Acta arachnol., **48** (1): 23-29, July 31, 1999

New Species and New Records of the Jumping Spiders from the Russian Far East (Araneae, Salticidae)

Dmitri V. Logunov[1] and Yuri M. Marusik[2]

Abstract Three new species of the jumping spiders are described from the Russian Far East (Primorie): *Chalcoscirtus tanyae* sp. nov. (female), *Pseudicius chikunii* sp. nov. (female) and *Synageles morsei* sp. nov. (female). New faunistic records for *Salticus latidentatus* Roewer, 1951 and *Salticus scenicus* (Clerck, 1756) are given as well.

Introduction

The bulk of our knowledge of the Salticidae of the Russian Far East stems from only a few publications (Prószyński 1979, Dunin 1984, Logunov & Wesołowska 1992, for a complete set of relevant references see Logunov & Koponen 2000). Therefore, it is not surprising that any local collection might prove to be important enough. The present paper describes three new salticid species collected by one of us (YM) during the joint Finnish-Russian expedition to the Maritime Province in 1998. Two additional species are first found in the fauna of the Russian Far East.

The types of new species described in this paper are shared between the Siberian Zoological Museum of the Institute for Systematics and Ecology of Animals, Novosibirsk, Russia (ISEA), the Swedish Museum of Natural History, Stockholm, Sweden (SMNH) and the Zoological Museum of the Moscow State University, Moscow, Russia (ZMMU). Some comparative materials were loaned and re-examined from the Institute of Zoology in Warsaw, Poland (IZW).

Abbreviations used in the text: AME—anterior median eye, ap—apical, d—dorsal, Fm—femur, Mt—metatarsus, pr—prolateral, Pt—patella, rt—retrolateral, Tb—tibia, Tr—tarsus, v—ventral. For the leg spination the system adopted is that used by Ono (1989). The sequence of leg segments in measurement data is as follows: femur+patella+tibia+metatarsus+tarsus. All measurements are in mm.

Descriptions

Chalcoscirtus tanyae sp. nov.

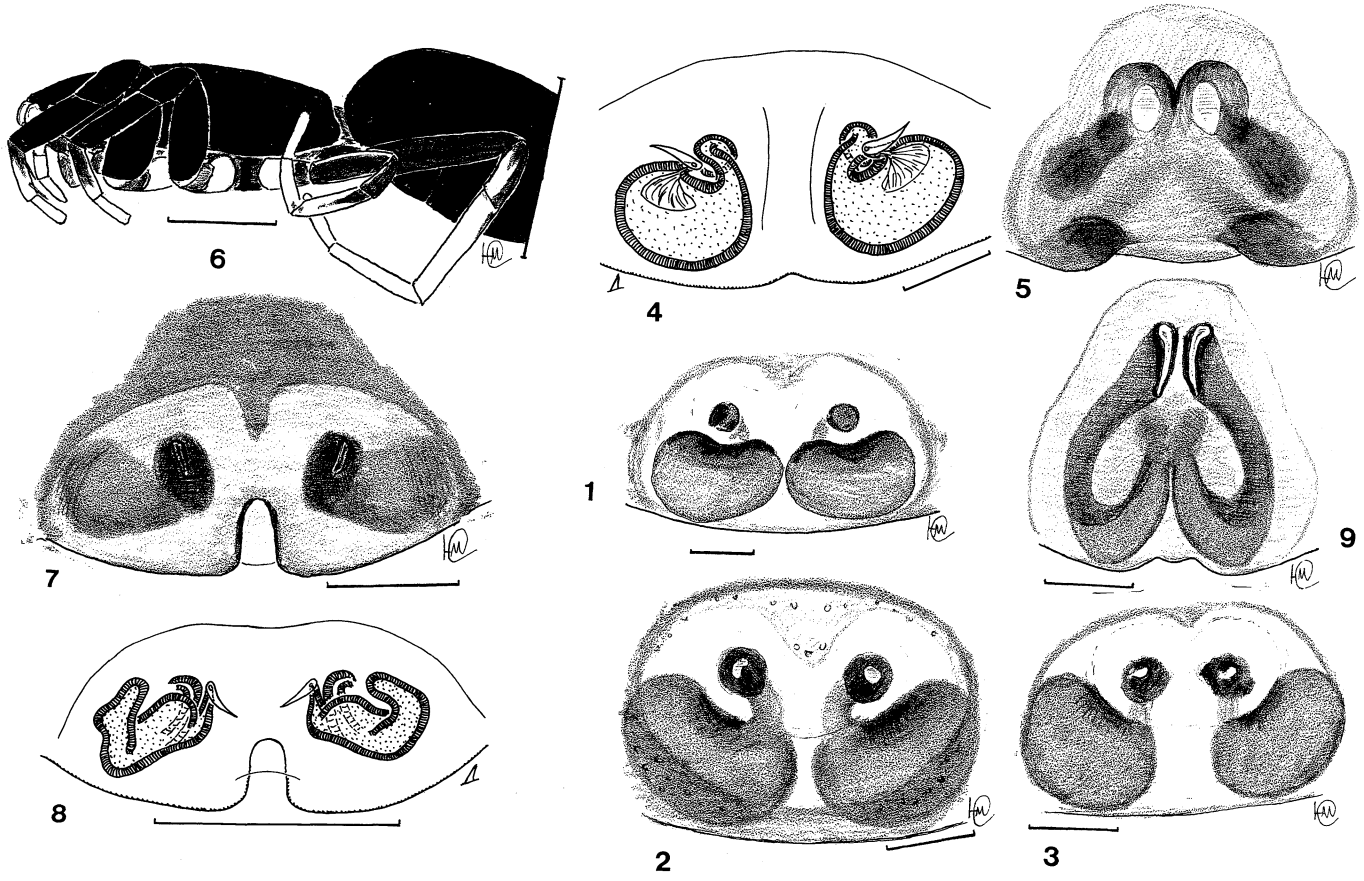
(Figs. 1-4, 16)

