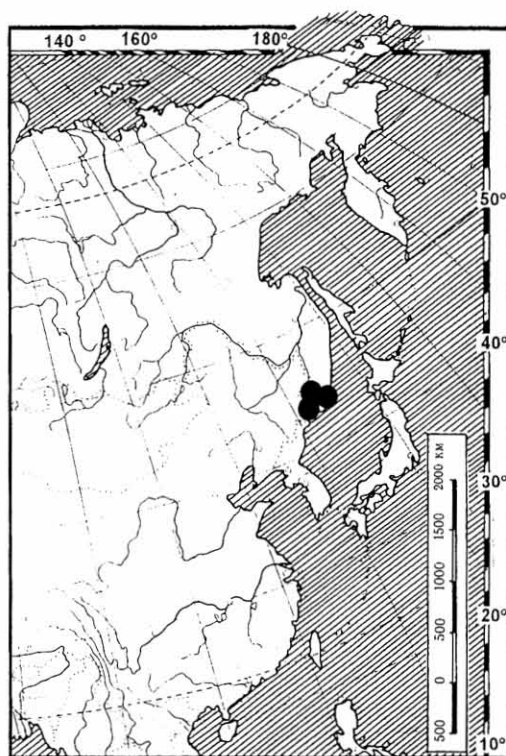


Figs. 54–55. *Melanopa grandis* Roewer, 1910: 54 — penis, lateral view; 55 — penis, dorsal view.

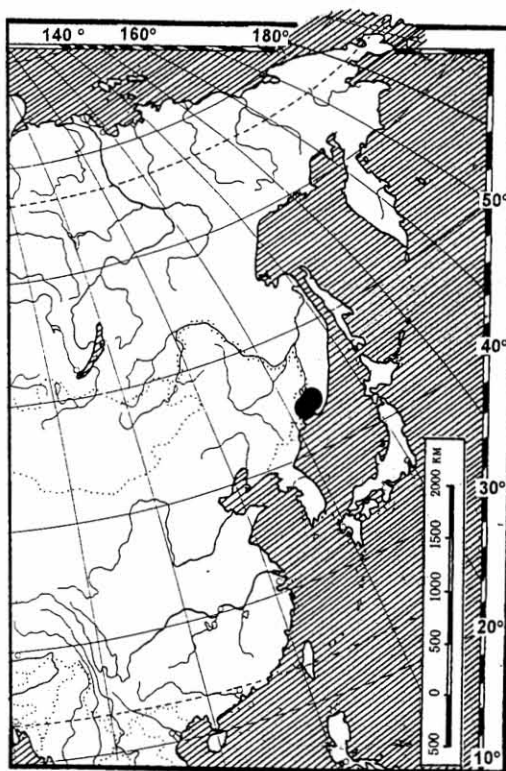
Рис. 54–55. *Melanopa grandis* Roewer, 1910: 54 — пенис, латерально; 55 — пенис, дорзально.

FEMALE. Measurements. Body length: 9.17; width 4.76. Cephalothorax length 2.33. Eye tubercle width 0.48. "Clypeus" 0.61. Chelicera: basal segment 1.59; distal segment 1.23; length of forceps 0.46. Length of palp and legs:

	Fm	Pt	Tb	Mt	Tr	Total
Palp	1.28	0.75	0.91	—	1.66	4.60
Legs						
I	6.58	1.61	5.63	7.66	10.12	31.60
II	12.23	1.72	10.95	12.88	23.76	61.54
III	6.47	1.64	6.58	7.21	9.93	31.83
IV	9.67	1.79	7.78	9.76	11.73	40.73



