Arthropoda Selecta 33(3): 407–416

On two *Karakumosa* species (Aranei: Lycosidae), with new faunistic records for three fossorial wolf-spiders from Middle Asia and the Caucasus

О двух видах *Karakumosa* (Aranei: Lycosidae), с новыми фаунистическими находками для трёх норных пауков-волков из Средней Азии и Кавказа

Dmitri V. Logunov
Д.В. Логунов

Zoological Institute of the Russian Academy of Sciences, Universitetskaya Embankment 1, St Petersburg 199034 Russia.
Зоологический институт Российской Академии наук, Университетская наб. 1, Санкт Петербург 199034 Россия.
Dmitry Logunov: Dmitry.Logunov@zin.ru; ORCID: 0000-0002-1983-7535

KEY WORDS: Araneae, distribution, *Geolycosa*, *Lycosa*, variation, *Zyuzicosa*.
КЛЮЧЕВЫЕ СЛОВА: Araneae, распространение, *Geolycosa*, *Lycosa*, изменчивость, *Zyuzicosa*.

ABSTRACT. The paper presents new taxonomic-faunistic data on five species of the fossorial Lycosidae (Aranei) from Middle Asia and the Caucasus. A new species of *Karakumosa* Logunov et Ponomarev, 2020 (♂♀) is described from south-eastern Uzbekistan and eastern Turkmenistan. The taxonomic status and diagnosis of *K. turanica* Logunov et Ponomarev, 2020 are clarified and its distribution is mapped. Additional faunistic records are provided for *Geolycosa dunini* Zyuzin et Logunov, 2000; *Lycosa praegrandis* C.L. Koch, 1836; and *Zyuzicosa kopetdaghensis* Logunov, 2012.

How to cite this paper: Logunov D.V. 2024. On two *Karakumosa* species (Aranei: Lycosidae), with new faunistic records for three fossorial wolf-spiders from Middle Asia and the Caucasus // Arthropoda Selecta. Vol.33. No.3. P.407–416. doi: 10.15298/arthsel.33.3.09

РЕЗЮМЕ. В статье представлены новые таксономико-фаунистические данные по пяти видам норных Lycosidae (Aranei) из Средней Азии и Кавказа. Описан новый вид *Karakumosa* Logunov et Ponomarev, 2020 (♂♀) из юго-восточного Узбекистана и восточного Туркменистана. Уточнены таксономический статус и диагноз *K. turanica* Logunov et Ponomarev, 2020, и составлена карта распространения этого вида. Приведены дополнительные фаунистические данные для *Geolycosa dunini* Zyuzin et Logunov, 2000; *Lycosa praegrandis* C.L. Koch, 1836; и *Zyuzicosa kopetdaghensis* Logunov, 2012.

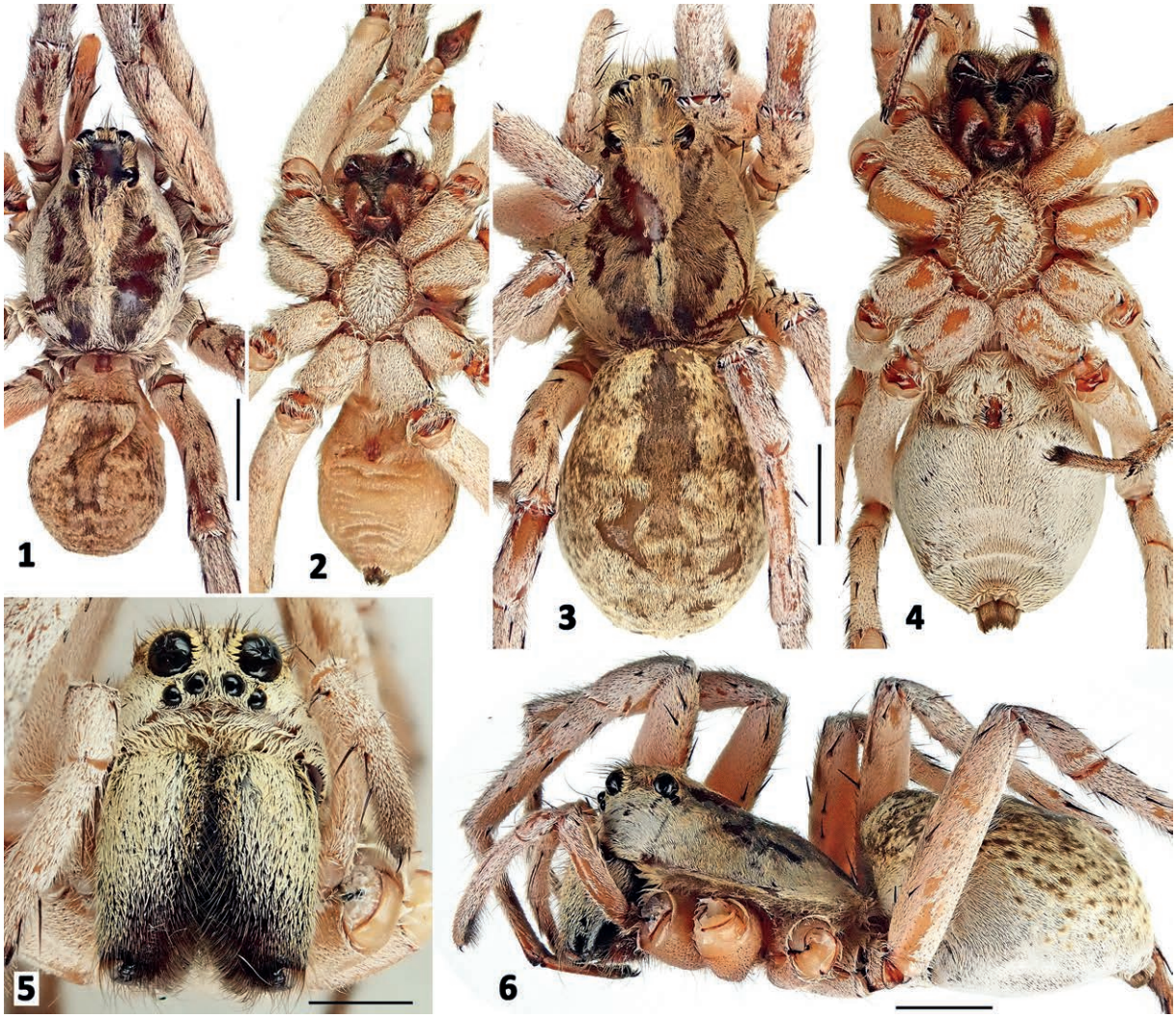
Introduction

According to Logunov [2023], a total of 47 species in nine genera of fossorial Lycosidae have been recorded/described from Middle Asia and the Caucasus. From a taxonomic viewpoint, the main problem with this fauna is that many of the reported species remain known from short series (often consisting of old specimens), hindering the assessment of intraspecific variation in their diagnostic characters.

