SHILAP Revista de lepidopterología, 50 (198) junio 2022: 229-231 eISSN: 2340-4078 ISSN: 0300-5267
https://doi.org/10.57065/shilap.126

An additional record of *Microsphecia tineiformis* (Esper, 1789) for the Maltese Islands (Lepidoptera: Sesiidae)

J. Agius & A. Sciberras

Abstract

An additional record of *Microsphecia tineiformis* (Esper, 1789) is reported for the Maltese Islands. The status of this local species is discussed.
KEY WORDS: Lepidoptera, Sesiidae, *Microsphecia tineiformis*, Maltese Islands.

Un registro adicional de *Microsphecia tineiformis* (Esper, 1789) para Malta (Lepidoptera: Sesiidae)

Resumen

Un registro adicional de *Microsphecia tineiformis* (Esper, 1789) es citado para Malta. Se discute el estatus local de esta especie.
PALABRAS CLAVE: Lepidoptera, Sesiidae, *Microsphecia tineiformis*, Malta.

Introduction

The Sesiidae are a diurnal moth family known for their Batesian mimicry in both appearance and behaviour of various Hymenoptera. Most species of Sesiidae have wings with areas where scales are nearly completely absent, resulting in partial, marked transparency. Forewings are commonly elongated and narrow in the basal half. In many species, the abdomen is elongated, with an anal tuft, and striped or ringed with yellow, red, or white, sometimes very brightly so. Legs are long, thin, and frequently coloured, and in some species the hind-legs are elongated. In European species, the wingspan ranges from 8 to 48 mm.

The larvae of the Sesiidae typically bore in wood or burrow in plant roots. Many species are serious pests of fruit-trees or timber cultivation, or crop plants (EDWARDS *et al*., 1999). In Malta, the larvae of *Synanthedon myopaeformis cruentata* (Mann, 1859) are known to feed inside loquat trees (SAMMUT, 2000) sometimes causing extensive damage to the trees in the long term. Larval development lasts 1-4 years whilst pupal stage takes 10-20 days.

The family consists of 151 genera spread over two subfamilies, the Sesiinae and the Tinthiinae, and containing in total 1370 species and 50 subspecies, most of which occur in the tropics, though there are many species both in the Holarctic and the Palearctic regions, including over a hundred species known to occur in Europe (LAŠTŮVKA & LAŠTŮVKA, 2001). In Malta, six species of Sesiidae have been documented so far with *Microsphecia tineiformis* (Esper, 1789) being the latest Sesiidae addition to the Maltese Islands. The species recorded so far are: *Bembecia albanensis tunetana* (Le Cerf, 1920),

Synanthedon myopaeformis cruentata (Mann, 1859), *Microsphecia tineiformis* (Esper, 1789), *Paranthrene tabaniformis synagriformis* (Rambur, 1866), *Chamaesphecia aerifrons* (Zeller, 1847), *Chamaesphecia anthraciformis* (Rambur, 1832).

Both *Chamaesphecia* species are mentioned as rare in Maltese literature (SAMMUT, 2000) and have not been recently recorded. *Paranthrene tabaniformis* (Rottemburg, 1775) was accidently imported with a lot of *Populus alba* L., but the entire consignment of trees was destroyed by fire to safeguard against the dispersal of *P. tabaniformis* (MIFSUD *et al*., 2003).

Microsphecia tineiformis (Esper, [1789]) is a Mediterranean species found in Bulgaria, Italy, Southern France, Portugal, Spain, Sicily, Morocco, and Algeria (LAŠTŮVKA, 1985). It was recorded for the first and only time in Malta during 2018 (MIFSUD *et al*., 2019). The larvae of *Microsphecia* sp. are known to live inside roots of *Convolvulus* plants (BERTACCINI & FIUMI, 2002) and the various *Convolvulus* species which inhabit the Maltese islands provide a suitable habitat for this species.

Material

MALTA: 1 ♀, Il-Ħaġra tas-Sajjetta (Cheirolophus Rock), 11-VI-2020, leg. A. Sciberras (in coll. J. Agius) (Figure 1).

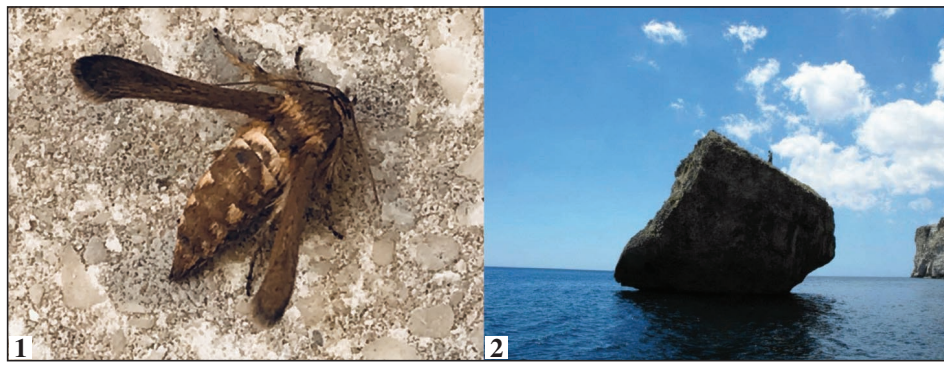

Figure 1.– *Microsphecia tineiformis* (Esper, 1789) MALTA, 1 ♀ Cheirolophus Rock, 11-VI-2020 and the Cheirolophus Rock islet on which it was found.