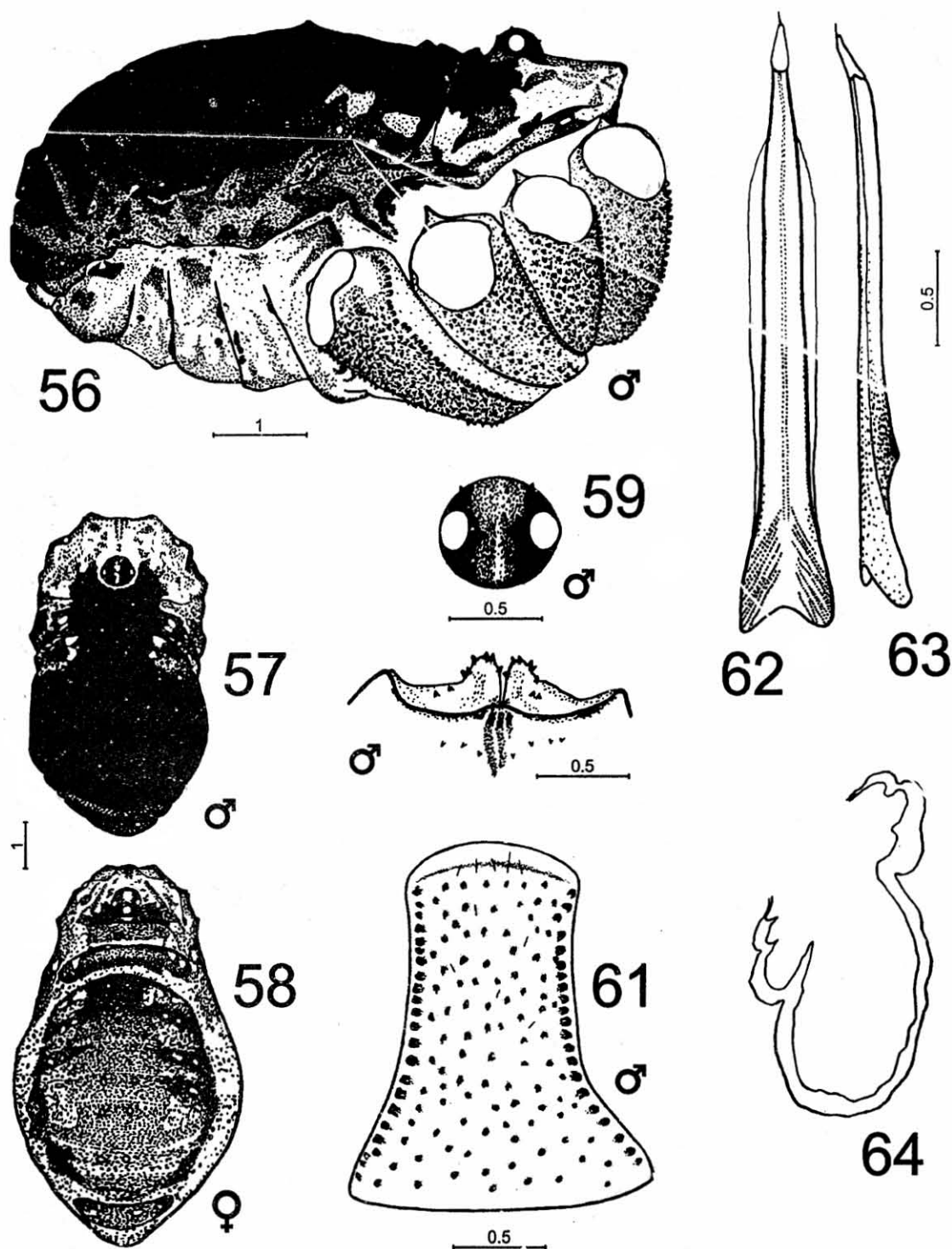
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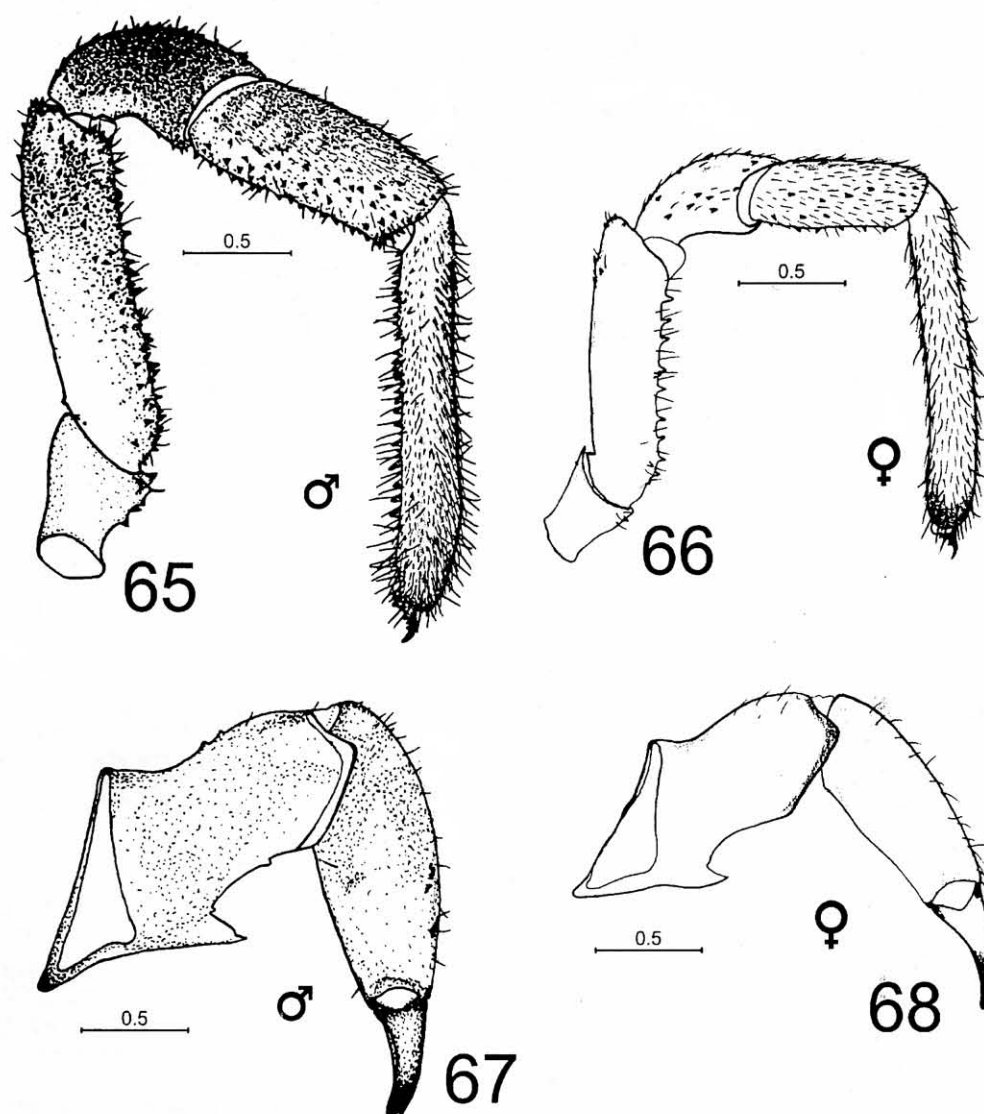
Maps 5–6. Far Eastern and Eastern Siberian localities of Opiliones: 5 — *Melanopa grandis* Roewer, 1910; 6 — *Metagagrella tenuipes* (Suzuki, 1949). One dot may represent more than one locality.

