First European records of *Helicorthomorpha holstii* (Pocock, 1895) (Diplopoda: Paradoxosomatidae)

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Abstract. *Helicorthomorpha holstii* (Pocock, 1895) is reported from Europe for the first time, based on a record from Poland and two additional observations from Switzerland. All findings likely represent accidental introductions linked to the horticultural trade. Whether the species will establish stable populations, particularly in warm indoor environments such as hothouses, or remain restricted to sporadic occurrences remains unclear. Continued monitoring of such habitats and citizen-science platforms will be crucial for tracking its future presence in Europe.

Zusammenfassung. Erste europäische Nachweise von *Helicorthomorpha holstii* Pocock, 1895) (Diplopoda: Paradoxosomatidae). *Helicorthomorpha holstii* (Pocock, 1895) wird erstmals aus Europa gemeldet, basierend auf einem Nachweis aus Polen und zwei weiteren Beobachtungen aus der Schweiz. Alle Funde stellen wahrscheinlich versehentliche Einschleppungen im Zusammenhang mit dem Gartenbauhandel dar. Ob die Art stabile Populationen entwickeln wird, insbesondere in warmen Innenräumen wie Gewächshäusern, oder ob sie auf sporadische Vorkommen beschränkt bleibt, ist noch unklar. Ein fortlaufendes Monitoring solcher Lebensräume sowie die Nutzung von Citizen-Science-Plattformen werden entscheidend sein, um das künftige Vorkommen der Art in Europa zu verfolgen.

Keywords. New records, faunistics, alien species, millipede, Poland, Europe.

1 Introduction

The oriental millipede species *Helicorthomorpha holstii* (Pocock, 1895) was described by Pocock in 1895 from the Ryukyu Islands (Great Loo Choo, Japan), nevertheless it occurs also in other parts of Asia like Vietnam, continental China, Hong Kong or Taiwan (ENGHOFF et al. 2004). Since then, it was also introduced to many distant places such as Florida, USA (SHELLEY & EDWARDS 2001), Canada (ENGHOFF et al. 2004) and Hawaii (EVENHUIS & ELDREDGE 2010). The pathway of its introduction is likely international plant transport, where specimens can be carried in soil within flowerpots. However, SHELLEY & EDWARDS (2001) reported specimens found in orchids imported without any substrate in which millipedes could hide, implying that the eggs of this species may also attach directly to the plants themselves. Herein, I report the first finding of this species in Poland, as well as two additional records from Switzerland originating from the iNaturalist platform.

2 Material and Methods

Social media platforms were monitored for potential records of alien myriapods from Poland. A photograph of a specimen resembling *H. holstii* was encountered, and the author contacted the photographer to obtain additional information and, when possible, the physical specimen. After arrival, the specimen was preserved in 96% ethanol and identified based on external morphology following EVENHUIS & ELDREDGE (2010). Additionally, the citizen-science platform iNaturalist was searched to detect potential European records of the species. The map showing the record of the species in Europe was created using QGIS 3.44.6 (Solothurn) (https://doi.org/10.5281/zenodo.6139224) with the "Esri Light Gray Canvas" basemap (http://services.arcgisonline.com/ArcGIS/rest/services/Canvas/World_Light_Gray_Base/MapServer/tile/{z}/{y}/{x}). Photo of the specimen from Poland was taken with Ricoh WG-6. The Polish specimen was collected by the apartment owner, Marzena Kurek, and, after being received by the author, was deposited in the collection of the Department of Invertebrate Zoology and Hydrobiology, University of Łódź (collection number: JB_MPL_STR_1).

3 Results

Regarding the Polish record, a single female specimen (Fig. 1) was found in Strzelin (50.7832°N, 17.0724°E) (Fig. 2). It was found in a private apartment in a flowerpot with a *Schlumbergera* Lem. Despite the absence of male gonopods (specimen was adult female), the combination of external characters unambiguously matched both the original description (POCOCK 1895) and the diagnostic features provided by EVENHUIS & ELDREDGE (2010), and the specimen was therefore identified as *H. holstii*.

Figure 1: *Helicorthomorpha holstii* from Poland, habitus (grid scale – 1mm).

