Introduction

Pardosinae is the largest subfamily of Lycosidae within Central Asia (Mikhailov 2021; WSC 2021). Pardosa C. L. Koch 1847 is the largest genus of Pardosinae with 535 valid species distributed worldwide (WSC 2021). Most of Pardosa species occur in Eurasia (Nadolny et al. 2016). The genus is relatively well studied in the Nearctic, Europe, China and Japan (Ballarin et al. 2012). However, spiders of this genus remain poorly studied in some regions of the Palaearctic, including Central Asia (Marusik et al. 2013). To date, 37 species of Pardosa have been reported from Kazakhstan (Mikhailov 2021). Wolf spiders of this genus are most completely studied in East Kazakhstan owing to the existence of a regional taxonomic-faunistic paper dealing with spiders of the Saur Mt. Range (Eskov & Marusik 1995). Pardosa species from the highlands of Kazakhstan remain almost completely unexplored. While studying spiders from the highlands of the Tian Shan Mountains in Kazakhstan, the author found several females of Pardosa that belong to an undescribed species. The goal of this paper is to provide a detailed description and diagnosis of this new species.

Material and methods

Specimen was photographed using an Olympus DP74 camera attached to an Olympus SZX16 stereomicroscope at the Altai State University. Photographs were taken in a dish with white cotton at the bottom, filled with alcohol. Digital images were montaged using Helicon Focus software. All measurements are in millimeters. Length of leg segments were measured on the dorsal side. Leg measurements are shown as: femur, patella, tibia, metatarsus, tarsus (total length). Data about spination are based on examination of one side of the body. Apical spines on metatarsi were not counted. The terminology and format of description follows Marusik et al. (2013) and Fomichev (2021). The types of the new species are deposited in the Institute of Systematics and Ecology of Animals SB RAS, Novosibirsk, Russia (ISEA; curator G.N. Azarkina).

Abbreviations:
Leg segments: Fe – femur, Mt – metatarsus, Pa – patella, Ti – tibia.
Spination: d – dorsal, p – prolateral, r – retrolateral, v – ventral.

Results

Pardosa temreshevi sp. n.
Figs. 1–6, 10–11.

Types. Holotype ♀ (ISEA, 001.8835), KAZAKHSTAN, Jambyl Oblast, Tian Shan Mountains, Kyrgyz Ala-Too Mt. Range, upper reaches of Ulusai River (42°34'N, 73°15'E), mountain stony tundra with screes and rocks, 3600–3700 m, 13.08.2017, A. A. Fomichev; paratypes 4 ♀ (ISEA, 001.8836), together with the holotype.

Etymology. The specific name is a patronym in honour of Izbasar I. Temreshev (Almaty, Kazakhstan), well-known Kazakh entomologist, who helped to organize an expedition to the Tian Shan Mountains, during which the types of this new species were collected.

Diagnosis. Pardosa temreshevi sp. n. only vaguely resembles P. zhangi Song & Haupt 1995 from the highlands of Xinjiang Province (China) in having a similar transverse oval epigynal fovea (F₀) located mesally, anterior pocket.

Abstract — A new spider species, Pardosa temreshevi sp. n., collected among screes on elevation over 3600 m, is described from southern Kazakhstan based on females. The new species has increased number of ventral spines on tibiae I. Pardosa temreshevi sp. n. is distantly similar to P. zhangi Song & Haupt 1995 from the highlands of Xinjiang Province (China) and distinctly differs from it by conformation of the epigyne.

Key words — Aranei, biodiversity, Central Asia, scree, spiny-leg Pardosinae.
A. A. Fomichev

(Ap) with one hood, wide lips of the epigyne (Li) and triangular septal base (Sb). The new species can be distinguished from P. zhangi by developed apical lips of the epigyne (Al) (absent in P. zhangi), anterior pocket spaced far away from the epigynal fovea (closely spaced in P. zhangi), which is significantly smaller than in sibling species (cf. Figs. 4–5 and 7–8). Finally, P. temreshevi sp. n. differs from P. zhangi by septal base two times wider than anterior pocket (vs. equal in width) and by diverging receptacles (Re) not reaching the anterior pocket (converging, reaching the anterior pocket in P. zhangi) (cf. Figs. 4–6 and 7–9).

