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LATEST FINDINGS OF *CHEIRACANTHIUM MILDEI* L. KOCH, 1864 (ARANEAE: EUTICHURIDAE) IN SLOVAKIA, NOTES TO ITS ECOLOGY AND OCCURRENCE

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V. Franc: Najnovšie nálezy pavúka *Cheiracanthium mildei* L. Koch, 1864 (Araneae: Eutichuridae) na Slovensku, poznámky k jeho ekológii a rozšíreniu

Abstrakt: Autor tu komentuje najnovšie nálezy málo známeho pavúka *Cheiracanthium mildei* v Banskej Bystrici a Malých Kršteňanoch, ako i poznámky k jeho ekológii a rozšíreniu. Tento druh bol v minulosti považovaný za veľmi vzácny a k dispozícii boli len ojedinelé a sporadické nálezy zo strednej Európy. V posledných rokoch sa abundancia tohto druhu zvyšuje, a v niektorých regiónoch, najmä smerom na západ, sa už uvažuje o jeho zaradení k expanzívnym druhom. V južnej časti areálu sa vyskytuje vo voľnej prírode, najmä v polosekundárnych biotopoch (sady, parky, okraje lesa), nálezy v strednej Európe svedčia o tendenciách k synantropizácii tohto druhu. *Cheiracanthium mildei* má osobitné postavenie v svojom rode aj z hľadiska morfológického: Iba tento druh má dve tibialné apofýzy – druhá, dorzálna apofýza odstáva smerom dohora a pripomína vešiak na stene. Nakofko ide o druh poznateľný aj priamo v teréne pomocou vreckovej lupy, jeho rozšíreniu a ekológii by mali arachnológovia venovať viac pozornosti.

Kľúčové slová: pavúky, Araneae, *Cheiracanthium mildei*, rozšírenie, ekológia

INTRODUCTION AND METHODS

Cheiracanthium ranks among less known, nevertheless remarkable and often attractive genera of spiders. *Cheiracanthium mildei* has been considered to be very rare species 2 – 3 decades ago, mentioned in accessible papers only sporadically and rarely. Several recent findings suggest that its abundance is increasing and (especially in Central Europe) it may be often observed as a synanthropic species. Recent finding directly in the town of Banská Bystrica proves it as well. Another new finding in successional open forest (abandoned pasture) near the Malé Kršteňany village is even more remarkable.

The material has been detected by visual observation in the urban environment, and identified according to the key HEIMER, NENTWIG (1991) and the web-site “Spiders of Europe” (NENTWIG et al., 2015). Of all the so-called Red Lists is given only in Germany (PLATEN et al., 1998) and in the Baden-Württemberg County (NÄHRIG, HARMS, 2003).

RESULTS AND DISCUSSION

The latest records: Banská Bystrica – Kollárova street (7280d; GPS 48°44'24.01"N, 19°9'2.57"E), on the wall between gardens and the prison, July 8, 2015, 1 ♂ V. Franc leg.; Malé Kršteňany village (7376b/d, 48°38'50.33"N, 18°26'42.75"E), successional open forest (abandoned pasture), shaken down from the shrubby vegetation, May 12, 2015, 1 ♂ V. Franc & M. Šafanda leg.

Cheiracanthium mildei L. Koch, 1864 – a scarce species, formerly had been considered to be very rare. Published data on its occurrence in Slovakia, especially older,

are very sporadic. This species is even missing in the first accessible key to spiders of the former Czechoslovakia (MILLER, 1971). The first record for Slovakia was carried out in the Kováčovské hills, see below. The further records:

Bratislava (7868), no date, 1 ♂ and 1 ♀ F. Miller leg. (KŮRKA, 1996).

Štúrovo (8178c/8278a), no date, 1 ♀ F. Miller leg. (KŮRKA, 1996).

The bank of the Malý Dunaj river (7869a), semi-ruderal grassland usually mowed or cattle-grazed, no date (GAJDOŠ et al., 1992).

The Nature reserve Devínska Kobyla (7867b/7868a), no date, O. Žitňanská leg. (GAJDOŠ, 2003).

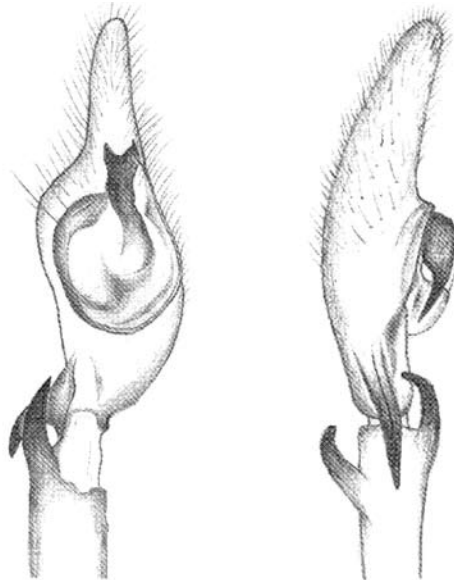
The Nature monument Krivoklátska tiesňava (6975c), cut deep gorge of a creek with rich herb growth, June 29, 1992, 2 ♀ E. Svatoňová leg. (SVATOŇ et al., 2000).

