

A new synonym of *Lathys heterophthalma* Kulczyński, 1891 (Araneae: Dictynidae)

Новый синоним *Lathys heterophthalma* Kulczyński, 1891 (Araneae: Dictynidae)

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КЛЮЧЕВЫЕ СЛОВА: *Lathys*, новая синонимия, распространение, биотопические предпочтения.

ABSTRACT. The type material of *Lathys heterophthalma* Kulczyński, 1891 was compared to illustrations and specimens of *L. nielseni* (Schenkel, 1932). The epigyne/vulva and body size of the two species were found not to differ. *Lathys nielseni* is therefore considered a junior synonym of *L. heterophthalma*. An updated distribution map of *L. heterophthalma* is presented and commented. The habitat preferences of the species is reviewed.

РЕЗЮМЕ. Типовой материал *Lathys heterophthalma* Kulczyński, 1891 сравнили с экземплярами и изображениями *L. nielseni* (Schenkel, 1932). Обнаружено, что строение эпигины/вульвы и размеры тела обоих видов не различаются. Поэтому *L. nielseni* рассматривается как младший синоним *L. heterophthalma*. Представлена и откомментирована обновленная карта распространения *L. heterophthalma*. Дан обзор биотопических предпочтений этого вида.

Introduction

The members of the Holarctic dictynid genus *Lathys* Simon, 1884 have been the subject of several recent studies [Ono, 2003; Marusik *et al.*, 2006, 2009; Zhang *et al.*, 2009, 2012; Wunderlich, 2011; Kovblyuk *et al.*, 2014]. These authors have added quite a few new species and the genus now holds 45 accepted species [World Spider Catalog, 2016]. *Lathys heterophthalma* is described from Croatia [Chyzer, Kulczyński, 1891] based on two females and juveniles. Subsequent citations from Switzerland [Schenkel, 1929], France [Simon, 1914] and Majorca [Orghidan *et al.*, 1975] were based on text description identifications only as Kulczyński did not produce any illustrations of the species. Later Schenkel was in the possession of two unidentifiable dictynid females collected in Öland, Sweden by the Danish arachnologist Emil Nielsen [Schenkel, 1932]. Schenkel himself did actually consider conspecificity

with *L. heterophthalma*, but A.R. Jackson who also inspected the specimens was of the opinion that leg spination pointed towards *Altella* Simon, 1884. Hence the type material of *L. heterophthalma* was not consulted and apparently it was never since examined by other workers. Schenkel provided a description and claimed “in case the species is new it should be named *Altella nielseni*” (translation by author) [Schenkel, 1932]. In the present study the type material of Kulczyński is examined. The material was located in the collections of the Museum and Institute of Zoology of the Polish Academy of Sciences (MIZ PAS). The results of the examination is presented below.

Taxonomy

Lathys heterophthalma Kulczyński, 1891
Figs 1–2.

Lathys heterophthalma Kulczyński, 1891 in Chyzer et Kulczyński [1891]: 161–162, syntypes 2 ♀♀, 1 subadult ♂, 6 juveniles in MIZ PAS, re-examined. *Lathys* (= *Altella*) *nielseni* [Schenkel, 1932]: 202, 206–208, f. p. 208, 2 ♀♀ syntypes, not examined). **Syn.n.**

An examination of the type material of *Lathys heterophthalma* revealed that the specimens are conspecific with the later described *Lathys* (*Altella*) *nielseni* (Schenkel, 1932). The epigyne and the vulva parts visible through the integument show good match with illustrations in the literature (compare Fig. 2 with fig. 30 in Marusik *et al.* [2009]) as well as the size of the syntype female (1.76 mm) complies with ranges for *L. nielseni* (1.6–2.0 mm) given in the literature [Roberts, 1995; Almquist, 2006]. The second adult syntype has prosoma and abdomen separated and could not be measured for body length, but seems of the same size as the intact specimen. *Lathys heterophthalma* differs from congeners with similar epigynes [*L. sexpustulata* (Simon, 1878), *L. humilis* (Blackwall, 1855), *L. subhumilis* Zhang, Hu et Zhang, 2012 and *L. borealis* Zhang, Hu et Zhang, 2012] by not possessing abdominal white guanine spots. In accordance, no guanine spots are discernible in type



Fig. 1. *Lathys heterophthalma* Kulczyński, 1891. Photo of male from Denmark.

