

First record of *Clubiona latericia* Kulczynski, 1926 (Arachnida: Araneae, Clubionidae) from Mongolia

Первая находка *Clubiona latericia* Kulczynski, 1926 (Arachnida: Araneae, Clubionidae) в Монголии

J. Ochirkhuyag^{*,**}, S. Vandandorj^{*}, B. Boldgiv^{**}
Дж. Очирхуяг^{*,**}, С. Вандандорж^{*}, Б. Болдгив^{**}

* Wildlife Science and Conservation Center of Mongolia, Union Building B-701 UNESCO Str., Ulaanbaatar 14210 Mongolia. E-mail: ochirkhuyag@wscs.org.mn.

** Центр изучения и охраны дикой природы Монголии, Здание Союза В-701, ул. ЮНЕСКО, Улан-Батор 14210 Монголия.

** Department of Biology of National University of Mongolia, Ikh Surguuliin Gudamj-1, Ulaanbaatar 14201 Mongolia.

** Кафедра биологии Национального университета Монголии, Их Сургуулийн Гудамж-1, Улан-Батор 14201 Монголия.

Key words: *Clubiona latericia*, distribution, Khentii, species, wetland.

Ключевые слова: *Clubiona latericia*, распространение, Хентей, вид, влажный луг.

Abstract. *Clubiona latericia* Kulczyński, 1926, is recorded for Mongolia for the first time. Six adult males and seven adult females of *C. latericia* Kulczyński were collected in two wetland sites of the Khentii aimag of Mongolia.

Резюме. Паук *Clubiona latericia* Kulczyński, 1926 впервые приводится для Монголии. Шесть взрослых самцов и семь взрослых самок *C. latericia* Kulczyński были собраны на лугах двух речных долин Хэнтийского аймака Монголии.

Introduction

Clubiona latericia Kulczyński was described in 1926 by Władysław Kulczyński, a Polish zoologist specialized in arachnology from Soviet Far East-Kamchatka [Kulczyński, 1926]. *C. latericia* Kulczyński is an infrequently detected species of *latericia*-subgroup [Mikhailov, 1990a] belonging to the genus *Clubiona* Latreille, 1804. The holotype was originally described from a female [Kulczyński, 1926] and the male of this species was described later [Sytshevskaja, 1935]. *C. latericia* Kulczyński can be identified by brown chelicerae, yellow legs, yellowish red body and ranges in size from 5.2 to 5.7 mm in length. Females and males are similar in colour and body shape.

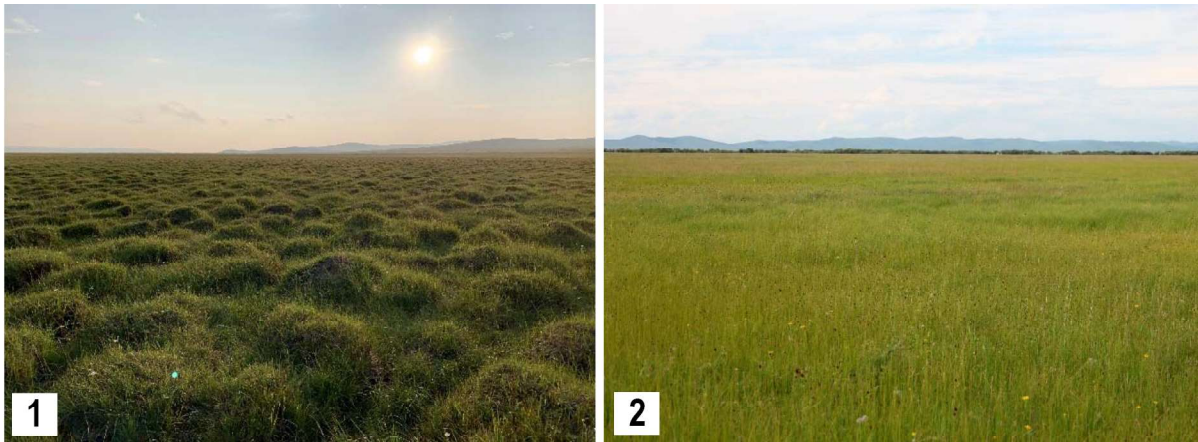
C. latericia Kulczyński known distribution is Palearctic ranging across the former USSR-Far East to Tuva [Kulczyński, 1926; Sytshevskaja, 1935; Mikhailov, 2002] as well as Nearctic North America [Holm, 1960b; Dondale, Redner, 1982]. Individuals found from Alaska were originally recorded as *Clubiona levii* Holm, 1960 [Holm, 1960b; Dondale, Redner, 1982] and later synonymized with *C. latericia* Kulczyński [Mikhailov, 1990a]. As for *C. levii* Holm, it is a junior synonym of *C. latericia* Kulczyński [Mikhailov, 2002]. The species is generally thought to inhabit herbaceous wetlands, gramineous grasslands and humid forests.

