First records of the harvestman *Dicranopalpus larvatus* (Canestrini, 1874) from Belgium and the Netherlands (Opiliones: Phalangiidae)

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Abstract

The harvestman *Dicranopalpus larvatus* (Canestrini, 1874) is reported for the first time for Belgium as well as for the Netherlands. It is a very rare species of Italian origin. From 2019 onward, *D. larvatus* was found in Great Britain and several other British islands. It is a small and ground-dwelling species. Both sexes are easy to distinguish from the common *Dicranopalpus ramosus* Simon, 1909 by their contrasting dorsal colour pattern. As a 'winter species', adults are mostly observed from December to February. Climate change, resulting in milder winter temperatures, likely will allow this species to colonize Western European regions with an oceanic climate regime.

Samenvatting

De hooiwagen *Dicranopalpus larvatus* (Canestrini, 1874) wordt voor het eerst gerapporteerd voor zowel België als Nederland. Het is een zeer zeldzame soort van Italiaanse oorsprong. Vanaf 2019 werd *D. larvatus* gevonden in Groot-Brittannië en verschillende andere Britse eilanden. Het is een kleine en bodembewonende soort. Beide geslachten zijn gemakkelijk te onderscheiden van de algemene *Dicranopalpus ramosus* Simon, 1909 door hun contrasterende kleurpatroon op de rugzijde. Als 'wintersoort' worden volwassen individuen hoofdzakelijk waargenomen van december tot februari. Klimaatverandering, resulterend in zachtere wintertemperaturen, zal deze soort waarschijnlijk in staat stellen om West-Europese regio's met een Atlantisch klimaat te koloniseren. We stellen "Kleine vorkpalp" voor als Nederlandstalige naam.

Résumé

L'Opilion *Dicranopalpus larvatus* (Canestrini, 1874) est signalé pour la première fois en Belgique et aux Pays-Bas. C'est une espèce très rare originaire d'Italie. Depuis 2019, *D. larvatus* a également été signalé en Grande-Bretagne et dans plusieurs autres îles britanniques. Il s'agisse d'une petite espèce vivant au sol. Les deux sexes sont facilement distingués de *Dicranopalpus ramosus* Simon, 1909 grâce à leur couleur dorsale contrastée. En tant que 'espèce hivernale' les adultes sont principalement observés de décembre à février. Le changement climatique, résultant en températures hivernales plus douces, permettra probablement à cette espèce de coloniser les régions d'Europe Occidentale qui ont un climat atlantique.

Introduction

Dicranopalpus larvatus (Canestrini, 1874) is a very rare species for which there are only a handful of old records from Sicily, the Aeolian islands, mainland Italy and more recently from Sardinia (MARCELLINO 1973, 1986, WIJNHOVEN & MARTENS 2019). Surprisingly, just after submitting the manuscript on the redescription of *D. larvatus* (WIJNHOVEN & MARTENS 2019), the species proved to have turned up on the Channel Island Guernsey; additionally, in 2019 the species was recorded from the Isles of Scilly, as well as from the Isle of Wight (RICHARDS 2019). The species was found on mainland England too (BRITISH SPIDERS 2025), with 72 records from 2020 till 2022. There is a record from France published on a French platform in February 2025, originating from Auray, the coastal region of Bretagne (LE MONDE DES INSECTES 2025). In this article, we present the first findings of this species in Belgium and the Netherlands. The initial recorded observation in the Benelux occurred in spring 2024 in the province of Brabant Wallon, Belgium. However, a thorough review of observations of the only other *Dicranopalpus* species in Belgium (*Dicranopalpus ramosus* Simon, 1909) on the citizen science platform Waarnemingen.be revealed photographs of this species from autumn 2022 in the province of West-Vlaanderen, marking the first records in the Benelux. Specimens collected from West-Vlaanderen (Fig. 1) were later confirmed based on the examination of male genitalia. Over two years later, the species has been recorded at ten locations across four provinces in Belgium. In February 2025, the species was firstly recorded in the Netherlands, in the province of Zeeland. This article illustrates how the species can be identified and discusses its current and potential future distribution in Western Europe.

Figure 1. Habitus of a male *Dicranopalpus larvatus* (Canestrini, 1874) photographed in West-Vlaanderen on 13th of December 2024. © Sebastiaan Stevens.

