

***Coniopteryx (Coniopteryx) hoelzeli* H. Aspöck, 1964 new to Belgium (Neuroptera: Coniopterygidae)**

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Abstract

During an inventory of the Domain of the Caves of Han on 24.IV.2017, *Coniopteryx (Coniopteryx) hoelzeli* H. Aspöck, 1964 was observed for the first time in Belgium.

Keywords: Coniopterygidae, *Coniopteryx (Coniopteryx) hoelzeli*, Domain of the Caves of Han, wax flies

Samenvatting

Tijdens een inventarisatie van het Domein van de Grotten van Han op 24.IV.2017 werd *Coniopteryx (Coniopteryx) hoelzeli* H. Aspöck, 1964 voor het eerst waargenomen in België.

Résumé

Lors d'un inventaire au Domaine des Grottes de Han le 24.IV.2017, *Coniopteryx (Coniopteryx) hoelzeli* H. Aspöck, 1964 a été observé pour la première fois en Belgique.

Introduction

Coniopterygidae or wax flies are undoubtedly the least investigated family of the order Neuroptera. This is due to their small size and the need to investigate the male genitalia for identification. Wax flies can easily be collected by sweeping and beating the vegetation, especially sun-exposed branches. They also come to light traps, however, they are hard to see against a white background due to their whitish color. Specimens can best be preserved in ethanol and should be kept as vouchers. Recently, *Coniopteryx (Coniopteryx) borealis* Tjeder, 1930, *Coniopteryx (Coniopteryx) pygmaea* Enderlein, 1906, *Semidalis pseudouncinata* Meinander, 1963 (LOCK & SAN MARTIN, 2013) and *Coniopteryx (Metaconiopteryx) esbenpeterseni* Tjeder, 1930 (LOCK, 2015) could already be added to the Belgian fauna and here, yet another species is reported for the first time for Belgium: *Coniopteryx (Coniopteryx) hoelzeli* H. Aspöck, 1964.

Material and methods

During an inventory of the Domain of the Caves of Han, one of the studied groups was the order of the Neuroptera. Sampling was done by sweeping the vegetation. One male of *Coniopteryx (Coniopteryx) hoelzeli* H. Aspöck, 1964 was captured, which was deposited to the entomological collection of the Royal Belgian Institute of Natural Sciences (RBINS, I.G.: 33.472).

The Belgian Coniopterygidae can all be identified with the books of ASPÖCK *et al.* (1980a,b), which contain all the species occurring in Europe, however, *Coniopteryx (Coniopteryx) pygmaea* was erroneously called *Coniopteryx (Coniopteryx) parthenica*, while *Coniopteryx (Coniopteryx) hoelzeli* was erroneously called *Coniopteryx (Coniopteryx) pygmaea*. The much cheaper identification key of PLANT (1997) contains most species that have been reported in Belgium, however, *C. hoelzeli* is not included and also some species that are expected based on their occurrence in neighbouring countries are not included, such as *Coniopteryx (Metaconiopteryx) tjederi* Kimmins, 1934 and *Coniopteryx (Holoconiopteryx) haematica* McLachlan 1868.



Fig. 1. Lateral view of the male genitalia of *Coniopteryx (Coniopteryx) hoelzeli* H. Aspöck, 1964 (photograph by Koen LOCK).



Fig. 2. Lateral view of the male genitalia of *Coniopteryx (Coniopteryx) pygmaea* Enderlein, 1906 (photograph by Koen LOCK).



Fig. 3. Ventral view of the hypandrium of *Coniopteryx (Coniopteryx) hoelzeli* 7H. Aspöck, 1964 (photograph by Koen LOCK).



Fig. 4. Ventral view of the hypandrium of *Coniopteryx (Coniopteryx) pygmaea* Enderlein, 1906 (photograph by Koen LOCK).

Results

On 24.IV.2017, one male of *Coniopteryx (Coniopteryx) hoelzeli* was observed on the rocks ‘Rocher de Taille Madame’ along the river Lesse in the south of the Domain of the Caves of Han (UTM: 31UFR5753, Province of Namur). The species was found on oak at the top of the rocks, where calcareous grassland meets the forest edge. At the same location, also another waxfly was found: *Conwentzia psociformis* (Curtis, 1834).

Since there has been some confusion between *C. hoelzeli* and *C. pygmaea*, both species are illustrated here. *Coniopteryx hoelzeli* can be recognised by the parameres that are slightly upturned at the tip (Fig. 1), while the parameres of *C. pygmaea* are strongly downturned distally (Fig. 2). In addition, the hypandrium of *C. hoelzeli* has terminal processes consisting of two or three rounded extensions (Fig. 3), while these processes consist of one singular terminal extension in *C. pygmaea* (Fig. 4).

Discussion

There was some taxonomical confusion around *C. hoelzeli*, because MEINANDER (1972) erroneously synonymised this species with *C. pygmaea* and also wrongly recognised *Coniopteryx parthenica* (Navàs & Marcet, 1910), a junior synonym of *C. pygmaea*, as a valid species. Unfortunately, this interpretation was followed by ASPÖCK *et al.* (1980a,b). However, after examining the type material, GÜNTER (1993) clarified that *C. hoelzeli* is effectively a valid species and that *C. parthenica* is indeed a junior synonym of *C. pygmaea*.

Coniopteryx hoelzeli was not expected to occur in Belgium, because it has not yet been observed in the Netherlands, Luxemburg, France and the German federal states bordering Belgium. However, it was recently observed in the strict forest reserve Kinzigau in Hessen in Germany (GRUPPE *et al.*, 2015), which is the northernmost observation until present and also the closest record to Belgium. So far, the species has been found in Austria, Bulgaria, Czech Republic, Germany, Hungary, Romania, Slovakia, Switzerland (GRUPPE *et al.*, 2015) and now also Belgium. The observation of the species in Belgium is the westernmost record and constitutes another extension of the range of this species. Although *C. hoelzeli* might have been overlooked in the past because waxflies are poorly studied, it is also possible that the species is extending its range. Since it is a heat loving species (ASPÖCK *et al.*, 1980a), this range extension might be explained by global warming, which could have made more northern and western localities also climatically suitable.

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