

The Kateretidae and Nitidulidae of the Maltese Archipelago (Coleoptera)

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ABSTRACT. In the present work, a total of 3 Kateretidae and 26 Nitidulidae are recorded from the Maltese Islands. Of these, 14 Nitidulidae (*Eपुरaea luteola*, *Eपुरaea ocularis*, *Carpophilus bifenestratus*, *Carpophilus marginellus*, *Carpophilus quadrisignatus*, *Carpophilus dimidiatus*, *Carpophilus nepos*, *Urophorus humeralis*, *Urophorus rubripennis*, *Nitidula carnaria*, *Omosita discoidea*, *Meligethes rotundicollis*, *Meligethes ruficornis*, *Cybocephalus rufifrons rufifrons*) and 1 Kateretidae (*Brachypterus curtulus*) represents new records for the Maltese Islands. Of these both autochthonous and accidentally introduced but established species are present. The earlier citation of *Cybocephalus politus* may be due to a misidentification. Three further new records of Nitidulidae, *Carpophilus opacus*, *Brachypeplus deyrollei* and *Brachypeplus rubidus* were collected alive on logs originating from Tropical Africa and intended for the timber industry. So far, there were no local records of establishment of any of these three species. All species were assigned to four faunistic groups. These include introduced but non-established species, cosmopolitan species, species with confined distributions and species with small distribution ranges. The complete absence of other species whose host-plants are locally available and which have typical Mediterranean distribution was highlighted. From a zoogeographical perspective the species assemblages of Kateretidae and Nitidulidae of Malta show strong affinities with those present in Italy.

KEY WORDS. Malta, Coleoptera, Kateretidae, Nitidulidae, new records.

INTRODUCTION

The Kateretidae and Nitidulidae are two relatively small families of beetles, with around 100 and 3,700 described species respectively. Kateretids are particularly abundant in warm temperate zones of the world (circum-Mediterranean areas, SW North America, western South America, and Australia) while nitidulids show high species richness especially in tropical, subtropical, and warm temperate regions.

The Kateretidae are characterized by 11-jointed antennae with slender, loose, and mostly three-segmented clubs, tarsal formula 5-5-5, six pairs of abdominal spiracles, maxillary galea strongly developed, larval mandibular protheca absent, and larval urogomphi absent. All species are phytophagous, mainly being anthophagous or spermophagous, and usually associated with open habitats (meadows, steppic and parasteppic environments, rocky places, edges of bushy areas). Most of the Nitidulidae, excluding the subfamily Cybocephalinae, are characterized by usually

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distinctly 11-jointed antennae with compact, mostly three-segmented club, tarsal formula 5-5-5, six pairs of abdominal spiracles, maxillary galea absent, larval mandibular protheca usually present. Most species are saprophagous (which is apparently the ancestral way of life), associated with rotting organic matter in forest habitats, others are associated with fresh fungi, but certain subfamilies (e.g. Meligethinae, Mystropinae) are strictly anthrophagous, and a few species show peculiar adaptations, being zoosaprophagous, phyllophagous, or myrmecophilous. On the other hand, the Cybocephalinae are very small, sphaeroidal beetles characterized by 11-jointed antennae with compact, three-segmented club, tarsal formula 4-4-4, five pairs of abdominal spiracles, maxillary galea absent, larval mandibular protheca absent, and larval urogomphi absent. Probably all species are (at both larval and adult stages) somewhat specialized predators of scale insects (Hemiptera: Coccoidea, mainly Diaspididae), especially in thermophilous bushy areas.

The two families belong to the superfamily Cucujoidea and are closely related to each other (AUDISIO, 1993; LAWRENCE & NEWTON, 1995). There is a certain debate about the taxonomic status of the Cybocephalinae, which is considered by most authors as a specialized subfamily within the Nitidulidae (KIREJTSHUK, 1992; LAWRENCE & NEWTON, 1995; JELÍNEK & AUDISIO, 2007), despite showing important diagnostic characters suggesting a family rank for this group (AUDISIO, 1993). Waiting for more decisive (e.g. molecular) proofs about higher phylogenetic relationships of this specialized group, we use here the most recent position provisionally accepted in JELÍNEK & AUDISIO (2007).