Identification

Dicranopalpus larvatus is a small, short-legged harvestman. The male is about 2.6 mm long and typically has a large triangular black patch on the front side of the body, which includes the glossy black eye tubercle and a black patch on the opisthosoma. The 'intermediate' section of the abdomen is contrasting pale yellowish (Fig. 2A). This colour pattern is unique among European harvestmen and, despite its small size, makes this species easily identifiable.

The pedipalp is pale yellowish, with contrasting darkened femur, patella and tibia base. The pedipalpal femur has a small notch at its base (Fig. 3A, E). Like in other *Dicranopalpus* species, the patella is 'forked', having a small apophysis ('branch') about as long as the patella itself (Fig. 3 A, B, D) (often detectable on photos, e.g. Fig. 1). Also, the tibia has a small notch at the distal margin. The pedipalpal claw has a comb-like row of small teeth (Fig. 3C) In resting position, the pedipalps are folded, reaching over the prosoma to the front of the eye tubercle and in this position the darkened femur, patella and dark base of the tibia merge with the surrounding black prosoma (Figs. 2A, 3B). The legs are short relative to the body: legs 1 to 4 respectively are about 9.9, 18.1, 10.2 and 14.0 mm long (WIJNHOVEN & MARTENS 2019).

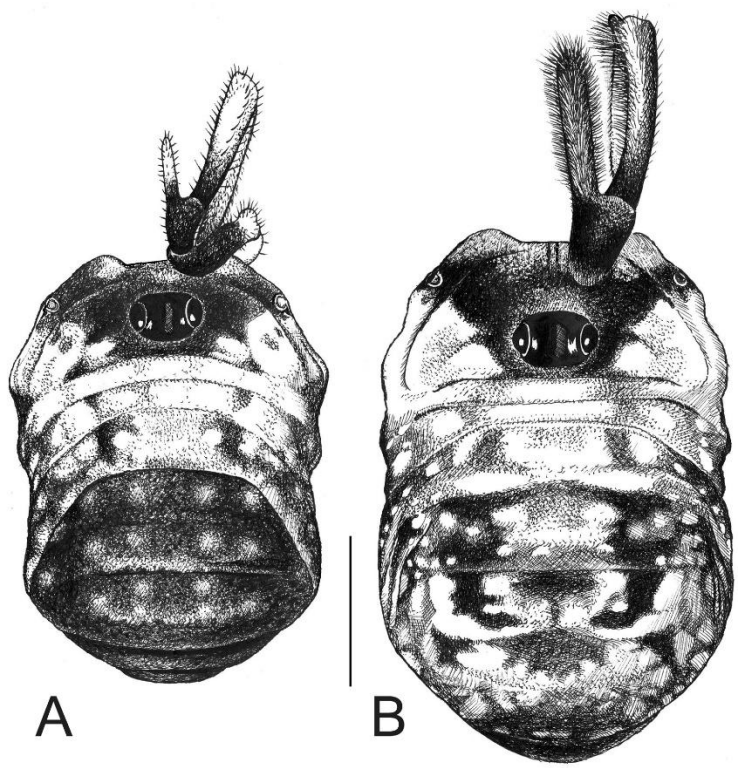

Figure 2. Colour pattern of *Dicranopalpus larvatus* (Canestrini, 1874), **A.** Male, **B.** Female. Legs, left pedipalps and chelicerae not drawn. Scale bar = 1 mm. © Hay Wijnhoven.