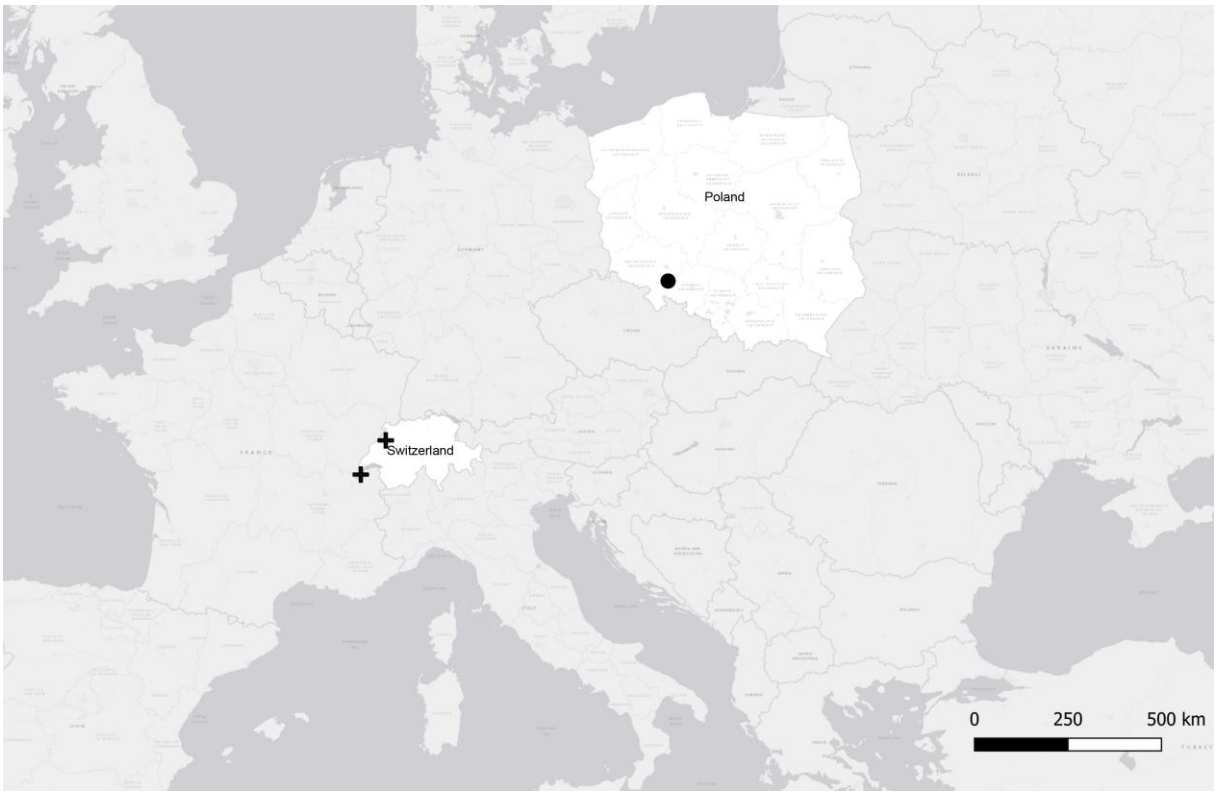

Figure 2: Records of *Helicorthomorpha holstii* in Europe. The black dot represents the record from Poland, black crosses indicate the Swiss records.

Additionally, two records of this species were found on iNaturalist platform, both from Switzerland (Fig. 2) in 2024: one from Cressier (47.05977°N, 7.03412°E), 29.II.2024 (LUCIEGASPARI 2024) and another from Geneva - Conservatory and Botanical Garden (46.22559°N, 6.14586°E), 9.IX.2024 (REECETHOMAS 2024).

Discussion

The present record represents the first occurrence of *Helicorthomorpha holstii* in Europe documented by a voucher specimen. It is currently difficult to determine whether the Polish and Swiss observations represent isolated, short-lived introductions or the early stage of a more regular pattern of occurrences in Europe. Similar uncertainty has been noted in other introduced polydesmid millipedes, such as *Chondrodesmus riparius* Carl, 1914, which initially appeared as sporadic, seemingly accidental findings before becoming repeatedly recorded in several European countries (BIENIAS et al. 2021, GOLOVATCH et al. 2025). Given the species' strong association with horticultural trade, it is reasonable to expect that *H. holstii* may continue to appear in other parts of Europe, particularly in environments linked to the transport and cultivation of ornamental plants. In the case of the Polish record, although the plant species involved (*Schlumbergera*) is native to Brazil, it is widely cultivated on a large scale in parts of Asia, which resolves the otherwise apparent contradiction between the plant's origin and the millipede's native distribution. The author of the Cressier observation on iNaturalist noted that the millipede arrived with unspecified plants purchased online. Botanical gardens, commercial greenhouses and private households represent the most likely points of introduction, as they frequently

receive imported plant material and may therefore facilitate the establishment of stable populations, particularly in warm indoor environments such as hothouses. Continued monitoring of such habitats, together with systematic use of citizen-science platforms, will be essential to determine whether the species becomes more widespread in Europe or remains restricted to sporadic, non-established occurrences.

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References

BIENIAS, J.; JABŁOŃSKA, A.; SOSZYŃSKA-MAJ, A. (2021): Colombian millipede in Poland – *Chondrodesmus* cf. *riparius* Carl, 1914 spreads across Europe. – BioInvasions Records 10 (4): 997-1003.

ENGHOFF, H.; GOLOVATCH, S.I.; DUC, A.N. (2004): A review of the millipede fauna of Vietnam (Diplopoda). – Arthropoda Selecta 13 (1-2): 29-43.

EVENHUIS, N.L.; ELDREDGE, L.G. (2010): The Asian polydesmidan milliped, *Helicorthomorpha holstii* (Pocock) (Paradoxosomatidae), established in Hawaii. – Occasional Papers 108: 45-56.

GOLOVATCH, S.I.; ENGHOFF, H.; EFEYKIN, B.D. (2025): *Chondrodesmus riparius* Carl, 1914, a millipede species new to the fauna of Costa Rica, originally described from Colombia, and introduced to and presently widespread across Europe (Diplopoda, Polydesmida, Chelodesmidae). – Zootaxa 5692 (1): 161-174.

LUCIEGASPARI (2024). iNaturalist observation: https://www.inaturalist.org/observations/200828852. Accessed on 17 May 2026.

POCOCK, R. I. (1895): Report upon the Chilopoda and Diplopoda obtained by P. W. Bassett-Smith, Esq., Surgeon R.N., and J. J. Walker, Esq., R.N., during the cruise in the Chinese Seas of H.M.S. Penguin, Commander W. U. Moore commanding. – Annals and Magazine of Natural History, ser. 6, 15: 346-368.

QGIS.ORG (2026): QGIS Geographic Information System. QGIS Association, http://www.qgis.org

REECETHOMAS (2024). iNaturalist observation: https://www.inaturalist.org/observations/241938264. Accessed on 17 May 2026.

SHELLEY, R.M.; EDWARDS, G.B. (2001): Introduction of the milliped, *Helicorthomorpha holstii*, in Florida (Polydesmida: Paradoxosomatidae). – Entomological News 112: 200.