Arthropoda Selecta 35(3): 381–395 © ARTHROPODA SELECTA, 2026

Notes on the Turkestan collection of Philodromidae (Arachnida: Aranei) studied by A.I. Kroneberg

Заметки о туркестанской коллекции пауков семейства Philodromidae (Arahcnida: Aranei), обработанной А.И. Кронебергом

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KEY WORDS: Araneae, distribution, new records, nomenclature, Middle Asia.
КЛЮЧЕВЫЕ СЛОВА: Araneae, новые находки, номенклатура, распространение, Средняя Азия.

ABSTRACT. The paper presents a critical review of eight species of Philodromidae (Aranei) that were recorded or described by Kroneberg [1875] from the Turkestan Territory; specimens are held at the Zoological Museum of the Moscow University, Russia. One species is described as new: *Philodromus kronebergi* sp.n. (♂♀) from SE Uzbekistan, NW Tajikistan and SE Kazakhstan. The lectotype ♂ is designated for *Philodromus pictus* Kroneberg, 1875. A new combination is proposed: *Pulchellodromus humilis* (Kroneberg, 1875), comb.n., ex *Philodromus* Walckenaer, 1826.

How to cite this article: Logunov D.V., Bariev T.B. 2026. Notes on the Turkestan collection of Philodromidae (Arachnida: Aranei) studied by A.I. Kroneberg // Arthropoda Selecta. Vol.35. No.3. P.381–395. doi: 10.15298/arthsel.35.3.07

РЕЗЮМЕ. В статье представлен критический обзор восьми видов Philodromidae (Aranei), которые были отмечены или описаны Кронебергом [1875] с территории Туркестана; экземпляры хранятся в Зоологическом музее Московского университета, Россия. Один вид описан как новый: *Philodromus kronebergi* sp.n. (♂♀) из ЮВ Узбекистана, СЗ Таджикистана и ЮВ Казахстана. Лектотип ♂ выделен для *Philodromus pictus* Kroneberg, 1875. Предложена новая комбинация: *Pulchellodromus humilis* (Kroneberg, 1875), comb.n., ex *Philodromus* Walckenaer, 1826.

Introduction

Alexander Ivanovich Kroneberg (1844–1909) was a graduate of the Moscow University [Mikhailov, 2016; Mikhailov, Temereva, 2023] and became renowned for the publication of two pioneering works on spiders and other invertebrates of Middle Asia [Kroneberg, 1875, 1888]. His Turkestan collection of spiders is housed in the Zoological Museum of Moscow State University, Russia.

Kroneberg [1875] described 47 new spider species, of which nine have so far been recognised as junior synonyms, and two as homonyms [WSC, 2026]. Although Kroneberg's spider collections of some families (e.g., Clubionidae, Gnaphosidae, Salticidae, Thomisidae, etc.) have been re-examined [Mikhailov, 1992; Ovtsharenko *et al.*, 1995; Logunov, Marusik, 2003; Marusik, Mikhailov, 2021; Mikhailov, Temereva, 2023; etc.], the Philodromidae has never been the subject of any specific research. Only *Rhysodromus pictus* (Kroneberg, 1875) has been studied, though the type series was not examined [Szita, Logunov, 2008; etc.]. The aim of this paper is to review and discuss all eight species of the family Philodromidae recorded/described by Kroneberg [1875], of which one is described as new, and one — *Philodromus humilis* Kroneberg, 1875 — is illustrated and redescribed on the basis of the holotype ♀, and its taxonomic status and nomenclature are clarified.

Material and methods

A total of 199 specimens have been studied. The material studied was borrowed from or deposited in the following museums: ISEA — Institute of Systematics and Ecology of Animals, Siberian Branch of the Russian Academy of Sciences, Novosibirsk, Russia (curator: G.N. Azarkina); ZISP — Zoological Institute of the Russian Academy of Sciences, St Petersburg, Russia (curator: D.V. Logunov); ZMMU — the Zoological Museum of Moscow State University, Russia (curator K.G. Mikhailov).

The term 'Middle Asia' is used as defined by Jashenko & Zyuzin [2000] and Cowen [2007], referring to the territory occupied by the following countries: Uzbekistan, Kyrgyzstan, Turkmenistan and Tajikistan, as well as the southern half of Kazakhstan.

The morphological terminology and format of the descriptions are in line with Logunov [1996, 1997] and Muster & Thaler [2004]. For the leg spination the system adopted is that used by Ono [1988]. All measurements are in mm. Abbreviations used are as follows: *Eyes*: ALE — anterior lateral eye, AME — anterior median eye, PLE — posterior lateral eye,

Table. Synopsis of the Philodromidae reported by Kroneberg [1875] and housed in the ZMMU.
Таблица. Сводка по Philodromidae, указанным Kroneberg [1875] и хранящихся в Зоомузее МГУ.

No	Kroneberg's IDs, specimens	Acc. No	Current IDs	Figures
1	*Artanes pallidus*, 1 ♂, 1 juv.	Ta-1310	*Emargidromus emarginatus*	Figs 1–4, 6
2	*Artanes poecilus*, 1 subadult ♂	Ta-1311	*Artanes* sp.	
3	*Philodromus aureolus*, 3 ♂♂, 6 ♀♀	Ta-1345	*Philodromus kronebergi* **sp.n.** (2 ♂♂, 6 ♀ ♀) *Runcinia grammica* (1 ♂)	Figs 7–20 Figs 45–47
4	*Philodromus aureolus*, 1 ♂	Ta-1346	*Philodromus kronebergi* **sp.n.**	
5	*Philodromus aureolus*, 1 ♀	Ta-1347	*Philodromus kronebergi* **sp.n.**	
6	*Philodromus fallax*, 1 juv.	Ta-1350	*Philodromus* sp. (*aureolus* group)	
7	*Philodromus fallax*, 31 juv.	Ta-1349	*Rhysodromus* sp.	
8	*Philodromus elegans*, 1 ♀	Ta-1348	*Rhysodromus histrio*	Figs 29–32
9	*Philodromus humilis*, 1 ♀ (HT)	Ta-1353	*Pulchellodromus humilis*, **comb.n.**	Figs 25–28
10	*Philodromus pictus*, 1 ♂ (LT), 1 ♀ (PLT)	Ta-1351	*Rhysodromus pictus*	Figs 35, 40
11	*Philodromus pictus*, 1 ♀ (PLT)	Ta-1352	*Rhysodromus pictus*	
12	*Philodromus* sp. 1 ♀, 3 juv.	Ta-1357	*Emargidromus emarginatus*	
13	*Thanatus albini*, 1 ♂, 1 ♀	Ta-1262	*Thanatus vulgaris* (2 ♂♂) *Thanatus oblongiusculus* (1 ♀)	Fig. 44 Figs 41–43
14	*Thanatus albini*, 4 ♀♀, 2 juv.	Ta-1259	*Thanatus oblogiusculus*	
15	*Thanatus albini*, 4 ♀♀, 15 juv.	Ta-1260	*Thanatus oblogiusculus*	
16	*Thanatus albini*, 1 ♂, 1 juv.	Ta-1261	*Thanatus oblogiusculus*	
17	*Thanatus arenarius*, 1 ♀	Ta-1263	*Thanatus vulgaris*	
18	*Thanatus* sp. , 4 ♀♀	Ta-1266	*Thanatus vulgaris*	
19	*Thanatus oblongus*, 1 ♂, 1 subadult ♀	Ta-1264	*Tibellus oblongus*	

Abbreviations: Acc. No. — accession number; HT — holotype; ID — identification; juv. — juvenile.; LT — lectotype; PLT — paralectotype.
Сокращения: Acc. No. — музейный номер; HT — голотип; ID — определение; juv. — ювенил; LT — лектотип; PLT — паралектотип.

PME — posterior median eye. *Spinnerets*: PLS — posterior lateral spinneret, PMS — posterior median spinneret. *Palp and leg podomeres*: Fm — femur, Mt — metatarsus, Pt — patella, Tb — tibia, Tr — tarsus. *Spination*: d — dorsal, p — prolateral, r — retrolateral, v — ventral.

Results

Based on the results of this study (Table), Kroneberg's collection of the Turkestan Philodromidae consist of 16 samples containing 92 specimens and belonging to eight philodromid and one thomisid species. Three samples (Ta-1311, Ta-1349, Ta-1350) contain immature philodromid specimens that cannot be identified to the species level.

Below are the comprehensive faunistic accounts for all the species studied, including both literature-derived and original data, as well as maps showing their distribution in Kazakhstan and Middle Asia and illustrations of their copulatory organs. The only exception is *Thanatus oblongiusculus* (Lucas, 1846), the taxonomy and distribution of which will be considered in a separate paper (but one female is illustrated anyway; Figs 41–43). Yet, a detailed faunistic synopsis on *Tibellus oblongus* (Walckenaer, 1802) has already been published [Bariev, 2026], but a few additional records, based on recently studied samples, have been added here.

Family Philodromidae

Emargidromus emarginatus (Schrank, 1803)
Figs 1–6.

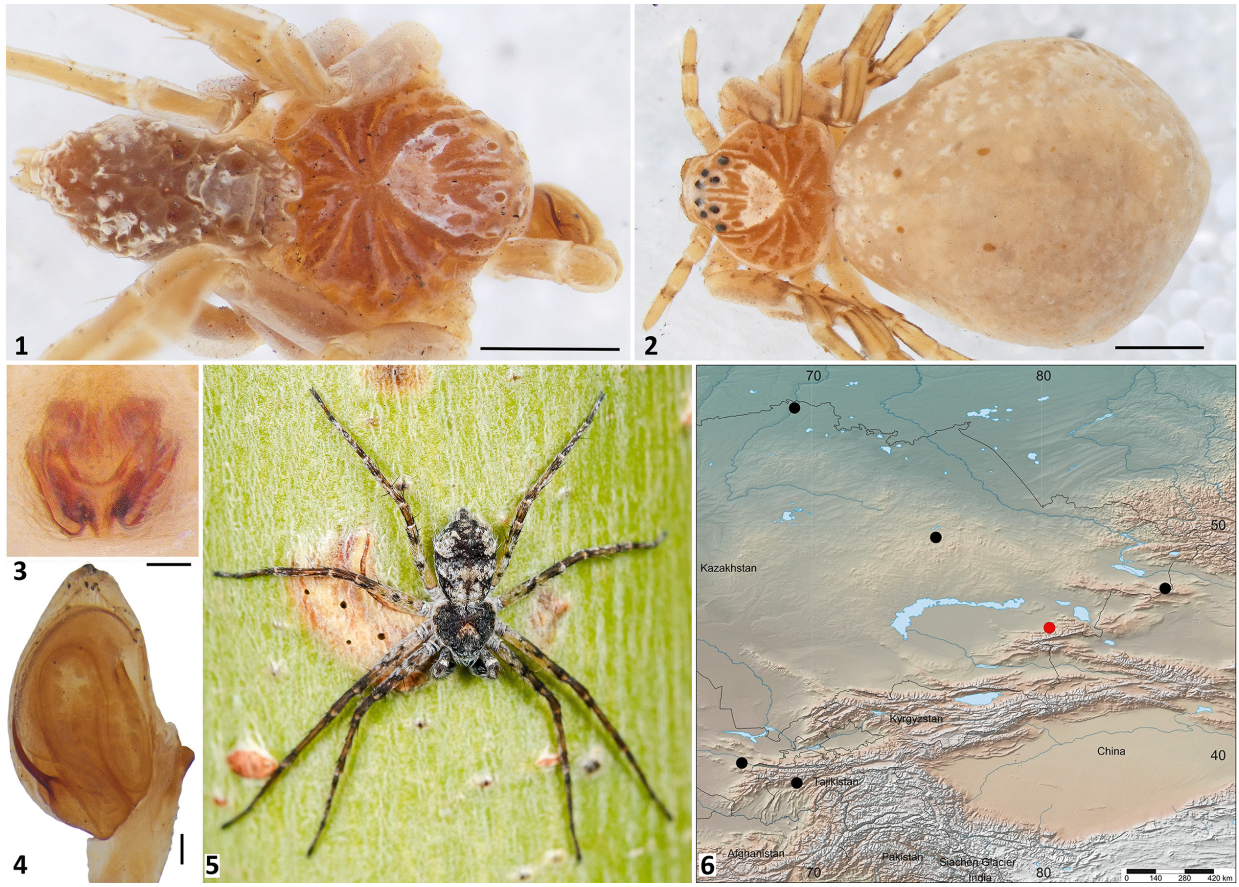
Artanes pallidus: Kroneberg, 1875: 30 (♂).

MATERIAL. UZBEKISTAN: 1 ♂, 1 juv. (ZMMU, Ta-1310; Figs 1, 4), "*Artanes pallidus*, Samarkand [*c*. 39.654000, 66.959000], Fedchenko"; 1 ♀, 3 juv. (ZMMU, Ta-1357; Figs 2–3), "*Philodromus* sp., Turkestan Territory, Fedchenko" (no exact locality).

OTHER MATERIAL. KAZAKHSTAN: 1 ♀ (ZISP, ARA_ARA_0001810), Almaty Oblast, Terekty River valley, Dzungarian Alatau [Mt Range] (*c*. 45.526760, 80.333039), 16–17.08.1936, V. Shnitnikov [232-1937].

EARLIER RECORDS. KAZAKHSTAN: North Kazakhstan Oblast: Bolshaya Malyshka, *c*. 55.095306, 69.224556 [Logunov, 1997]. East Kazakhstan Oblast: no exact locality [Savelyeva, 1970, 1979], Saur Mt Range, *c.* 47.233333, 85.366667 [Eskov, Marusik, 1995]. Karaganda Oblast: Karkaraly State National Natural Park, 49.449940, 75.395110 [Plakkhina *et al.*, 2026]. Almaty Oblast: no exact locality [Temreshev *et al.*, 2023]. — KYRGYZSTAN: no exact locality [Zonstein *et al.*, 1996]. — UZBEKISTAN: Samarkand Oblast: Samarkand, 39.654000, 66.959000 [Kroneberg, 1875, sub *Artanes pallidus*]. — TAJIKISTAN: Ramit, 38.783333, 69.350000 [Andreeva, 1975]; no exact locality [Andreeva, 1976]. — GENERAL DATA: Turan Zoogeographical Province [Spassky, 1952].

