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Cebrennus kazakhstanicus sp. n. (Aranei: Sparassidae): the first record of the genus in Kazakhstan

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Abstract. A new species, *Cebrennus kazakhstanicus* sp. n., is described from south-eastern Kazakhstan based on female specimens. The new species is closely related to *C. logunovi* Jäger, 2000 from Turkmenistan and is representing the north-easternmost member of the genus: the type locality is in the Ili River delta, approximately 1100 km northeast from the closest known locality of the genus in Turkmenistan. *Cebrennus kazakhstanicus* sp. n. was collected at night, in sandy semi-desert. The new species differs from *C. logunovi* in the conformation of the epigyne. Comparative illustrations for female of *C. logunovi* are provided and the distribution records of the genus in Central Asia are mapped.

Key words: Araneae, Sparassinae, biodiversity, large huntsmen spiders, Central Asia.

Cebrennus kazakhstanicus sp. n. (Aranei: Sparassidae): первая находка рода в Казахстане

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Резюме. Из Юго-Восточного Казахстана по самкам описан новый вид, *Cebrennus kazakhstanicus* sp. n. Новый вид родственен виду *C. logunovi* Jäger, 2000 из Туркменистана и является самым северо-восточным представителем рода. *Cebrennus kazakhstanicus* sp. n. был собран в дельте реки Или, приблизительно в 1100 км на северо-восток от ближайших известных местонахождений рода в Туркменистане. *Cebrennus kazakhstanicus* sp. n. был собран ночью в песчаной полупустыне. Новый вид отличается от *C. logunovi* строением эпигины. Для сравнения приводятся иллюстрации самки *C. logunovi*. Прокартированы находки представителей рода в Центральной Азии.

Ключевые слова: Araneae, Sparassinae, биоразнообразие, гигантские бокоходы, Центральная Азия.

