

*Cylindrodesmus hirsutus* Pocock, 1889 new for Czechia

(Diplopoda: Polydesmida: Haplodesmidae)

PETR DOLEJŠ<sup>1\*</sup>, PAVEL KOCOUREK<sup>2</sup> and VLADIMÍR HULA<sup>3</sup>

<sup>1</sup> Department of Zoology, National Museum – Natural History Museum, Cirkusová 1740, CZ – 193 00 Praha 9 – Horní Počernice, Czech Republic, petr\_dolejs@nm.cz

<sup>2</sup> Hýskovská 27, CZ – 267 07 Chyňava, Czechia; kocourek.pavel@post.cz

<sup>3</sup> Department of Forest Ecology, Faculty of Forestry and Wood Technology, Mendel University in Brno, Czechia; hula@mendelu.cz

\* Corresponding author: Petr Dolejš

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**Abstract.** The first record of the flat-backed millipede *Cylindrodesmus hirsutus* from tropical houses in the Prague zoological garden, Czechia is presented. The male genitalia and female habitus are illustrated. The number of millipede species known from Czechia thus increased to 78.

**Abstrakt.** *Cylindrodesmus hirsutus* Pocock, 1889 nový pro Česko (Diplopoda: Polydesmida: Haplodesmidae). Plochanka srstnatá (*Cylindrodesmus hirsutus*), nalezená v tropických pavilonech Zoologické zahrady hl. m. Prahy, je novým druhem plochule pro Česko. Druh je doložen kresbami samčích gonopodů a samičího habitu. Počet druhů mnohonožek známých z Česka tak vzrostl na 78.

**Keywords.** Anthropochory, flat-backed millipedes, greenhouse, Prague, synanthrop, tropical house

## 1. Introduction

Currently, there are 77 millipede (Diplopoda) species reported to occur in Czechia, 11 of them belong to the flat-backed millipedes (Polydesmida) (KOCOUREK et al. 2017a). KOCOUREK (2003) listed three species of flat-backed millipedes that were recorded as new for Czechia in the period 1970–2002: *Polydesmus angustus* Latzel, 1884 being found for the first time in 1971 (KOCOUREK 2003), *Propolydesmus germanicus* Verhoeff, 1896 being found for the first time in 1999 (TAJOVSKÝ 1999) and *Amphitomeus attemsi* Schubart, 1934 being found for the first time in 2001 (KOCOUREK 2003). Later, KOCOUREK et al. (2017b) added one species of flat-backed millipedes that was recorded as new for Czechia in the period 2003–2017: *Macrosternodesmus palicola* Brölemann, 1908 being found for the first time in 2004 (TAJOVSKÝ & MLEJNEK 2007). This paper reports one more flat-backed millipede species found as new for Czech millipede fauna.

## 2. Material and Methods

Millipedes were collected by hand collecting (in), sieving (si) and pitfall trapping (pt) and identified using literature given below. All millipedes are maintained in 80% or absolute ethanol. The material is deposited in the zoological collection of the National Museum, Prague (NMP) and in the private collection of Pavel Kocourek (CPK). The numbers of mapping grid squares follow BUCHAR (1982) and PRUNER & MÍKA (1996). The image of specimen was made using an Olympus SZX12 stereomicroscope equipped with an Olympus E-510 camera. Illustrations were made by the second author.

## 3. Results

Order Polydesmida Pocock, 1887

Family Haplodesmidae Cook, 1865

*Cylindrodesmus hirsutus* Pocock, 1889 (Figs. 1, 2, 4)

**Material:** Czechia, Praha – Troja, the Prague zoological garden (grid square 5852), 20.VIII.-07.X.2017: House of Indonesian Jungle (Figs. 1, 2), 50.1176°N, 14.4102°E, 1 ♀, leg. V. Pešan (pt), NMP: P6E 4969. 15.VIII.2019: Rákos' House, 50.1171°N, 14.4089°E, 2 ♀♀, leg. P. Dolejš & V. Hula (in), NMP: P6E 4987; Chambal – House of Gharials, 50.1162°N, 14.4078°E, 1 ♀, leg. P. Dolejš (si), NMP: P6E 4988; background of the House of Indonesian Jungle (Fig. 3), 50.1176°N, 14.4102°E, 1 ♂ (Fig. 4), 33 ♀♀, 6 juveniles, leg. P. Dolejš (in), NMP: P6E 4989 & CPK. All det. P. Dolejš (2019).