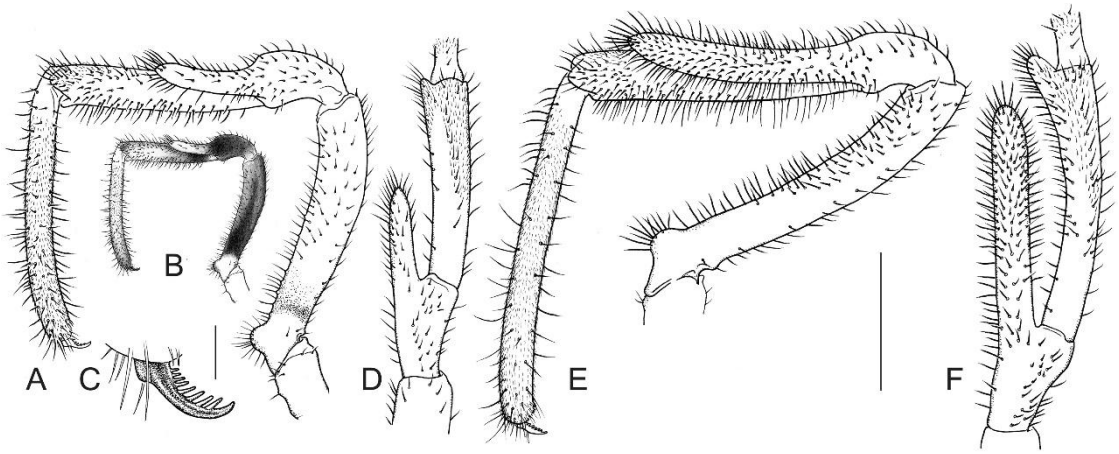

Figure 3. *Dicranopalpus larvatus* (Canestrini, 1874), right pedipalp, male (A–D), female (E–F). **A.** Median view, **B.** Colour pattern, **C.** Claw, **D.** Dorsal view of patella and tibia, **E.** Median view, **F.** Dorsal view of patella and tibia. Scale bars: 0.5 mm (A, D–F), 50 µm (C). © Hay Wijnhoven.

The penis (Fig. 4 A, B) is short and robust (length 1.45 mm). The penis truncus typically has an expanded distal portion. The glans is tapering into a curved pointed stylus that is longer than the glans itself. On top, there is a pair of horn-shaped, slender, forward-pointing projections (Figs. 4C-E, 5A).
The adult female is about 3.0 mm long and the colouration is similar to the male, except for the dark brown saddle that is more or less lyra-shaped and is interspersed with light spots and transverse stripes (Fig. 2B). The pedipalp (Fig. 3E, F) is pale yellowish, while femur, patella and tibia are darkened. The femur is robust and curved, ventral base with a notch. The patella is forked, with a long and robust median apophysis, almost reaching to the top of the tibia. The tibia also has a small protuberance (Fig. 3F). The ovipositor has a normal phalangiid morphology (Fig. 5B).

