

Spider fauna (Aranei) of the Mongolian Altai:
families Cheiracanthiidae, Clubionidae, Gnaphosidae,
Philodromidae, Theridiidae, Thomisidae

Фауна пауков (Aranei) Монгольского Алтая:
семейства Cheiracanthiidae, Clubionidae, Gnaphosidae,
Philodromidae, Theridiidae, Thomisidae

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Key words: Araneae, Mongolian Altai, fauna, new records.

Ключевые слова: Аранеае, Монгольский Алтай, фауна, новые находки.

Abstract. An annotated check-list of 34 spider species from 13 genera and 6 families the spiders (Arachnida, Aranei) recorded from Mongolian Altai is presented. Nine species, *Cheiracanthium oncognathum* Thorell, 1871, *Gnaphosa lucifuga* Walckenaer, 1802, *G. orites* Chamberlin, 1922, *G. pilosa* Savelyeva, 1972, *G. sticta* Kulczyński, 1908, *Micaria mongunica* Danilov, 1996(1997), *M. subopaca* Westring, 1861, *Parasyrisca logunovi* Ovtsharenko, Platnick et Marusik, 1995 and *Thanatus tuvinensis* Logunov, 1996 are registered for Mongolia for the first time, as well as five species, *Gnaphosa wiehlei* Schenkel, 1963, *Zelotes puritanus* Chamberlin, 1922, *Thanatus mongolicus* Schenkel, 1936, *Th. pictus* L. Koch, 1881 and *Ozyptila inaequalis* Kulczyński, 1901 are newly recorded for Mongolian Altai mountains.

Резюме. Представлен аннотированный список 34 видов пауков из 13 родов и 6 семейств, собранных в Монгольском Алтае. Впервые для Монголии отмечено девять видов: *Cheiracanthium oncognathum* Thorell, 1871, *Gnaphosa lucifuga* Walckenaer, 1802, *G. orites* Chamberlin, 1922, *G. pilosa* Savelyeva, 1972, *G. sticta* Kulczyński, 1908, *Micaria mongunica* Danilov, 1996(1997), *M. subopaca* Westring, 1861, *Parasyrisca logunovi* Ovtsharenko, Platnick et Marusik, 1995 и *Thanatus tuvinensis* Logunov, 1996. Пять видов, *Gnaphosa wiehlei* Schenkel, 1963, *Zelotes puritanus* Chamberlin, 1922, *Thanatus mongolicus* Schenkel, 1936, *Th. pictus* L. Koch, 1881 и *Ozyptila inaequalis* Kulczyński, 1901 впервые приведены для Монгольского Алтая.

Introduction

As a result of the 1883 Hungarian archaeological expedition E. Skinks described several species of spiders. In 1895, Simon published an article on the composition of the family Thomisidae and described *Misumenina grubei* (Simon, 1895). In the XX century, a great contribution to the study of the spider fauna was made [Loska, 1965; Tyshchenko, 1971; Wunderlich, 1980;

Heimer 1985, 1987; Eskov, 1989; Wesolowska, 1981]. In the second half of the XX century, several expeditions were organised in result of which 30 new species were discovered. In the late XX and early XXI centuries, the spider fauna in Mongolia was seriously studied [Eskov, 1989; Marusik, 1989, 1994, 2012, 2018; Logunov, Marusik, 1994(1995), 1998, 1999, 2000, 2003; Marusik et al., 1992, 2014; Eskov, Marusik, 1992, 1994(1995); Marusik, Logunov, 1994(1995), 1998(1999), 2001(2002), 2006; Marusik, Koponen, 1998, 2001; Logunov, 1995; Marusik, Tanasevich, 1998; Szita, Samu, 2000; Marusik, Buchar, 2003(2004); Rychkov, 2003; Volkovsky, Romanenko, 2010; Marusik, Kovblyuk, 2011; Trilikauskas, 2012; Marusik, Omelko, 2014, 2019; Marusik, Fomichev, 2016]. Based on the material collected on the territory of Mongolia, 546 species belonging to 181 genera of 24 spider families were registered [Marusik, 2012], but this number is increasing by the contemporary study.

This paper presents new data on the spider fauna of Mongolian Altai.

Study area, material and methods

A total of 225 specimens belonging to 34 species of 13 genera and 6 families have been studied. Specimens were collected by author by sweeping in the grass, using pitfall traps and hand collecting. All listed material deposited in National research Tomsk state university, biology institute, department zoology invertebrates. The determination of some species is confirmed by Y.M. Marusik (Institute of Biological Problems of the North FEB RAS, Magadan) and A.A. Fomichev (Altai State University, Barnaul).

The specimens were collected in 70 % ethanol and examined under MBS–10 and Zeiss Stemi 2000–C stereomicroscopes. The nomenclature used in this article follows the World Spider Catalog [2020].

List of localities. In the following list of species, the section «Material» contains numbers corresponding to the locality in which a sample was collected: *Province Bayan-Ulgiy*: **1a** — Tsengel vill., basin of Khoton and Khurgan Lakes, 48°39' N, 88°14' E, 2085 m a.s.l., 12–20.06.2018; **1b** — same, 24–30.07.2019; **2a** — Deluun vill., Chigertei tract, 48°20' N, 90°69' E, 2477 m a.s.l., **2b** — same, 14–20.07.2019; *Province Khovd*: **3** — Munkhhairhan vill., Doloon nuur, 46°57' N, 91°27' E, 2885 m a.s.l., 26–31.07.2018; **4** — Munkhhairhan vill., river Shuurhai, 46°54' N, 91°40' E, 2865 m a.s.l., 26–31.07.2018; **5a** — Tsetseg vill., mountain Aavin undur, 46°49' N, 93°10' E, 2543 m a.s.l., 16–19.06.2017; **5b** — Tsetseg vill., range Myangan, 46°10' N, 93°04' E, 2527 m a.s.l., 1–5.08.2019; **6** — Darvi vill., range Darvi, 46°55' N, 93°30' E, 1614 m a.s.l., 24.07.2018; *Province Uvs*: **7** — Turgen vill., mountain Turgenii am, 49°85' N, 91°47' E, 2184 m a.s.l., 19.07.2018; **8a** — Turgen vill., mountain Turgen Tsunheg, 50°25' N, 91°37' E, 2184 m a.s.l., 13–16.07.2017; **8b** — Turgen vill., mountain Turgen, 49°38' N, 91°18' E, 2750 m a.s.l., 8–25.06.2019.