Discussion

Cheirolophus Rock or Il-Ħaġra tas-Sajjetta as known in Maltese, is a 9- to 12-metre-high islet situated at the South of Malta (coordinates 35º48'48.06"N 14º29'42.91"E) and lies 20 metres away from mainland Malta. The surface area of this small islet is circa 200 square metres, being 11 metres long and 17 metres wide. The plateau (top slanting side) is just 130 square metres. Due to its size and the exposure to weather conditions, very few flora grows on this islet but the following six species of plants have been recorded (SCIBERRAS *et al*., 2012): *Cheirolophus crassifolius* (Bertol.) Susanna, *Crithmum maritimum* L., *Salsola melitensis* Bothsch., *Daucus carota* L., *Limbardia crithmoides* (L.) Dumort., and *Limonium virgitanum* (Willd.) Fourr.

What is strange is that no *Convolvulus* species has ever been recorded on this islet. Thus, the presence of *Microsphecia tineiformis* (Esper, 1789) on Cheirolophus Rock could be explained either by the fact that it reached the islet from mainland Malta where there is a sheer 60 metre drop or the larvae feeds on one of the plants documented for the Cheirolophus Rock, but such behaviour has not yet been recorded. The female specimen collected on Cheirolophus Rock islet laid circa 150 infertile oval eggs. Unfortunately, even if the eggs were fertile and hatched, it is not easy to breed and study this species

since the larvae are thought to feed inside the roots of plants, so further research is required to possibly identify the origin of *Microsphecia tineiformis* (Esper, 1789) on Cheirolophus Rock.

Acknowledgments

The authors are grateful to Dr. Antonio Vives for the Spanish abstract and to Jeffrey Sciberras for assisting A. Sciberras with the research on Cheirolophus Rock islet.

BIBLIOGRAPHY

BERTACCINI, E. & FIUMI, G., 2002.– *Bombici and Sfingi d'Italia (Lepidoptera: Sesioidea),* **4**: 181 pp. Filograf, Forli.

EDWARDS, E. D., GENTILI, P., HORAK, M., KRISTENSEN, N. P. & NIELSEN, E. S., 1999.– The Cossoid / Sesioid assemblage: 183-185.– *In* N. P. KRISTENSEN (Ed.). *Lepidoptera, Moths and Butterflies: Evolution, Systematics, and Biogeography. Handbuch der Zoologie. Eine Naturgeschichte der Stämme des Tierreiches / Handbook of Zoology. A Natural History of the phyla of the Animal Kingdom. Band / Volume IV Arthropoda: Insecta Teilband / Part 35*, **1**: 491 pp. Walter de Gruyter, Berlin, New York.

LAŠTŮVKA, Z., 1985.– On the taxonomy of *Microsphecia tineiformis* (Esper) and *M. brosiformis* (Hübner) (Lepidoptera, Sesiidae).– *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, **33**(2263): 183-190.

LAŠTŮVKA, Z. & LAŠTŮVKA, A., 2001.– *The Sesiidae of Europe*: 245 pp. Apollo Books, Stenstrup.

MIFSUD, D., FARRUGIA, C. & SAMMUT, P., 2003.– On the Introduction of *Paranthrene tabaniformis* (Rottemburg, 1775) in Malta.– *The Central Mediterranean Naturalist*, **4**(1): 65-69.

MIFSUD, C. M., MAGRO, D. & VELLA, A., 2019.– First record and DNA barcode of the clearwing moth *Tinthia tineiformis* (Esper, 1789) from Malta, central Mediterranean.– *Check List the journal of biodiversity data,* **15**(4): 595-599.

SAMMUT, P., 2000.– Kullana Kulturali. 12 - *Il-Lepidoptera*: X + 246 pp. Pubblikazzjonijiet Indipendenza, Malta.

SCIBERRAS, J., SCIBERRAS, A. & PISANI, L., 2012.– Updated checklist of flora of the satellite islets surrounding the Maltese Archipelago.– *Biodiversity Journal*, **3**(4): 385-396.

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

A. S.
136 Animal Kingdom LTD
Ditch Street
Paola PLA1234
MALTA / *MALTA*
E-mail: bioislets@gmail.com
https://orcid.org/0000-0002-2956-7460

*Autor para la correspondencia / *Corresponding author*

(Recibido para publicación / *Received for publication* 8-V-2021)
(Revisado y aceptado / *Revised and accepted* 7-VI-2021)
(Publicado / *Published* 30-VI-2022)