

Digitivalva perlepidella (Lepidoptera: Glyphipterigidae, Acrolepiinae), new for the Belgian fauna

Chris Steeman

Abstract. On May 24, 2022, the first specimen of *Digitivalva perlepidella* (Stainton, 1849) (Lepidoptera: Glyphipterigidae) for Belgium was photographed at Merelbeke in the province of East Flanders. The host plant is *Pentanema conyzae* (Griess.) D.Gut.Larr., Santos-Vicente, Anderb., E.Rico & M.M.Mart.Ort. (ploughman's spikenard) (Asteraceae). This Lepidoptera species is mentioned here for the first time for the Belgian fauna.

Samenvatting. Op 24 mei 2022 werd het eerste exemplaar van *Digitivalva perlepidella* (Stainton, 1849) (donderkruidmineermot) (Lepidoptera: Glyphipterigidae) voor België gefotografeerd te Merelbeke in de provincie Oost-Vlaanderen. De waardplant is *Pentanema conyzae* (Griess.) D.Gut.Larr., Santos-Vicente, Anderb., E.Rico & M.M.Mart.Ort. (donderkruid) (Asteraceae). Deze Lepidoptera-soort wordt hier voor het eerst uit België vermeld.

Résumé. Le 24 mai 2022, le premier spécimen pour la Belgique de *Digitivalva perlepidella* (Stainton, 1849) (Lepidoptera: Glyphipterigidae) a été photographié à Merelbeke dans la province de Flandre Orientale. La plante hôte est *Pentanema conyzae* (Griess.) D.Gut.Larr., Santos-Vicente, Anderb., E.Rico & M.M.Mart.Ort. (inule conyze) (Asteraceae). Cette espèce de Lepidoptera est mentionnée ici pour la première fois pour la faune belge.

Key words: *Digitivalva perlepidella* — Faunistics — Lepidoptera — First record — Belgium.

Steeman C.: Koning Albertlei 90, 2950 Kapellen, Belgium. christiaan.steeman@telenet.be

DOI: 10.6084/m9.figshare.24417307

Introduction

While viewing and validating micros on waarnemingen.be, my attention went to a colourful micro that was photographed in a garden at Merelbeke (East Flanders) by Philip De Somer, it was clearly a *Digitivalva*. The specimen corresponded to *Digitivalva perlepidella* (Stainton, 1849) (donderkruidmineermot), a species previously not observed in Belgium.

Taxonomy

Digitivalva perlepidella belongs to the family of Glyphipterigidae Stainton, 1854 and to the subfamily of Acrolepiinae Heinemann, 1870.

The species was first described in 1849 by Stainton. In Belgium, 18 species of Glyphipterigidae have been observed so far (De Prins & Steeman 2003–2023) and *Digitivalva perlepidella* is the 19th species. Currently there are six *Digitivalva* species present in Belgium (De Prins & Steeman 2003–2023).

Biology

Most sources cite that the larval foodplant is *Pentanema conyzae* (Griess.) D.Gut.Larr., Santos-Vicente, Anderb., E.Rico & M.M.Mart.Ort. (ploughman's spikenard) (Asteraceae) only Baraniak (1990) also lists *Solanum dulcamara* L. (Solanaceae) (bittersweet) as a host plant, a source is not mentioned here.

The buff to greenish larvae form a blotch mine on the leaves (Hering 1963, Kimber 2023). They mine the lower leaves, making them hollow (Kimber 2023). The mine is along the midrib and broadens into a blotch. The larva pupates at the base of the leaf (British leafminers). The most complete description of mining is mentioned by Ellis (2023): one or several broad corridors, radiating from the

leaf base, often along the midrib, towards the leaf tip widening into a roundish blotch, not containing any frass. The larva, that seems to feed only at night, retreats during feeding pauses in the leaf base and is invisible then. Often two larvae in a mine. Pupation in a little separate mine (pupal chamber). Mines mainly in the lower leaves.

