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RESEARCH ARTICLE

New data on spiders (Arachnida: Aranei) of the plain part of Altai Territory, Russia

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Abstract

The paper provides a list of 93 spider species collected from the plain part of Altai Territory; of them, 33 species are recorded for the first time and 12 are newly found in West Siberian Plain. Five species of the latter group are illustrated: *Euophrys uralensis* Logunov, Cutler et Marusik, 1993, *Gibbaranea ullrichi* (Hahn, 1835), *Parasyrisca marusiki* Kovblyuk, 2003, *Pardosa jaikensis* Ponomarev, 2007 and *Synema utotchkini* Marusik et Logunov, 1995. A new species, *Pardosa ogudovi* sp. n. (♂♀) is described.

Keywords

Araneae, biodiversity, fauna, new records, new species, West Siberian Plain

Introduction

Altai Territory is a region of Russia lying in the south-eastern part of West Siberia. It is divided between two physiographical areas: West Siberian Plain, occupying its western, northern and central areas, and Altai-Sayan Mountain Region, in its southern and eastern areas. The present paper is mainly devoted to the lowland areas of West Siberian Plain. The spider fauna of Altai Territory is far less studied, as compared to the neighbouring mountain Altai (=Altai Republic) which has been the subject of a number of large faunistic and taxonomical papers (Marusik et al.

1996; Marusik et al. 2004; Marusik and Logunov 2009; Azarkina and Trilikauskas 2012, 2013a, b; Fomichev 2015). Of the much smaller number of papers devoted to the spiders of Altai Territory, the most important are those by Azarkina and Trilikauskas (2012, 2013a, b). Altai Territory remains rather unevenly studied, with the Tigirek Reserve, situated in its mountainous part, being the best-explored. Based on the faunistic papers devoted to this reserve (Volynkin et al. 2011; Azarkina and Trilikauskas 2012, 2013a, b; Trilikauskas 2014), its araneofauna currently accounts for 176 species (Fomichev 2016). The mountainous areas around the Tigirek Reserve are relatively well-studied as well. Yet, the plain part of Altai Territory known as Kulunda Steppe (a part of the West Siberian Plain) remains practically unexplored. The spider fauna of Kulunda Steppe has been studied only in a few localities (see map in Azarkina and Trilikauskas (2012). This discrepancy in the state of knowledge could be explained by the fact that fieldworks are usually conducted in the mountainous part of the Altai, which are renowned for the high altitude endemism of certain spider groups and are therefore considered to be more interesting (Marusik et al. 2004, 2019; Fomichev 2015, 2021; Fomichev and Marusik 2018; Fomichev et al. 2018). Hence the plain part of Altai Territory has been neglected as less interesting. To fill this gap, fieldwork in the lowland of Altai Territory was undertaken in the spring 2020. A relatively short collecting trip has revealed 33 species new to Altai Territory, 12 species new to West Siberian Plain and even one species new to science. The main aims of the present paper are (1) to provide data on the spider species collected from the lowland areas of Altai Territory, with a special emphasis on new records, and (2) to describe a new species.

Material and methods

This paper is based on the spider material collected by the author and his colleagues in May 2020. Spiders were either hand-collected, by using pitfall traps. A total of total 777 specimens were obtained. The material was collected in six localities situated in the western part of Altai Territory. Details of the localities and habitats explored are given below. All the collecting localities except for the locality № 6 belong to the physiographical region "M", which is West Siberian Plain (*sensu* Mikhailov (2021)). The collecting locality № 6 lies on the border between the regions "M" and "P" (the mountains of South Siberia). In the list of recorded spiders given below, each name is followed by a number (in parentheses) corresponding to the locality and by a letter corresponding to the habitat from which it was collected. The species recorded from Altai Territory for the first time are marked with an asterisk (*), while those that are new to West Siberian Plain with two asterisks (**). Specimens were photographed with the Olympus DP74 camera attached to the Olympus SZX16 stereomicroscope at the Altai State University (Barnaul, Russia). Photographs were taken in a dish with white cotton at the bottom, filled with ethanol. Digital images were montaged using Zerene Stacker software. Epigynes were macerated in a boiling po-

tassium hydroxide aqueous solution. All measurements are given in millimetres. Length of the leg segments was measured on their dorsal sides. Leg measurements are shown as: femur, patella, tibia, metatarsus, tarsus (total length). While describing the leg spination, apical spines on metatarsi III and IV were not counted. The terminology and format of description follows Kronestedt and Marusik (2011) and Fomichev (2021), with modifications. The studied material is deposited in the Institute of Systematics and Ecology of Animals SB RAS, Novosibirsk, Russia (ISEA; curator G.N. Azarkina). Types of the new species are shared between the ISEA and the Zoological Museum of the Moscow State University, Moscow, Russia (ZMMU; curator K.G. Mikhailov). The distribution map was compiled using the online mapping software SimpleMappr (Shorthouse 2010).

Abbreviations used in the text are as follows:

Leg segments: *Fe* – femur, *Pa* – patella, *Ti* – tibia, *Mt* – metatarsus.

Leg spination: *d* – dorsal, *p* – prolateral, *r* – retrolateral, *v* – ventral.

Copulatory organs: *Aa* – apical arm of tegular apophysis, *Ba* – basal arm of tegular apophysis, *Cd* – copulatory duct, *Co* – conductor, *Em* – embolus, *Fo* – fovea, *Li* – lip of the epigyne, *Pl* – palea, *Re* – receptacle, *Sb* – septal base, *Ss* – septal stem, *St* – subtegulum, *Ta* – terminal apophysis, *Te* – tegulum, *Tg* – tegular apophysis.

List of collecting localities:

1. Suyetsky District, NE bank of Kulundinskoe Lake, 15 km SSW from Nizhnyaya Suyetka Village, 53°05'N, 79°47'E, h=100 m, 10–12 May 2020, leg. A.A. Fomichev, Y.V. Dyachkov, A.E. Naidenov.

2. Klyuchevsky District, S bank of Shukyrtuz Lake, 3 km E from Istimis Village, 52°22'N, 79°21'E, h=130 m, 12–13 May 2020, leg. A.A. Fomichev, Y.V. Dyachkov.

3. Mikhaylovsky District, N bank of Yodnoe Lake, 2 km NNE from Malinovoe Ozero Village, 51°42'N, 79°48'E, h=160 m, 13–14 May 2020, leg. A.A. Fomichev, Y.V. Dyachkov.

4. Rubtsovsky District, Kizikha River valley, 4 km W from Nazarovka Village, 51°26'N, 81°36'E, h=250–300 m, 15–16 May 2020, leg. A.A. Fomichev, Y.V. Dyachkov, E.Y. Kulikov, A.E. Naidenov.

5. Loktevsky District, watershed of Sukhaya Rechka River and Tushkanikha River, 2 km N from Ustyanka Village, 51°10'N, 81°36'E, h=330–450 m, 16–18 May 2020, leg. A.A. Fomichev, Y.V. Dyachkov, E.Y. Kulikov, A.E. Naidenov.

6. Krasnoshchyokovsky District, Charysh River valley, 3 km WNW from Ust'-Chagyrka Village, 51°26'N, 83°04'E, h=330–440 m, 18–20 May 2020, leg. A.A. Fomichev, E.Y. Kulikov, A.E. Naidenov.