One of such cases relates to *Karakumosa turanica* Logunov et Ponomarev, 2020, which was described from the holotype male and three female paratypes from Turkmenistan [Logunov, Ponomarev, 2020]. All types were old museum specimens collected separately from each other, and consequently the sex matching in *K. turanica* was viewed as tentative. The species was subsequently recorded from south-eastern Iran based on a single female [Shafaie *et al.*, 2022b], and from few more localities of Turkmenistan [Logunov, 2023]. Another species — *K. golestanica* Shafaie, Nadolny et Mirshamsi, 2022 — was described from the four males from north-western Iran [Shafaie *et al.*, 2022a], but Logunov [2023: 500] recognized it as a junior synonym of *K. turanica*. Yet, an old sample from the Zoological Institute of the Russian Academy of Sciences (St. Petersburg, Russia) containing both male and female of *K. turanica* collected together has been found and studied, and the original sex matching has been confirmed (see below; cf. Figs 21–22, 27 and 33 with figs 161–168 in Logunov, Ponomarev [2020]).

Recently, the author of this paper was able to obtain and study a rather long series of a *Karakumosa* species (4♂♂ 21♀♀) collected in south-eastern Uzbekistan in 2021 and 2023, for which the sex matching is unquestionable. The conformation of the male palp of this species is rather similar to that of *K. turanica* (cf. Figs 7–13 and 15–18 with figs 14–16 in Shafaie *et al.* [2022a] and figs 161–162 in Logunov, Ponomarev [2020]), whereas the corresponding females differ markedly from those of *K. turanica* (cf. Figs 30–32, 36–38 and 27–29, 33–35). Furthermore, the assessment of a variation of the male palp in this species (Figs 7–13, 15–18) has revealed that some of the earlier records of *K. turanica* (e.g., Logunov [2023: figs 125–128]) should in fact be assigned to this species.

These findings make it possible (1) to describe a new *Karakumosa* species from Uzbekistan and Turkmenistan,



igs 1–6. General appearance of *Karakumosa sogdiana* sp.n., male paratype, ARA_ARA_0000774 (1–2) and female paratype, ARA_ARA_0000773 (3–6): 1, 3 — body, dorsal view; 2, 4 — same, ventral view; 5 — carapace, front view; 6 — body, lateral view. Scale bars: 5 mm.

Рис. 1–6. Общий вид *Karakumosa sogdiana* sp.n., самец-паратип, ARA_ARA_0000774 (1–2) и самка-паратип, ARA_ARA_0000773 (3–6): 1, 3 — тело, вид сверху; 2, 4 — то же, вид снизу; 5 — головогрудь, вид спереди; 6 — тело, вид сбоку. Масштаб: 5 мм.

and (2) to clarify the taxonomic status, diagnosis and distribution of *K. turanica*. Besides, few additional faunistic records are presented for three burrowing lycosid species from Middle Asia and the Caucasus.

Material and methods

A total of 49 specimens have been studied. These specimens have been borrowed from or shared between the following institutions: ISEA — Institute for Systematics and Ecology of Animals, Novosibirsk, Russia (curator: G.N. Azarkina); MMUE — Manchester Museum, University of Manchester, Manchester, UK (honorary curator: D.V. Logunov); ZISP — Zoological Institute of the Russian Academy of Sciences, Saint Petersburg, Russia (curator: D.V. Logunov); ZMMU — Zoological Museum of the Moscow State University, Moscow, Russia (curator: K.G. Mikhailov).

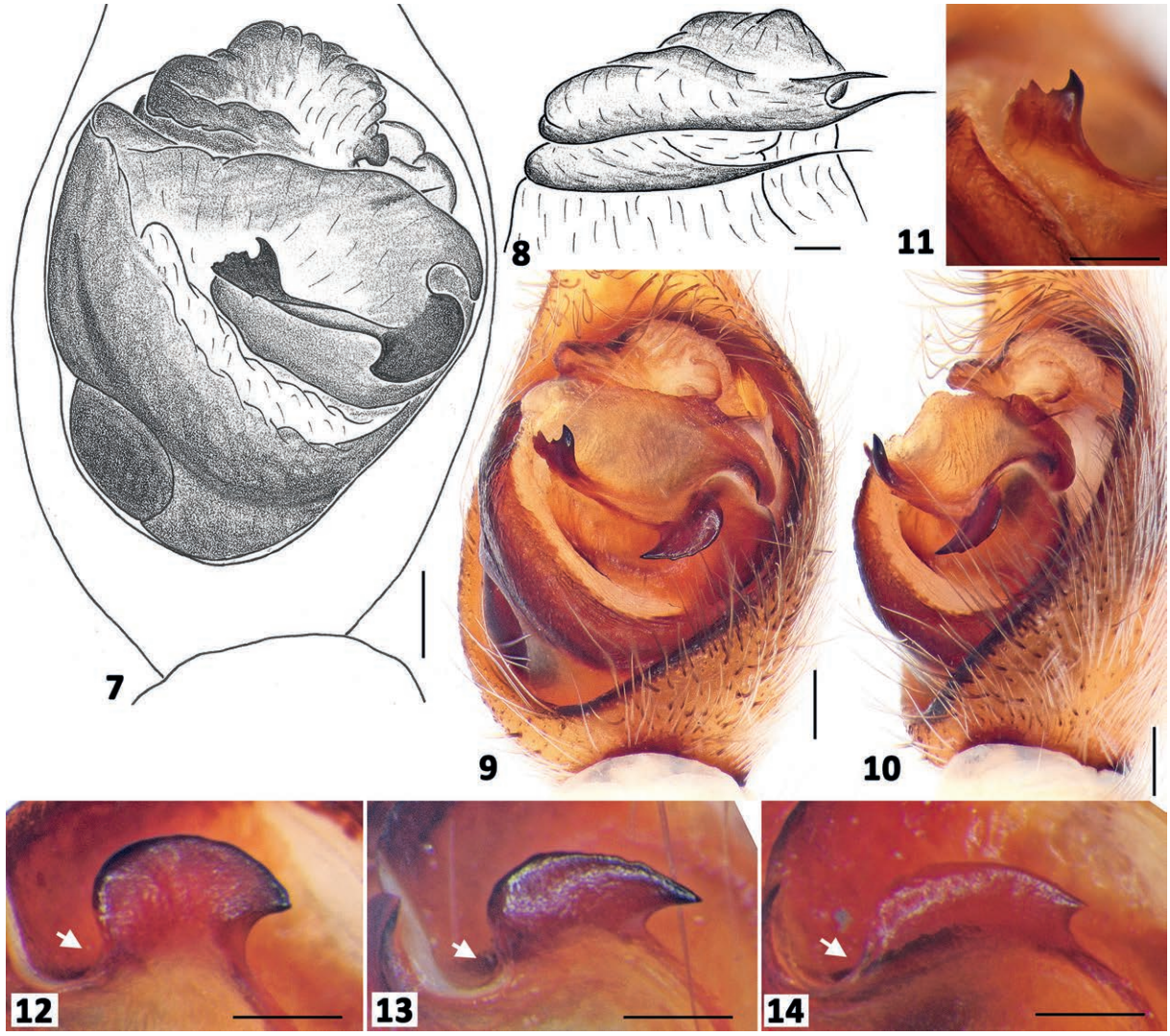
The terminology and format of description follow Logunov [2010] and Logunov & Ponomarev [2020]. Abbreviations used in the text: AME — anterior median eye, ALE — anterior lateral eye, a.s.l. — above sea level, D — described, Distr. — District, Fm — femur, Mt — metatarsus, nr — near, PME — posterior median eye, PLE — posterior lateral eye, Pt — patella, Tb — tibia, Tr — tarsus, Vil. — village. The sequence of leg segments in measurement data is as follows: Fm + Pt + Tb + Mt + Tr (total). All measurements are in mm.