The Mongolian Altai is situated in Western Mongolia and includes four aimaks: Bayan-Ulgiy, Khovd, Uvs, Gobi-Altai, with the area of about 104478.5 km². Its highest point is located on the mountain massif Tavan-Bogd (3 highest peaks at 4374, 4360 and 3981 m). Four more ridges, Munkhhairhan, Tsast Mountain,

Kharkhiraa-Turgen, Sutai Mountain, exceed 4000 m. The territory of Mongolian Altai divided into three morphological types Tavan-Bogd, Munkhhairhan and Kharkhiraa-Turgen according to the location and direction of mountains: Tavan-Bogd, Munkhhairhan and Kharkhiraa-Turgen [Kamelin et al., 2005]. The current glaciation of the Mongolian Altai ranges is relatively small, with the most rich center in the Tavan-Bogd mountain massif where the largest valley glaciers are located [Lkhagvasuren, Lkhagvadorj, 2016]. The climate is sharply continental and very harsh. In general, the predominance of sunny days is characteristic, especially in winter, with significant air dryness, low rainfall and strong temperature fluctuations in winter and summer, as well as during the day°. The average temperature for January is 17–24 °C; for July is 12–15°C. In winter, many areas of the middle categories can be significantly warmer than on the adjacent plains due to inversion [Myagmarsuren, Namkhai, 2015].

A distinctive feature of the vegetation cover of the Mongolian Altai is the almost complete absence of an independent forest belt and the gradual transition of desert-steppe plant communities to high mountain steppes. Only in the North-Eastern part of the mountain range (N slope of the Kharhiraa-Turgen Mountains) forests are developed with the dominance of Siberian larch (*Larix sibirica* Ledeb.) [Lkhagvasuren, Burmaa, 2017].



Fig. 1. Locality map of spiders in Mongolian Altai.
Рис. 1. Карта сборов пауков в Монгольском Алтае.

Check-list of spider species collected in Mongolian Altai

Cheiracantidae

Cheiracanthium oncognathum Thorell, 1871 *

Material. 1♂ — 1a; 1♂ — 2a; 1♂ — 6a.

Habitat. Lakeshore, High Mountain, Steppe.

Distribution. Europe, Mongolia [Marusik, Fomichev, 2016].

Notes. This is a first record of the species for Mongolia.

Clubionidae

Clubiona kulczynskii Lessert, 1905

Material. 1♂, 1♀ — 1a; 1♀ — 6; 1♀ — 8b.

Habitat. Lakeshores, steppes, mountain steppes.

Distribution. Circum-Holarctic boreo-nemoral range [Marusik et al., 2000].

Gnaphosidae

Callilepis nocturna (Linnaeus, 1758)

Callilepis nocturna (Linnaeus, 1758): Marusik, Logunov, 2006: 49.

Material. 3♀♀ — 8a.

Habitat. Forest.

Distribution. Europe, Caucasus, Russia (Europe to Far East), Kazakhstan, China, Japan [Marusik et al., 2000].

Drassodes kaszabi Loska, 1965

Drassodes kaszabi Loska, 1965: Loska, 1965: 27; Marusik, Logunov, 1994 (1995): 183; Marusik, Fomichev, 2015b: 467.

Material. 6♀♀ — 1a.

Habitat. Lakeshore.

Distribution. Russia (Southern Siberia), Mongolia [Loska, 1965].

Drassodes lapidosus (Walckenaer, 1802)

Drassodes lapidosus (Walckenaer, 1802): Marusik, Logunov, 1994(1995).

Material. 5♂♂ — 3a.

Habitat. High Mountain.

Distribution. Trans-Palaearctic range [Marusik, Logunov, 1994(1995)].

Drassodes villosus Thorell, 1856

Drassodes villosus Thorell, 1856: Marusik et al., 1996: 36; Marusik, Logunov, 2009: 147.

Material. 2♂♂, 1♀ — 1a; 1♀ — 3a.

Habitat. High Mountain.

Distribution. Europe, Turkey, Russia (Europe to Far East), Iran, Central Asia [Mikhailov, Marusik, 1996].

Gnaphosa banini

Marusik et Koponen, 2001

Gnaphosa banini Marusik et Koponen, 2001: 35; Fomichev, Marusik, 2011: 119; Azarkina, Trilikauskas, 2013a: 52.

Material. 4♀♀ — 1a.

Habitat. Lakeshore.

Distribution. Russia, (Far Siberia), Altai-Mongolian mountain range.

Gnaphosa lucifuga Walckenaer, 1802*

Gnaphosa lucifuga Walckenaer, 1802: Ovtsharenko et al., 1992: 5; Marusik, Koponen, 2001: 139.

Material. 2♂♂ — 7a; 3♂♂, 1♀ — 1a.

Habitat. Forest, Lakeshore.

Distribution. Turkey, Hungary, China [Ovtsharenko et al., 1992].

Comments. Species widely distributed from Iberian Peninsula to Xinjiang, from South Sweden in the north to Mediterranean Caucasus, Middle Asia and West Siberia in the south [Esyunin, Tuneva, 2002].

Notes. This is the first and the most south-eastern record of the species in Mongolia.

Gnaphosa mongolica Simon, 1895

Gnaphosa mongolica Simon, 1895: Ovtsharenko et al., 1992: 5; Marusik, Logunov 1997: 238; Song et al., 1999: 261.

Material. 3♀♀ — 1a; 2♀♀ — 8b; 27♀♀ — 5b.

Habitat. Lakeshore, Forest, Mountain steppe.

