

On the spiders (Aranei) collected by D.E. Kharitonov's expedition to Lake Zaisan, East Kazakhstan Area

О пауках (Aranei), собранных экспедицией Д.Е. Харитонова на озеро Зайсан, Восточно-Казахстанская область

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KEY WORDS: Araneae, fauna, checklist, new species, new synonym, new records.

КЛЮЧЕВЫЕ СЛОВА: Araneae, фауна, список видов, новые виды, новый синоним, новые указания.

ABSTRACT. A complete list of 132 spider species collected by D.E. Kharitonov's expedition to Zaisan Lake in July-August 1936 is provided, with 31 species being recorded from East Kazakhstan Area (EKA) for the first time. Distribution of all species new to EKA is discussed. Six species are described as new: viz., *Alopecosa zaisanica* sp.n. (male), *Gnaphosa oirat* sp.n. (female), *Pardosa kalba* sp.n. (female), *P. charitonovi* sp.n. (female), *P. kurchum* sp.n. (female) and *Robertus ovsyannikovi* sp.n. (female). Two species from this collection — *Drassodes cupa* Tuneva, 2004 and *Micaria seymuria* Tuneva, 2004 — were described earlier. One species is synonymized: *Drassodes charitonovi* Tuneva, 2004 syn.n. = *D. neglectus* (Keyserling, 1887). Yet, data on additional 17 species from other collections, of which six species have been recorded from West Kazakhstan for the first time, are provided. Based on the results of the present study, the total number of spider species recorded from EKA has increased to 476 species in 186 genera and 26 families.

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РЕЗЮМЕ. Приведен полный список из 132 видов пауков, собранных экспедицией Д.Е. Харитонова на оз. Зайсан в июле-августе 1936 г., 31 вид отмечен в Восточно-Казахстанской области (ВКА) впервые. Распространение всех новых для ВКА видов обсуждается. Шесть видов: *Alopecosa zaisanica* sp.n. (самец), *Gnaphosa oirat* sp.n. (самка), *Pardosa kalba* sp.n. (самка), *P. charitonovi* sp.n. (самка), *P. kurchum* sp.n. (самка) и *Robertus ovsyannikovi* sp.n. (самка), из этой коллекции описаны как новые для науки здесь и еще 2 вида — *Drassodes cupa* Tuneva, 2004 и *Micaria seymuria* Tuneva, 2004, описаны ранее. Один вид является синонимом: *Drassodes charitonovi* Tuneva,

2004 syn.n. = *D. neglectus* (Keyserling, 1887). Кроме того, мы предоставили данные по 17 видам из других коллекций. Из них 6 видов отмечены для Западно-Казахстанской области впервые. По результатам настоящего исследования общее количество видов пауков, зарегистрированных в ВКА, возросло до 476 видов в 186 родах и 26 семействах.

Introduction

As far as arachnological studies are concerned, one of the central regions of the Palearctic — the territory of the East Kazakhstan Area (EKA) — had remained poorly studied until the second half of the 20th century. Until the 1970s, information about the EKA spider fauna was limited to 28 species reported in the works by O. Finsch, L. Koch, E. Simon, P.Yu. Schmidt and V.N. Ermolaev. Later, L.G. Savelyeva made the greatest contribution to the study of EKA spiders. Her studies conducted in the 60–70s [Savelyeva, 1970, 1972a, b, c, 1976, 1979; Ovcharenko, Savelyeva, 1992] resulted in a species list of 225 species.

In 1989 and 1990, a significant spider collection was obtained from the Saur Range by K.Yu. Eskov and A.V. Tanasevich. This expedition resulted in the description of 20 new spider species and 117 species recorded for the region for the first time [Eskov, Marusik, 1995]. To date, 434 spider species in 26 families (personal count) have been known from EKA.

Nevertheless, the state of knowledge of the ESA spider fauna is far from adequate. Not all of the collected materials have been processed to date. One of such collections has been kept at the PSU Department of Zoology and Aquatic Ecology for many years. Diaries of the expedition, during which these materials were collected, could not be found in the Department's archives, so its route has been reconstructed based on the preserved collecting labels.

The expedition party consisted of Prof Dmitry Efimovich Kharitonov, the student Arkady Grigorievich

Ovsyannikov, and Ms Kondareva, of whom no information has survived. The expedition seems to have travelled to Lake Zaisan along Irtysh River via Pavlodar and Oske-men (=Ust-Kamenogorsk) in early July 1936. Up to 16 July, the party was based at Topolevy Cape, making short trips southwest and west of that place. On the 17th of July, the party went to Markakol' Lake along Kalzhir River (near Boran Vil.), to Markakol' Vil. By the 20th of July, the expedition had rounded Markakol' Lake from the east and reached the mouth of Topolevka River. Advancing along Topolevka River, they had reached its headwaters by 22 July. Having turned back, the expedition reached Urunhaika Vil. by 24 July, and then (25 July) moved to Akzhailau Vil.. From there the expedition moved southwards and on 30 July had reached Zaisan Town beyond Boran Vil. The team was then divided into two groups. D.E. Kharitonov left for Alatau Pass, where he collected spiders from 4 to 6 August, and then returned to Zaisan Lake on 13 August. A.G. Ovsyannikov and Kondareva visited the western end of Zaisan Lake (8 August), Tarbagatai (13 August) and Shilikty valley (15 August). No later labels are available, and it appears that the expedition could have been completed.

The gnaphosid section of the collection was previously studied and published by Tuneva [2004], whereas three dictynid species from the Zaisan collection have been mentioned in two taxonomic papers [Marusik, Esyunin, 2010; Marusik *et al.*, 2015]. Yet, until now, some materials of this expedition remain unpublished. This relatively small collection of unprocessed materials consists of 21 spider species new to EKA and even six species new to science.

The main aim of the present paper is to compile a checklist of spiders collected during the Zaisan expedition, with special emphasis on new findings and descriptions of new species.

Material and methods

This paper is based primarily on the spider materials collected by D.E. Kharitonov and his assistants during the Zaisan Expedition (for details see above). However, we also included some additional materials collected by the second author and some from the collection of the Institute of Systematics and Ecology of Animals, Novosibirsk. Data on the spiders from the Zaisan Expedition are given in "Materials", additional data in "Other materials".

The main collecting localities of Kharitonov's expedition to Zaisan Lake (Fig. 1) are given below:

- Abai Area
- 1. Tolagai Vil., 48°53'26"N, 82°26'32"E, Kokpekti Distr.,
- 2. 3 km of Kyzylbulak (49°08'N, 83°38'E), Urzhar Distr. East Kazakhstan Area
- 3. Irtysh River nr Kurshim (=Kurchum) Vil. (48°34'N, 83°39'E), Kurshim Distr.,
- 4. Topoleviy Cape, 47°49'19"N, 84°04'45"E, 14 km NW of Tugyl Vil., Tarbagatay Distr.,
- 5. Shilikty valley, nr Shilikty Vil. (47°10'17"N, 84°31'53"E), Zaisan Distr.,
- 6. Zaisan Town, 47°28'N, 84°52'E,
- 7. Boran Vil., 48°00'32"N, 85°11'43"E, Kurshim Distr.,
- 8. Markakol' (=Aleksievka) Vil., 48°25'23"N, 85°43'59"E, Kurshim Distr.,

- 9. Moilydy (=Nikolaevka) abandoned Vil., 48°25'48"N, 85°50'31"E, Kurshim Distr.,

- 10. Akzhailau (=Uspenka) Vil., 48°35'50"N, 85°58'08"E, Kurshim Distr.,

- 11. Urunkhaika Vil., 48°47'12"N, 86°01'35"E, Kurshim Distr.,

- 12. Topolevka River (mouth 48.83°N, 85.92°E, head 48.91°N, 85.84°E), Kurshim Distr.

Almaty Area

- 13. Kara-Cheku Mt., Dzungarsky Alatau (45°N, 80°E), Almaty Area.

Zhetysu Area

- 14. Alatau (=Dzungarskie vorota) Pass, 45°21'N, 82°25'E, Alakol Distr.

Kabdrakhimov's spider material was collected during his fieldtrip to Katon-Karagai Vil., 49°10'36"N, 85°36'05"E in August 2022.

In the checklist of species from Kharitonov's collection, the number in square brackets correspond to the locality where it was collected (see above). The species first recorded from East Kazakhstan Area are marked with asterisks [*].

Type specimens have been deposited in the collection of the Zoological Museum of Moscow State University (ZMMU; curator: Kirill G. Mikhailov) and the Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia (ZISP; curator: D.V. Logunov), other material are deposited in the collection of Department of Invertebrate Zoology and Aquatic Ecology of the Perm State University (PSU, curator: S.L. Esyunin) and the Institute of Systematics and Ecology of Animals (ISEA; curator: G.N. Azarkina).

Stacks of colour images were manually generated using an Olympus OMD EM-10 digital camera with a Panasonic Lumix H-H025 25 mm f/1.7 lens mounted on a Zeiss microscope. SEM micrographs were made by means of a Hitachi TM3000 SEM microscope with BSE (back-scattered electrons) at the Perm State University, Perm.

Abbreviations used in the text: AER — anterior row of eyes; ALE — anterior lateral eye, AME — anterior median eye, MER — second row of eyes (formed by PME's); OA — ocular area encompassed by the four eyes of the second (formed by PME) and third rows (formed by PLE), PER — third row of eyes (formed by PLE's); PLE — posterior lateral eye, PME — posterior median eye. Leg spination: a — apical, d — dorsal, pl and rl — pro- and retrolateral, v — ventral. In the following descriptions, leg podomeres are abbreviated as follows: Fm — femur, Pt — patella, Tb — tibia, Mt — metatarsus, Tr — tarsus. The sequence of leg segment measurements is as follows: total (femur – (patella + tibia) – metatarsus – tarsus).

All measurements are in mm.

Taxonomical part

Alopecosa zaisanica sp.n.

Figs 2–4, 7–11.

MATERIAL. Holotype ♂ (ZMMU), Kazakhstan, East Kazakhstan Area, Zaisan Distr., Ters-Airyk River, VIII.1936, D.E. Kharitonov.

ETYMOLOGY. An adjective taken from the type locality, Zaisan Distr. of East Kazakhstan Area.

DIAGNOSIS. In the shape of embolus and median apophysis, and the clawless cymbium of the male palp, *Alopecosa zaisanica* sp.n. is most close to *A. hui* Chen, Song et Kim, 2001 from Xinjiang Uygur Autonomous Region of China (cf. figs 5, 9 in [Chen *et al.*, 2001]), from which it can be distinguished by the presence of a ventral hump on cheliceral fang (absent in *A. hui*) and the short apical process of the median apophysis with no

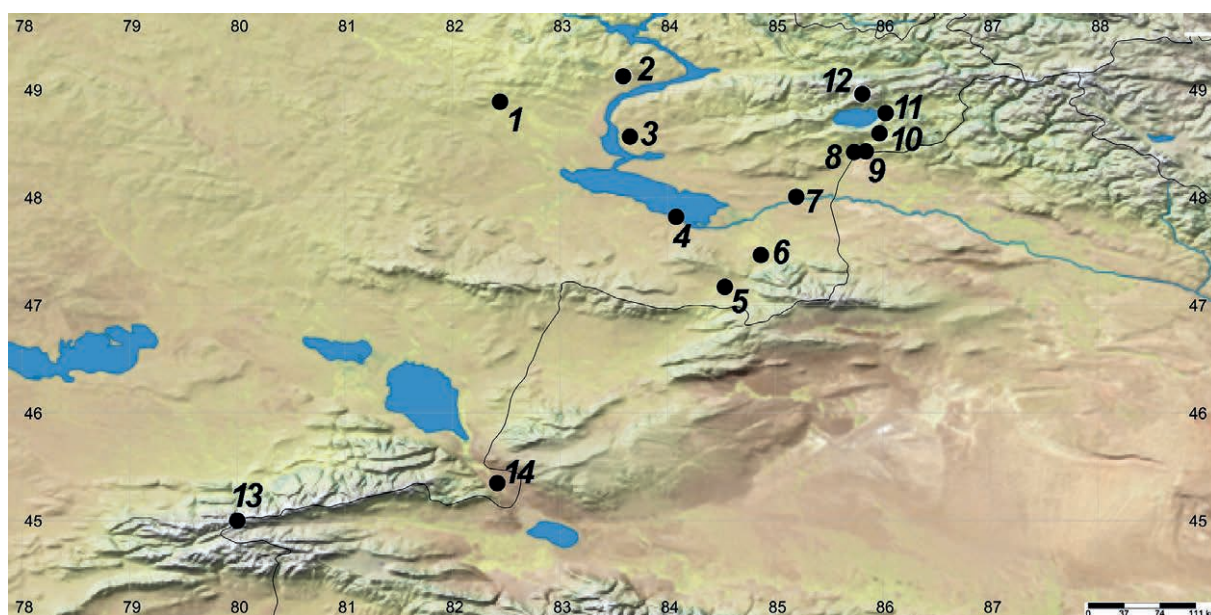
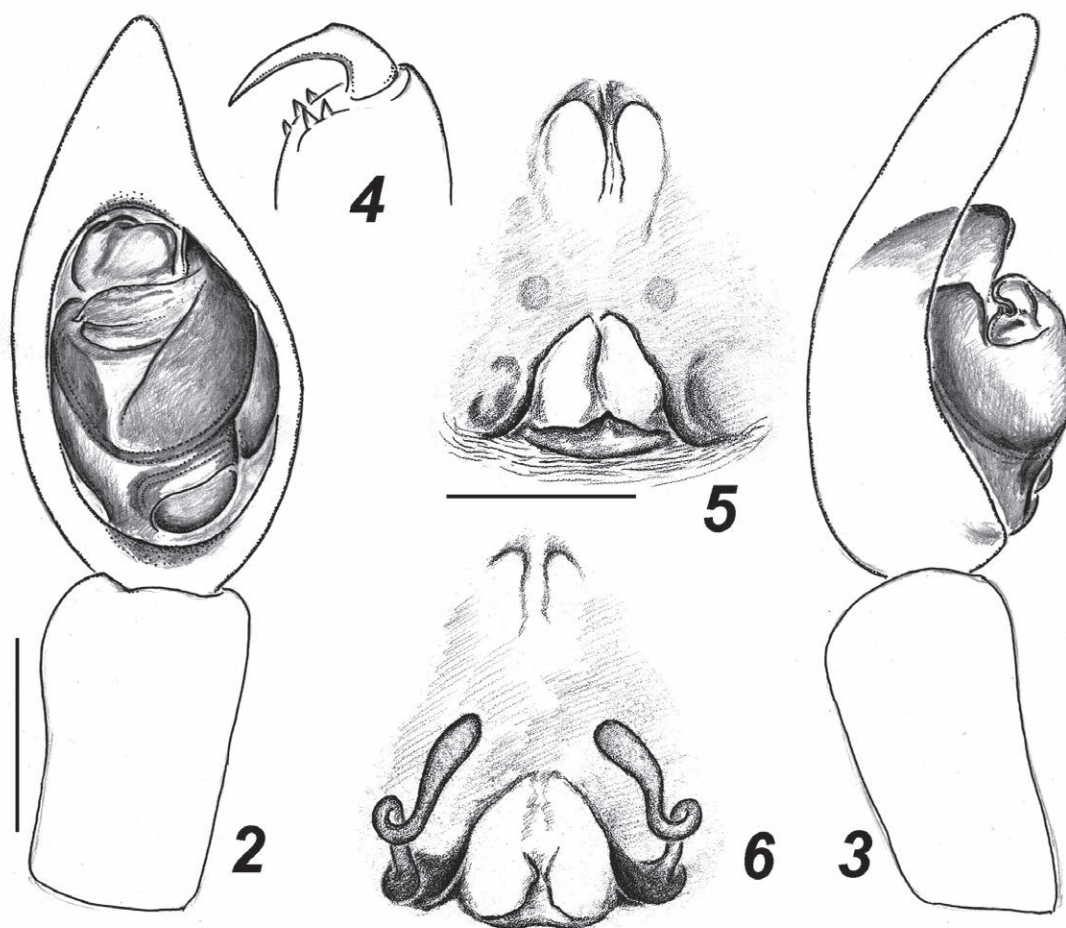
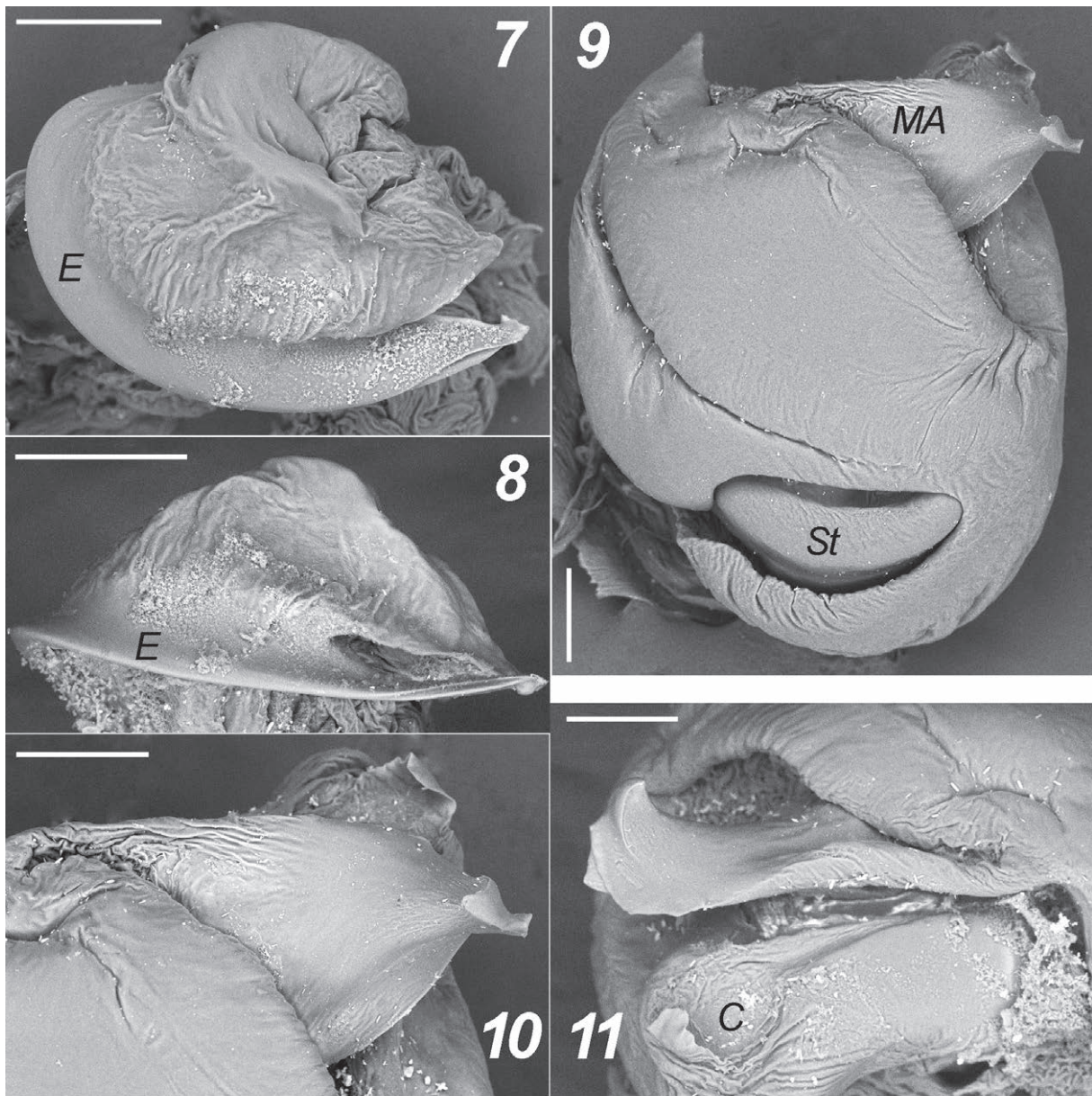