Strážovské vrchy Mts – meadows below the Baske Mt (7175a), July 15, 2005, 1 ♀ S. Korenko leg. (J. Dolanský, in verb.).

Banská Bystrica – on the wall of the Nature History Museum (Tihány Castle), March 2008, 1 juvenile (♂–reared to adulthood), L. Černecká leg. (J. Dolanský, in verb.).

Taxonomic position. The situation in the system of spiders is sometimes not quite clear and it concerns the genus *Cheiracanthium* as well. Formerly, in classical works (MILLER, 1971; HEIMER, NENTWIG, 1991) it was ranked among the family Clubionidae, later it was included in the family Miturgidae (DOLANSKÝ, 2011; PLATNICK, 2014) while the latest is one of the family Eutichuridae (KŮRKA et al., 2015). Beginners can especially be of the disoriented and sometimes discouraged.

Cheiracanthium mildei has a special position in this genus from morphological point of view: Only this one has two tibial apophyses on the male palpal organ – the second, dorsal apophysis is detached upward, recalling a hanger on the wall (fig. 1).



Obr. 1. Samčí kopulačný orgán *Cheiracanthium mildei* (čelný a bočný pohľad)
Fig. 1. Male palpal organ of *Cheiracanthium mildei* (frontal and lateral view)

Distribution and ecology. *Cheiracanthium mildei* has always been considered a clearly thermophilic spider (SVATOŇ et al., 2000). It is quite a widespread species, occurring in southern and central Europe, obviously missing in northern Europe (HELSDINGEN, 2015); the presence in Poland is dubious. More recently, the first occurrence in Poland was recorded in special circumstances: the city of Lublin, Władysława Jagiełły street, stand with fruits and vegetables in a shop, in pomegranate „import from Turkey“ January 21, 2012, 1 juvenile, leg. et det. R. Rozwałka (ROZWALKA et al., 2013). Hence, the authors argue that “However, it is unlikely that this species can enter the stable composition of the Polish araneofauna, due to much higher thermal requirements”.

This species is native to southern Europe and the Mediterranean, where it is found in bushes, in central Europe especially occurs in synanthropic habitats (NENTWIG et al., 2015). Recently it has been discovered as a new species for Slovenia as well; directly in the city of Ljubljana, April 28, 2007, 1 ♀ leg. & det. A. Celestina (KOSTANJŠEK, CELESTINA, 2008). A notable finding was made in Western Europe: Belgium – Antwerp, in a former monastery garden April 28, 2007, 1 ♀ and May 24, 2007, in a private city garden, 1 ♀ K. Van Keer leg. (VAN KEER et al., 2010); these were the first records from this country. Latest finding near the Malé Kršteňany village proves that even in Central Europe it may occur out of urban environments.

Remarkable details of its food relations are commented by another authors (MANSOUR et al., 1980); authentic citation: “*Cheiracanthium mildei* L. Koch, a clubionid, was observed to the most widely distributed spider in an unsprayed apple orchard in the Yisre’el Valley, northern Israel and, together with other spiders, played an important role in the control of larvae of the noctuid moth *Spodoptera littoralis* (Boisduval, 1833). When provided with other arthropods associated with apple as prey, the spider also readily attacked larvae of the moths *Cydia pomonella* (Linnaeus, 1758) and *Zeuzera pyrina* (Linnaeus, 1761); larvae and adults of *Phyllonorycter blancardellus* (Fabricius, 1794) and *Ceratitis capitata* (Wiedemann, 1824); the mites *Tetranychus cinnabarinus* (Boisduval, 1867) and *T. urticae* Koch, 1836; and nymphs and adults of Aphidoidea and *Empoasca* spp.”

Notes on abundance and ecosozological status. Although it is often considered a rare species (in older papers especially), it is only exceptionally cited in accessible Red Lists. It appears only in the Red List of arachnids of Baden-Württembergs (NÄHRIG, HARMS, 2003), where is categorized as „ss“ – sehr selten (in English very rare) with a note «in the walley of the Rhine river observed as a synanthropic species». In Germany (PLATEN et al., 1998) it is categorized as „R“, which is interpreted as «extrem seltene Arten und Arten mit geographischer Restriktion» (ZULKA et al., 2001), in English extremely rare species and species with geographical restriction.

CONCLUSION

Latest finding of *Cheiracanthium mildei* proves that even in Central Europe it may not be a strictly synanthropic species. Distribution and ecology of *Cheiracanthium mildei* (as well as other spiders) requires further investigation. Because this species is recognizable directly in the field using a pocket magnifying glass, his research should be paid more attention of arachnologists.

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