

On the identity of *Cheiracanthium orientale* Kulczyński, 1885 (Aranei: Cheiracanthiidae) from Kamchatka, northeastern Siberia

О таксономическом статусе *Cheiracanthium orientale* Kulczyński, 1885 (Aranei: Cheiracanthiidae) из Камчатки

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КЛЮЧЕВЫЕ СЛОВА: Araneae, Азия, точки находок, синоним, синтип.

ABSTRACT. Here I report the result of examining the syntypes of *Cheiracanthium orientale* Kulczyński, 1885, which was described from Kamchatka and later synonymized with *C. erraticum* (Walckenaer, 1802). This synonymy, which has been overlooked in several catalogs, is confirmed here. Distribution records of *Ch. erraticum* in northeastern Siberia are mapped.

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РЕЗЮМЕ. Впервые изучены синтипы *Cheiracanthium orientale* Kulczyński, 1885, вида известного только из Камчатки. Наши исследования подтвердили правильность синонимизации этого вида с *C. erraticum* (Walckenaer, 1802). Синонимия двух видовых названий не была учтена в нескольких каталогах. Точки находок *C. erraticum* на северо-востоке Азии показаны на карте.

Introduction

For more than a century, Kamchatka was considered the best studied east Siberian region in respect to spiders, largely thanks to the pioneer publication of Kulczyński [1885] and several subsequent works by Kulczyński [1926], Schenkel [1930] and Sytshevskaja [1935]. Now days, Kamchatka can be considered as worse studied region in East Asia [Mikhailov, 2021]. So far, 271 species of spiders have been recorded in Kamchatka (Marusik, personal data), which is a lower number in comparison to 526 species known in Magadan and Chukotka combined (Marusik, personal data) or 363 in Sakhalin Island [Mikhailov, 2021].

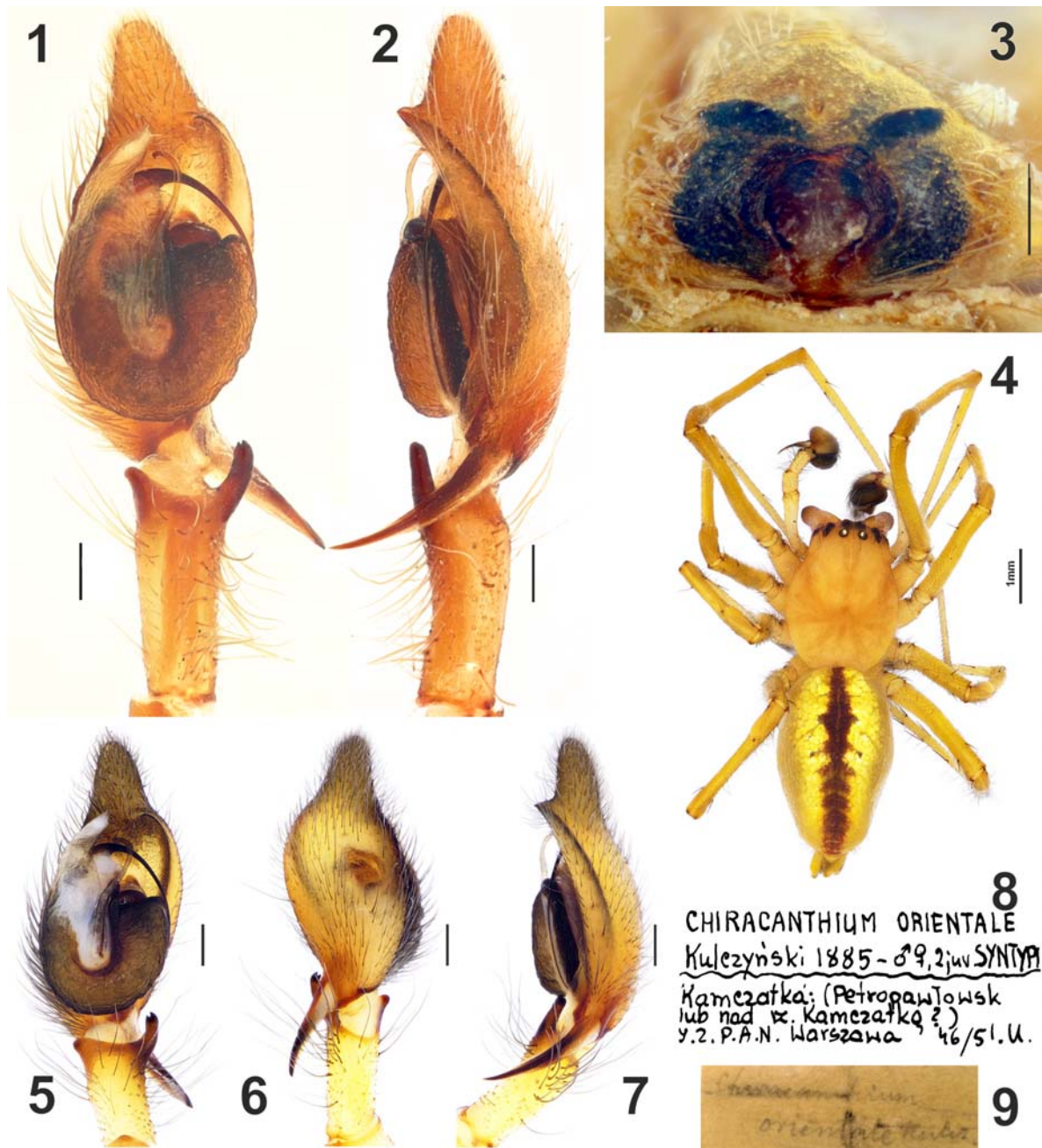
Several species described from Kamchatka by Kulczyński [1885] remain known only from the original