Habitats:

(a) Saline marsh

(b) Swamp

(c) Clayey cliff on a river bank

(d) Clayey shore of a lake
(e) Clayey bank of a stream
(f) Pebbly river bank
(g) Sandy-grassy river bank
(h) Stony banks of a stream at the bottom of the gorge
(i) Steppe
(j) Stony steppe with rocks and bushes
(k) Steppe-meadow
(l) Meadow

Results

Description of new species

***Pardosa ogudovi* sp. nov.**
http://zoobank.org/5D501504-7552-45B0-82C7-598F65296CDD
Figures 1–15, 17, 48, 51–52

Type material. Holotype ♂ (**ISEA, 001.8933**), RUSSIA: Altai Territory, Kizikha River valley (left side), 4 km W of Nazarovka Village, 51°25.852'N, 81°36.449'E, clayey cliff on a river bank, 280 m, 15.05.2020 (A.A. Fomichev). **Paratypes:** 6♂ 11♀ (**ISEA, 001.8934**), 1♀ (**ISEA, 001.8935**), together with the holotype; 2♂ 1♀ (**ZMMU**), same locality, 51°25.843'N, 81°36.111'E, pebbly river bank, 270 m, 15.05.2020 (A.A. Fomichev); 1♂ (**ZMMU**) watershed of Sukhaya Rechka River and Tushkanikha River, 1 km N of Ustyanka Village, 51°09.793'N, 81°35.764'E, clayey bank of a stream, 330 m, 17–18.05.2020 (A.A. Fomichev).

Comparative material. Paratypes of *Pardosa pseudolapponica* Marusik, 1995 (Fig. 16): KAZAKHSTAN: East Kazakhstan Oblast, 2♀ (**ZMMU**), nr. Zaisan Town, Djeminey Canyon, 2–4.06.1990 (K.Y. Eskov).

Etymology. The specific name is a patronym in honour of Sergei A. Ogudov (Moscow, Russia), a philologist and leading researcher in the Russian State Film Archives, a friend of the author.

Diagnosis. The new species belongs to the *lapponica* group. In having the relatively short, hooked tegular apophysis (*Tg*), the triangular terminal apophysis (*Ta*) directed anteriad and a similar shape of the palea (*Pl*), the male of *P. ogudovi* sp. nov. resembles that of *P. pseudolapponica* from the Saur Mt. Range in East Kazakhstan. The new species differs in having much more massive tegular apophysis with apical arm (*Aa*) that is twice as long as wide (4 times longer in *P. pseudolapponica*), the longer terminal apophysis and the elongated, almost straight embolus (*Em*) which surpasses the terminal apophysis (short and strongly curved embolus, not surpassesing the terminal apophysis in *P. pseudolapponica*) (cf. Figs 6, 9–10, 12–13 and

figs 73–74 in Eskov and Marusik (1995). In having the reduced apical pocket and narrow septal stem (*Ss*), the female of *P. ogudovi* sp. nov. is also similar to that of *P. pseudolapponica* but differs in having the septal base (*Sb*) 2–4 times wider than the septal stem (equal width in *P. pseudolapponica*) and the trapezoidal fovea (*Fo*) (rhomboid in *P. pseudolapponica*) (cf. Figs 15 and 16).

Description. Male (holotype). Total length 5.9. Carapace: 3.15 long, 2.4 wide. Coloration. Carapace dark brown with vague yellow median band. Eye field almost black. Clypeus, chelicerae, sternum and labium dark brown. Endites dark brown, with yellow spots. Coxae brown-grey, with yellow spots. Palps: *Fe* – dark brown; *Pa* – yellow-brown; *Ti* and cymbium – black. Legs yellow with brown spots and stripes. *Fe* of all legs with vague dark brown transverse stripes dorsally. Legs I–II lighter than legs III–IV. Abdomen brown-gray with light brown cardiac mark. Spinnerets brown-gray. Leg measurements: I: 2.63, 1.13, 2.43, 2.63, 1.68 (10.5). II: 2.5, 1.08, 2.18, 2.58, 1.6 (9.94). III: 2.48, 1.0, 2.05, 2.85, 1.43 (9.81). IV: 3.2, 1.15, 2.8, 4.23, 1.85 (13.23). Leg spination: I: *Fe* d1-1-1 p1-0-2 r0-1-1; *Pa* d2 p1 r1; Ti d1-0-1 p1-0-0 r1-0-1 v2-2-1-2; *Mt* p1-1-0 r1-1-0 v2-2-0. II: *Fe* d1-1-1 p0-0-1 r1-0-1; *Pa* d2 p1 r1; Ti d1-0-1 p1-0-1 r1-0-1 v2-2-0-2; *Mt* p1-1-0 r1-1-0 v2-2-0. III: *Fe* d1-1-1 p1-0-1 r1-0-1; *Pa* d2 p1 r1; *Ti* d1-0-1 p1-0-1 r1-0-1 v2-2-0-2; *Mt* p1-1-0 r1-1-0 v2-2-0. IV: *Fe* d1-1-1 p1-0-1 r0-0-1; *Pa* d2 p1 r1; *Ti* d1-0-1 p1-0-1 r1-0-1 v2-2-2; *Mt* p1-1-0 r1-1-0 v3-0-2.

Palp as in Figs 3–14. Tibia and cymbium covered with dense black setae. Anterior part of cymbium flattened. Cymbium length/width ratio 2.2. Tegulum (*Te*) covered with numerous small tubercles. Tegular apophysis (*Tg*) robust, with hooked apical arm (*Aa*) and triangular basal arm (*Ba*). Palea (*Pl*) bulging. Terminal apophysis (*Ta*) straight and triangular. Conductor (*Co*) 2 times larger than terminal apophysis, paddle-like in anterior view. Embolus (*Em*) almost straight in its basal and middle parts. Anterior part of embolus curved and expanded.

Female. Total length 7.25. Carapace: 3.75 long, 2.8 wide. Coloration. Carapace brown with yellow median band and vague yellow stripes on the edges. Eye field dark brown. Clypeus and chelicerae yellow-brown. Sternum and labium brown. Endites yellow-brown. Coxae dirty-yellow. Palps and legs yellow with dark brown annulations. Abdomen brown-gray dorsally, yellow-brown ventrally. Spinnerets yellow-gray. Leg measurements: I: 3.1, 1.38, 2.63, 2.55, 1.68 (11.34). II: 3.03, 1.38, 2.45, 2.58, 1.68 (11.12). III: 3.0, 1.28, 2.38, 3.05, 1.58 (11.29). IV: 3.88, 1.45, 3.43, 4.8, 2.05 (15.61). Leg spination: I: Fe d1-1-1 p0-0-2 r0-1-1; Pa d2; Ti d1-0-1 p1-0-0 r0-0-1 v2-2-1-2; Mt p1-1-0 r0-1-0 v2-2-0. II: Fe d1-1-1 p1-0-1 r0-1-1; Pa d2 p1; Ti d1-1-0 p1-0-1 r1-0-1 v2-2-0-2; Mt p1-1-0 r0-1-0 v2-2-0. III: Fe d1-1-1 p1-0-1 r0-1-1; Pa d2 p1 r1; Ti d1-1-0 p1-0-1 r1-0-1 v2-2-0-2; Mt p1-1-0 r1-1-0 v2-2-0. IV: Fe d1-1-1 p1-0-1 r0-0-1; Pa d2 p1 r1; Ti d1-0-1 p1-0-1 r1-0-1 v1-2-0-2; Mt p1-1-0 r1-1-0 v3-0-2. Epigyne as in Figs 15, 17. Fovea (*Fo*) trapezoidal, expands anteriorly. Septal base (*Sb*) well-defined, drop-shaped. Septal stem (*Ss*) heavily sclerotized, long and thin. Apical pocket completely reduced. Lips of the epigyne (*Li*) separated by half

their width. Receptacles (*Re*) clavate, poorly delineated from copulatory ducts (*Cd*). Copulatory ducts as long as receptacles.