The family Clubionidae Wagner, 1887 with 19 genera and 662 species, appears to be one of the most immense spider families in the world and is widespread except the Polar regions. Among those genera, *Clubiona* Latreille is the largest genus of the family with 518 species, which makes 78 % of all Clubionidae species [World Spider Catalogue, 2022]. In Mongolia, the family is represented by 14 species from genus *Clubiona* only [Mikhailov, 2011]. Species in this family can be identified by their cylindrical body shape and they are active hunters that do not make webs [Jager, 2001]. For *C. latericia* Kulczyński, its diet and reproduction can be regarded as poorly studied.

Material and Methods

The study sites are situated in wetlands of Khurkh and Khuiten river valleys in Khentii province of Mongolia (Figs 1–2). These wetlands lie at the transition zone between forest and steppe. The climate in the Khurkh and Khuiten river valleys is humid cold with 11 mean annual temperature of 0.5 °C and mean annual total precipitation of 400–500 mm.

Specimens in this study were collected using three different sampling methods of swiping, trapping, and hand collecting from two wetland sites in Khurkh and Khuiten river valleys. Sites were originally selected in an effort to document wetland habitats changes due to changing climate and land use (pastoral livestock husbandry). We sampled for an estimated period of 120 hours in July and August of 2019. The specimens were collected and deposited within 70 % ethanol. Specimens were identified to species level using the Entomological Studies in the North-East of the USSR [Mikhailov, Marusik, 1996]. All specimens of our study are stored in the Laboratory of Ecology and Evolutionary Synthesis (LEES) of National University of Mongolia (NUM) in



Figs 1–2. Wetland habitats of the *Clubiona latericia* Kulczyński specimen collection in Mongolia. 1 — Khurkh river valley, 1094 m a.s.l.; 2 — Khuiten river valley, 1110 m a.s.l.

Рис. 1–2. Влажные луга в местообитаниях *Clubiona latericia* Kulczyński в Монголии. 1 — долина реки Хурх, 1094 м н.у.м.; 2 — долина реки Хүйтен, 1110 м н.у.м.

Ulaanbaatar, Mongolia. *C. latericia* Kulczyński photographs were taken using a Leica DFC450 C microscope camera with c-mount interface with a 5 Megapixel CCD sensor and stacked with LAS 4 software.

The present work is registered in ZooBank (www.zoobank.org) under LSID urn:lsid:zoobank.org:pub:4333FBC1-3C82-4040-ADB0-95D1E2BAE-EDF.