descriptions. While making a survey of spiders occurring in northeastern Siberia, I recognized that *Cheiracanthium orientale* Kulczyński, 1885 from Kamchatka is treated as a valid species by Mikhailov [1997, 2013, 2021], while considered a junior synonym of *C. erraticum* (Walckenaer, 1802) in WSC [2021]. Information on the publication proposing this synonymy was lacking in the WSC (Version 22.0, generated on 2021-07-15). Personal communication with Kirill Mikhailov led to finding that the two names were synonymized by Sytshevskaja (1935) in this manner: “*Cheiracanthium erraticum* Wlck. (= *Ch. orientale* Kulcz. (85)).” This synonymy has been overlooked by Charitonov [1936] and Bonnet [1956], although the publication of Sytshevskaja [1935] was cited in both. Roewer [1954] listed *C. orientale* as a synonym of *Ch. dumetorum* (Hahn, 1833), a species currently considered a junior synonym of *C. erraticum*.

Sytshevskaja synonymized the two species without checking the types and only on the basis of comparison of specimens collected in Kamchatka (3 ♂♂ and 12 ♀♀) with those from the environs of Moscow. In order to confirm the synonymy, I borrowed the types of *C. orientale* which recently became available for studying.

Material and methods

Specimens were photographed using a Canon EOS 7D camera attached to an Olympus SZX16 stereomicroscope. Digital images were montaged using CombineZP and Helicon focus 3.10 image stacking softwares and edited using CorelDraw graphic design softwares. Syntypes of *C. orientale* are from Institute of Zoology, Warsaw and specimen from Sakhalin is from Far Eastern Federal University, School of Natural Sciences, Vladivostok.



Figs 1–9. Syntypes of *Cheiracanthium orientale* (1–3), comparative specimen of *C. erraticum* from Sakhalin (4–7) and type labels (8–9). 1, 5 — male palp, ventral; 2, 7 — male palp, retrolateral; 3 — epigyne, ventral; 4 — male habitus, dorsal; 6 — male palp, dorsal; 8–9 — museum and original labels. 4–7 — courtesy of M.M. Omelko. Scale = 0.2 mm, if not otherwise indicated.