REMARKS. This is a common, trans-Palaearctic temperate species [Marusik *et al.*, 2000] that has been repeatedly reported from Kazakhstan and Middle Asia; see above under 'Earlier



Figs 1–6. *Emargidromus emarginatus* (Schrank, 1803), specimens from A. Kroneberg's Turkestan collection (ZMMU, ♂, Ta-1310, ♀, Ta-1357; 1–4) and live photo of a male from the Temirlik canyon, Almaty Oblast, Kazakhstan (© A.V. Ozernoy): 1, 5 — male, dorsal view; 2 — female, dorsal view; 3 — epigyne, ventral view; 4 — male palp, ventral view; 6 — collecting localities in Kazakhstan and Middle Asia (new record — red circle, earlier records — black circles). Scale bars: 1 mm (1–2), 0.1 mm (3–4).

Рис. 1–6. *Emargidromus emarginatus* (Schrank, 1803), экземпляры из туркестанской коллекции А. Кронеберга (ZMMU, ♂, Ta-1310, ♀, Ta-1357; 1–4) и фото живого самца из каньона Темирлик, Алматинская область, Казахстан (© А.В. Озерной): 1, 5 — самец, вид сверху; 2 — самка, вид сверху; 3 — эпигина, вид снизу; 4 — пальпа самца, вид снизу; 6 — точки находок вида в Казахстане и Средней Азии (новая находка — красный кружок, ранние находки — черные кружки). Масштаб: 1 мм (1–2), 0,1 мм (3–4).

Records'. All known records of *E. emarginatus* from Kazakhstan and Middle Asia are shown in Fig. 6.

This species was reported by Kroneberg [1987: 30] as *Artanes pallidus* (Walckenaer, 1826), the species that was described as *Philodromus pallidus* by Walckenaer [1826] and was subsequently referred to several times as *Artamus griseus* (Hahn, 1826), including two authors cited by Kroneberg. Currently, the name *P. pallidus* is considered a junior synonym of *E. emarginatus* [WSC, 2026]. The Ta-1357 sample, containing 1 ♀ and 3 juveniles, was not identified by Kroneberg and therefore absent from his publication [Kroneberg, 1875].

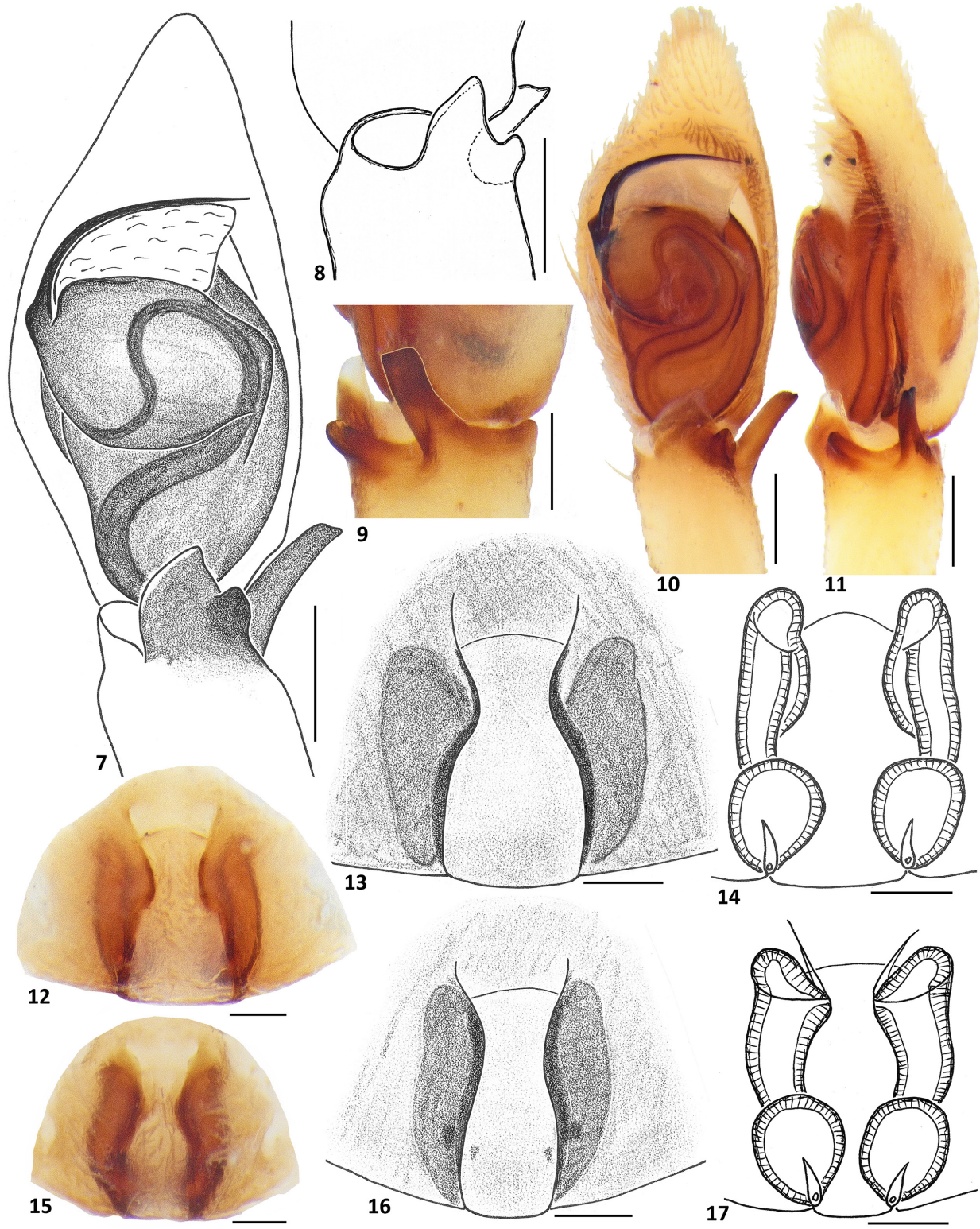
Philodromus kronebergi **sp.n.**
Figs 7–24.

Philodromus aureolus: Kroneberg, 1875: 30 (♂♀; *pro parte*, except for a single ♂).

TYPES. HOLOTYPE ♂ (ZMMU, Ta-1345; Figs 7–11, 18), [Uzbekistan], "*Philodromus aureolus*, Samarkand [*c.* 39.654000, 66.959000], Fedchenko". — PARATYPES: 1 ♂, 6 ♀♀ (ZMMU, Ta-1345; Figs 12–17, 19), together with the holotype; 1 ♀ (ZMMU, Ta-1347), [Uzbekistan?], "*Philodromus aureolus*, Turkestan Territory, Fedchenko" (no exact locality); 1 ♂ (ZMMU, Ta-1346), [Tajikistan], "*Philodromus aureolus*, the upper reaches of Zeravshan [River], Fedchenko" (no exact locality; coordinates are given for Gusar, *c.* 39.463972, 67.852306); 1 ♂ (ZISP, ARA_ARA_0001558), Kazakhstan, Almaty Oblast, Uigyr Distr., Dobyn hydropost (43.756667, 80.233333), shore, 500 m a.s.l., collected as a juvenile on 5.06.2024, died in lab on 4.08.2024, A.V. Ozernoy; 1 ♀ (ZISP, ARA_ARA_0001620), same locality, collected as a juvenile on 5.06.2024, died in lab on 5.07.2024, A.V. Ozernoy.

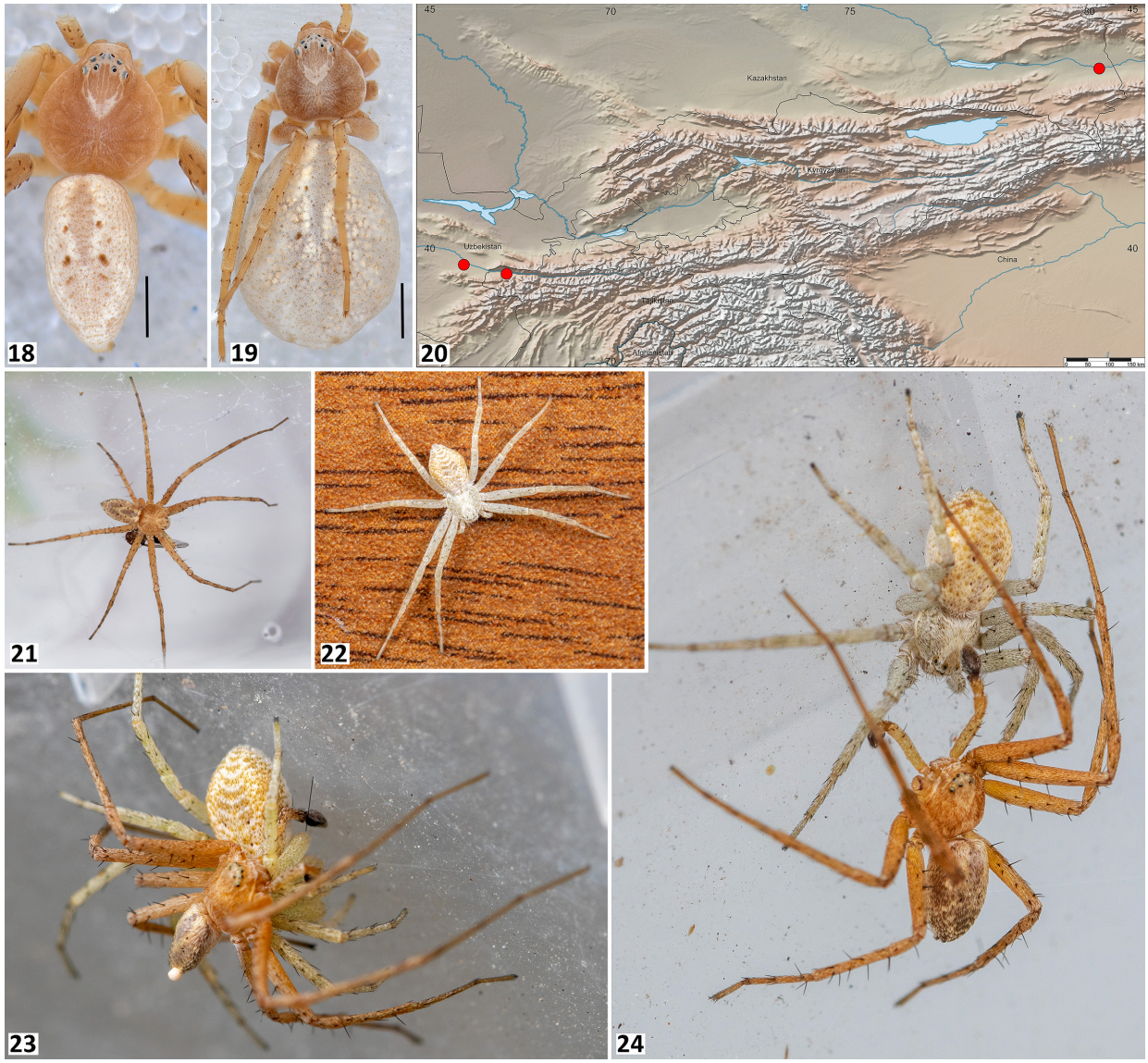
ETYMOLOGY. This species is named after Alexander Ivanovich Kroneberg (1844–1909) — a Russian naturalist and the author of a pioneering work on the spiders of Middle Asia [Kroneberg, 1875], whose collection of Philodromidae is the subject of the present paper.

DIAGNOSIS. The male of *P. kronebergi* sp.n. is most similar to that of *P. cespitum* (Walckenaer, 1802), from which it can be distinguished by the comparatively shorter conductor (its retrolateral edge is at 12–1 o'clock in *P. kronebergi* sp.n. and 1–2 o'clock in *P. cespitum*) and the strip-shaped dorsal tibial apophysis with a blunt apical tip (*vs*. pointed, as seen in ventral view (cf. Figs 7–11 and comparative figures in Nentwig *et al.* [2026]). Regarding the epigyne structure, the female of *P. kronebergi* sp.n. is most similar to that of *P. aureolus* (Clerck, 1757), from which it can be easily separated by the straight rather than U-shaped insemination ducts (cf. Figs 14, 17 and comparative figures in Nentwig *et al.* [2026]). In fact, the



Figs 7–17. *Philodromus kronebergi* sp.n., holotype ♂ (7–11) and female paratypes (12–17), ZMMU, Ta-1345: 7, 10 — male palp, ventral view; 8 — tibial apophyses, prolateral view; 9 — same, retrolateral view; 11 — male palp, retrolateral view; 12–13, 15–16 — epigyne, ventral view; 14, 17 — vulva, dorsal view. Scale bars: 0.1 mm.

Рис. 7–17. *Philodromus kronebergi* sp.n., голотип ♂ (7–11) и самки-паратипы (12–17), ZMMU, Ta-1345: 7, 10 — пальпа самца, вид снизу; 8 — тибиальные отростки, вид спереди-сбоку; 9 — то же, вид сзади-сбоку; 11 — пальпа самца, вид сзади-сбоку; 12–13, 15–16 — эпигина, вид снизу; 14, 17 — вульва, вид сверху. Масштаб: 0,1 мм.



