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**NOTES AND NEW RECORDS OF THE LARGER BRACHYCERA  
(DIPTERA) OF MALTA.**

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**ABSTRACT**

The list of species of the larger Brachycera known from Malta is updated according to current classification and nomenclature. All species, including new records, are included except for the Bombyliidae previously recorded by the present author. Here are listed 7 spp of Stratiomyidae, 1 of Vermileonidae, 1 of Rhagionidae, 3 of Tabanidae, 3 of Therevidae, 7 of Asilidae, 6 of Bombyliidae and 2 each of Scenopinidae and Acroceridae. For species recorded here for the first time, all data are given. Each Family is followed by comments on what is known about it locally.

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**INTRODUCTION**

No comprehensive list of species exists for the dipterous fauna of the Maltese Islands. Some authors have reported on species belonging to the group of their interest and Schembri et al have published some records of Diptera which include a few Brachycera (Schembri 1991). As there are several additional species and corrections, an up-to-date list of the larger Brachycera may be appropriate.

The list of species which follows includes all those known to me. Unless otherwise stated, all material examined is in my collection. Where species are not recorded for the first time, reference is made only to the first published records. The classification follows that adopted for the Brachycera in the Catalogue of Palaearctic Diptera (Soos & Papp 1984-1991).

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**SPECIES LIST**

**RHAGIONIDAE**

**Chrysopilinae**

*Chrysopilus* Macquart 1826.

*Chrysopilus aureus* (Meigen 1804).

Material examined: 1♂, Bahrija, 21.vii.1977; 1♂ and 1♀, Bahrija, 7.vii.1981; 1♂ and 1♀, Bahrija, 21.vi.1992; 1♀, Bahrija, 13.vi.1993.

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<sup>1</sup> "Tamarisk", Triq P. P. Castagna, Balzan, Malta.

Like Stratiomyidae, most species of Rhagionidae have developmental stages in a wet environment. The adults are usually swept from waterside vegetation. It is not likely therefore that many more species will be discovered in Malta, but a search in late summer on the vegetation at the streams in Bahrija, Wied il-Luq, Fiddien and Xlendi may be rewarding.

#### VERMILEONIDAE

*Vermileo* Macquart 1834.

*Vermileo vermileo* (Linnaeus 1758).

Material examined: 1♂, Balzan, 15.v.1977; 1♀, Balzan, 20.v.1977; 1♂, Guardamangia, 22.v.1992; 1♂, Guardamangia, 29.v.1992; 1♂ and 1♀, Guardamangia, 2.vi.1992.

This species was recorded for the first time in its larval stage (Zammit-Maempel 1985). Gatt (pers. comm.) reared the larva successfully on various small diptera, placing these in the pit which the larva created in a manner very similar to Antlions (Neuroptera: Myrmeleontidae). The adults often fly indoors.

#### STRATIOMYIDAE

##### Beridinae

*Chorisops* Rondani 1856.

*Chorisops tibialis* (Meigen 1820).

Material examined: 1♀, Buskett, 16.ix.1976; 1♀, Gzira, 20.x.1978, P. Gatt; 1♀, Bingemma, 30.x.1978, P. Gatt; 2♂♂ and 1♀, Wied Has-Sabtan, 25.x.1980, J.L. Schembri; 1♂ and 3 ♀♀, Pieta, 22.x.1992, P. Gatt, in Dr.P. Gatt's collection.

##### Hermetiinae

*Hermetia* Latreille 1804.

*Hermetia illucens* (Linnaeus 1758).

Lindner (1936) recorded this species from Malta but this appears to have been an isolated finding. This species, originally from South America, has become widespread in the tropics and sub-tropics.

Stratiomyinae

*Stratiomys* Geoffroy 1762.

*Stratiomys longicornis* (Scopoli 1763).

Recorded by Rozkosny (1983).

Clitellariinae

*Nemotelus* Geoffroy 1762.

*Nemotelus anchora* Loew 1846.

Recorded by Rozkosny (1983).

*Nemotelus brachystomus* Loew 1846

Material examined: 4♂♂ and 5♀♀, Marsaxlokk marsh, 26.vii.1992; 3♂♂, Marsaxlokk marsh, 24.iv.1993; 4♂♂, Marsaxlokk marsh, 9.vii.1993.