Рис. 1–9. Синтипы *Cheiracanthium orientale* (1–3), самец *C. erraticum* из Сахалина (4–7) и типовые этикетки (8–9). 1, 5 — пальпа самца, снизу; 2, 7 — пальпа самца, ретролатерально; 3 — эпигина, снизу; 4 — внешний вид самца, сверху; 6 — пальпа самца, сверху; 8–9 — музейная и оригинальная этикетки. 4–7 — предоставлены М.М. Omelko. Масштаб 0,2 мм, если не указано иначе.

Taxonomy

Family Cheiracanthiidae Wagner, 1887
Genus *Cheiracanthium* C.L. Koch, 1839

Cheiracanthium erraticum (Walckenaer, 1802)
Figs 1–7, 10.

Aranea erraticum Walckenaer, 1802: 219.

Clubiona dumetorum Hahn, 1833: 1, pl. 24, f. B (♀).

Cheiracanthium carnifex C.L. Koch, 1839: 14, f. 438–439 (♂♀).

Cheiracanthium orientale Kulczyński, 1885: 45, pl. 11, f. 25a–d (♂♀).

Cheiracanthium erraticum: Sytshevskaja, 1935: 96 (S of *C. orientale*).

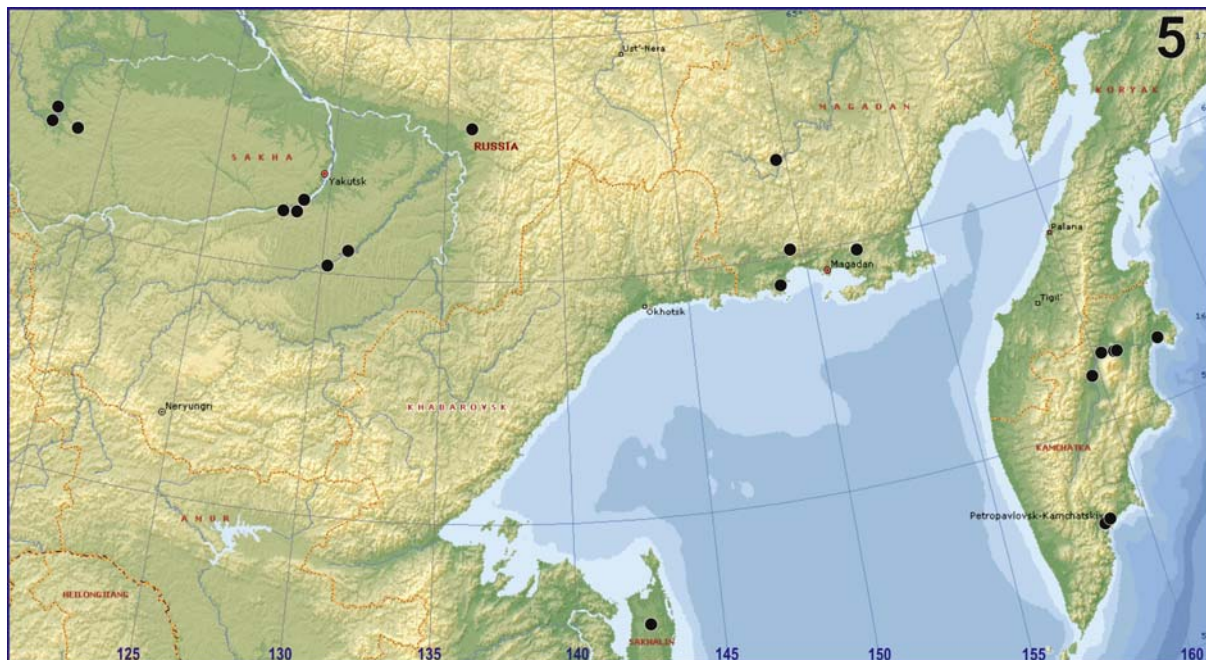


Fig. 10. Distribution records of *Cheiracanthium erraticum* in northeastern Siberia.
 Рис. 10. Точки находок *Cheiracanthium erraticum* на Северо-востоке Сибири.