Fig. 1. Main collecting localities of spiders by D.E. Kharitonov's Zaisan Expedition. Locality numbers are as those in Material and methods.
Рис. 1. Основные места сбора пауков Зайсанской экспедиции Д.Е. Харитонова. Номера локалитетов как в Материалах и методах.



Figs 2–6. *Alopecosa zaisanica* sp.n. (2–4) and *Pardosa charitonovi* sp.n. (5–6): 2, 3 — palp, ventral and lateral views; 4 — tip of chelicera, inside view; 5, 6 — epigyne, ventral and dorsal views. Scale bars: 0.5 mm.

Рис. 2–6. *Alopecosa zaisanica* sp.n. (2–4) и *Pardosa charitonovi* sp.n. (5–6): 2, 3 — пальпа, снизу и сбоку; 4 — вершина хелицеры, изнутри; 5, 6 — эпигина, снизу и дорсально. Шкала: 0,5 мм.



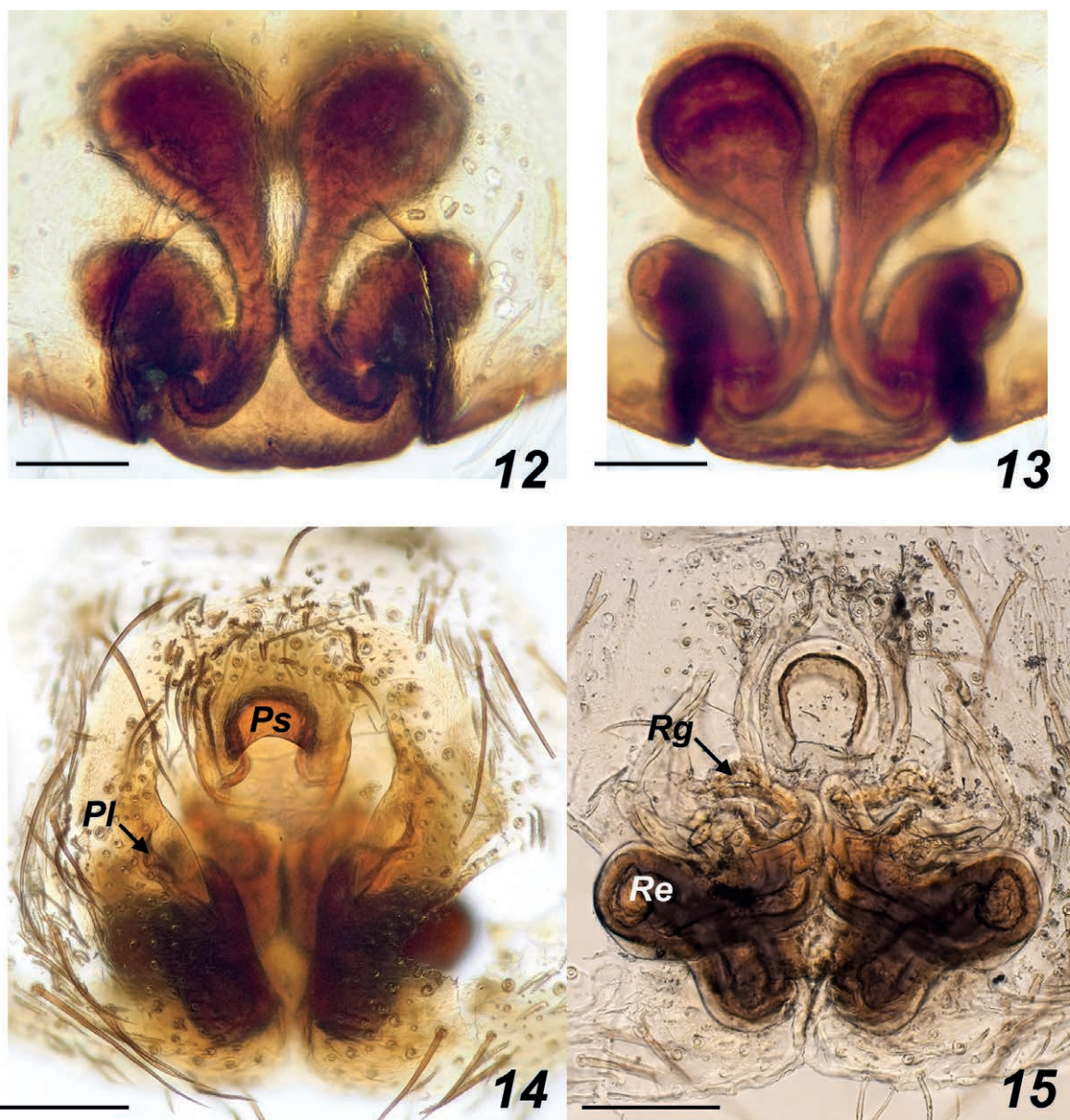
Figs 7–11. Scanning electron micrographs of the male palp of *Alopecosa zaisanica* sp.n.: 7, 8 — palea and embolus, ventral and posterior views; 9 — tegulum with median apophyses, ventral view, 10, 11 — median apophysis, ventral and anterior view. Abbreviations: C — conductor; E — embolus; MA — median apophysis; St — subtegulum. Scale bars: 0.1 mm.

Рис. 7–11. Сканирующие электронные фотографии пальпы самца *Alopecosa zaisanica* sp.n.: 7, 8 — палеа и эмболюс, снизу и сзади; 9 — тегулюм с медиальной апофизой, снизу, 10, 11 — медиальная апофиза, снизу и спереди. Сокращения: C — кондуктор; E — эмболюс; MA — медиальная апофиза; St — субтегулюм. Шкала: 0,1 мм.

small prominent (vs. ridge-shaped apical process “with a small triangular prominent” in *A. hui*; fig. 8 in [Chen *et al.*, 2001]), as well as by yellowish body and leg colouration.

DESCRIPTION. Holotype ♂. Total length 9.8. Carapace 4.5 long, 3.4 wide, yellowish. Eye sizes and interdistances: AER width 0.78, MER width 0.91, PER width 1.19, OA 0.91 long, ALE=AME 0.14, ALE-AME 0.03, AME-AME 0.11, PME 0.36, PLE 0.31. Chelicera yellow-brown, with 3 pro- and 2 retromarginal teeth; fang with a hump on its ventral side (Fig. 4). Endites white. Labium white, brownish basally. Sternum white, covered with brownish hairs. Palp white yellowish. All legs white. Abdomen 5.3 long, 3.0 wide, sandy-coloured, with

a wide white stripe dorsally. Measurements of leg segments: I: 11.14 (3.20, 3.88, 2.18, 1.88); II: 11.01 (3.08, 3.65, 2.38, 1.90); III: 10.75 (2.75, 3.50, 2.95, 1.55); IV: 14.78 (4.00, 4.50, 4.13, 2.15). Spination of legs: Fm I: d 1-1-0, pl 0-0-1, rl 1-1-1; II: d 1-1-1, pl 0-1-1, rl 1-1-1; III: d 1-1-1 pl 1-0-1, rl 1-1-1; IV: d 1-1-1, pl 1-0-1, rl 0-0-1; Tb I, II: pl 1-1-0, rl 1-1-0, v 2-2-2a; III, IV: d 1-1-0, pl 1-1-0, rl 1-1-0, v 2-2-2a. Spination of Palp: Fm d1-1-3, pl 0-0-1; Pt pl 0-1-0; Tb d 0-1-0, pl 1-1-0. Palp: tibia short, equal to 0.6 the length of the cymbium; cymbium elongate, asymmetrical, clawless, with tip about 1/3 of cymbial length (Figs 2, 3); subtegulum small (Fig. 9); median apophysis transverse with apical ridge-shaped process (Figs 9–10);



Figs 12–15. Epigyne of *Drassodes neglectus* (Keyserling, 1887) (the paratype of *D. charitonovi* Tuneva, 2004; 12–13) and *Gnaphosa oirat* sp.n. (14–15): 12, 14 — ventral view; 13, 15 — dorsal view. Abbreviations: *Pl* — pocket of lateral margin; *Ps* — pocket of scape; *Re* — receptacle; *Rg* — receptacle gland. Scale bars: 0.1 mm.

Рис. 12–15. Эпигина *Drassodes neglectus* (Keyserling, 1887) (Паратип *D. charitonovi* Tuneva, 2004; 12–13) и *Gnaphosa oirat* sp.n. (14–15): 12, 14 — снизу; 13, 15 — дорсально. Сокращения: *Pl* — «карман» бокового края; *Ps* — «карман» скапуса; *Re* — рецептакул; *Rg* — железа рецептакула. Шкала: 0,1 мм.

embolus broad and flat (Figs 7–8). The ridge-shaped process of tegular apophysis with a folded anterior surface (not visible under light microscope; Fig. 11).

Female unknown.

DISTRIBUTION. Only the type locality.

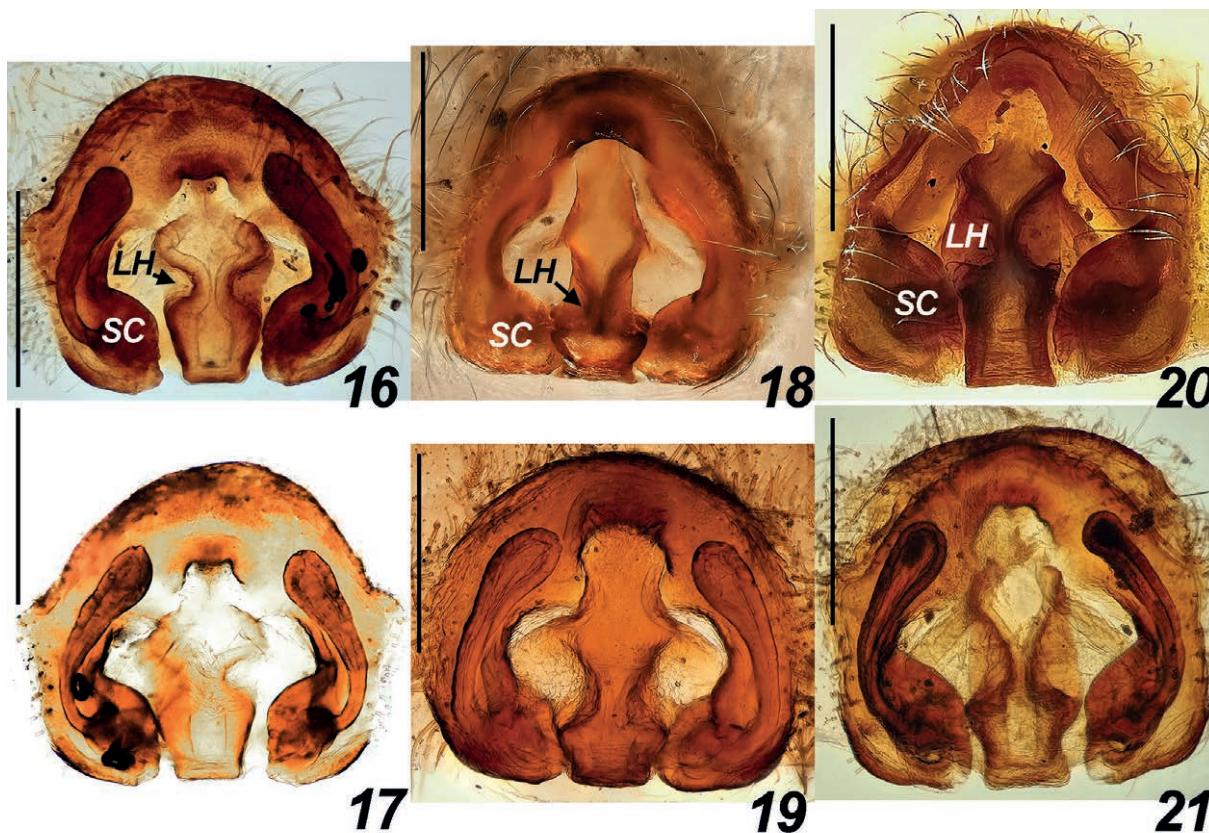
Drassodes neglectus (Keyserling, 1887)

Figs 12–13.

