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A FURTHER TWO SPECIES OF SNAIL-KILLING FLIES (DIPTERA: SCIOMYZIDAE) FROM THE MALTESE ISLANDS

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ABSTRACT

The family Sciomyzidae (Diptera) was previously known in the Maltese islands from two specimens of *Pherbellia cinerella* (Fallén, 1820) recorded in 1995. Two other species – *Pherbellia mikiana* (Hendel, 1900) and *Hydromya dorsalis* (Fabricius, 1775) – are added to the Maltese fauna, and notes on their biology and distribution are provided.

Keywords: Malta, Diptera, Sciomyzidae, new records.

INTRODUCTION

The Sciomyzidae (Diptera: Brachycera) is a family of some 140 Western Palaearctic and Mediterranean species whose larvae are predatory on molluscs. Most species are aquatic or semiaquatic, but some are fully terrestrial. Adult flies are mostly found resting on vegetation near water. The Mediterranean fauna has been monographed by Vala (1989) for France and Southern Europe and Rivosecchi (1992) for Italy and its islands.

The family was first discovered in Malta by Ebejer (1995) who recorded *Pherbellia cinerella* (Fallén, 1820) and speculated that other widespread species of the family may eventually be discovered. The purpose of this article is to present a further record of *P. cinerella* and to record two other species of the family, *Pherbellia mikiana* (Hendel, 1900) and *Hydromya dorsalis* (Fabricius, 1775) which were hitherto unknown from the islands, and provide notes on their biology and distribution.

MATERIALS & METHODS

The records on which this article is based are of adult flies which have been sweep-netted by the authors, and which are preserved in their private collections.

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RESULTS

Hydromya dorsalis (Fabricius, 1775)

Material examined: GOZO: 1£, Dwejra, Qattara, 22.IV.2006, swept from vegetation around freshwater pond, P. Gatt.

Distribution: A widely distributed Palaearctic species. New record for Malta where, so far, it is known only from Gozo.

Notes: the larvae of this species are predatory on a wide variety of aquatic molluscs and their eggs. Early instars are also scavengers of dead snails. They preferentially develop in moving bodies of fresh water.

Pherbellia cinerella (Fallén, 1820)

Material examined: MALTA: 1£, Wied il-Ghasel, 28.III.1997, M. J. Ebejer.

Distribution: a common and widely distributed Palaearctic species.

Notes: this species was previously recorded by Ebejer (1995) who in 1992 collected two specimens from Fawwara and Ghadira. The larvae prey on a wide variety of terrestrial and aquatic molluscs. An ecologically versatile species which thrives in both dry and humid biotopes.

Pherbellia mikiana (Hendel, 1900)

Material examined: MALTA: 2££, Salina, 22.IV.1994, P. Gatt; 1\$, Mgiebah, 28.V.1994, M. J. Ebejer; 1£, Mgiebah, 26.III.1995, M. J. Ebejer; 1£, Mgiebah, 23.II.1997, M. J. Ebejer; 2££, Salina, 10.I.1999, M. J. Ebejer; 1£, Gnejna, 23.XII.1999, M. J. Ebejer; 7££ & 2\$\$, Salina, 28.X.2001, M. J. Ebejer.

Distribution: *P. mikiana* is a rare species and until now was only known from France, Italy (Tuscany, Isle of Elba and Venice,) Croatia and Greece. One of us (MJE) has also collected 4££ and 1\$ 6kms east of Zygi, Cyprus (new record). Thus these records from Malta and Cyprus are an important addition to the known distribution of this species.

Notes: The biology of this species is unknown. All records are from coastal localities and within about 10 metres of the shoreline. Previous records are also from littoral sites, but Vala (1989) includes an altitude of 600 m without further clarification. The habitats on Malta where *P. mikiana* was collected were similar. All had variable quantities of *Posidonia* wrack as well as bare rock and were close to a trickle of fresh water. The dominant flowering plant was *Inula crithmoides* Linnaeus. Snails were plentiful and many species were represented. The sample from Salina (28.X.2001) was kept alive and mating was observed, but no oviposition took place. However, on Cyprus the fly was taken from the shoreline itself, which consisted of coarse sand with very little beached wrack. A few *Tamarix* trees and a small stand of *Phragmites* were growing just a little further inland at this site near a small stream. No note of snails was made.

DISCUSSION

Despite their small size and limited habitat diversity, the Maltese islands host a large number of terrestrial and freshwater mollusc species, some of which reach very high population densities (Schembri, 2003). The most recent monograph by Giusti *et al.* (1995) lists 70 species, eight of which are more or less of recent human introduction (Schembri, 2003).

It is therefore rather surprising that only three, seldom-collected species of Sciomyzidae are known from the islands. By contrast, 29 species in this family have been recorded from Sicily and 11 from Cyprus (Rozkošný & Knutson, 2004). Two of the species from Malta - *P. cinerella* and *H. dorsalis* - are common, widespread Palaearctic species with a wide variety of hosts. The third, *P. mikiana*, is a rare Mediterranean coastal species of unknown biology.

Although the family was only recently discovered in Malta it is more likely that these flies had been previously overlooked rather than being of recent introduction to the islands.

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