

Phyllonorycter irmella (Lepidoptera: Gracillariidae), a remarkable addition to the Dutch list

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Abstract: *Phyllonorycter irmella* was described by Palm after one single male, captured in Sweden in 1946. In the Zoological Museum (Amsterdam) a second male was discovered, collected at Bloemendaal (The Netherlands) on 22 May 1910. Female and biology of the species are unknown.

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Introduction

It can be stated, that every insect collection contains one or more boxes with unidentified specimens. This rule holds true for private collections and museums as well. The collection of the Institute of Systematics and Population Biology of the University of Amsterdam (Zoological Museum) does not appear to be an exception to this rule. From this museum the

authors received a box containing unidentified specimens with the request to provide them with the names. One specimen, a *Phyllonorycter*-species, presented considerable determination problems. We sent this specimen and the genitalia slide to dr J. Svensson, who recognized it as *Phyllonorycter irmella* (Palm). The discovery of this specimen is interesting to such a degree, that it is justified to pay attention to it.



Fig. 1. Sampling-localities of *Phyllonorycter irmella* in Europe.

Phyllonorycter irmella was known only from one adult male, caught in Sweden. The specimen was captured in Nyhamn (Medelpad) at 27 July 1946 (Palm, 1947). The Dutch specimen, also a male, was caught at Bloemendaal (province of North-Holland) at 22 May 1910. This specimen, which remained unidentified for eighty years, is actually the first known specimen of this species. The moth stems from the collection of Mr H. J. van der Beek, whose collection was acquired by the Amsterdam museum in 1945. The localities are shown on the map of fig. 1.

The genus *Phyllonorycter* is a very large one, containing nearly 300 species, occurring mainly in the northern hemisphere. In Europe 124 species are found and 53 are recorded from The Netherlands. The larvae of nearly all species of *Phyllonorycter* mine leaves of deciduous trees and shrubs and produce in the fourth and fifth instar tentiform mines. The adults are found by day resting on tree trunks or on leaves. They are sometimes found flying in evening sunshine and relatively few come to light. Generally it is easier to collect the conspicuous mines and to rear the moths than to capture the adults in the field.

In the Dutch list (Kuchlein, 1993) *Phyllonorycter irmella* must be inserted between *Phyllonorycter rajella* (Linnaeus) and *Phyllonorycter anderidae* (W. Fletcher).

Description of male *Phyllonorycter irmella*

Wingspan 6.9 mm.

Head. Vertex dark greyish brown; frons shining brown; labial palpus pale ochreous; antenna ochreous brown, scape whitish beneath, terminal segments whitish.



Fig. 2. *Phyllonorycter irmella*, ♂, forewing.

Thorax and tegulae shining grey; legs unicolorous pale ochreous.

Forewing (fig. 2) golden brown, darkened purple fuscous near apex; four costal and three dorsal silvery white strigulae, brown-edged inwardly and outwardly, first two pairs small, the others minute; no whitish basal streak or whitish scales along the basal part of the dorsum; cilia of the forewing dark greyish brown, paler along the dorsum, the silver-white of the strigulae extends into the fringe, producing a chequered effect, no apical streak. Hindwing brownish grey; cilia concolorous.

Male genitalia (figs 3-4). Valvae slightly asymmetrical; valva broadest before the middle and gradually narrowing towards the apex; ventral part in the apical two thirds provided with setae. The apical spine like bristle, mentioned and drawn by Palm (1947), could not be observed in the Dutch specimen. Both filaments approximately of the same length, about five sixth of the length of the valva. Uncus rather long and tapered caudally. Vinculum rounded. Aedeagus of about the same length as the valva.

Identification

Phyllonorycter irmella shows some similarity to *Phyllonorycter strigulatella* (Lienig & Zeller) and to a lesser extent to *Phyllonorycter lautella* (Zeller), but it is easily distinguished from both species by the absence of the light coloured basal streak in the forewing.

Discussion

The Swedish male is undoubtedly captured in the field as an adult. The label of the Dutch specimen does not indicate that the moth was reared. However, the possibility cannot be excluded, that the moth was caught indoors, and originated from plant material brought indoors. Anyhow, the early stages of *Phyllonorycter irmella* are not found thus far. Palm (1947) suggests that the larvae live on *Betula*, *Acer*, *Salix* or *Sorbus aucuparia* L., which are the most common deciduous trees occurring at



Fig. 3. *Phyllonorycter irmella*, ♂, hind view of genitalia.

the Swedish locality. These trees occur also at the Dutch locality.

The extreme rareness of this well recognizable species and the unknown early stages could point to an obscure bark-mining species, which does not produce the conspicuous mines in leaves, but almost invisible mines in the epidermis of the green bark (Agassiz, personal communication). Examples of bark-mining species are *Phyllonorycter scopariella* (Zeller) on broom (*Cytisus scoparius* (L.)) and *Phyllonorycter ulicicolella* (Stainton) on gorse (*Ulex europaeus* L.).



Fig. 4. *Phyllonorycter irmella*, ♂, lateral view of genitalia after removal of right valva (after Palm, 1947).

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