New species of millipedes occurring in the Czech Republic: species discovered in the period 2003–2017

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Abstract. Since the year 2003, six millipede species new for the Czech Republic were announced. All of them were discovered in small populations mostly in natural habitats. They can be divided into two groups. One is represented by rare, relict and stenoecic species (*Hungarosoma bokori*, *Hylebainosoma tatranum* and *Melogona transsylvanica*). The other group is represented by species exhibiting a closer relationship to subterranean habitats in the Czech Republic (*Brachychaeteuma bradeae*, *Macrosternodesmus palicola* and *Geoglomeris subterranea*); their presence in the Czech Republic was revealed by modified pitfall traps used for collecting of deep-living invertebrates and by combination of several methods used during the research in caves. All six species are listed in the Red List of Threatened Invertebrates in the Czech Republic.

Abstrakt. Nové druhy mnohonožek pro Českou republiku: druhy objevené v letech 2003-2017. Od roku 2003 byl v České republice doložen výskyt dalších šesti nových druhů mnohonožek. Podle jejich výskytu v přirozených habitatech je lze rozdělit do dvou skupin. První reprezentují vzácné, reliktní a stenoekní druhy (*Hungarosoma bokori*, *Hylebainosoma tatranum* a *Melogona transsylvanica*). Druhou skupinu představují druhy vázané v České republice na specifické podmínky podzemního prostředí (*Brachychaeteuma bradeae*, *Macrosternodesmus palicola* a *Geoglomeris subterranea*); jejich přítomnost v České republice byla prokázána pomocí hloubkových pastí pro odchyt podzemních bezobratlých a během výzkumů jeskyní. Všech šest druhů je zařazeno na Červeném seznamu ohrožených bezobratlých živočichů České republiky.

Keywords. Distribution, faunistics, threatened species, Diplopoda, Chordeumatida, Glomerida, Polydesmida

1. Introduction

According to current knowledge, 77 millipede species are known from the Czech Republic (TAJOVSKÝ & TUF 2016, KOCOUREK et al. 2017). The checklist of the Czech millipedes was gradually updated by TAJOVSKÝ (2001), KOCOUREK (2001, 2007a, 2013), TUF & TUFOVÁ (2008) and TAJOVSKÝ & TUF (2016). KOCOUREK (2003) reported twelve millipede species new for the Czech Republic in the period 1970–2002. Following this contribution, here we summarize information about six millipede species newly recorded in the Czech Republic between the years 2003–2017; all of them already listed in actualized checklists mentioned above. The aim of this contribution work is thus to provide information about the first collected specimens of these species in the Czech Republic.

2. Material and Methods

Millipedes were collected by repeated hand sampling at various periods throughout the year. Concerning the subterranean and cave habitats, specific methods were used for sampling of invertebrates. Beside modified subterranean traps (SCHLICK-STEINER & STEINER 2000), individual sampling and bait traps in caves were applied. In the annotated list, the orders are arranged according to KOCOUREK et al. (2017), the species are sorted alphabetically. Characterisations of the species are adopted from KOCOUREK et al. (2017), threatened categories from KOCOUREK & TAJOVSKÝ (2017). The numbers of mapping grid squares follow BUCHAR (1982) and PRUNER & MÍKA (1996). Only the first records of the relevant species are listed. Abbreviations: ISB = Institute of Soil Biology, České Budějovice, NNR = National Nature Reserve, NR = Nature Reserve, NNM = National Nature Monument, PLA = Protected Landscape Area, PUO = Palacký University Olomouc.

3. Results and Discussion

Order Glomerida Leach, 1814

Geoglomeris subterranea Verhoeff, 1908

Western and central European species preferably inhabiting subterranean habitats and caves (GRUBER 1985). In Czechia, it was found in the Zbrašovské aragonitové jeskyně (Zbrašov Aragonite Caves) at Hranický kras (Hranice Karst) (grid square 6472), subterranean pitfall traps, 01.II.2005-01.III.2006, 2 ♀♀, leg. J. Mikula (MIKULA 2006), coll. I. H. Tuf, PUO. Critically endangered.

Order Chordeumatida Koch, 1847

Brachychaeteuma bradeae (Brölemann & Brade-Birks, 1917)

Western European species occurring synantropically or in screes and caves (BLOWER 1985, TAJOVSKÝ & MLEJNEK 2007). In Czechia, it was found for the first time in the Zbrašovské aragonitové jeskyně (Zbrašov Aragonite Caves) NNM, the Hranický kras (Hranice Karst) (grid square 6472), bait traps, 01.VI.-21.X.2002, 1 ♂, 1 ♀, leg. R. Mlejnek (TAJOVSKÝ & MLEJNEK 2007), coll. K. Tajovský, ISB. Vulnerable.

Hungarosoma bokori Verhoeff, 1928

Central European endemic species, rarely inhabiting karst areas (MOCK et al. 2016). In Czechia, it was found in the Mokerský les (Forest of Mokrá) near Hostěnice, the Moravský kras (PLA Moravian Karst) (grid square 6766), 13.X.2005, 1 ♀, leg. P. Kocourek & I. Skoumalová, coll. P. Kocourek. This female was misidentified and named provisionally by KOCOUREK (2005) as *Ochogona jankowskii* (Jawlowski, 1938) and later by KOCOUREK (2007a, b) as *Ochogona moravica*. Its true identity was revealed by MOCK et al. (2016) and *Ochogona moravica* was also designated as *nomen nudum* by TAJOVSKÝ & TUF (2016). Critically endangered.

Hylebainosoma tatranum Verhoeff, 1899

Central European endemic species occurring in the West Carpathian mountain forests and alpine meadows. In Czechia, it was found in the Mazácký Grúnik NR, the Beskydy PLA (Beskids) (grid square 6476), 06.XI.1991, 1 ♂, 1 juv., leg. K. Tajovský (TAJOVSKÝ et al. 2014), coll. K. Tajovský, ISB. Endangered.

Melogona transsylvanica (Verhoeff, 1897)

Eastern European species inhabiting moist deciduous and mixed forests. In Czechia, it was found in the Vůznice NNR, the Křivoklátsko PLA (grid square 5949), 22.XI.2009, 5 ♂♂, 6 ♀♀, leg. P. Kocourek (KOCOUREK & TAJOVSKÝ 2011), coll. P. Kocourek. Critically endangered.

Order Polydesmida Leach, 1815

Macrosternodesmus palicola Brölemann, 1908

North-western European species inhabiting mostly calcareous soils at synantropic habitats in western Europe. In Czechia, it was found in cave habitats. The first record came from the Mladečské jeskyně NNM (Mladeč Caves), the Litovelské Pomoraví PLA (grid square 6268), 22.IV.2004, 3 ♂♂, 5 ♀♀, leg. K. Tajovský, J. Tufová & I. H. Tuf (TAJOVSKÝ & MLEJNEK 2007), coll. K. Tajovský, ISB. Critically endangered.

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