Distribution. Turkey, Hungary, China [Ovtsharenko et al., 1992].

Comments. Almost all localities (except Maritime Prov.) of this species are in Eurasian steppe zone. It is one of the most common species in Mongolia and Tuva lives in variety of dry habitats.

Gnaphosa orites Chamberlin, 1922*

Gnaphosa orites Chamberlin, 1922: Ovtsharenko et al., 1992: 60; Marusik, Koponen, 2001: 140.

Material. 4♀♀ — 7a.

Habitat. Forest.

Distribution. Circum-Holarctic hemiarctic range.

Notes. This is a first record of the species for Mongolia.

Gnaphosa pilosa Savelyeva, 1972*

Gnaphosa pilosa Savelyeva, 1972: 1238–1241; Ovtsharenko et al., 1992: 24.

Material. 4♂♂, 19♀♀ — 5b.

Habitat. Mountain steppe.

Distribution. Kazakhstan, Mongolia [Ovtsharenko et al., 1992].

Notes. This is a first record of the species for Mongolia.

Gnaphosa sticta Kulczyński, 1908*

Gnaphosa sticta Kulczyński, 1908: Ovtsharenko et al., 1992: 48.

Material. 1♀ — 1a.

Habitat. Lakeshore.

Distribution. Scandinavia, Russia (Europe to Far East), Mongolia, Japan [Ovtsharenko et al., 1992].

Notes. This is a first record of the species for Mongolia.

Gnaphosa tuvunica

Marusik et Logunov, 1992

Gnaphosa tuvunica Marusik, Logunov, 1995: 191; Marusik, Logunov, 2009: 147.

Material. 3♀♀ — 1a.

Habitat. Lakeshore.

Comments. The presence of this species in Mongolia was firstly indicated without precise material data [Marusik et al., 2000]. The record from Altai extends slightly, about 100 km, it's the known range from West Tuva southwest to Bayan-Olgii Aimak in Mongolia to the west.

Gnaphosa wiehlei Schenkel, 1963**

Gnaphosa wiehlei Schenkel, 1963: Ovtsharenko et al., 1992: 171; Marusik, Logunov, 1994(1995): 47; Song et al., 1999: 262.

Material. 1♀ — 8b.

Habitat. Forest.

Distribution. Russia (Southern Siberia), Mongolia, China [Ovtsharenko et al., 1992; Song et al., 1999].

Comments. This species is similar to *G. muscorum* from which it can be separated by the shape of the scape and smaller sizes.

Notes. The species is registered for Mongolian Altai for the first time.

Gnaphosa sp.

Material. 4♀♀ — 8b.

Habitat. Forest.

Comments. This unidentified species is similar to *G. zhaoi* [Ovtsharenko et al., 1992; Song et al., 1999, 2004].

Micaria lenzi Bösenberg, 1899

Micaria lenzi Bösenberg, 1899: Wunderlich, 1980: 29a.

Material. 1♀ — 5a.

Habitat. Mountain steppe.

Distribution. Trans-Palaearctic polyzonal (steppe?) range: from Central Europe, north to southern Sweden, north-east to Kolyma River mouth [Marusik et al., 1992] and southward to Karakorum [Danilov, 1996(1997)], Xinjiang [Song et al., 1999], and Middle Gobi [Marusik, Logunov, 1998(1999)].

Micaria mongunica Danilov, 1996(1997)

Micaria mongunica Danilov, 1996(1997): 113.

Material. 2♀♀ — 1a.

Habitat. Lakeshore.

Distribution. Previously was known from the type locality only, Mongun-Taighinsky Kuzhuun, Tuva; Mongolia.

Note. This is a first record of the species from Mongolia.

Micaria rossica Thorell, 1875

Wunderlich, 1980: 70; Heimer, Nentwing, 1992: 1137; Platnick, Dondale, 1992: 44; Mikhailov, Marusik, 1996: 35.

Material. 4♀♀ — 5a.

Habitat. Mountain steppe.

Distribution. Trans-Palaearctic-West Nearctic polyzonal range: from Central Europe northeast to Kolyma River mouth [Marusik et al., 1992] and southward to Inner Mongolia and Shaanxi [Danilov, 1996(1997)]. Known from Nearctic western half, from Alaska to California [Platnick, Dondale, 1992].

Micaria subopaca Westring, 1861

Material. 1♀ — 6a.

Habitat. Mountain steppe.

Distribution. European-Central Siberian nemoral range [Tuneva, 2006(2007)].

Note. The species is firstly registered for Mongolia.

Parasyrisca logunovi

Ovtsharenko, Platnick et Marusik, 1995

Parasyrisca logunovi Ovtsharenko, Platnick et Marusik, 1995: 62.

Material. 2♂♂, 2♀♀ — 7a.

Habitat. Forest.

Distribution. Russia (Southern Siberia) [Marusik, Logunov, 1994(1995); Song et al., 1999].

Notes. This is a first record of the species for Mongolia.

Zelotes puritanus Chamberlin, 1922

Zelotes puritanus Chamberlin, 1922: Ovtsharenko et Marusik, 1988: 22; Heimer et Nentwing, 1991: 1163; Platnick, Dondale, 1992: 149; Eskov, Marusik, 1994(1995): 33; Ovtsharenko, Marusik, 1996: 12.

Material. 1♂ — 8b.

Habitat. Forest.

Distribution. Circum-Holarctic disjunctive polyzonal (steppe) range: mountains of Central Europe, South Siberia northward along azonal steppes in Yakutia and Magadan Area [Marusik et al., 1992]. In Nearctic known from Alaska to New Brunswick, south to California and Massachusetts [Dondale et al., 1997].

Comments. All specimens available for the study were collected in xeric meadows or steppe habitats.

Notes. The species is registered for Mongolian Altai for the first time.

Philodromidae

Rhysodromus fallax Sundevall, 1833

Rhysodromus fallax Sundevall, 1833: Szita, Logunov, 2008: 55.

Material. 3♀♀ — 6a.

Habitat. Steppe.