To our knowledge, the only references in which records of Kateretidae and Nitidulidae are included from the Maltese Islands are to be found in the following publications. In a list of Coleoptera of the Maltese Islands (CAMERON & CARUANA GATTO, 1907) eleven names were included under the family heading "Nitidulidae". Of these, eight (of which one was not identified to species level) belong to the family Nitidulidae, two to Kateretidae and one, "*Rhizophagus bipustulatus* F." belongs to the family Monotomidae. In the same work, two names were included under the family heading "Clambidae" of which one species, "*Cybocephalus politus* Germ." belongs to the subfamily Cybocephalidae within the Nitidulidae. LUIGIONI (1929), in his work on the Italian Coleoptera, merely repeated these records. ANDRES (1916) published a list of Lepidoptera, Hemiptera and Coleoptera which he collected from these islands during a period of almost two years that he spent in Malta as a prisoner of war. In this list he included a record of "*Brachypterus glaber* Newm.". CILIA (1989), basing himself on published information, included two taxa in the Red Data Book for the Maltese Islands. These were *Brachypterus* n. sp., which was recorded by CAMERON & CARUANA GATTO (1907) on the basis of a single specimen and *Pria dulcamarae* (Scopoli, 1763). Most likely, the latter was included in the Red Data Book for the simple reason that CAMERON & CARUANA GATTO (1907) indicated the status of this species in Malta as "not common". AUDISIO (1993) included five taxa for which specific mention of the Maltese Islands was included. Of these, one, *Meligethes lindbergi* Rebmann, 1940 was a new record for Malta.

The present work was undertaken so as to provide a detailed account of the species of Kateretidae and Nitidulidae, which occur in the Maltese archipelago. This work forms part of a much larger project, which the first author is coordinating, so as to update the faunistic knowledge of the coleopteran fauna of the Republic of Malta. Such work is taking into account recently collected material but also when available, historical specimens housed in foreign institutions. In part, this historical material formed the basis of the coleoptera list published by Cameron and Caruana Gatto in 1907. Often, the study of this material is crucial for the correct

species identification and interpretation of questionable earlier records. Some beetle families occurring in Malta which were reviewed as outlined above include: Aderidae (NARDI & MIFSUD, 2000); Anthicidae (NARDI & MIFSUD, 2003); Buprestidae (MIFSUD & BILÝ, 2002); Cantharidae and Malachidae (ŠVIHLA & MIFSUD, 2006); Cerambycidae (MIFSUD, 2002); Cleridae (MIFSUD, 1997); Cryptophagidae (OTERO *et al.*, 2001); Dermestidae (HÁVA & MIFSUD, 2006); Heteroceridae (MIFSUD & MASCAGNI, 1997); Hydraenidae (MIFSUD *et al.*, 2004); Languriidae (MIFSUD, 2000); Ptinidae (BELLÉS & MIFSUD, 2000); Silvanidae and Laemophloeidae (HALSTEAD & MIFSUD, 2003); Tenebrionidae (MIFSUD & SCUPOLA, 1998) and the Zopheridae (SCHUH & MIFSUD, 2000).

MATERIAL AND METHODS

Depositories for material examined include the following institutions and private collections:

BMNH – The Natural History Museum, London, UK;

CMM – private collection, D. Mifsud, Malta;

CAI – private collection, P. Audisio, Italy.

Material of Kateretidae and Nitidulidae was collected from the Maltese Islands between 1989 and 2008. Most of the material was collected from Malta, but additional material was also collected from the nearby island of Gozo. Material was collected by general sweeping, from under bark of trees and in other refugia, leaf litter samples (examined with the Berlese method), and direct examination of rotting vegetation or decaying fruit. Particular attention was devoted to detailed examination of known host plants of species belonging to the genera *Meligethes*, *Meligethinus* and *Xenostrogylus* (Nitidulidae), and *Brachypterolus* (Kateretidae) which are known to have a Mediterranean distribution and whose host plants are known to occur in the Maltese Islands.

Two main collections of historical material of Kateretidae and Nitidulidae were available for study during the present work. One collection was that of Malcolm Cameron which he himself collected either alone or in collaboration with the Maltese naturalist Alfredo Caruana Gatto. Material from this collection is conserved in the BMNH and labeled as “Cameron Coll. B.M. 1936-555”. In part, material from this collection included individual label numbers which correspond to numbers in Cameron’s private notes and refer to the following information (partially or fully): date of collection, name of the species, name of person who identified this species, locality name and ecological data. In the present work, this information is added in square brackets after the label number. The other collection includes material collected from the Maltese Islands by Commander James John Walker and which is also conserved in the BMNH. This material was collected from the Maltese Islands between 1874-76 almost exclusively between the months of October and March and is labeled as “G.C. Champion Coll. B.M. 1927-409”. Except for the name Malta, there is no other data accompanying this material. Both mentioned collections were available when the 1907 coleoptera list of Cameron and Caruana Gatto was published.