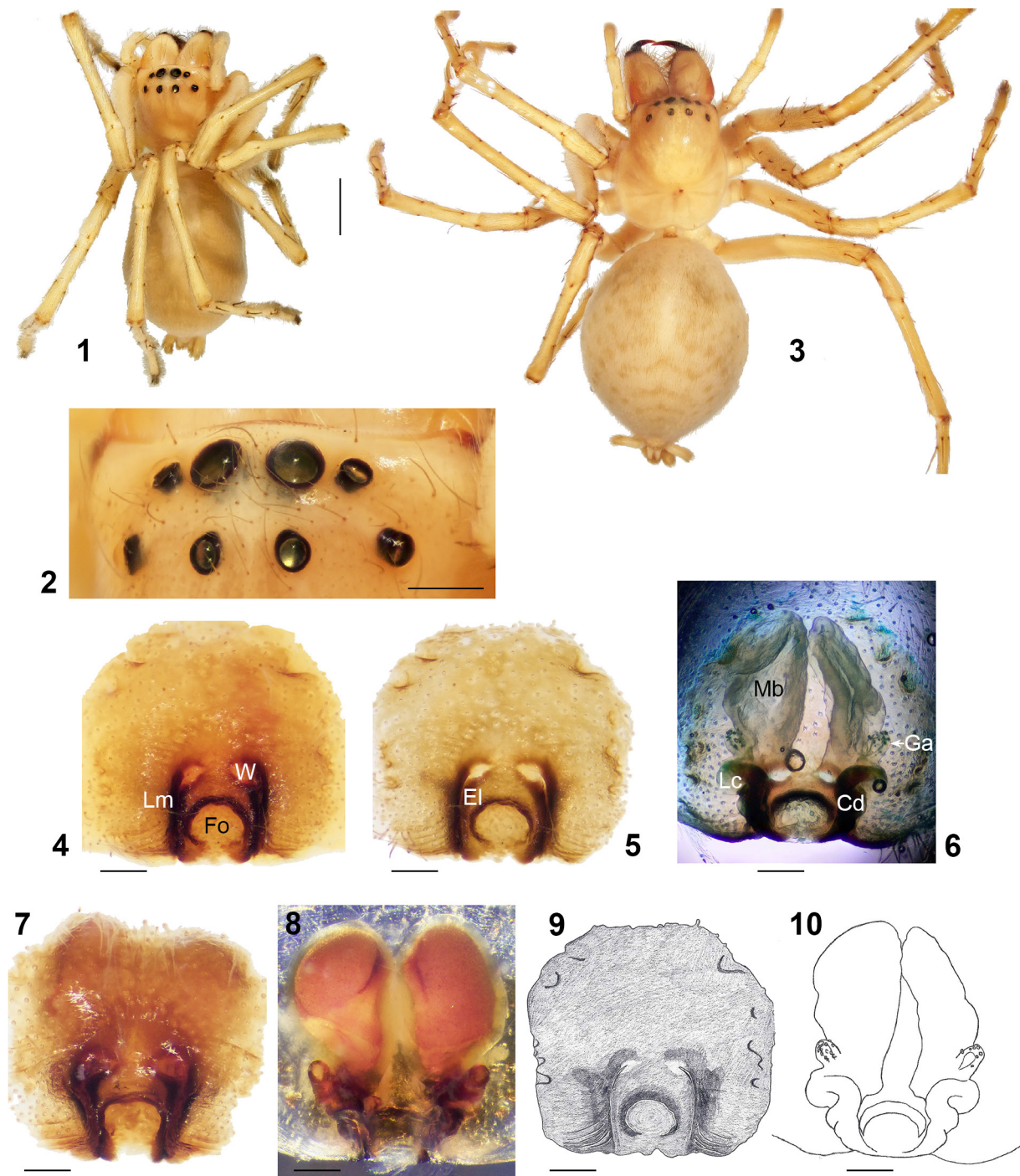
Introduction

Sparassidae Bertkau, 1872 is a large family comprising 1326 species in 91 genera [World Spider Catalog, 2022]. The family has a worldwide distribution, although absent in the polar regions [World Spider Catalog, 2022]. Four sparassid genera are known from Central Asia: *Cebrennus* Simon, 1880, *Eusparassus* Simon, 1903, *Micrommata* Latreille, 1804, and *Olios* Walckenaer, 1837 [Mikhailov, 2022]. The latter three genera are widely distributed within Central Asia, while *Cebrennus* is known only from Turkmenistan [Mikhailov, 2022]. This genus, with 19 valid species, is well studied due to the existence of two revisions [Jäger, 2000, 2014]. Members of *Cebrennus* are nocturnal spiders inhabiting deserts, building their retreats under stones, in loose sand or on vegetation [Jäger, 2014]. The majority of *Cebrennus* species occur in North Africa and Near East [Jäger, 2014]. Recently, two species were described from Iran and Iraq [Moradmand et al., 2016; Al-Khazali, Jäger, 2019]. Only one species of *Cebrennus* is currently known from Central Asia, namely *C. logunovi* Jäger, 2000 from Turkmenistan. While examining spider material recently collected by the senior author from Kazakhstan, we found

specimens of this genus that belong to an undescribed species similar to *C. logunovi*. Herein, a detailed description and diagnosis of this new species is provided, representing the first record of the genus from Kazakhstan. Furthermore, illustrations are provided for female of *C. logunovi*, and the distribution records of the genus in Central Asia are mapped.

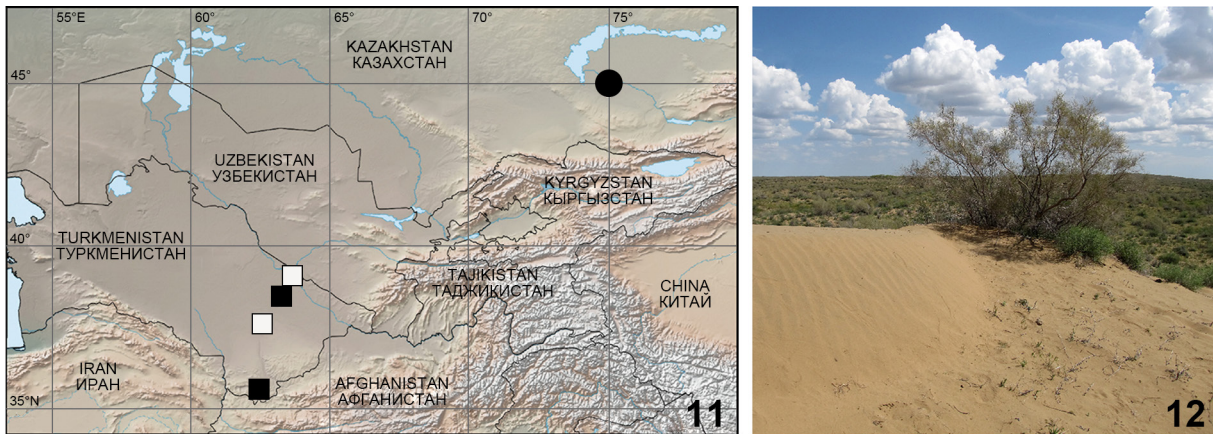
Material and methods

The specimens were photographed using an Olympus DP74 camera attached to an Olympus SZX16 stereomicroscope at the Altai State University (Barnaul, Russia). Photographs were taken in an alcohol-filled dish with white cotton at the bottom. Digital images were montaged using Zerene Stacker software. Epigyne was macerated in a potassium hydroxide aqueous solution and photographed on a slide, submerged in glycerol. All measurements are in millimeters. Lengths of the leg segments were measured on the dorsal side. Leg and palp measurements are shown as: femur, patella, tibia, metatarsus (lacking in palp), tarsus (total length). Spination formulae are based on examination of one side of the