The digital photographs presented were made at the Manchester Museum (UK), using an Olympus SZX16 stereo microscope with a DP27 Digital Colour Camera, and Helicon Focus 7.7.2 as the processing software. Distributional map was produced by using the online mapping software SimpleMappr [Shorthouse, 2010].

Results

Karakumosa Logunov et Ponomarev, 2020

Type species: *Karakumosa repetek* Logunov et Ponomarev, 2020; by original designation [Logunov, Ponomarev, 2020].



Figs 7–14. Male palps of *Karakumosa sogdiana* sp.n. (7–13 — paratypes, ARA_ARA_0000774) and *K. turanica* Logunov et Ponomarev, 2020 (14 — holotype): 7, 9 — bulbus, ventral view; 8 — embolic division, ventral view; 10 — bulbus, retrolateral view; 11 — median tooth, mediolateral-ventral view; 12–14 — proximal extension, ventro-prolateral view. Scale bars: 0.1 mm (10), 0.25 mm (7, 9–14).

Рис. 7–14. Пальпы самцов *Karakumosa sogdiana* sp.n. (7–13 — паратипы, ARA_ARA_0000774) и *K. turanica* Logunov et Ponomarev, 2020 (14 — голотип): 7, 9 — бульбус, вид снизу; 8 — эмболярный отдел, вид снизу; 10 — бульбус, вид сбоку-сзади; 11 — медиальный зубец, вид снизу; 12–14 — проксимальный отросток, вид снизу. Масштаб: 0,1 мм (10), 0,25 мм (7, 9–14).

REMARKS. *Karakumosa* is a Central Asian genus of fossorial lycosids currently accounting for 17 named species [WSC, 2024; present data].

Karakumosa sogdiana **sp.n.**
Figs 1–13, 15–18, 30–32, 36–38, Map.

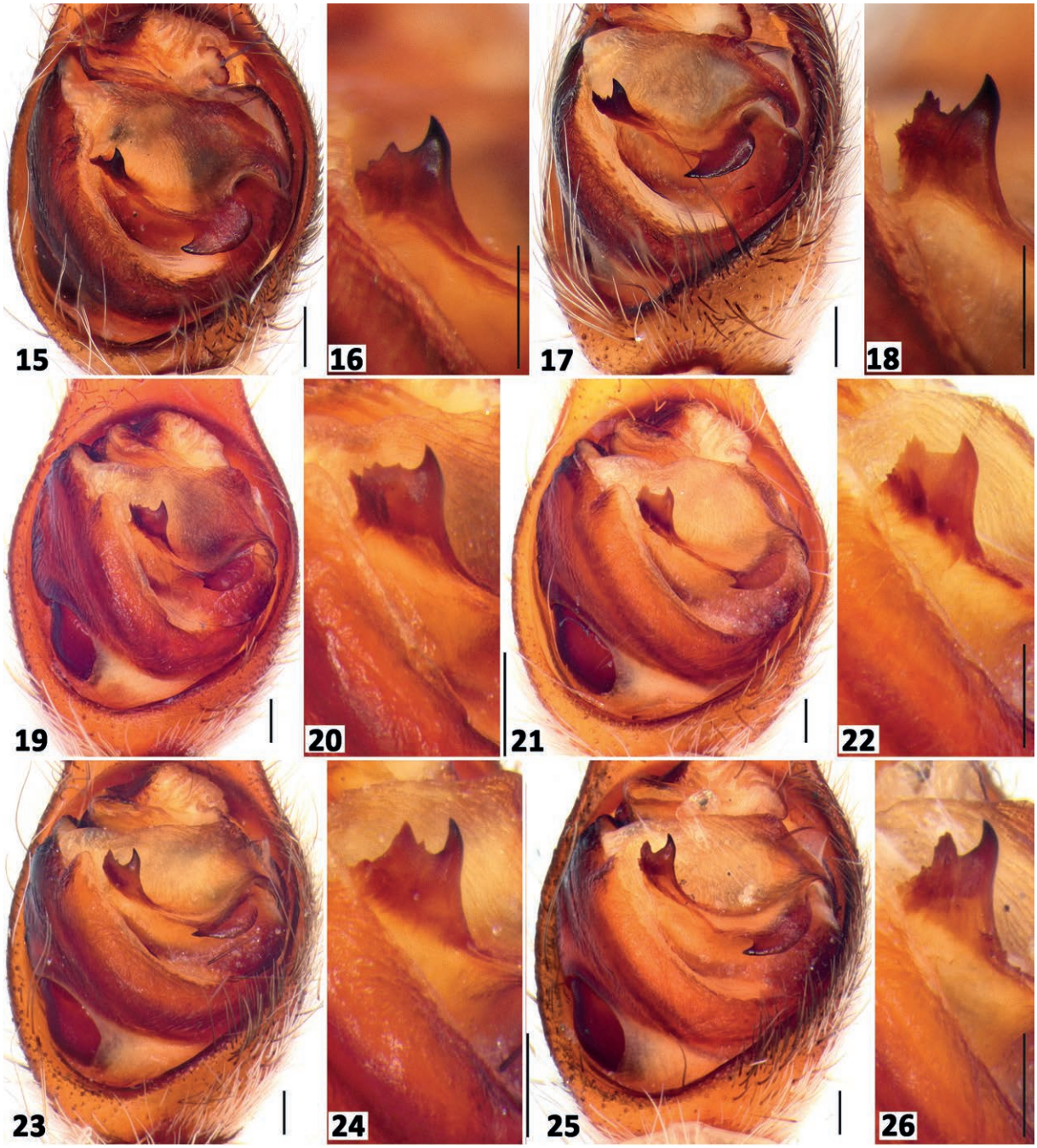
Tarentula alticeps Kroneberg, 1875: 40, pl. 4, fig. 28 (D♂♀, *pro parte*, misidentification of the paralectotypes from Uzbekistan: Ulus and Samarkand).