Habitat. River banks.

Distribution. Known only from south-western part of Altai Territory (Figs 51–52).

Comments. The Asian species *Pardosa sinensis* Yin, Wang, Peng et Xie, 1995 was described from a female and a male from an unknown locality in China. The female was chosen as the holotype. The male of *P. sinensis* is not conspecific and even congeneric with the female, being very similar/identical to that of *P. ogudovi* sp. nov. Nevertheless, a new species from Altai Territory is described herein because the female holotype of *P. sinensis* beyond doubt belongs to the genus *Evippa* Simon, 1882. Thereby, we establish new combination: *Evippa sinensis* (Yin, Wang, Peng et Xie, 1995) comb. nov.

List of species

Family Araneidae (6 species)

**Cercidia prominens* (Westring, 1851): 1♂ [1], 1♂ [4a].

Distribution. Circum-Holarctic polyzonal range (Marusik et al. 2000). Although the species is known from adjacent Novosibirsk Oblast and Altai Republic (Marusik et al. 1996, Azarkina et al. 2018), it has not been reported from Altai Territory earlier.

**(?)*Gibbaranea ullrichi* (Hahn, 1835): 1♀ [4]; Figs 18–20.

Distribution. This species is distributed from Europe, including the European part of Russia, to Central Asia, and southward to Pakistan (van Helsdingen 2010, WSC 2022). It has not been previously reported from Altai Territory and West Siberian Plain and this record represents the north-easternmost one in the species range.

Comments. Determination of species of *Gibbaranea* based on females is difficult due to the fact that different species may have rather similar epigynes. Our determination of a single *Gibbaranea* female as *G. ullrichi* is based on morphology of its opisthosomal tubercles which are directed upwards. A closely related Trans-Palaearctic species, *G. bituberculata* (Walckenaer, 1802) has opisthosomal tubercles directed laterally (Nentwig et al. 2022). However, there is a possibility that newly collected female belongs to *G. hetian* (Hu & Wu, 1989). The female of this species distributed in South Siberia, Mongolia and China remains unknown (WSC 2022).

Larinioides patagiatus (Clerck, 1757): 1♀ [4].

Distribution. Circum-Holarctic polyzonal range (Marusik et al. 2000).

Larinioides suspicax (O. Pickard-Cambridge, 1876): 1♂ [3a], 1♂ 1♀ [4c].

Distribution. European-Mongolian (?) nemoral range (Marusik et al. 2000).

Singa hamata (Clerck, 1757): 3♂ 3♀ [1], 1♂ [6].

Distribution. Trans-Palaearctic range (Esyunin and Efimik 1996).

Singa nitidula C. L. Koch, 1844: 1♂ [4], 1♂ [6l].

Distribution. Trans-Palaearctic (?) boreo-nemoral range (Marusik et al. 2000).

Family Cheiracanthiidae (2 species)

Cheiracanthium pennyi O. Pickard-Cambridge, 1873: 1♂ [5].

Distribution. West-Palaearctic subboreal humid range (Azarkina et al. 2018).

**Cheiracanthium virescens* (Sundevall, 1833): 2♂ 1♀ [5j].

Distribution. The species is widespread from Europe to the Russian Far East, southward to Iran and China (WSC 2022). It has not been reported from Altai Territory and West Siberian Plain earlier.

Family Clubionidae (2 species)

Clubiona lutescens Westring, 1851: 1♂ [1c], 1♂ 1♀ [5k].

Distribution. Trans-Palaearctic – West Nearctic boreo-nemoral range (Marusik et al. 2000).

**Clubiona neglecta* O. Pickard-Cambridge, 1862: 1♂ 1♀ [4].

Distribution. Trans-Palaearctic nemoral range (Marusik et al. 2000). This species is known from adjacent Novosibirsk Oblast and Altai Republic (Marusik et al. 1996, Azarkina et al. 2018), but yet it has not been known from Altai Territory earlier.

Family Dictynidae (4 species)

**Argenna patula* (Simon, 1874): 4♂ [1a].

Distribution. West-Palaearctic subboreal range (Azarkina et al. 2018). The first record from Altai Territory. The species is known from adjacent Novosibirsk Oblast (Azarkina et al. 2018).

Devade tenella (Tystshenko, 1965): 5♂ [1a].

Distribution. Central-Asian steppe-desert range (Esyunin and Marusik 2001).

Dictyna arundinacea (Linnaeus, 1758): 1♂ 1♀ [1].

Distribution. Circum-Holarctic polyzonal range (Marusik et al. 2000).

Figures 1–5. *Pardosa ogudovi* sp. nov.: **1** – habitus, male; **2** – habitus, female; **3** – male palp, retrolateral; **4** – ditto, ventral; **5** – ditto, dorsal. Scale bars: 2 mm (**1–2**); 0.2 mm (**3–5**).

**Dictyna uncinata* Thorell, 1856: 1♂ [6c].

Distribution. Trans-Palaearctic boreo-nemoral range (Marusik et al. 2000). The first record from Altai Territory. The species is known from adjacent Novosibirsk Oblast (Azarkina et al. 2018) and Altai Republic (Marusik et al. 1996).

Family Gnaphosidae (10 species)

Drassodes pubescens (Thorell, 1856): 1♂ [4a], 1♂ [5k].

Distribution. Palaeartic nemoral range (Azarkina and Trilikauskas 2013a).

Drassyllus lutetianus (L. Koch, 1866): 1♂ [3a], 1♂ [4a], 1♂ [5b].

Distribution. West-Palaearctic subboreal range (Azarkina et al. 2018).

Drassyllus pusillus (C. L. Koch, 1833): 1♂ [2d], 1♂ [4a], 2♂ [5b].

Distribution. Trans-Palaearctic nemoral range (Marusik et al. 2000).

***Drassyllus shaanxiensis* Platnick et Song, 1986: 4♂ 1♀ [3a].

Distribution. The species was originally described from China (Platnick and Song 1986). Later, it was found in Dagestan Republic and Stavropol Territory in the Caucasus (Russia) (Ponomarev et al. 2011, 2017). In the east, this species is known from Japan and Korea (Kamura 2009, Kim and Li 2013). It has not been reported from Altai Territory and West Siberian Plain earlier.

**Gnaphosa saurica* Ovtsharenko, Platnick et Song, 1992: 2♂ 1♀ [2a], 1♂ [3a], 4♂ 1♀ [4a].

Distribution. The species has West-Palaearctic subarid range and is known from adjacent Novosibirsk Oblast (Azarkina et al. 2018). It is the first record from Altai Territory.

***Gnaphosa taurica* Thorell, 1875: 2♂ [4], 1♂ [5b], 1♂ 1♀ [5e], 3♂ [5j], 1♂ 1♀ [5k].

Distribution. The species is widespread across the steppe zone of Eurasia: from Bulgaria to Xinjiang Province of China (Kovblyuk 2005). Previosly recorded from adjacent East Kazakhstan Oblast (Fomichev and Marusik 2013). It has not been previously reported from Altai Territory and West Siberian Plain.

