

# *Stigmella aurella* and *Luffia lapidella* f. *ferchaultella*, new species for the Azores (Lepidoptera: Nepticulidae, Psychidae)

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**Samenvatting.** *Stigmella aurella* en *Luffia lapidella* f. *ferchaultella*, nieuwe soorten voor de Azoren (Lepidoptera: Nepticulidae, Psychidae)

Tijdens een expeditie in juli 1994 werden bladmineers van *Stigmella aurella* (Fabricius, 1775) verzameld op *Rubus* op het eiland São Miguel en Terceira (Azoren). Op dezelfde eilanden, alsook op Pico en Faial, werden verscheidene kokers verzameld van *Luffia lapidella* (Goeze, 1783) f. *ferchaultella* (Stephens, 1850). Beide soorten worden hier voor het eerst van de Azoren vermeld.

**Résumé.** *Stigmella aurella* et *Luffia lapidella* f. *ferchaultella*, espèces nouvelles pour les Açores (Lepidoptera: Nepticulidae, Psychidae)

Pendant une expédition en juillet 1994, des mines de *Stigmella aurella* (Fabricius, 1775) furent ramassées sur *Rubus* dans les îles de São Miguel et Terceira (Açores). Sur ces mêmes îles, ainsi que sur Pico et Faial, plusieurs fourreaux de *Luffia lapidella* (Goeze, 1783) f. *ferchaultella* (Stephens, 1850) furent collectionnés. Ces deux espèces sont mentionnées ici pour la première fois des Açores.

**Key words:** Azores - São Miguel - Terceira - Pico - Faial - faunistics - *Stigmella aurella* - *Luffia lapidella*.  
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During an expedition in July 1994 lepidopterous leafmines were collected on four of the islands of the Azores archipelago. On 22 July some *Stigmella* mines were collected on *Rubus* sp. growing on the banks of the Lagoa Verde en the Lagoa do Fogo on the island of São Miguel (Sete Cidades). On 24 July similar mines were found in the Serra de agua de Pau (São Miguel) and some days later on the slopes of a crater on the island of Terceira. No *Stigmella* species at all have been mentioned from the Azores before (Vieira & Pintureau 1993).

From these mines 19 adults emerged between 6 and 9 August. The external morphology (hairs on front and head, pattern on forewing) and the genital structure (fig. 1a) point to *Stigmella aurella* (Fabricius, 1775) and also the frass and the mine accord well with this species. *S. aurella* is distributed all over Europe, mining *Rubus*. The species is mentioned here for the first time from the Azores. In January 1996, mines of the same species were collected on the island of Madeira (Portela). However, they did not produce any adults.

On the Azores archipelago, I studied the occurrence of Psychidae. On the islands of Pico, Faial, Terceira and São Miguel the typical conical cases of *Luffia* species were discovered close to the seashore on stony walls, tree trunks and houses covered with lichens and mosses, where the larvae found shelter in crevices. They were most often found in places with ferns and climbing-plants which created a moist microclimate. Already at an altitude of 100 m the species was absent and it was not found on the crater slopes either. To the contrary, on Madeira, Porto Santo and the Canary islands, I found *Luffia* species at an altitude between 400 and 600 m. In the list of Vieira & Pintureau (1993) only one record of a Psychidae case is reported: the description of a larval case by Rebel (1940) which was found by Ståra mid May at Ponta Delgada (São Miguel), and which Rebel determined (using only the size as a character!) as *Luffia rebeli* Walsingham, 1908, an endemic species from the Canary islands.

