

Two new Geometridae for the Maltese islands - *Microloxia herbaria* (Hübner, [1813]) and *Scopula luridata* (Zeller, 1847) (Lepidoptera: Geometridae)

J. Agius

Abstract

Microloxia herbaria (Hübner, [1813]) and *Scopula luridata* (Zeller, 1847) are reported for the first time from the Maltese Islands. Distribution and habits of the adult and larvae are included. A Maltese name is proposed for these new records.

KEY WORDS: Lepidoptera, Geometridae, *Microloxia herbaria*, *Scopula luridata*, Maltese Islands.

**Dos nuevos Geometridae para Malta - *Microloxia herbaria* (Hübner, [1813])
y *Scopula luridata* (Zeller, 1847)
(Lepidoptera: Geometridae)**

Resumen

Microloxia herbaria (Hübner, [1813]) y *Scopula luridata* (Zeller, 1847) se registran por primera vez, para Malta. Se incluye la distribución y hábitat del adulto y larva. Se propone un nombre maltés para estos nuevos registros.

PALABRAS CLAVE: Lepidoptera, Geometridae, *Microloxia herbaria*, *Scopula luridata*, Malta.

Introduction

Geometridae are the second-largest family of Lepidoptera, known to include approximately 24,000 species worldwide (SCOBLE & HAUSMANN, 2007) with 900 species recorded from Europe (HAUSMANN, 2001). In Malta this family is represented by around 75 species (SAMMUT, 2000).

Species in the genus *Microloxia* Warren, 1893 have a deep green ground colour and are relatively small, with the males measuring around 17mm whereas the females measure up to 22 mm. The males have bipectinate antennae whilst the females have dentate antennae. *Microloxia* Warren, 1893 includes six worldwide species and are distributed in Europe, Africa including Madagascar and the Indo-Pacific.

The genus *Scopula* Schrank, 1802 which belongs to the Scopulini Duponchel, 1845 tribe, includes more than 700 worldwide species, with 10 species being mentioned from Malta, however *Scopula* (*Glossotrophia*) *confinaria* (Herrich-Schäffer, 1847), *Scopula* (*Scopula*) *rubiginata* (Hufnagel, 1767), and *Scopula* (*Scopula*) *emutaria* (Hübner, [1809]) have probably been recorded by mistake since these species have never been found in the recent history of Maltese entomology (SAMMUT, 2000) and potentially have been confused with other species.

Material and methods

This material has been collected by the author using a 250 W mercury vapour light and an 18W UV Black light tube and is found in the author's private collection.

Results

Microloxia herbaria (Hübner, [1813])

Material: MALTA, Gozo, Dahlet Qorrot, 1 ♂, 11-VI-2021, at MV light, coll & leg. J. Agius.

Life History: *Microloxia herbaria* (Hübner, [1813]) is found in open grassland of hot coastal plains and rocky steppes. The area from where the specimen was recorded is a valley which leads straight to the sea. The valley has considerable agricultural fields however on the sides it is mainly made up of rocky garigues. The larvae are polyphagous and feed on the flowers of *Helichrysum stoechas* (L.) Moench, *Teucrium polium capitatum* (L.) Arcang, *Vernonia centaureoides* Klatt, and *Artemisia* species. None of these plants are found in the Maltese islands but Gozo is home to *Helichrysum melitense* (Pignatti) Brullo, Lafranco, Pavone & Ronsisvalle, the Maltese everlasting, which is a species of flowering plant in the family Asteraceae and is endemic to Malta, specifically on the island of Gozo. *Helichrysum melitense* is quite common in the area and could potentially be a substitute for *H. stoechas*. Other related plants are *Teucrium fruticans* L. and *T. flavum* L. which are both common whilst *Artemisia arborescens* (Vall.) L. is considered a rare species. However, so far there is no evidence that *Microloxia herbaria* (Hübner, [1813]) is breeding in the Maltese Islands.

Distribution: *Microloxia herbaria* (Hübner, [1813]) is the only species in this *Microloxia* genus which is recorded from Europe and mainly from the Mediterranean basin including Spain, France and Italy. This species is present in neighbouring Tunisia and Sicily (BELLA *et al.*, 2009) too.

Remarks: The species is new to the Maltese lepidopteroфаuna. The author proposes the Maltese name Qejjies tal-Ħxejjex, after a transliteration of the scientific name.