Drassodes charitonovi Tuneva, 2004, 320, figs 30–35 (♂♀), **syn.n.** For a complete list of taxonomic references see WSC [2023].

MATERIAL. Paratype of *D. charitonovi* ♀ (PSU-8569; abdomen only) from Kazakhstan, Zhetyzu Area, Alatau Col [14], under stone, 6.VIII.1936, D.E. Kharitonov.

REMARKS. *Drassodes charitonovi* was described from three specimens collected in three different localities of eastern Kazakhstan. In the original description, this species was compared with *D. serratidens* Schenkel, 1963. A re-examination of the paratype of *D. charitonovi* deposited PSU showed that this specimen does not differ from a Siberian female of *D. neglectus* neither in somatic characteristic (cf. Tuneva [2004: 320] with Ovtsharenko & Marusik [1996: 122]), nor in the epigynal structure (cf. Fig. 12 with fig. 66 in Ovtsharenko & Marusik [1996] or with fig. 12 in Platnick & Shadab [1976]). Besides, *D. neglectus* was earlier recorded from East Kazakhstan Area by Eskov & Marusik [1995]. Thus, it is safe to conclude that *D. charitonovi* is to be considered a junior synonym of *D. neglectus*.



Figs 16–21. Epigyne of *Pardosa kalba* sp.n. (16–17), *P. lapponica* (Thorell, 1872) (18–19; the North Urals, Denezhkin Kamen Mt) and *P. paralapponica* Schenkel, 1963 (20–21): 16, 18, 20 — ventral view; 17, 19, 21 — dorsal view. Abbreviations: LH — lateral hoods of septum; SC — lateral sclerite. Scale bars: 0.5 mm.

Рис. 16–21. Эпигина *Pardosa kalba* sp.n. (16–17), *P. lapponica* (Thorell, 1872) (18–19; Северный Урал, гора Денежкин Камень) и *P. paralapponica* Schenkel, 1963 (20–21): 16, 18, 20 — снизу; 17, 19, 21 — дорсально. Сокращения: LH — боковой «капюшон» септума; SC — боковой склерит. Шкала: 0,5 мм.

In the original description, the administrative belonging of the localities of *D. charitonovi* was incorrectly stated. The type series of this species was collected from East Kazakhstan (the holotype), Almaty and Zhetyzu (the paratypes) Areas of Kazakhstan.

DISTRIBUTION. Mt regions of East Kazakhstan and South and East Siberia, Mongolia, and Maritime Territory, North America (Alaska to Nova Scotia, south to Arizona, New Mexico, and West Virginia).

***Gnaphosa oirat* sp.n.**

Figs 1, 14–15.

MATERIAL. Holotype ♀ (ZMMU), Kazakhstan, Zhetyzu Area, Almaty Col [14], under stone, 6.VIII.1936, D.E. Kharitonov.

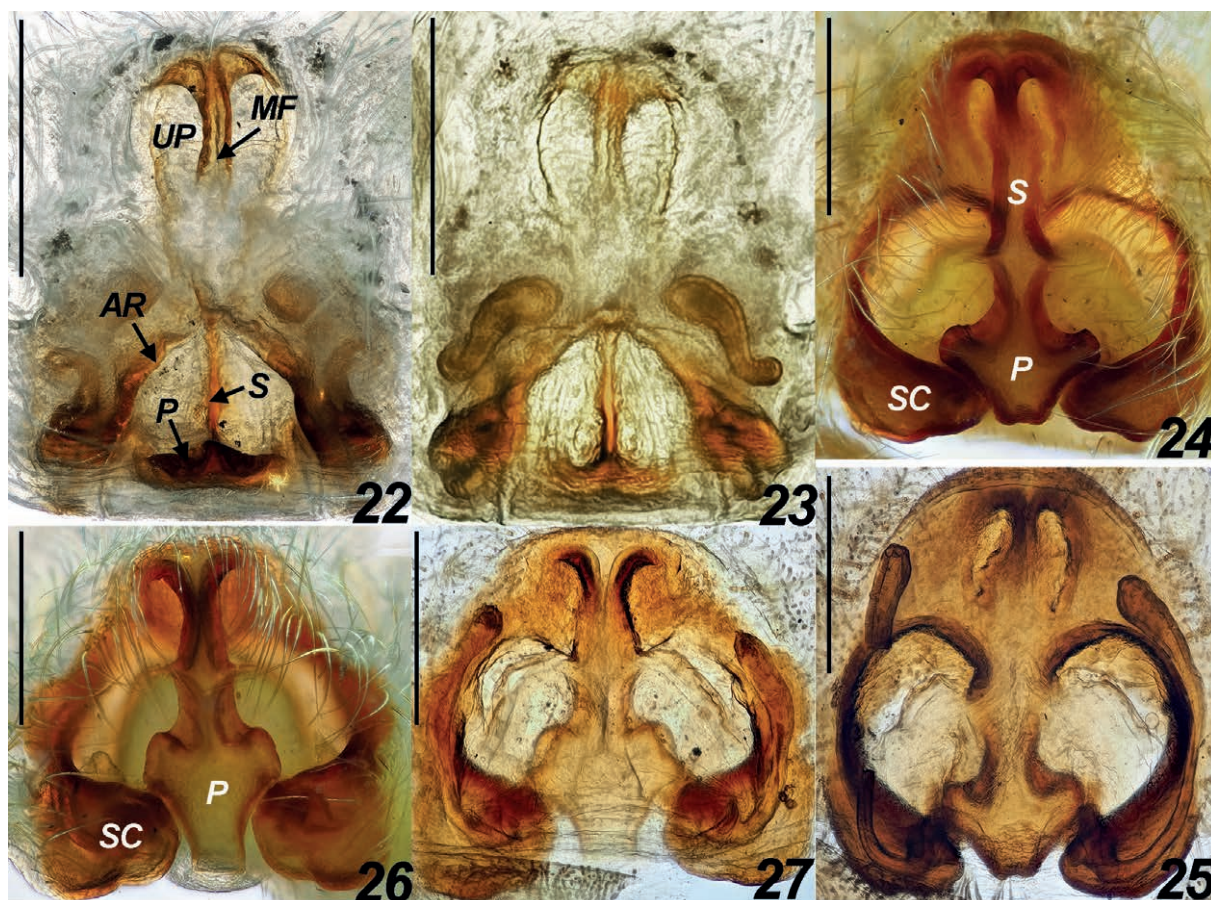
ETYMOLOGY. The species name comes from the Mongolian word “Ойрад” (Oirat — forest people — the name of the westernmost group of Mongols whose ancestral home lies in the Altai region of Siberia, Xinjiang and western Mongolia).

DIAGNOSIS. *Gnaphosa oirat* sp.n. belongs to the *muscorum* species group (*sensu* Ovtsharenko with coauthors [1992]) and in the shape of the epigyne and endogyne is extremely close to *G. koponeni* Marusik et Omelko, 2014 (the Mts of Sout Siberia) and *G. wiehle* Schenkel, 1963 (Tuva, Mongolia and Gansu). The new species can be distinguished from *G. koponeni* by the receptacula glands directed laterad (directed backwards in *G. koponeni*; fig. 9 in Marusik & Omelko [2014]),

and from *G. wiehle* by the teardrop-shaped scape pocket that is narrowed behind (with a wide mouth in *G. wiehle*; figs 10, 11 in Marusik & Omelko [2014] or fig. 179 in Ovtsharenko et al. [1992]). Besides, tibia spination (compact formula) in *G. oirat* — I pl0, v1a; II pl0, v2a; III d1, pl4, rl3, v4+2a, whereas in *G. wiehle* it is I pl1, v4; II pl1, v4; III d0, pl3, rl2 v (absent data) [Ovtsharenko *et al.*, 1992: 52].

DESCRIPTION. Holotype ♀. Total length 7.7. Carapace length 3.9, width 2.8; brown. Eye sizes and interdistances: AER width 0.64, PER width 0.88, AME 0.10, ALE (oval) 0.14×0.08, ALE-AME 0.04, AME-AME 0.13, PLE (oval) 0.13×0.10, PME 0.13, PLE-PME 0.22, PME-PME 0.08. Medial eyes field trapezoid: length 0.38, width 0.31 anteriorly and 0.35 posteriorly. Chelicerae dark brown. Labium and Endites brown, with a white tip. Sternum brown, with black hairs. All legs yellow-brown. Leg measurements (IV absent): I 7.55 (2.20, 2.95, 1.38, 1.03), II 7.08 (1.88, 2.83, 1.30, 1.08), III 6.43 (1.80, 2.18, 1.40, 1.05). Leg spination: Femur I d1-1-0, pl0-0-1; II d1-1-0, pl0-1-1; III d1-1-0, pl0-1-1, rl0-1-1; Tibia I v0-0-1a; II v0-0-2a; III d1-0-0, pl2-1-1, rl1-1-1, v2-2-2a; Metatarsus I, II v2-0-0, III with numerous setae. Abdomen length 3.8, width 2.8; grey with brown spots dorsally, yellow-brown ventrally. Epigyne: scape large, wider than long, with concave posterior margin, pocket of scape narrowed behind (*Ps*; Fig. 14); lateral margins with pocket (*Pl*; Fig. 14); receptacles (*Re*) stretched almost horizontally; glands (*Rg*; Fig. 14) relatively long, directed laterally.

Male unknown.



Figs 22–27. Epigyne of *Pardosa charitonovi* sp.n. (22–23), *P. kurchum* sp.n. (24–25) and *P. atrata* (Thorell, 1873) (26–27): 22, 24, 26 — ventral view; 23, 25, 27 — dorsal view. Abbreviations: AR — anterior rim of fovea, MF — median fold of upper part of epigyne, P — posterior plate of septum; S — septum; SC — lateral sclerite; UP — upper part of epigyne. Scale bars: 0.5 mm.

Рис. 22–27. Эпигина *Pardosa charitonovi* sp.n. (22–23), *P. kurchum* sp.n. (24–25) и *P. atrata* (Thorell, 1873) (26–27): 22, 24, 26 — снизу; 23, 25, 27 — сверху. Сокращения: AR — передний край ямки эпигины, MF — срединная складка передней части эпигины, P — задняя пластинка септума; S — септум; SC — боковой склерит; UP — передняя часть эпигины. Шкала: 0,5 мм.

DISTRIBUTION. Only the type locality (Fig. 1: locality 14).

Pardosa kalba sp.n.

Figs 1, 16–17, 36.

MATERIAL. Holotype ♀ (ZMMU), Kazakhstan, Abai Area, Urzhar Distr., 3 km of Kyzylbulak [2], Kalba (=Kalbinskii) Mt Range, 2200 m a.s.l., under stone, 6.VIII.1936, A.G. Ovsyannikov. — Paratype: 1 ♀ (ZISP), Kazakhstan, East Kazakhstan Area, Kurshim Distr., Kurchumskii Mt Range, headwaters of Topolevka River [J2], 2570–2620 m a.s.l., alpine meadow, VII.1936, D.E. Kharitonov.

ETYMOLOGY. A noun in apposition taken from the type locality, Kalba Mt Range in the SW Altai.

DIAGNOSIS. *Pardosa kalba* sp.n. belongs to the *lapponica* species group (*sensu* Zyuzin [1979]) and is most close to *P. zhangi* Song et Haupt, 1995 (from Khunjerab Pass at the border of Pakistan and Xinjiang, China), from which it can be distinguished by the wide septum with well-developed, deep lateral hoods (vs. narrow septum, with poorly-developed lateral hoods in *P. zhangi*; see fig. 6A in Song & Haupt [1995] or fig. 200A in Song *et al.* [1999]).

The new species is also similar to the Mongolian *Pardosa* sp. illustrated by Loksa (see fig. 25 in Loksa [1965: sub *P. feruginea* (L. Koch, 1870)], a misidentification), but differs in

having the septum expanded in its anterior part (vs. expanded posteriorly in *Pardosa* sp.), as well as the spermathecae reaching the apical hood (vs. not reaching in *Pardosa* sp.).

DESCRIPTION. Holotype ♀. Measurements. Total length 7.6. Carapace 3.6 long, 2.6 wide. The height of the clypeus 0.16; height of clypeus 1.2 times diameter of AME. Anterior eye row 0.67 wide; median eye row 0.91 wide, posterior eye row 1.02 wide; OA 0.87 long. Eye sizes: AME 0.13, ALE 0.10, PME 0.32, PLE 0.25; AME-AME distance 0.11; AME-ALE distance 0.04. Chelicera 1.28 long, with 2 promarginal and 3 retromarginal teeth. Abdomen 4.0 long. Leg formula: IV, I, II, III. Length of leg segments: I 9.3 (2.7, 3.2, 2.0, 1.4); II 9.2 (2.7, 3.1, 2.0, 1.4); III 9.2 (2.6, 2.9, 2.4, 1.3); IV 13.7 (3.5, 4.0, 4.2, 2.0). Tarsi without scopula. Spination of legs: Fm I d 1-1-1, pl 0-0-2, rl 0-1-1; II, III d 1-1-1, pl 0-1-1, rl 0-1-1; IV d 1-1-1, pl 0-1-1, rl 0-0-1; Tb I pl 1-1-0, v 2-2-2a; II pl 1-1-0, v 2-2-2a (promarginal spiners small and thin); III d 1-1-0, pl 1-1-0, rl 1-1-0, v 2-2-2a; IV d 1-1-0, pl 1-1-0, rl 1-1-0, v 2-2-2a (retromarginal spiners small and thin); Mt I pl 0-1-2a, rl 0-0-2a, v 2-2-1a; II pl 1-1-2a, rl 0-0-2a, v 2-2-1a; III, pl 1-1-2a, rl 1-1-2a, v 2-2-1a, IV pl 1-1-2a, rl 1-1-2, v 1+2-2-1a. Colouration. Carapace brown, with yellowish median band and lateral thin belts; OA black; clypeus yellow. Chelicerae brown. Labium brown, with white apices black basally; endites yellow greyish

basally. Sternum yellow-brown. Palps and legs brown without annulation; coxa and femurs yellow ventrally. Abdomen dorsally grey, with a yellowish cardiac spot and transverse yellowish spots which together form a stripe in the posterior half; ventrally yellow. Epigyne almost round; septum with wide plate weakly converging posteriorly between sclerites (*Sc*; Fig. 16, 36); lateral hoods (*LH*; Fig. 16) of septum deep; fovea transverse heart-shaped, marked by ridge curving anteriorly from sides to septum; spermathecae long, thin, C-shaped, reach anterior epigynal hood in front (Fig. 17).