**Haplodrassus minor* (O. Pickard-Cambridge, 1879): 2♂ [3a].

Distribution. West-Palaearctic polyzonal range. WSC (2022) indicates the occurence of this specis in Europe and Turkey only, but it was also recorded from adjacent Novosibirsk Oblast (Russia) by Azarkina et al. (2018). Nevertheless, the species has been reported from Altai Territory for the first time.

Haplodrassus signifer (C. L. Koch, 1839): 1♂ [3a], 1♂ [4a].

Distribution. Circum-Holarctic polyzonal range (Marusik et al. 2000).

*******Parasyrisca marusiki* Kovblyuk, 2003: 1♂ [1a]; Figs 21–29.

Distribution. The species previously has been known only from the highlands of the Crimea (Russia) (Marusik and Fomichev 2016). This is the first record from outside of its type locality. The species is new to Altai Territory and West Siberian Plain.

**Poecilochroa variana* (C. L. Koch, 1839): 1♂ [4c].

Distribution. Euro-Mongolian nemoral range (Marusik et al. 2000). Although the species is known from adjacent Novosibirsk Oblast and Altai Republic (Fomichev 2015, Azarkina et al. 2018), it has not been reported from Altai Territory earlier.

Family Linyphiidae (6 species)

**Diplocephalus cristatus* (Blackwall, 1833): 1♂ 2♀ [4f].

Distribution. Widespread from Europe to the Russian Far East. Introduced to North America, Falkland Islands and New Zealand (WSC 2022). The first record for Altai Territory.

Erigone atra Blackwall, 1833: 2♂ [5b].

Distribution. Circum-Holarctic polyzonal range (Marusik et al. 2000).

Erigone dentipalpis (Wider, 1834): 1♂ 1♀ [3a], 1♂ [4a].

Distribution. Trans-Palaearctic polyzonal range (Marusik et al. 2000).

**Mecynargus paetulus* (O. Pickard-Cambridge, 1875): 1♂ [1a].

Distribution. Alaska and Canada in the Nearctic; from Europe to the Russian Far East (WSC 2022). Arctic-alpine species (Nentwig et al. 2022). This species has not been reported from Altai Territory earlier.

Microlinyphia pusilla (Sundevall, 1830): 1♂ 1♀ [4].

Distribution. Circum-Holarctic polyzonal range (Marusik et al. 2000).

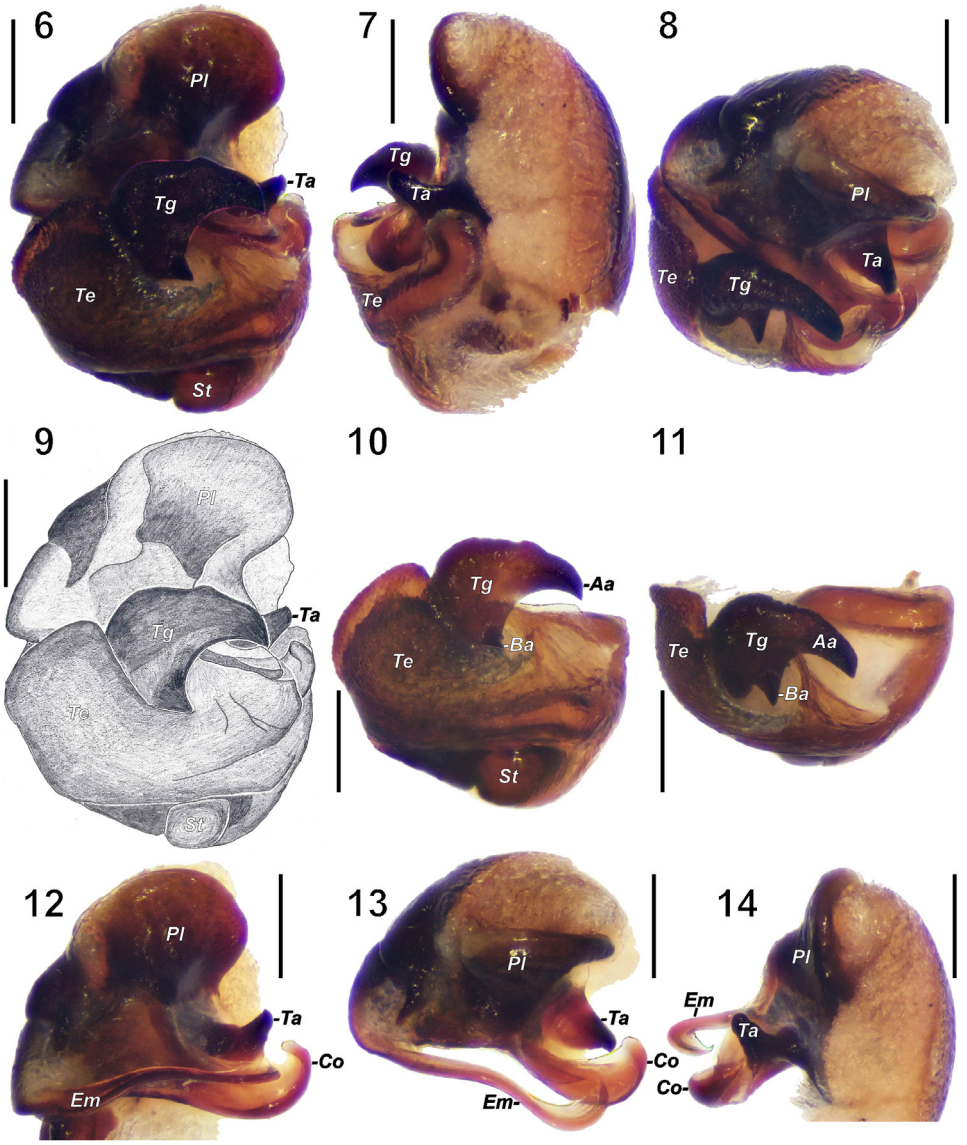
Neriene montana (Clerck, 1757): 1♂ 1♀ [4], 1♀ [4c], 2♀ [5j], 2♀ [6c].

Distribution. Trans-Palaearctic boreo-nemoral range (Marusik et al. 2000).

