

Four new additions to the Belgian fauna: *Agromyza demeijerei* Hendel, 1920 (Diptera, Agromyzidae), *Trichocera forcipula* Nielsen, 1920 (Diptera, Trichoceridae), *Ochthera manicata* (Fabricius, 1794) (Diptera, Ephydriidae) and *Stegana hypoleuca* Meigen, 1830 (Diptera, Drosophilidae)

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Abstract

The four Dipteran species: *Agromyza demeijerei* Hendel, 1920, *Ochthera manicata* (Fabricius, 1794), *Trichocera forcipula* Nielsen, 1920 and *Stegana hypoleuca* Meigen, 1830 are reported for the first time from Belgium.

Keywords: Diptera, New Belgian species, *Agromyzidae*, *Ephydriidae*, *Drosophilidae*, *Trichoceridae*

Résumé

Quatre espèces de Diptères: *Agromyza demeijerei* Hendel, 1920, *Ochthera manicata* (Fabricius, 1794), *Stegana hypoleuca* Meigen, 1830 et *Trichocera forcipula* Nielsen, 1920 sont rapportées pour la première fois de Belgique.

Samenvatting

Vier soorten Diptera: *Agromyza demeijerei* Hendel, 1920, *Ochthera manicata* (Fabricius, 1794), *Stegana hypoleuca* Meigen, 1830 en *Trichocera forcipula* Nielsen, 1920 worden voor het eerst gemeld voor België.

Introduction

In the spring of 2011 three Diptera species were found new to the Belgian fauna: *Agromyza demeijerei* Hendel, 1920 (Diptera - Agromyzidae), *Ochthera manicata* (Fabricius, 1794) (Diptera - Ephydriidae) and *Stegana hypoleuca* Meigen, 1830 (Diptera - Drosophilidae). One species, *Trichocera forcipula* Nielsen, 1920 (Diptera - Trichoceridae), was found in the collection of the RBINS, erroneously identified as *Trichocera hiemalis* (De Geer, 1776).

Discussion

***Agromyza demeijerei* Hendel, 1920
(Diptera - Agromyzidae)**

De Pinte, mines in leaves of Golden rain, *Laburnum anagyroides* Medikus 1787, 5.VI. 2011, det. D. Dekeukeleire & W. N. Ellis, leg. & col. D. Dekeukeleire.

Agromyzidae are mostly known for their larvae that live in green plant tissue (SPENCER, 1990). The larvae of most species form characteristic mines in leaves, and species often are monophagous. Unlike the adults, the mines and the larvae can easily be identified. The site

www.bladmindeerders.nl provides excellent identification keys for the mines and larvae.

On 5 and 10 June 2011, leaves of Golden Rain, *Laburnum anagyroides* Medikus 1787 with mines were collected in two gardens in a suburban area in De Pinte. Only few leaf-mining species are present on *L. anagyroides* (ASKEW, 1968). Although the larvae already left the mines, they could still be identified as being formed by *A. demeijerei*, according to the key on www.bladmineerders.nl and ASKEW, 1968. The mines were situated on the upper-surface of the leaves. They showed clear primary and secondary feeding lines. The excrements of the larvae formed a wide and diffuse green line in the center of the mine. The mines were situated at the margin of the leaves.

The species is widespread in Europe, from Scandinavia to the Iberian peninsula. *A. demeijerei* has been recorded in all neighboring countries, except Luxembourg (FAUNA EUROPAEA WEB SERVICE, 2004), (GROOTAERT *et al.* 1991). The host-plant *L. anagyroides* is native to south and central Europe. Belgium isn't part of its native distribution, but the species has been planted here frequently as an ornamental plant in parks and gardens (DE LANGHE *et al.* 1988). The first observation in the Netherlands dates back to the period between 1920-1924 (DE MEIJERE, 1924). The presence of *A. demeijerei* in Belgium has thus most likely gone unnoticed for a long time.

***Ochthera manicata* (Fabricius, 1794)
(Diptera – Ephydriidae)**

Kalmthoutse heide, Drielingenvan, 3.III.2011, 1♂ in heathland area, det. J. Mortelmans & T. Irwin, leg. J. Mortelmans, col. T. Irwin

The genus *Ochthera* is a very atypical genus for the Ephydriidae. The species of this genus are very easy recognizable by their mantis-like, raptorial front legs (ZHANG & YANG, 2006). Species identification, on the other hand, is very difficult and examination of the genitalia is advised. All known species are predaceous, both larvae and adults (CLAUSEN, 1977). One species, *Ochthera chalybescens* Loew, 1862, has recently gained attention because the species has been reported to prey on African malaria vectors (MINAKAWA *et al.* 2007).