Cheiracanthium erraticum: Charitonov, 1936: 212 (refers to Sytshevskaja [1935]).

Cheiracanthium dumetorum: Roewer, 1955: 478 (indicated synonymy with *C. orientale*).

Cheiracanthium orientale: Bonnet, 1956: 1063 (listed as a separate species).

Cheiracanthium orientale: Mikhailov, 1997: 158 (listed as a separate species).

Cheiracanthium orientale: Mikhailov, 2013: 154 (listed as a separate species).

For the complete list of references see WSC [2022].

TYPE MATERIAL EXAMINED. Syntypes: 1 ♂ 1 ♀ 2 juveniles, with a museum label “Kamczatka: (Petropawłowski lub nad rz. Kamczatką?). I.Z. P.A.N. Warszawa 46/51.U.” (Figs. 8–9). [Petropavlovsk Kamchatsky or along Kamchatka River].

COMPARATIVE MATERIAL (Figs 4–7). 1 ♂ Russia, Sakhalin Island, Nevelskii Dist., 8 km NNE of Nevelsk, Yasnovorskoye, 46°41'7.51" N 141°52'19.93" E, light trap, 18–22.07.2019 (M.G. Ponomarenko).

NOTE. Kulczyński [1885] indicates that the type series includes “4 okazy dorosle i kilka młodych z Petropawłowska i z nad Kamczatki” [= 4 adults and some juveniles collected in Petropavlovsk-Kamchatskiy and from Kamchatka River]. This mean that I received only half of the syntypes. Perhaps the other two adults were deposited in another museum.

COMMENTS. Kulczyński [1885] provided very detail description of the somatic characters, and paid special attention to spination by which the species differs from the similar *C. carnifex*. Sytshevskaja [1935] published the results of her collecting efforts in Kamchatka in 1930 and reported about 20 adults and juveniles of *C. erraticum* found in nine localities, including Petropavlovsk-Kamchatski and three localities along Kamchatka River: Kozyrevsk, Kluchi and Nerpichye Lake [Sytshevskaja, 1935; Mikhailov, Marusik, 1996]. She also discussed spination and compared the Kamchatkan specimens with those from environs of Moscow. Although Sytshevskaja did not study the types, she came to the correct conclusion on the synonymy of the two names. It

is worth noting that *C. erraticum* is the single species of the family occurring in the northeastern Siberia. The examination of the syntypes left no doubts that the synonymy was correct (cf. Figs 1–2 and 5, 7).

Distribution

The species has a Transpalearctic range and known from Ireland and Iberian Peninsula [Nentwig *et al.*, 2022] east to Kamchatka [Mikhailov, 2021]. In Europe it occurs north to about 60.5 °N in Sweden [Almquist, 2006] and 62 °N in Finland [Koponen *et al.*, 2013]. In the Urals, *C. erraticum* is known north to ca. 59 °N [Esyunin, Efimik, 1996]. The northernmost distribution records of this species lie in Yakutia at about 63 °N [Marusik *et al.*, 1993]. Figure 10 illustrate the distribution records of the species in the northeastern Siberia.