Figs 18–24. *Philodromus kronebergi* sp.n., holotype ♂ (18), female paratype (18), ZMMU, Ta-1345, and live photos from Dobyn hydropost, Almaty Oblast, Kazakhstan (21–24; ZISP, ♂, ARA_ARA_0001558, ♀, ARA_ARA_0001620; © A.V. Ozernoy): 18, 21 — male, dorsal view; 19, 22 — female, dorsal view; 20 — collecting localities in Kazakhstan and Middle Asia; 23, 24 — mating pair. Scale bars: 1 mm (18–19).

Рис. 18–24. *Philodromus kronebergi* sp.n., голотип ♂ (18), самка-паратип (18), ZMMU, Ta-1345, и фото живых экземпляров со водостанции Добын, Алматинская область, Казахстан (21–24; ZISP, ♂, ARA_ARA_0001558, ♀, ARA_ARA_0001620; © A.V. Ozernoy): 18, 21 — самец, вид сверху; 19, 22 — самка, вид сверху; 20 — точки находок вида в Казахстане и Средней Азии; 23, 24 — копулирующая пара. Масштаб: 1 мм (18–19).

straight insemination ducts distinguish this new species from all known species of *Philodromus* Walckenaer, 1826 (*s.str.*; i.e., the *aureolus* species group).

REMARKS. The sample Ta-1345 also contained a male of *Runcinia grammica* (C.L. Koch, 1837); see below.

DISTRIBUTION. Few localities in SE Uzbekistan, NW Tajikistan and SE Kazakhstan (Fig. 20).

DESCRIPTION. Holotype ♂. Measurements. Carapace 2.05 long and 2.15 wide. Abdomen 2.95 long and 1.50 wide. Eyes: AME 0.09, ALE 0.09, PME 0.07, PLE 0.09. Distances between eyes: AME-AME 0.13, AME-ALE 0.15, PME-PME 0.26, PME-PLE 0.19. Median ocular area: MOA-WA 0.29, MOA-WP 0.40, MOA-L 0.34. Clypeal height 0.79. Cheliceral length 0.38. Length of leg podomeres:

	Fe	Pt	Tb	Mt	Tr	Total
I	3.60	1.30	3.50	3.45	2.05	13.90
II	4.15	1.40	4.10	4.05	2.30	16.00
III	3.15	1.10	2.70	2.70	1.35	11.00
IV	3.20	1.10	2.80	2.80	1.40	11.30

Leg formula: II,I,IV,III. Spination of leg I: Fm d, pr and rt 1-1-1; Pt d 2-1; Tb d, pr and rt 1-1-1, v 2-2-2ap; Mt d 1-0-1, pr and rt 1-1-1, v 1-0-1. Colouration (in alcohol; Fig. 18). Carapace yellow, with V-shape white figure behind eye field. Sternum white. Endites, labium and chelicerae light yellow. Abdomen white, with pale grey cardiac spot and brown sigilla. Book-lung covers and spinnerets white. All legs and palps light yellow. The colouration of live specimens (Figs. 21, 23–24) has a more or

less orange-tinged hue with well-marked cardiac spot, compared to almost entirely white females (Fig. 22). Palpal structure as in Figs 7–11: tibium with three apophyses: dorsal tibial apophysis flat, strip-shaped, intermediate apophysis well-developed, tooth-shaped and sclerotized, ventral apophysis rhomboid, its slightly pointed corner directed anteriad; retrolateral tegular projection poorly developed (almost not developed); conductor wide (twice as long as wide; embolus narrow, with prominent knob at its base, originates at 10 o'clock and runs retro-laterad.

Paratype ♀ (ZMMU, Ta-1345). Measurements. Carapace 2.15 long and 2.05 wide. Abdomen 3.85 long and 3.00 wide. Eyes: AME 0.07, ALE 0.08, PME 0.08, PLE 0.07. Distances between eyes: AME-AME 0.16, AME-ALE 0.09, PME-PME 0.31, PME-PLE 0.21. Median ocular area: MOA-WA 0.30, MOA-WP 0.43, MOA-L 0.34. Clypeal height 0.35. Cheliceral length 0.73. Length of leg podomeres:

	Fe	Pt	Tb	Mt	Tr	Total
I	2.30	1.10	2.10	1.85	1.15	8.50
II	3.00	1.20	2.50	2.15	1.20	10.05
III	2.40	0.95	1.60	1.50	0.80	7.25
IV	2.35	0.80	1.65	1.55	0.90	7.25

Leg formula: II,I,III=IV. Spination of leg I: Fm d, pr and rt 1-1-1-1; Tb, pr and rt 1-1-1, v 2-2-2ap; Mt pr and rt 1-1-1ap, v 2-2. Colouration (in alcohol; Fig. 19), as described for the male. The colouration of live specimens (Figs 22–24) almost entirely white. Epigyne and spermathecae as in Figs 12–17; epigyne flat, longer than wide; median septum pitch-shaped, tapering in the middle, and with a clear transverse margin in its anterior end; narrow lateral guide pockets clearly defined and more sclerotized than neighbouring areas; insemination ducts straight; spermathecae round; receptacula absent; fertilisation ducts prominent, situated near epigastric furrow.

Pulchellodromus humilis (Kroneberg, 1875), **comb.n.**
Figs 25–28

Philodromus humilis Kroneberg, 1875: 31, Tab. III, fig. 20 (D♀); the holotype ♀ is in ZMMU, examined.

TYPE. Holotype ♀ (ZMMU, Ta-1353), "*Philodromus humilis* n.sp., Turkestan Territory, Fedchenko" (no exact locality). The holotype is in very poor condition (Fig. 27); it had dried out, and in June 1983 it was rehydrated in a lactic acid solution.

ETYMOLOGY. From the Latin word *humilis*, meaning 'small, insignificant' and apparently referring to the tiny size of the specimen studied by Kronenberg [1875].

DIAGNOSIS. In having the median keel of central division of the epigyne (*sensu* Muster *et al.* [2007: figs 32–34]), the female of *P. humilis* is closest to *P. pulchellus* (Lucas, 1846) and *P. ruficapillus* (Simon, 1885), from which it can be distinguished by the tapered central division of the epigyne and shorter, straight insemination ducts (cf. Figs 25–26 with fig. 12 in Kastrygina, Kovblyuk [2014]).

REMARKS. The conformation of the female copulatory organs in *P. humilis* fits nicely the diagnosis of the genus *Pulchellodromus* Wunderlich, 2012 [Muster *et al.*, 2007: sub the *pulchellus* species group; Kastrygina, Kovblyuk, 2014]: viz., spermathecae globular and insemination ducts relatively long, with noticeable but albeit small globular heads (Figs 25–26). Therefore, a new combination has been proposed for this species name: *Pulchellodromus humilis* (Kroneberg, 1875), **comb.n.**, ex *Philodromus*.

However, as *P. humilis* remains known only from the poorly preserved holotype ♀ (Fig. 27), which does not allow for an assessment of the variation in its copulatory organs, the taxonomic status of this species requires further clarification following the collection of additional specimens, including males. In particular, it is especially important to carry out a more thorough examination of its relationship to *P. ruficapillus*; at least, the earlier records of this species from Kazakhstan [Savelyeva, 1970, 1979] may also refer to *P. humilis*.

DISTRBUTION. Only an unidentified type locality within the Turkestan Territory, presumably in Uzbekistan (see Mikhailov, Temereva [2023: 453]). This species was also recorded from Tajikistan (Dushanbe) by Andreeva [1975, 1976: 71], who studied 2 ♂♂, 3 ♀♀ and one juvenile. However, it remains unclear how the latter author was able to identify this species without re-examining the holotype ♀. In our opinion, this record requires verification based on the factual material studied by Andreeva [1976], to which we have not yet had access.

DESCRIPTION. Holotype ♀. Measurements. Carapace 1.50 long and 1.55 wide. Abdomen 2.25 long and 1.70 wide. It was impossible to measure eyes and eye interdistances due to very poor condition of the holotype (Fig. 27). Clypeal height 0.18. Cheliceral length 0.48. Length of leg podomeres:

	Fe	Pt	Tb	Mt	Tr	Total
I	2.00	0.80	1.15	1.10	0.75	5.80
II	2.05	0.80	1.85	1.55	0.75	7.00
III	1.50	0.70	1.25	1.05	0.50	5.00
IV	1.50	0.80	1.15	1.15	0.60	5.20

Leg formula: II,I,IV,III. Spination of leg I was impossible to describe due to very poor condition of the holotype. Colouration (in alcohol; Fig. 27); the specimen faded. Carapace pale, yellowish orange. Abdomen light grey. All legs and palps light yellow. Epigyne and spermathecae as in Figs 25–26, 28; epigyne flat; central division notably constricted, with median keel (*sensu* Muster *et al.* [2007: fig.34]); fovea outlined by poorly marked rims (and lateral guide pockets absent); insemination ducts relatively long, only slightly bent; spermathecae globular; receptacula absent; fertilisation ducts prominent, situated at distal ends of spermathecae.

Male unknown.

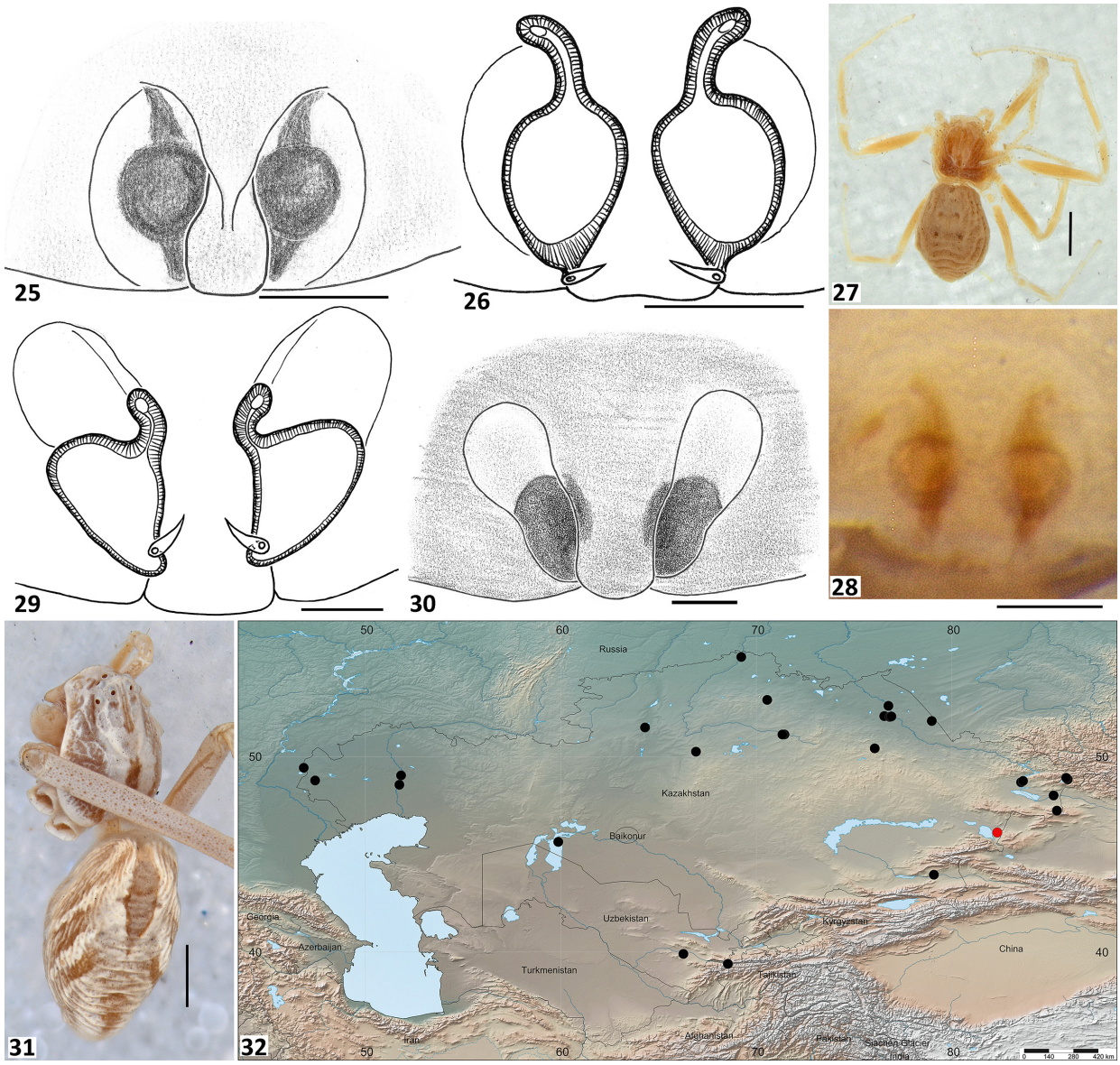
Rhysodromus histrio (Latreille, 1819)
Figs 29–32.

Philodromus elegans: Kroneberg, 1875: 30 (♀).

MATERIAL. TAJIKISTAN: 1 ♀ (ZMMU, Ta-1348; Figs 29–31), "*Philodromus elegans*, Varzominor [now Ayni; *c*. 39.393889, 68.540000], Fedchenko".

OTHER MATERAL. KAZAKHSTAN: 1 ♀ (ZISP, ARA_ARA_0002049), East Kazakhstan Oblast, Arasantau Mts, 11 km ESE of Karabulak Vil., 46.114283, 82.317550, 600–760 m a.s.l., 5–7.05.2019, V.V. Rudoy, R.V. Yakovlev & A.A. Kechaykin.