Ochthera manicata belongs to the *Ochthera-mantis* species complex: a complex consisting of several Palearctic species such as *O. mantis* (De

Geer, 1776), *O. palearctica* Clausen 1977 and *O. manicata* (Fabricius, 1794), all of which once used to key out as *O. mantis* (Clausen, 1977).

One male specimen was collected whilst hunting on the edge of a temporary pond in a heathland area. The locality was only some hundred meters from the Dutch border. From neighboring countries, the species is known from France, Britain and Germany (FAUNA EUROPAEA WEB SERVICE, 2004), (GROOTAERT *et al.* 1991). The species has not yet been reported for the Netherlands and Luxembourg but it is being expected regarding the European distribution of the species. Checking collections for this species will certainly reveal new records of this under recorded species. The collection in the RBINS has been searched for this species, but no *Ochthera* were present.

With this note, attention is drawn to *Ochthera palearctica* Clausen, 1977 as well, a species which is expected for Belgium.

The specimen was identified according to the key CLAUSEN, 1977 provided. After identification by the first author, the specimen was sent to Dr. T. Irwin for confirmation, an expert on Ephydriidae.

***Stegana hypoleuca* Meigen, 1830
(Diptera – Drosophilidae)**

Ruien, bosreservaat Kluisbos, 22.IV.2011, 1♀ on bark of dead *Fagus sylvatica* Linnaeus 1753, det. J. Mortelmans & P. Beuk, leg. J. Mortelmans, col. Natuurhistorisch Museum Maastricht (NHMM)

As with *Ochthera*, the genus *Stegana* is very easy to identify. The different species are more difficult to identify, many of the species have more than one synonym (CHANDLER, 1987). Its habitus is very typical, with the wings bend over the body at a spectacular manner. *S. hypoleuca* is one of the species more easy to identify: with a wing span of over 5mm, its size is very big, relative to other *Stegana*.

Stegana is associated with decaying trees where they feed on sap flows or settle on crevices of tree trunks (CHANDLER, 1987). Multiple specimens were seen on the bark of dead *Fagus sylvatica* Linnaeus 1753, and one specimen was collected. The first author visited the RBINS collection for a re-examination of all *Stegana* material present, but no *S. hypoleuca* was present. Due to its striking behavior on dead bark, it seems not likely the species has been

overlooked and it can be considered as a true new arrival to the Belgian fauna. From neighboring countries, the species is known from France, Britain and Germany (FAUNA EUROPAEA WEB SERVICE, 2004), (GROOTAERT *et al.* 1991).

The species was identified with BACHLI & BURLA, 1985 and CHANDLER, 1987. After identification by the first author, the specimen was sent to dr. P. Beuk for confirmation of the specimen.

***Trichocera forcipula* Nielsen, 1920
(Diptera – Trichoceridae)**

Ganshoren, 21.X.1977, 1♂, det. J. Mortelmans, leg. A. Michiels, col. RBINS.

Trichoceridae have always been considered as side-catches and they have barely been collected or studied in Belgium. Recently, the family gained interest amongst dipterists in Belgium, although literature remains scarce and scattered in many different articles. A lot of taxonomic work has to be done in the many species complexes (STUBBS, 2002). Most important literature for determination of West-European species are STACKELBERG, 1989, STARY & MARTINOVSKY, 1993, STARY, 1995, STARY & MARTINOVSKY, 1996, STARY, 1999 and STUBBS, 2002. A quick review of material present in RBINS revealed mostly false determinations, but also one new species: *Trichocera forcipula*. A thorough study will certainly reveal more insight in the occurrence of this family in Belgium.

Trichoceridae are mainly active in autumn and winter (STUBBS, 2002), a season where many dipterists are occupied with wet material or reexaminations of collections, and when malaise traps are already cleaned up. This is probably the reason for the under-recording of Belgian Trichoceridae.

Males *Trichocera forcipula* are characterized by the very large outgrowths on the gonostyli. The specimen was identified according to the key present in STACKELBERG, 1989, who gives excellent drawings of male genitalia.

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