Карты 5–6. Дальневосточные и Восточно-Сибирские локалитеты Opiliones: 5 — *Melanopa grandis* Roewer, 1910; 6 — *Metagagrella tenuipes* (Suzuki, 1949). Каждая точка может представлять больше чем один локалитет.



Figs. 56-64. *Metagagrella tenuipes* (Suzuki, 1949): 56 — ♂ body, lateral view; 57 — ♂ body, dorsal view; 58 — ♀ body, dorsal view; 59 — ♂ ocularium, dorsal view; 60 — ♂ supra-chelicerall lamellae; 61 — ♂ genital operculum; 62 — penis, dorsal view; 63 — penis, lateral view; 64 — seminal receptacle.

Рис. 56-64. *Metagagrella tenuipes* (Suzuki, 1949): 56 — тело самца, латерально; 57 — тело самца, дорзально; 58 — тело самки, дорзально; 59 — глазной бутор самца; 60 — надхелицерные пластинки самца; 61 — половая крышечка самца; 62 — пенис, дорзально; 63 — пенис, латерально; 64 — семяприемник.



Figs. 65–68. *Metagagrella tenuipes* (Suzuki, 1949): 65 — ♂ palp, lateral view; 66 — ♀ palp, lateral view; 67 — ♂ chelicera, lateral view; 68 — ♀ chelicera, lateral view.

Рис. 65–68. *Metagagrella tenuipes* (Suzuki, 1949): 65 — палепа самца, латерально; 66 — палепа самки, латерально; 67 — хелицера самца, латерально; 68 — хелицера самки, латерально.

Females generally similar to males, but body rounded and larger (Fig. 47), supra-cheliceral lamellae with 2 pointed tubercles on the distal margin, eye tubercle dorsally without tubercles (Figs. 43–44), and genital operculum with lateral rows from 7–10 humps.

Palp (Fig. 50). Patella with separate pointed tubercles. Tibia not swollen at base, but sometimes armed with separate pointed tubercles. Tarsus is not armed. Seminal receptacle as in Fig. 53.

Coloration. Carapace brown, with large white-ochre spot in front of the ocularium and with dark brown spots behind laterally of it. Ocularium with white-ochre median stripe and black stains around eyes. Supra-cheliceral lamellae dark-brown. Abdomen brown, without marked saddle and with sparse dark-brown and light-ochre spots. Dorsal spine on the second tergite black. Abdomen posteriorly with a pair of black spots.