*Nemotelus nigrifrons* Loew 1846

Material examined: 4♂♂ and 5♀♀, Ghadira; 29.vi.1992; 2♂♂, Comino, 22.vi.1986, S.P. Schembri, in Dr.P. Gatt's collection.

Pachygastrinae

*Eupachygaster* Kertész 1911.

*Eupachygaster tarsalis* (Zetterstedt 1842).

Material examined: 1♀, Wied il-Qlejgha, 5.vi.1983, P.Gatt, in his collection.

Another specimen was seen at Buskett in June 1992, close to the poplar trees where it is known to breed under the bark.

*Stratiomys longicornis* is still common on the island and its larvae are frequently encountered in late winter in muddy pools after rain, and in more permanent water bodies both fresh as in reservoirs as well as brackish as at Salina and Ghadira, for the greater part of the year. On 11.iv.1976, at Salina, males of *N. anchora* were observed swarming. When the swarm was approached or swept at with a hand net it seemed to disappear. This was because the insects suddenly dropped onto the vegetation about a metre below. This behaviour is in contrast to

what one sees in most other dipterous swarms. All three *Nemotelus* species must be considered endangered on the island not only because of their very restricted saltmarsh habitats but also because of marked human interference in such places. *C. tibialis* and *E. tarsalis* are too poorly known to allow comment on their status in Malta.

#### TABANIDAE

*Atylotus* Osten-Sacken 1876.

*Atylotus loewianus* (Villeneuve 1920).

Material examined: 1 ♀, Mistra, 22.vi.1971; 1 ♀, Comino, 12.vii.1976; 1 ♀, Comino, 13.vii.1976; 1 ♂ and 1 ♀, Ghallis, 7.vii.1987; 1 ♀, Mgiebah, 29.vii.1993.

Schembri et al (1991) recorded the following five species:

*Tabanus* Linnaeus 1758.

*Tabanus autumnalis* 1761.

*Tabanus regularis* Jaennicke 1866.

*Atylotus latistriatus* (Brauer 1880), misidentification.

*Atylotus fulvus* (Meigen 1820), misidentification.

*Atylotus quadrifarius* (Loew 1874), misidentification.

I have had the opportunity to examine all the specimens of *Atylotus* upon which Schembri et al based their records. The specimens were generally in poor condition and in the light of further better preserved specimens I concluded that in fact they all belong to one species namely *A. loewianus* (Villeneuve), an opinion shared by Mr J. Chainey of the Natural History Museum in London, who had originally identified Schembri's limited material. Leclerq (1967) reviewed the distribution of this family in the Mediterranean Islands but made no reference to Malta, presumably because of lack of data. Both *T. autumnalis* and *T. regularis* are represented in Malta by their brown forms *brunescens* and *rufus* respectively which, according to Leclerq is the norm for most of the islands except Cyprus and Sicily where both forms are found. All Tabanids recorded to date were common in Malta especially *Atylotus* which is exclusively coastal and attacks humans persistently. I collected four final instar larvae of *T. autumnalis* on 6.vii.1985 from mud at the edge of the stream at Bahrija. Two survived to the

adult stage; one pupated on 9.iv.1985 and a male emerged on 3.vii.1985; the other pupated on 3.vii.1985 and a female emerged on 16.vii.1985.

## ASILIDAE

### Laphriinae

*Pogonosoma Rondani* 1856.

*Pogonosoma maroccanum* (Fabricius 1794).

Material examined: 1♀, Mistra, 19.vi.1971; 1♂, Hal-Ghaxaq, ix.1973; 1♀, Tal-Qroqq, 16.viii.1975; 1♂, Wied Qannotta, 23.vi.1977; 1♀, Kalkara, 8.vii.1993, S. Mifsud.

### Stenopogoninae

*Habropogon* Loew 1847.

*Habropogon striatus* (Fabricius 1794).

Material examined: 1♂, Bahrija, 9.vii.1976; 1♂, Wied Qannotta, 18.vi.1977; 1♀, Wied Qannotta, 23.vi.1977; 1♀, Marfa Ridge, 10.vii.1987; 2♂♂, Bahrija, 13.vi.1993.