Рис. 1. *Lathys heterophthalma* Kulczyński, 1891. Фото самца, Дания.

material, but on the other hand it is not known to me whether these could withstand 125 years of preservation. Fresh specimens are with a characteristic, dark brown chevron-like pattern (Fig. 1). This pattern was not present in type material as all specimens are completely bleached, having their abdomens uniformly cream-coloured. Anterior median eyes are stated as almost obliterated according to original description of Kulczyński which led Simon [1903] to transfer the species to *Scotolathys* Simon, 1884. However, the type specimens clearly possess eight eyes, albeit anterior medians are small. As a result of this study, in particular the shape of the ducts in the epigyne, *Lathys nielseni* (Schenkel, 1932) (original combination is *Altella nielseni*) is considered a junior synonym of *Lathys heterophthalma* Kulczyński, 1891. This is with some sadness as it was the only species named after my fellow countryman, Emil Nielsen (1876–1938) author of the classic “The biology of Spiders”, still considered a fundamental and indispensable work of biology [Nielsen, 1932].

DISTRIBUTION. Apparently a rare species known from typically just one or a few localities in most countries. Taking in to account it is an easy to catch species in accessible habitats it is unlikely that it has been overlooked to a significant extent. The records of the species available in the literature are listed by country below and the habitats where specimens have been found are mentioned if stated by the authors. An updated distribution map of the species is presented in Fig. 3.

Austria, Tirol, known from west of Innsbruck: Innsbruck-Martinswand 700 m, Kranebitter Klamm ober Mittereck 1.500 m, Leutasch-Gasse 1.100 m [Thaler, Noflatscher, 1990]. According to the authors the species was found in warm, southfacing habitats with pine forest, at higher elevation in rock steppe with stunted pines. **Belarus: Gomel Area**, Pripyatsky National Park. Here the species was collected in mossy pine forest [Zhuikovets, 1997]. **Croatia: Primorje-Gorski Kotar**, known

from a single locality at Bakar [Chyzer, Kulczyński, 1891], in publication listed by its Italian place name “Buccari”). This is the type locality. No data on habitat is presented. **Czech Republic:** Considered very rare in the Czech Republic with records from three localities: *South Bohemia* at Třeboň and Soběslav, and *Liberec* at Dubá-Dřevčice to the north [Buchar, Růžička, 2002]. Habitat is which the species has been found is stated as “among mosses and lichens in pine forest”. **Denmark: The North Region.** Lille Vildmose east of Aalborg, Tofte Mose raised bog at the boardwalk southwest of Lake Tofte Sø (56.864°N, 10.171°E), 2 ♀♀ 1 subadult ♂ 30.08.2012, 1 ♂ 19.05.2013, 2 ♂♂ 21.05.2015, leg. Jørgen Lissner. Found in litter and moss among heather in degraded edge of bog. Apparently only occupies a small area of the 7 km² large peat dome, and it has not been found in other bogs or habitats in the area. **England:** Only known from a relatively small area of England with localities in the contiguous counties of *Surrey, West Sussex* and *Hampshire* to the south and east of London [Jones, 1984; Harvey *et al.*, 2002]. Here the species is found in “moist heatland at ground level, under stones or in *Molinia* litter” [Harvey *et al.*, 2002]. **Finland:** Occurrence primarily in south and southwestern Finland (regions of *Åland Islands, Satakunta, Tavastia Proper, Uusimaa, Etelä-Karjala, Southern* and *Northern Ostrobothnia*). This is the country having most records (see Marusik *et al.* [2009] for details). The species has been found at 15 localities in the southern half of the country and one in the northern at Kuusamo (66°10'N). This appears to be the northernmost record of the species within its range. The species has been found mainly in dry habitats, among litter, moss and lichens, but also on sand dunes with *Elymus* [Marusik *et al.*, 2009]. **France:** Southern records from *Haute-Garonne*, Toulouse area, records from several places, mostly grassland sites [Déjean, 2015]. North-eastern record from *Grand Est*, at Meurthe-et-Moselle [Iorio, Staudt, 2007]. There might