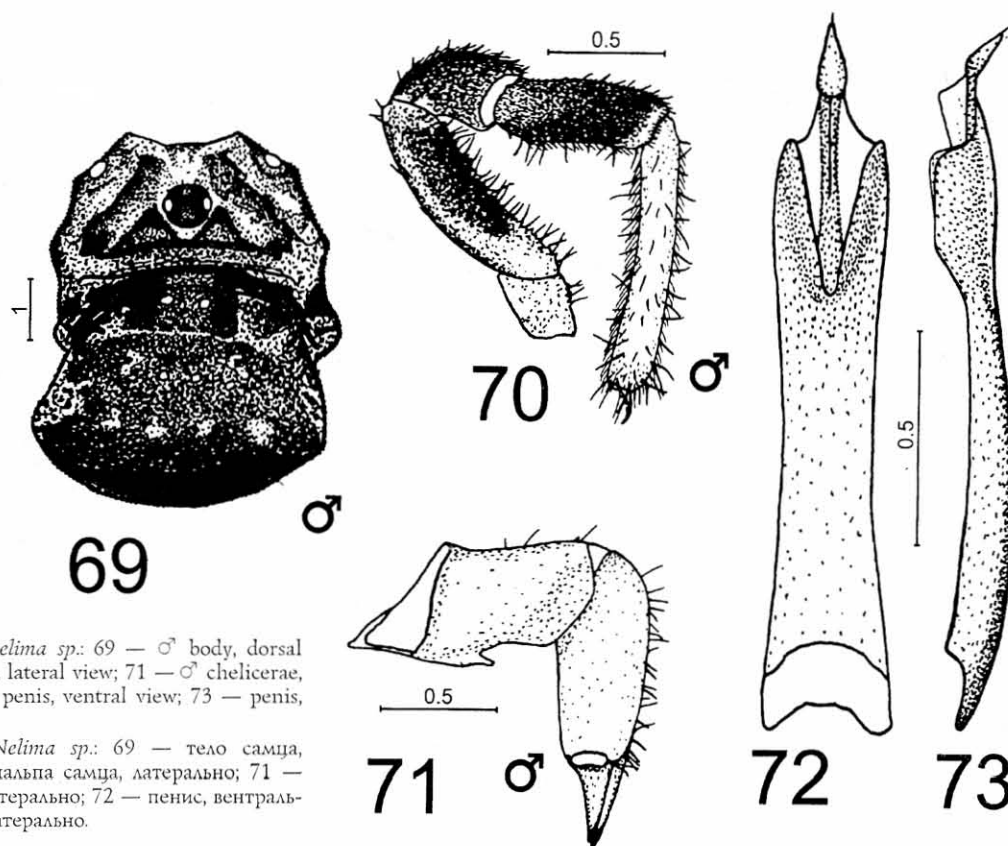
Chelicera (Fig. 52) light ochre. Male palp: femur and patella black, tibia and tarsus ochre. Female palp: femur and patella black, tibia dark brown, tarsus ochre. Male legs darker than in female. Femora yellow-brown with brown stains. Patella black-brown. Tibia slightly darker than femora, in distal part dark brown. Metatarsus and tarsus light brown to dark brown.

Metagagrella tenuipes (Suzuki, 1949)
Figs 56–68; Map 6.

Gagrella japonica yezoensis: Suzuki, 1949: 22, figs. 8–17.

Metagagrella damila: Gritsenko, 1979a: 33; Gritsenko, 1979b: 125.

Metagagrella tenuipes yezoensis: Suzuki & Tsurusaki, 1983: 210, figs. 11A–G.



Figs. 69-73. *Nelima* sp.: 69 — ♂ body, dorsal view; 70 — ♂ palp, lateral view; 71 — ♂ chelicerae, lateral view; 72 — penis, ventral view; 73 — penis, lateral view.

Рис. 69-73. *Nelima* sp.: 69 — тело самца, дорзально; 70 — палепа самца, латерально; 71 — хелицера самца, латерально; 72 — пенис, вентрально; 73 — пенис, латерально.

MATERIAL. MARITIME PROVINCE: 1 ♂, 3 ♀♀ (ISEA), SW part Khasan Distr., near Andreevka [42°35'–36°N, 131°13'E], 11–15.08.1998, Y.M.; 2 ♂♂, 3 ♀♀ (ZMMU), near Vladivostok, Peter-the-Great Gulf [ca. 42°58'N, 131°44'E], 7.09.1991, K. G. Mikhailov.