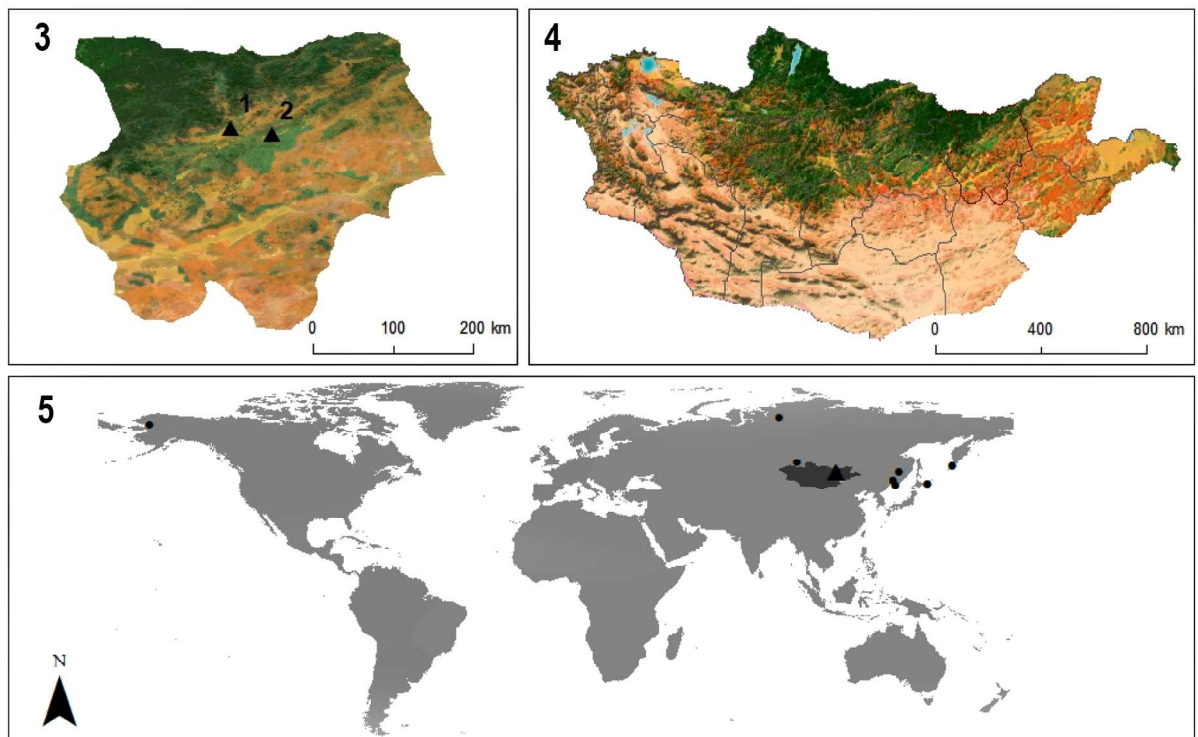
Results

We found six adult males and seven adult females of *C. latericia* Kulczyński in 2019 from the two sites.

Clubiona latericia Kulczyński, 1926

Figs 1–17.

Material. Mongolia, *Khentii Aimag*: 1♂ — wetland site in Khuiten river valley, Binder sum, 48.26519° N, 110.74681° E,



Figs 3–5. Local and global distribution of *C. latericia* Kulczyński. 3 — topographic map of Khentii province of Mongolia; 4 — topographic map of Mongolia, grey line: boundaries of provinces, red line: boundary of Khentii province; 5 — world map with global distribution of the species. Designations: circles — world distribution; triangle — local distribution in Mongolia (1 — Khurkh river valley, 2 — Khuiten river valley).

Рис. 3–5. Локальное и глобальное распространение *C. latericia* Kulczyński. 3 — топографическая карта Хентейского аймака Монголии; 4 — топографическая карта Монголии, серые линии обозначают границы аймаков, красная: границы Хентейского аймака; 5 — карта мира с общим распространением вида. Обозначения: кружки — общее распространение; треугольник — распространение в Монголии (1 — долина реки Хурх, 2 — долина реки Хүйтен).



Figs 6–12. Details of *Clubiona latericia* Kulczyński male morphology: external appearance (6–8) and left palp (9–12). 6, 11 — dorsal view; 7, 12 — ventral view; 8 — lateral view; 9 — prolateral view; 10 — retrolateral view. Scale bars 1 mm to the Figs 6–8, and 0.1 mm to the Figs 9–12.

Figs 6–12. Детали строения самца *Clubiona latericia* Kulczyński male morphology: внешний вид (6–8) и левая пальпа (9–12). 6, 11 — вид сверху; 7, 12 — вид снизу; 8 — вид сбоку; 9 — вид сбоку спереди; 10 — вид сзади спереди. Масштабные линейки 1 мм для рис. 6–8 и 0,1 мм для рис. 9–12.

h - 1110 m a.s.l., swiping, 3.VII.2019, idem, 1♀ — pitfall trap, 3.VII.2019, 1♂ — hand collecting, 9.VII.2019, 1♀ — hand collecting, 6.VIII.2019; 1♂, 1♀ — wetland site in Khurkh river valley, Batshireet sum, 48.34239° N, 110.28378° E, h-1094 m a.s.l., hand collecting, 4.VII.2019, idem, 1♂, 1♀ — hand collecting, 16.VII.2019, 1♂ — pitfall trap, 25.VII.2019, 1♀ — hand collecting, 25.VII.2019, 1♂, 1♀ — hand collecting, 1.VIII.2019; 1♀ — hand collecting, 7.VIII.2019.