Distribution. Trans-Palaearctic polyzonal range [Szita, Logunov, 2008; Helsdingen, 2013; Mikhailov, 2013].

Thanatus arcticus Thorell, 1872

Thanatus arcticus Thorell, 1872: Dondale et al., 1997: 394; Marusik et al., 1992; Logunov, 1996.

Material. 1♀ — 1; 1♀ — 8b.

Habitat. Lakeshore, Forest.

Distribution. Circum-Holarctic polyzonal range: from north Fennoscandia to Polar Ural, via the whole of Siberia to Chukotka Peninsula, and south to Tiva and Mongolia [Esysunin, Efimik, 1996; Marusik et al., 1992; Logunov et al., 1998; Marusik, Logunov, 1998(1999)]. In Nearctic distributed NW part and in W Greenland [Dondale et al., 1997].

Comments. Inhabits dry steppe with *Nanophyton erinaceus* and *Artemisia-Stipa* steppes, stony mountain meadows, sloping stony steppes and wet meadows. Wide geographical range and occurrence both in tundra and steppe biotopes indicates that it may be a complex species.

Thanatus formicinus (Clerck, 1757)

Thanatus formicinus (Clerck, 1757): Martynovchenko, 2011: 9; Martynovchenko, 2013: 7.

Material. 3♂♂ — 1a.

Habitat. Lakeshore.

Distribution. North America, North Africa, Turkey, Caucasus, Russia (Europe to Far East), Iran, Kazakhstan, Central Asia, China, Japan [Martynovchenko, Mikhailov, 2014].

Thanatus mikhailoi Logunov, 1996

Thanatus mikhailoi Logunov, 1996: 133.

Material. 2♂♂ — 1a.

Habitat. Lakeshore.

Distribution. Russia (Europe, Southern Siberia), Kazakhstan, Central Asia [Logunov, 1996].

Thanatus mongolicus Schenkel, 1936

Thanatus mongolicus Schenkel, 1936: Logunov, 1996: 159.

Material. 1♀ — 8b.

Habitat. Forest.

Distribution. West and Central Palaearctic sub-boreal range. This species is known from Crimea and Rostovskaya Oblast [Ponomarev, 2011; Ponomarev, Dvanenko, 2012] to Mongolia and China [Logunov, 1996]; it seems to be a disjunction of its range in Middle Asia as there are no records of *T. mongolicus* between Rostovskaya Oblast of Russia and Xinjiang Province of China.

Notes. The species is registered for Mongolian Altai for the first time.

Thanatus pictus L. Koch, 1881

Thanatus pictus L. Koch, 1881: Logunov, 1996: 139; Lyakhov, 2000: 226.

Material. 1♀ — 1b.

Habitat. Lakeshore.

Distribution. West-Central Palaearctic subboreal range. This species is known from Germany in the west to the Altai in the east and from Poland and Novosibirsk in the north to Turkey in the south [Logunov, 1996; Lyakhov, 2000; Helsingden, 2013].

Notes. The species is registered for Mongolian Altai for the first time.

Thanatus tuvinensis Logunov, 1996

Material. 1♂ — 1a; 2♂♂ — 8b.

Habitat. Inhabits sloping stony steppe, mountain stony steppe, *Artemisia-Stipa-Caragana* shrub steppe and dry stony steppe with *Nanophyton erinaceus*.

Distribution. Central Asian-Siberian boreo-montage range: from north Tien-Shang and Tuva to upper Kolyama (Logunov, 1996).

Comments. Judging from the figures in Song, Zhu [1997], one could assume that species might be a junior synonym of *T. neimongol* Urita et Song, 1987, known from Inner Mongolia [Song et al., 1999].

Notes. This is a first record of the species for Mongolia.

Theridiidae

Steatoda albomaculata (De Geer, 1778)

Steatoda albomaculata (De Geer, 1778): Roberts, 1995: 274; Knoflach, 1996: 6; Song et al., 1999: 67.

Material. 2♂♂, 3♀♀ — 7a; 1♂, 1♀ — 1a; 7♂♂, 12♀♀ — 1a; 4♀♀ — 2d, (6a; 1♀ — 8b; 3♀♀ — 5b.

Habitat. Forest, Lakeshore, Steppe, Mountain steppe. Occurs in various xerophilic habitats, from pebbly river banks to dry steppes.

Distribution. Circum-Holarctic polyzonal range: almost all of Palaearctic except Siberia. In Nearctic known from Yukon territory to New Brunswick, south to California and Connecticut [Dondale et al., 1997]. In East Chukotka, single female was found on pebbly river banks with in a kind of tree oasis in tundra zone [Marusik, 1994].

Thomisidae

Ozyptila inaequalis Kulczyński, 1901**

Ozyptila inaequalis Kulczyński, 1901: Song, Zhu, 1997: 8; Marusik, Logunov, 1995: 42; Marusik et al., 2000: 27.

Material. 1♀ — 1a.

Habitat. Lakeshore.

Distribution. Central Asia, Southern Kazakhstan, Mongolia, Central China [Marusik, Logunov, 1994(1995); Song, Zhu, 1997].

Notes. The species is registered for Mongolian Altai for the first time.

Psammitis nenilini (Marusik, 1989)

Xysticus nenilini Marusik, 1989: 140–145; Logunov, Marusik, 1994(1995): 8.

Material. 1♀ — 1a; 1♀ — 4a; 1♀ — 8b.

Habitat. Lakeshore, Forest.

Distribution. Siberio-Mongolian steppe range: from Tuva northeast to Central Yakutia [Marusik, 1989] and southward to south Mongolia [Marusik, Logunov, 1998].

Xysticus audax/cristatus

Material. 2♀♀ — 5b.

Habitat. Mountain steppe.

Distribution. Europe, Turkey, Caucasus, Russia (Europe to Far East), Kazakhstan, Iran, Japan [Azarkina, Logunov, 2000].