Specimens examined. Female holotype (ISEA), Russia, The Maritime Province (S part), Oblachnaya Mt., 1600-1700 m a.s.l., 43°34'N, 134°12'E, 3.08.1998, Yu. M.

1) Siberian Zoological Museum, Institute for Systematics and Ecology of Animals, Frunze street-11, Novosibirsk 630091, Russia (e-mail: dpavuk@online.nsk.su).

2) Institute for Biological Problems of the North, Portovaya street - 18, Magadan 685000, Russia (e-mail: ibpn@ibpn.magadan.su).

Accepted April 25, 1999



Figs. 1–9. 1–4, *Chalcoscirtus tanyae* sp. nov.; 5, *Pseudicius chikunii* sp. nov., 6–8, *Synageles morsei* sp. nov.; 9, *Salicus latidentatus* Roewer. —— 1–3, 5, 7, 9, epigyne, ventral view; 4, 8, spermathecae, dorsal view; 6, female, lateral view. Scale 0.1 mm for 1–5, 7–9, and 0.5 mm for 6.

Marusik leg.

Paratypes: 2 females (ISEA), 2 females (ZMMU), 1 females (SMNH), together with the holotype; 1 female (ISEA), Russia, The Maritime Province (S part), environs of Anisimovka Vill., Litovka Mt., 1200 m a.s.l., 43°06'N, 132°48'E, 26.07.1998, Yu. M. Marusik leg.

Diagnosis. According to Marusik (1991b), the new species belongs to the subgenus *Chalcosibiricus*. It is most closely related to *Chalcoscirtus hyperboreus* Marusik, 1991, but differs in having completely black carapace (black plus yellow in *C. hyperboreus*) and the receptacle clearly separated (touching in *C. hyperboreus*; cf. Figs. 1-4 and Marusik, 1991a: Figs. 5, 6).

Distribution. The type locality only (Fig. 16).

Habitat. The species was collected in the screes situated on mountain tops, in the forest or in the mountain tundra at the elevations of 1200-1700 m a.s.l.

Description. Female (holotype). Measurements. Carapace 1.55 long, 1.08 wide, 0.68 high at PLE. Ocular area 0.73 long, 0.98 wide anteriorly and 0.83 wide posteriorly. Diameter of AME 0.29. Abdomen 2.05 long, 1.38 wide. Cheliceral length 0.53. Clypeal height 0.03. Length of leg segments: leg I-0.81+0.50+0.53+0.41+0.30; leg II -0.76+0.48+0.45+0.38+0.25; leg III-0.93+0.45+0.53+0.51+0.31; leg IV-1.00+0. 48+0.71+0.63+0.40. Leg spination. Leg I: Tb v 1-2-2ap; Mt v 2-2ap. Leg II: Tb v 1 -1ap; Mt v 2-2ap. Leg III: Tb pr, rt and v 0-1-0; Mt pr and rt 1-2ap; v 2-2ap. Leg IV: Tb v 0-1-0; Mt pr 1-0-2ap, rt and v 2ap. Coloration. Carapace shiny dark brown, with eye field black. Sternum and labium brown. Maxillae yellow-brown. Chelicerae brown. Abdomen monochromous, without colour markings, but each side possesses a short wide longitudinal stripe. Dorsum and sides dark grey. Venter yellow-grey. Book-lung covers and spinnerets grey. All legs and palpi yellow. Epigyne and spermathecae as in Figs. 1-4.