Chorological categories follow VIGNA TAGLIANTI *et al.* (1993, 1999).

The classification and sequence of species follows that of the recently published Palaearctic Catalogue (JELÍNEK, 2007; JELÍNEK & AUDISIO, 2007), differing slightly from those followed in ANGELINI *et al.* (1995).

For each species, earlier cited references (except for works which repeat earlier citations e.g.

LUIGIONI, 1929 and CILIA, 1989), material examined, global distribution, chorological categories and notes with ecological data are included.

CHECKLIST OF MALTESE SPECIES

KATERETIDAE

Brachypterus curtulus Wollaston, 1864

Brachypterus glaber (Newman, 1834)

Kateretes rufilabris (Latreille, 1807)

NITIDULIDAE

Subfamily Epuraeinae

Epuraea (Haptoncus) luteola Erichson, 1843

Epuraea (Haptoncus) ocellaris Fairmaire, 1849

Subfamily Carpophilinae

Carpophilus (Carpophilus) bifeneustratus Murray, 1864

Carpophilus (Carpophilus) hemipterus (Linnaeus, 1758)

Carpophilus (Carpophilus) marginellus Motschulsky, 1858

Carpophilus (Carpophilus) obsoletus Erichson, 1843

Carpophilus (Carpophilus) opacus Grouvelle, 1909

Carpophilus (Carpophilus) quadrisignatus Erichson, 1843

Carpophilus (Myothorax) dimidiatus (Fabricius, 1792)

Carpophilus (Myothorax) mutilatus Erichson, 1843

Carpophilus (Myothorax) nepos Murray, 1864

Urophorus (Anophorus) humeralis (Fabricius, 1798)

Urophorus (Urophorus) rubripennis (Heer, 1841)

Subfamily Nitidulinae

Nitidula carnaria (Schaller, 1783)

Nitidula flavomaculata Rossi, 1790

Omosita discoidea (Fabricius, 1775)

Subfamily Cillaeinae

Brachypeplus deyrollei Murray, 1864

Brachypeplus rubidus Murray, 1859

Subfamily Meligethinae

Meligethes lindbergi Rebmann, 1940

Meligethes nigrescens Stephens, 1830

Meligethes rotundicollis C. Brisout de Barneville, 1863

Meligethes ruficornis (Marsham, 1802)

Meligethes submetallicus Sainte-Claire Deville, 1908

Pria dulcamarae (Scopoli, 1763)

Subfamily Cybocephalinae

Cybocephalus politus (Gyllenhal, 1813)

Cybocephalus ruffrons ruffrons Reitter, 1874

ANNOTATED FAUNISTIC LIST

FAMILY KATERETIDAE

Brachypterus curtulus Wollaston, 1864

(?) “*Brachypterus* ? n. sp.”; CAMERON & CARUANA GATTO, 1907: 395.

Material examined: MALTA: Marsa, Ghammieri, 4.i.1994, 2 exs., on *Urtica pilulifera* L., leg. D. Mifsud (CMM), same locality and host plant but 15.xi.1995, 1 ex., leg. C. Farrugia (CMM), same locality and host plant but 28.iii.2003, 14 exs., leg. D. Mifsud (CAI, CMM), same locality and host plant, but 11.iv.2003, 3 exs. (CMM), same locality and host plant but 1.iv.2004, 6 exs., leg. P. Audisio & D. Mifsud (CAI); Żejtun, 30.xi.1997, 1 ex., leg. D. Mifsud (CMM).

Distribution: Canary Islands, Morocco, Algeria, central-northern Tunisia, Spain, central-southern Portugal, Balearic Islands, southern Italy (including Sardinia and Sicily) and Malta (Fig. 1).

Chorological category: West Mediterranean.

Notes: *Brachypterus curtulus* represents a new record for the Maltese Islands. Most likely, the record of CAMERON & CARUANA GATTO (1907) of “*Brachypterus* ? n. sp.” is to be attributed to this taxon. Throughout its distribution range, *B. curtulus* represents a rare and localized species, which is strictly associated with *Urtica* spp. (Urticaceae). In southern Italy, larval development takes place mainly in the male inflorescence of *Urtica membranacea* Poirlet (AUDISIO, 1993), however in the Maltese Islands the species was always found on *Urtica pilulifera* L.

