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## The first record of *Lepthyphantes centromeroides* Kulczyński, 1914 (Aranei: Linyphiidae) from the Ukrainian Carpathians

### Первая находка *Lepthyphantes centromeroides* Kulczyński, 1914 (Aranei: Linyphiidae) в Украинских Карпатах

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**Ключевые слова:** Aranei, Linyphiidae, *Lepthyphantes centromeroides*, Карпатский национальный природный парк, Украина.

**Abstract.** *Lepthyphantes centromeroides* Kulczyński, 1914 is recorded from Ukraine for the first time. This record represents the northernmost observation point of this species in Europe. A single male was collected in pitfalls traps from the wet beech-fir spruce forest in the Carpathian National Natural Park (Ivano-Frankivsk Region) at an altitude of 1000 m. In the Balkans, the main area of its distribution, this species is predominantly known as a troglophile. Besides the various caves and subterranean artificial galleries, where it builds small webs among stones and in stalagmite folds, *L. centromeroides* was found in burrows of small mammals, under wood and stones in the humus layer of deciduous forest. The photographs of the male palp and lamella are presented.

**Резюме.** *Lepthyphantes centromeroides* Kulczyński, 1914 впервые отмечен на территории Украины. Эта находка представляет собой наиболее северную точку обнаружения вида в Европе. Единственный самец пойман с помощью почвенных ловушек во влажном буково-еловом лесу в Карпатском национальном природном парке (Ивано-Франковская область) на высоте около 1000 м н.у.м. На Балканах вид отмечен в пещерах и подземных сооружениях, где плетет небольшую паутинную сеть между камнями и сталагмитами. Кроме того, *L. centromeroides* встречается в норах мелких млекопитающих, под камнями, под кусками древесины и в подстилке лиственных лесов. Приведены микрофотографии пальпуса самца и ламеллы.

The genus *Lepthyphantes* Menge, 1966 includes 167 species [World Spider Catalog, 2019]. According to Mikhailov [2013], only three species of this large genus were recorded from the Ukrainian fauna: *Lepthyphantes leprosus* (Ohlert, 1867), *L. minutus* (Blackwal, 1833) and *L. nodifer* Simon, 1884. Two of them, *L. leprosus* and *L. minutes*, have been known from the Ukrainian Carpathians to date. In this paper, *Lepthyphantes centromeroides* Kulczyński, 1914 is presented as a new record to the Ukrainian Carpathians and Ukraine.

The collecting locality of *Lepthyphantes centromeroides* is as follows: Ukraine, Ivano-Frankivsk Region, Nadvirna District, the Carpathian National Natural Park, forestry “Goverlyan’ske”, 48°04’N / 24°24’E, 1000 m a.s.l., wet beech-fir spruce forest (pitfalls), 18.06.2003, 1♂, coll. V.A. Chumak. Pitfalls traps were exposed from 16 May to 2 October 2003 (with the exposition of 680 trap-days). The traps were emptied approximately once a week. The examined specimen is deposited in the personal collection of the author.

The photographs of palpus (Figs 1–3) were taken using an USB Digital camera Lens Mount: CS/C connected to an optical microscope Zeiss Primo Star.

*Lepthyphantes centromeroides* was originally described by Kulczyński [1914] from caves in Bosnia and Herzegovina (Koćovica cave in Bjelašnica Mt. and a cave in the vicinity of Ostrožac Village). The description was based on the males only. Fage [1931] described the female taken from a cave near Prekonoga Village in Serbia. *Troglohyphantes bureschi* was described by Drensky [1931] from the Ledenika cave (Vratsa, Bulgaria) and later synonymised with *Lepthyphantes centromeroides* [Deltshev, 1972]. The subspecies *L. c. carpaticus* Dumitrescu et Georgesku, 1970 (described under the name *Lepthyphantes bureschi carpaticus*) was established on the basis of specimens from Romania (Fundata cave, Râșnov) [Dumitrescu, Georgesku, 1970].

To date, *L. centromeroides* has been reported from Bosnia and Herzegovina, Bulgaria, Macedonia, Romania and “Yugoslavia” [Helsdingen, 2018; World Spider Catalog, 2019]. Ivano-Frankivsk Region of Ukraine represents the northernmost observation point of this species in Europe.

*Lepthyphantes centromeroides* is predominantly known as a troglophile species. It has been reported from various caves and subterranean artificial galleries, where it builds small webs among stones and in stalagmite folds [Drensky, 1931; Deltshev, 1972, 1975]. It is the most common species in Bulgarian caves [Deltshev et al., 2011; Deltshev, Lazarov, 2016]. But the species is not exclusively



Figs 1–3. Male palpal organ of *Leptyphantes centromeroides*.

1 – pedipalp without bulbus, dorsal view; 2 – the same, lateral view; 3 – lamella characteristic. Scale bar 0.1 mm.

Рис. 1–3. Детали строения пальпы самца *Leptyphantes centromeroides*.

1 – педипальпа дорсально (бульбус удален); 2 – педипальпа латерально; 3 – ламелла. Масштабная линейка 0.1 мм.

cavernicolous. In Montenegro, it was found in burrows of small mammals, under wood and stones in the humus layer of deciduous forest at altitudes over 800 m, where it proved to be one of the most abundant spider species of the ground fauna [Deeleman-Reinhold, 1974]. Yet, it seems that *L. centromeroides* is very rare in the Ukrainian Carpathians. Further studies are essential to gain a better knowledge of the distribution and abundance of this species in Ukraine.

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