Etymology. The new species is gladly named after Mrs. Tatyana Vshivkova (the Russian hydrobiologist), who was the head of the Far East expedition, which one of us (YM) participated in.

Pseudicius chikunii sp. nov.

(Figs. 5, 10-13, 16)

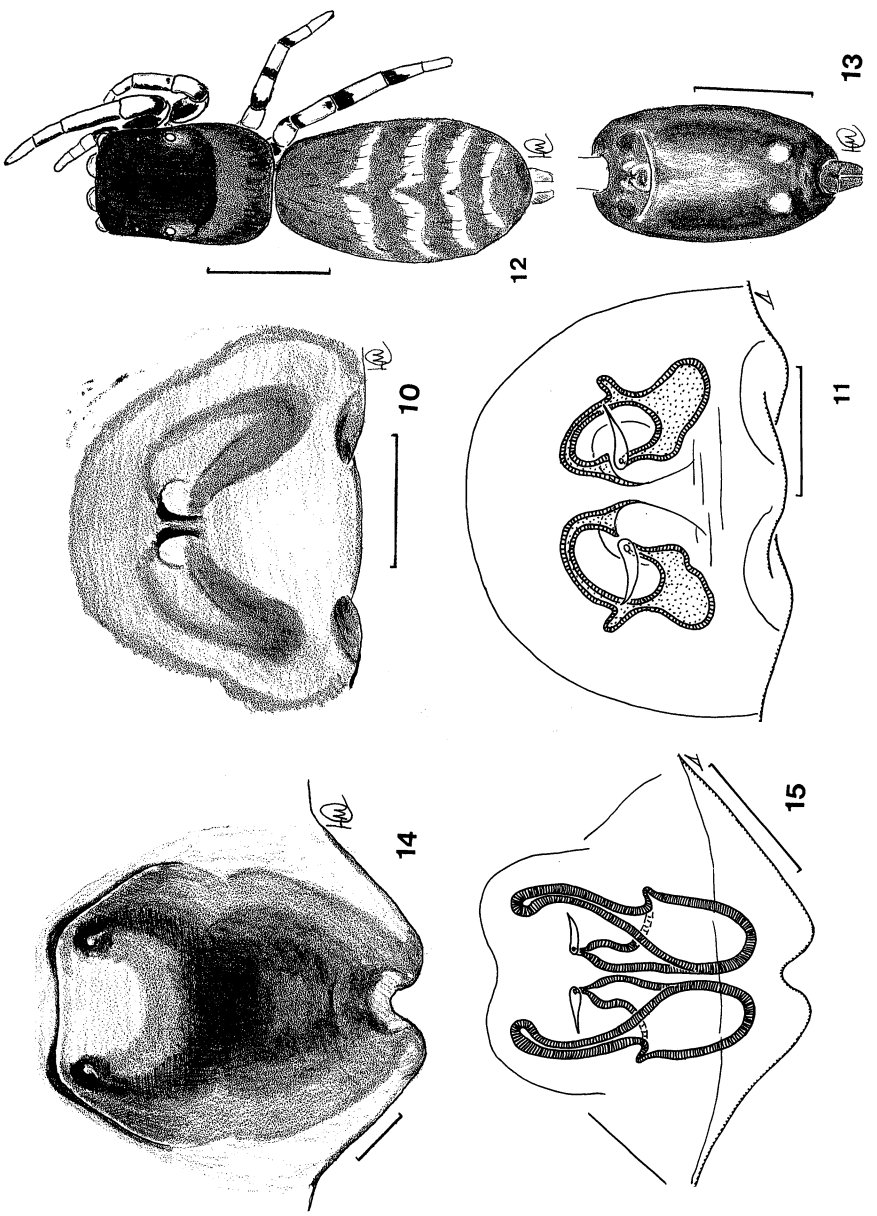
Specimens examined. Female holotype (ISEA), Russia, The Maritime Province, CE shore of Khanka Lake, 44°39'N, 132°34'E, 15-16.07.1998, Yu. M. Marusik leg.