Comments. *X. audax* was recorded from central part of Mongolia (Central and Bulgan aimags) [Marusik, Logunov, 2006]. Due to difficulties of identifying specimens after females it is hard to conclude what species was collected. Moreover there are high possibilities that *X. pseudocrisatus* Azarkina et Logunov, 2001 occurs in western part of Mongolia [Azarkina, Logunov, 2001]. So, the name *X. audax/cristatus* is kept till male from this area will be collected.

Xysticus austrosibiricus

Logunov et Marusik, 1998

Material. 1♂, 1♀ — 1a; 1♂, 2♀♀ — 5b.

Habitat. Lakeshore, Mountain steppe.

Distribution. Russia (Ural, North-Southern Siberia), Mongolia, China [Logunov, Marusik, 1998].

Xysticus sjostedti Schenkel, 1936

Xysticus sjostedti Schenkel, 1936: Logunov, Marusik, 1994: 12.

Material. 1♂, 1♀ — 1a; 1♀ — 5b.

Habitat. Lakeshore, Mountain steppe.

Distribution. Mongolian range: from Altai eastward to Buryatia [Logunov, Marusik, 1994(1995)] almost all aimaks of Mongolia and Inner Mongolia [Schenkel, 1963].

Comments. Occupies various xeric habitats.

Discussion

The fauna of Russian part of Altai is well studied, 229 spider species from 88 genus of 22 families are registered [Volkovsky, Romanenko, 2010]. 150 species of spiders from 61 genera belonging to 17 families are known for the Mongolian Altai.

88 species from 14 genera of the family Gnaphosidae are known to Mongolia, and 11 genera and 34 species to Mongolian Altai.

The family Thomisidae is represented in Mongolia with 43 species from 10 genera, 14 species from two generarecorded for Mongolian Altai.

25 species from 9 genera of Philodromidae are known from Mongolia, three species from two genera are known from Mongolian Altai.

27 species from three Theridiidae genera occurring in Mongolia, of which 7 species from 3 genera are in the Mongolian Altai.

The family Clubionidae in Mongolia is presented with 15 species from two genera, one species from one genus is the Mongolian Altai.

Six species from one genus of the family Cheiracanthiida are known from Mongolia, and a species in the Mongolian Altai.

Acknowledgements

The author grateful to Dr. V.N. Romanenko (Tomsk State University, Biology Institute, Tomsk, Russia), Dr. Yu.M. Marusik (Institute of Biological problems of the

North, FEB RAS, Magadan, Russia) and A.A. Fomichev (Barnaul State University, Russia) for the help with species determination.

I am sincere gratitude my Biological faculties teachers Mogoltsog Otgonbaatar, Demberel Enkhtuul, Bat-Erdene Ganchimeg and Namkhair Erdenechimeg, Geographical faculties teachers Chantuu Ayuzana, Chuntai Bilegtmandakh and Byambadorj Gurvandavaa at Khovd State University (Khovd, Mongolia), Botany teacher at the Mongolian State Pedagogical University, Vanzhil Gundegmaa (Ulaanbaatar, Mongolia), Munkhkhairhan national park inspector nature Otgonbayar Bayanmunkh (Khovd, Mongolia).

Special thanks are due to Dr G.N. Azarkina (ISEA SB RAS, Novosibirsk) and A.A. Fomichev (Barnaul State University, Russia) for valuable comments on the final draft of the manuscript.