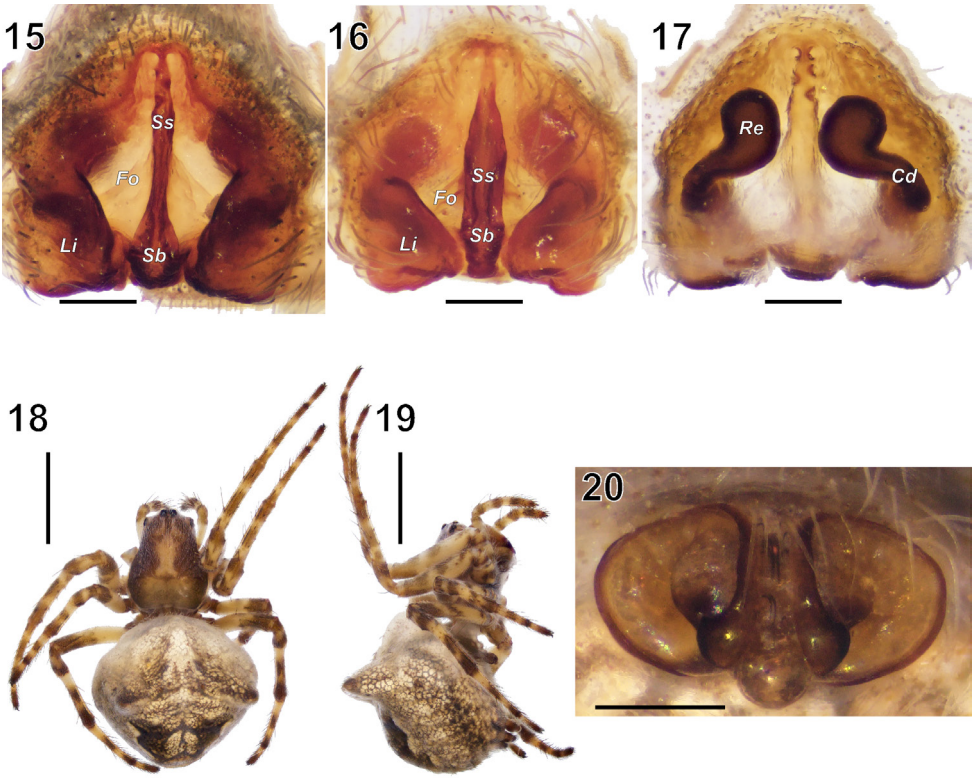
Family Liocranidae (1 species)

**Agroeca cuprea* Menge, 1873: 1♀ [5b].

Distribution. The species is widespread from Europe to South Siberia and Central Asia, southward to Iran (WSC 2022). This species has been recorded from adjacent Novosibirsk Oblast and Altai Republic (Levina and Mikhailov 2004, Azarkina et al. 2018), but it is reported from Altai Territory for the first time.



Figures 6–14. *Pardosa ogudovi* sp. nov.: **6–9** – bulb, ventral; **7** – ditto, retrolateral; **8** – ditto, anterior; **10** – tegulum, ventral; **11** – ditto, anterior; **12** – embolic division, ventral; **13** – ditto, anterior; **14** – ditto, retrolateral. Abbreviations: *Aa* – apical arm of tegular apophysis, *Ba* – basal arm of tegular apophysis, *Co* – conductor, *Em* – embolus, *Pl* – palea, *St* – subtegulum, *Ta* – terminal apophysis, *Te* – tegulum, *Tg* – tegular apophysis. Scale bars: 0.2 mm.



Figures 15–20. *Pardosa ogudovi* sp. nov. (**15**, **17**), *P. pseudolapponica* (**16**) and *Gibbaranea ullrichi* (**18–20**): **15**, **16–20** – intact epigyne, ventral; **17** – macerated epigyne, dorsal; **18** – habitus, dorsal; **19** – habitus, lateral. Abbreviations: *Cd* – copulatory duct, *Fo* – fovea, *Li* – lip of the epigyne, *Re* – receptacle, *Sb* – septal base, *Ss* – septal stem. Scale bars: 0.2 mm (**15–17**, **20**); 2 mm (**18–19**).

Family Lycosidae (27 species)

Allohogna singoriensis (Laxmann, 1770): visual observation in [3a]; Fig. 50.

Distribution. Euro-Mongolian steppe range (Marusik et al. 2000).

Alopecosa aculeata (Clerck, 1757): 1♂ [6l].

Distribution. Circum-Holarctic polyzonal range (Marusik et al. 2000).

***Alopecosa ayubaevorum* Fomichev et Logunov, 2015: 1♂ [5h].

Distribution. The species has been previously known only from two localities in the Altai Mountains (Altai Republic) (Fomichev and Logunov 2015). The new record represents the north-westernmost locality and the first record for Altai Territory and West Siberian Plain.

Alopecosa cuneata (Clerck, 1757): 1♂ [4], 1♂ [5b].

Distribution. Trans-Palaearctic nemoral range (Marusik et al. 2000).

Alopecosa kasakhstanica Savelyeva, 1972: 5♂ [4c].

Distribution. Distributed from Novosibirsk Oblast through Altai Territory to East Kazakhstan Oblast (Azarkina and Trilikauskas 2013a, Fomichev and Logunov 2015).

**Alopecosa kovblyuki* Nadolny et Ponomarev, 2012: 1♂ [1a].

Distribution. West-Palaearctic subarid range (Azarkina et al. 2018). This species originally was described from southern Ukraine and Russia: the Crimea and Rostov Oblast (Nadolny and Ponomarev 2012). Later, it was found in Novosibirsk Oblast (Azarkina et al. 2018). This species has not been reported from Altai Territory earlier.

Alopecosa pulverulenta (Clerck, 1757): 2♂ [1a], 3♂ 1♀ [3a], 1♂ [6l].

Distribution. Trans-Palaearctic nemoral range (Marusik et al. 2000).

**Arctosa cinerea* (Fabricius, 1777): 1♂ [6f], 1♂ [6g].

Distribution. From Europe to the Russian Far East and southward to north Africa and Congo (WSC 2022). The first record from Altai Territory.

Arctosa leopardus (Sundevall, 1833): 8♂ 1♀ [3a].

Distribution. West-Palaearctic subboreal humid range (Azarkina et al. 2018).

Arctosa stigmosa (Thorell, 1875): 2♂ [2a], 3♂ [2d], 3♂ [6c], 4♂ 1♀ [6g].

Distribution. European-Siberian polyzonal range (Azarkina and Trilikauskas 2013a).

**Mustelicosa dimidiata* (Thorell, 1875): 8♂ [2i], 2♂ 8♀ [3i], 1♂ 1♀ [5j].

Distribution. West-Palaearctic subarid range (Azarkina et al. 2018). Previously recorded from adjacent Novosibirsk Oblast and Altai Republic (Fomichev and Marusik 2011, Azarkina et al. 2018). The first record from Altai Territory.

Pardosa agrestis (Westring, 1861): 7♂ 6♀ [1a], 5♂ [2a], 23♂ 14♀ [3a], 47♂ [4a], 1♂ [4c], 5♂ 1♀ [4f], 2♂ [5e], 32♂ [5b], 1♂ [6c], 1♂ [6l].

Distribution. European-West Siberian range (Marusik et al. 1996).

Pardosa bifasciata (C. L. Koch, 1834): 1♂ [1a].

Distribution. European-Mongolian (?) nemoral range (Marusik et al. 2000).

Pardosa fulvipes (Collett, 1876): 1♂ 1♀ [6], 1♂ 2♀ [6c], 2♂ 1♀ [6g], 14♂ 3♀ [6l].

Distribution. European-Central Siberian (?) range (Marusik et al. 1996).

****Pardosa jaikensis*** Ponomarev, 2007: 33♂ 33♀ [1a], 6♂ 4♀ [2a], 3♂ [2d], 18♂ 26♀ [3a], 1♂ [4a]; Figs 30–35.

Distribution. The species was originally described from western Kazakhstan (Ponomarev 2007). It was reported from Dagestan Republic, Rostov Oblast and Stavropol Oblast in Russia and from Iran (Ponomarev et al. 2017, Zamani et al. 2019). The first record from Altai Territory and West Siberian Plain represents the easternmost locality of the species range.

Pardosa jeniseica Eskov et Marusik, 1995: 19♀ [6f], 2♀ [6g].

Distribution. The species is known from East Kazakhstan to Kolyma River middle reaches (Marusik 2018).

Pardosa luctinosa Simon, 1876: 26♂ 28♀ [3a], 1♂ [4a].