Paratypes: 1 female (ZMMU), 1 female (SMNH), together with the holotype.

Comparative material. Female holotype (IZW) of *Salticus koreanus* Wesołowska, 1981, N-Korea, Phjongan-namdo Prov., Nampho, 28.05.1965, M. Mroczkowski & A. Riedel leg.

Diagnosis. *Pseudicius chikunii* is closely related to *Salticus koreanus* Wesołowska, 1981 from Korea and *Pseudicius himeshimensis* (Dönitz & Strand in Bösenberg & Strand 1906) from Japan, but can be easily separated from both by the shape and the arrangement of the insemination ducts (cf. Fig. 11 and Wesołowska 1981: Fig. 105 and Bohdanowicz & Prószyński, 1987: Figs. 65, 66), as well as by the twice smaller genitalia (in comparison to *S. koreanus*).

Comments. We only provisionally assign the new species to *Pseudicius*, as it lacks the main characteristic features of *Salticus*, i.e. tarsi and metatrsis I with ventral spines



Figs. 10–13, *Pseudicius chikunii* sp. nov.; 14–15, *Salticus scenicus* (Clerck) —— 10, 14, epigyne, ventral view; 11, 15, spermathecae, dorsal view; 12, female, dorsal view; 13, abdomen, ventral view. Scale 0.1 mm for 10–11, 14–15, and 0.5 mm for 12–13.

(lack in *Salticus*) and PME are slightly closer to ALE (in between in *Salticus*). However, this species does not completely fit the diagnostic characters of *Pseudicius* because of the following reasons: the row of stridulatory setae beneath PME is absent (almost consistently present in *Pseudicius*) and the spermathecae lack the so-called inlet "cup", i.e. a widening of the insemination ducts at their beginnings (present in true *Pseudicius*). Therefore, it is very likely that *Pseudicus chikunii* belongs neither to *Salticus*, nor to *Pseudicius*. The problem will considered in more details elsewhere.

Distribution. The type locality (Fig. 16), but the same species was probably reported by Chikuni (1989: 158, Fig. 56) for the spider fauna of Japan under the name *Helicius* sp. A (Chikuni's specimens not examined).

Description. Female (holotype). Measurements. Carapace 1.60 long, 0.98 wide, 0.51 high at PLE. Ocular area 0.73 long, 0.83 wide anteriorly and 0.89 wide posteriorly. Diameter of AME 0.30. Abdomen 2.05 long, 1.13 wide. Cheliceral length 0.47. Clypeal not marked. Length of leg segments: leg I-0.61+0.36+0.41+0.33+0.27; leg II -0.56+0.31+0.34+0.30+0.23; leg III-0.63+0.31+0.30+0.40+0.29; leg IV-0.80+0.39+0.50+0.50+0.31. Leg spination. Leg I: Fm d 1-1-1; Tb v 2-2; Mt v 2-2ap. Leg II: Fm d 1-1-1; Tb v 1-1; Mt v 2-2ap. Leg III: Fm d 1-1-2; Tb rt 0-1-0; Mt pr and rt 2ap, v 1ap. Leg IV: Fm 1-1-2; Tb rt 0-1-0, v 1-2ap; Mt pr and rt 1-2ap, v 1-1ap. Coloration. Carapace yellow-brown, with eye field black. Carapace densely covered with long white scales. Sternum, maxillae, labium and chelicerae yellow-brown. Abdomen yellow-grey, with the dorsal colour markings consisted of four transverse yellow stripes (Fig. 12). Venter yellowish grey, with a pair of yellow round spots before the spinnerets (Fig. 13). Palpi yellow, but basal parts of their femora with lateral brown stripes. All legs yellow, but all femora (ventrally and prolaterally) and tibiae I (ventrally) with wide brown stripes. All segment joints with brown rings. Epigyne and spermathecae as in Figs. 5, 10-11.

Etymology. The new species is gladly named after Mr. Y. Chikuni, who first illustrated this species for the Japanese spider fauna under the name *Helicius* sp. A (Chikuni 1989: Fig. 56).

Salticus latidentatus Roewer, 1951
(Figs. 9, 16)

Specimens examined. 1 female (ISEA), Russia, The Maritime Province, CW shore of Khanka Lake, 43°43'N, 132°05'E, 18.07.1998, Yu. M. Marusik leg.

Comments. This is the easternmost locality (Fig. 16) for the species known so far from Mongolia and South Siberia only (Logunov 1992).