Figs 1–10. *Cebrennus kazakhstanicus* sp. n. and *C. logunovi*, females, general view and details of structure. 1–2, 4–6, 9–10 – *C. kazakhstanicus* sp. n.; 3, 7–8 – *C. logunovi*. 1, 3 – female, habitus; 2 – eye field, dorsally; 4–10 – epigynes: 4 – intact, ventrally, 5, 7, 9 – macerated, ventrally; 6, 8, 10 – macerated, dorsally. Cd – copulatory duct; El – epigynal ledge; Fo – free part of the fovea; Ga – glandular appendage; Lc – lateral coil of the copulatory duct; Lm – lateral margin of the fovea; Mb – membranous bursa; W – window. Scale bars: 1, 3 – 2 mm, 2 – 0.5 mm, 4–10 – 0.2 mm.

Рис. 1–10. *Cebrennus kazakhstanicus* sp. n. и *C. logunovi*, самки, общий вид и детали строения. 1–2, 4–6, 9–10 – *C. kazakhstanicus* sp. n.; 3, 7–8 – *C. logunovi*. 1, 3 – самка, габитус; 2 – глазное поле, дорсально; 4–10 – эпигины: 4 – интактная, вентрально; 5, 7, 9 – мацерированная, вентрально; 6, 8, 10 – мацерированная, дорсально. Cd – копулятивный проток; El – уступ эпигины; Fo – свободная часть ямки; Ga – железистый придаток; Lc – латеральная петля копулятивного протока; Lm – латеральный край ямки; Mb – мембранная бурса; W – окно. Масштабные линейки: 1, 3 – 2 мм, 2 – 0.5 мм, 4–10 – 0.2 мм.



Figs 11–12. Distributional records of *Cebrennus* spp. in Central Asia (11) and habitat of *C. kazakhstanicus* sp. n. (12). Circle – *C. kazakhstanicus* sp. n.; squares – *C. logunovi*. Black symbols refer to the studied material; white symbols refer to literature derived data.

Рис. 11–12. Точки находок пауков рода *Cebrennus* в Центральной Азии (11) и биотоп *C. kazakhstanicus* sp. n. (12). Круг – *C. kazakhstanicus* sp. n., квадраты – *C. logunovi*. Черными символами обозначены местонахождения изученного материала, белыми символами – местонахождения по литературным данным.

body. The terminology and format of description follows Jäger [2014] with some modifications. The types of the new species are deposited in the Institute of Systematics and Ecology of Animals of Siberian Branch of Russian Academy of Sciences (ISEA, Novosibirsk, Russia; curator G.N. Azarkina).

Abbreviations: AL – length of abdomen; AW – width of abdomen; ALE – anterior lateral eyes; AME – anterior median eyes; AWC – anterior width of carapace; CL – length of carapace; CW – width of carapace; d – dorsal; Fe – femur; Mt – metatarsus; p – prolateral; PLE – posterior lateral eyes; PME – posterior median eyes; r – retrolateral; Ta – tarsus; Ti – tibia; TL – total length; v – ventral.

Family Sparassidae Bertkau, 1872

Genus *Cebrennus* Simon, 1880

kochi species-group

Cebrennus logunovi Jäger, 2000

(Figs 3, 7, 8, 11)

Cebrennus logunovi Jäger, 2000: 169, figs 7–16 (♂♀).

Material. Turkmenistan. 1♂, paratype (ISEA, 000.681; PJ 1344), Chardzhou Region, Chardzhou District, Karakum Desert, Repetek Nature Reserve, 38°33'N / 63°11'E, 3.05.1967 (V.K. Kuznetsov); 1♀, paratype (ISEA, 000.683; PJ 1343), Mary Region, Kushka District, ca. 12 km N of Chemenibit, 35°31'N / 62°30'E, 18.04.1993 (A.A. Zyuzin).

Notes. We do not redescribe this species here as it is properly described and illustrated by Jäger [2000]; we are providing images only for a better comparison with the new species. There is a possibility that this species also occurs in the neighboring Afghanistan and Iran.