Distribution. West-Palaearctic subarid range (Azarkina et al. 2018). The species has previously been recorded from adjacent Novosibirsk Oblast (Azarkina et al. 2018). The first record from Altai Territory.

Pardosa lugubris (Walckenaer, 1802): 1♀ [4], 1♂ 2♀ [4f], 2♂ [5e].

Distribution. West-Palaearctic subboreal humid range (Azarkina et al. 2018).

****Pardosa ogudovi** sp. nov. (see above): 7♂ 12♀ [4c], 2♂ 1♀ [4f], 1♂ [5e]; Figs 1–15, 17, 48, 51–52.

Distribution. Known only from the type locality.

Pardosa paludicola (Clerck, 1757): 2♀ [1], 1♀ [4c], 1♀ [6c], 1♀ [6l].

Distribution. Trans-Palaearctic subboreal humid range (Azarkina et al. 2018).

Pardosa palustris (Linnaeus, 1758): 1♂ [6l].

Distribution. Trans-Palaearctic – Alaskan boreo-nemoral range (Marusik et al. 2000).

Pardosa plumipes (Thorell, 1875): 1♂ [2a], 1♂ [4], 3♂ [4a], 1♂ [4c], 3♂ [5b], 1♂ [6g].

Distribution. Trans-Palaearctic nemoral range (Marusik et al. 2000).

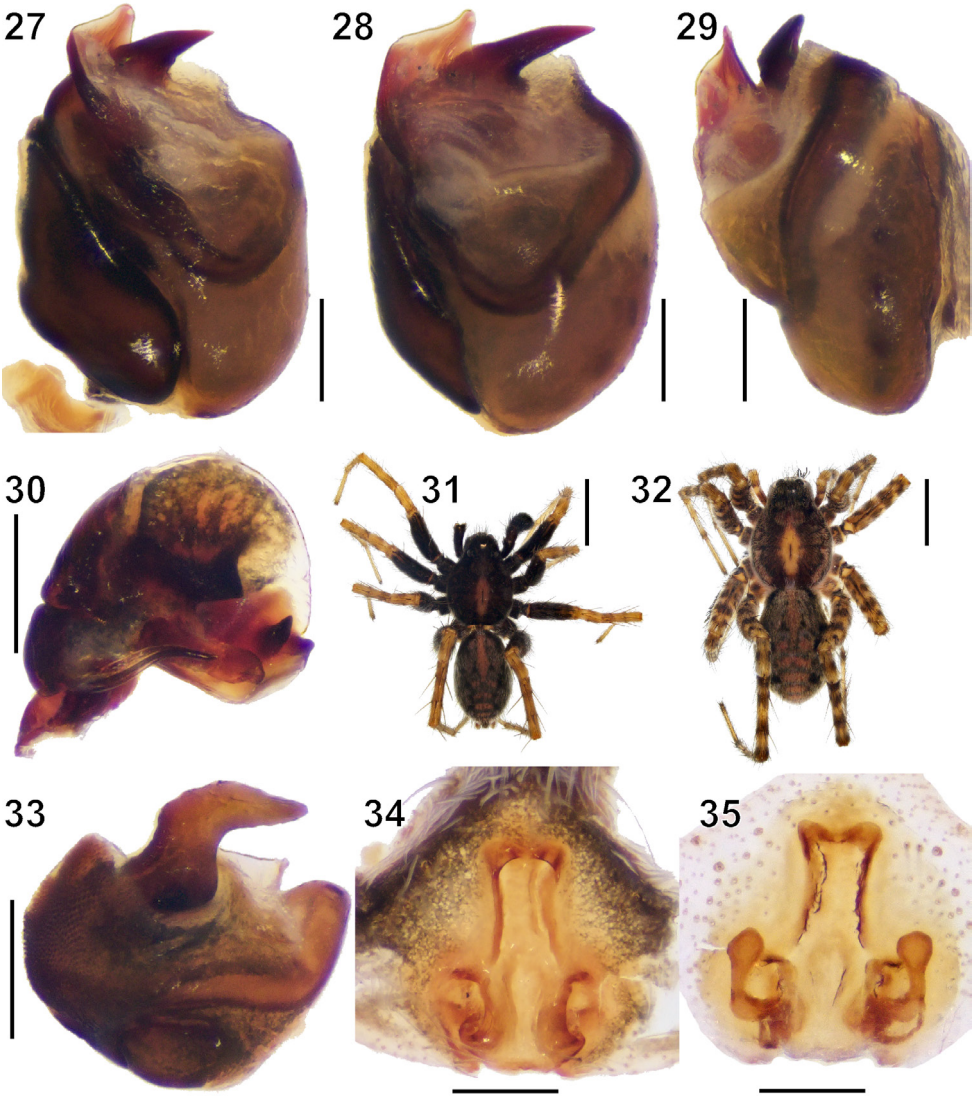
Pirata piraticus (Clerck, 1757): 1♂ 1♀ [4a], 1♂ [5b].

Distribution. Circum-Holarctic nemoral range (Azarkina and Trilikauskas 2013a).

Piratula hygrophila (Thorell, 1872): 1♂ [6l].

Distribution. The species known from the West Palaearctics (from Europe to Middle Siberia) and from the Nearctics (Omelko et al. 2011).

Figures 21–26. *Parasyrisca marusiki*: **21** – habitus, dorsal; **22** – male palp, prolateral; **23** – ditto, ventral; **24** – ditto, retrolateral; **25** – ditto, dorsal; **26** – bulb, dorsal. Scale bars: 2 mm (**21**), 0.2 mm (**22–26**).



Figures 27–35. *Parasyrisca marusiki* (**27–29**) and *Pardosa jaikensis* (**30–35**): **27** – bulb, prolateral; **28** – ditto, ventral; **29** – ditto, retrolateral; **30** – embolic division, ventral; **31** – male habitus, dorsal; **32** – female habitus, dorsal; **33** – tegulum, ventral; **34** – intact epigyne, ventral; **35** – macerated epigyne, dorsal. Scale bars: 0.2 mm (**27–30**, **33–35**); 2 mm (**31–32**).

**Trochosa robusta* (Simon, 1876): 4♂ 2♀ [3a].

Distribution. Trans-Palaearctic polyzonal range (Azarkina et al. 2018). The species has been known from adjacent Novosibirsk Oblast and Altai Republic (Levina and Mikhailov 2004, Azarkina et al. 2018); it is the first record from Altai Territory.

Trochosa ruricola (De Geer, 1778): 2♂ [4a], 1♂ 2♀ [4c], 1♂ [4f], 1♂ [5b], 1♂ [6f], 1♂ 1♀ [6g], 1♂ [6l].

Distribution. Circum-Holarctic nemoral range (Azarkina and Trilikauskas 2013a).

Trochosa terricola Thorell, 1856: 1♂ 1♀ [5h].

Distribution. Circum-Holarctic nemoral range (Azarkina and Trilikauskas 2013a).

Family Mimetidae (1 species)

**Ero cambridgei* Kulczyński, 1911: 2♀ [5j].

Distribution. Trans-Palaearctic boreal range (Azarkina et al. 2018). Previously recorded from adjacent Novosibirsk Oblast (Azarkina et al. 2018); it is the first record from Altai Territory.

Family Miturgidae (2 species)

**Zora armillata* Simon, 1878: 1♂ [5b], 1♂ [6l].

Distribution. West-Palaearctic subboreal humid range (Azarkina et al. 2018). It has previously been recorded from adjacent Novosibirsk Oblast (Azarkina et al. 2018); it is the first record from Altai Territory.