Salticus scenicus (Clerck, 1757)
(Figs. 14-16)

Specimens examined. 1 female (ISEA), Russia, The Maritime Province, CE shore of Khanka Lake, 44°39'N, 132°34'E, 15-16.07.1998, Yu. M. Marusik leg.

Comparative material. 3 males, 4 females (IZW), Austria, sub. 740, W. Kulczyński coll.

Comments. Although *Salticus scenicus* is known to display a Holarctic distributional pattern (Prószyński 1976: Map 165; 1990), its finding in the Maritime

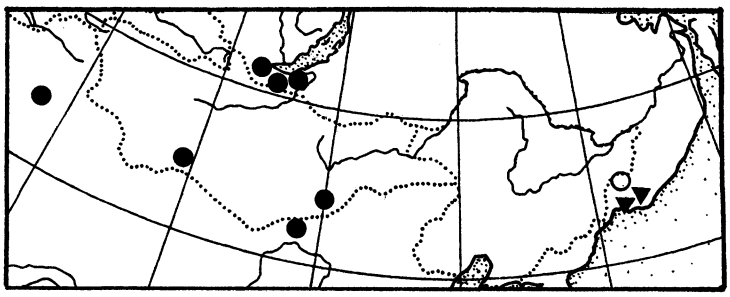


Fig. 16. Distribution of *Salticus latidentatus* Roewer (close and open circles), *Chalcoscirtus tanyae* sp. nov. (triangles), type locality for *Pseudicius chikunii* sp. nov., *Synageles morsei* sp. nov. and Far Eastern record for *Salticus scenicus* (Clerck) (open cirsle).

Province is a first true record of the species for the Far East (Fig. 16).

Synageles morsei sp. nov.
(Figs. 6-8, 16)

Specimens examined. Female holotype (ISEA), Russia, The Maritime Province, CE shore of Khanka Lake, 44°39'N, 132°34'E, 15-16.07.1998, Yu. M. Marusik leg.

Diagnosis. Black body coloration (Fig. 6) and the structure of the epigyne (Figs. 7-8) of *Synageles morsei* are unique amongst the Palaearctic *Synageles* species known so far to us (see Prószyński 1979, Logunov & Rakov 1996).

Distribution. The type locality only (Fig. 16).

Habitat. The holotype was collected in the litter under a bush near Khanka Lake shore.

Description. Female (holotype). Measurements. Carapace 1.37 long, 0.69 wide, 0.36 high at PLE. Ocular area 0.76 long, 0.61 wide anteriorly and 0.63 wide posteriorly. Diameter of AME 0.24. Abdomen 2.33 long, 1.04 wide. Cheliceral length 0.23. Clypeus not marked. Length of leg segments: leg I-0.57+0.36+0.36+0.29+0.23; leg II -0.49+0.28+0.34+0.28+0.21; leg III-0.44+0.24+0.33+0.31+0.24; leg IV-0.63+ 0.36+0.60+0.44+0.26. Leg spination. Leg I: Fm d 1-1; Tb v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 1-1; Tb v 1-1; Mt v 2-2ap. Legs III and IV: Fm d 0-1-0; other segments spineless. Coloration as in Fig. 6. Carapace shiny dark brown, with eye field black. Sternum dark brown. Maxillae and labium brown with yellow apexes. Chelicerae: brown proximal and yellow distal. Abdomen monochromously dark grey-brown. Book-lung covers and spinnerets dark grey. Legs I and II: coxae, tarsi and distal parts of metatarsi bright yellow; remaining segments black. Leg III: coxa, metatarsus and tarsus bright yellow; tibia yellow with a prolateral stripe; femur and patella black. Leg IV: coxa and femur black; patella and tibia yellow with retrolateral stripes; metatarsus and tarsus bright yellow. Epigyne and spermathecae as in Figs. 7-8.

Etymology. The new species is named after the American hydrobiologists, Dr. J. Morse, who partly sponsored the trip of one of us (YM) to Khanka lake (the Russian Far East).

Acknowledgments

We wish to express our warmest thanks to Dr. J. Morse (USA), who partly sponsored the trip of one of us (YM) to Khanka lake (the Russian Far East), and Mrs. T. Vshivkova (Russia, Vladivostok) for the help in conducting field works in the Maritime Province in August 1998, as well as to Dr. S. Koponen (Turku, Finland) for his hospitality during our stay at Turku in September-October 1998. Finally, many thanks to Dr. H. Ikeda for considering the typescript and providing us with valuable comments regarding the taxonomic status of *Pseudicius chikunii*.

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