Paratype: total length 7.7 (carapace 3.5 long, 2.5 wide); it is markedly different in body colouration. Carapace brown, with yellow median spot and lateral thin belts. Legs yellow; femurs brown dorsally. Sternum greyish yellow. Abdomen: dorsum grey, with a yellowish median band and numerous yellow dots; venter yellowish.

Male unknown.

DISTRIBUTION. The south of the Altai Mts (Fig. 1: localities 2 and 12).

***Pardosa charitonovi* sp.n.**

Figs 1, 5–6, 22–23.

MATERIAL. Holotype ♀ (ZMMU), Kazakhstan, East Kazakhstan Area, Tarbagatay Distr., river c. 15 km from Topoleviy Cape (47°49'19"N, 84°04'45"E), on the road to Akzhar Vil. (47°34'40"N, 84°41'00"E), 11.VII.1936, D.E. Kharitonov.

ETYMOLOGY. The species patronym is taken in honor of the collector, the famous Russian arachnologist, Prof D.E. Kharitonov (1896–1970).

DIAGNOSIS. The new species can be easily distinguished from the close *Pardosa vittata* (Keyserling, 1863) by (1) the separated paired pockets (vs. a singular, unpaired pocket in *P. vittata* [Tongiorgi, 1966: figs 2, 7; Fuhr, Niculescu-Burlacu, 1971: 62a; Zyuzin, 1979: fig. 26]), and (2) by the long, twisted copulatory ducts (vs. markedly shorter not twisted in *P. vittata* [Fuhr, Niculescu-Burlacu, 1971: 62b; Thaler, 1987: fig. 1]). Both species differ in body colouration: viz., carapace with a median and lateral yellow bands, and abdomen with a median light stripe in *P. vittata* [Tongiorgi, 1966: fig. 3; Loksa, 1972: fig. 21c], vs. yellow-brown carapace and abdomen black, with a grey-brown cardiac spot and numerous yellow dots in *P. kharinovi* sp.n.

DESCRIPTION. Holotype ♀. Measurements. Total length 5.5. Carapace 2.5 long, 2.0 wide. The height of the clypeus 0.15, equivalent to the diameter of AME. Anterior eye row 0.56 wide; median eye row 0.77 wide, posterior eye row 0.78 wide; OA 0.83 long. Eye sizes: AME 0.15, ALE 0.10, PME 0.28, PLE 0.25. AME-AME distance 0.07; AME and ALE touch each other. Chelicera 0.95 long, with 2 promarginal and 3 retromarginal teeth. Abdomen 3.0 long. Leg formula: IV, I, II, III. Length of leg segments: I 7.7 (2.1, 2.4, 1.9, 1.3); II 7.4 (2.1, 2.5, 1.6, 1.2); III 7.3 (1.9, 2.3, 1.9, 1.2); IV 10.9 (2.6, 3.4, 3.3, 1.6). Spination of legs: Fm I d 1-1-0, pl 0-0-1, rl 0-1-0; II d 1-1-0, pl 0-1-1, rl 0-1-1; III, IV d 1-1-1, pl 0-1-1, rl 0-1-1; Tb I pl 1-1-0, rl 1-0-2 (left) or 0-0-0 (right), v 2-2-2a; II pl 1-1-0, rl 1-1-0, v 2-2-2a; III, IV d 1-1-0, pl 1-1-0, rl 1-1-0, v 2-2-2a; Mt I d 1-1-0, pl 0-1-0, rl 0-1-0, v 2-2-0(left) or 2-2-1a (right); II d 1-0-0, pl 1-1-0, rl 0-1(2)-1a, v 2-2-1; III, pl 1-1-0, rl 1-1-0, v 2-2-1, IV pl 1-1-1, rl 1-1-1, v 2(1)-2-2a. The dorsal setae of Mt I and II thin piliform. Colouration. Carapace yellow-brown; thoracic part with grey curved radial lines; OA black, covered with white setae; clypeus yellow. Chelicerae yellow. Endites yellow; labium grey-yellow, with yellow apices. Sternum grey-yellow, covered with white hairs. Palps and legs yellow; leg femur with dorsal indistinct grey transverse stripes. Tarsi and metatarsi without scopula. Abdomen: dorsum black

with grey-brown cardiac spot and with numerous yellow dots forming more or less pronounced rows, covered with light hairs; venter yellowish white, covered with white hairs. Epigyne longitudinal, forming an upper part and fovea (Figs 5, 22); upper part with a median stem (*MS*) that separates a paired anterior pocket (Fig. 22); fovea with distinct lateral lips and an anterior rim; septum with a transversal posterior plate and a narrow stem (Fig. 5, 22); receptacles spherical, copulatory ducts long, twisted (Fig. 6, 23).

Male unknown.

DISTRIBUTION. Only the type locality (Fig. 1).

***Pardosa kurchum* sp.n.**

Figs 24–25.

MATERIAL. Holotype ♀ (ZMMU), Kazakhstan, East Kazakhstan Area, Kurshim Distr., Kurchumskii Mt Range, headwaters of Topolevka River, small bog, 23.VII.1936, D.E. Kharitonov.

ETYMOLOGY. A noun in apposition taken from the type locality, Kurchumskii Mt Range in the southern Altai.

DIAGNOSIS. *Pardosa kurchum* sp.n. belongs to the *lapponica* species group (*sensu* Zyuzin [1979]) and is particularly close to *P. atronigra* Song et Haupt, 1995, from which it can be distinguished by the rounded margins of the posterior septum plate (vs., margins with acute angles in *P. atronigra*; fig. 1A in Song & Haupt [1995] or fig. 193E in Song *et al.* [1999]), the rounded anterior margin of the atrium (vs., straight in *P. atronigra*; fig. 193E in Song *et al.* [1999]) and the C-shaped spermathecae extending beyond the anterior atrium margin (vs., the J-shaped spermathecae, not reaching the anterior atrium margin; fig. 1B in Song & Haupt [1995]).

The female of the new species is also similar to that of *P. algooides* Schenkel, 1963, but the latter can be easily distinguished by the similar characters as those mentioned for *P. atronigra*: viz., the posterior septum plate with acute margin angles, the anterior atrium margin straight and the spermathecae J-shaped (figs 30–31 in Marusik *et al.* [2014] or fig. 18 in Yuan *et al.* [2019]). Besides, in *P. algooides*, the median expansion of the septum is stronger pronounced, and the median expansion width is more than a half of the posterior plate (vs. less than a half of the posterior plate width in *P. kurchum* sp.n.).

DESCRIPTION. Holotype ♀. Measurements. Total length 7.9. Carapace 3.9 long, 3.1 wide. The height of the clypeus 0.13, more than 1.5 times the diameter of AME. Anterior eye row 0.71 wide; median eye row 0.90 wide, posterior eye row 1.25 wide; OA 0.90 long. Eye sizes: AME 0.14, ALE 0.13, PME 0.34, PLE 0.28. AME-AME distance 0.08; AME-ALE distance 0.04. Chelicera 1.25 long, with 2 promarginal and 3 retromarginal teeth. Abdomen 4.0 long. Leg formula: IV, III, I, II. Length of leg segments: I 9.2 (2.6, 3.3, 1.9, 1.4); II 9.0 (2.6, 3.1, 1.9, 1.4); III 9.5 (2.6, 3.2, 2.3, 1.4); IV 13.3 (3.4, 4.3, 3.7, 1.9). Spination of legs: Fm I d 1-1(2 right)-2, pl 0-0-2, rl 0-1-0; II, III d 1-1-1, pl 0-1-1, rl 0-1-1; IV d 1-1-1, pl 0-1-1, rl 0-1-1; Tb I pl 0-0-1, v 2-2-2a; II pl 1-0-1, v 2-2-2a; III d 1-1-0, pl 1-1-0, rl 1-1-0, v 2-2-2a; IV d 1-1-0, pl 1-0-1, rl 1-1-0, v 2-2-2a; Mt I v 2-2-2a; II pl 0-1-2, rl 0-0-2, v 2-2-1a; III, pl 1-1-2, rl 1-1-2, v 2-2-1a, IV pl 1-1-2, rl 1-1-2, v 5+1a. Colouration. Carapace brown; thoracic part with yellowish radial lines and lateral bands; OA black; clypeus yellow. Chelicerae brown. Endites and labium yellow, with white apices, greyish basally. Sternum grey-yellow. Palps and legs yellow-brown, without annulation. Tarsi without scopula. Abdomen dorsally dark-grey, with yellow cardiac spot and with numerous yellow dots that form more or less pronounced rows, and yellow behind greyish ventrally. Epigyne longitudinal (Fig. 24); septum long with transversal posterior plate, tight-fitting between posterior

ends of lateral sclerites and a median swelling (Fig. 24); fovea broad and deep, marked by ridge curving anteriorly from sides to septum; spermathecae long, slender, C-shaped, anteriorly extending beyond the anterior margin of the fovea (Fig. 25).

Male unknown.

DISTRIBUTION. Only the type locality.

***Pardosa paralapponica* Schenkel, 1963**

Figs 1, 20–21, 28–31, 37–40.

Pardosa paralapponica Schenkel, 1963: 371, fig. 215a–c (♀).

Pardosa paralapponica non Schenkel: Hu, Li, 1987: 291, fig. 25.1–2 (♀; ?misidentification).

Pardosa paralapponica non Schenkel: Song *et al.*, 1999: 332, fig. 197B (♀; ?misidentification).

Pardosa paralapponica non Schenkel: Hu, 2001, 198, fig. 98.1–2 (♀; ?misidentification).

MATERIAL. KAZAKHSTAN: 1 ♂ (ZMMU), Abai Area, Urzhar Distr., Ak-Mas Mt, under stone, 5.VIII.1936, A.G. Ovsyannikov; 1 ♂, 2 ♀♀ (ZMMU), 4 ♀♀ (ZISP), Zhetysu Area, Alatau Pass [14], under stones, 6.VIII.1936, D.E. Kharitonov.

COMPARATIVE MATERIAL. *Pardosa lapponica* (Thorell, 1872) (Figs 18–19, 32–35, 41–43). RUSSIA: 18 ♂♂, 7 ♀♀ (PSU-6255), Ekaterinburg Area, The North Urals, Denezhkin Kamen Mt, stone and moss-lichen tundra, VII.2007, L. Simakin.

DIAGNOSIS. According to Zyuzin [1979], *P. paralapponica* belongs to the *lapponica* species group. The female of this species can be easily distinguished from that of *P. lapponica* (Figs 20 and 18, respectively) by the following characters: (1) massive lateral sclerites of the epigyne, originating from its middle (vs., lateral sclerites limit the epigynal fovea in its posterior third in *P. lapponica*), (2) the lateral hood of the septum sits in the middle of the epigynal septum (vs., in the posterior half of the septum in *P. lapponica*), (3) the septum is sharply narrowed anteriorly, forming its pedicle (vs., the septum does not narrow anteriorly in *P. lapponica*). Males of both species are characterized by very similar palps, differing in minor details (Figs 29–30, 33–35): (1) the synembolus is curved at the right angle in *P. paralapponica*, but arcuately curved in *P. lapponica*, (2) the tip of the terminal apophysis is straight in *P. paralapponica*, but claw-shaped, curved in *P. lapponica*. However, both species can be easily distinguished by male tarsi I, which are thickened and armed in *P. paralapponica*, with thick ventral setae (Figs 39–40), but are not modified in *P. lapponica* (Fig. 43).

DESCRIPTION. Male. Measurements. Total length 6.5. Carapace 3.0 long, 2.4 wide. The height of the clypeus 0.17, more than 1.3 times the diameter of AME. Anterior eye row 0.56 wide; median eye row 0.84 wide, posterior eye row 1.09 wide; OA 0.76 long. Eye sizes: AME 0.13, ALE 0.10, PME 0.28, PLE 0.24. AME-AME distance 0.07; AME and ALE touch each other. Chelicera 1.05 long, with 3 promarginal and 3 retromarginal teeth. Abdomen 3.5 long. Leg formula: IV, I, II, III. Length of leg segments: I 10.6 (2.8, 3.6, 2.5, 1.7); II 10.2 (2.6, 3.4, 2.5, 1.7); III 9.4 (2.3, 2.8, 2.8, 1.5); IV 13.9 (3.2, 4.0, 4.5, 2.2). Spination of legs: Fm I d 1-1-1, pl 0-0-2, rl 0-1-1; II, III d 1-1-1, pl 0-1-1, rl 0-1-1; IV d 1-1-1, pl 1-0-1, rl 0-0-1; Tb I, II pl 1-1-0, rl 1-1-0, v 2-2-2a; III d 1-1-0, pl 1-1-0, rl 1-1-0, v 2-2-2a; IV d 1-1-0, pl 1-1-1, rl 1-1-1, v 2-2-2a; Mt I pl 0-1-1, rl 0-1-1, v 2-2-2a; II, pl 1-1-1, rl 0-1-1, v 2-2-2a; III pl 1-1-1, rl 1-1-1, v 2-2-2a; IV pl 1-1-1, rl 1-1-1, v 1-2-2a. Metatarsus and tarsus of all legs without scopula, but with numerous thick short setae ventrally. Tarsus I thickened. Colouration. Carapace brown, with median yellow-brown band and lateral yellow-brown bands; OA black (Fig. 37); clypeus yellow. Chelicerae yellow. Endites yellow; labium dark brown, with white apices. Sternum dirty yellow. Palps: femur and patella yellow, tibia and cymbium dark yellow. Legs: femur, patella and tibia yellow,

metatarsus and tarsus yellow-brown. Abdomen dorsum yellow, with a black pattern of transverse stripes in the posterior half and a “marble” pattern in the front half; venter yellowish. Palp. The embolic base situated prolaterally on bulbus (Fig. 28); embolus long, with a pointed tip (Figs 29, 30); median apophysis oblongish, directed retro-laterally, with distinct process at base (Fig. 31); synembolus prominent, its distal part curved at the right angle (Fig. 29); terminal apophysis with a straight tip (Fig. 30).

Female. See in Schenkel [1963]. Kazakh specimens differ from Schenkel's description in the spination of metatarsi I and II (viz. v2-2-1 vs. v2-2-2 in Schenkel's specimens). Epigyne (Fig. 20) with massive lateral sclerites which starting from the middle of the epigyne; septum is sharply narrowed anteriorly, forming the septal pedicle; lateral septal hood is located in the middle of the epigynal septum. The spermathecae long, slender, C-shaped (Fig. 21).

DISTRIBUTION. It is not yet possible to outline the current species range due to incomplete data and the presence of mistaken identifications. For example, the type specimens (two females) were collected during the trip from Ulaanbaatar (Mongolia) to Qiqihar City (Heilongjiang province of China) (“Urga-Tsitsikhar” in [Schenkel, 1963: 372]). Based on Schenkel's data, Song with the coauthors [1999] recorded *P. paralapponica* from Heilongjiang province, which is not entirely correct. Moreover, the figure of epigyne in Song's work [Song *et al.*, 1999: fig. 197B] does not correspond well with Schenkel's figure [Schenkel, 1963: fig. 215]. The record of *P. paralapponica* from the Chinese part of the Tibetan Plateau is highly likely to be erroneous. The figure of the epigyne of Tibetan specimens [Hu, Li, 1987: fig. 25.1–2; Hu, 2001, fig. 98.1–2] does not correspond to that of *P. paralapponica*. [Schenkel, 1963: fig. 215].

***Robertus ovsyannikov* sp.n.**

Figs 1, 44–46.