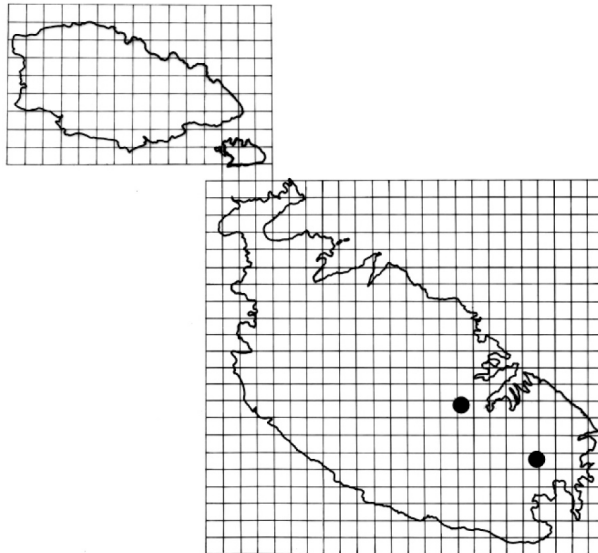


Figure 1 – Distribution of *Brachypterus curtulus* in the Maltese Islands.

***Brachypterus glaber* (Newman, 1834)**

“*Brachypterus glaber* Newm.”; CAMERON & CARUANA GATTO, 1907: 395.

Material examined: MALTA: 23 exs., G.C. Champion Coll. B.M. 1927-409 (BMNH, CMM); 5 exs., Cameron Coll. B.M. 1936-555 (BMNH, CMM); Buskett, 31.iii.2004, 5 exs., leg. P. Audisio & D. Mifsud (CMM); Marsa, Ghammieri, 28.iii.2003, 10 exs., on *Urtica pilulifera* L., leg. D. Mifsud (CMM); same data but 11.iv.2003, 22 exs. (CMM); Mdina, 2.iv.2004, 1 ex., leg. P. Audisio & D. Mifsud (CMM); Mistra, 4.ii.1996, 1 ex., leg. D. Mifsud (CMM); Mtahleb, Ta’ Baldu, 3.iv.2004, 1 ex., leg. P. Audisio & D. Mifsud (CAI); Qrendi, Maqluba, 1.iv.2004, 1 ex., leg. P. Audisio & D. Mifsud (CMM); Wied Qirda, 28.i.1996, 1 ex., leg. D. Mifsud (CMM); Zejtun, 10.v.1989, 2 exs., leg. D. Mifsud (CMM); Valletta, 4.iv.2004, 1 ex., leg. P. Audisio & D. Mifsud (CMM).

Distribution: Tunisia, Algeria, central-northern Morocco, Azores and almost throughout Europe, from the Iberian Peninsula up to southern Norway, Sweden, Finland and the United Kingdom, eastern up to European Russia and south-eastern up to south-western Turkey.

Chorological category: West Palaearctic.

Notes: This species was previously recorded from the Maltese Islands by CAMERON & CARUANA GATTO (1907). They indicated the abundance of this species as common during the month of May. *Brachypterus glaber* is a common species throughout its distributional range but is more common in the western Mediterranean basin. In the Mediterranean Region, larval development takes place exclusively in the male inflorescence of *Urtica* spp. (Urticaceae), especially *U. urens* L. and *U. pilulifera* (AUDISIO, 1993). In part, the above-cited material from Malta (Ghammieri in Marsa) was found in association with the male inflorescence of *U. pilulifera*.

***Kateretes rufilabris* (Latreille, 1807)**

“*Cercus rufilabris* Latr.”; CAMERON & CARUANA GATTO, 1907: 395.
Kateretes rufilabris (Latreille); AUDISIO, 1993: 810.

Material examined: MALTA: 3 exs., Cameron Coll. B.M. 1936-555, 8088 [= May 1903, *Cercus rufilabris*, Ta’ Baldu, MC] (BMNH, CMM); Salina, 16.iv.1977, 1 ex., leg. J. L. Schembri (CAI).

Distribution: Tunisia, Algeria, Malta (Fig. 2), northern Morocco and throughout most of Europe; from the Iberian Peninsula to Ukraine, northern up to the United Kingdom, Denmark and southern Sweden and south-easterly up to European Turkey.

Chorological category: European-Mediterranean.

Notes: This species was previously recorded by CAMERON & CARUANA GATTO (1907) from Ta’ Baldu during the month of May and the abundance of this species was indicated as ‘common’. AUDISIO (1993) recorded again the occurrence of this taxon in Malta. Throughout its distribution range, *K. rufilabris* is not a very common species and it is somewhat more frequently found in the western Mediterranean basin (AUDISIO, 1993). Larval development takes place in the inflorescence of *Juncus* spp. (Juncaceae).