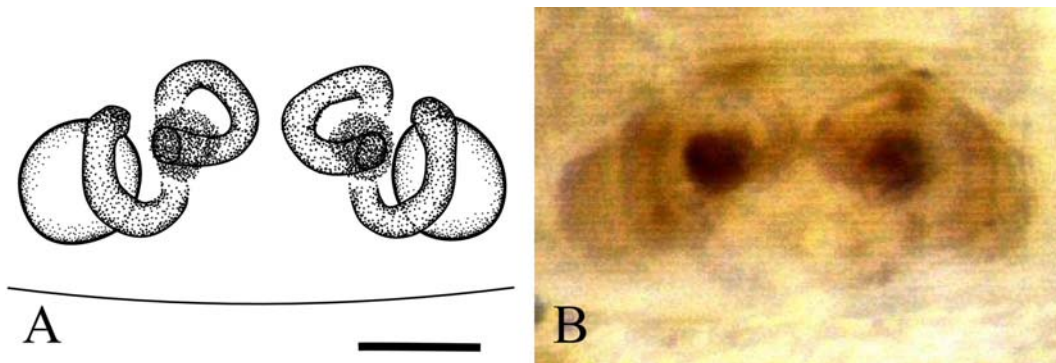


Fig. 2. *Lathys heterophthalma* Kulczyński, 1891, epigyne of syntype. A — drawing; B — photo. Scale 0.05 mm.

Рис. 2. *Lathys heterophthalma* Kulczyński, 1891, эпигина синтипа. А — прорисовка; В — фото. Масштаб 0,05 мм.

be additional records from France that are not mapped in fig. 3. Simon [1914] mentions that *L. heterophthalma* has been found in France, but data on locality is not given. Also The World Spider Catalog [2016] lists this species for France. **Germany:** *Bavaria*, Würzburg area at Leinach and at Karsbach in semiarid grassland [Stumpf, 1995] and Bavarian Alps at Aggenstein near Pfronten according to title of report of Leipold [2010] listed in Staudt [2016]. **Russia:** *Northwestern Federal District*, St. Petersburg Area [Marusik *et al.*, 2009]. *Siberia*, Southern Urals, at the Ilmensky mountains west of Chelyabinsk and at Borovoye about 40 km southwest of Novosibirsk [Marusik *et al.*, 2009]. **Serbia:** *Syrmia Region*, Fruška Gora Mountain, meadow-steppe [Grbic *et al.*, 2015]. **Slovakia:** *Nitra Region*. A single record without year according to the Catalogue of Slovakian Spiders [Gajdoš *et al.*, 1999]. The locality is near Svodín c. 200 m.a.s.l. in the Nové Zámky District. **Slovenia:** *Littoral Region*. A single specimen was found in a forest near Novelo 360 m.a.s.l. in a karst area, the most widespread landscape type in the country [Gregorič, Kuntner, 2009]. No further details on habitat is given. **Spain:** *Majorca*, one female assigned to “*Scotolathys cf. heterophthalma*” was found under stones at Illetas on April 18, 1971 [Orghidan *et al.*, 1975]. Illetas is situated at the coast west of Palma and is now largely built-up. The authors also reports *L. narbonensis* (Simon, 1876) from the same locality so mix-up with this species is considered unlikely. Presumably the specimen of Orghidan is stored in the collections of the “Emil Racovita” Institute of Speleology, Bucharest, Romania, but it has not been possible to confirm this. Without an examination of this specimen the record is considered doubtful. It should be noted that Pons [2004] lists several records of juvenile *Lathys humilis* from various islands in the Cabrera archipelago (Majorca) where it is stated as commonly found on bushes along the coast. So it remains to be verified whether one or both species occur in Majorca. **Sweden:** *Öland*, two females were collected on the steep, western side of the Store Alvaret limestone plain [Schenkel, 1932]. This plain is mostly covered by calcareous grassland or barren limestone. Further records are from *Östergötland*, *Gotland*, and *Uppland* (Stockholm area) the latter region comprises the known northern limit of

the species in Sweden (Fig. 3, map in Almquist [2006]). This author specifies the habitat in Sweden as “dune heaths”. **Switzerland:** *Graubünden*, Ramosch-Platta Mala 1.300 m [Thaler, 1985; Maurer, Hänggi, 1990; Thaler, Noflatscher, 1990], *Tessin*, at Villa-Bedretto-Ronco 1350–1500 m [Schenkel, 1929], *Wallis*, rock steppes at Saillon and at Mazembroz [Maurer, Walter 1984]. Habitat according to Maurer & Hänggi [1990] is dry, xerothermic places with *Stipa* and *Juniperus*, such as rock steppes. **China:** There have been some possible records from China and Taiwan (see map in Marusik *et al.* [2009]). However, the Chinese specimens have been reinspected [Zhang *et al.*, 2012] and specimens considered possible *L. nielsenii* are now assigned to a new species, *L. borealis*. Thus there is no longer any evidence that point to the occurrence of *L. heterophthalma* in China.

