

Coleophora vacciniella (Lepidoptera: Coleophoridae), new to the Belgian fauna

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Abstract. At the end of October 2010 some cases of *Coleophora vacciniella* Herrich-Schäffer, 1861 were found on *Vaccinium myrtillus* at Signal de Botrange at Waimes, Hautes Fagnes (Belgium, province of Liège). The species had already been found in the years 1990 in Belgium by Hugo van der Wolf, but this has never been mentioned before. Details about the distribution and biology are presented.

Samenvatting. *Coleophora vacciniella* (Lepidoptera: Coleophoridae), nieuw voor de Belgische fauna
Eind oktober 2010 werden in de Hoge Venen op het Signal de Botrange te Botrange (Waimes) op grote stukken met blauwe bosbes verschillende kokers verzameld, die later als *Coleophora vacciniella* Herrich-Schäffer, 1861 gedetermineerd werden. Deze soort werd reeds eerder in België waargenomen door Hugo van der Wolf in de jaren 1990, maar die gegevens bleken nooit gepubliceerd te zijn. Informatie over de verspreiding en de biologie van deze soort worden gegeven.

Résumé. *Coleophora vacciniella* (Lepidoptera: Coleophoridae), nouvelle espèce pour la faune belge
À la fin du mois d'octobre 2010, plusieurs fourreaux ont été trouvés sur des myrtilles près du Signal de Botrange (Waimes (Province de Liège)). Plus tard ces fourreaux furent déterminés comme appartenant à *Coleophora vacciniella* Herrich-Schäffer, 1861. Cette espèce était déjà signalée en Belgique dans les années 1990 par Hugo van der Wolf, mais ces données n'ont jamais été publiées.

Key words: *Coleophora vacciniella* – Faunistics – First record – Belgium.
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Introduction

On 31 October 2010, at the highest point of Belgium (694 m), at Signal de Botrange, Waimes (Province of Liège) several cases of a Coleophoridae were found on *Vaccinium myrtillus*. At that time no other reports were known about *C. vacciniella* in Belgium. However, it turned out that the species had been found earlier in our country, while on 20 October 1990, Hugo van der Wolf, a Dutch specialist in Coleophoridae, found several cases on *Vaccinium myrtillus* at Baraque Michel, Jalhay (Province of Liège). After hibernation, adults emerged on

10.iv.1991, 14.iv.1991, 18.iv.1991, 20.iv.1991 and on 21.iv.1991 (H. van der Wolf, pers. comm. 2011). Furthermore, cases from the same species were found on 02 November 2009 in the domain "Kutenhard" at Eupen, this time on *Vaccinium uliginosum*, and also in an area nearby called "Brackvenn", both on *V. myrtillus* and *V. uliginosum*. And at Angleur "Sart Tilman" on 1.x.2011 one case was found on *Vaccinium myrtillus* (all J.-Y. Bagnée pers. comm. 2011). Recently one case was found at Lommel (Limburg) by Heidi Dries on *Vaccinium myrtillus* (Natuurpunt 2012).



Figs. 1–4. *Coleophora vacciniella* Herrich-Schäffer, 1861, cases on *Vaccinium myrtillus*.

Fig. 1. Window feeding, Bütchenbach (Liège), 15.v.2011, leg. S. Wullaert.

Fig. 2. Window feeding, Angleur, Sart Tilman–Streupas (Liège), 01.x.2011, leg. & coll. J.-Y. Bagnée.

Figs. 3–4. Overwintering cases at underside of leaf, Botrange – Signal de Botrange (Liège) 30.x.2010, leg. & coll. S. Wullaert (Photographs S. Wullaert).



Figs. 5–6. *Coleophora vacciniella* Herrich-Schäffer, 1861.

5.– Adult bred from larva collected at Rocherath (LG) on 30.x.2010, e.l. 21.iv.2011, leg. & coll. S. Wullaert (Photograph S. Wullaert).