Discussion

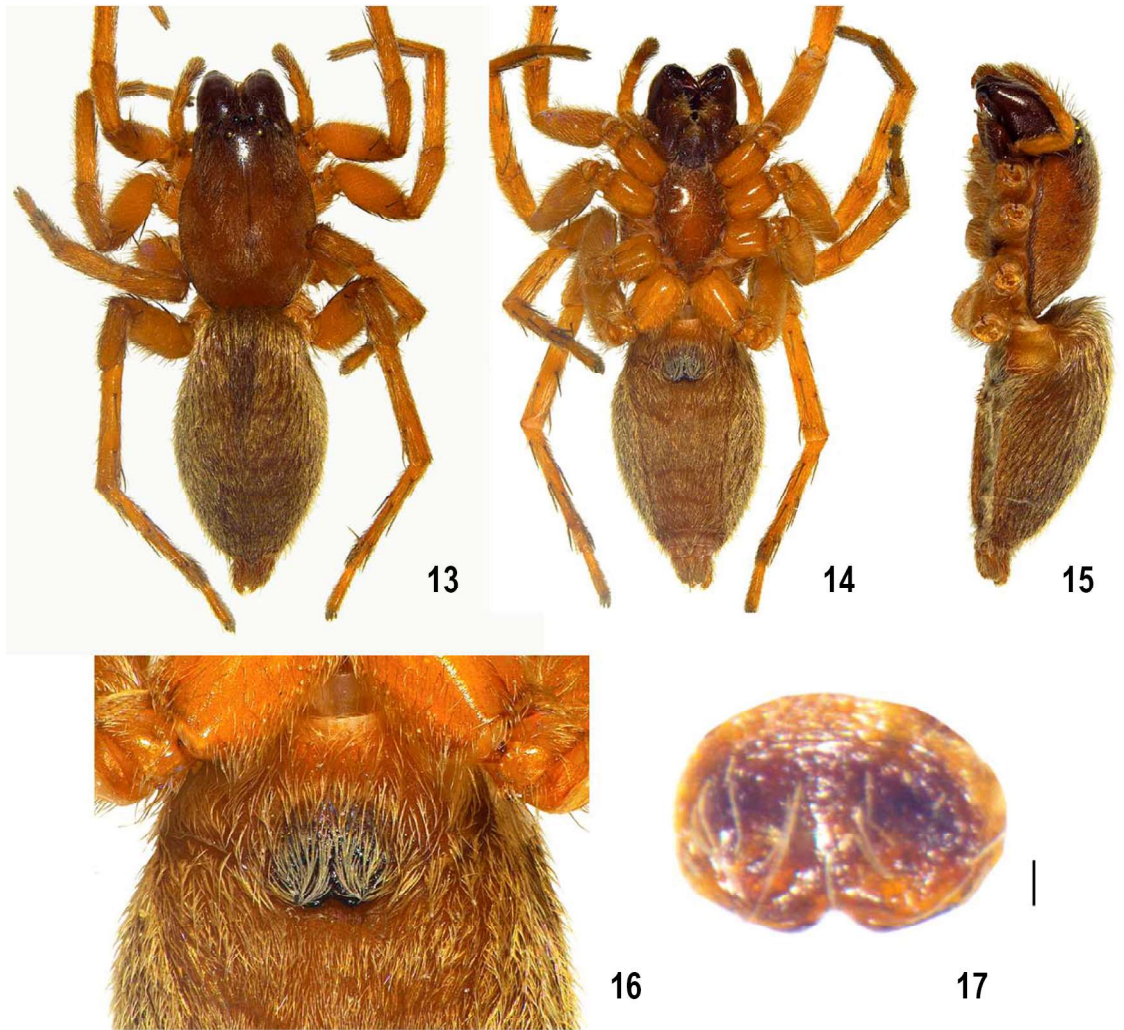
Our discovery of 13 *C. latericia* Kulczyński specimens extends the known distribution of this species within the Eurasian continent. The specimens were found in wetland habitats at two separate, but relatively near sites within similar elevation ranges about 1100 m a.s.l. during the summer months from early July to early August. This suggests that *C. latericia* Kulczyński may be relatively widespread across northern latitudes of central and eastern Mongolia at moderate elevations within appropriate habitats. Our results also indicate this species is regularly active within the summer months of July and August.

It is probable that this species has gone undetected as a result of very limited regional studies. The involvement of

Mongolian researchers in the field of spider studies has been very low, with one article [Byambajav, 2020] and three thesis on the classification and records of spiders [Erdenetungalag, 2006; Azjargal, 2013; Ochirkhuyag, 2021]. Except Byambajav's [2020] Spider fauna (Aranei) of the Mongolian Altai, all the theses are difficult to access for international researchers because they are written in the Mongolian language. *C. latericia* Kulczyński did not appear among the spiders identified in the aforementioned studies conducted in Mongolia.