Karakumosa turanica Logunov et Ponomarev, 2020: 303, figs 165, 168 (D♂♀, *pro parte*, misidentification of the specimens from Uzbekistan: Ulus and Samarkand); Logunov, 2023: figs 125–128 (♂, *pro parte*, misidentification of the specimens from Repetek).

TYPES. Holotype ♀ (ZISP, ARA_ARA_0000772), Uzbekistan, Navoi Region, Nurota Distr., nr Koshkuduk, W shore of Aydar Lake (c. 40°59′N, 65°55′E), desert, 13.08.2023, V.S. Turitsin. — Paratypes: 3 ♂♂ 6 ♀♀ 1juv. (ZISP, ARA_ARA_0000774), together with the holotype; 5 ♀♀ (ISEA, 001.9084), Uzbekistan, same locality and habitat as in the holotype, 28–29.08.2023, V.S. Turitsin; 1 ♂ 5 ♀♀ 1 juv. (ZMMU, Ta-8492), same locality, 27.06.2021, V.S. Turitsin; 1 ♂ (ISEA, 001.9085), same locality, 27.06.2021, V.S. Turitsin; 4 ♀♀ 2juv. (ZISP, ARA_ARA_0000773) & 5 ♀♀ (MMUE, G7706.1), Surxondaryo Region, SW outskirts of Dzharkurgan, nr Dekhkanabad (c. 37°28′N, 67°22′E), desert, 7.08.2023, V.S. Turitsin.

ETYMOLOGY. A noun in apposition derived from the name of Sogdiana (or Sogdia), an ancient Middle Asian state that existed on the territory of present-day Uzbekistan and Tajikistan between 1000 and 500 BC.

DIAGNOSIS. The male *K. sogdiana* sp.n. resembles that of *K. turanica*, from which it is sometimes not easily distinguished (Figs 9–10, 15–26). The most reliable distinguishable character seems to be the shape of the proximal extension of the median apophysis, which is constricted basally in *K. sogdiana* sp.n. and not constricted (=with a wide base) in *K. turanica* (arrowed in Figs 12–13 and 14). Females of these two species are easily separable by the shape of the eipgynal atrium (cf. Figs 30–32 and 27–29) and the comparative length of spermathecae (cf.

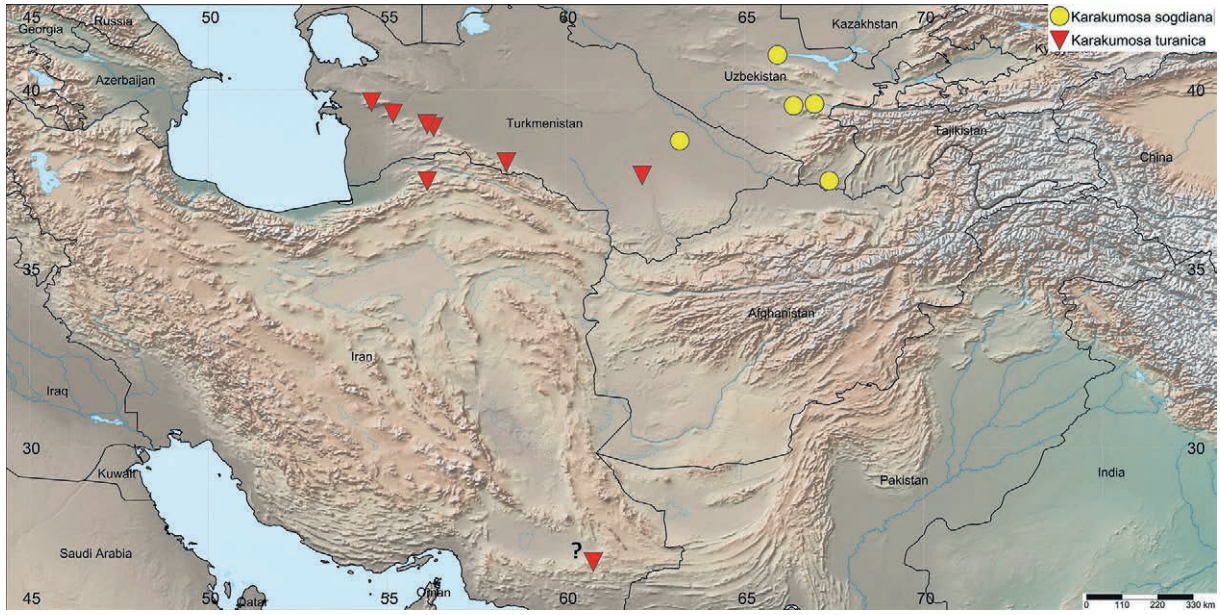


Figs 15–26. Male palps of *Karakumosa sogdiana* sp.n. (15–14 — paratype from ZMMU; 17–18 — paratype from ISEA) and *K. turanica* Logunov et Ponomarev, 2020 (19–20 — holotype; 21–22 — ARA_ARA_0000690; 23–26 — ARA_ARA_0000680): 15, 17, 19, 21, 23, 25 — bulbus, ventral view; 16, 18, 20, 22, 24, 26 — median tooth, medio-ventral view. Scale bars: 0.25 mm.

Рис. 15–26. Пальпы самцов *Karakumosa sogdiana* sp.n. (15–14 — паратипы из ZMMU; 17–18 — паратип из ISEA) и *K. turanica* Logunov et Ponomarev, 2020 (19–20 — голотип; 21–22 — ARA_ARA_0000690; 23–26, ARA_ARA_0000680): 15, 17, 19, 21, 23, 25 — бульбус, вид снизу; 16, 18, 20, 22, 24, 26 — медиальный зубец, вид снизу. Масштаб: 0,25 мм.