**Description.** Female (holotype). Total length 8.6. Carapace: 4.3 long, 3.4 wide. Coloration. Carapace dark brown, almost black. Eye field black. Clypeus dark brown with two V-shaped yellow spots. Chelicerae yellow-brown. Sternum and labium black. Endites yellow-brown. Coxae gray with yellow spots. Legs and palps dark brown with yellow annulation and spots. Abdomen dark gray, almost black, without

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A new species of Pardosa from Tian Shan

Cardiac mark. Spinnerets dark gray. Measurements of legs: I: 3.65, 1.75, 3.2, 3.0, 1.6 (13.2). II: 3.65, 1.7, 3.0, 3.1, 1.55 (13.0). III: 3.65, 2.95, 3.85, 1.65 (13.7). IV: 4.6, 1.75, 4.05, 5.95, 2.2 (18.55). Leg spination: I: Fe d1-1-1 p0-0-2 r0-0-1; Ti p1-0-0 r0-0-0 v2-2-2-2ap; Mt p0-1-0 r1-1-0 v2-2-0. II: Fe d1-1-1 p1-0-1 r0-1-1; Pa p1; Ti d1-1-0 p1-0-0 r1-0-0 v2-2-2-2ap; Mt p1-1-0 r1-1-0 v2-2-0. III: Fe d1-1-1 p1-0-1 r1-0-1; Pa d2 p1 r1; Ti d1-0-1 p1-0-1 r1-0-1 v2-2-2ap; Mt d1-0-0 p1-1-0 r1-1-0 v2-1-2-0.

Epigyne as in Figs. 4–6. Fovea 2 times wider than long. Septal base inverted triangle-shaped with median ridge (Mr). Lips of the epigyne almost as wide as fovea, not touching each other. Lateral margins of the fovea (Lm) wide. Anterior pocket with one hood, two times narrower than septal base. Receptacles not clearly delineated from copulatory ducts (Cd). Copulatory ducts curved at right angle.

Male unknown.

Distribution. Known only from the type locality in northern Tian Shan, Kazakhstan (Fig. 10).

Discussion

Wolf spiders are one of the dominant spider families present in alpine spider communities in Palaearctic (Buchar & Thaler 1998). Stone scree in the highlands of post-Soviet Central Asia, Mongolia and adjacent South Siberia are inhabited by various genera of Pardosinae: Acantholycosa Dahl 1908 and Mongolicosa Marusik, Azarkina & Koponen 2004 in the mountains of South Siberia and Mongolia, and Dzhungarocosa Fomichev & Marusik 2017 in Dzhungarian Alatau Mt. Range in the eastern Kazakhstan and Meleco-sa Marusik, Omelko & Koponen 2015 in the Tian Shan Mountains in the southern Kazakhstan (Marusik et al. 2004, Marusik et al. 2015, Fomichev & Marusik 2017, 2018, Fomichev 2021). However, species of Pardosa are almost absent from the highlands of this region. Only one species, Pardosa svatoni Marusik, Nadolny & Omelko 2013, was recently described from the highlands of the Tian Shan Mountains in the southern Kazakhstan (Marusik et al. 2013).

It should be noted that the genus Pardosa consists of a large number of unrelated species and possibly the taxonomic structure of this genus will be revised in future (Nadolny & Kovblyuk 2012). The genus seems to be polyphyletic, and some species groups will likely become separate genera (Marusik et al. 2004, 2015, Nadolny & Kovblyuk 2012). All Pardosinae from the alpine scree of post-Soviet Central Asia, Mongolia and South Siberia are not closely related to one another and do not form a monophyletic group (Marusik et al. 2015). Despite this, they all, with the exception of Melecosia, share one common character: more than 3 pairs of ventral spines on tibia I (Marusik et al. 2015). Pardosa temreshevi sp. n. has 4 pairs of ventral spines on tibia I and in this respect is similar to the rest of the alpine Pardosinae of the discussed region. However, this character does not necessarily indicate a relationship, especially since some Pardosa have 4 pairs of ventral spines (Marusik et al. 2015). There is some possibility that if a male of P. temreshevi sp. n. is found in the future, this species will be transferred to another, as yet undescribed genus. But in this paper we consider the new species as belonging to Pardosa. Epigynal morphology does not allow the reliably tracing of relationships of P. temreshevi with any species group of Pardosa.

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Figs. 10–11. Type locality of Pardosa temreshevi sp. n. (10) and its habitat (11).
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