DISTRIBUTION: Russia (Maritime Province) [Gritsenko, 1979a,b: both sub *M. damila*; present data]; Japan [Suzuki, 1949; Suzuki & Tsurusaki, 1983].

NOTES: According to N. Tsurusaki [pers. comm.], *Metagagrella damila* should be considered a junior synonym of *M. tenuipes*.

DESCRIPTION. MALE. Measurements. Body: length 6.42; width 3.38. Cephalothorax length 2.09. Eye tubercle width 0.67. "Clypeus" 0.85. Chelicera: basal segment 1.77; distal segment 1.38; length of forceps: 0.70. Penis: length 2.88; width of base 0.50. Length of palp and legs:

	Fm	Pt	Tb	Mt	Tr	Total
Palp	1.38	0.60	0.82	—	1.88	4.68
Legs						
I	5.59	1.48	4.66	5.78	9.11	26.62
II	7.58	1.60	6.56	8.73	18.42	42.89
III	5.99	1.48	4.99	7.08	8.76	28.30
IV	6.39	1.53	5.13	7.62	12.74	33.41

Body with granular surface (pappils). Carapace (Figs. 56–57) with small tubercles on the front edge. Supra-cheliceral lamellae (Figs. 60) distally with 8 pointed tubercles. Glands small and weakly denominated. Eye tubercle (Fig. 59) dorsally with two longitudinal rows of 4–5 small tubercles.

Abdomen (Figs. 56): The second tergite dorsally with a low and small spine. Genital operculum (Figs. 61) with lateral rows from 22–25 humps.

Chelicera (Fig. 67). Basal segment ventrally with medial spur, dorsally with separate sharpen tubercles. Distal segment

with some denticles. All segments with setae.

Palp (Fig. 65). Femur ventrally with sharp-pointed tubercles, its distal part (dorsally) and lateral sides with sparse denticles. Patella and tibia completely covered with pointed denticles. Tarsus ventrally with a rows of small denticles. Tarsal claw pectinated.

Legs long. In lateral view, coxal edges with rows of rough tubercles (Figs. 56). Femora, patellae and tibiae with rows of pointed denticles.

Penis (Fig. 62–63). Corpus comparatively broad at base, with a pair of wings on sides (laterally), gradually narrowing to the glans.

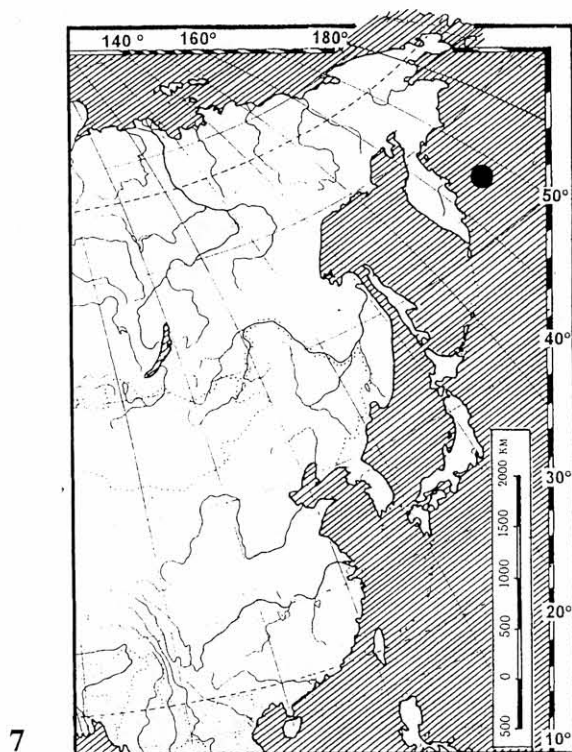
FEMALE. Measurements. Body: length 7.82; width 4.83. Cephalothorax length 2.08. Eye tubercle width 0.51. "Clypeus" 0.44. Chelicera: basal segment 1.38; distal segment 1.08; length of forceps 0.52. Length of palp and legs:

	Fm	Pt	Tb	Mt	Tr	Total
Palp	1.28	0.59	0.78	—	1.44	4.09
Legs						
I	3.82	1.28	4.66	4.15	6.42	20.33
II	6.77	1.38	6.57	5.94	15.12	35.78
III	6.08	1.52	4.98	4.62	6.78	23.98
IV	6.48	1.49	4.92	6.31	9.47	28.67