Figs 36–38 and 33–35): the spermathecae length / atrium length ratio is 0.2–0.3 in *K. sogdiana* sp.n. and 0.4 in *K. turanica*. From other similar species such as *K. ferganensis* Logunov, 2023 from Kyrgyzstan and *K. reshetnikovi* Logunov et Fomichev, 2021 from Tajikistan (both remain known from the females), the females of *K. sogdiana* sp.n. can be easily distinguished by the notably thicker posterior transverse plate (cf. Figs 30–32 with figs 104, 106 in Logunov [2023] and figs 6–7 in Logunov, Fomichev [2021]), as well as by the comparative length of spermathecae: the spermathecae length / atrium length ratio in both similar species is 0.4–0.5, but 0.2–0.3 in *K. sogdiana* sp.n.

Both sexes of *K. sogdiana* sp.n. are also similar to those of *K. xinjiang* Wang, Yang et Zhang, 2023 from western China [Wang *et al.*, 2023]. The conformation of male palps in both species is virtually inseparable, apart from the shape of median tooth of the median apophysis (cf. Figs 9–11, 15–18 with fig.



Map. Collecting localities of two *Karakumosa* species.
Карта. Точки сборов двух видов *Karakumosa*.

3A in Wang *et al.* [2023]), but the variation of this character in *K. xinjiang* is yet unkown. The females of *K. sogdiana* sp.n. can be easily distinguished by the comparatively shorter and more round spermathecae (the spermathecae length / atrium length ratio 0.2–0.3, compared to 0.4 in *K. xinjiang*), and also by body colouration. The females of *K. xinjiang* have unusually bright orange front sides of Fm I, palps and chelicerae [Wang *et al.*, 2023: fig. 1D], whereas those in *K. sogdiana* sp.n. are light yellow (or brown in the case of chelicerae).

DISTRIBUTION. Eastern Turkmenistan and south-eastern Uzbekistan (Map).

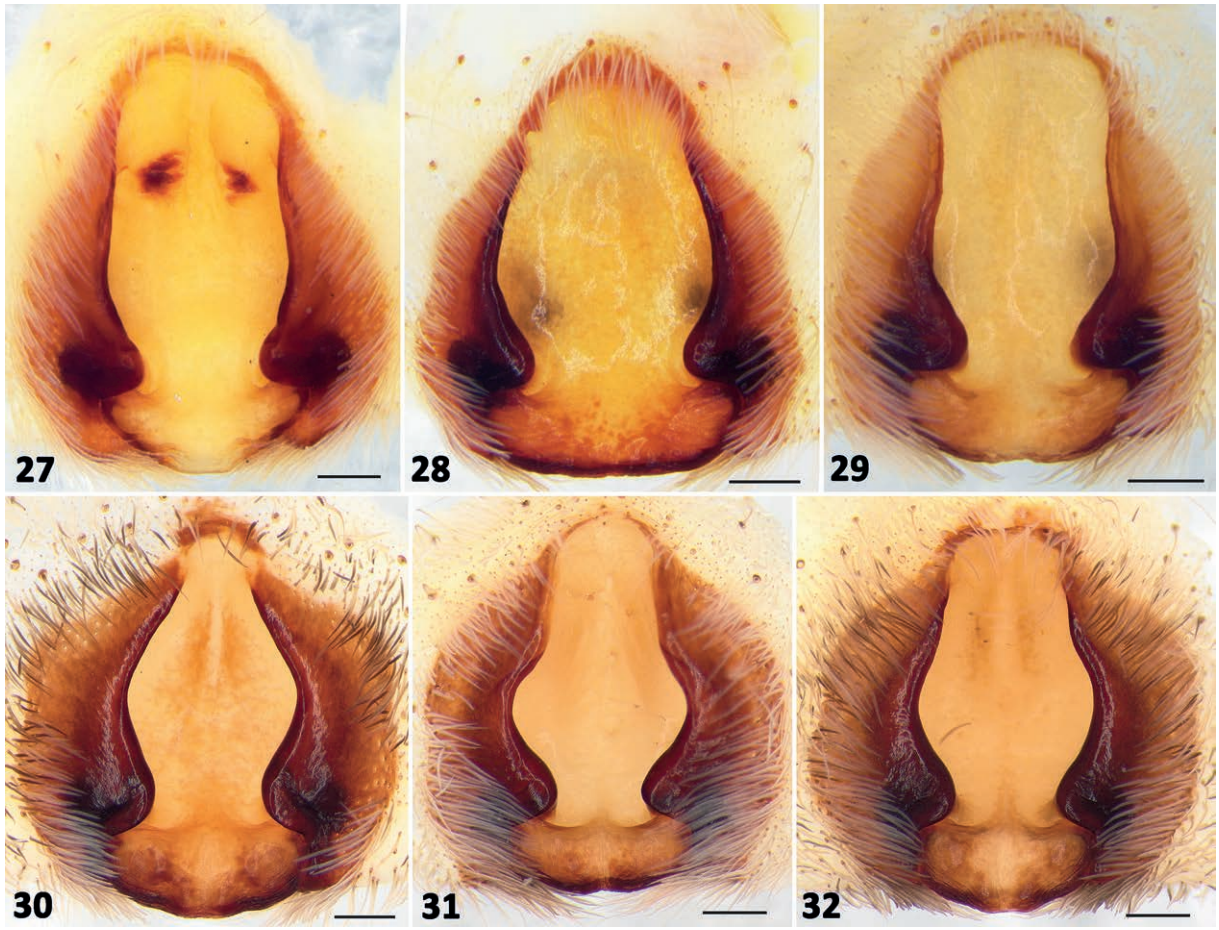
The earlier records of *K. turanica* from from Uzbekistan (Ulus and Samarkand) by Logunov, Ponomarev [2020], as well as by Kroneberg [1875], and from Repetek by Logunov [2023] are to be assigned to *K. sogdiana* sp.n. as well. Although I have had no opportunity to re-examine these specimens for the present study and compare them directly with specimens of *K. sogdiana* sp.n., such conclusion can be drawn from the published data. The male from Repetek has the non-constricted proximal extension of the median apophysis, which is diagnostic of *K. sogdiana* sp.n. (cf. Fig. 14 with figs 165, 168 in Logunov, Ponomarev [2020]), and the females from Ulus and Samarkand show the conformation of the epigyne and vulva which is identical to that of the types (cf. Figs 27–29, 33–35 with figs 125–128 in Logunov [2023]).