*Stichopogon* Loew 1847.

*Stichopogon elegantulus* Wiedemann 1820.

Material examined: 1♂, Gozo, Ramla dunes, 20.ix.1983, S.P. Schembri, in the collection of Dr.P. Gatt; 1♂, Ghadira, 4.viii.1993.

### Laphystiinae

*Laphystia* Loew 1847.

*Laphystia erberi* (Schiner 1865).

Material examined: 7♀♀, Ghadira, 21.vi.1977, J.L. Schembri, in the collection of Dr.P. Gatt.

## Asilinae

*Antiphrisson* Loew 1849.

*Antiphrisson trifarius* (Loew 1849).

Material examined: 1 ♀, Wied Is-Sewda, 1.v.1974; 1 ♂, Wied Qannotta, 6.iv.1977; 2 ♂ ♂, Wied Il-Ghasel, 9.iv.1985; 1 ♂ and 2 ♀ ♀, Buskett, 1.v.1992.

*Cerdistus* Loew 1849.

*Cerdistus erythruoides* Theodor 1980.

Material examined: 1 ♂, Balzan, 25.vii.1976; 1 ♀, Buskett, 28.vii.1976; 1 ♂ and 1 ♀, Wied Qirda, 6.vii.1977; 1 ♂ and 2 ♀ ♀, Bahar Ic-Caghaq, 29.vii.1977; 1 ♀, Wied Qirda, 2.vii.1987; 1 ♂, Fiddien, 6.vii.1987; 1 ♂, Marfa Ridge, 10.vii.1987; 1 ♂, Salina, 31.v.1992; 1 ♂, Buskett, 5.vii.1992; 1 ♂, Salina, 13.vii.1992; 2 ♂ ♂ and 1 ♀, Marsaxlokk, 26.vii.1992; 1 ♂, Mgiebah, 26.v.1993.

*Tolmerus* Loew 1849.

*Tolmerus pyragra* (Zeller 1840).

Material examined: 2 ♂ ♂ and 2 ♀ ♀, Mtahleb, 20.x.1991; 3 ♂ ♂, Bahrija, 3.xi.1991.

This species was recorded by Cilia (1973) but no data were given.

*A. trifarius* and *T. pyragra* are not seen as frequently as *C. erythruoides*, which flies in summer in between the peak flight periods of the other two species. Furthermore, *erythruoides* occurs more commonly in coastal areas and on open ground where low vegetation is the commonest perch from which it hunts. *A. trifarius* and *T. pyragra* hunt from the ground frequently from paths or stones and rocks adjacent to them, but the preferred habitat seems to be Maquis. *P. maroccanum* is usually seen basking on the lower branches of carob trees (*Ceratonia siliqua* L.) from where it conducts its predaceous habits. The insect is very alert with a noisy and rapid flight but the fly frequently returns to the same spot. Nothing is known of the habits of *H. striatus*, *S. elegantulus* or *L. erberi* on Malta.

## THEREVIDAE

Schembri et al (1991) recorded the following species:

*Thereva* Latreille 1802.

*Thereva binotata* Loew 1847.

*Thereva spiloptera* Wiedemann 1824.

*Thereva tuberculata* Loew 1847.

All the Therevid species known to date appear to be quite common. *T. spiloptera* occasionally comes to light indoors and of the three species it seems to be the only one which occurs regularly in marshy habitats.

#### BOMBYLIIDAE

Schembri et al (1991) recorded *Usia forcipata* Brulle. The following are new records and should be taken in conjunction with my previous article (Ebejer, 1988) wherein I listed 21 species of Bombyliidae with full data and field observations.

#### Cyrtosiinae

*Cyrtosia* Perris 1839

*Cyrtosia meridionalis* Rondani 1863.

Rondani (1856-80), in his Prodrumus (Vol.IV page 111), described *Schembria* (= *Cyrtosia*) *meridionalis*, indicating it was common. However, it has not been seen again.

*Empidideicus* Becker 1907

*Empidideicus hungaricus* Thalhammer 1911.

Material examined: 3 ♂♂, Salina, 23.viii.1992.

#### Gerontinae

*Geron* Meigen 1820.

*Geron* sp.