EARLIER RECORDS. KAZAKHSTAN: West Kazakhstan Oblast: Zhanybek, 49.4230, 46.8517 [Piterkina, 2009a,b; Piterkina, Mikhailov, 2009]; Taipak, 49.034167, 51.828889 [Esyunin *et al*., 2023]; Khan Ordasy, 48.773889, 47.433889 [Esyunin, Kabdrakhimov, 2023]. Atyrau Oblast: Inderborskiy, 48.555353, 51.742215 [Ponomarev, 2022]. Kostanay Oblast: no exact locality [Ashikbaev *et al.*, 1998; Logunov *et al.*, 2012; Logunov, Kazenas, 2015]; Arkalyk, *c*. 50.247222, 66.908333 [Szita, Logunov, 2008]; Naurzum State Nature Reserve, *c*. 51.486111, 64.303611 [Ponomarev *et al*., 2017]. Akmola Oblast: *c*. 1 km NE of Burevestnik, 52.896389, 70.549167 [Szita, Logunov, 2008]. Astana: Astana, 51.128200, 71.430700 [Bolat *et al.*, 2018]; Taldykol Lake, *c.* 51.124712, 71.329697 [Temreshev *et al.*, 2021; Akbayeva *et al.*, 2025]. Kyzylorda Oblast: Barsakelmes, 45.634082, 59.866666 [Pavlenko, 1985]. Pavlodar Oblast: Sychevka, *c*. 52.591667, 76.750000; *c*. 8 km NE of Kyzyldzhar, 52.066667, 76.533333–76.550000; Malyi Kalkaman Lake (NE shore), 52.066667, 76.538889; *c*. 1 km NE of Oshterek, 52.027778, 76.822222; *c*. 1 km W of Aksu,

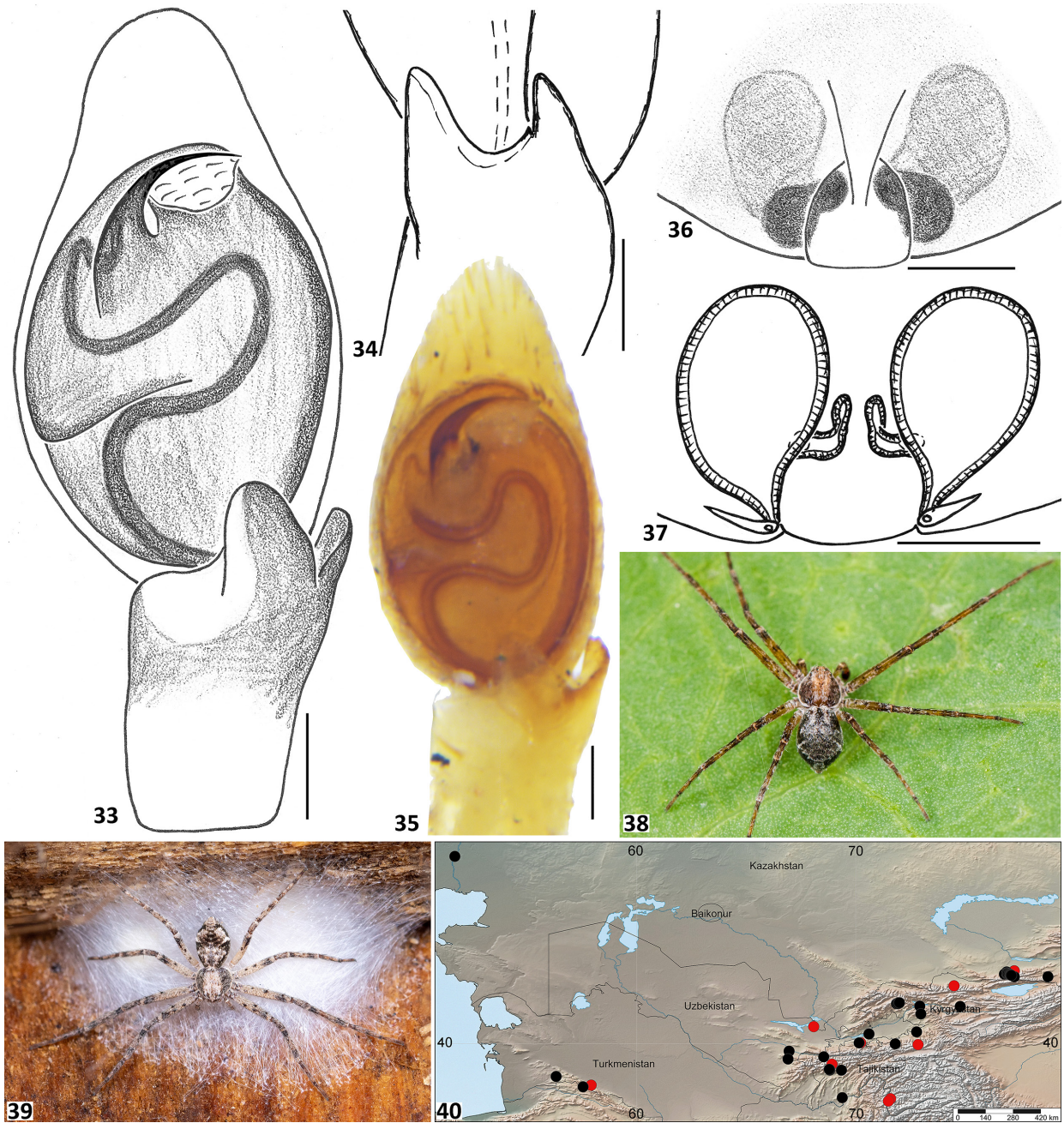


Figs 25–32. *Pulchellodromus humilis* (Kroneberg, 1875), comb.n., holotype ♀ (ZMMU, Ta-1353; 25–28) and *Rhysodromus histrio* (Latreille, 1819), female (ZMMU, Ta-1348; 29–32): 25, 28, 30 — epigyne, ventral view; 26, 29 — vulva, dorsal view; 27, 31 — body, dorsal view; 32 — collecting localities in Kazakhstan and Middle Asia (new records — red circles, earlier records — black circles). Scale bars: 1 mm (27, 31), 0.1 mm (25–26, 28–30).

Рис. 25–32. *Pulchellodromus humilis* (Kroneberg, 1875), comb.n., голотип ♀ (ZMMU, Ta-1353; 25–28) и *Rhysodromus histrio* (Latreille, 1819), самка (ZMMU, Ta-1348; 29–32): 25, 28, 30 — эпигина, вид снизу; 26, 29 — вульва, вид сверху; 27, 31 — тело, вид сверху; 32 — точки находок вида в Казахстане и Средней Азии (новые находки — красные кружки, ранние находки — черные кружки). Масштаб: 1 мм (27, 31), 0,1 мм (25–26, 28–30).

c. 52.050000, 76.900000; *c*. 3 km NW of Shoktal, 51.816667, 78.966667; Kyzyltau Mt Range, *c*. 50.416667, 76.050000 [Szita, Logunov, 2008]. North Kazakhstan Oblast: Bol'shaya-Malyshka, *c*. 55.091667, 69.225000 [Szita, Logunov, 2008]. East Kazakhstan Oblast: no exact locality [Savelyeva, 1970, 1979]; *c*. 15 km NW of Kurchum, *c*. 48.683333, 83.533333; *c*. 20 km N of Kurchum, *c*. 48.750000, 83.633333 [Szita, Logunov, 2008]; Topolevka River, mouth 48.830000, 85.920000, head 48.910000, 85.840000; Boran, 48.008889, 85.195278 [Esyunin *et al.*, 2024], Saur Mt Range, *c*. 47.233333, 85.366667 [Eskov, Marusik, 1995]. Almaty Oblast: *c*. 37 km SSW of Konyrolen, 43.955556, 79.075000 [Szita, Logunov, 2008]; no exact locality [Temreshev *et al*., 2023]. — UZBEKISTAN: Samarkand Oblast: no exact locality [Sirota, 1975]; Kattakurgan, 39.9035, 66.2650 [Bronstein, Murtazaev, 1974]. — TAJIKISTAN: Ayni (=Varzominor), 39.393889, 68.540000 [Kroneberg, 1875: sub *Philodromus elegans*; Andreeva, 1975, 1976; Mikhailov, Temereva, 2023]. — GENERAL DATA: E part of Turan Zoogeographical Province [Spassky, 1952].

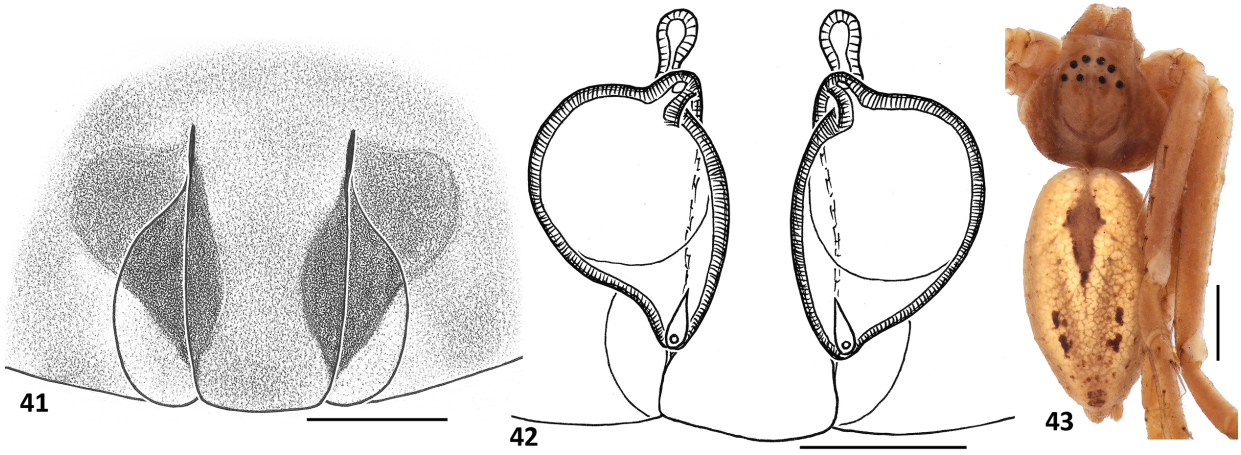
REMARKS. This is a widespread, circum-Holarctic temperate species repeatedly reported from the Asian part of Eurasia [Szita, Logunov, 2008, and references herein; Ponomarev, 2022; etc.]; all its records in Kazakhstan and Middle Asia are shown on Fig. 32.



Figs 33–40. *Rhysodromus pictus* (Kroneberg, 1875), lectotype ♂ (ZMMU, Ta-1351; 35), specimens from Khorog botanical garden, Tajikistan (ZISP, ARA_ARA_0001636; 33–34, 36–37) and live photos from Talgar, Almaty Oblast, Kazakhstan (© A.V. Ozernoy; 38–39): 33, 35 — male palp, ventral view; 34 — tibial apophyses, retrolateral view; 36 — epigyne, ventral view; 37 — vulva, dorsal view; 38 — male, dorsal view; 39 — female, dorsal view; 40 — collecting localities in Kazakhstan and Middle Asia (new records — red circles, earlier records — black circles). Scale bars: 0.1 mm.

Рис. 33–40. *Rhysodromus pictus* (Kroneberg, 1875), лектотип ♂ (ZMMU, Ta-1351; 35), экземпляры из хорогского ботанического сада, Таджикистан (ZISP, ARA_ARA_0001636; 33–34, 36–37) и фото живых экземплров из Талгара, Алматинская область, Казахастан (© А.В. Озерной; 38–39): 33, 35 — пальпа самца, вид снизу; 34 — тибиальные отростки, вид сбоку-сзади; 36 — эпигина, вид снизу; 37 — вульва, вид сверху; 38 — самец, вид сверху; 39 — самка, вид сверху; 40 — точки находок вида в Казахстане и Средней Азии (новые находки — красные кружки, ранние находки — черные кружки). Масштаб: 0,1 мм.

Kroneberg [1875: 30] reported this species as *Philodromus elegans* Blackwall, 1861, which was described from Britain [Blackwall, 1861] and is currently considered a junior synonym of *Rhysodromus histrio* [WSC, 2026]. Based on the information from Kroneberg [1875], Andreeva [1975, 1976: sub *Philodromus h.*] included this species as part of the spider fauna of Tajikistan. However, Szita & Logunov [2008: 35, Map 1] expressed doubts regarding this finding and excluded it from their account. Having re-examined Kroneberg's specimen (Figs 29–31), it is now safe to conclude that this record of *R. histrio* from Tajikistan is valid.



Figs 41–43. *Thanatus oblongiusculus* (Lucas, 1846) from Osh, Kyrgyzstan (ZMMU, Ta-1262): 41 — epigyne, ventral view; 42 — vulva, dorsal view; 43 — body, dorsal view. Scale bars: 1 mm (43), 0.1 mm (41–42).

Рис. 41–43. *Thanatus oblongiusculus* (Lucas, 1846) из Оша, Кыргызстан (ZMMU, Ta-1262): 41 — эпигина, вид снизу; 42 — вульва, вид сверху; 43 — тело, вид сверху. Масштаб: 1 мм (43), 0,1 мм (41–42).

Rhysodromus pictus (Kroneberg, 1875)
Figs 33–40.

Philodromus pictus Kroneberg, 1875: 30, Tab. III, fig. 21 (D♂♀); type series in ZMMU, examined, lectotype ♂ is designated here.

TYPES. LECTOTYPE ♂ (ZMMU, Ta-1351; designated here; Fig. 35), [Kyrgyzstan], "*Philodromus pictus*, Osh [*c*. 40.516667, 72.800000], Fedchenko". — PARALECTOTYPES: 1 ♀ (ZMMU, Ta-1351), together with the lectotype; 1 ♀ (ZMMU, Ta-1352), [Uzbekistan], "*Philodromus pictus*, Shohimardon (*c*. 39.982806, 71.800444), Fedchenko".