6.– Adult bred from larva collected at Rocherath (LG) on 30.x.2010, e.l. 21.iv.2011, leg. & coll. S. Wullaert, bar = 1 mm (Photograph J. De Prins).

Figs. 7–8. *Coleophora vacciniella* Herrich-Schäffer, 1861; 7.– First abdominal segments; 8.– Male genitalia, nr. JDP 3799, bar = 100 µm (Photographs J. De Prins).

Coleophora vacciniella had already been mentioned for the Belgian fauna from the "Zoniënwoud", Brussels (De Crombrughe 1913). This record is repeated by Lhomme (1946–1963: 886). However, Francis Coenen checked the specimen, which is deposited in the KBIN, and found out it was *Coleophora vitisella* (Gregson, 1856) (Coenen 1986). Consequently, the species was deleted from the Belgian list (De Prins 1998: 68).

The last Coleophoridae species added to the Belgian list was number 106, *Coleophora trigeminella* Fuchs, 1881, discovered by Jean-Yves Bagnée in 2007 at Crupet, Namur (Bagnée 2011). Now, with *Coleophora idaeella* (J.-Y. Bagnée, in litt.) and *C. vacciniella* we reach 108 different species of Coleophoridae in Belgium (De Prins & Steeman 2012).

Biology

The young larvae of *Coleophora vacciniella* makes at first a small blotch mine, they cut out the mined part and use it to make the first case. The excision is not round but oval. Later, the caterpillar makes one or rarely two more mines to enlarge the case until it reaches a maximum length of 8 to 15 mm. The case is brown and it has a mouth angle of 40 to 55°, the rim of the mouth is not round but slightly wrinkled (Toll 1962) (Fig. 4). The caterpillar eats pieces at the upper side of the leaf creating windows in the leaves (Figs. 1–2). That is different from another similar species found on *Vaccinium vitis-idaea*: *Coleophora idaeella* the larva of which makes mines at the under side of the leaf while *Coleophora vacciniella* eats windows on the upper side.

Young larvae are found from July onwards, they are full grown in autumn. They hibernate in the case and pupate shortly after the winter (Hering 1957, Ellis 2013). Moths are found from late April until mid June (Patzak 1971: 240). The caterpillars feed on Ericaceae: *Vaccinium vitis-idaea*, *V. myrtillus* and *V. uliginosum* (Patzak 1971). *Coleophora vacciniella* has been found once in Sachsen (Germany) on 31 October 2010, feeding on *Andromeda polifolia* (Ericaceae) by Friedmar Graf which was confirmed by Jukka Tabell (Lepiforum 2012). In Belgium, this plant species occurs exclusively in the Hautes Fagnes where it is very local and rare. It is endangered and protected by law.

Genitalia

The valva is rather short, valvula with a short hook at its tip, the sacculus with some small hooks at its dorsal end; aedeagus with two small groups of cornuti, the first close to the base, the other at the apex (Toll 1962: 627). Compare some pictures on Lepiforum (2012).

Distribution

The species is spread in Europe mostly in the central and northern part (Austria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Italy, Latvia, Norway, Poland, Romania, Russia, Slovakia, Sweden, Switzerland, and The Netherlands). It is absent on all the European islands, i.e. the British Isles and the islands in the Mediterranean (Balduzzi & van der Wolf 2012).

The species was discovered in The Netherlands by De Graaf & Snellen in 1871 and it occurs rarely and locally mainly in the Hoge Veluwe, and some isolated localities close to the German border (Kuchlein 1993).

In France, *C. vacciniella* is mentioned from mountainous areas, and only from 3 départements: Doubs, Haut-Rhin and Savoie (Lhomme 1946–1963: 885–886). In Germany, the species has been recorded from 6 Bundesländer after 1981, among which Nordrhein-

Westfalen, and from 3 Länder before 1980 (Gaedike & Heinicke 1999: 69).

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