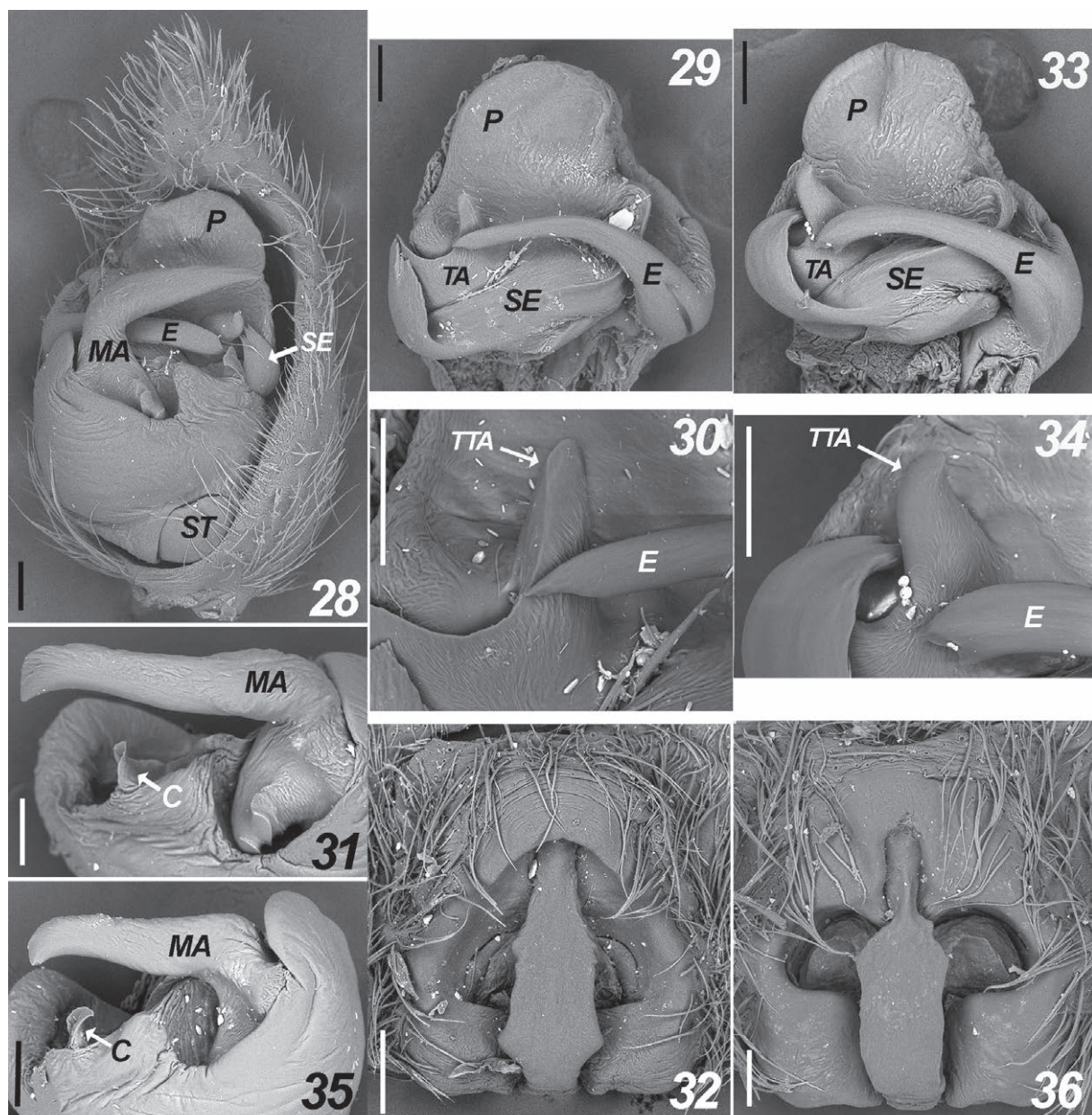
MATERIAL. Holotype ♀ (ZMMU), Kazakhstan, East Kazakhstan Area, Kurshim Distr., Topolevka River [12], Aksu-Bas Mt, 2300 m a.s.l., under stones, VII.1936, A.G. Ovsyannikov.

ETYMOLOGY. The species patronym is taken in honor of the collector, the late Arcadii G. Ovsyannikov (1914–1944).

DIAGNOSIS. In having the long and thin insemination ducts with terminal parts stretched horizontally, *R. ovsyannikov* sp.n. resembles *R. golovatchi* Eskov, 1987 (the alpine belt of the Caucasus [Kovblyuk, Marusik, 2012]) and *R. peregrinus* Yang, Irfan et Peng, 2019 (the high Mts of Chongqing, China). It can be distinguished from both by the larger epigynal plate (cf figs 4, 10 in Kovblyuk & Marusik [2012] and figs 7B and 8A in Yang *et al.* [2019]) and the round spermatheca (vs., more or less teardrop-shaped, with a narrow back; figs 6 and 11 in Kovblyuk & Marusik [2012] and figs 7C and 8B in Yang *et al.* [2019]).

DESCRIPTION. Holotype ♀. Total length 3.9. Carapace 1.8 long, 1.3 wide. Carapace smooth yellow; sternum yellow with sparse hairs; chelicerae and labium yellow-brown; Endites yellow; legs yellow, with brownish yellow metatarsus and tarsus; abdomen greyish yellow, with two pairs of brown muscular depressions. Anterior margin of cheliceral groove with three contiguous teeth, the middle one being the largest. Leg formula: IV, I, II, III. Length of leg segments: I 4.5 (1.4, 1.6, 0.9, 0.6); II 3.7 (1.0, 1.4, 0.7, 0.6); III 3.1 (0.9, 1.0, 0.7, 0.5); IV 4.4 (1.3, 1.6, 0.9, 0.6). Epigyne large and round, with transverse arc-shaped basal plate (Figs 44–45); copulatory openings located in the center of the epigynal plate, close to each other; insemination ducts long, terminal part of ducts stretched horizontally; spermathecae globular; fertilization ducts long, extending back and towards the middle (Fig. 46).

Male unknown.



Figs 28–36. *Pardosa paralapponica* Schenkel, 1963 (28–31), *P. lapponica* (Thorell, 1872) (32–35; the North Urals, Denezhkin Kamen Mt) and *P. kalba* sp.n. (36), scanning electron micrographs: 28 — palp, ventral view, 29, 33 — embolic division, ventral views; 30, 34 — tip of terminal apophysis, ventral view, 31, 35 — median apophyses, ventral view, 32, 36 — epigyne, ventral view. Abbreviations: C — conductor; E — embolus; MA — median apophysis; P — palea; SE — synembolus; ST — subtegulum; TA — terminal apophysis; TTA — tip of TA. Scale bars: 0.1 mm.

Рис. 28–36. *Pardosa paralapponica* Schenkel, 1963 (28–31), *P. lapponica* (Thorell, 1872) (32–35; Северный Урал, гора Денежкин Камень) и *P. kalba* sp.n. (36), сканирующие электронные фотографии: 28 — палепа, снизу, 29, 33 — эмболярный отдел, снизу; 30, 34 — вершина терминальной апофизы, снизу, 31, 35 — медиальная апофиза, снизу, 32, 36 — эпигина, снизу. Сокращения: C — кондуктор; E — эмболюс; MA — медиальная апофиза; P — палеа; SE — синэмболюс; ST — субтегулум; TA — терминальная апофиза; TTA — вершина TA. Шкала: 0,1 мм.

DISTRIBUTION. Only the type locality (Fig. 1, locality 12).

List of species

AGELENIDAE

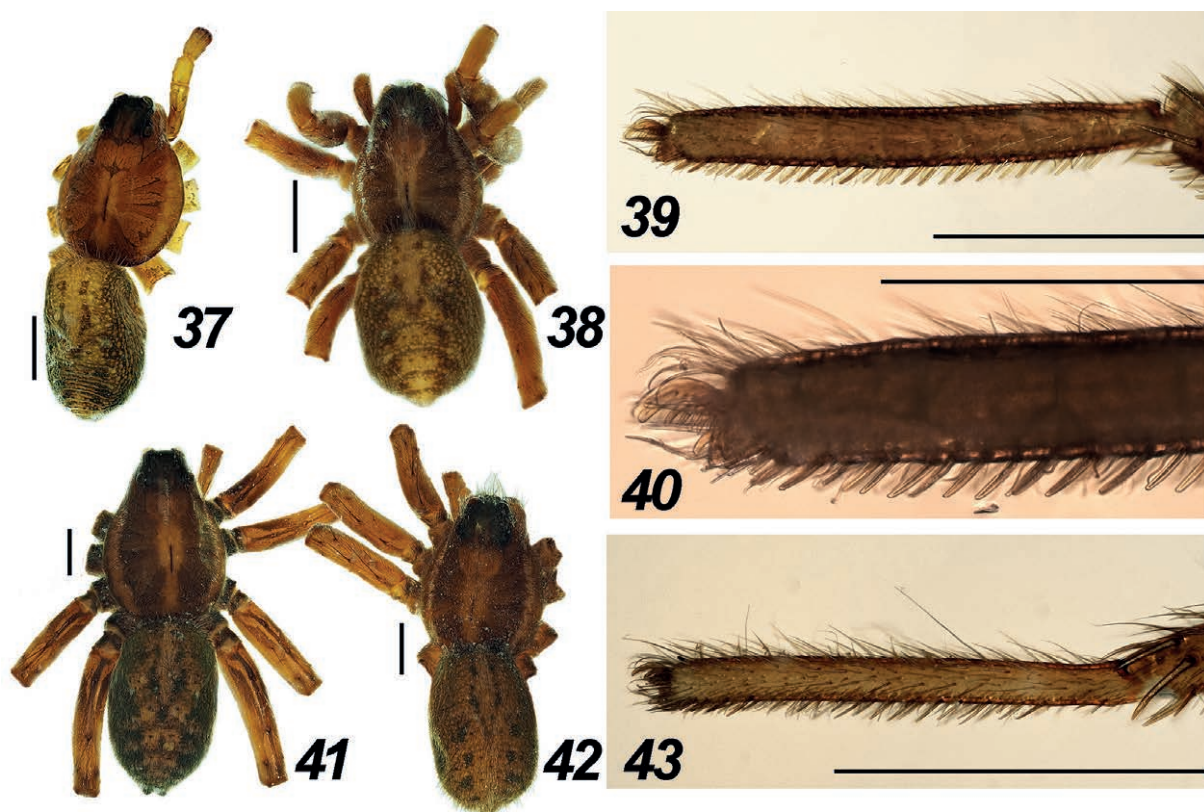
Agelena labyrinthica (Clerck, 1758)

MATERIAL. 1♂, [2], 2200 m a.s.l., under stone, 6.VIII; 2♀♀, nr [8], Mramornaya Mt, 19.VII.

Agelena orientalis C. L. Koch, 1837*

OTHER MATERIAL. 2♀♀, Katon-Karagai Vil., 28–29.VIII.2022, A.A. Kabdrakhimov.

REMARKS. New to East Kazakhstan Area. In Kazakhstan, this West-Central-Ancient Mediterranean species has been recorded from West Kazakhstan, Atyrau [Ponomarev, 2022], Mangystau [Ponomarev, Abdurakhmanov, 2014] and Almaty [Spassky, Shnitnikov, 1937] areas.



Figs 37–43. General appearance and tarsus of *Pardosa paralapponica* Schenkel, 1963 (37–40) and *P. lapponica* (Thorell, 1872) (41–43; the North Urals, Denezhkin Kamen Mt): 37, 41 — male, 38, 42 — female; 39, 43 — tarsus of I leg, lateral view; 40 — tip of I tarsus with numerous ventral thick setae, lateral view. Scale bars: 37–38, 41–42 — 1.0 mm, 39, 43 — 0.1 mm, 40 — 0.05 mm.

Рис. 37–43. Общий вид и лапки *Pardosa paralapponica* Schenkel, 1963 (37–40) и *P. lapponica* (Thorell, 1872) (41–43; Северный Урал, гора Денежкин Камень): 37, 41 — самец, 38, 42 — самка; 39, 43 — лапка I ноги, сбоку; 40 — вершина I лапки с многочисленными вентральными толстыми щетинками, сбоку. Шкала: 37–38, 41–42 — 1,0 мм, 39, 43 — 0,1 мм, 40 — 0,05 мм.



Figs 44–46. Epigyne of *Robertus ovsyannikovi* sp.n.: 44, 45 — ventral view; 46 — dorsal view. Abbreviations: BP — basal plate, FD — fertilization duct, ID — insemination duct; Sp — spermathecae. Scale bars: 0.1 mm.

Рис. 44–46. Эпигина *Robertus ovsyannikovi* sp.n.: 44, 45 — снизу; 46 — сверху. Сокращения: BP — базальная пластинка, FD — копулятивный канал, ID — оплодотворительный канал; Sp — сперматека. Шкала: 0,1 мм.

Tegenaria domestica (Clerck, 1758)

MATERIAL. 1 ♂, ?Tarbagatay Distr., without locality and biotope, 11.VIII.

ARANEIDAE

Aculepeira armida (Audouin, 1826)

MATERIAL. 3 ♂♂, 4 ♀♀, 6–10 km S-W [4], *Artemisia* steppe, 9.VII; 2 ♀♀, 4.5 km S-W [4], saline land, 26.VII; 1 ♂, 3 ♀♀, nr [4], saline land, VII; 3 ♀♀, 7 km S [4], saline land with *Artemisia*, VIII.

Aculepeira packardii (Thorell, 1875)

MATERIAL. 1 ♀, [5], 42 km on Shilikti Vil., grass-*Carex* meadow, 14.VIII; 4 ♀♀, [5], meadow with *Carex*, 15.VIII; 5 ♂♂, 18 ♀♀, southern part of [5], VIII; 2 ♂♂, 2 ♀♀, [5], meadow, VIII; 4 ♂♂, 4 ♀♀ (ZMMU), 2 ♂♂, 2 ♀♀ (ISEA), southern part of [5], *Carex* bog, VIII; 3 ♀♀, nr [II], Belezeya River, herbs, ?24.VII; 1 ♀, [II], Urunkhaika River, 24.VII; 2 ♀♀, [I3], 2300 m a.s.l., herbs, 4–7.VIII.

Aculepeira talishia (Zawadsky, 1902)*

MATERIAL. 2 ♂♂, 7 ♀♀, [I2], Aksu-Bas, 2300 m a.s.l., stons, VII.
REMARKS. The unspecified record of this species from Kazakhstan fauna [Logunov, Gromov, 2012] was based on the materials listed above. Formally, this is the first records of *A. talishia* from East Kazakhstan Area and the easternmost species record of the species, which is known from Turkey [Levi, 1977], Iran [Zamani *et al.*, 2022], Azerbaijan and Georgia [Mikhailov, 2022].

Aculepeira sp.

Aculepeira sp. (Samarkand) Levi, 1977, 225, figs 226–231 (♀).
MATERIAL. 1 ♀, [I3], 2300 m a.s.l., herbs, 4–7.VIII.
REMARKS. The conformation of the epigyne of the female studied corresponds to that of the females from the Balkan Peninsula and Uzbekistan illustrated by Levy [1977].

Araneus alsine (Walckenaer, 1802)

Material. 1 ♀, [II], Urunkhaika River mouth, meadow, herbs, VII.

Araneus diadematus Clerck, 1758

OTHER MATERIAL. 2 ♀♀, Katon-Karagai Vil., 28–29.VIII.2022, A.A. Kabdrakhimov.

Araneus grossus (C.L. Koch, 1965)

OTHER MATERIAL. 2 ♂♂ (ISEA; SZM 001.7917), East Kazakhstan Area, Kurshim Distr., 23.5 km N Kalzhir Vil., 980 m a.s.l., 48°21'20.46"N 85°09'58"E, 4–6.VI.2015, V.K. Zinchenko.