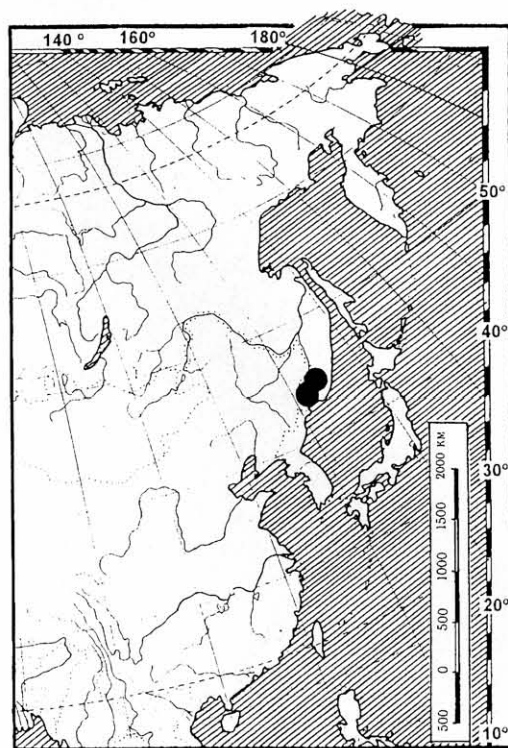
Females similar to males, but larger (Figs. 58), their chelicerae not armed (Figs. 68), palps (Figs. 67) and tarsi lack denticles. Seminal receptacle as in Fig. 64.

Coloration. Males darker than females. Eye tubercle with black stains near the eyes. Carapace brilliantly-yellow-ochre, with reflection.

MALE. Carapace in front and laterally of the eye tubercle and near glands with light brown spots. Posterior edge of eye



7



8

Maps 7–8. Far Eastern and Eastern Siberian localities of Opiliones: 7 — *Nelima* sp.; 8 — *Nipponopsalis coreana* Suzuki, 1966. One dot may represent more than one locality.

Карты 7–8. Дальневосточные и Восточно-Сибирские локалитеты Opiliones: 7 — *Nelima* sp.; 8 — *Nipponopsalis coreana* Suzuki, 1966. Каждая точка может представлять больше чем один локалитет.

tubercle with a black large spot continued to the end of abdomen. Frontal part of abdomen with yellow-ochre patches laterally of the large black spot. Metapeltidium and I–III abdominal tergite with yellow spots in the middle of the black spot. Palp: distal surface of femur, patella and tibia dark brown. Legs black-brown.

FEMALE. Carapace as described for male, but spot behind eye tubercle light brown with the black piping, all abdominal tergites with yellow spots, and legs yellow-brown.

Nelima sp.

Figs 69–73; Map 7.

MATERIAL. COMMANDER ISLANDS: 1 ♂ (ZMMU), Mednyi Island, Glinka Bay [ca. 54°41'N, 167°44'E], 7.08.1985, A. V. Zimenko.

NOTES. The studied *Nelima* species seems to be new to the fauna of Russia and belongs to the *genufusca-nigricoxa* species group [Tsurusaki, pers. comm.]. Based on the shape of seminal receptacle, this group can be divided into two major subgroups: *genufusca* and *nigricoxa*. Species of the both subgroups can only be separated by the structure of seminal receptacles. Therefore in the absence of females, I am unable to determine correctly this *Nelima* species.

DESCRIPTION. MALE. Measurements. Body: length 2.84; width 2.21. Cephalothorax length 1.63. Eye tubercle width 0.37. "Clypeus" 0.41. Chelicera: basal segment 1.03; distal segment 0.95; length of forceps 0.23. Penis: length 1.03; width of base 0.22. Length of palp and legs:

	Fm	Pt	Tb	Mt	Tr	Total
Palp	0.84	0.35	0.62	—	0.93	2.74
Legs						
I	2.23	0.74	2.97	3.18	5.24	14.36
II	3.82	0.91	4.37	4.15	8.86	22.11
III	2.94	0.82	3.75	3.56	5.43	16.50
IV	3.72	0.85	3.44	4.53	7.41	19.95

Body small (Fig. 69), with granular surface (pappili). Carapace unarmed. Glands small, but visible. Eye tubercle low, dorsally with rare setae. Supra-cheliceral lamellae with 3 acute tubercles.

Abdomen short, oval-romboid, with its length almost equal to that of cephalothorax.

Chelicera (Fig. 71). Basal segment ventrally with a medial spur, and dorsally with setae. Distal segment with setae.