OTHER MATERAL. KAZAKHSTAN: 3 ♀♀ (ZISP, ARA_ARA_0001654), Turkestan Oblast, Karatau Mt Range, middle reaches of Ushozen River (40.772222, 68.083611), *c*. 500 m a.s.l., 28–29.06.2026, D.V. Logunov [7-2026, WP-315]; 1 ♀ (ZISP, ARA_ARA_0000958), Almaty Oblast, Talgar River bank, hydropost, 43.277500, 77.218611, 1080 m, collected on 16.07.2023, in captivity until 15.05.2024, A.V. Ozernoy [18-2024]; 1 ♂ (ZISP, ARA_ARA_0001482), same oblast, Talgar, Talgar River, 43.320000, 77.241389, *c*. 910 m a.s.l., collected on 14.05.2023, in captivity until 25.07.2023, A.V. Ozernoy; 1 ♂ (ZISP, ARA_ARA_0001944), same oblast, Talgar, 43.319444, 77.248056, *c*. 920 m a.s.l., collected on 16.06.2023, in captivity until 22.07.2023, A.V. Ozernoy [10-2023]. — KYRGYZSTAN: 2 ♂♂ (ZISP, ARA_ARA_0001829), Chui Oblast, Kyrgyz Mt Range, Ala-Archa River valley, nr Malinovka, 20 km S of Bishkek, *c*. 42.637, 74.495, 3.06.2004, S.V. Ovchinnikov; 2 ♀♀ (ZISP, 0001829), Osh Oblast, Alai Mts, Isfayram-Sai River valley, *c*. 39.9506, 72.8473, 19.07.1997, S. Ovchinnikov. — UZBEKISTAN: 1 ♂, 1 ♀ (ZMMU), Fergana Oblast, Fergana, Besharyk Distr., Besharyk, *c*. 375 m a.s.l., 40.439167, 70.608333, no date, A.V. Gromov. — TURKMENISTAN: 1 ♀ (ZMMU), Central Kopetdagh, Merghenulya, 38.100000, 57.916667, 23.06.1987, 110 m a.s.l., V. Parshutov. — TAJIKISTAN: 1 ♂, 4 ♀♀ (ZISP, ARA_ARA_0001636), Khorog botanical garden and its vicinity (37.480556, 71.594167), 2400–2500 m a.s.l., 12–14.07.2018, D.V. Logunov; 2 ♀♀ (ZISP, ARA_ARA_0001638), nr kishlak Nishusp, Bijondara canyon (37.373889, 71.495556), 2800–2900 m a.s.l., 20.07.2018, D.V. Logunov; 1 ♂ (ZISP, ARA_ARA_0001637), Varsob canyon, 3.5 km NE of kishlak Siënkuh (*c*. 39.056111, 68.921389), *c*. 2440 m a.s.l., 23.05–7.07.2018, V.K. Zinchenko; 1 ♀ (ZISP, ARA_ARA_0001640), *c*. 31 km N of Dushanbe, Kondara canyon (38.807500, 68.814722), *c*. 1250 m a.s.l., 24–26.07.2018, D.V. Logunov.

EARLIER RECORDS. KAZAKHSTAN: Atyrau Oblast: Inderbosky, 48.548069, 51.688556 [Ponomarev, 2022]. Almaty Oblast: Almaty, 43.270000, 76.900000 [Spassky, Shnitnikov, 1937]; Zailiisky Alatau, *c*. 43.05, 77.25 [Folkina, 1979; Tarabaev, 1979, 1980; Zlatanova, Tarabaev, 1985]; Kegen River canyon, nr Zhaidakbulak, 43.054167, 78.783333; Vesna, Aksai River valley, 43.172222, 76.794444; Alatau (=Vtoraya Pyatiletka), 43.176389, 76.916667; Botanical Garden, 43.218056, 76.911111–43.208333, 76.916667; Kamenskoe Plato, 43.187500, 76.959722; Butakovka, 43.175000, 77.019444; Mokhnatka Mt. (W of Medeo), 43.156944, 77.055556; Shymbulak, 43.134722, 77.076389–43.127778, 77.081944; Talgar Pass, 43.116111, 77.113056 [Szita, Logunov, 2008]. — KYRGYZSTAN: no exact locality [Zonstein, 1984; Zonstein *et al.*, 1996]. Osh Oblast: Osh, 40.516667, 72.800000 [Kroneberg, 1875]. Batken Oblast: 35–40 km W of Shurab, 40.03554, 70.22479 [Szita, Logunov, 2008]. Chui Oblast: Uch-Emchek, 41.695833, 74.776389 [Szita, Logunov, 2008]. Jalal-Abad Oblast: Aflatun River canyon, 41.819444, 71.865278; Kechkil River canyon, 41.858333, 71.947222; Teminyak River canyon, 41.829167, 71.937500; Kyle-Kel Lake, east shore, 41.862500, 71.997222; Kek-Bel Pass, 41.709722, 72.927778; Dashman Botanical Reserve, Yarodar River canyon, 41.352778, 72.977778 [Szita, Logunov, 2008]. — TURKMENISTAN: Balkan Vilayet: Syunt-Khasardagh Nature Reserve, 38.497222, 56.316667 [Szita, Logunov, 2008]. Ahal Vilayet: Kurkulab River canyon, Mergenul'ya Stand, 38.025000, 57.547222 [Szita, Logunov, 2008]. — UZBEKISTAN: nr Tashkent (juv.), *c*. 41.236556, 69.159806 [Yakhontov, 1956]. Samarkand Oblast: no exact locality [Alimdzhanov, Bronstein, 1956]; Samarkand, 39.654000, 66.959000 [Kroneberg, 1875; Alimdzhanov, Bronstein, 1956]; Aman-Kutan Pass, 39.293056, 66.909722 [Szita, Logunov, 2008]. Fergana Oblast: Shohimardon, *c*. 39.982806, 71.800444 [Kroneberg, 1875]; Besharyk, 40.439167, 70.608333–40.437222, 70.609167 [Szita, Logunov, 2008]; Fergana valley (no exact locality) [Bakhromova, 2021, 2023, 2025; Yunusov *et al.*, 2022]. — TAJIKISTAN: Districts of Republican Subordination: Kvak, *c*. 38.7886, 68.8172; Kondara River canyon, 38.807500, 68.814722; Ramit, 38.783333, 69.350000 [Andreeva, 1975, 1976; Szita, Logunov, 2008]. Khatlon Oblast: Sebi Surkh (=Obi-Surkh), 37.530081, 69.386699 [Andreeva, 1975]. Sughd Oblast: Ayni (=Varzominor), 39.393889, 68.540000 [Kroneberg, 1875]. — GENERAL DATA: E part of Turan Zoogeographical Province [Spassky, 1952]; Turkestan [Kroneberg, 1888].

REMARKS. A Turanian subboreal species that is known from Dagestan, Atyrau Oblast of Kazakhstan and SW Kopetdag in the west, throughout the southern half of Middle Asia, to NW China (Xinjiang) [Szita, Logunov, 2008, and references herein;

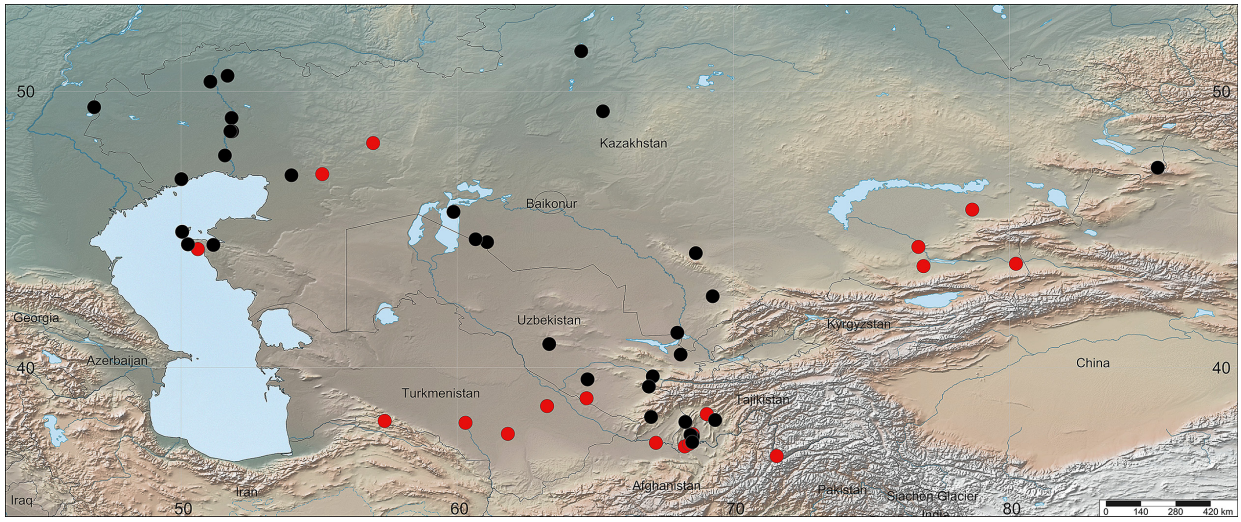


Fig. 44. *Thanatus vulgaris* Simon, 1870, collecting localities in Kazakhstan and Middle Asia (new records — red circles, earlier records — black circles).

Рис. 44. *Thanatus vulgaris* Simon, 1870, точки находок вида в Казахстане и Средней Азии (новые находки — красные кружки, ранние находки — черные кружки).

Ponomarev, 2022; present data]. All known records of *R. pictus* in Kazakhstan and Middle Asia are shown in Fig. 40.

According to Kroneberg [1875: 31], the original type series of *P. pictus* consisted of 2 ♂♂ and 4 ♀♀, collected from modern-day Uzbekistan (Samarkand, Varzominor and Shohimardon) and Kyrgyzstan (Osh). However, only two samples taken from Osh (1 ♂, 1 ♀) and Shohimardon (1 ♀) are currently available in the ZMMU. To remove any uncertainty regarding the taxonomic status of this species name and to specify the type locality, the male from Osh (ZMMU, Ta-1351; Fig. 35) has been designated as the lectotype.

Thanatus oblongiusculus (Lucas, 1846)
Figs 41–43.

Thanatus albini: Kroneberg, 1875: 32 (♀; *pro parte*).

MATERIAL. UZBEKISTAN: 1 ♀, 1 juv. (ZMMU, Ta-1261), "*Thanatus albini*, Obburden [=Obburdon; *c*. 40.416667, 69.300000)], Fedchenko"; 4 ♀♀, 15 juv. (ZMMU, Ta-1260), "*Thanatus albini*, Urgut [*c*. 39.416667, 67.250000], Fedchenko"; 4 ♀♀, 2 juv. (ZMMU, Ta-1259), "*Thanatus albini*, Samarkand [*c*. 39.654000, 66.959000], Fedchenko"; 1 ♀ (ZMMU, Ta-1262; Figs 41–43), "*Thanatus albini*, Osh [*c*. 40.516667, 72.800000], Fedchenko".

REMARKS. A fairly widespread Euro-Middle Asian subboreal species; a detailed account and taxonomic notes on this species will be presented in a separate paper.

According to Kroneberg [1875: 32], several specimens of *T. albini* from Urgut, Samarkand, Khodzhaduk and Osh were studied; yet, the sample from Obburden (Ta-1261) was not mentioned. At present, only samples from Osh, Urgut and Samarkand are available in the ZMMU. Two of them (Ta-1260 and Ta-1259) belong to *T. oblongiusculus* and that from Osh (Ta-1262) contains both *T. oblongiusculus* (1 ♀) and *Thanatus vulgaris* (2 ♂♂; see below). The specimen from Khodzhaduk was unavailable. The latter locality is known to be a historic settlement (kishlak) in Urgut District of Samarkand Oblast, which, presumably, no longer exists.

Thanatus vulgaris Simon, 1870
Fig. 44.

Thanatus albini: Kroneberg, 1875: 32 (*pro parte*; ♂♂ only).

Thanatus arenarius: Kroneberg, 1875: 32 (♀).

MATERIAL. UZBEKISTAN: 1 ♀ (ZMMU, Ta-1263), "*Thanatus arenarius*, Obburden [=Obburdon; *c*. 40.416667, 69.300000], Fedchenko". — KYRGYZSTAN: 2 ♂♂ (ZMMU, Ta-1262), "*Thanatus albini*, Osh [*c*. 40.516667, 72.800000], Fedchenko"; 4 ♀♀ (ZMMU, Ta-1266), "*Thanatus* sp., Osh, Fedchenko".

