

DANIELE BIRTELE, PIETRO ZITO & MAURIZIO SAJEVA

BOMBYLIIDAE (*Diptera*) FROM LAMPEDUSA ISLAND

SUMMARY

The authors report new records of Bombyliidae (Diptera) for Lampedusa Island discovered during field investigations carried out for a broader research project in the island. Data are updated to July 2010. Four species of Bombyliidae new for Lampedusa have been found, one of which has not been recorded for Sicilan dipterofauna. The present data bring to 60 the species of Diptera reported for Lampedusa Island

RIASSUNTO

Bombyliidae (Diptera) di Lampedusa. Gli autori riportano nuove segnalazioni di Bombyliidae (Diptera) nell'isola di Lampedusa, catturati durante ricerche di campo per un più ampio progetto di ricerca nell'isola. I dati sono aggiornati a Luglio 2010. Sono state trovate 4 specie di Bombyliidae nuove per Lampedusa di cui una non nota per la fauna siciliana. Questi dati portano a 60 il totale di Diptera citati per Lampedusa

INTRODUCTION

Bee flies (Bombyliidae) have a virtually cosmopolitan distribution and are commonly found in warm arid to semi-arid habitats (HULL, 1973; EVENHUIS & GREATHEAD, 1999), where they can form a conspicuous part of the flower-visiting insect fauna (TOFT 1983). There are a total of 4,583 species of Bombyliidae known (EVENHUIS & GREATHEAD, 2003). Adults of larger species are powerful and agile fliers, in their ability to hover and

move in all directions while in flight. With many species possessing colorful patterns of stripes and spots on the wings and bodies, bee flies are often some of the most striking in appearance of all the Diptera. Larvae of all reared species of Bombyliidae are parasitoids (most often ectoparasitoids) or predators of other insects, primarily the immature stages of the large endopterygote orders of Coleoptera, Hymenoptera, Lepidoptera, Orthoptera and Diptera (BOESI *et al.*, 2009). Adults are nectar feeders, and females are obligate pollen feeders, obtaining pollen from anthophilous plants as a necessary requirement for nourishing developing eggs (BOESI *et al.*, 2009). The evolution of the family is considered to be connected to the evolution of spermatophytes (REN, 1998), and Bombyliidae are often the major pollinators of many flowering plants, especially those occurring in deserts.

Diptera of Lampedusa are poorly known and the only data are from the paper of VENTURI (1960) which contains 37 species. Since 2008, the knowledge of dipterofauna of Lampedusa expanded through the work of PISCIOTTA *et al.* (2008), RASPI *et al.* (2009) and BIRTELE *et al.* (2010) bringing to 60 the total species known for Lampedusa Island.

The aim of this paper is to give a further contribution to the poorly known dipterofauna of Lampedusa Island for which few reports are available. A relevant aspect of the biological diversity of the Pelagic Arcipelago is the presence of North African elements beside a high level of endemic species. In the present paper we refer to the checklist edited by MASSA (1995) as reference for the arthropodofauna of Lampedusa. Captures were done during field investigations carried out in the framework of a more extensive research project on the ecology of two Diptera pollinated Apocynaceae (PISCIOTTA *et al.*, 2011). Data are updated to July 2010.

MATERIALS AND METHODS

Captures were done with an entomological net from February 2007 to July 2010. Specimens were kept separately in plastic test-tube and successively dry mounted for identification. For each species the following data are reported:

- locality, date, specimens captured and sex;
- references to Sicily;
- corotype according to CONTINI *et al.* (1995), VIGNA TAGLIANTI *et al.* (1993, 1999), EVENHUIS & GREATHEAD (1999, 2003), GREATHEAD (2004), BIRTELE (2007), ZAITZEV (2007) and unpublished data;

Captures were done by S. Pisciotta and P. Zito; specimens have been examined and identified by D. Birtele according to GREATHEAD (2004). Collection localities are indicated in Fig. 1. Specimens are deposited at the Dipartimento di Biologia ambientale e Biodiversità (into which the former Dipartimento di Scienze Botaniche merged), University of Palermo.

Symbols and Abbreviations

- * = not described for Sicilan dipterofauna
- ** = first record for Lampedusa
- *** = species recorded only by VENTURI (1960).

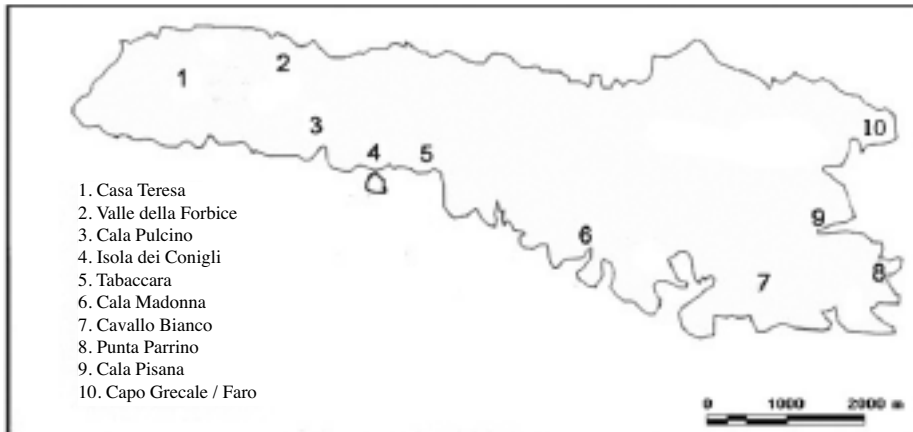


Fig. 1 — Map of Lampedusa Island. Figures indicate the localities where captures have been done by the present authors and by VENTURI (1960).