References

- Azarkina G., Logunov D. 2000. Separation and distribution of *Xysticus cristatus* (Clerk, 1758) and *X. audex* (Schrank, 1803) in eastern Eurasia, with description of a new species from the mountains of Central Asia (Aranei: Thomisidae) // *Arthropoda Selecta*. Vol.9. No.2. P.133–150.
- Azarkina G.N., Trilikauskas L.A. 2013. Spider fauna (Aranei) of the Russian Altai, part II: families Gnaphosidae, Hahniidae, Linyphiidae, Liocranidae and Lycosidae // *Euroasian Entomological Journal*. Vol.12. No.1. P.51–67.
- Cera I., Spuõis V. 2008. Spider (Araneae) Species new to the fauna of Latvia // *Latvijas Entomologos*. Vol.45. P.49.
- Dondale C.D., Redner J.H., Marusik Yu.M. 1997. Spider (Araneae) of the Yukon // *Danks H.V. (ed.): Insects of the Yukon*. Ottawa. P.73–113.
- Danilov S.N. 1996(1997). New data on the spider genus *Micaria* Westring, 1851 in Asia (Aranei Gnaphosidae) // *Arthropoda selecta*. Vol.5. Nos.3–4. P.113–116.
- Eskov K.Yu. 1989. New Siberian species of erigonine spiders (Arachnida, Aranei, Linyphiidae) // *Spixiana*. No.11. P.97–109.
- Eskov K.Yu., Marusik Yu.M. 1992. On the mainly Siberian spider genera *Wubanooides*, *Parawubanooides* gen.n. and *Poeciloneta* (Aranei Linyphiidae) // *Arthropoda Selecta*. Vol.1. No.1. P.21–38.
- Eskov K.Yu., Marusik Yu.M. 1994(1995). On the spiders from Saur Mt. Range, Eastern Kazakhstan (Arachnida: Araneae) // *Beiträge zur Araneologie*. Bd.4. S.55–94.
- Esyunin S.L., Efimik V.E. 1996. Catalogue of the spiders (Arachnida, Aranei) of the Urals. Moscow: KMK Scientific Press. 229 p.
- Esyunin S.L., Tuneva T.K. 2002. A Review of the Family Gnaphosidae in the Fauna of the Urals (Aranei), 1. Genera *Drassodes* Westring, 1851 and *Sidydrassus* gen. n. // *Arthropoda Selecta*. Vol.10. No.2. P.169–180.
- Fomichev A.A. 2016a. New data on the spiders (Arachnida: Aranei) from Altai Territory, Russia // *Arthropoda Selecta*. Vol.25. No.1. P.119–126.
- Fomichev A.A. 2016b. New data on the spiders (Arachnida: Aranei) from South-Western Mongolia // *Biological Bulletin of Bogdan Chmel'nikskiy Melitopol State Pedagogical University*. Vol.6. No.2. P.101–106.
- Fomichev A.A., Marusik Yu.M. 2011. New data spider (Arachnida: Aranei) of the Altai Republic, Russia // *Arthropoda Selecta*. Vol.20. No.2. P.117–123.
- Fomichev A.A., Marusik Yu.M. 2015. First description of the male of *Drassodes kaszabi* (Aranei, Gnaphosidae) // *Vestnik zoologii*. T.49. No.5. P.467–470.
- Heimer S. 1985. Über die Aufsammlung von Spinnen (Arachnida: Araneae) durch die Mongolisch-Deutschen Biologischen Expeditionen in den Jahren 1977 bis 1979 // *Mitteilungen aus dem Zoologischen Museum in Berlin*. Bd.61. S.143–145.
- Heimer S. 1987. Neue Spinnenarten aus der Mongolei (MVR) (Arachnida: Araneae: Theridiidae et Linyphiidae). // *Reichenbachia*. Bd.24. S.139–151.
- Heimer S., Nentwig W. 1991. *Spinnen Mitteleuropas*. Ein Bestimmungsbuch. Berlin und Hamburg: Paul Parey. 543 S.
- Helsdingen P.J. 2013. Araneae, Spiders. Fauna Europea. Version 26. <http://www.faunaeur.org/>
- Kamelin R.B., Kutsev M.G., Tikhonov D.V., Shaulo D.N., Shmakov A.I., Viane R.L.L. 2005. Flora of Altai. Vol.1. Barnaul. 340 p. [In Russian].
- Kastrygina Z.A., Kovblyuk M.M. 2013. A review of the spider genus *Thanatus* C.L. Koch, 1837 in Crimea (Aranei: Philodromidae) // *Arthropoda Selecta*. Vol.22. No.3. P.239–254.
- Kastrygina Z.A., Kovblyuk M.M. 2016. The spider genus *Rhysodromus* Schick, 1965 in the Crimea (Aranei: Philodromidae) // *Arthropoda Selecta*. Vol.25. No.3. P.283–292.
- Knoflach B. 1996. *Steatoda incomposita* (Denis) from southern Europe, a close relative of *Steatoda albomaculata* (Degeer) (Araneae: Theridiidae) // *Bulletin of the British arachnological Society*. Vol.10. P.141–145.
- Kulczyński W. 1916. Araneae Sibiriae occidentalis arcticae: Mémoires de l'Académie Impériale des Sciences de Petrograd Sér.8. T.28. No.11. P.1–44.
- Levina N.V., Mikhailov K.G. 2004. [Spider (Aranei) fauna of Mountainous Altai] // *Byulleten' Moskovskogo obshechestva ispytatelei prirody. Otdel Biologicheskii*. Vol.109. No.3. P.38–52. [In Russian, with English summary].
- Lkhagvasuren Ch., Lkhagvadorj T. 2016. Munkhkhairhan national park. Ulaanbaatar. 198 p. [In Mongolian].
- Lkhagvasuren Ch., Burmaa Z. 2017. Current state and prospects of nature development, societies and economies of the Mongolian Altai. Ulaanbaatar. 406 p. [In Mongolian].
- Logunov D.V. 1995. New and little known species of the jumping spiders from Central Asia (Araneae: Salticidae) // *Zoosystematica Rossica*. Vol.3. No.2. P.237–246.
- Logunov D.V. 1996. A critical review of the spider genera *Apollophanes* O.P. Cambridge, 1898 & *Thanatus* C.L. Koch, 1837 in North Asia (Araneae, Philodromidae) // *Revue Arachnologique*. Vol.11. No.13. P.133–202.
- Logunov D.V., Huseynov E.F. 2008. A faunistic review of the spider family Philodromidae (Aranei) of Azarbaijan // *Arthropoda Selecta*. Vol.17. Nos 1–2. P.117–131.
- Logunov D.V., Marusik Yu.M. 1994. A faunistic review of the crab spiders (Araneae, Thomisidae) from the mountains of South Siberia // *Bulletin de L'Institut Royal des Sciences Naturelles de Belgique*. T.64. P.177–197.
- Logunov D.V., Marusik Yu.M. 1998. A new species of the genus *Xysticus* from the mountains of South Siberia (Araneae, Thomisidae) // *Bulletin of the British arachnological Society*. Vol.11. No.3. P.103–106.
- Logunov D.V., Marusik Yu.M. 1999. A brief review of the genus *Chalcoscirtus* Bertkau, 1880 in the fauna of Central Asia and the Caucasus (Araneae, Salticidae) // *Arthropoda Selecta*. Vol.7. No.3. P.205–226.
- Logunov D.V., Marusik Yu.M. 2000. Miscellaneous notes on the Palaearctic Salticidae (Arachnida, Araneae) // *Arthropoda Selecta*. Vol.8. No.1. P.263–292.
- Logunov D.V., Marusik Yu.M. 2003. A revision of the genus *Yllenus* Simon, 1868 (Arachnida, Araneae, Salticidae). Moscow: KMK Scientific Press Ltd. 167 p.
- Loska I. 1965. Araneae. Ergebnisse der zoologischen Forschungen von Dr. Z. Kaszab in der Mongolei // *Reichenbachia*. Bd.7. P.1–32.
- Lyakhov O.V. 2000. Contribution to the Middle Asian fauna of the spider genus *Thanatus* C.L. Koch 1837 (Aranei: Philodromidae) // *Arthropoda Selecta*. Vol.8. No.4. P.221–230.
- Martynovchenko F.A. 2011. Charakteristika kompleksa paukov biotopov gory Malaya Hatipara (Teberdinskij gosudarstvennyj zapovednik) // *Kulakova S.A. (Ed): Nauchnye chteniya pamyati N.F. Rejmersa i F.R. Shtil'marka*.