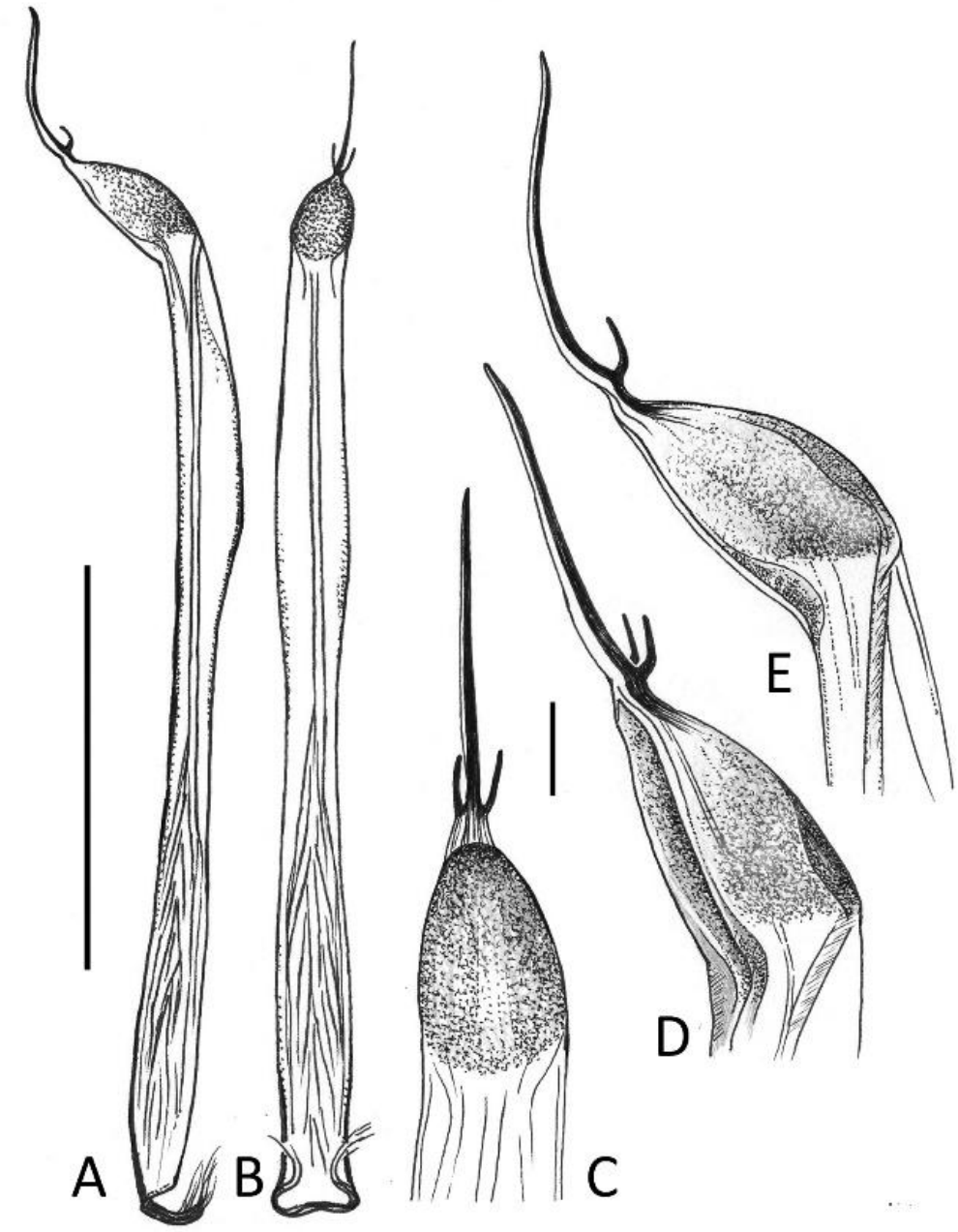

Figure 4. *Dicranopalpus larvatus* (Canestrini, 1874), penis. **A.** lateral view, **B.** ventral view, **C.** Ventral view of glans and stylus, **D.** Dorsolateral view of glans and stylus, **E.** Lateral views of glans and stylus. Scale bars: 0.5 mm (A–D), 50 µm (E–K). © Hay Wijnhoven.