**Identification:** after GOLOVATCH et al. (2000, 2001, 2009, 2017), READ (2008)

**Synonymy:** see ENGHOFF (1978) and GOLOVATCH et al. (2001) for details

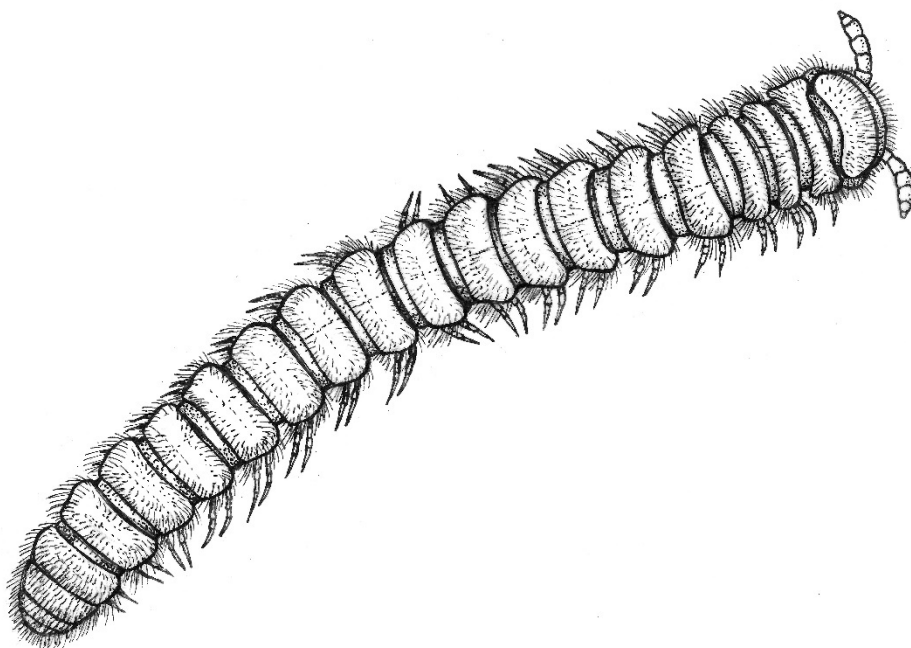
**Description:** Small, 5–8 mm. Light yellowish. With 19 (♂) or 20 (♀) body rings covered densely by fine setae, most paranota entirely reduced (Figs. 2, 3). Male gonopod simple (Fig. 4): Coxite ciliated, tibiotarsus unbranched, narrowing, slightly knee-like bent, with a minute apical serrated extension.

**Distribution:** Circumtropical; equatorial parts of Afrotropis (Cameroon, Cape Verde, Mozambique, Seychelles, Tanzania), Australis (New Caledonia, Papua New Guinea), Neotropis (Brazil, Costa Rica, Ecuador, Galapagos, Guadalupe, Panama, Puerto Rico, Suriname), Orientalis (Indonesia, Philippines, Singapore) and Pacific Ocean (French Polynesia, Hawaii, Palmyra); introduced to Europe: Austria, France, Germany, Sweden, United Kingdom (RECUERO 2018) and Czechia (this work).

**Proposed Czech name:** plochanka srstnatá



**Figure 1:** *Cylindrodesmus hirsutus*, female, the first collected specimen in 2017 (P6E 4969). Photograph: Petr Dolejš.



**Figure 2:** *Cylindrodesmus hirsutus*, female habitus. Original: Pavel Kocourek.



Figure 3: The Prague zoological garden, technical background of the House of Indonesian jungle, the place of abundant occurrence of *Cylindrodesmus hirsutus*. Photograph: Petr Dolejš.

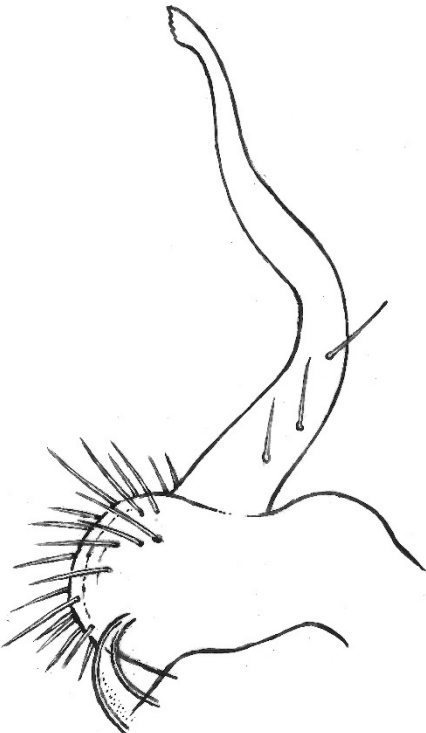


Figure 4: *Cylindrodesmus hirsutus*, male gonopods. Original: Pavel Kocourek.

## 4. Discussion

*Cylindrodesmus hirsutus* is a pantropical flat-backed millipede (RECUERO 2018). As a single occurrence, it was reported in Tanzania (ENGHOFF 1978), Costa Rica (BERGHOLZ 2005), Cameroon (GOLOVATCH et al. 2017) and Mexico (RECUERO 2018). It is an opportunistic species with a tendency to parthenogenesis, often transported by humans as vectors (e.g. ENGHOFF 1978, BERGHOLZ 2005, GOLOVATCH et al. 2017). However, outside the tropics, it can survive only in synanthropic habitats, i.e. greenhouses or tropical houses (e.g. DECKER et al. 2014). This is also the case in the Prague zoological garden where it was found together with other synanthropic species, i.e. *Oxidus gracilis* (C. L. Koch, 1847), *Cylindroiulus truncorum* (Silvestri, 1896) and *Amphitomeus attemsi* (NMP: P6E 4982–4986). Thanks to this finding, the number of millipede species known from Prague increased to 53, and that from Czechia increased to 78.

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