Distribution. Karakum Desert (eastern Turkmenistan) (Fig. 11).

Cebrennus kazakhstanicus sp. n.

(Figs 1, 2, 4–6, 9–12)

Material. Holotype, ♀ (ISEA, 001.8971): Kazakhstan, Almaty Region, Ili River delta, 11 km SSE from Topar village, Kosshar Natural Boundary, 44°56'N / 75°04'E, sandy semi-desert, 360 m, collected at night, by hands, 23–24.04.2016 (A.A. Fomichev). Paratypes: 2♀ (ISEA, 001.8971), together with the holotype.

Diagnosis. The new species is closely related to *C. logunovi* from Turkmenistan. Both species have ballooning-like membranous bursae (Mb), straight epigynal ledges (El) and rectangular fovea without a waist. The female of the new species can be distinguished from that of *C. logunovi* by the square-shaped fovea (vs. trapezoidal), windows (W) smaller in size, parallel lateral margins of the fovea (Lm) (vs. diverging anteriorly), circular free part of the fovea (Fo) rebordered posteriorly (vs. square-shaped free part of the fovea, not rebordered posteriorly) and the copulatory ducts (Cd) with large lateral coils (Lc) (vs. copulatory ducts without lateral coils) (cf. Figs 4–6, 9, 10 and 7, 8).

Description. Female (holotype). TL 9.6. CL 4.6. CW 3.7. AWC 3.0. AL 6.0. AW 4.4. Coloration. Prosoma and all limbs pale yellow. Abdomen light yellowish brown with silver dots ventrally and laterally. Spinnerets yellow. Eye sizes and interdistances: AME: 0.37, ALE: 0.23, PME: 0.19, PLE: 0.26, AME–AME: 0.19, AME–ALE: 0.1, PME–PME: 0.44, PME–PLE: 0.54, AME–PME: 0.33, ALE–PLE: 0.37. Clypeus at AME 0.21, at ALE 0.29. Spination: palp: Fe d2 p1; Ti p1; Ta p1. Legs: I: Fe d2 p3 r3; Ti p2 r2 v4; Mt d4 v4. III: Fe d2 p3 r2; Ti p2 r2 v4; Mt d4 v4. IV: Fe d2 p2 r1; Ti p2 r2 v4; Mt d6 p1 r1 v4. Leg II missing. Tarsi and distal half of metatarsi I–IV with scopula. Measurements of legs and palp: palp: 1.85, 0.9, 1.1, –, 2 (5.85). I: 5.5, 2, 4.25, 4.8, 1.45 (18). III: 4.8, 1.8, 3.45, 3.7, 1.3 (15.05). IV: 6.15, 1.85, 4.35, 4.8, 1.4 (18.55). Left leg II missing, right leg II regenerated.

Epigyne as shown in Figs 5–7, 10, 11. Epigyne circular, more heavily sclerotized around the fovea. Lateral margins (Lm) parallel, approximately as half as long as the whole epigyne. Windows (W) oval, separated by less than one of diameter. Free part of the fovea (Fo) circular and deep. Membranous bursae (Mb) 2 times longer than copulatory ducts (Cd), poorly sclerotized. Glandular appendages (Ga) poorly sclerotized, covered with well-visible gland pores. Copulatory ducts parallel posteriorly and medially, diverging anteriorly. Lateral coils of copulatory ducts (Lc) extend laterally beyond glandular appendages.

Male unknown.

Biology. The new species was found in a sandy semi-desert and seems to have a nocturnal lifestyle (Fig. 12). Nothing is known about its burrowing behavior. The collected females were found at night with a torch while the spiders were wandering freely.

Distribution. Known only from the type locality in the Ili River delta (Saryesik-Atyrau Desert in south-eastern Kazakhstan) (Figs 11, 12).

Etymology. The specific epithet is derived from Kazakhstan.

Discussion

All *Cebrennus* species are clearly associated with arid environment, especially with sandy deserts [Jäger, 2014]. The finding of *C. kazakhstanicus* sp. n. in the Saryesik-Atyrau Desert in south-eastern Kazakhstan reveals a large gap in our knowledge of the geographical distribution of this genus. Spiders of the treated genus may be much more common in Central Asia than what is currently known. We suppose that *Cebrennus* species are missing in collections due to their cryptic and nocturnal lifestyles. The discovery of additional Central Asian species of this genus is very likely in the future. We suppose that the occurrence of *Cebrennus* spp. in the Sundukly Desert in Uzbekistan and in the Kyzylkum Desert in southern Kazakhstan is very likely. The collection of further material requires intensive night collecting in the sandy deserts of this region.

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