DESCRIPTION. MALE (the paratype from ISEA). *Measurements*. Carapace 9.70 long, 7.10 wide. Eye sizes and interdistances: AME 0.50, ALE 0.38, PME 1.03, PLE 0.88, AME-AME 0.15, AME-ALE 0.10, PME-PME 0.63, PLE-PLE 1.75. Width of anterior eye row 1.80, second row 2.50, third row 3.00. Clypeus height 0.35, chelicera length 3.65. Abdomen 8.50 long, 5.60 wide. Length of leg segments: I 8.30 + 3.90 + 7.50 + 7.40 + 4.30 (31.40); II 8.10 + 3.70 + 7.40 + 7.60 + 4.40 (31.20); III 8.00 + 3.30 + 6.50 + 8.20 + 4.40 (30.40); IV 9.70 + 3.30 + 8.70 + 10.80 + 5.00 (37.50). *Colouration* (in alcohol; Figs 1–2). Carapace yellow, with brownish eye field and two wide parallel longitudinal brown stripes covered with long brown recumbent scales; median line and two margins covered with long white recumbent scales. Sternum light yellow, densely covered with white protruded hairs. Endites and labium yellow, with white tips. Chelicerae yellow-brown, covered with long white recumbent scales. Abdomen: dorsum light yellow, with grey brownish pattern of cardiac spot and transverse lines and spots in the rear half; sides and venter light yellow. Book-lung covers light yellow. Spinnerets yellow, with short brownish hairs on their tips. All legs yellow, but Mt and Tr of all legs brownish yellow. Palps yellow. Palpal structure as in Figs 1–13, 15–18: acutely pointed synembolic lamellae subparallel to each other, dorsal one twice as short as ventral one; median tooth medium-sized, about two times narrower than proximal extension, with a clearly marked claw and serrate median edge; proximal extension wide and constricted at its base, separated from median tooth by one width of the latter; inner plate narrow and ovoid, visible in ventral view; conductor low and round, not pointed at its tip.

FEMALE (the holotype). *Measurements*. Carapace 11.00 long, 8.80 wide. Eye sizes and interdistances: AME 0.60, ALE 0.50, PME 1.35, PLE 1.00, AME-AME 0.30, AME-ALE 0.15, PME-PME 1.00, PLE-PLE 2.50. Width of anterior eye row 2.55, second row 3.40, third row 4.00. Clypeus height 0.30, chelicera length 5.10. Abdomen 11.30 long, 8.00 wide. Length of leg segments: I 10.00 + 4.50 + 7.80 + 7.30 + 4.20 (33.80); II 9.20 + 4.50 + 7.00 + 7.20 + 4.30 (31.90); III 9.00 + 3.70 + 6.20 + 8.20 + 4.30 (31.40); IV 10.80 + 4.30 + 8.00 + 10.80 + 4.70 (38.60). *Colouration* (Figs 3–6), as in the male. Palps yellow (Fig. 5). Epigyne and vulva as in Figs 30–32, 36–38: epigynal atrium twice as long as wide, with a constriction at its rear third and lateral edges notably biconvex; posterior transverse plate wide and straight, width/length ratio 2.0–2.7, with a shallow notch in the middle at its rear edge; spermathecae ovoid or bean-shaped, subparallel, distinctly swollen anteriorly, spermathecae length / atrium length ratio 0.2–0.3; fertilization ducts prominent, directed proximo-laterad.

Karakumosa turanica Logunov et Ponomarev, 2020
Figs 14, 19–26, 27–29, 33–35, Map.

Karakumosa turanica Logunov et Ponomarev, 2020: 303, figs 156–164, 166–167 (D♂♀, *pro parte*, except for the misidentified specimens from Uzbekistan: Ulus and Samarkand; figs 165, 168).



Figs 27–32. Epigynes of *Karakumosa turanica* Logunov et Ponomarev, 2020 (27 — ARA_ARA_0000690; 28–29 — ARA_ARA_0000713) and *K. sogdiana* sp.n. (30, 32 — paratype, ARA_ARA_0000774; 31 — paratype, ARA_ARA_0000773) in ventral view. Scale bars: 0.25 mm.

Рис. 27–32. Эпигины *Karakumosa turanica* Logunov et Ponomarev, 2020 (27 — ARA_ARA_0000690; 28–29 — ARA_ARA_0000713) и *K. sogdiana* sp.n. (30, 32 — паратип, ARA_ARA_0000774; 31 — паратип, ARA_ARA_0000773), вид снизу. Масштаб: 0,25 мм.

Karakumosa turanica: Logunov, Fomichev, 2021: 679, figs 9–10 (♀); Shafaie *et al*., 2022: 241, figs 30–35 (♀); Logunov, 2023: 500 (♂, *pro parte*, except for the misidentified specimens from Repetek; figs 125–128).

Karakumosa golestanica Shafaie, Nadolny et Mirshamsi, 2022: 505, figs 8–20 (D♂). Synonymized with *K. turanica* by Logunov [2023].

TYPES: Holotype ♂ (ZISP, ARA_ARA_0000274), Turkmenistan, [Balkan Velayat], between Serdar (=Kyzyl-Arvat) and Iskander (c. 39°03′N, 56°07′E); 6.VI.1936; S. Nenyukov. — Paratypes: 2 ♀♀ (ZISP, ARA_ARA_0000274), "ex vil. Melnikova" nr Ashgabad (c. 37°59′N, 58°20′E); summer and autumn, 1933; collector unknown.

MATERIAL. TURKMENISTAN: 1 ♂ 1 ♀ 1 juv. (ZISP, ARA_ARA_0000690), [Balkan Velayat], nr Serdar (=Kizil-Arvat; c. 38°58′N, 56°18′E), VI.1953, A.S. Utochkin; 2 ♀♀ 2 juv. (ZISP, ARA_ARA_0000713), same locality, VI.1953, A.S. Utochkin; 2 ♂♂ (ZISP, ARA_ARA_0000680), [Balkan Velayat], Balkan, foothills of Malyi Balkha[n], nr "Akhcha-Kuilan (?)" Vil. (apparently, Akhcha-Kuima railroad station; c. 39°20′56″N, 55°10′6″E), 9.06.1954, A.S. Utochkin.

DISTRIBUTION. To date, the species has been found in Turkmenistan and Iran only (Map).

One record from Sistan & Baluchistan Province in Iran [Shafaie *et al*., 2022b] (question mark on Map) was based on a tentative identification that requires verification pending more specimens of both sexes being collected from this locality. Yet, the earlier records of *K. turanica* from Ulus and Samarkand in Uzbekistan [Logunov, Ponomarev, 2020] and Repetek in Turkmenistan [Logunov, 2023] are herein accepted as belonging to *K. sogdiana* sp.n. (see discussion above; Map).