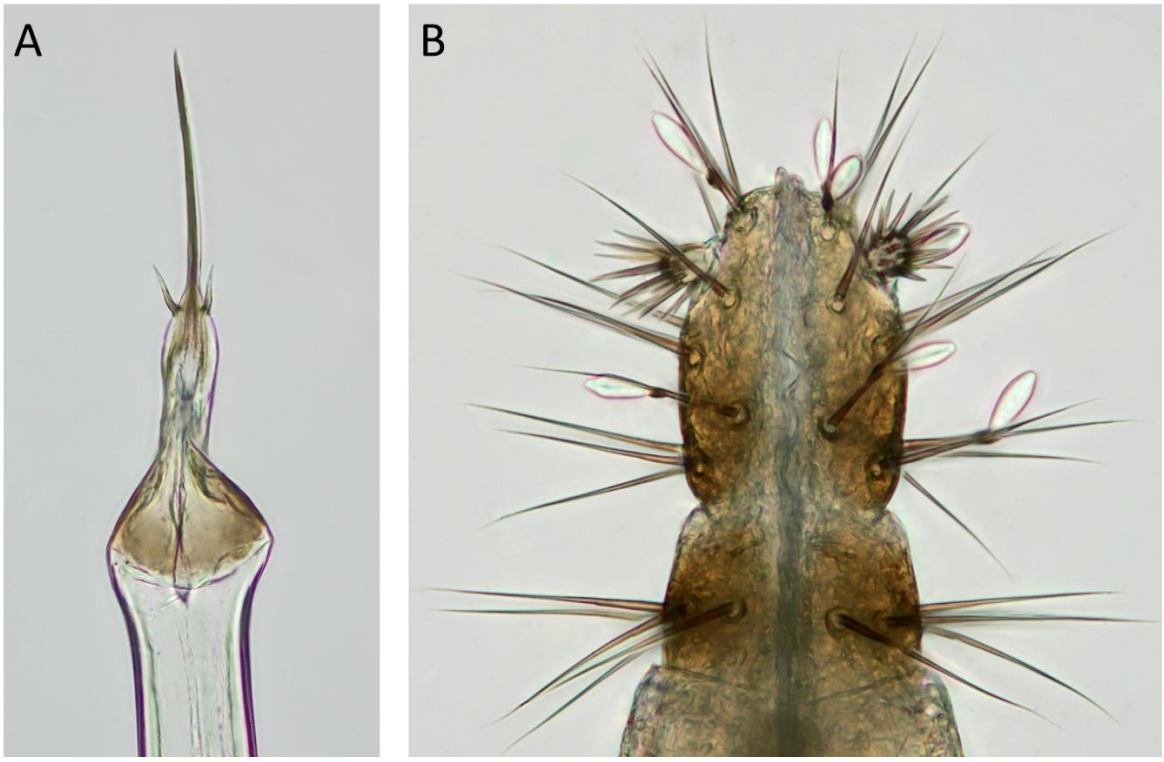

Figure 5: *Dicranopalpus larvatus* (Canestrini, 1874). **A.** penis of male. **B.** distal portion of ovipositor of female of individuals from Wijnegem (Antwerpen) collected on March 14, 2025. © Koen Lock.

Distribution, habitat and phenology

Unlike most other species within the genus *Dicranopalpus, D. larvatus* occurs at lower altitudes (Wijnhoven & Martens 2019). This is also seen on the British Islands (British spiders 2025) and in Belgium and the Netherlands (this article). As the latest records confirm, *D. larvatus* is in a process of invading European regions with an oceanic climate and a mild winter temperature regime. This is illustrated by its recordings: first recorded on the British Islands in 2019, in Belgium in 2022 and the Netherlands and France in 2025. This sequence of observations points out a fast spread across the Atlantic region of Western Europe. Records for Belgium and the Netherlands between 15/11/2022 and 01/04/2025 are mapped in Figure 6.

In Belgium, the habitat is predominantly anthropogenic. Four locations are in private gardens, one on a cemetery, one in an industrial zone and three in forested parks. There is one location in a forest (Loppem, West-Vlaanderen) at about 30 m from the forest edge which is bordered by a highway (E40). The observation in the Netherlands is in a closed (not accessible to the public) part of a mixed deciduous forest at about 180 m from the forest edge. The anthropogenic nature of the observed locations suggests passive dispersal via human transportation. This is supported by records from the private garden of the third author, who had transported freshly cut wooden stems from the initial record location in Brugge, West-Vlaanderen, Belgium, the previous year. Interestingly, Brugge also provided the first record of *Astrobunus laevipes* (Canestrini, 1972) in Belgium in 2022, the same year as the first record for *D. larvatus*. This species is believed to have reached the site through passive human transportation (De Smedt et al. 2022) and has since established a sustainable population there. However, it remains unclear why *A. laevipes* is still confined to this single location while *D. larvatus* is spreading rapidly. Notably, in the Netherlands (Haamstede, Zeeland), the species was recorded from a light trap used to sample moths. Arachnids, and harvestmen in particular, are often attracted to light traps (Lalagüe & Pétillon 2023) and it may be beneficial to focus on this method to gather new records. On the British Islands, the species has been found in a variety of habitats of which a large proportion

are also anthropogenic, but the species was also found in woodlands and coastal areas (BRITISH SPIDERS 2025). The first supposedly introduced location for the species in Sardinia in 2013 was also a private garden (WIJNHOVEN & MARTENS 2013), further supporting passive human transportation as main mode of transportation. Interestingly, the records provided in Figure 6, cluster together in five locations (provinces of West-Vlaanderen, Oost-Vlaanderen, Brabant Wallon and Antwerpen in Belgium and Zeeland in the Netherlands), further supporting human aided transportation and subsequent colonization.

As short-legged harvestmen, the species is primarily a litter dweller instead of vegetation dweller (such as the common *D. ramosus*) and can be found by sieving litter and turning logs and stones.
In contrast to many other harvestmen species in Belgium and the Netherlands, *D. larvatus* matures from autumn to spring. The earliest date we recorded a juvenile specimen was 29th of September (2024, Brugge, West-Vlaanderen) and 15th of November (2022, Brugge, West-Vlaanderen) for an adult (♂). The Dutch record is from 25th of February 2025. The latest date is the 1st of April (2025, Dion-le-Mont, Brabant Wallon) for an adult (♀). There is a clear peak in observations from December to February.