OTHER MATERAL. KAZAKHSTAN: 1 ♂ (ZISP, ARA_ARA_0001826), Mangistau Oblast, Tupkaragan Distr., Kyzylozen Vil., 44.287917, 50.606694, 19.05.2024, I.S. Turbanov, A.A. Bolotovskiy, O.N. Arepaev; 2 ♂♂ (ZISP, ARA_ARA_0001560, 0000987), Almaty Oblast, Uigyr Distr., Dobyn hydropost, 43.756667, 80.233333, shore, 540–550 m a.s.l., collected on 4.06.2024, in captivity until 10.06.2024 & 17.09.2024, A.V. Ozernoy; 1 ♂ (ZISP, ARA_ARA_0001560, 0000877), same locality, collected on 27.05.2023, in captivity until 4.10.2023, A.V. Ozernoy [18-2024]; 1 ♂ (ZISP, ARA_ARA_0000900), same oblast, Ili Distr., 43.670556, 76.886111, 620 m a.s.l., collected on 20.05.2023, in captivity until 24.10.2023, A.V Ozernoy [18-2024, WP154]; 2 ♂♂, 3 ♀♀ (ZISP, ARA_ARA_1387), Atyrau Oblast, 47.000288, 55.112436, hand collecting, 23.05.2025, L. Kim; 1 ♂, 1 ♀ (ZISP, ARA_ARA_0001483), same oblast, Zhinishkekum Sands, Tasmuryn canal of Ili River, 44.366667, 76.700000, salt marsh, 400 m a.s.l., 1–2.07.2016, A.A. Fomichev; 1 ♀ (ZISP, ARA_ARA_0001484), same oblast, 20 km SSW of Matay Vil., Kyzylshagyl Sands, 45.716667, 78.650000, sandy steppe with shrub vegetation, 400 m a.s.l., 4.07.2016, A.A. Fomichev; 1 ♀ (ZISP, ARA_ARA_0001369), Aktobe Oblast, 48.125278, 56.954444, 130 m a.s.l., wormwood–grass community on the Emba River bank (*Artemisia* spp., Poaceae), no date and collector name [17-2025]; 3 ♀♀ (ISEA), Turkistan Oblast 68 km of Nurata, Kyzylkum Desert, bank of Syr Darya floodplain, *c*. 41.260000, 67.970000, A.P. Kononenko. — UZBEKISTAN: 3 ♂♂, 3 ♀♀ (ISEA), Bukhara Oblast, Kagan, Jeyran Breeding Centre, 39.574167, 64.715833, 05.1994, O.V. Lyakhov; 1 ♂ (ZISP, ARA_ARA_0001949), Qashqadaryo Oblast, south shore of Lake Sichainkul, 38.887467, 64.683250, tugai forest, 200 m a.s.l., 13–14.05.2025, A.A. Fomichev; 1 ♂ (ZISP, ARA_ARA_0001948), Surxondaryo Oblast, 4 km NW of Termez, Hakim at-Termezi Mausoleum, 37.275833, 67.196267, ecotone between tugai forest and clay desert, 300 m a.s.l., 28–29.04.2022, A.A. Fomichev. — TURKMENISTAN: 2 ♂♂, 2 ♀♀ (ZMMU), Mary Oblast and Distr., '50 Years of Turkmen SSR' collective farm, *c*. 37.600000, 61.833333, spring 1975, no collector name; 2 ♂♂ (ZMMU), Ahal Oblast, south-western Kopetdagh, *c*. 38.066800, 57.373300, 11–15.06.1983, S.I. Zabelin; 1 ♂ (ZMMU), Karakum Distr., northwestern Karakum canal, 38.000000, 60.300000, 26.08.1982, no collector name; 2 ♂♂ (ZMMU), Lebap Oblast, Repetek, 38.603300, 63.253200, 22.06.1982, V.A. Krivokhatsky. — TAJIKISTAN: 3 ♂♂, 1 ♀ (ISEA,

SZM 001.5573), Khatlon Oblast, Garavuti Vil., 37.567030, 68.446680, irrigation canal zone, 8.04.1973, B. Dzhumanov; 1 ♂, 5 ♀♀ (ISEA), same locality, 20.04.1973, A.P. Kononenko; 4 ♂♂, 3 ♀♀ (ISEA), same locality, on cotton, 14.06.1974, A.P. Kononenko; 6 ♂♂, 3 ♀♀ (ISEA), same locality, 23.03.1973, A.P. Kononenko; 4 ♂♂, 3 ♀♀ (ISEA, SZM 001.5571), Yavan, cotton field, 38.314830, 69.037580, A.P. Kononenko; 1 ♂ (ZISP, ARA_ARA_0001951), Aruktau Range, 6 km ENE of Garavuti Vil., 37.589817, 68.527567, stony desert, 400–630 m a.s.l., 7–8.04.2019, A.A. Fomichev; 1 ♂ (ZISP, ARA_ARA_0001952), Ichkoran Mt Range, Teshiktosh Vil., 37.143533, 68.240067, stony desert with rocks, 450–550 m a.s.l., 5–6.04.2019, A.A. Fomichev; 1 ♂, 2 ♀♀ (ZISP, ARA_ARA_0001953), Aruktau Range, 4 km ENE of Garavuti Vil., 37.586867, 68.525783, stony desert with rocks, 400 m a.s.l., 24–25.04.2024, A.A. Fomichev, R.Yu. Dudko, S.V. Reshetnikov; 1 ♂, 2 ♀♀ (ZISP, ARA_ARA_0001954), Vakhsh River valley, Tigrovaya Balka Nature Reserve (=Seshai Palangon), 37.233333, 68.400000, 300 m a.s.l., 25–26.04.2024, A.A. Fomichev, R.Yu. Dudko, A.E. Naidenov, S.V. Reshetnikov; 1 ♂ (ZISP, ARA_ARA_0001957), Gorno-Badakhshan Autonomous Oblast, Ishkashim Vil., 36.795450, 71.569900, grove with irrigation ditches, 2500 m a.s.l., 12.07.2023, A.A. Fomichev.

EARLIER RECORDS. KAZAKHSTAN: West Kazakhstan Oblast: Zhanybek, 49.4230, 46.8517 [Piterkina, 2009a,b; Piterkina, Mikhailov, 2009]; Glubinnoe Lake, 50.345833, 51.062500, Taipak Vil., 49.034167, 51.828889; Terekty Distr., Shalkar Lake, 50.560000, 51.683056 [Esyunin *et al.*, 2024]. Atyrau Oblast: 63 km ENE of Kurmangazy, *c*. 46.82, 50.01; Inder upland, *c*. 48.55, 51.85 [Ponomarev, Tsvetkov, 2004]; Inderbor, 48.550000, 51.783333; Kulsary, 46.958540, 53.996530; Makhambet, 47.675580, 51.586540 [Ponomarev, 2022]. Mangystau Oblast: Tyub-Karagan Peninsula coast, 8–12 km S of Fort-Shevchenko, *c*. 44.460000, 50.250000; Kulaly Island, 44.913130, 50.039770 [Ponomarev, Abdurakhmanov, 2014]; nr Shakpak-Ata, 44.436944, 51.169722 [Esyunin *et al.*, 2025]. Kyzylorda Oblast: Kyzylkum, *c*. 44.539098, 61.082699; eastern Aral Region, 44.642783, 60.664708 [Zyuzin *et al.*, 1994]; Barsakelmes, 45.634082, 59.866666 [Pavlenko, 1985]. Kostanay Oblast: Lake Aksuat, 51.45, 64.49 [Ponomarev *et al.*, 2017]; Altyn Dala State Nature Reserve, Rakhmet, 49.274020, 65.276620 [Ponomarev, Bragina, 2014]. East Kazakhstan Oblast: Saur Mt Range, *c*. 47.233333, 85.366667 [Eskov, Marusik, 1995]. South Kazakhstan Oblast: Suzak Distr., *c*. 20 km E of Suzak, *c*. 44.14, 68.64; nr Arys, c. 42.580000, 69.250000 [Lyakhov, 2000]. Turkistan Oblast: Kyzyl-Kum Desert, *c*. 68 km of Nurata along Syrdarya River, *c*. 41.260000, 67.970000 [Lyakhov, 2000]. — UZBEKISTAN: Samarkand Oblast: no exact locality [Bronstein, Murtazaev, 1974]. Bukhara Oblast: Kul'dzhuktau Mt Range, *c*. 7 km E of Dzhangeldy, *c*. 40.850000, 63.330000; 20 km SE of Kagan, nr 'Dzheiraniy Pitomnik', *c*. 39.570000, 64.720000 [Lyakhov, 2000]. Jizzakh Oblast: along the Samarkand–Tashkent highway, *c*. 40.470000, 68.090000 [Lyakhov, 2000]. Samarkand Oblast: Zeravshan River valley, *c*. 39.680000, 67.080000; *c*. 9 km N of Kitab, Aman-Kutan Pass, *c*. 39.310000, 66.940000 [Lyakhov, 2000]. Surkhandarya Oblast: nr Derbent, *c*. 38.210000, 67.020000; 5–6 km W of Ak-Mechet', *c*. 38.030000, 68.260000 [Lyakhov, 2000]. — TURKMENISTAN: Kopetdagh [Fet, Kuznetsov, 1982]; SW Kopetdagh [Fet, 1983]; Central and South Kopetdagh [Kuznetsov, Fet, 1986; Mikhailov, Fet, 1994]. — TAJIKISTAN: Khatlon Oblast: bank of Vakhsh River, *c*. 37.490000, 68.530000; Garavuti, 37.56028, 68.45250 [Logunov, 1996]; Tigrovaya Balka Nature Reserve, *c*. 37.300000, 68.510000; nr Dangara, *c*. 38.100000, 69.340000 [Lyakhov, 2000]. — GENERAL DATA: Turan Zoogeographical Province [Spassky, 1952].

REMARKS. This is a common, Holarctic polyzonal species [Logunov, 1996; Lyakhov 2000] that has been repeatedly reported from Kazakhstan and Middle Asia; see above under 'Earlier Records'. All known records of *T. vulgaris* from Kazakhstan and Middle Asia are shown in Fig. 44.

The female from Obburden (Ta-1263) was incorrectly identified by Kroneberg as *T. arenarius*: i.e., a Euro-Siberian subboreal species that has in fact never been found in Middle Asia. Its southernmost records in the region at hand have been made from the northern part of Kazakhstan: viz., West Kazakhstan, North Kazakhstan and Pavlodar Oblasts [Logunov, 1996; Ponomarev, 2022]. Kroneberg [1875: 32] identified 2 ♂♂ from the sample Ta-1262 as *T. albini*, but they actually belong to *T. vulgaris*. Yet, this sample also contained a female of *T. oblongiusculus* (Figs 41–43; Table).

Tibellus oblongus (Walckenaer, 1802)

Thanatus oblongus: Kroneberg, 1875: 30 (♂♀).

MATERIAL. UZBEKISTAN: 1 ♂, 1 subadult ♀ (ZMMU, Ta-1264), "*Thanatus oblongus*, [illegible text], Fedchenko"; based on the information provided by Kroneberg [1875: 31], both specimens were collected in the vicinity of Samarkand (*c*. 39.654000, 66.959000).

OTHER MATERAL. KAZAKHSTAN: 1 ♀ (ZISP, ARA_ARA_0001560), Almaty Oblast, Enbekshikazakhsky Distr. (43.431111, 77.237222), 650 m a.s.l., collected juv. on 25.03.2024, died in lab on 27.12.2024, A.V. Ozernoy. — TAJIKISTAN: 1 ♀ (ZISP, ARA_ARA_0001639), Khorog botanical garden and its vicinity (37.480556, 71.594167), 2400–2500 m a.s.l., 12–14.07.2018, D.V. Logunov.

REMARKS. A common Holarctic polyzonal species that has been recorded from Middle Asia and Kazakhstan on numerous occasions; a complete list of its records in this region was provided by Bariev [2026]. The combination *Thanatus oblongus* was used for some time by early authors to refer to this species [WSC, 2026].

Family Thomisidae

Runcinia grammica (C.L. Koch, 1837)
Figs 45–47.

Misumenata lateralis: Kroneberg, 1875: 32 (♂♀).

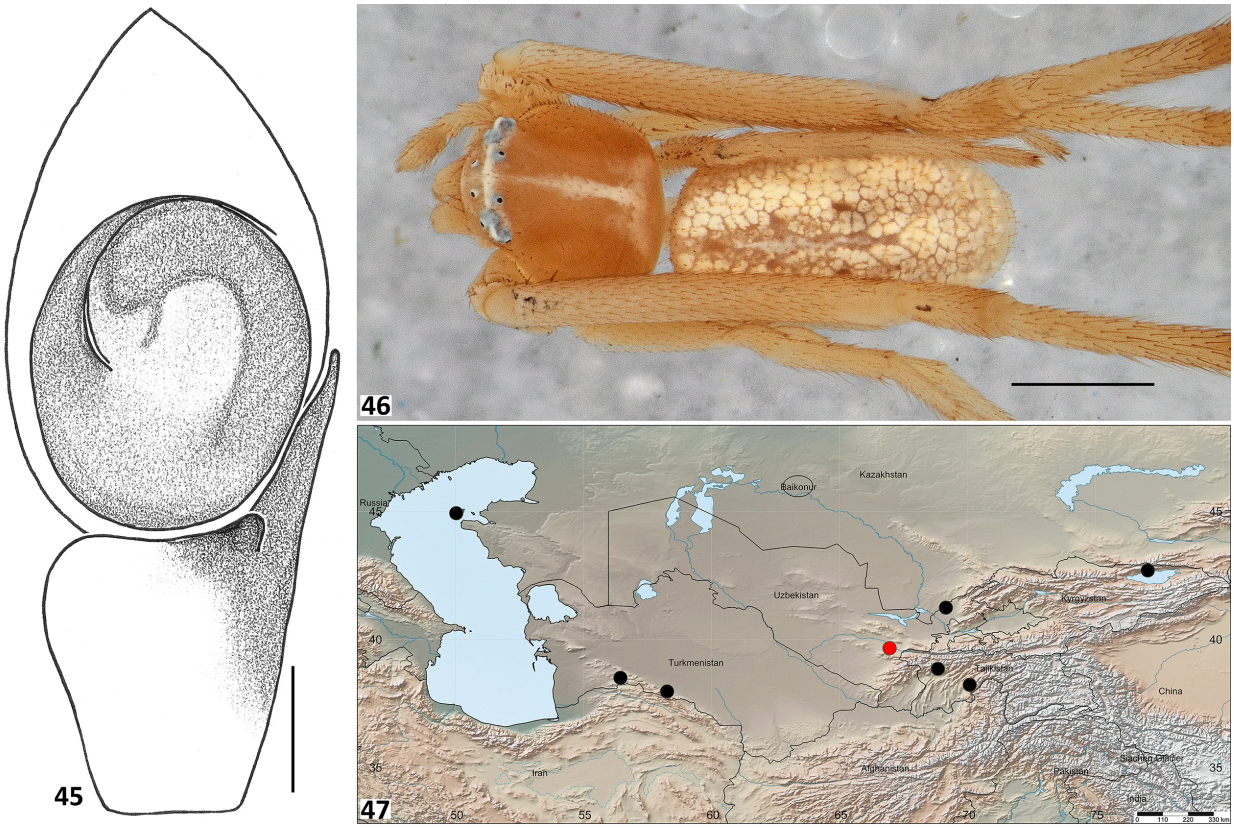
Philodromus aureolus: Kroneberg, 1875: 30 (♂).