Material examined: 2 ♂♂ and 1 ♀, Wied Babu, 7.vii.1979, J.L. and S.P. Schembri; in the collection of P. Gatt.

This species has the male hypopygium distinct from those already described from the Mediterranean. It is the second species of *Geron* known from Malta. Further identification is not possible until the genus in the Mediterranean is revised.

#### Bombyliinae

*Bombylius* Linnaeus 1758.

*Bombylius vulpinus* Wiedemann 1820.

Material examined: 2 ♂♂, Gozo, Dwejra, 17.iii.1984, in the collection of Dr.P. Gatt.

#### Phthiriinae

*Phthiria* Meigen 1803.

*Phthiria umbripennis* Loew 1846.

Material examined: 7 ♀♀, Gozo, Ramla dunes, 4.vii.1992.

These were collected when it was almost dark. They were still active, feeding in the large white flowers of *Pancratium maritimum* Linnaeus.

#### Anthracinae

*Exhyalanthrax* Becker 1916.

*Exhyalanthrax vagans* (Loew 1862).

Material examined: 9 ♀♀, Marfa Ridge, 11.vii.1987; 1 ♀, Marfa Ridge, 12.vii.1992.

#### SCENOPINIDAE

*Scenopinus* Latreille 1802.

*Scenopinus albicinctus* (Rossi 1794).

Material examined: 1 ♂, 10.vii.1987, Marfa Ridge; 1 ♀, Guardamangia, 4.vi.1992; 1 ♀ Balzan, 30.vi.1992; 1 ♀, Marsaxlokk, 27.ix.1992; 1 ♀ Balzan, 7.viii.1993.

*Scenopinus glabrifrons* Meigen 1824.

Material examined: 1 ♀, Balzan, 31.v.1977; 1 ♀, Malta, 1977; 1 ♀, Marsa, 14.ix.1989, S. Mifsud; 1 ♀, Balzan, 2.viii.1983.



*S. glabrifrons* is cosmopolitan. Most Scenopinidae are found in arid habitats, often associated with birds' nests and some are parasites of beetle larvae (Dermestidae). It would not be surprising if more species were found on Malta.

#### ACROCERIDAE

*Ogcodes* Latreille 1796.

*Ogcodes schembrii* Chvala 1980.

This species was described from material collected in Malta.

*Ogcodes* sp.

Material examined: 1 ♀, Victoria, Gozo, 4.vii.1992.

I was unable to determine this species using the key by Chvala (1980) and direct comparison with nearly all known European species including a series of *O. schembrii* proved equally unsuccessful. It may represent a further new species.

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#### DISCUSSION

The Rhagionidae, Stratiomyidae (the majority) and Tabanidae are largely dependent on aquatic or semi-aquatic habitats during their early stages of development whereas the Vermilionidae, Asilidae, Therevidae, Bombyliidae, Scenopinidae and Acroceridae are either adapted to a drier environment or pass their immature stages as parasites of other arthropods. It comes as no surprise therefore that species in the first three families are few and scarce while the remainder are comparatively much better represented and when encountered are seen in greater numbers.

The islands are small and relatively arid, aquatic habitats are very limited and frequently disturbed by man. In summer, reliable freshwater is very scarce though it can be found as small streams flowing at Bahrija and Xlendi, Gozo. Until a few years ago a stream flowed relatively undisturbed at Wied Il-Luq. At Gnejna, San Martin, Fiddien and Wied il-Qlejgha, water lasts well into the summer but the valleys are usually dry beyond June. The recent bird conservation projects at Ghadira have increased the presence of surface water which now lasts throughout the year but the natural cycle of the marsh has been largely disrupted. The effects that this may have had on this group of Diptera may never be known since no studies were undertaken before the projects began. Ghadira and the saltmarshes at Salina and Marsascalea are very small but appear to offer the final foothold for our three *Nemotelus* species. A cursory look at the above records shows an obvious discrepancy between the numbers of

Bombyliidae (27 species) and the numbers of Asilidae (7 species). Both families are the most numerous of the larger Brachycera in the Mediterranean and both are well adapted to dry habitats. One would have expected at least double this number of Asilidae to occur on Malta. Reasons for this discrepancy are unclear.

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