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References

- Almquist S. 2006. Swedish Araneae, part 2: families Dictynidae to Salticidae // *Insect Systematics & Evolution Supplement* Vol.63. P.287–601.
- Buchar J., Růžička V. 2002. Catalogue of Spiders of the Czech Republic / P. Merrett (ed). Prague: Peres Publishers. 349 p.
- Chyzer C., Kulczyński W. 1891. *Araneae hungariae*. Budapest. T.1. 170 p.
- Déjean S. 2015. *Lathys nielsenii* (Schenkel, 1932) (Araneae, Dictynidae), une espèce confirmée pour la faune de France découverte sur la commune de Toulouse // *Revue Arachnologique*. Série 2. T.2. P.20–22.
- Gajdoš P., Svatoň J., Sloboda K. 1999. Catalogue of Slovakian Spiders. Bratislava: Ústav krajinej ekológie SAV. 339 p. (I), 315 p. (II). [in Slovak and English]
- Gregorič M., Kuntner M. 2009. Epigeian spider diversity of the classical Karst // *Hacquetia*. Vol.8. No.1. P.67–78.
- Grbic G., Hänggi A., Savic D. 2015. New faunistic records of spiders (Arachnida, Araneae) from the Fruška Gora Mountain, Northern Serbia // *Acta Zoologica Bulgarica*. Vol.67. P.479–486.

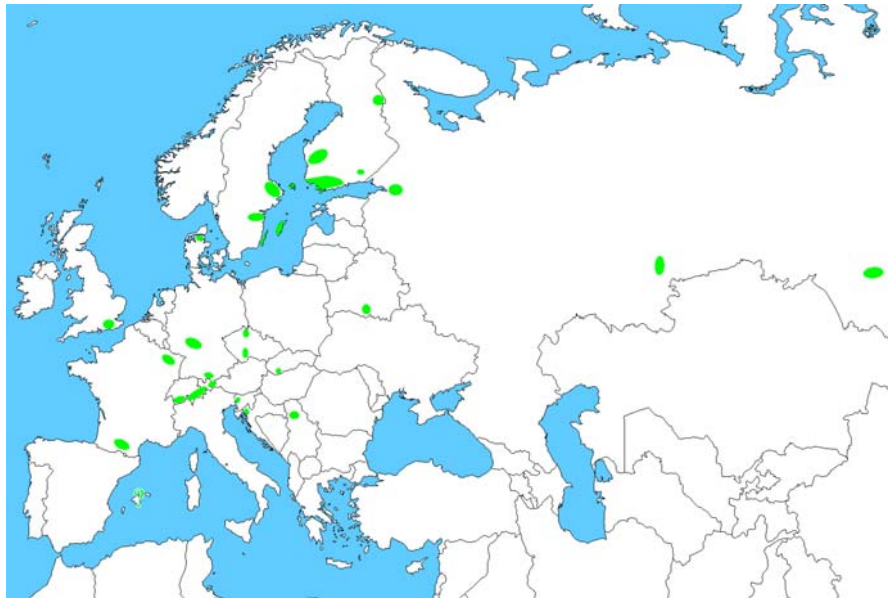


Fig. 3. Distribution of *Lathys heterophthalma* Kulczyński, 1891 in the Palearctic. Occurrence in Majorca is doubtful.
 Рис. 3. Распространение *Lathys heterophthalma* Kulczyński, 1891 в Палеарктике. Находка на Майорке сомнительна.