Palp (Rice. 70). Femur and tibia ventrally are armed with small denticles. Tarsal claw pectinated.

Legs. Coxae with rough tubercles, lacking from on edges. Femora with rows of sharpen tubercle.

Penis: Corpus short and broad. Keel structure of distal section as in (Fig. 72–73).

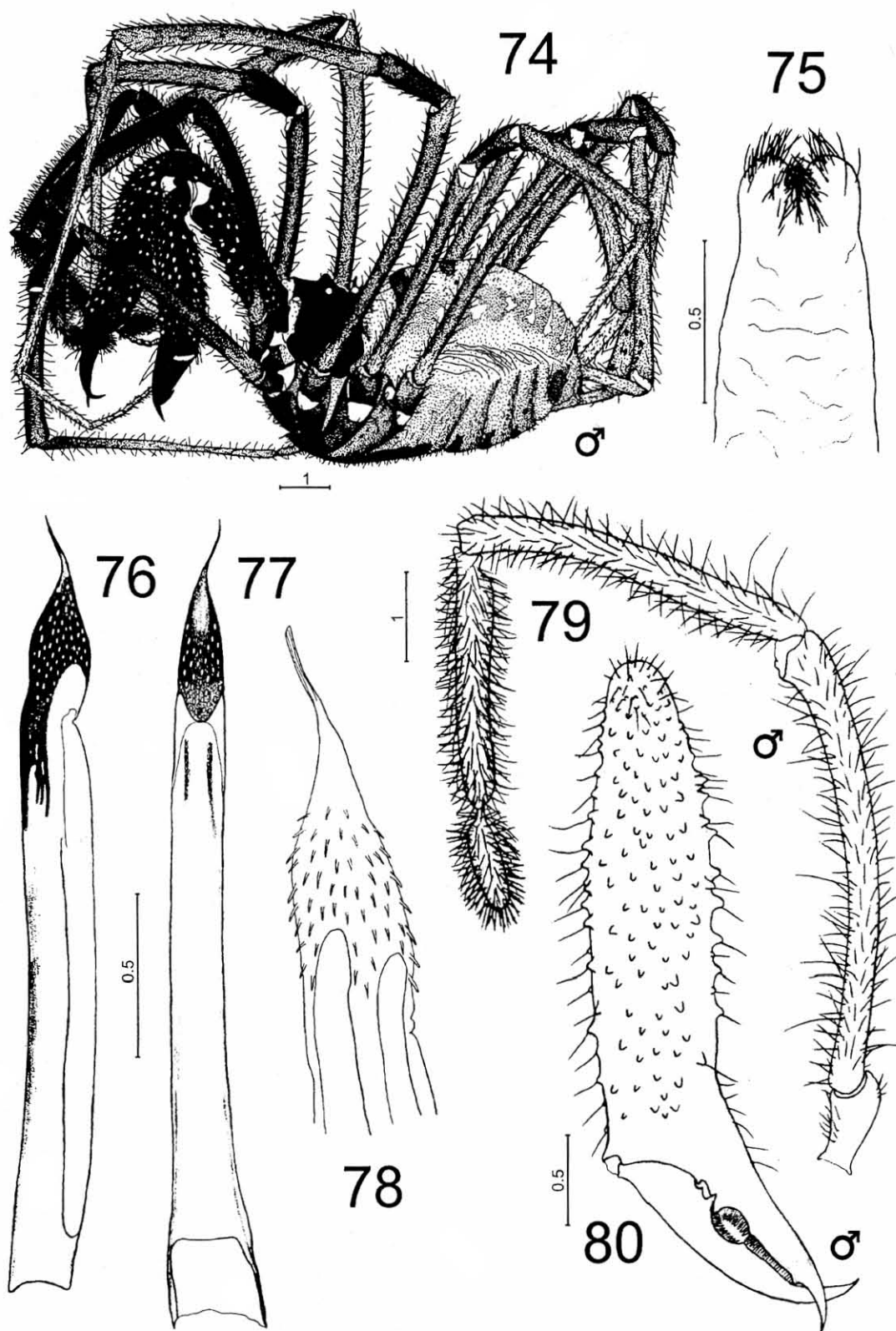
Coloration. Black-brown predominate. In front of the ocularium, carapace with the light yellowish spot increasing to the front edge of carapace. Narapace with yellow-brown band near the glands and on sides from ocularium. Meso- and metapeltidium black. Ocularium black. Abdomen with sparse ochre spots. Chelicera ochre. Palp: tarsus ochre-yellow; femur, patella and tibia dark brown. Legs: all segments dark brown, but basal part of femora yellow.