Zora spinimana (Sundevall, 1833): 1♂ [6l].

Distribution. Trans-Palaearctic nemoral range (Ono 2009).

Family Oxyopidae (1 species)

Oxyopes ramosus (Martini et Goeze, 1778): 1♂ [6].

Distribution. European-West Siberian boreo-nemoral range (Azarkina and Trilikauskas 2013b).

Family Philodromidae (5 species)

Artanes marusiki Logunov, 1997: 5♀ [5j].

Distribution. Mongolian range (Marusik et al. 2000).

Rhysodromus histrio (Latreille, 1819): 2♂ 5♀ [1].

Distribution. Circum-Holarctic boreo-nemoral range (Szita and Logunov 2008).

Thanatus formicinus (Clerck, 1757): 1♂ 1♀ [1a].

Distribution. Trans-Holarctic subboreal humid range (Azarkina et al. 2018).

Tibellus maritimus (Menge, 1875): 1♂ [1].

Distribution. Circum-Holarctic polyzonal range (Marusik et al. 2000).

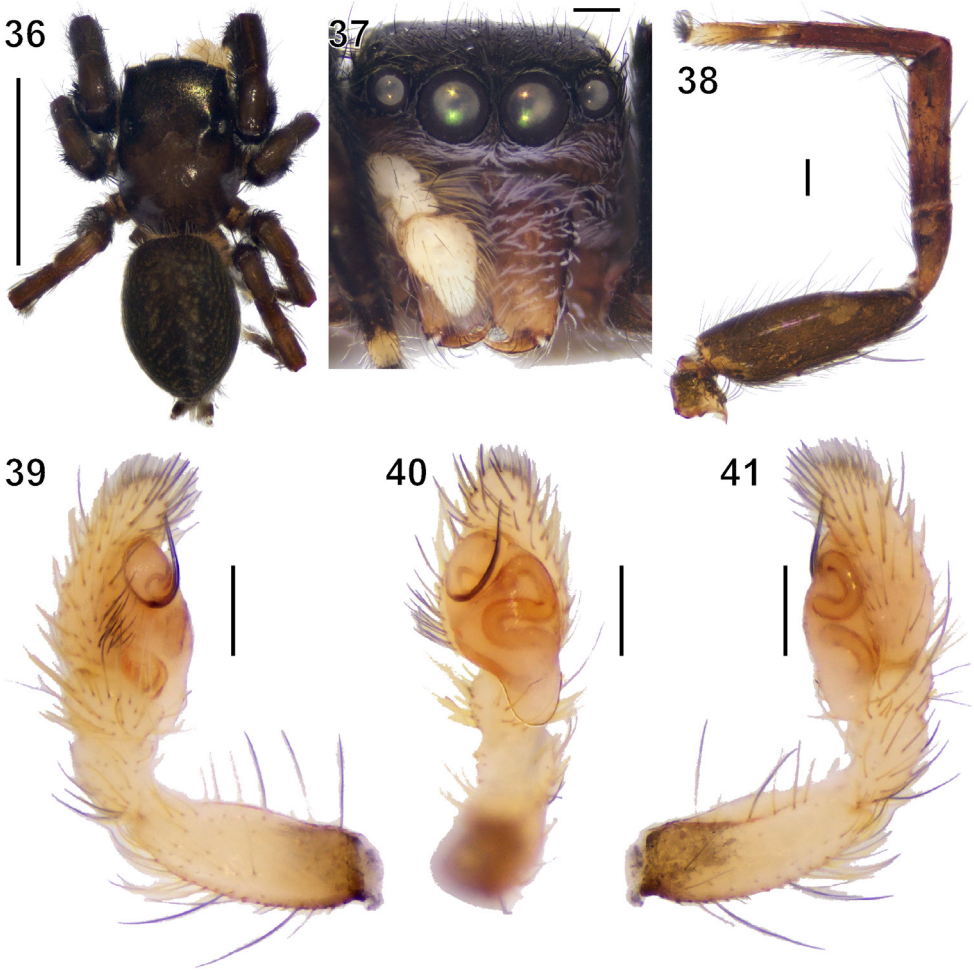
Tibellus oblongus (Walckenaer, 1802): 1♂ [6], 1♂ [6c].

Distribution. Circum-Holarctic boreo-nemoral range (Marusik et al. 2000).

Family Pisauridae (1 species)

Pisaura mirabilis (Clerck, 1757): 1♂ [6l].

Distribution. European – West Siberian boreo-nemoral range (Marusik et al. 1996).



Figures 36–41. *Euophrys uralensis*: **36** – male habitus, dorsal; **37** – cephalic part, anterior; **38** – leg IV, prolateral; **39** – male palp, prolateral; **40** – ditto, ventral; **41** – ditto, retrolateral. Scale bars: 2 mm (**36**); 0.2 mm (**37–41**).

Family Salticidae (8 species)

Euophrys frontalis (Walckenaer, 1802): 1♂ [5j].
Distribution. Trans-Eurasian temperate range (Logunov and Marusik 2000).

***Euophrys uralensis* Logunov, Cutler et Marusik, 1993: 1♂ [1a]; Figs 36–41.
Distribution. Central Asian (?) subboreal range (Logunov and Marusik 2000). It has been previously recorded from adjacent Altai Republic (Logunov and Marusik 2000). The first record from Altai Territory and West Siberian Plain.

Evarcha arcuata (Clerck, 1757): 1♂ [6l].
Distribution. Trans-Palaearctic boreo-nemoral range (Marusik et al. 2000).

Evarcha michailovi Logunov, 1992: 1♂ 1♀ [6].
Distribution. Euro-Mongolian boreo-nemoral range (Marusik et al. 2000).

Heliophanus flavipes (Hahn, 1832): 1♂ [4].
Distribution. Euro-Baikalian boreo-nemoral range (Marusik et al. 2000).

Heliophanus patagiatus Thorell, 1875: 1♂ [4].
Distribution. Trans-Palaearctic boreo-nemoral range (Marusik et al. 2000).

**Philaeus chrysops* (Poda, 1761): 2♀ [6].
Distribution. Trans-Palaearctic nemoral range (Marusik et al. 2000). Although the species has been known from adjacent Altai Republic and East Kazakhstan (Fomichev and Marusik 2013, Fomichev 2015), it has not been reported from Altai Territory earlier.

**Pseudeuophrys obsoleta* (Simon, 1868): 1♂ [4].
Distribution. Trans-Palaearctic subboreal humid range (Azarkina et al. 2018). It has been previously recorded from adjacent Novosibirsk Oblast and Altai Republic (Fomichev 2015; Azarkina et al. 2018); it is the first record from Altai Territory.

Family Tetragnathidae (3 species)

Pachygnatha clercki Sundevall, 1823: 1♂ [1], 1♂ [3a], 8♂ 7♀ [4a], 1♂ 2♀ [5b].
Distribution. Circum-Holarctic polyzonal range (Marusik et al. 2000).

Pachygnatha degeeri Sundevall, 1830: 6♂ 5♀ [1a], 32♂ 37♀ [4a], 6♂ 2♀ [5b], 1♂ 1♀ [6l].
Distribution. Trans-Palaearctic boreo-nemoral range (Marusik et al. 2000).