Araneus pallasi (Thorell, 1875)*

MATERIAL. 2 ♂♂, 2 ♀♀, [3], herbs, 8.VIII; 1 ♂, [4], in house, 16.VII; 16 ♀♀, [4], on paling, 13.VIII; 5 ♂♂, 18 ♀♀, ?Tarbagatay Distr., Oblyai Mt area, saline land, VIII.

REMARKS. New species to East Kazakhstan Area. This is a widespread Central-East-Ancient-Mediterranean species found in Kazakhstan from Atyrau, West Kazakhstan, Kostanay, Kyzylorda, Karaganda and Almaty areas [Spassky, Shnitnikov, 1937; Marikovskii, Marusik, 1985; Ponomarev, 2022].

Araneus quadratus Clerck, 1758

MATERIAL. 1 ♂, 3 km N [I0], herbs, VII; 1 ♂, 1 ♀, nr [II], herbs, VII; 1 ♂, [II], Urunkhaika River, herbs, 24.VII.

Araniella displicata (Hentz, 1847)

MATERIAL. 1 ♀, nr [II], brook, herbs, 24.VII; 1 ♂, 1 ♀, [I2], meadow, 23.VII.

Araniella villanii Zamani, Marusik et Šestáková, 2020*

MATERIAL. 1 ♂, [II], Urunkhaika River, 24.VII.

REMARKS. New species to East Kazakhstan Area. *A. villanii* was recently described based on the materials from neighboring Abai Area of Kazakhstan, as well as from south-western Iran and northern India [Zamani *et al.*, 2020].

Argiope bruennichi (Scopoli, 1772)

MATERIAL. 1 ♂, 15 km NE of Zaisan Lake, VII; 1 ♀, [3], herbs, 8.VIII.

Argiope lobata (Pallas, 1772)

MATERIAL. 1 ♂, 15 km S-W [4], *Stipa* steppe, VIII.

Cercidia prominens (Westring, 1851)

MATERIAL. 1 ♀, Kalzhir River nr [7], meadow, VII.

Hypsosinga pygmaea (Sundevall, 1831)

MATERIAL. 1 ♀, between [I0] and Markakol' Lake, herbs, VII; 1 ♀, [II], Urunkhaika River mouth, meadow, herbs, VII.

Larinioides patagiatus (Clerck, 1758)

MATERIAL. 1 ♂, 3 ♀♀, [II], brook, herbs, 24.VII; 1 ♀, Abai Area, Urzhar Distr., Tolty-Bulak well, 4.VIII.

Mangora acalypha (Walckenaer, 1802)

MATERIAL. 1 ♀, nr [8], Mramornaya Mt, herbs, 19.VII; 1 ♀, nr [9], herbs, VII; 1 ♀, [I1], Urunkhaika River mouth, herbs, VII.

Singa hamata (Clerck, 1758)

MATERIAL. 1 ♀, 1 km SW [5], 15.VIII; 1 ♀, nr [8], brook, 19.VII.

Singa nitidula C.L. Koch, 1844

MATERIAL. 1 ♀, [6], meadow, VII; 1 ♂, 2 ♀♀, Kalzhir River [7], on herbs and trees, 18.VII; 1 ♀, nr [8], brook, 19.VII.

CHEIRACANTHIIDAE

Cheiracanthium erraticum (Walckenaer, 1802)

MATERIAL. 3 ♂♂, 2 ♀♀, 1 km SW [5], meadow, VIII; 1 ♂, [I2], the mouth of Topolevka River, herbs, VII.

Cheiracanthium pennyi O. Pickard-Cambridge, 1873

MATERIAL. 2 ♂♂, 2 ♀♀, [I2], Aksu-Bas, herbs, VII; 1 ♂, [I2], Topolevka River source, meadow, VII.

CLUBIONIDAE

Clubiona kulczynskii Lessert, 1905

MATERIAL. 1 ♀, [II], Urunkhaika River mouth, meadow, herbs, VII; 4 ♀♀, [I2], headwaters of Topolevka River, meadow, 22.VII.

Clubiona lutescens Westring, 1851

MATERIAL. 1 ♂, Kalzhir River [7], herbs, 18.VII.

Clubiona neglecta O. Pickard-Cambridge, 1862

MATERIAL. 1 ♀, Zaisan Distr., Ters-Airyk River, herbs, VIII.

Clubiona pseudosaxatilis Michailov, 1992

MATERIAL. 4 ♀♀ (det. K.G. Mikhailov), [I2], Aksu-Bas, 2300 m a.s.l., under stones, VII.

Clubiona reclusa O. Pickard-Cambridge, 1863

MATERIAL. 1 ♂, between [I0] and Markakol' Lake, herbs, VII; 2 ♀♀, [II], brook, herbs, 24.VII; 1 ♀, [II], Urunkhaika River mouth, herbs, VII; 1 ♀, [I2], Topolevka River source, small bog, 23.VII.

DICTYNIDAE

Ajmonia auritus Son et Lu, 1985

MATERIAL see Marusik, Esyunin [2010].

Argenna patula (Simon, 1874)*

MATERIAL. 1 ♀, Kalzhyr River [7], 18.VII.

REMARKS New to East Kazakhstan Area. In Kazakhstan, this West-Central-Palearctic subboreal species has been recorded from Atyrau Area [Ponomarev, 2022].

Brigittea latens (Fabricius, 1775)

MATERIAL see Marusik *et al.* [2015].

Dictyna arundinacea (Linnaeus, 1758)

MATERIAL. 1 ♀, nr [II], Belezeya River, herbs, ?24.VII; 1 ♀, [I4], steppe slope, herbs, 4.VIII.

Lathys spasskyi Andreeva et Tyshchenko, 1969

MATERIAL see Marusik *et al.* [2015].

GNAPHOSIDAE

Aphantauxax trifasciata (O. Pickard-Cambridge, 1872)

MATERIAL see Tuneva [2004].

Berlandina caspica Ponomarev, 1979

Berlandina apsheronica not Dunin, 1984: Tuneva, 2004, 327, figs 26–27 (♀, misidentified [Marusik *et al.*, 2014]).
MATERIAL see Tuneva [2004].

Berlandina spasskyi Ponomarev, 1979

MATERIAL see Tuneva [2004].

Drassodes chybyndensis Esyunin et Tuneva, 2002

OTHER MATERIAL. 1 ♀ (ISEA), East Kazakhstan Area, Kurshim Distr., NW spur of Manrak Mt Range, Taizhuzgen River, 6.IX.1997, R. Dudko & V. Zinchenko; 1 ♂ (ISEA), East Kazakhstan Area, W spur of Narymskiy Range, Kaindy River, 15 km SE Slavvanka, petrophytous steppe, 6.V.1999, I. Smelyanskiy.

Drassodes cupa Tuneva, 2004

MATERIAL see Tuneva [2004].

Drassodes villosus (Thorell, 1856)

MATERIAL see Tuneva [2004].

Gnaphosa aborigena Tyschchenko, 1965

OTHER MATERIAL. 1 ♀ (ISEA; SZM 001.7914), East Kazakhstan Area, Kurshim Distr., 20 km SE of Karatogay Vil., Bukombay Mt, 878 m a.s.l., 48°15'24"N 84°40'36.6"E, 4.VI.2015, I.E. Smelyanskiy.

Gnaphosa licenti Schenkel, 1953

MATERIAL see Tuneva [2004].

OTHER MATERIAL. 1 ♀ (ISEA), East Kazakhstan Area, Zaisan Distr., 20 km SE of Karatal (47°37'N, 85°10'E), Bezaigyrkum Sands, 12–13.VI.1997, R. Dudko & V. Zinchenko.

Gnaphosa muscorum (L. Koch, 1866)

MATERIAL see Tuneva [2004].

Gnaphosa pilosa Saveljeva, 1972

MATERIAL see Tuneva [2004].

Gnaphosa saurica Ovtsharenko, Platnick et Song, 1992

MATERIAL see Tuneva [2004].

Gnaphosa steppica Ovtsharenko, Platnick et Song, 1992*

OTHER MATERIAL. 1 ♀ (ISEA), East Kazakhstan Area, Kurshim Distr., NW spur of Manrak Mt Range, Taizhuzgen River, 7.VI.1997, R. Dudko & V. Zinchenko.

REMARKS. New to East Kazakhstan Area. This Central Ancient Mediterranean species is widespread in north steppe regions of Kazakhstan: viz., Atyrau, Mangystau, West Kazakhstan, Kostanay, North Kazakhstan, Akmola, Pavlodar and Abai areas [Ovtsharenko *et al.*, 1992; Marusik, Koponen, 2001; Fomichev, Marusik, 2013; Ponomarev, Abdurakhmanov, 2014; Ponomarev, Bragina, 2014; Trilikauskas, Lyubechanskii, 2020; Ponomarev, 2022]. Outside Kazakhstan, it has been recorded from the southern Russian Plain, the Caucasus, Turkey and northern Iran.

Gnaphosa taurica Thorell, 1875

OTHER MATERIAL. 1 ♂ (ISEA), East Kazakhstan Area, Kurshim Distr., NW spur of Manrak Mt Range, Taizhuzgen River, 7.VI.1997, R. Dudko & V. Zinchenko; 1 ♂ (ISEA), East Kazakhstan Area, Kurshim Distr., NW spur of Manrak Mt Range, Taizhuzgen River, 9.IX.1997, R. Dudko & V. Zinchenko.

Micaria nivosa L. Koch, 1866

OTHER MATERIAL. 1 ♂, Katon-Karagai Vil., 28–29.VIII.2022, A.A. Kabdrakhimov.

Micaria pulicaria (Sundevall, 1831)

MATERIAL. 1 ♂, East Kazakhstan Area, Altai Distr., near Erma-kovka (49°49'N, 82°55'E), 29.V.1922, T. Lukarevskaya.

Micaria seymuria Tuneva, 2004

MATERIAL see Tuneva [2004].

Micaria tuvensis Danilov, 1993

MATERIAL see Tuneva [2004].

Nomisio aussereri (L. Koch, 1872)

OTHER MATERIAL. 3 ♀♀ (PSU-2259), East Kazakhstan Area, Zaisan Lake, Shekel'mes Beak (48°04'N, 84°08'E), 8–9.IX.1998, A.A. Zyuzin; 1 ♀ (ISEA), East Kazakhstan Area, spur of Narymskiy Range, stony debris, 9–10.IX.2001, I.I. Lyubechanskiy; 3 ♀♀ (ISEA), Tarbagatay Distr., between Tugyl Vil. and Topoleviiy Cape, desert, 21–22.IX.2001, I.I. Lyubechanskiy.

Parasyrisca altaica Ovtsharenko, Platnick et Marusik, 1995

MATERIAL see Tuneva [2004].

Talanites mikhailovi Platnick et Ovtsharenko, 1991

OTHER MATERIAL. 1 ♂ (ISEA), East Kazakhstan Area, Kurshim Distr., NW spur of Manrak Mt Range, Taizhuzgen River, 6.IX.1997, R. Dudko & V. Zinchenko.

Zelotes mikhailovi Marusik, 1995

MATERIAL. 1 ♀, [5], under stone, VIII.

Zelotes potanini Schenkel, 1963

MATERIAL see Tuneva [2004].

LINYPHIIDAE

Agniphantes expunctus (O. Pickard-Cambridge, 1875)*

MATERIAL. 1 ♀, [II], Urunkhaika River mouth, herbs, VII.

REMARKS. The unspecified record of this species for the Kazakhstan fauna [Logunov, Gromov, 2012] was based on the

materials listed above. Formally, it is the first record of this Euro-Siberian temperate species from East Kazakhstan Area.

Baryphyma trifrons (O. Pickard-Cambridge, 1863)*

MATERIAL. 1 ♀, Kalzhyr River [7], meadow, VII; 2 ♀♀, [II], Urunkhaika River mouth, herbs, VII.

REMARKS. The unspecified record of this species for the Kazakhstan fauna [Logunov, Gromov, 2012] was based on the materials listed above. Formally, it is the first records of this circum-Holarctic temperate species from East Kazakhstan Area.

Megalephyphantes nebulosus (Sundevall, 1830)

MATERIAL. 1 ♀, between Pavlodar City (Pavlodar Area) and Oskemen City (East Kazakhstan Area), VI–VII.

REMARKS. In Kazakhstan, this circum-Holarctic species has been found in the west (Atyrau Area; [Ponomarev, 2022]) and the north (Kostanay Area; [Ponomarev *et al.*, 2017]) regions.

Microlinyphia pusilla (Sundevall, 1830)

MATERIAL. 1 ♂, 1 ♀, Kalzhyr River [7], meadow, VII; 1 ♀, [II], Urunkhaika River mouth, meadow, herbs, VII.

Stemonyphantes taiganoides Tanasevitch, Esyunin et Stepina, 2012

OTHER MATERIAL. 1 ♀, Katon-Karagai Vil., 28–29.VIII.2022, A.A. Kabdrakhimov.

Tenuiphantes nigriventris (C.L. Koch, 1879)

MATERIAL. 2 ♂♂, [II], Urunkhaika River mouth, herbs, VII.

LYCOSIDAE

Alopecosa aculeata (Clerck, 1758)

MATERIAL. 1 ♂, nr [8], Mramornaya Mt, 19.VII.

Alopecosa cuneata (Clerck, 1758)

MATERIAL. 1 ♀, nr [II], Belezeya River, ?24.VII.

Alopecosa pulverulenta (Clerck, 1758)

MATERIAL. 1 ♀, [II], Urunkhaika River mouth, herbs, VII; 1 ♀ [I4] Alatay Pass, 6.VIII.

Alopecosa schmidtii (Hahn, 1835)*

OTHER MATERIAL. 2 ♂♂, Katon-Karagai Vil., 28–29.VIII.2022, A.A. Kabdrakhimov.

REMARKS. New to East Kazakhstan Area. In Kazakhstan, this West-Central-Palaearctic species has been recorded from Kostanay and Akmola areas [Ponomarev, Bragina, 2014; Trilikauskas, Lyubchanskii, 2020].

Arctosa stigmosa (Thorell, 1875)

MATERIAL. 1 ♀, Kalzhyr River [7], bank, 27.VII.

Evippa sibirica Marusik, 1995

MATERIAL. 3 ♀♀, 4–5 km N [I], ground and holes, VIII; 2 ♀♀, 5 km SW [4], saline land, 9.VII; 5 ♀♀, 6–10 km SE [4], *Artemisia* steppe, 9.VII; 1 ♀, 15 km S [4], 11.VII; 3 ♀♀, 4 km SE [4], *Artemisia* steppe, 14.VII; 3 ♀♀, nr [4], saline land, VIII; 8 ♀♀ (ISEA), 8 ♀♀ (ZMMU), nr [4], saline land, VII.

Mustelicosa dimidiata (Thorell, 1875)*

MATERIAL. 1 ♂, between Pavlodar City and Oskemen City (East Kazakhstan Area), VI–VII.

REMARKS. New to East Kazakhstan Area. In Kazakhstan, this species has been recorded from Mangystau, Kostanay and Akmola areas [Ponomarev, Bragina, 2014; Trilikauskas, Lyu-

bechanskii, 2020; Ponomarev, 2022]. According to Marusik & Buchar [2004], this species name hides a complex of related species distributed along steppe, semi-desert, and desert landscapes from Ukraine in the west to Heilongjiang Province, China in the east.

Pardosa atrata (Thorell, 1873)

Figs 26–27.

MATERIAL. 1 ♀, [5], meadow, VIII.