Larvae in April–May (Agassiz 1996; British leafminers), October to May (Hering 1957) other sources state April–May and July–August (Hering 1963; Ellis 2023). The day-flying moths appear in two generations in May–June and August–September (Baraniak 1990), while Kimber (2023) in the United Kingdom mentioned only May and June. Gaedike & Heinicke (1999) stated that there is an observation of a moth on August 19, 2012 in North-Rhine-Westphalia (Lepiforum 2023). The flight time reported in GBIF (2023) ranges from April to August with most records in May and June. It is to be assumed that in mainland Europe there are indeed two generations a year or, if the circumstances are favourable, a partial generation occurs in autumn or there is one long prolonged generation. The species is not attracted well to light.

Characteristics

A rather small species with a wingspan of 11 mm (Kimber 2023). The adult moths are well-marked and colourful, with purplish, orange brown and white markings, and are unlikely to be confused with any other species (Kimber 2023).

Head deep orange, frons purplish brown. Thorax and tegulae blackish purple. Abdomen purplish black, ventrally ochreous. Forewing purplish with a more or less interrupted ochreous fascia just before halfway, two further ochreous spots on costa and one on dorsum just before tornus, patches of deep orange before fascia, beyond fascia in dorsal half, between and below the two ochreous costal spots. In the terminal area a bold dark fuscous cilia line. Hindwing dark fuscous (Agassiz 1996).



Fig. 1. *Digitalvalva perlepidella* (Stainton, 1849), Merelbeke (Province East Flanders), 24.v.2022.
© Philip De Somer.

Distribution

The species is currently found in: Austria, Belgium, Croatia, Czech Republic, France, Germany, the Netherlands, Poland, Slovakia, Switzerland, and the United Kingdom. It is doubtful whether the species also occurs in Hungary and Romania (Lepiforum 2023).

Although the species is widely distributed in Europe, it is very local everywhere and very rare and most countries have only a few observations, mostly older ones, and it is

not even seen every year. Most sightings come from Austria and the United Kingdom (GBIF 2023).

Acknowledgments

My thanks go to Philip De Somer for reporting his sighting on waarnemingen.be and for supplying the photo. My sincere thanks also to Willy De Prins for critically reading the text.

References

- Agassiz D. J. L. 1996. Yponomeutidae. In: Emmet A. M. (Ed.) *The Moths and Butterflies of Great Britain and Ireland*. — Harley Books, 3: 39–114.
- Baraniak E. 1990. Remarks on the distribution of Polish species of the families Acrolepiidae, Roeslerstamiidae, Orthotaeliidae. — *Bulletin Entomologique de Pologne* 59: 493–509.
- British Leafminers. 2023. — www.leafmines.co.uk [consulted on 30 January 2023].
- De Prins W. & Steeman C. 2003–2022. *Catalogue of the Lepidoptera of Belgium*. — <https://projects.biodiversity.be/lepidoptera> [consulted on 27 January 2023].
- Gaedike R. & Heinicke W. 1999. Verzeichnis der Schmetterlinge Deutschlands (Entomofauna Germanica 3). — *Entomologische Nachrichten und Berichte* 5: 1–216.
- GBIF 2023. *GBIF Backbone Taxonomy*. — <https://www.gbif.org/species/4525319> [consulted on 30 January 2023].
- Hering E. M. 1957. *Bestimmungstabellen der Blattminen von Europa* 1–3. — Junk, 's-Gravenhage, 221 pp.
- Hering E. M. 1963. Neue Blatt-minen Studien. 3 (Dipt., Lep.). — *Deutsche Entomologische Zeitschrift* 2(10): 221–259.
- Kimber I. 2023. *Guide to the moths of Great Britain and Ireland*. — <https://ukmoths.org.uk/search/?entry=perlepidella> [consulted on 30 January 2023].
- Lepiforum e.V. 2023. *Bestimmungshilfe für die in Europa nachgewiesenen Schmetterlingsarten*. — https://lepiforum.org/wiki/page/Digitalvalva_perlepidella [consulted on 30 January 2023].

Submitted: 11 February 2023

Accepted: 22 June 2023