- Antropogennaya transformatsiya prirodnoy sredy. Materialy mezhdunarodnoy shkoly-seminara molodyh uchyonih (6–9 dek. 2011 g.). Perm': Permskiy gosudarstvennyj nacional'nyj universitet. P.141–147. [In Russian].
- Martynovchenko F.A. 2013. Fauna paukov pyostro-kostrovogo luga (Teberdinskiy zapovednik) // Temereva E.N. (Ed.): Lomonosov–2013. XX Mezhd. konf. studentov, aspirantov i molodyh uchyonih: Sekciya «Biologiya»; 8–13 apr. 2013 g., Moskva, MGU imeni M.V. Lomonosova, biol. f-t. Tezisy dokladov. Moskva: MAKSS Press. S.124–125.
- Martynovchenko F.A., Mikhailov K.G. 2014. Spiders (Aranei) of Teberda state reserve: fauna and biotopic distribution // Euroasian Entomological Journal. Vol.13. No.4. P.355–371. [in Russian, with English abstract].
- Marusik Yu.M. 1989. Two new species of the spider genus *Xysticus* and synonymy of crab spiders (Aranei, Thomisidae, Philodromidae) from Siberia // Zoologicheskii Zhurnal. Vol.68. No.4. P.140–145. [In Russian].
- Marusik Yu.M. 1994. A check-list of spiders with trans-Palaearctic distribution // Bollettino delle sedute della Accademia goenia di scienze naturali in Catania. Vol.26. No.345. P.273–279.
- Marusik Yu.M. 2012. Results and prospects of the study of spiders (Aranei) in Russia and around the world // Entomological Review. Vol.92. No.2. P.206–215. [In Russian].
- Marusik Yu.M. 2018. The first record of *Micaria bonneti* (Aranei: Gnaphosidae) in Mongolia // Arthropoda Selecta. Vol.27. No.4. P.335–338.
- Marusik Yu.M., Ballarin F., Omelko M.M., Koponen S. 2014. On new and interesting records of spiders from northern Pakistan and India (Aranei) // Arthropoda Selecta. Vol.23. No.4. P.415–424.
- Marusik Yu.M., Buchar J. 2003(2004). A survey of East Palaearctic Lycosidae (Aranei). 3. On the wolf spiders (Araneae, Lycosidae) collected in Mongolia by Z. Kaszab in 1966–1968 // Arthropoda Selecta. Vol.12. No.2. P.149–158.
- Marusik Yu.M., Eskov K.Yu., Kim J.P. 1992. A check list of spiders (Aranei) of Northeast Asia // Korean Arachnology. Vol.8 Nos 1/2. P.129–158.
- Marusik Yu.M., Fomichev A.A. 2010. A new species of *Parasyrisca* Schenkel, 1963 (Araneae, Gnaphosidae) from the Altai // Zootaxa. Vol.2626. P.65–68.
- Marusik Yu.M., Fomichev A.A. 2016. A New species of *Cheiracanthium* (Araneae: Cheiracanthiidae from Mongolia) // Indian journal of Arachnology. Vol.5. Nos 1-2. P.79–83.
- Marusik Yu.M., Hippa H., Koponen S. 1996. Spiders (Araneae) from the Altai area, Southern Siberia // Acta zoologica Fennica. Vol.201. P.11–45.
- Marusik Yu.M., Koponen S. 1998. New and little known spiders of the subfamily Dictyninae (Araneae, Dictynidae) from South Siberia // Entomological Problems. Vol.29. No.2. P.79–86.
- Marusik Yu.M., Koponen S. 2001. Spiders of the family Zodariidae from Mongolia (Arachnida: Araneae) // Reichenbachia. Bd.34. S.39–48.
- Marusik Yu.M., Kovblyuk N.M. 2011. Spiders of Siberia and the Russian Far East. M. 344 p. [in Russian].
- Marusik Yu.M., Logunov D.V. 1994 (1995). Gnaphosid spiders from Tuva adjacent territories, Russia // Beitrage zur Araneologie. Bd.4. P.177–210.
- Marusik Yu.M., Logunov D.V. 1998(1999). On the spiders (Aranei) collected in central Mongolia during a joint American–Mongolian–Russian expedition in 1997 // Arthropoda Selecta. Vol.7. No.3. P.233–254.
- Marusik Yu.M., Logunov D.V. 2001(2002). New faunistic records for the spiders of Buryatia (Araneae), with a description of a new species from the genus *Enoplognatha* (Theridiidae) // Arthropoda Selecta. Vol.10. No.3. P.265–272.
- Marusik Yu.M., Logunov D.V. 2006. On the spiders collected in Mongolia by Dr. Z. Kaszab during expeditions in 1966–1968 (Arachnida, Aranei (excluding Lycosidae)) // Arthropoda Selecta. Vol.15. No.1. P.39–57.
- Marusik Yu.M., Logunov D.V. 2009. New faunistic records of spiders collected from the mountain Altai (Arachnida, Aranei) // Arthropoda Selecta. Vol.18. No.3. P.145–152.
- Marusik Yu.M., Logunov D.V., Koponen S. 2000. Spiders of Tuva, South Siberia. Magadan: IBPS DVO RAN. 252 p.
- Marusik Yu.M., Omelko M.M. 2014. A survey of East Palaearctic Gnaphosidae (Araneae). 3. On new and poorly known *Gnaphosa* Latreille, 1894 // Zootaxa. Vol.3894 No.1. P.10–32.
- Marusik Yu.M., Omelko M.M. 2019. Redescription of *Gnaphosids* (Aranei: Gnaphosidae) described by O. Pickard — Cambridge from the material of the second yarkand Mission // Arthropoda Selecta. Vol.28. No.2. P.277–290.
- Marusik Yu.M., Tanasevitch A.V. 1998. Notes on the spider genus *Styloctetor* Simon, 1884 and some related genera, with description of two new species from Siberia (Aranei: Linyphiidae) // Arthropoda Selecta. Vol.7. No.2. P.153–159.
- Mikhailov K.G. 2013. The spiders (Arachnida: Aranei) of Russia and adjacent countries: a non-annotated checklist // Arthropoda Selecta. Supl. No.3. 262 p.
- Mikhailov K.G., Marusik Yu.M. 1996. Spiders of the North-East of the USSR. Families Zoridae, Liocranidae and Gnaphosidae (genus *Micaria*) (Arachnida, Araneae) // Entomological studies in the North-East of the USSR. USSR Academy of sciences, institute of biological problems of the North, Vladivostok. P.90–113. [In Russian].
- Myagmarsuren D., Namkhai A. 2015. Protected areas of Mongolia. Ulaanbaatar. 139 p. [In Mongolian].
- Ovtsharenko V.I., Marusik Yu.M. 1988. Spiders of the family Gnaphosidae (Aranei) in North-East USSR (Magadan Area) // Entomologicheskoe Obozrenie. Vol.67. No.1. P.204–217. [In Russian].
- Ovtsharenko V.I., Marusik Yu.M. 1996. Additional data on the spiders of the family Gnaphosidae (Aranei) of the North-East of Asia // Entomological studies in the North-East of the USSR. Vladivostok: USSR Academy of Sciences, institute of Biological problems of the North. P.114–130.
- Ovtsharenko V.I., Platnick N.I., Marusik Yu.M. 1995. A review of the Holarctic ground spider genus *Parasyrisca* (Araneae, Gnaphosidae) // American Museum Novitates. No.3147. P.1–55.
- Ovtsharenko V.I., Platnick N.I., Song D.X. 1992. A review of the North Asian ground spiders of the genus *Gnaphosa* (Araneae, Gnaphosidae) // Bulletin of the American museum of natural history. Vol.212. P.1–88.
- Platnick N.I., Dondale C.C. 1992. The insects and arachnids of Canada. Part 19. The ground spiders of Canada and Alaska. Araneae: Gnaphosidae. Research Branch Agriculture Canada Publ. 297 p.
- Ponomarev A.V. 2011. [Spider (Aranei) in territories adjacent to the Northern and Southern borders of the Lower Don] // Matishov G.G. (Ed.): Tsimlyanskoe vodokhranilishche sostoyanie vodnykh i pribrezhnykh ekosistem, problem i puti resheniya. Rostov-on-Don: SSC RAS. P.120–154. [In Russian].
- Ponomarev A.V., Dvanenko K.V. 2012. [Notes on taxonomy and fauna of spiders (Aranei) of Southern Russia and Kazakhstan] // Yugh Rossi ekologiya, razvitie. No.4. P.42–53. [In Russian].
- Roberts M.J. 1995. Collins Field Guide: Spider of Britain and Northern Europe. London: Harper Collin. 383 p.
- Rychkov E.V. 2003. [New data on spider fauna (Aranei) of Biysk vicinity] // Vestnik Tomskogo gosudarstvennogo universiteta. Vol.3. P.198–199. [In Russian].
- Savelyeva L.G. 1972. New species of Gnaphosidae (Aranei) from the East-Kazakhstan district // Zoologicheskii Zhurnal. Vol.51. No.8. P.1238–1241. [In Russian].
- Schenkel E. 1963. Ostasiatische Spinnen aus dem Museum d'Histoire naturelle de Paris // Mémoires du Muséum National d'Histoire Naturelle. Série A. Zoologie. T.25. 481 p.
- Song D.X., Zhu M.S. 1997. Fauna Sinica: Arachnida: Araneae: Thomisidae, Philodromidae. Beijing: Science Press. viii + 259 p.