Scopula luridata (Zeller, 1947)

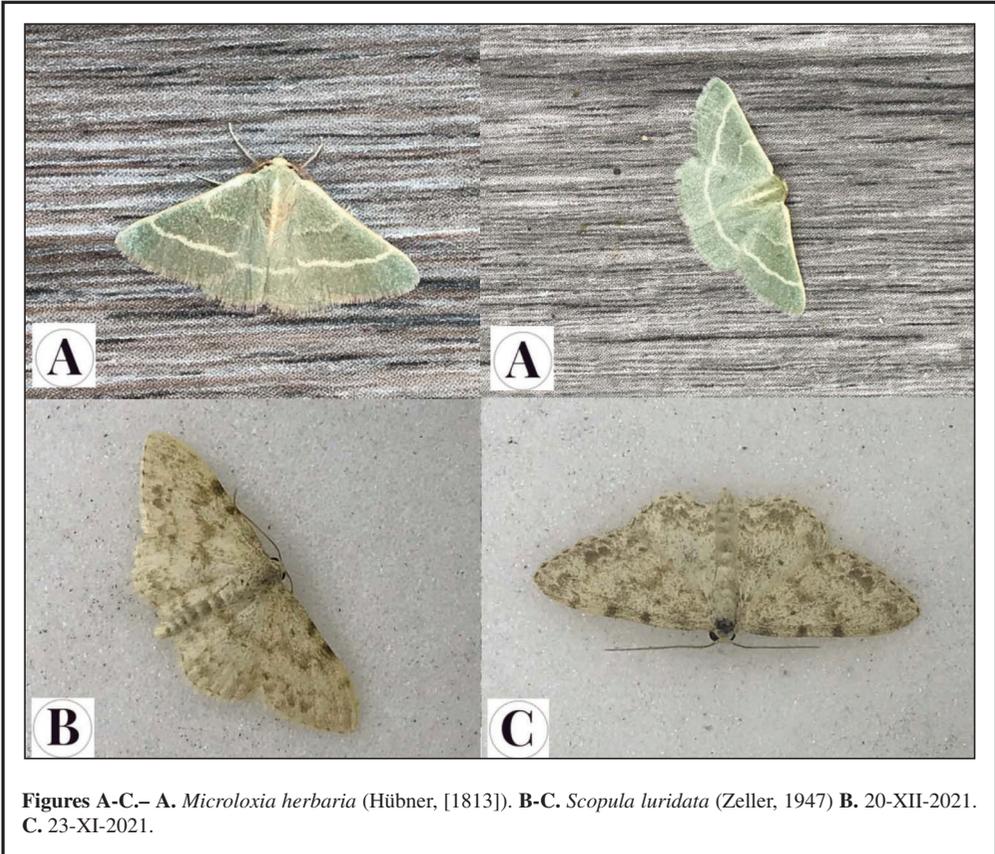
Material: MALTA - Zurrieq, Bassasa, 1 ♀, 04-V-2021, at MV light, coll & leg. J. Agius; Zurrieq, 1 ♀, 16-X-2021, at UV light, coll & leg. J. Agius; Zurrieq, 1 ♂, 20-XI-2021, at UV light, coll & leg. J. Agius; Zurrieq, 1 ♂, 23-XI-2021, at MV light, coll & leg. J. Agius.

Life History: *Scopula luridata* (Zeller, 1947) is found near coasts and xeromontane localities but in Europe it is restricted to lowlands. The Zurrieq, Bassasa area where the first specimen was found is a coastal area whereas the three other specimens were found further inland, but nonetheless, not far away from the coast. The larvae are polyphagous on Solanaceae but have also been recorded feeding on *Silene vulgaris* (Moench.) Garcke (Caryophyllaceae), *Asparagus* (Liliaceae), *Opuntia* (Cactaceae) and *Rosa* (Rosaceae). The first female laid 9 eggs whilst the second female laid 7 eggs. All the eggs of the first female hatched whilst only 5 eggs hatched from those laid by the second female. All the larvae were successfully bred on cultivated roses. *Silene vulgaris* is a scarce species in Malta but sometimes it could be found in sizeable pockets in some localities such as Marsaskala. When fed on roses, the lifecycle of the larvae from egg to adult moth takes 2 months in early summer. Even though no larvae have been found in the wild so far, the fact that 4 specimens including 2 gravid females have been found in a relatively short period of time might be a sign that this species is breeding in Malta. This could have been easily facilitated by the many ornamental roses spread in private and public gardens.

Distribution: *Scopula luridata* (Zeller, 1947) is found in the east Mediterranean including southern Greece and Crete, east Libya, Egypt to Cyprus, southern Turkey, extending to the Arabian Peninsula, Yemen and Somalia, across Iran and western India (HAUSMANN, 2004)

Remarks: The species is new to the Maltese lepidopteroфаuna. The author proposes the Maltese name Skopula Mahmuġa, after a transliteration of the scientific name. With the addition of *Scopula luridata* (Zeller, 1947) to the Maltese lepidopteroфаuna, the *Scopula* species correctly recorded from Malta are:

Scopula (Glossotrophia) asellaria romanaria (Millière, 1869)
Scopula (Scopula) imitaria (Hübner, [1799])
Scopula (Scopula) decolor (Staudinger, 1897)
Scopula (Scopula) marginepunctata (Goeze, 1781)
Scopula (Scopula) minorata (Boisduval, 1833)
Scopula (Scopula) ornata (Scopoli, 1763)
Scopula (Scopula) vigilata (Prout, 1913)
Scopula (Scopula) luridata (Zeller, 1947)



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J. A.
166 'Infinity'
Vjal ix-Xarolla
MT-Zurrieq, ZRQ1617
MALTA / MALTA
E-mail: jonagius@msn.com
<https://orcid.org/0000-0003-4875-0524>

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