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References

- Almquist S. 2006. Swedish Araneae, part 2 – families Dictynidae to Salticidae // *Insect Systematics & Evolution*, Supplement. Vol.63. P.285–601.
- Bonnet P. 1956. *Bibliographia araneorum*. Toulouse: Douladoure. Tome II. Systématique des araignées (Étude par ordre alphabétique). 2me partie: C–F. P.919–1926.
- Charitonov D.E. 1936. [Addition to the Catalogue of Russian spiders] // *Scient. Mem. Univ. Perm.* Vol.2. No.1. P.167–223 [in Russian].
- Esyunin S.L., Efimik V.E. 1996. *Catalogue of the Spiders (Arachnida, Aranei) of the Urals*. Moscow: KMK Scientific Press. 228 pp.
- Hahn C.W. 1833. *Monographie der Spinnen*. Nürnberg: Lechner. Heft 7. 1 S., 4 Pl.
- Koch C.L. 1839. *Die Arachniden*. Nürnberg: C.H. Zeh'sche Buchhandlung. Fünfter Band, S.125–158, Taf.175–180 (Fig.418–431); Sechster Band, S.1–156, Taf.181–216 (Fig.432–540); Siebenter Band, S.1–106, Taf.217–247 (Fig.541–594).
- Koponen S., Pajunen T., Fritszén N.R. 2013. *Atlas of the Araneae of Finland*. – Finnish Expert Group on Araneae; at: <http://biolcoll.utu.fi/arach/aran2013/aranmaps.htm>
- Kulczyński W. 1885. Pająki zebrane na Kamczatce przez Dra B. Dybowskiego. Araneae in Camtschadalia a Dre B. Dybowski collectae // *Pamiętnik Akademii Umiejętności w Krakowie*, Wydział Matematyczno-Przyrodniczy. Vol.11. No.4. P.1–60, pl. 9–11.
- Kulczyński W. 1926. *Arachnoidea Camtschadalia* // *Ezhegodnik Zoologicheskogo Muzeya Akademii Nauk SSSR*. Leningrad. Vol.27. No.1. P.29–72.
- Mikhailov K.G. 1997. *Catalogue of the spiders of the territories of the former Soviet Union (Arachnida, Aranei)* // *Sbornik trudov Zool. Muzeya MGU*. Moscow: Zool. Museum, Moscow State Univ. Vol.37. 416 pp.
- Mikhailov K.G. 2013. The spiders (Arachnida: Aranei) of Russia and adjacent countries: a non-annotated checklist // *Arthropoda Selecta*. Supplement 3. P.1–262.
- Mikhailov K.G. 2021. Advances in the study of the spider fauna (Aranei) of Russia and adjacent regions: a 2017 update // *Invert. Zool.* Vol.18. No.1. P.25–35, Supplements 1.01–1.15, 2.01–2.24. doi: 10.15298/invertzool.18.1.03
- Mikhailov K.G., Marusik Yu.M. 1996. [Spiders of the north-east of the USSR. Families Clubionidae, Zoridae, Liocranidae and Gnaphosidae (genus *Micaria*) (Arachnida, Aranei)] // *Entomologicheskie issledovanoya na Severo-Vostoke SSSR*. Vladivostok. P.90–113 [in Russian].
- Nentwig W., Blick T., Bosmans R., Gloor D., Hänggi A., Kropf C. 2022. *Spiders of Europe*. Version 03.2022. Online at <https://www.araneae.nmbe.ch>, accessed on March 1, 2022. doi.org/10.24436/1
- Roewer C.F. 1955. *Katalog der Araneae von 1758 bis 1940, bzw. 1954*. 2. Band, Abt. a, Abt. b. Bruxelles: Institut royal des Sciences naturelles de Belgique. 1751 S.
- Schenkel E. 1930. *Die Araneiden der schwedischen Kamtschatka-Expedition 1920–1922* // *Arkiv för Zoologi*. Bd.21. H.A15. S.1–33.
- Sytshvskaja V.J. 1935. Étude sur les araignées de la Kamtschatka // *Folia Zoologica et Hydrobiologica*. Vol.8. No.1. P.80–103, pl. 5.
- Walckenaer C.A. 1837. *Histoire naturelle des insectes. Aptères*. Tome premier. Paris: Roret. 682 p., pl. 1–15. doi:10.5962/bhl.title.61095
- WSC. 2021 *World Spider Catalog*. Version 22.0. Natural History Museum Bern, online at <http://wsc.nmbe.ch>, accessed on February 20, 2022. doi: 10.24436/2
- WSC. 2022. *World Spider Catalog*. Version 23.0. Natural History Museum Bern, online at <http://wsc.nmbe.ch>, accessed on February 20, 2022. doi: 10.24436/2

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