Acknowledgment

We are thankful to Dr. Yuri M. Marusik (Magadan, Russia) and Dr. Dmitry V. Logunov (Manchester, U.K.) for taxonomic confirmation for the specimen photographs and J. Azjargal for putting us in contact with them. Our thanks also go to Dr. Andrew J. Caven (Nebraska, USA) who improved the English of this manuscript. We wish to thank Dr. Kirill G. Mikhailov (Moscow, Russia) for providing valuable critiques in the manuscript. This work was supported by the Wildlife Science Conservation Center of Mongolia (WSCC), and Laboratory of Ecology and Evolutionary Synthesis of National University of Mongolia.



Figs 13–17. Details of *Clubiona latericia* Kulczyński female morphology: external appearance (13–15) and epigyne (16, 17). 13 — dorsal view; 14, 16, 17 — ventral view; 15 — lateral view. Scale bars 1 mm to the Figs 13–15, and 0.1 mm to the Fig.17.

Рис. 13–17. Детали строения самки *Clubiona latericia* Kulczyński: внешний вид (13–15) и эпигина (16, 17). 13 — вид сверху; 14, 16, 17 — вид снизу; 15 — вид сбоку. Масштабные линейки 1 мм для рис. 13–15 и 0,1 мм для рис. 17.

References

- Azjargal J. 2013. [Study of spider (Araneae) community around Dayan Lake of Bayan-Olgii Province]. Master thesis. 43 p. [In Mongolian].
- Byambajav T. 2020. Spider fauna (Aranei) of the Mongolian Altai: families Cheiranthiidae, Clubionidae, Gnaphosidae, Philodromidae, Theridiidae, Thomisidae // Euroasian Entomological Journal. Vol.19. No.1. P.186–193. <https://doi.org/10.15298/euroasentj.19.4.03>.
- Dondale C. D., Redner J. H. 1982. The sac spiders of Canada and Alaska, Araneae: Clubionidae and Anyphaenidae // The insects and arachnids of Canada, Part 9. Research Branch Agriculture Canada Publication. 194 p.
- Erdenetungalag L. 2006. [Study of spider (Araneae) community in Khonin Nuga]. Master thesis. 43 p. [In Mongolian].
- Holm Å. 1960b. On a collection of spiders from Alaska // Zoologiska Bidrag från Uppsala. Vol.33. No.9. P.109–134. Pts 1–4.
- Jäger P. 2001. C.L. Deeleman-Reinhold: Forest spiders of Southeast Asia // Arachnologische Mitteilungen. Ht.21. P.59–61.
- Kulczyński W. 1926. Arachnoidea Camtschadalia // Yezhegodnik Zoologicheskogo Muzeya Akademii Nauk SSSR Leningrad. Vol.27. P.29–72.
- Mikhailov K.G., Marusik Y.M. 1996. Spiders of the north-east of the USSR. Families Clubionidae, Zoridae, Liocranidae and Gnaphosidae (genus *Micaria*) (Arachnida, Aranei) // Entomological Studies in the North-East of the USSR. Vladivostok: USSR Academy of Sciences, Institute of Biological Problems of the North. P.90–113.
- Mikhailov K.G. 1990a. The spider genus *Clubiona* Latreille 1804 in the Soviet Far East, I (Arachnida, Aranei, Clubionidae) // Korean Arachnology. Vol.5. No.2. P.139–175.
- Mikhailov K.G. 2011. Remarks on the spider genus *Clubiona* Latreille, 1804 (Aranei: Clubionidae) of Mongolia // Proceedings of the Zoological Institute of the Russian Academy of Sciences. Vol.315. P.311–316.
- Ochirkhuyag J. 2021. [Spider (Arachnida: Araneae) diversity and species composition in Khurkh and Khuiten valleys]. Bachelor thesis. [In Mongolian].
- Sytshhevskaja V.J. 1935. Étude sur les araignées de la Kamtchatka // Folia Zoologica et Hydrobiologica. Riga. Vol.8. No.1. P.80–103, Pl.5.
- World Spider Catalog. 2022. Version 23.5. Natural History Museum Bern. Online at <http://wsc.nmbe.ch>. Accessed on 24.VI.2022. <https://doi.org/10.24436/2>.