Family ISCHYROPSALIDIDAE Simon, 1879

Nipponopsalis coreana Suzuki, 1966

Figs 74–80; Map 8.

Nipponopsalis coreana: Gritsenko, 1979b: 29.



Figs. 74-80. *Nipponopsalis coreana* Suzuki, 1966: 74 — ♂, lateral view; 75 — ovipositor; 76 — penis, lateral view; 77 — penis, dorsal view; 78 — glans of penis; 79 — ♂ palp, lateral view; 80 — distal segment of ♂ chelicerae.

Рис. 74-80. *Nipponopsalis coreana* Suzuki, 1966: 74 — самец, латерально; 75 — яйцеклад; 76 — пенис, латерально; 77 — пенис, дорзально; 78 — головка пениса; 79 — пальпа самца, латерально; 80 — дистальный членник хелицеры самца.

MATERIAL. MARITIME PROVINCE: 1 ♀ (ISEA), S part of province, Chuguevka Field Station [43°50'N, 134°15'E], 31.07–5.08.1998, Y.M.; 8 ♂♂, 11 ♀♀ (ISEA), near Vladivostok, catacombs [ca. 43°05'N, 131°32'E], 21.08.1998, Y.M.

DISTRIBUTION. Russia (Maritime Province) and Korea [Gritsenko, 1979b; present data].

DESCRIPTION. MALE. Measurements. Body: length 4.73; width 2.52. Cephalothorax length 1.17. Eye tubercle width 0.48. "Clypeus" 0.29. Chelicera: basal segment 3.02; distal segment 2.67; length of forceps 1.53. Penis: length 2.47; width of base: 0.28. Length of palp and legs:

	Fm	Pt	Tb	Mt	Tr	Total
Palp	3.54	2.86	2.17	–	0.84	9.41
Legs						
I	3.04	1.21	2.49	3.52	2.84	13.10
II	4.91	1.22	4.28	5.31	4.28	20.00
III	3.22	1.21	2.76	4.22	3.06	14.47
IV	4.52	1.29	3.84	5.51	4.08	19.24

Body integument soft, carapace hard (Fig. 74). Carapace smooth, sometimes with rare setae. Posterior edge behind eye tubercle in the middle with a blunt tubercle. Openings of odoriferous glands not visible from dorsal view. Eye tubercle small and low, dorsally with 2–3 setae near every eye. Abdomen possesses very soft integument. Every tergite with a transverse row of setae. Sternites and genital operculum with sparse minute hairs. Chitinized stigma are situated on each side of the operculum base.

Chelicera very long (Fig. 74, 80), almost 1.5 times longer than body. Basal and distal segments completely armed with hair-tipped denticles.

Palp thin and long (Fig. 74, 79), its femur as long as leg femora I and III or longer. Patella and tibia also long, but tarsus 2.5 times shorter than tibia. All segments covered with hairs, tibia and tarsus are especially densely haired. Tarsus without claw.

Legs cylindrical, all segments with hairs and setae, with longest hairs occurring on coxae.

Penis straight (Fig. 76–77). Glans furnished with numerous setae (Figs. 78). Corpus is widened to a base.

FEMALE. Measurements. Body: length 5.54; width 2.53. Cephalothorax length 1.11. Eye tubercle width 0.59. "Clypeus" 0.19. Chelicera: basal segment 3.12; distal segment 3.44; length of forceps 1.68. Length of palp and legs:

	Fm	Pt	Tb	Mt	Tr	Total
Palp	4.11	3.12	2.59	–	0.88	10.70
Legs						
I	3.72	1.12	2.48	3.79	2.83	13.94
II	5.22	1.26	4.27	5.23	4.16	20.14
III	3.41	1.18	2.53	3.91	3.26	14.29
IV	4.98	1.28	4.19	5.14	4.08	19.67

Females generally similar to males, but larger.

Coloration: Males darker than females. Carapace orange-brown, with black to brown narrow bands and spots behind of the eye tubercle and on each side. Eye tubercle with a dark brown median stripe and black stains around eyes. Blunt tubercle is located in the middle of back margin of carapace. Carapace ochre. Abdomen light, ochre with brown spots in

the middle of first and last tergites. Genital operculum and stigma brown. Chelicerae black in males and black to brown-black in females. Palp dark brown in females and black-brown in males. Femoral bases light yellow to ochre. Legs brown in males, and ochre in females. Femora and pattellae darker, with dark brown stains and spots. Penis ochre, glans dark brown with black-brown sides.

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