MATERIAL. UZBEKISTAN: 1 ♂ (ZMMU, Ta-1345), "*Philodromus aureolus*, Samarkand [*c*. 39.654000, 66.959000], Fedchenko".

EARLIER RECORDS. KAZAKHSTAN: Kostanay Oblast (no exact locality) [Ashikbaev, 1976, sub *R. lateralis*; Logunov, Gromov, 2012]. Mangistau Oblast: Kulaly Island, *c*. 44.924667, 50.036583 [Ponomarev, Abdurakhmanov, 2014]. — KYRGYZSTAN: Issyk-Kul' hollow (no exact locality; coordinates are given for Cholpon-Ata, *c*. 42.690639, 77.043944) [Zonstein *et al.*, 1996, sub *R. lateralis*]. — UZBEKISTAN: nr Tashkent, *c*. 41.236556, 69.159806 [Yakhontov, 1955, sub *R. lateralis*]; Samarkand Oblast (no exact locality) [Bronstein, Murtazaev, 1974]. — TURKMENISTAN: SW Kopetdagh, *c*. 38.496444, 56.447778 [Fet, 1983; Mikhailov, Fet, 1994, both sub *R. lateralis*]; Ashgabat, *c*. 37.964417, 58.270917 [Marusik, Logunov, 1995, sub *R. lateralis*]. — TAJIKISTAN: Takob, *c*. 38.848444, 68.847028; Khozratisho Mt Range (15 km of Muminabad), *c*. 38.222250, 70.090611 [Marusik, Logunov, 1995, sub *R. lateralis*].

REMARKS. This is a Mediterranean – Middle Asian species, known from the Iberian Peninsula and NW Africa in the west, throughout the Caucasus, to Middle Asia in the east; all known records of *R. grammica* in Kazakhstan and Middle Asia are shown in Fig. 47.

The male studied was collected and kept together with 2 ♂♂ and 6 ♀♀ of *Philodromus kronebergi* sp.n. (see above). However, Kroneberg [1875: 32] actually reported this species under the name *Misumata lateralis*, having examined several



Figs 45–47. *Runcinia grammica* (C.L. Koch, 1837): 45 — male palp, ventral view; 46 — male body, dorsal view; 47 — collecting localities in Kazakhstan and Middle Asia (new records — red circles, earlier records — black circles). Scale bars: 1 mm (46), 0.1 mm (45).

Рис. 45–47. *Runcinia grammica* (C.L. Koch, 1837): 45 — пальпа самца, вид снизу; 46 — тело самца, вид сверху; 47 — точки находок вида в Казахстане и Средней Азии (новые находки — красные кружки, ранние находки — черные кружки). Масштаб: 1 мм (46), 0,1 мм (45).

specimens of both sexes collected from the same locality — Samarkand.

Immature specimens

Artanes sp.

Artanes poecilus: Kroneberg, 1875: 30.

MATERIAL. UZBEKISTAN: 1 subadult ♂ (ZMMU, Ta-1311), "*Artanes poecilus*, Samarkand [*c*. 39.654000, 66.959000], Fedchenko".

REMARKS. This subadult male was reported by Kroneberg [1875: 30] as *Artanes poecilus* (Thorell, 1872). Although it can be confirmed that this specimen does indeed belong to the genus *Artanes* Thorell, 1869, it is impossible to identify it with certainty down to the species level.

Philodromus sp.

Philodromus fallax: Kroneberg, 1875: 30 (*pro parte*).

MATERIAL. UZBEKISTAN: 1 juv. (ZMMU, Ta-1350), "*Philodromus fallax*, Murzarabad, Fedchenko" [apparently, Muzrabot (*c*. 37.450000, 66.916667) in Surxondaryo Viloyati].

REMARKS. This immature specimen belongs to the *aureolus* species group of *Philodromus*, its identification is impossible; see also 'Remarks' below, under *Rhysodromus* sp.

Rhysodromus sp.

Philodromus fallax: Kroneberg, 1875: 30 (*pro parte*).

MATERIAL. KYRGYZSTAN: 31 juv. (ZMMU, Ta-1349), "*Philodromus fallax*, Osh [*c*. 40.516667, 72.800000], Fedchenko".

REMARKS. The record of *P. fallax* published by Kroneberg [1875: 30] was based on immature specimens, which cannot be identified to species level. However, the Kroneberg specimens referred to as *P. fallax* actually comprised two species belonging to two different genera (Table); see also 'Remarks' above, under *Philodromus* sp.

Discussion

To sum up, the Turkestan collection of Philodromidae studied by Kroneberg [1875] comprises eight species, most of which are relatively common and widespread. Of particular interest are the following three species:

(1) Although the newly described *P. kronebergi* sp.n. is currently known only from three localities (Fig. 20), it is highly likely that some or many of the earlier records of *P. aureolus* [Sirota, 1975; Fet, 1983; Zonstein, 1984; Mikhailov, Fet, 1994; Zonstein *et al.*, 1996] or *P. cesptum* [Mikhailov, 2024, 2026] from Middle Asia could also be assigned to this species; the matter requires a re-examination of the relevant specimens. Similarly, the same may apply to some data on both *P. aureolus* and *P. cesptum* in China (e.g., fig. 126 in Song, Zhu [1997]).

(2) With the newly proposed combination, *P. humilis* comb.n. becomes the second species of the genus *Pulchel-*

lodromus to be found in Kazakhstan and Middle Asia. To date, only one species — *P. ruficapillus* — has been formally reported from East Kazakhstan Oblast [Savelyeva, 1970, 1979]. However, it is impossible to verify these data, because the materials studied by that author are known to have been lost [Mikhailov, 2016]. Yet, the taxonomic status of *P. humilis* itself warrants further investigation once more specimens of both sexes have been collected (see above for further details).

(3) Of Kroneberg's philodromid species, the only true Turanian endemic seems to be *R. pictus* (Fig. 40). Although this species has been recorded on numerous occasions from Dagestan to Xinjiang [Szita, Logunov, 2008; Ponomarev, 2022; etc.], its taxonomic status remained unconfirmed, as the type series has not yet been studied. Based on the current examination of the syntypes of *P. pictus* (Fig. 35), it can be confirmed that it is indeed a valid species and that all its earlier records from the study region do indeed refer to this species. Of the three syntypes (1 ♂, 2 ♀♀) that have survived and are held at the ZMMU, the male from Osh has been designated as the lectotype (see above for further details).

DISCLOSURE STATEMENT. No potential conflict of interest was reported by the authors.

Acknowledgements. We would like to extend our sincere thanks to Kirill G. Mikhailov (ZMMU) for his kind assistance in compiling regional faunistic data for certain species of Philodromidae and Thomisidae from Kazakhstan and Middle Asia; and Anatoly V. Ozernoy (Almaty, Kazakhstan) for allowing us to use some of his photographs of live philodromid species (Figs 5, 21–24, 38–39). Finally, Galina N. Azarkina (ISEA) and Kirill G. Mikhailov (ZMMU) and are cordially thanked for giving access to philodromid collections from their museums. This research was carried out under the Russian government research project 'Systematisation of insect diversity in taxonomic, ecophysiological and evolutionary aspects' (no. 125012901042-9).

References

Akbayeva L., Yevneyeva D., Temreshev I., Abzalelov A., Tekebaeva Z., Temirbekova A., Karymsakov A., Bakeshova Z., Mkilima T. 2025. Potential biodiversity disruptions caused by changes in water body coverage: a case of Lake Taldykol, Kazakhstan // Polish Journal of Environmental Studies. Vol.34. P.3011–3031.

Alimdzhanov R.A., Bronstein T.G. 1956. [Invertebrate Animals of the Zeravshan Valley]. Tashkent–Samarkand: Academy of Sciences of the Uzbek SSR. 348 pp. [In Russian]

Andreeva E.M. 1975. Distribution and ecology of spiders (Aranei) in Tadjikistan. Fragmenta Faunistica. Vol.20. No.19. P.323–352.

Andreeva E.M. 1976. [Spiders of Tajikistan]. Dushambe: Donish. 196 pp. [In Russian]

Ashikbaev N.Zh. 1976. [Spider fauna (Araneae) of wheat fields pf Kustanai Oblast] // Nauchnye trudy Kazakhstanskogo selkhozinstituta. T.19. No.1. P.20–21 [in Russian].

Ashikbaeyev N., Bektleurova A., Sarbayev A. 1998. The importance of spiders in agrocenoses of agricultural crops in Kazakhstan // Zashchita Rastenii v Kazakhstane. No.2. P.27–28 [in Russian].

Bakhromova B. 2021. [Systematic analysis of the spider fauna of Fergana Valley] // The way of science. International scientific journal. Vol.2. No.84. P.17–19 [in Russian].

Bakhromova B. 2023. [Spiders occurring in the mountain biocenoses of Fergana Valley] // Eurasian Journal of Technology and Innovation. Vol.1. No.10. P.157–159 [in Uzbek].

Bakhromova B. 2025. [Mountain spider fauna of Fergana Valley: physical-geographical conditions and the current state of knowledge] // The way of science. International scientific journal. Vol.6. No.136. P.8–9 [in Russian].

Bariev T.B. 2026. A synopsis of the genus Tibellus Simon, 1875 (Aranei: Philodromidae) in Kazakhstan and Middle Asia // Arthropoda Selecta. Vol.35. No.1. P.116–123. doi: 10.15298/arthsel.35.1.12

Blackwall J. 1861. A history of the spiders of Great Britain and Ireland. [Part I]. London: Ray Society. 174 pp. doi: 10.5962/bhl.title.143674

Bolat Zh., Mukhamadiyev N.S., Temreshev I.I., Mengdibayeva G.Zh. 2018. [On the spider fauna (Arachnida: Araneae) of the green belt of Astana City] // Izvestiya Natsional'noi Akademii Nauk Respubliki Kazakhstan. Seriya Agrarnykh Nauk. Vol.3. P.46–53 [in Russian].

Bronstein T.G., Murtazaev A.B. 1974. [Materials on the spider fauna of the Samarkand Oblast] // Voprosy Zashchity Rastenii. Trudy Uzbekskogo Universiteta, Novaya Seriya. No.247. P.124–143 [in Russian].

Cowan P.J. 2007. Geographic usage of the terms Middle Asia and Central Asia // Journal of Arid Environments. Vol.69. P.359–363.

Eskov K.Yu., Marusik Yu.M. 1995. On the spiders from the Saur Mountain Range, eastern Kazakhstan (Arachnida: Araneae) // Beiträge zur Araneologie. Bd.4 (for 1994). P.55–94.

Esyunin S.L., Efimik V.E., Nekhaeva A.A., Kim L.V., Valuev V.A., Kabdrakhimov A.A., Tuneva T.K., Akhmedenov K.M. 2025. New data on the spider (Arachnida: Aranei) fauna of Mangystau Oblast, Kazakhstan // Arthropoda Selecta. Vol.34. No.3. P.426–446. doi: 10.15298/arthsel.34.3.15

Esyunin S.L., Kabdrakhimov A.A. 2023. [New data on the spider fauna of West Kazakhstan Region (Arachnida: Araneae)] // Vestnik Permskogo Universiteta. Biologiya. No.1. P.19–30 [in Russian]. doi: 10.17072/1994-9952-2023-1-19-30

Esyunin S.L., Kabdrakhimov A.A. 2024. [The spider fauna of the semi-desert zone of West Kazakhstan Oblast] // Stepi severnoi Evrazii: materialy X mezhdunarodnogo simpoziuma. P.435–439 [in Russian].

Esyunin S.L., Kabdrakhimov A.A., Efimik V.E. 2024. On the spiders (Araneae) collected by D.E. Kharitonov's expedition to Lake Zaisan, East Kazakhstan // Arthropoda Selecta. Vol.33. No.1. P.129–148. doi:10.15298/arthsel.33.1.13.

Esyunin S.L., Ponomarev A.V., Kabdrakhimov A.A. 2024. [The spider fauna (Araneae) of West Kazakhstan Oblast, Kazakhstan: new records and taxonomic remarks] // Euroasian Entomological Journal. Vol.22. No.6. P.317–325 [in Russian, with English summary].

Fet V.Ya. 1983. [Spider fauna (Araneae) of the south-western Kopetdag] // Entomologicheskoe Obozrenie. Vol.62. No.4. P.835–845 [in Russian, with English summary].

Fet V.Ya., Kuznetsov G.T. 1982. [On the zoogeographical relationships of the spider fauna of Kopetdag] // Respublikanskaya nauchno-teoreticheskaya konferetsiya molodykh uchenykh i spetsialistov Tadzhikskoi SSR, posvyashennaya XXVI s'ezdu KPSS (tezicy dokladov, sektsiya zoologii). Dushanbe: Donish. P.59–61 [in Russian].

Folkina M.Ya. 1979. [On the species composition of spider predators of fruit aphids in the orchards of the Zailiyskiy Alatau] // Izvestiya Akademii nauk KazSSR. Seriya biologicheskaya. No.2. P.23–26 [in Russian].

Jashenko R.V., Zyuzin A.A. 2000. On the necessity of adequate use of the names Middle Asia and Central Asia // TETHYS Entomological Research. Vol.2. P.5.

Kastrygina Z.A., Kovblyuk M.M. 2014. The spider genus *Pulchellodromus* Wunderlich, 2012 in the Crimea (Aranei: Philodromidae) // Arthropoda Selecta. Vol.23. No.3. P.279–283. doi: 10.15298/arthsel.23.3.07

Kroneberg A. 1875. Araneae // Fedtschenko A.P. (ed.). [Journey to Turkestan]. Izvestiya Imperatorskogo Obshchestva Lyubitelei Estestvoznaniya, Antropologii i Etnografii. Vol.19. No.3. P.1–58. Pl. 1–5 [in Russian].