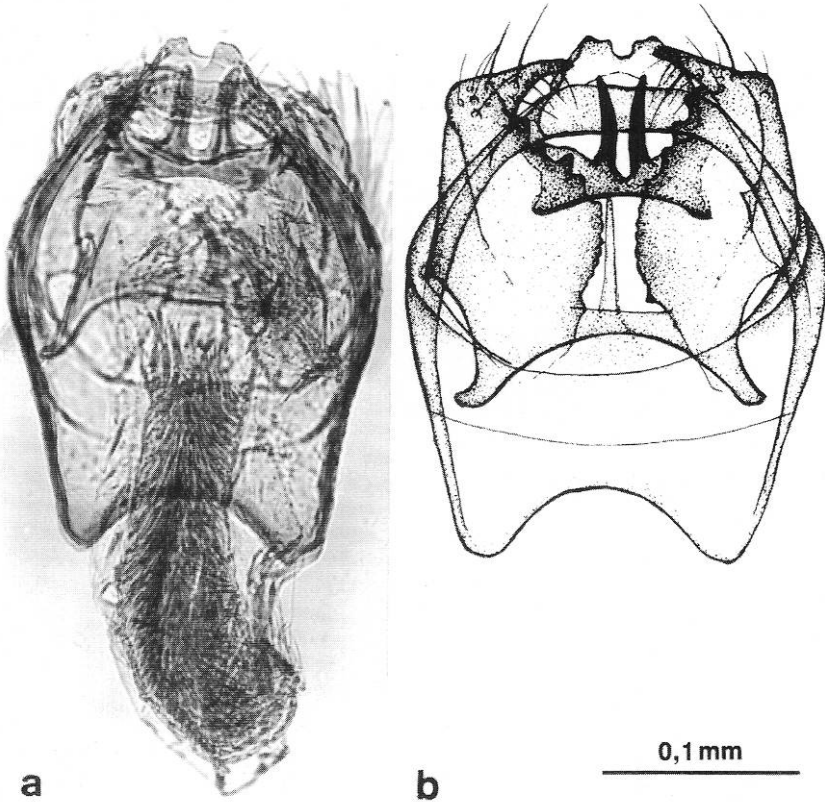


Fig. 1: *Stigmella aurella* (Fabricius, 1775), male genitalia  
 1a. Sete Citados (São Miguel), larva on *Rubus* 22.VII.1994, imago 9.VIII.1994.  
 1b. Genitalia drawn after Johansson et al. (1990) for comparison.

On Terceira (Biscoitos) I collected larval cases of *Luffia* on 16 and 17 July 1994, on Pico (Madalena) on 6 July 1994, on São Miguel (Faja de Baixo) from 22 to 26 July 1994 and on Faial (Horta) from 9 to 11 July 1994. I obtained adults from all these islands from 15 July 1994 till 7 September 1994. All specimens were females, which started laying eggs in their larval case immediately after emerging. Two egg clusters from Faial (Horta) hatched after 28 days, while male specimens were absolutely absent, thus proving the parthenogenetic reproduction of this population. The morphology of the female (fig. 2), especially the merged tarsi, is identical to that of the parthenogenetic form *f. ferchaultella* (Stephens, 1850) of *Luffia lapidella* (Goeze, 1783), a widespread species in Europe, including the British isles. It is also the opinion of P. Hättenschwiler (in litt.) that this is the species on the Azores. The occurrence on the Azores could be explained by the rather intensive contacts with the continent after the colonization of the archipelago. The parthenogenetic form of *L. lapidella*, together with an *Apterona* species which was found

on the island of Porto Santo<sup>1</sup>, are the only representatives of the family Psychidae on the northern Macaronesian archipelago.

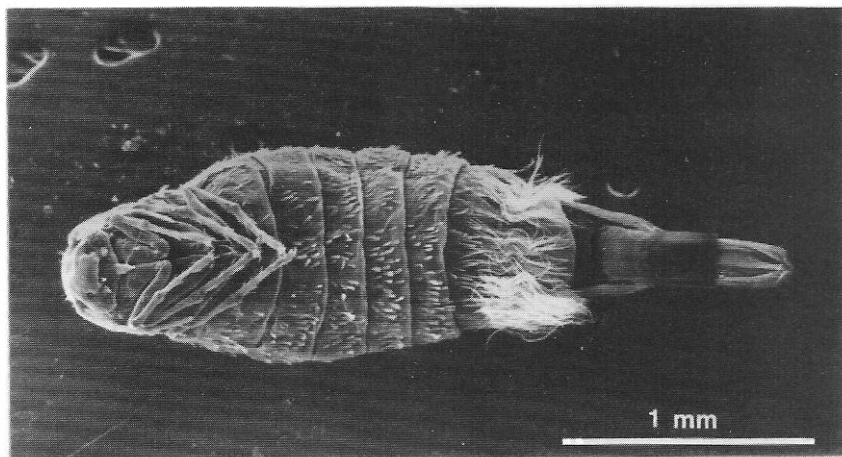


Fig. 2: *Luffia lapidella* (Goeze, 1783) f. *ferchaultella* (Stephens, 1850), female adult, Madalena (Pico), 8.VIII.1994.

#### References

- Johansson, R., Nielsen, E.S., van Nieukerken, E.J. & Gustafsson, B., 1990. *The Nepticulidae and Opostegidae (Lepidoptera) of North West Europe*. - Fauna Entomologica Scandinavica 23 (2 parts), E.J. Brill, Scandinavian Science Press Ltd.
- Rebel, H., 1940. Die Lepidopterenfauna der Azorischen Archipels. — *Societas Scientiarum Fennica, Commentationes Biologicae VIII* (1): 45.
- Vieira, V. & Pintureau, B., 1993. Comparative diversity of Lepidoptera (Insecta) in the islands of the Azores: revision with new information. — *Arquipélago, Life and Marine Sciences* 11A: 107-112.

<sup>1</sup> About 200 larval cases of *Apterona* with empty female exuvia, collected by Henderickx and Verkerk on Pico do Castelo, 200 m, 17 January 1996, probably belong to the parthenogenetic species *Apterona helicoidella* (Vallot, 1827).