REMARKS. Our data are in agreement with Marusik's opinion [Marusik, 2023] that this North European-Siberian hypoarctic-boreo-montane species (see map in [Marusik, 2023]) occurs in East Kazakhstan Area. In Kazakhstan, it has been recorded from "Balkhash Lake Region", Almaty Area [Spassky, Shnitnikov, 1937] as well.

Pardosa dzheminey Marusik, 1995

MATERIAL. 1 ♀, Kalzhyr River [7], bank, 27.VII.

Pardosa jaikensis Ponomarev, 2007*

OTHER MATERIAL. 1 ♀, Katon-Karagai Vil., 28–29.VIII.2022, A.A. Kabdrakhimov.

REMARKS. New to East Kazakhstan Area. In Kazakhstan, this species has been recorded from West Kazakhstan, Atyrau [Ponomarev, 2022] and Kostanay areas [Ponomarev, Bragina, 2014]. Outside Kazakhstan, it is known from the south part of the Russian Plain, northern Iran [Zamani *et al.*, 2022] and South Siberia [Fomichev, 2022].

Pardosa fulvipes (Collett, 1875)

MATERIAL. 2 ♀♀, 5 km N [8], herbs, 26.VII; 2 ♀♀, between [10] and Markakol' Lake, herbs, VII; 1 ♀, 5 km S [II], 25.VII; 1 ♂, 25 ♀♀, [II], Urunkhaika River mouth, meadow, VII; 3 ♀♀, nr [II], Belezeya River, herbs, ?24.VII; 2 ♀♀, [I2], meadow, VII.

OTHER MATERIAL. 3 ♀♀, Katon-Karagai Vil., 28–29.VIII.2022, A.A. Kabdrakhimov.

Pardosa luctinosa Simon, 1876*

MATERIAL. 1 ♂, 1 ♀, [4], bank, 10.VII.

REMARKS. New to East Kazakhstan Area. In Kazakhstan, this trans-Ancient Mediterranean subboreal-semiarid species has been recorded from West Kazakhstan [Esyunin, Kabdrakhimov, 2023], Atyrau [Ponomarev, 2022], Kostanay areas [Ponomarev, Bragina, 2014] and Jetisu Area [Spassky, Shnitnikov, 1937].

Pardosa lugubris (Walckenaer, 1802)

MATERIAL. 1 ♀, Abai Area, Urzhar Distr., 4.VIII.

OTHER MATERIAL. 1 ♂, Abai Area, Urzhar Distr., Tarbagatay Mts, 4 km N of Alexeevka, Malus, Salix etc forest with *Rosa*, *Lonicera* etc bush, 24–25.VI.2001, S. Golovatch; 1 ♂, Abai Area, Urzhar Distr., Tarbagatay Mts, 6 km NE of Kirovka (= Karatuma), Sholakterek River Valley, 47°10'N, 82°06'E, ca 1200 m, highly disturbed *Populus* forest with *Salix*, *Rosa*, *Lonicera*, *Crataegus* etc., 23–24.VI.2001, S. Golovatch; 1 ♀, East Kazakhstan Area, Katon-Karagai Vil., 28–29.VIII.2022, A.A. Kabdrakhimov.

Pardosa oksalai Marusik, Hippa et Koponen, 1996*

MATERIAL. 4 ♀♀, [II], Urunkhaika River mouth, meadow, VII; 1 ♀, [I2], Aksu-Bas, VII; 2 ♀♀, head of [I2], meadow, VII.

REMARKS. The unspecified record of this species for the Kazakhstan fauna [Logunov, Gromov, 2012] was based on the materials listed above. Formally, it is the first record of *P. oksalai* from East Kazakhstan Area. Outside Kazakhstan, it has been recorded from the mountain regions of South Siberia (Tuva, the Altai, Krasnoyarsk Territory).

Pardosa paludicola (Clerck, 1758)

MATERIAL. 1 ♀, Kalzhyr River [7], 18.VII.

Pardosa palustris (Linnaeus, 1758)

MATERIAL. 1 ♀, [8], meadow, VII; 2 ♀♀, [II], Urunkhaika River mouth, meadow, VII; 1 ♀, [I2], meadow, VII.

Pardosa plumipes (Thorell, 1875)

MATERIAL. 1 ♀, 1 km SW [5], meadow with *Carex*, 15.VIII; 1 ♀, nr [6], 1.VIII; 2 ♂♂, 3 ♀♀, Irtysh River nr [7], 26.VI; 4 ♀♀, Kalzhyr River [7], meadow, VII.

Pardosa riparia (C.L. Koch, 1847)

MATERIAL. 1 ♀, 5 km S [II], herbs, VII, 25.VII; 3 ♀♀, [II], Urunkhaika River mouth, meadow, VII.

Pardosa schenkeli Lessert, 1904*

MATERIAL. 4 ♀♀, [2], 2200 m a.s.l., under stone, 6.VIII; 1 ♀, [I3], 2300 m a.s.l., under stone, 4–7.VIII.

REMARKS. The unspecified record of this species for the Kazakhstan fauna [Logunov, Gromov, 2012] was based on the materials listed above. Formally, it is the first record of this trans-Euro-Siberian boreo-mountain species for East Kazakhstan Area.

OXYOPIDAE

Oxyopes lineatus Latreille, 1806*

MATERIAL. 1 ♂, nr [8], south slope of Mramornaya Mt, herbs, 19.VII; 7 ♂♂, 11 ♀♀, nr [9], herbs, 19.VII; 1 ♂, 1 ♀, Kurshim Distr., "Monka Mt", dry meadow, VII; 1 ♀, Kurshim Distr., between "Monka Mt" and [8], 26.VII.

REMARKS. New to East Kazakhstan Area. In Kazakhstan, this West-Central-Palaearctic species has been recorded from West Kazakhstan [Ponomarev, 2022], Turkestan [Gromov, 2020], Abai [Fomichev, Marusik, 2013] and Almaty areas [Spassky, Shnitnikov, 1937].

Oxyopes maracandensis Charitonov, 1946*

MATERIAL. 1 ♀, 17 km S [4], VII.

REMARKS. New to East Kazakhstan Area. *O. maracandensis* was described from Yakkabag Region of Uzbekistan. It has been repeatedly recorded from various regions of Central Asia [Andreeva, Tyshchenko, 1969; Kononenko *et al.*, 1974; Andreeva, 1975, 1976; Ovtsharenko, Fet, 1980; Kuznetsov, Fet 1986; Mikhailov, Fet, 1986, 1994], including Kyzylorda and Mangistau areas of Kazakhstan [Pavlenko, 1985; Zyuzin, Tarabaev, 1993; Zyuzin *et al.*, 1994; Logunov, Gromov, 2012]. Having studied the male and female from Turkmenistan and Kazakhstan (but not the type series), Levy [1999] synonymized *O. maracandensis* with *Oxyopes globifer* Simon, 1876. However, we share the opinion by Logunov & Gromov [2012] that both species are distinct. This matter will be discussed in more detail in a separate publication.

Oxyopes takobius Andreeva et Tystshenko, 1969

MATERIAL. 1 ♂, nr [II], Belezeya River, herbs, 24.VII.

Oxyopes xinjiangensis Hu et Wu, 1989*

MATERIAL. 2 ♀♀, between [I] and [4], VIII; 1 ♀, [4], *Stipa* steppe, VII; 3 ♀♀, between [8] and [7], steep, VII; 1 ♀, 15 km S-SW [8], brook, herbs, 26.VII; 2 ♀♀, 15 km S-SW [8], brook, herbs, 26.VII; 1 ♀, ?Tarbagatay Distr., Oblay Mt area, *Artemisia* steppe, VIII.

REMARKS. The unspecified record of this species for the Kazakhstan fauna [Logunov, Gromov, 2012] was based on the materials listed above. Formally, it is the first record of *O.*

xinjiangensis from East Kazakhstan Area. *O. xinjiangensis* Hu et Wu, 1989 was described from a single female from western China [Hu, Wu, 1989]. It has been repeatedly recorded from the steppe zone of Russia [Piterkina, Mikhailov, 2009; as *O. cf. xinjiangensis*; Fedorov, Trilikauskas, 2013; Mordkovich *et al.*, 2015; Ponomarev *et al.*, 2017; Azarkina *et al.*, 2018].

PHILODROMIDAE

Philodromus aureolus (Clerck, 1758)

MATERIAL. 1 ♀, Irtysh River nr [7], 27.VII.

Philodromus cespitum (Walckenaer, 1802)

MATERIAL. 1 ♂, 2 ♀♀, 15 km S [4], 11.VII; 3 ♀♀, Kalzhyr River [7], herbs, 18.VII; 3 ♀♀, nr [8], south slope of the Mramornaya Mt, herbs, 19.VII; 1 ♂, 1 ♀, Terekty River nr [8], 19.VII; 1 ♂, 5 ♀♀, nr [9], herbs, 19.VII; 1 ♂, 4 ♀♀, [II], herbs, 24.VII.

Rhyzodromus fallax Sundevall, 1832

MATERIAL. 3 ♂♂, 2 ♀♀, Irtysh River nr [7], steppe, 26.VI; 2 ♀♀, ?Tarbagatay Distr., without locality, poplar forest, 11.VIII.

Rhyzodromus histrio (Latreille, 1819)

MATERIAL. 1 ♀, Irtysh River nr [7], *Artemisia* steppe, VII; 1 ♀, [I2], herbs, VII.

Thanatus formicinus (Clerck, 1758)

MATERIAL. 1 ♀, nr [8], Mramornaya Mt, herbs, 19.VII; 2 ♀♀, [I2], meadow, VII.

Thanatus mikhailovi Logunov, 1996*

MATERIAL. 1 ♀, 4–5 km SW [4], saline land, VII; 1 ♂, nr [4], saline land, VII; 2 ♀♀, Irtysh River nr [7], steppe, 26.VI.

REMARKS. New to East Kazakhstan Area. In Kazakhstan, this species has been recorded from West Kazakhstan [Esyunin, Kabdrakhimov, 2023], Atyrau [Ponomarev, 2022], Qostanai (=Kostanay) [Ponomarev, Bragina, 2014] and Pavlodar [Lyakhov, 2000] areas. Outside Kazakhstan, it is known from the south of the Russian Plain, the southern regions of Western Siberia and Kyrgyzstan.

Thanatus mongolicus (Schenkel, 1936)*

MATERIAL. 1 ♀, ?Tarbagatay Distr., without locality, poplar forest, 11.VIII.

REMARKS. New to East Kazakhstan Area. This species is distributed from Ukraine to China; in Kazakhstan, it was previously known from West Kazakhstan [Esyunin, Kabdrakhimov, 2023] and Atyrau areas [Ponomarev, 2022].

Thanatus oblongiusculus (Lucas, 1846)*

MATERIAL. 2 ♀♀, [4], *Stipa* steppe VII; 1 ♀, nr [9], herbs, 19.VII.

REMARKS. New to East Kazakhstan Area. In Kazakhstan, this European-Central Asian species [Logunov, Huseynov, 2008] has been recorded from Atyrau, West Kazakhstan, Qostanai (=Kostanay), Abai and Almaty areas [Logunov, Huseynov, 2008; Ponomarev *et al.*, 2017; Ponomarev, 2022].

Tibellus macellus Simon, 1875*

MATERIAL. 1 ♀, 17 km SW [4], herbs, VII; 1 ♀, Zaisan Distr., Ters-Airyk River, herbs, VIII.

REMARKS. New to East Kazakhstan Area. In Kazakhstan, this West-Palaearctic subboreal species has been recorded from West Kazakhstan [Logunov, Huseynov, 2008], Qostanai (=Kostanay) [Ponomarev *et al.*, 2017] and Pavlodar [Efimik, 1999] areas.

Tibellus maritimus (Menge, 1875)

MATERIAL. 1 ♂, southern part of [5], Kuzchun River, VIII; 1 ♀, [5], meadow, VIII; 1 ♂, Kalzhyr River [7], meadow, VII; 1 ♀, Irtysh River nr [7], meadow, herbs, VII; 1 ♂, 1 ♀, [12], Aksu-Bas, herbs, VII.

Tibellus oblongus (Walckenaer, 1802)

MATERIAL. 1 ♂, 1 ♀, 15 km S [4], herbs, 11.VII; 2 ♀♀, Kalzhyr River [7], herbs, 18.VII; 1 ♂, 5 km S [11], herbs, 25.VII; 2 ♂♂, 1 ♀, [11], Urunkhaika River mouth, meadow, herbs, VII; 2 ♀♀, [12], meadow, 23.VII.

PHONOGNATHIDAE

Leviellus stroemi (Thorell, 1870)*

OTHER MATERIAL. 1 ♀, Katon-Karagai Vil., 28–29.VIII.2022, A.A. Kabdrakhimov.

REMARKS. New to East Kazakhstan Area. In Kazakhstan, this trans-Palaearctic temperate species has been recorded from Almaty Area [Spassky, Shnitnikov, 1937].

SALTICIDAE

Attulus ammophilus (Thorell, 1875)*

OTHER MATERIAL. 1 ♂, Katon-Karagai Vil., 28–29.VIII.2022, A.A. Kabdrakhimov.

REMARKS. New to East Kazakhstan Area. In Kazakhstan, this species has been recorded from West Kazakhstan, Kyzylorda [Logunov, Rakov, 1998] and Atyrau [Ponomarev, 2022] areas. The species is distributed over arid landscapes from Romania in the west to East Kazakhstan Area and Kyrgyzstan in the east.

Attulus floricola (C.L. Koch, 1837)

MATERIAL. 1 ♂, [11], Urunkhaika River mouth, herbs, VII; 1 ♂, [12], bog, VII.

Attulus terebratus (Clerck, 1758)

OTHER MATERIAL. 3 ♂♂, Katon-Karagai Vil., 28–29.VIII.2022, A.A. Kabdrakhimov.

Evarcha falcata (Clerck, 1758)

MATERIAL. 1 ♀, [11], Urunkhaika River mouth, herbs, VII.

Evarcha laetabunda (C.L. Koch, 1846)

MATERIAL. 1 ♂, 1 ♀, [12], VII.

Heliophanus auratus C.L. Koch, 1835

MATERIAL. 1 ♀, Kalzhyr River [7], 18.VII; 1 ♂, same locality, meadow, VII.

Heliophanus chovdensis Prószyński, 1982

MATERIAL. 1 ♀, Irtysh River nr [7], VII; 1 ♂, ?Tarbagatay Distr., Oblyai Mt area, *Artemisia* steppe, VIII.

Heliophanus curvidens (O. Pickard-Cambridge, 1872)

MATERIAL. 1 ♀, 12 km S-W [12], herbs, VIII.

Heliophanus flavipes (Hahn, 1832)

MATERIAL. 1 ♀, head of [12], meadow, VII; 1 ♀, Irtysh River nr [7], 27.VII.

Heliophanus lineiventris Simon, 1868

MATERIAL. 1 ♂, Zaisan Distr., Ters-Airyk River, herbs, VIII.

Pellenes ignifrons (Grube, 1861)

MATERIAL. 1 ♀, [12], Aksu-Bas, VII.

Pellenes seriatus (Thorell, 1875)*

MATERIAL. 1 ♀, between “Monka Mt” and [8], meadow, herbs, 26.VII.

REMARKS. New to East Kazakhstan Area. In Kazakhstan this West-Central-AncientMediterranean species has been recorded from West Kazakhstan [Ponomarev, 2022], Abai [Fomichev, Marusik, 2013], Almaty [Spassky, Shnitnikov, 1937] and Turkestan [Gromov, 2020] areas.

Philaeus chrysops (Poda, 1761)

MATERIAL. 1 ♀, nr [7], 27.VII; 1 ♀, nr [9], 19.VII.