RESULTS

30 specimens belonging to six species of Bombyliidae have been captured and identified during our fieldwork. The unique records of Bombyliidae from Lampedusa were those by VENTURI (1960) with four species. Only two species, *Heteralonia* (*Homolomia*) *megerlei* and *Heteralonia rivularis* were reported by VENTURI (1960), two reported by him have not been captured during our fieldwork, while four are new for Lampedusa (Tab. 1). Among the species new for Lampedusa *Anthrax aethiops* has not been described for the Sicilian fauna. To date the species of Bombyliidae recorded in Lampedusa are 8. They belong to five chorotypes (Tab. 1).

Table 1
List of all species of Bombyliidae reported for Lampedusa by VENTURI (1960)
and by the present authors.

SPECIES	VENTURI 1960	Present paper	Chorotype
<i>Anthrax aethiops</i>		x	Palaearctic
<i>Exoprosopa (Argyropsila) jacchus</i>	x		Europeo-Mediterranean
<i>Heteralonia rivularis</i>	x	x	Palaearctic
<i>Heteralonia (Homolomia) megerlei</i>	x	x	Centralsiatic-European and Afrotropico-Mediterranean
<i>Heteralonia (Mesoclis) pygmalion</i>		x	Palaearctic
<i>Bombylius canescens</i>		x	Palaearctic
<i>Bombylius discolor</i>		x	W-Palaearctic
<i>Bombylius (Zephyrectes) cruciatus</i>	x		W-Palaearctic

LIST OF SPECIES

1. *Anthrax aethiops* (Fabricius, 1794) *
Lampedusa, loc. Isola dei Conigli, 15.IV.2007, 18.V.2007, 2 ♀♀; 7.VI.2008, 1 ♀ 3 ♂♂;
References for Sicilian DipteroFauna. Previously unrecorded.
Chorotype. Palaearctic.
2. *Exoprosopa jacchus* (Fabricius, 1805) ***
Exoprosopa (Argyropsila) jacchus Fab.: VENTURI, 1960: 343 (Cala Madonna, Cala Pisana, Faro, Isola dei Conigli).
References for Sicilian DipteroFauna. VENTURI, 1960; GREATHEAD, 2004.
Chorotype. Europeo-Mediterranean.
3. *Exoprosopa rivularis* (Meigen, 1820)
Exoprosopa (Cladodisca) rivularis Meig.: VENTURI, 1960: 343 (Cala Madonna, Cala Pisana).
Lampedusa, loc. Tabaccara, 7.VI.2008, 1 ♀; 28.VII.2010, 1 ♂.
References for Sicilian DipteroFauna. VENTURI, 1960; GREATHEAD, 2004;
Chorotype. Palaearctic.
4. *Heteralonia (Homolomia) megerlei* (Meigen, 1820)
Exoprosopa (Defilippia) megerlei-consanguinea Macq.: VENTURI, 1960: 343 (Cala Madonna, Cala Pisana, Monte Parrino).
Lampedusa, loc. C. Grecale, 22.VI.2007, 1 ♀.
References for Sicilian DipteroFauna. VENTURI, 1960; GREATHEAD, 2004.
Chorotype. Centralsiatic-European and Afrotropico-Mediterranean.

5. *Heteralonia pygmalion* (Fabricius, 1805) **

Exoprosopa pygmalion (Fabricius, 1805): CONTINI *et al.*, 1995: 11.

Lampedusa, loc. Isola dei Conigli, 21.VI.2007, 3 ♀♀; Capo Grecale, 22.VI.2007, 2 ♀♀; 7.VI.2008, 4 ♀♀ 3 ♂♂; Tabaccara, 3.VI.2010, 1 ♂.

References for Sicilian DipteroFauna. GREATHEAD, 2004.

Chorotype. Palearctic.

6. *Bombylius (Bombylius) canescens* Mikan, 1796 **

Lampedusa, loc. Casa Teresa, 17.II.2007, 1 ♂; Isola dei Conigli, 1.III.2008, 1 ♀.

References for Sicilian DipteroFauna. GREATHEAD, 2004.

Chorotype. Palearctic.

7. *Bombylius (Bombylius) discolor* Mikan, 1796 **

Lampedusa, loc. Isola dei Conigli, 15.IV.2007, 1.III.2008, 3 ♀♀; 7.IV.2008, 1 ♀; Cala Pulcino, 17.III.2007, 1 ♀; Valle della Forbice, 2.II.2008, 1 ♀ 1 ♂.

References for Sicilian DipteroFauna. GREATHEAD, 2004.

Chorotype. W-Palearctic.

8. *Bombylius (Zephyrectes) cruciatus* Fabricius, 1798***

Bombylius cruciatus-leucopygus Macq.: VENTURI, 1960: 343 (Cala Madonna, Cala Pisana, Monte Parrino, Cavallo Bianco).

References for Sicilian DipteroFauna. VENTURI, 1960; GREATHEAD, 2004.

Chorotype. W-Palearctic.

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Authors' addresses — D. BIRTELE, (corresponding author), MiPAAF – Corpo Forestale dello Stato, Centro Nazionale per lo Studio e la Conservazione della Biodiversità Forestale “Bosco della Fontana”, Strada Mantova, 29 - 46045 Marmirolo (MN); email: entomologiaccfs@libero.it; P. ZITO, Dipartimento DEMETRA dell'Università di Palermo, Viale delle Scienze, Edificio 4 - 90128 Palermo; email: pietrozito@unipa.it; M. SAJEVA, Dipartimento di Biologia ambientale e Biodiversità dell'Università di Palermo, Via Archirafi, 38 - 90123 Palermo; email: sajeva@unipa.it.