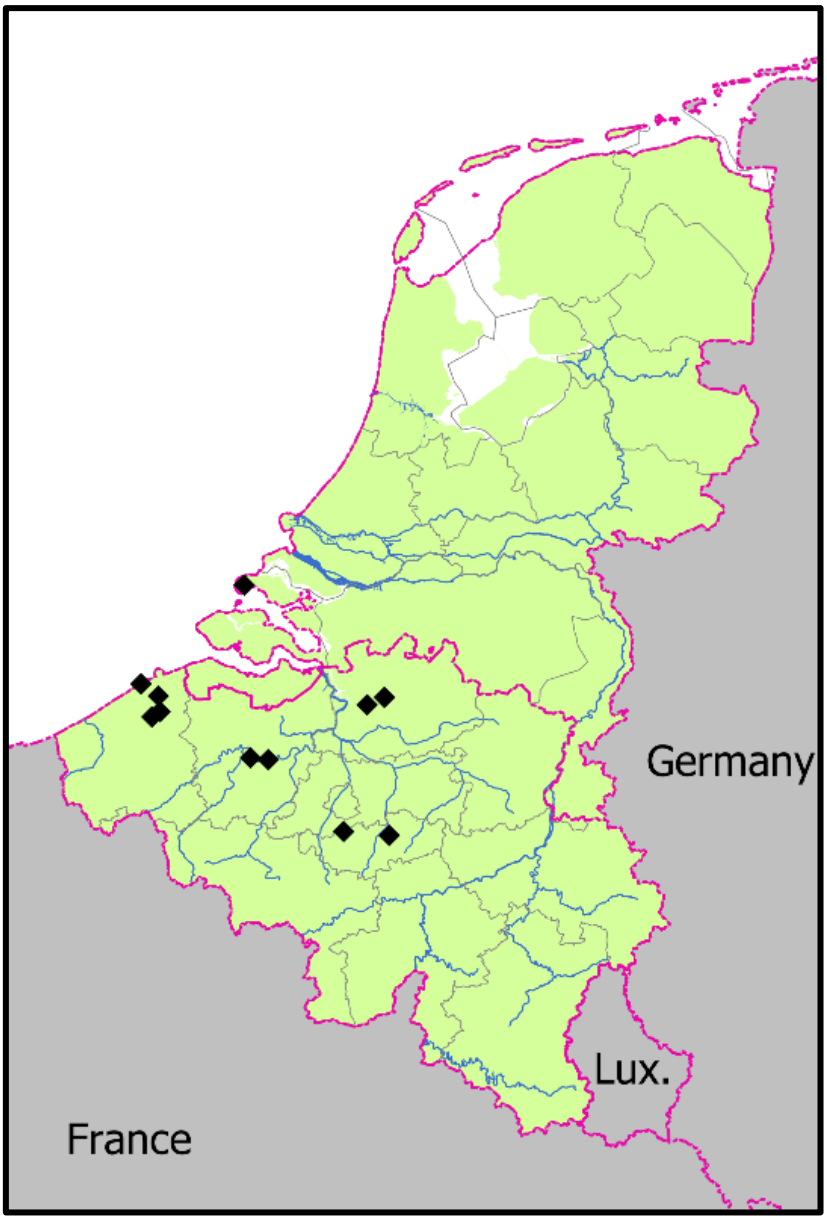

Figure 6: Distribution map of *Dicranopalpus larvatus* (Canestrini, 1874) in Belgium and the Netherlands.

Conclusion

Records from 2019 and onward, indicate that *Dicranopalpus larvatus* is likely already widespread in the North Sea region. Observations in Belgium show an almost exponential increase, from one observation in 2022 to three in 2023, 12 in 2024, and already 27 in 2025. This rapid increase is likely facilitated by passive introductions through human transportation of soil and wood. The establishment and build-up of sustainable populations are probably aided by a warming climate. In its original Mediterranean habitat, *D. larvatus* is a 'winter species' to avoid the hot and dry summer period, while in Western Europe the increasingly milder winter temperatures likely will allow this species to colonize regions with an oceanic climate regime. Although most records are from anthropogenic habitats, there are also observations from more natural habitats such as forests. Therefore, it is expected that *D. larvatus* will become an integral part of harvestmen communities across various ecosystems in Western Europe. We anticipate that *D. larvatus* could be the next species to rapidly colonize large parts of Europe, similar to *Dicranopalpus ramosus* (Simon, 1909)*, Opilio canestrinii* (Thorell, 1876)*, Odiellus spinosus* (Bosc d'Antic, 1792)*, Nelima doriae* (Canestrini, 1871) and *Nemastoma dentigerum* Canestrini, 1873 (Martens 2021).

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