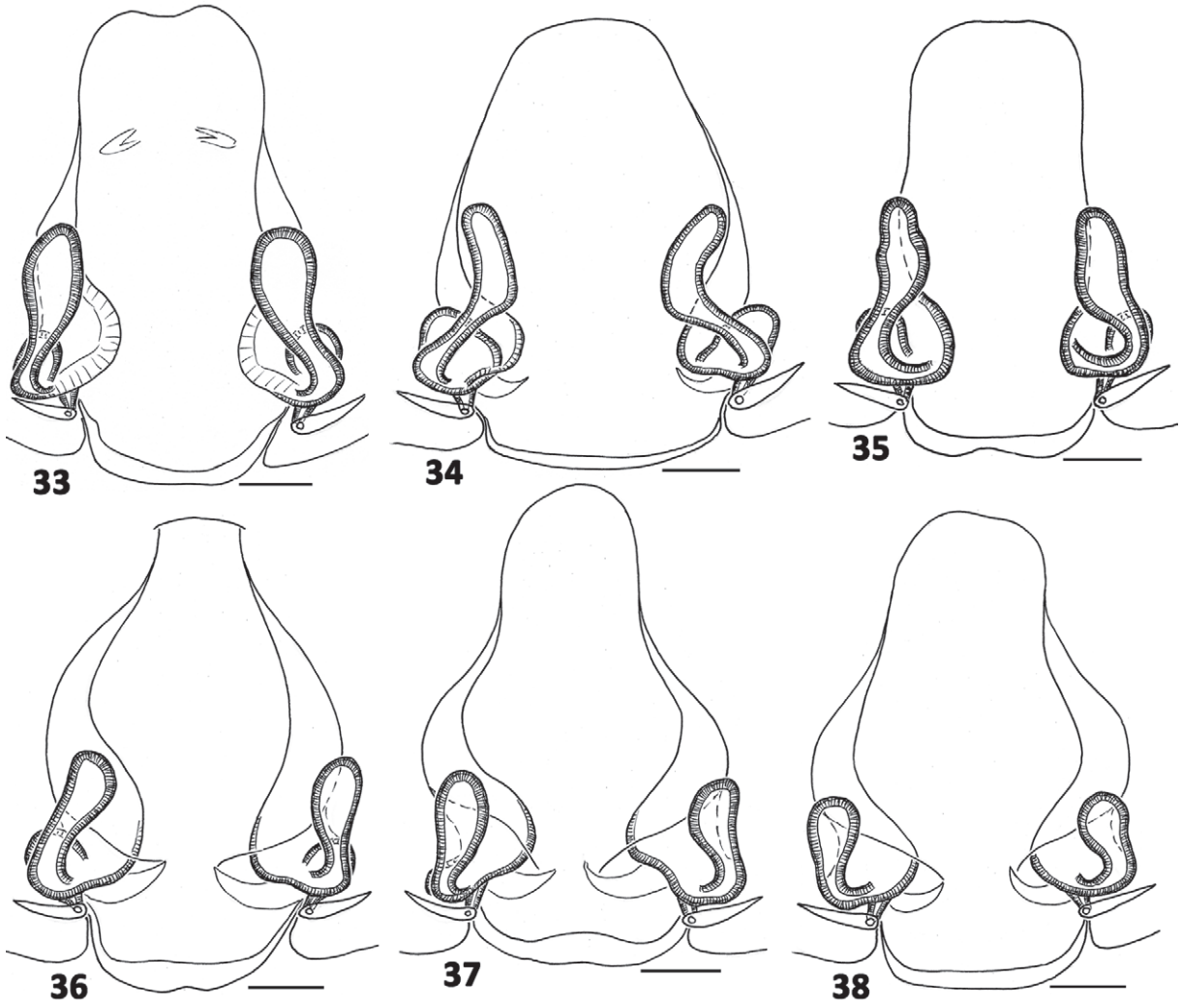
REMARKS. The original matching of sexes in *K. turanica* has been confirmed by the studied sample in which both sexes were collected together (Figs 21–22, 27, 33). Based on the four males of *K. turanica* found and studied to date (see above), it is safe to conclude that although the shape of median tooth of the median apophysis can vary and is generally less square than in the holotype male (cf. Figs 20 and 22, 24, 26), the shape of the proximal process, which is not constricted basally (Figs 14, 19, 21, 23, 25), seems to be a better and stable character that can be used to reliably distinguish *K. turanica* and *K. sogdiana* sp.n. In both species, however, the tip of the proximal process varies, being more or less markedly pointed (Figs 12–26). Yet, the females of *K. turanica* and *K. sogdiana* sp.n. are easily distinguishable (cf. Figs 27–29, 33–35 and 30–32, 36–38; see also the Diagnosis given above).

New faunistic records

Geolycosa dunini Zyuzin et Logunov, 2000

MATERIAL. AZERBAIJAN: 1 ♂ 1 juv. (ZISP, ARA_ARA_0000725), Ganja (=Gyandzha; c. 40°41′N, 46°22′E), 1932, coll.?

REMARKS. A common trans-Caucasian species known from Georgia, Armenia and Azerbaijan [Kovblyuk *et al*., 2012; Otto, 2024].



Figs 33–38. Vulvas of *Karakumosa turanica* Logunov et Ponomarev, 2020 (33 — ARA_ARA_0000690; 34–35 — ARA_ARA_0000713) and *K. sogdiana* sp.n. (36, 38 — paratype, ARA_ARA_0000774; 37 — paratype, ARA_ARA_0000773) in dorsal view. Scale bars: 0.25 mm.

Рис. 33–38. Вульвы *Karakumosa turanica* Logunov et Ponomarev, 2020 (33, ARA_ARA_0000690; 34–35 — ARA_ARA_0000713) и *K. sogdiana* sp.n. (36, 38, — паратип, ARA_ARA_0000774; 37 — паратип, ARA_ARA_0000773), вид сверху. Масштаб: 0,25 мм.

Lycosa praegrandis C.L. Koch, 1836

MATERIAL. TURKMENISTAN: 1 ♀ (ZISP, ARA_ARA_0000708), "Turkestan" (no exact locality), 1912, K. Deryugin; 2 ♀♀ (ZISP, ARA_ARA_0000712), c. 5 km S of Magtymguly (=Kara-Kala; c. 38°26′N, 56°18′E), 5.09.1954, A.S. Utochkin [N 134]; 1 ♂ (ZISP, ARA_ARA_0000675), Magtymguly (=Kara-Kala; c. 38°26'N, 56°18'E), "the garden of the V.I.R. station, running in the evening" [apparently, the field station of All-Russian Institute of Plant Sciences (St Petersburg, Russia)], 31.08.1954, A.S. Utochkin. — IRAN: 1♀ (ZISP, ARA_ARA_0000734), "Persia, 4.II., N.A. Zarudny" (no exact locality) [N97-904].