- Song D.X., Zhu M.S., Chen J. 1999. The spider of China. Shijiazhuang: Hebei University of Science and Technology Publishing House. 640 p.
- Song D.X., Zhu M.S., Zhang F. 2004. Fauna Sinica: Invertebrate Vol.39. Arachnida: Araneae Gnaphosidae. Beijing: Science Press. ix + 362 p.
- Szita E., Samu F. 2000. Taxonomical review of *Thanatus* species (Philodromidae, Araneae) of Hungary // Acta Zoologica Academiae Scientiarum Hungaricae. T.46. P.155–179.
- Szita E., Logunov D.V. 2008. A review of the *histrio* group of the spider genus *Philodromus* Walckenaer, 1826 (Araneae, Philodromidae) of the eastern Palaearctic region // Acta zoologica Academiae Scientiarum Hungaricae. Vol.54. No.1. P.23–73.
- Trilikauskas L.A. 2012. On the spider fauna (Arachnida, Aranei) of the area of the Altai nature Reserve adjacent to Teletskoe Lake, Russia // Proceedings of the Russian Entomological Society. Saint-Peterburg. Vol.83. No.1. P.223–233.
- Tuneva T.K. 2006(2007). Review of the family Gnaphosidae in the Ural fauna (Aranei), 5. Genera *Micaria* Westring, 1851 and *Arboricaria* Bosmans, 2000 // Arthropoda Selecta. Vol.15. No.3. P.229–250.
- Tyshchenko V.P. 1971. [Key to spiders of the European part of the USSR] // Opredeliteli fauny SSSR. Vol.105. Leningrad: Nauka. 281 p [In Russian].
- Volkovsky E.V. 2006. [Biological association of spiders (Aranei) of North Altai] // Trudy Kemerovskogo otdeleniya REO. No.4. P.7–10. [In Russian].
- Volkovsky E.V., Romanenko V.N. 2010. [Population of spiders (Aranei) of soil-surface tier of Altay Region Mountain Valleys] // Vestnik Tomskogo gosudarstvennogo universiteta. Vol.3. No.11. P.60–67. [In Russian].
- Wesolowska W. 1981. Salticidae (Aranei) from North Korea, China and Mongolia // Annales Zoologici Warszawa. T.36. P.45–83.
- Wunderlich J. 1980. Revision der europäischen Arten der Gattung *Micaria* Westring 1851, mit Anmerkungen zu den übrigen paläarktischen Arten (Arachnida: Araneida: Gnaphosidae) // Zoologische Beiträge. Bd.25. No.2. P.233–341.
- World Spider Catalog 2020 www.wsc.nmbe.ch World spider catalog.

Поступила в редакцию 7.5.2020