- Harvey P.R., Nellist D.R., Telfer M.G. 2002. Provisional atlas of British spiders (Arachnida, Araneae). Vols 1 & 2. Huntingdon: Biological records Centre. 214 p.
- Iorio E., Staudt A. 2007. Un aperçu de la diversité arachnologique des pelouses calcaires de la vallée du Rupt de Mad en Meurthe-et-Moselle (Arachnida, Araneae) // Le bulletin d'Arthropoda. Vol.33. P.34–49.
- Jones D. 1984. *Lathys nielsenii* (Schenkel), Dictynidae. A spider new to Britain // Newsl. Br. arachnol. Soc. No.46. P.6.
- Kovblyuk M.M., Kastrygina Z., Omelko M.M. 2014. New *Lathys* Simon, 1884 species from Crimea (Aranei: Dictynidae) // Arthropoda Selecta Vol.23. No.2. P.195–198.
- Leipold D. 2010. Bericht LfU Bayern Spinnen und Laufkäfer aus den Bayerischen Alpen: Aggenstein 2010 (Landkreis Ostallgäu) (Araneae; Coleoptera: Carabidae). Bericht LfU Bayern.10 p.
- Marusik Y.M., Koponen S., Fritzen N.R. 2009. On two sibling *Lathys* species (Araneae, Dictynidae) from northern Europe // ZooKeys. Vol.16. P.181–195.
- Marusik Y.M., Ovchinnikov S.V., Koponen S. 2006. Uncommon conformation of the male palp in common Holarctic spiders belonging to the *Lathys stigmatistata* group (Araneae, Dictynidae) // Bull. Br. arachnol. Soc. Vol.13. Pt.9. P.353–360.
- Maurer R., Hänggi A. 1990. Documenta Faunistica Helvetiae 12. Katalog der Schweizerischen Spinnen. Neuchâtel: Centre Suisse de Cartographie de la Faune. 412 p.
- Maurer R., Walter J.E. 1984. Für die Schweiz neue und bemerkenswerte Spinnen (Araneae) II // Mitteilungen der Schweizerischen Entomologischen Gesellschaft. Bd.57. S.65–73.
- Nielsen E. 1932. The Biology of Spiders: With Especial Reference to the Danish Fauna. Copenhagen: Levin & Munksgaard. 723 p.
- Ono H. 2003. A new dictynid spider from Iriomotejima Island, southwest Japan, with a list of Japanese species of the genera *Lathys* and *Brommella* (Arachnida, Araneae) // Bull. Natn. Sci. Mus. Tokyo. Ser.A Vol.29. No.1. P.7–13.
- Orghidan T., Dumitresco M., Georgesco M. 1975. Mission biopéologique "Constantin Dragan" à Majorque (1970–1971). Première note: Arachnides (Araneae et Pseudoscorpionidea) // Travaux de l'Institut de Spéologie "Émile Racovitza". T.14. P.9–33.
- Pons G. 2004. Biogeografia, ecologia i taxonomia de les aranyes (arachnida, araneae) de les illes balears. Models de distribució de la fauna insular. Thesis. Universitat de les Illes Balears. 542 p.
- Roberts M.J. 1995. Collins Field Guide to the Spiders of Britain and Northern Europe. 1st ed. London: Harper Collins. 383 p.
- Schenkel E. 1929. Beitrag zur Kenntnis der schweizerischen Spinnenfauna. IV. Teil. Spinnen von Bedretto // Revue Suisse de Zoologie. T.36. Fasc.1. S.1–24.
- Schenkel E. 1932. Verzeichnis der von E. Neilsen auf Öland und Smaaland gesammelten Spinnen // Entomologisk Tidskrift. Bd.53. S.202–209.
- Simon E. 1903. Histoire naturelle des araignées. Paris: Imprimerie Edouard Duruy. P.669–1080.
- Simon E. 1914. Les Arachnides de France T.6. Le Synopsis général et le catalogue des espèces françaises de l'ordre des Araneae. 1re partie. Paris. P.1–308.
- Staudt A. 2016. Nachweiskarten der Spinnentiere Deutschlands. Available from: <http://www.spiderling.de/arages/index2.htm> (August 1, 2016).
- Stumpf H. 1995. *Lathys nielsenii* — neu für Deutschland (Araneae: Dictynidae) // Arachnologische Mitteilungen. H.10. S.23–24.
- Thaler K. 1985. Über die epigäische Spinnenfauna von Xerothermstandorten des Tiroler Inntales (Österreich) (Arachnida: Aranei) // Veröffentlichungen des Tiroler Landesmuseums Ferdinandeum. Bd.65. S.81–103.
- Thaler K., Noflatscher M. 1990. Neue und bemerkenswerte Spinnenfunde in Südtirol (Arachnida: Aranei) // Veröffentlichungen des Museum Ferdinandeum. Bd.69. S.169–190.
- World Spider Catalog 2016. World Spider Catalog. Natural History Museum Bern, version 17.0. Available from: <http://wsc.nmbe.ch> (June 27, 2016).
- Wunderlich J. 2011. Extant and Fossil Spiders (Araneae) // Beiträge zur Araneologie. Vol.6. P.1–640.
- Zhang Z., Hu D., Zhang Y. 2012. Notes on the spider genus *Lathys* Simon, 1884 (Araneae: Dictynidae), with description of four new species from China // Zootaxa. Vol.3359. P.1–16.
- Zhang Z.S., Yang Z.Z., Zhang Y.G. 2009. A new species of the genus *Lathys* (Araneae, Dictynidae) from China // Acta Zootaxonomica Sinica. Vol.34. No.2. P.199–202.
- Zhukovets E.M. 1997. [Class Arachnida. Order Aranei] // E.I. Khotko (ed.). Invertebrates of the Pripyatsky National Park. Minsk: Navuka i Tekhnika. P.22–29 [in Russian].