REMARKS. An east-Mediterranean – Middle Asian species, known from Greece in the west throughout Asia Minor and the Caucasus, to Kyrgyzstan and south-east Kazakhstan in the east, and to northern Iran in the south [Zyuzin, Logunov, 2000; Logunov, 2023].

Zyuzicosa kopetdaghensis Logunov, 2012

MATERIAL. TURKMENISTAN: 1 ♀ (ZISP, ARA_ARA_0000718), "junction 10, foothills" (10й разъезд, предгорья; no exact locality, but likely to be outskirts of Magtymguly, as the localities given above for *L. praegrandis*), 16.[08 or 09].1954, A.S. Utochkin [n54].

REMARKS. The species is known from SW Kopetdagh Mts (Turkmenistan) only [Logunov, 2012; present data]. It is the second record of the species after its original description. The male of *Z. kopetdaghensis* remains unknown.

Conclusion

In view of the data in the present paper, the fauna of fossorial lycosids of Middle Asia and the Caucasus currently consists of 48 species in nine genera [WSC, 2024; present data], of which 17 species belong to the genus *Karakumosa*. Of the described *Karakumosa* species, eleven (65%) are known from both sexes, three (18%) from the males, and three (18%) from the females. There is no doubt that more unrecorded and/or undescribed species of fossorial lycosids should be expected from Middle Asia, at least in the genera *Alopecosa* Simon, 1885, *Karakumosa* and *Zyuzicosa* Logunov, 2010.

As mentioned in the Introduction, the main problem of this lycosid fauna is related to the limited number of specimens collected/studied for most of the named species, which usually does not allow the assessment of their intraspecific variation. Yet, such variation can be considerable, both in body colouration and copulatory organs, and potentially lead to misidentifications, as illustrated by the example of *Lycosa piochardi* Simon, 1876 [Armiach Steinpress *et al.*, 2022]. One such case involving *K. turtanica* has been resolved in the present paper. Therefore, henceforth, if the material collected allows, it seems advisable to always include data on intraspecific variation in any subsequent description of new species of burrowing lycosids, especially of their potentially diagnostic characters.

Acknowledgements. I am most grateful to the following colleagues who helped me during preparation of the present work: Sergei Esyunin (Perm, Russia) for his massive help with retrieving ZISP spider collections from the Perm University, some of which have been used in the this paper; Phillip Rispin (Manchester, UK) for taking habitus photos of *K. sogdiana* sp.n. (Figs 1–6); and Vladimir Turitsin (St Petersburg, Russia) for giving me the opportunity to study some of his spider collections from Uzbekistan. The research was carried out under the government research project no. 122031100272-3.

References

Armiach Steinpress I., Cohen M., Pétillon J., Chipman A.D., Gavish-Regev E. 2022. *Lycosa* Latreille, 1804 (Araneae, Lycosidae) of Israel, with a note on *Geolycosa* Montgomery, 1904 // European Journal of Taxonomy. Vol.832. P.1–54. doi:10.5852/ejt.2022.832.1877

Kovblyuk M.M., Otto S., Marusik Yu.M., Ponomarev A.V. 2012. Redescription of the Caucasian species *Geolycosa charitonovi* (Mcheidze, 1997) (Araneae: Lycosidae), with the first description of the male // Bulletin of the British Arachnological Society. Vol.15. Pt.8. P.245–252.

Kroneberg A. 1875. [Fedtschenko A.P. Voyage in Turkestan. Spiders. Araneae] // Izvestiya Obschestva lyubitelei estestvoznaniya, antropologii i etnografii. Vol.19. No.3. P.I–IV, 1–55, 5 tabs [in Russian].

Logunov D.V. 2010. On new central Asian genus and species of wolf spiders (Araneae: Lycosidae) exhibiting a pronounced sexual size dimorphism // Proceedings of the Zoological Institute of the Russian Academy of Sciences. Vol.314. No.3. P.233–263.

Logunov D.V. 2012. A synopsis of the genus *Zyuzicosa* Logunov, 2010 (Aranei: Lycosidae) // Arthropoda Selecta. Vol.21. No.4. P.349–362. doi:10.15298/arthsel.21.4.05

Logunov D.V. 2023. Further notes on the fossorial wolf spiders of Middle Asia and the Near East (Aranei: Lycosidae) // Arthropoda Selecta. Vol.32. No.4. P.475–512. doi:10.15298/arthsel.32.4.12

Logunov D.V., Fomichev A.A. 2021. A new species of *Karakumosa* Logunov & Ponomarev, 2020 (Araneae: Lycosidae: Lycosinae) from Tajikistan // Arachnology. Vol.18. Pt.7. P.677–680. doi:10.13156/arac.2020.18.7.677

Logunov D.V., Ponomarev A.V. 2020. *Karakumosa* gen. nov., a new Central Asian genus of fossorial wolf spiders (Araneae: Lycosidae: Lycosinae) // Revue suisse de Zoologie. T.127. Fasc.2. P.275–313. doi:10.35929/RSZ.0021

Otto S. 2024. Caucasian Spiders. A faunistic database on the spiders of the Caucasus. Version 02.2022. Accessed 29 June 2024. Online at: https://caucasus-spiders.info/

Shafaie S., Nadolny A.A., Mirshamsi O. 2022a. A new species of *Lycosa* and three new species and a new record of *Karakumosa* from Iran (Araneae, Lycosidae) // Zootaxa. Vol.5120. No.4. P.501–522. doi:10.11646/zootaxa.5120.4.3

Shafaie S., Koponen S., Nadolny A.A., Kunt K.B., Mirshamsi O. 2022b. New data on the wolf spiders of Iran (Arachnida: Aranei: Lycosidae), with a description of two new species // Arthropoda Selecta. Vol.31. No.2. P.235–245. doi:10.15298/arthsel.31.2.12

Shorthouse D.P. 2010. SimpleMappr, an online tool to produce publication-quality point maps. Available from: http://www.simplemappr.net (accessed on 28 June 2024).

Wang L.Y., Yang Y.S., Zhang Z.S. 2023. First record of the wolf spider genus *Karakumosa* from China, with description of a new species (Araneae: Lycosidae) // Acta Arachnologica Sinica. Vol.32. No.2. P.93–97. doi:10.3969/j.issn.1005-9628.2023.02.005

WSC 2024. World Spider Catalog. Version 25. Natural History Museum Bern. Online at: http://wsc.nmbe.ch, doi: 10.24436/2, accessed 28 June 2024.

Zyuzin A.A., Logunov D.V. 2000. New and little-known species of the Lycosidae from Azerbaihan, the Caucasus (Araneae, Lycosidae) // Bulletin of the British arachnological Society. Vol.11. Pt.8. P.305–319.

Responsible editor K.G. Mikhailov