Pachygnatha listeri Sundevall, 1830: 1♂ 1♀ [6l].
Distribution. Trans-Palaearctic boreo-nemoral range (Marusik et al. 2000).

Family Theridiidae (5 species)

**Lasaeola prona* (Menge, 1868): 1♂ [6c].

Distribution. Euro-Mongolian-Trans-Nearctic nemoral range (Marusik et al. 2000). Previously reported from adjacent Altai Republic (Marusik et al. 1996); it is the first record from Altai Territory.

Robertus arundineti (O. Pickard-Cambridge, 1871): 1♀ [4a], 1♀ [4f], 1♂ [6c].

Distribution. West-Palaearctic polyzonal range (Azarkina et al. 2018).

Steatoda albomaculata (De Geer, 1778): 1♂ [2d], 2♀ [4], 2♀ [6], 1♂ [6f].

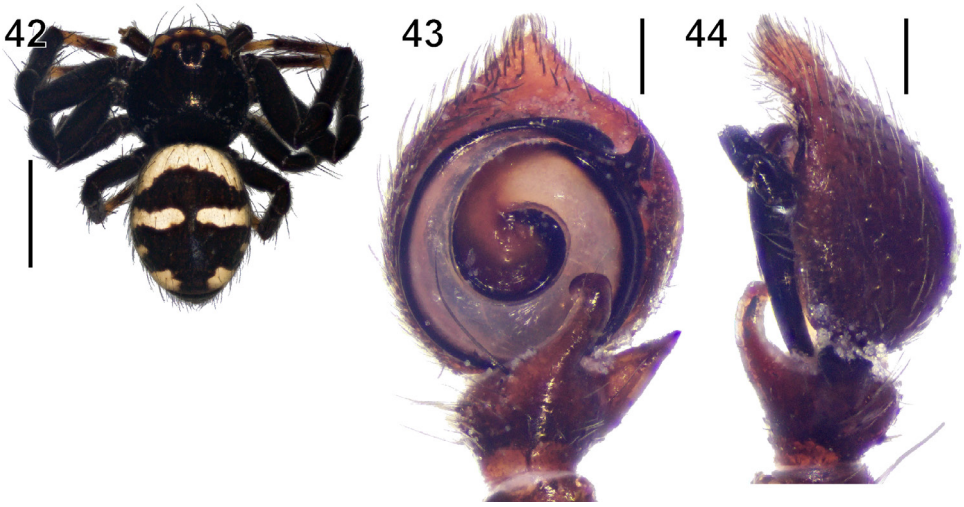
Distribution. Circum-Holarctic polyzonal range (Marusik et al. 2000).

Steatoda triangulosa (Walckenaer, 1802): 1♀ [5j].

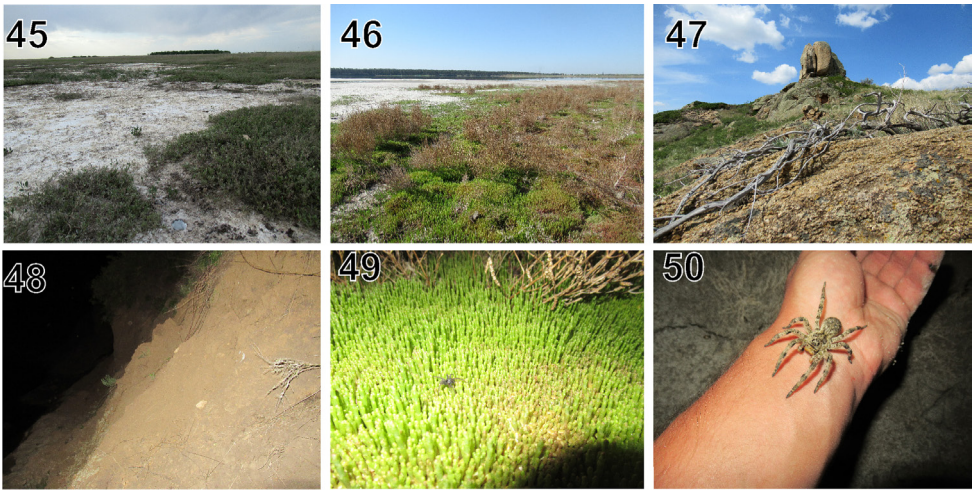
Distribution. Trans-Palaearctic, introduced to the Nearctics (WSC 2022).

**Theridion innocuum* Thorell, 1875: 1♂ [5k].

Distribution. The species is distributed from Ukraine to Mountains of South Siberia (Mikhailov 2021, WSC 2022). Previously reported from adjacent Novosibirsk Oblast (Azarkina et al. 2018); it is the first record from Altai Territory.



Figures 42–44. *Synema utotchkini*: **42** – male habitus, dorsal; **43** – male palp, ventral; **44** – ditto, retrolateral. Scale bars: 2 mm (**42**); 0.2 mm (**43–44**).



Figures 45–50. Habitats in collecting localities (**45–49**) and live specimen of *Allohogna singoriensis* (**50**): **45** – saline marsh near Kulundinskoe Lake; **46** – saline marsh near Yodnoe Lake; **47** – stony steppe with rocks and bushes near Ustyanka Village; **48** – clayey cliff on the bank of Kizikha River, the habitat of *Pardosa ogudovi* sp. nov.; **49** – thickets of *Salicornia* and a wolf spider running over them, near Yodnoe Lake.

Family Thomisidae (6 species)

***Heriaeus oblongus* Simon, 1918: 1♂ [5].

Distribution. Distributed from Europe to South Siberia and Central Asia (WSC 2022). The first record from Altai Territory and West Siberian Plain.

Misumena vatia (Clerck, 1757): 1♂ [6].

Distribution. Circum-Holarctic polyzonal range (Marusik et al. 2000).

***Synema utotchkini* Marusik et Logunov, 1995: 1♂ [5], 1♂ [5k], 1♂ [6]; Figs 42–44.

Distribution. Distributed from southern Europe and Turkey to Central Asia (WSC 2022). The first record from Altai Territory and West Siberian Plain represents the north-easternmost locality of the species range.

Tmarus piger (Walckenaer, 1802): 1♀ [6].

Distribution. Trans-Palaearctic subboreal humid range (Azarkina et al. 2018).

Xysticus bifasciatus C. L. Koch, 1837: 1♂ [6].

Distribution. Euro-Lena boreo-nemoral range (Marusik et al. 2000).

Xysticus cristatus (Clerck, 1757): 1♂ [1a], 1♂ [4], 1♂ 1♀ [4a], 2♂ 3♀ [5], 2♂ [5k], 1♂ 1♀ [6].

Distribution. European-Siberian boreo-nemoral range (Azarkina and Logunov 2001).

Family Titanoecidae (3 species)

Titanoeca asimilis Song et Zhu, 1985: 1♂ [5j].

Distribution. Mongolian range (Marusik et al. 2000).

Titanoeca schineri L. Koch, 1872: 1♂ 1♀ [6c].

Distribution. West-Palaearctic polyzonal range (Azarkina et al. 2018).

***Titanoeca veteranica* Herman, 1879: 1♂ [4a].

Distribution. The species is distributed from central Europe to South Siberia, southward to Turkmenistan (WSC 2022). It is the first record from Altai Territory and West Siberian Plain.

Figures 51–52. Collecting localities in Altai Territory: numbers of collecting localities on Fig. **51** correspond to those in Material and methods. The frame on Fig. **52** refers to the content of Fig. **51**.

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