Kroneberg A. 1888. [Lower Turkestan invertebrates. Arachnida] // Izvestiya Imperatorskogo Obshchestva Lyubitelei Estestvoznaniya, Antropologii i Etnografii. Vol.54. P.187–191 [in Russian].

Kuznetsov G.T., Fet V.Ya. 1986. [Materials on the spider fauna of Kopetdag] // N.N. Shcherbak (ed.). Priroda Tsentral'nogo Kopetdaga. Ashkhabad: Ylym. P.48–67 [in Russian].

Logunov D.V. 1996. A critical review of the spider genera *Apollophanes* O. P.-Cambridge, 1898 and *Thanatus* C. L. Koch, 1837 in North Asia (Araneae, Philodromidae) // Revue Arachnologique. T.11. Fasc.13. P.133–202.

Logunov D.V. 1997. Taxonomic notes on some Central Asian philodromid spiders (Aranei Philodromidae) // Arthropoda Selecta. Vol.6. No.1/2. P.99–104.

Logunov D.V., Gromov A.V. 2012. Spiders of Kazakhstan. Manchester: Siri Sci. Press. 232 pp.

Logunov D.V., Kazenas V.L. 2015. [Spiders (Phylum Arthropoda, Class Arachnida)]. (Series "Animals of Kazakhstan in Photographs"). Almaty. 114 pp. [In Russian]

Logunov D.V., Marusik Yu.M. 2003. A revision of the genus *Yllenus* Simon, 1868 (Arachnida, Araneae, Salticidae). Moscow: KMK Scientific Press. 168 pp.

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.

Marusik Yu.M., Logunov D.V., Koponen S. 2000. Spiders of Tuva, south Siberia. Magadan: Institute for Biological Problems of the North. 253 pp.

Marusik Yu.M., Mikhailov K.G. 2021. Revalidation of *Xysticus tuberosus* Thorell, 1875 (Aranei: Thomisidae) with notes on the related species // Arthropoda Selecta. Vol.30. No.1. P.119–124. doi: 10.15298/arthsel.30.1.11

Mikhailov K.G. 1992. The spider genus *Clubiona* Latreille, 1804 (Arachnida Aranei Clubionidae) in the USSR fauna: a critical review with taxonomical remarks // Arthropoda Selecta. Vol.1. No.3. P.3–34.

Mikhailov K.G. 2016. [Arachnology in Russia/USSR] // Aspekty bioraznoobraziya. Sbornik trudov Zoologicheskogo Muzeya MGU. Vol.54(2). P.655–691 [in Russian].

Mikhailov K.G. 2024. Checklist of spiders (Arachnida: Aranei) of Russia and neighbouring countries (as of 2022) // Arthropoda Selecta. Supplement No. 7. Moscow: KMK Scientific Press. 311 pp.

Mikhailov K.G. 2026. Progress in the study of spiders (Aranei) in Russia and neighbouring regions: an update for 2024 // Arthropoda Selecta. Vol.35. No.2. P.261–268. doi: 10.15298/arthsel.35.2.12

Mikhailov K.G., Fet V.Ya. 1994. Fauna and zoogeography of spiders (Aranei) of Turkmenistan // V. Fet, K.I. Atamuradov (eds). Biogeography and ecology of Turkmenistan, Kluwer Acad. Publ. P.499–524.

Mikhailov K.G., Temereva E.N. 2023. [New data on the spider fauna (Arachnida: Araneae) of the Russian Empire] // Invertebrate Zoology. Vol.20. No.4. P.447–460 [in Russian, with English summary]. doi: 10.15298/invertzool.20.4.10.

Muster C., Thaler K. 2004. New species and records of Mediterranean Philodromidae (Arachnida, Araneae): I. *Philodromus aureolus* group // K. Thaler (Hrsg.) Diversität und Biologie von Webspinnen, Skorpionen und anderen Spinnentieren. Denisia. Bd.12. S.305–326.

Muster C., Bosmans R., Thaler K. 2007. The *Philodromus pulchellus*-group in the Mediterranean: taxonomic revision, phylogenetic analysis and biogeography (Araneae: Philodromidae) // Invertebrate Systematics. Vol.21. No.1. P.39–72. doi: 10.1071/IS06014

Nekhaeva A., Kim L., Ishaeva A., Ozernoy A., Sozontov A. 2026. Spider (Arachnida: Araneae) fauna of the lowland part of the Balkhash-Alakol Basin (SE Kazakhstan): an integrated assessment // Biodiversity Data Journal. Vol.14. Art.e181501.

Nentwig W., Blick T., Bosmans R., Kropf C., Stäubli A. 2026. Spiders of Europe. Version 07.2026. Online at: https://www.araneae.nmbe.ch (accessed on 26.07.2026). doi.org/10.24436/1

Ono H. 1988. A revisional study of the spider family Thomisidae (Arachnida, Araneae) of Japan. Tokyo: National Science Museum. 252 pp.

Ovtsharenko V.I., Platnick N.I., Marusik Yu.M. 1995. A review of the Holarctic ground spider genus *Parasyrisca* (Araneae, Gnaphosidae) // American Museum Novitates. Vol.3147. P.1–55.

Pavlenko T.V. 1985. [Distribution of spiders among natural habitats of Barsakelmes Island (Aral Sea)] // V.I. Ovcharenko (ed.). Fauna i ekologiya paukov SSSR. Trudy Zoologicheskogo Instituta AN SSSR. Vol.139. P.147–155 [in Russian, with English summary].

Piterkina T.V. 2009a. [Spiders (Arachnida: Araneae) of the Dzhanybek Station (West Kazakhstan): a local fauna in a biogeographical context] // Babenko A.B. *et al.* (eds.). Vidy i soobschestva v ekstremal'nykh usloviyakh. Moscow: KMK Scientific Press. P.335–352 [in Russian].

Piterkina T.V. 2009b. Spiders (Arachnida: Araneae) of the Dzhanybek Research Station, West Kazakhstan: a local fauna in a biogeographical aspect // Golovatch S.I., Makarova O.L., Babenko A.B., Penev L.D. (eds.). Species and Communities in Extreme Environments. Festschrift towards the 75th Anniversary and Laudatio in Honour of Academician Yuri Ivanovich Chernov. Sofia–Moscow: Pensoft Publishers & KMK Scientific Press. P.335–356.

Piterkina T.V., Mikhailov K.G. 2009. Annotated checklist of spiders (Araneae) of the Dzhanybek Station // Zhivotnye glinistoi polupustyni Zavolzhya (Konspekty faun i ekologicheskie kharakteristiki). Moscow: KMK Scientific Press. P.62–88 [in Russian].

Plakkhina E., Esyunin S., Fetisov D., Kim L., Fedorova A., Ivanova N. 2026. First remarks on the spider fauna (Arachnida: Araneae) of the Karkaraly State National Natural Park: extension of knowledge of the fauna of Central Kazakhstan // Fundamental and Experimental Biology. Vol.12. No.2. P.152–163.

Ponomarev A.V. 2022. [Spiders (Arachnida: Aranei) of the south-east of the Russian Plain: a catalogue and characteristics of the fauna]. Rostov-on-Don: SSC RAS. 640 pp. [In Russian, with English summary]

Ponomarev A.V., Abdurakhmanov G.M. 2014. Spiders (Araneae) of the coast and islands of the northern Caspian Sea // Yugh Rossii: Ekologiya, Razvitie. No.1. P.76–121 [in Russian, with English summary].

Ponomarev A.V., Bragina T.M. 2014. [Preliminary data on the spider fauna (Araneae) of protected natural areas of Kostanay Oblast (Republic of Kazakhstan)] // Yugh Rossii: Ekologiya, Razvitie. Vol.4. P.46–57 [in Russian].

Ponomarev A.V., Bragina T.M., Shmatko V.Yu. 2017. New data on spiders (Araneae) of the Naurzum State Nature Reserve (Kostanay Oblast, Kazakhstan) // Caucasian Entomological Bulletin. Vol.13. No.1. P.3–10 [in Russian, with English summary]. doi: 10.23885/1814-3326-2017-13-1-3-10

Ponomarev A.V., Tsvetkov A.S. 2004. [On the spider fauna (Araneae) of the Inder Upland and its surroundings] // G.M. Borlikov (ed.). Problemy sokhraneniya i ratsional'nogo ispolzovaniya bioraznoobraziya Prikaspiya i sopredel'nykh regionov. Materialy 2-i mezhdunarodnoi nauchnoi konferentsii 31 May 2004. Elista: Kalmyk State University. P.100–102 [in Russian].

Savelyeva L.G. 1970. [Fauna and zoogeographical relationships of spiders of East Kazakhstan] // Biologiya i Geografiya. Vyp.6. P.78–88 [in Russian].

Savelyeva L.G. 1979. [Zoogeographical spider complexes (Araneae) of East Kazakhstan] // Priroda i ekonomika Vostochnogo Kazakhstana. Alma-Ata: Nauka. P.139–148 [in Russian].

Shorthouse D.P. 2010. SimpleMappr, an online tool to produce publication-quality point maps. Available from: http://www.simplemappr.net (accessed on 25.07.2026).

Sirota G. 1975. [Spiders of the cotton agrobiocenosis and surrounding habitats] // Materialy 32-i studencheskoi konferentsii Samarkandskogo universiteta (Khimiya, biologiya, geographiya). P.67–69 [in Russian].

Song D.X., Zhu M.S. 1997. Fauna Sinica: Arachnida: Araneae: Thomisidae, Philodromidae. Beijing: Science Press. 259 pp. [In Chinese]

Spassky S.A. 1952. [Spiders of the Turanian zoogeographical province] // Entomologicheskoe Obozrenie. Vol.32. P.192–205 [in Russian].

Szita É., 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.

Tarabaev Ch.K. 1979. [Spiders inhabiting apple tree crowns in the foothills of the Zailiyskiy Alatau. Novosti Entomologii Kazakhstana] // Trudy Kazakhskogo otdeleniya Vsesoyuznogo Entomologicheskogo obshchestva. Deposited in VINITI, 3415-9. P.119–125 [in Russian].

Tarabaev Ch.K. 1980. [Spiders and some poorly studied species of predatory insects inhabiting apple tree canopies in the foothills of the Zailiyskiy Alatau and their importance in reducing phytophagous insects]. Avtoreferat dissertatsii na soiskanie uchenoi stepeni kandidata biologicheskikh nauk. Leningrad: All-Union Research Institute of Plant Protection. 22 pp. [In Russian]

Temreshev I.I., Eszhanov A.B., Zhanseit F.K., Makezhanov A.M. 2021. [Preliminary information on the arachnofauna of the Taldykol Lakes] // Aktual'nye voprosy sovremennoi nauki: Teoriya, tekhnologiya, metodologiya i praktika. Ufa. P.38–47.[in Russian].

Temreshev I.I., Kopzhasarov B.K., Beknazarova Z.B., Sarbasova A.M., Dzhanbatyrov A.S. 2023. [On the study of arachnids (Arachnida), entomophages of lepidopteran pests of apple trees in southeastern Kazakhstan] // Bulletin of the L.N. Gumilyov Eurasian National University. Bioscience Series. Vol.142. P.41–56 [in Russian].

Walckenaer C.A. 1826. Aranéides // In: Faune française ou histoire naturelle générale et particulière des animaux qui se trouvent en France, constamment ou passagèrement, à la surface du sol, dans les eaux qui le baignent et dans le littoral des mers qui le bornent par Viellot, Desmarrey, Ducrotoy, Audinet, Lepelletier et Walckenaer. Paris, livr. P.11–12, 1–96.

WSC 2026. World Spider Catalog. Natural History Museum Bern, version 27; online at: http://wsc.nmbe.ch, doi: 10.24436/2 (accessed on 21.07.2026).

Yakhontov V.V. 1955. [Arthropod community of an alfalfa field in northern Uzbekistan. I. Order Aranei — spiders] // Zoologicheskii Zhurnal. Vol.34. No.2. P.359–364 [in Russian].

Yakhontov V.V. 1956. On the spider fauna (Araneae) of Uzbekistan // Doklady Akademii Nauk Uzbekskoi SSR. Vol.7. No.2. P.61–62 [in Russian, with Uzbek summary].

Yunusov M.M., Bakhromova B.Kh., Mirzosharipova M.Sh. 2022. [Checklist and systematic analysis of spiders occurring in desert, mountain and foothill habitats of the Fergana Valley] // Central Asian Research Journal for Interdisciplinary Studies. Vol.2. No.6. P.223–229 [in Uzbek].

Zlatanova A.A., Tarabaev Ch.K. 1985. [Entomophages and their importance in reducing populations of the codling moth Laspeyresia pomonella L. (Lepidoptera: Tortricidae) in southeastern Kazakhstan] // Entomologicheskoe Obozrenie. Vol.64. No.3. P.510–515 [in Russian, with English summary].

Zonstein S.L. 1984. [On the fauna and ecology of spiders (Araneae) of the lower vegetation layers in walnut-fruit forests of southern Kyrgyzstan] // A.I. Protsenko (ed.). Entomologicheskie issledovaniya v Kirgizii. Frunze: Ilim. Vyp.17: 144–151 [in Russian].

Zonstein S.L., Gromov A.V., Zyuzin A.A., Ovtchinnikov S.V. 1996. Class Arachnida — terrestrial arachnids. Order Araneae — spiders // V.D. Matyashov (ed.) Kadastr geneticheskogo fonda Kyrgyzstana. Tom 2. Bishkek: Institute of Biology and Soil Science, National Academy of Sciences of the Kyrgyz Republic & Ecological Movement of Kyrgyzstan “Aleine”. P.132–153 [in Russian].

Zyuzin A.A., Tarabaev Ch.K., Fedorov A.A. 1994. [The spider fauna (Arachnida: Araneae) of the eastern part of the Kyzylkum Desert and the eastern surroundings of the Aral Sea] // Selevinia. Vol.2. P.3–11 [in Russian, with English summary].

Responsible editor K.G. Mikhailov