Pseudomogrus vittatus (Thorell, 1875)

MATERIAL. 1 ♀, 6–10 km SW [4], *Artemisia* steppe, 9.VII; 5 ♀♀, ?Tarbagatay Distr., Oblyai Mt area, *Artemisia* steppe, VIII; 1 ♀, 15 km S-W [12], VIII.

TETRAGNATHIDAE

Tetragnatha extensa (Linnaeus, 1758)

MATERIAL. 1 ♀, northern part of [5], 15.VIII; 1 ♀, Kalzhyr River [7], herbs, 18.VII; 1 ♂, between [10] and Markakol' Lake, herbs, VII; 4 ♂♂, 12 ♀♀, nr [11], bog, herbs, 24.VII; 2 ♂♂, 3 ♀♀, [11], herbs, 24.VII; 4 ♂♂, 2 ♀♀, mouth of [11], herbs, VII; 1 ♀, head of [12], small bog, 23.VII; 1 ♂, [12], bog, VII; 1 ♂, [12], meadow, 23.VII.

Tetragnatha isidis (Simon, 1880)

MATERIAL. 1 ♀, Kalzhyr River [7], herbs, 18.VII; 2 immature specimens, same locality, meadow, VII.

Tetragnatha montana Simon, 1874

MATERIAL. 1 ♀, [4], 10.VII; 1 ♀, Kalzhyr River [7], meadow, VII.

Tetragnatha nigrita Lendl, 1886*

MATERIAL. 1 ♀, [4], reed thicket (*Phragmites*) on the bank, 12.VII, A. Zverev; 1 ♀, Kalzhyr River [7], on herbs and trees, 18.VII.

REMARKS. The unspecified record of this species for the Kazakhstan fauna [Logunov, Gromov, 2012] was based on the materials listed above. Formally, it is the first record of *T. nigrita* from East Kazakhstan Area. Yet, in Kazakhstan, this trans-Palaearctic subboreal species has only been recorded from the neighboring Abai Area [Fomichev, Marusik, 2013].

Tetragnatha obtusa C.L. Koch, 1837*

MATERIAL. 1 ♀, Kalzhyr River [7], herbs, 18.VII.

REMARKS. New to East Kazakhstan Area. In Kazakhstan this trans-Palaearctic temperate species has been recorded from Almaty Area [Spassky, Shnitnikov, 1937] only.

Tetragnatha pinicola L. Koch, 1870

MATERIAL. 3 ♂♂, 2 ♀♀, [11], Urunkhaika River mouth, meadow, herbs, VII; 1 ♀, [12], 10 km N Markakol' Lake, Mt meadow, VII.

THERIDIIDAE

Enoplognatha latimana Hippa et Oksala, 1982*

MATERIAL. 1 ♀, 15 km NE Zaisan Lake, VII.

OTHER MATERIAL. 1 ♂, Abai Area, Urzhar Distr., Tarbagatay Mts, 4 km N of Alexeevka, Urzhar River Valley, 47°17'N, 81°34'E, ca 1000 m a.s.l., *Populus*, *Malus*, *Salix* etc forest with *Rosa*, *Lanicea* etc bush, 24–25.VI.2001, S. Golovatch.

REMARKS. New to East Kazakhstan Area. In Kazakhstan, this West-Central-Palaearctic subboreal species has only been recorded from Turkestan Area [Gromov, 2020].

Enoplognatha mordax (Thorell, 1875)*

MATERIAL. 1 ♀, nr [6], 1.VIII.

REMARKS. New to East Kazakhstan Area. In Kazakhstan, this West-Central-Palaearctic species has been recorded from West Kazakhstan [Esyunin, Kabdrakhimov, 2023] and Turkestan areas [Gromov, 2020].

Neottiura bimaculata (Linnaeus, 1767)

MATERIAL. 1 ♀, Zaisan Distr., Ters-Airyk River, herbs, VIII.

Phylloneta impressa (L. Koch, 1881)

MATERIAL. 2 ♀♀, southern part [5], meadow, VIII; 1 ♀, 15 km S-SW [8], brook, herbs, 26.VII; 2 ♀♀, nr [8], Mramornaya Mt, 19.VII; 2 ♀♀, Kurshim Distr., between "Monka Mt" and [8], 26.VII; 10 ♀♀, between Markakol' Lake and [8], 26.VII; 1 ♀, [II], nr Urunkhaika River, brook, herbs, 24.VII; 1 ♀, [II], Urunkhaika River, herbs, 24.VII; 2 ♀♀, nr [II], Belezeya River, herbs, 24.VII; 1 ♂, [I2], VII; 1 ♀, [I2], meadow, 23.VII; 1 ♂, [I3], 2300 m a.s.l., herbs, 4-7.VIII; 1 ♀, between Urzhar Distr. and Zaisan Lake, 7.VIII; 1 ♂, Kurshim Distr., Belezey River, 25.VII.

Steatoda albomaculata (DeGeer, 1778)

MATERIAL. 1 ♀, [4], sandy, VII; 2 ♂♂, 5 ♀♀, ?Tarbagatay Distr., Oblay Mt area, *Artemisia* steppe, VIII.

Steatoda dahli (Nosek, 1905)

MATERIAL. 1 ♀, [5], under stone, VIII.

Theridion sibiricus Marusik, 1988*

MATERIAL. 1 ♀, [I2], slope, under stones, 21.VII.

REMARKS. The unspecified record of this species for the Kazakhstan fauna [Logunov, Gromov, 2012] was based on the materials listed above. Formally, it is the first record of *T. sibiricus* for East Kazakhstan Area. Outside Kazakhstan, this Siberian boreal species has been recorded from the Urals, South, Middle and East Siberia, Mongolia and the Far East.

THOMISIDAE

Ebrechtella tricuspidatus (Fabricius, 1775)

MATERIAL. 1 ♀, Kalzhyr River [7], meadow, VII.

Heriaeus oblongus Simon, 1918

MATERIAL. 1 ♀, 5 km N [8], brook, herbs, 26.VII; 3 ♂♂, 1 ♀, nr [9], herbs, 19.VII.

Misumena vatia (Clerck, 1758)

MATERIAL. 1 ♀, [II], Urunkhaika River mouth, meadow, herbs, VII; 1 ♂, [II], Urunkhaika River, herbs, VII, 24.VII.

Ozyptila inaequalis (Kulczyński, 1901)*

MATERIAL. 1 ♀, ?Tarbagatay Distr., Oblay Mt area, saline land, VIII.

REMARKS. New to East Kazakhstan Area. The species is known from the steppe cis-Urals [Esyunin *et al.*, 2007] and Akmola Area, Kazakhstan [Trilikauskas, Lyubchanskii, 2020], across eastern Kazakhstan [Marusik, Logunov, 1995] southern Siberia [Marusik *et al.*, 2000] and Mongolia [Marusik *et al.*, 1999] to Hebei [Marusik, Mikhailov, 2021]. In Kazakhstan, *O. inaequalis* has been recorded from Akmola and Almaty areas and Shymkent City [Marusik, Logunov, 1995, Trilikauskas, Lyubchanskii, 2020].

Psammitis bonneti (Denis, 1937)

MATERIAL. 1 ♀, [I3], 2300 m a.s.l., 4-7.VIII.

Runcinia tarabayevi Marusik et Logunov, 1990*

MATERIAL. 1 ♂, 1 ♀, 15 km S [4], 11.VII.

REMARKS. New to East Kazakhstan Area. The species is widespread in Kazakhstan: Atyrau [Ponomarev, 2022], Mangystau, Aktobe (=Aktyubinsk), Kyzylorda, Turkestan and Jambyl (=Dzhambul) areas [Marusik, Logunov, 1990, 1995; Zyuzin, Tarabaev, 1993]. Outside Kazakhstan, this species has been recorded from Iran, Kyrgyzstan, Tajikistan and Mongolia.

Synema utotchkini Marusik et Logunov, 1995

MATERIAL. 1 ♀, between [7] and [8], *Stipa* steppe, 26.VII.

Thomisus onustus Walckenaer, 1805

MATERIAL. 1 ♀, [4], *Stipa* steppe, VII; 1 ♀, 5 km SW [4], saline land, 9.VII; 2 ♂♂, [5], Chebanovo River, herbs, VIII; 1 ♂, between Irtysh River and [6], 27.VII; 1 ♂, Kalzhyr River [7], herbs, 18.VII; 1 ♂, Irtysh River nr [7], 27.VII; 1 ♂, nr [9], herbs, 19.VII; 2 ♂♂, nr [9], herbs, VII; 1 ♂, 15 km NE Zaisan Lake, VII.

Xysticus aletaiensis Hu et Wu, 1989*

MATERIAL. 1 ♀, between Pavlodar and Oskemen (East Kazakhstan Area), VI-VII; 1 ♀, nr [9], herbs, VII.

REMARKS. The unspecified record of this species for the Kazakhstan fauna [Logunov, Gromov, 2012] was based on the materials listed above. Formally, it is the first record of *X. aletaiensis* from East Kazakhstan Area. Outside Kazakhstan, the species has been known from Xinyang Province of China only.

Xysticus audax (Schrank, 1803)

OTHER MATERIAL. 1 ♀, East Kazakhstan Area, Glubokoe Distr., Zimov'e Vil., 50°18'12"N, 82°51'31"E, VI.1969, L.G. Savel'eva.

Xysticus austrosibiricus Logunov et Marusik, 1998*

MATERIAL. 1 ♂, [5], bog, VIII.

REMARKS. The unspecified record of this species for the Kazakhstan fauna [Logunov, Gromov, 2012] was based on the materials listed above. Formally, it is the first record of *X. austrosibiricus* from East Kazakhstan Area. The species is distributed from the Urals in the west, and across the mountainous regions of southern Siberia and Mongolia to Yakutia in the east.

Xysticus cristatus (Clerck, 1758)

MATERIAL. 1 ♀, nr [5], meadow, VIII; 1 ♀, nr [8], Mramornaya Mt, 19.VII; 1 ♂, nr [II], Belezeya River, herbs, 24.VII; 1 ♂, 10 km S-W [I2], bog, VIII.

OTHER MATERIAL. 8 ♀♀, East Kazakhstan Area, Glubokoe Distr., Cheremshanka Vil., 50°15'26"N, 83°01'00"E, 10-29.VI.1969, L.G. Savel'eva; 1 ♂, Ust-Kamenogorsk City, 49°59'N, 82°37'E, 28.VIII.1970, L.G. Savel'eva; 1 ♂, East Kazakhstan Area, Irtysh River, 5.VI.1983, L.G. Savel'eva; 1 ♂, Irtysh River near Ust-Kamenogorsk City, 13.V.1984, L.G. Savel'eva; 2 ♂♂, 1 ♀, East Kazakhstan Area, Ulan Distr., Dubygalsinsk, 25-29.V.1966, L.G. Savel'eva; 2 ♂♂, East Kazakhstan Area, Irtysh River near Artemovka Vil., 31.V.1969, L.G. Savel'eva.

Xysticus dzhungaricus Tystshenko, 1965

MATERIAL. 1 ♀, nr [8], south slope of Mramornaya Mt, herbs, 19.VII; 2 ♂♂, head of [I2], meadow, 22.VII.

Xysticus ulmi (Hahn, 1832)

MATERIAL. 1 ♀, Kalzhyr River [7], meadow, VII.

Xysticus urgumchak Marusik et Logunov, 1990*

MATERIAL. 1 ♂, [4], saline land, VIII.

REMARKS. New to East Kazakhstan Area. In Kazakhstan, this species has been recorded from Akmola [Trilikauskas, Lyubchanskii, 2020], Mangystau and Jetisu (=Taldykorgan) areas [Marusik, Logunov, 1990]. Outside Kazakhstan, this species is known from Turkmenistan.

Table. Number of species and genera in the spider fauna of East Kazakhstan Area (EKA) and Kazakhstan (after Mikhailov [2022]).

Таблица. Количество видов и родов в фауне пауков Восточно-Казахстанской области и Казахстане (по Mikhailov [2022]).

Family	Number of species/genus		Family	Number of species/genus	
	EKA	Kazakhstan		EKA	Kazakhstan
Agelenidae	5/4	14/7	Oecobiidae	–	3/2
Amaurobiidae	1/1	4/3	Oonopidae	–	1/1
Araneidae	35/12	46/15	Oxyopidae	6/1	7/1
Cheiracanthidae	6/1	9/1	Palpimanidae	–	1/1
Clubionidae	14/1	18/1	Philodromidae	23/5	45/6
Ctenizidae	–	1/1	Pholcidae	1/1	9/3
Cybaeidae	–	1/1	Phonognathidae	1/1	2/1
Desidae	–	1/1	Phrurolithidae	2/1	3/1
Dictynidae	11/9	25/13	Pisauridae	3/2	4/2
Dipluridae	–	1/1	Prodidomidae	–	1/1
Dysderidae	–	5/2	Salticidae	53/19	157/32
Eresidae	1/1	3/2	Scytodidae	–	1/1
Filistatidae	–	6/2	Segestriidae	–	2/1
Gnaphosidae	71/21	164/28	Sicariidae	–	1/1
Hahniidae	1/1	6/2	Sparassidae	1/1	2/2
Hersiliidae	–	3/2	Tetragnathidae	11/3	14/4
Linyphiidae	83/56	173/84	Theridiidae	28/16	68/21
Liocranidae	1/1	7/3	Thomisidae	40/14	76/14
Lycosidae	70/11	106/20	Titanoecidae	6/1	10/2
Mimetidae	–	3/2	Uloboridae	1/1	2/1
Miturgidae	–	3/1	Zodariidae	1/1	9/4
Nemesiidae	–	1/1			
Total				476/186	1019/295

TITANOECIDAE

Titanoeca asimilis Song et Zhu, 1985*

MATERIAL. 1 ♀, [2], 2200 m a.s.l., under stone, 6.VIII.

REMARKS. The unspecified record of this species for the Kazakhstan fauna [Logunov, Gromov, 2012] was based on the materials listed above. Formally, it is the first record of *T. asimilis* from East Kazakhstan Area. Yet, in Kazakhstan, this species has been recorded from the neighboring Abai Area [Fomichev, Marusik, 2013] only. Outside Kazakhstan, this species is known from South Siberia (Altai, Tuva, Buryatia), Mongolia and West and Central China.

ULOBORIDAE

Uloborus walckenaerius Latreille, 1806

MATERIAL. 1 ♀, [14], under stones, steppe slope, 4.VIII.

Conclusion

The present species list of the Zaisan expedition consists of 132 species, of which six — *Alopecosa zaisanica* sp.n., *Gnaphosa oirat* sp.n., *Pardosa kalba* sp.n., *P. charitonovi* sp.n., *P. kurchum* sp.n., *Robertus ovsyannikovi* sp.n. — have been described herein as new to science and two — *Drassodes cupa* Tuneva, 2004 and *Micaria seymuria* Tuneva, 2004 — were described earlier; 31 species have been newly reported for East Kazakhstan Area. Further data have been provided for 17 species from other

collections, of which six have been recorded from West Kazakhstan Area for the first time.

In view of the findings given above, the spider fauna of East Kazakhstan Area currently accounts for 476 species in 186 genera and 26 families (Table).

Obtaining the above results from such a relatively small collection and comparing the species composition of spiders known from East Kazakhstan Area with some neighbouring regions (e.g., the Altai, where more than 550 species have been recorded [Fomichev, 2015, 2022]; or Tuva with 614 species [Marusik *et al.*, 2000]) allows us to conclude that the spider fauna of East Kazakhstan Area remains understudied and it will be worthy of further detailed faunistic study in the future.

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