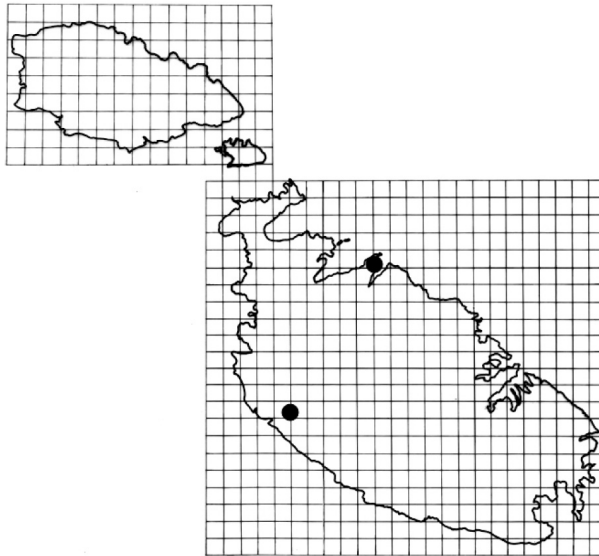


Figure 2 – Distribution of *Kateretes rufilabris* in the Maltese Islands.

FAMILY NITIDULIDAE

Subfamily Epuraeinae

Epuraea (Haptoncus) luteola Erichson, 1843

Material examined: MALTA: Selmun, 30.iii.1996, 1 ex., leg. D. Mifsud (CMM); Siggiewi, 5.x.2001, 2 exs., leg. D. Mifsud (CMM); Wied Babu, 30.xi.1995, 3 exs. (in leaf litter under *Ceratonia siliqua* L.), leg. D. Mifsud (CMM); Wied Qirda, 27.iii.1997, 1 ex., leg. D. Mifsud (CMM); Żejtun, 11.xi.1990, 2 exs., leg. D. Mifsud (CMM). GOZO: Xaghra, 22.xi.2002, 6 exs. (in rotting fruits), leg. D. Mifsud (CMM).

Distribution: Sub-cosmopolitan species in distribution. This species is of tropical origin but it was introduced and established throughout the intertropical and temperate regions of the world.

Chorological category: Sub-cosmopolitan.

Notes: *Epuraea luteola* represents a new record for the Maltese Islands. It is extremely common throughout its distribution range. This species was established in the Mediterranean Region in the 1970s (AUDISIO, 1993). It is associated with decaying organic matter especially rotting tropical fruit with high sugar content, where larval development takes place.

Epuraea (Haptoncus) ocularis Fairmaire, 1849

Material examined: MALTA: near Buskett, 9.x.2006, 2 exs., leg. D. Mifsud (CMM).

Distribution: Sub-cosmopolitan species of pan-tropical origin, phyto-saprophagous and carpophagous. This species was introduced in Southern Europe probably in the late 1990s, first mentioned from Europe and northern Italy only at the beginning of the present century (AUDISIO, 2002; BUSATO, 2002; RATTI, 2007), and now common and widespread almost everywhere in central and southern Europe, at low altitudes, both in anthropogenic and natural forest habitats.

Chorological category: Sub-cosmopolitan.

Notes: *Epuraea luteola* represents a new record for the Maltese Islands. The two specimens collected above were found in mature grapes intended for the wine industry.

Subfamily Carpophilinae

Carpophilus (Carpophilus) bifenestratus Murray, 1864

Material examined: MALTA: Qormi, Hal-Farrug, 26.ii.2003, 19 exs. (under bark of dead *Ceratonia siliqua* L.), leg. D. Mifsud (CMM).

Distribution: Widespread in the intertropical and temperate regions of Africa, Madagascar and South Africa, and probably the species is of Ethiopian origin. It is widely distributed in the Mediterranean basin and in most of the Macaronesian area (Egypt, Algeria, Tunisia, northern Morocco, Canary Islands, Madeira, southern and eastern Spain, Balearic Islands, southern France including Corsica, Italy including Sardinia and Sicily, Malta, ex-Yugoslavia, Greece, western and southern Turkey, Syria, Palestine and Cyprus).

Chorological category: Afrotropical (subsequently sub-cosmopolitan).

Notes: *Carpophilus bifenestratus* (= *C. tersus* Wollaston, 1865) represents a new record for the Maltese Islands. The species is not commonly found throughout its distribution range. The species is mainly associated with under bark habitats where the species is either mycetophagous or phyto-saprophagous. It is also found associated with decomposing fruits and under rotting cladodes of *Opuntia ficus-indica* (L.) Miller.

Carpophilus (Carpophilus) hemipterus (Linnaeus, 1758)

“*Carpophilus hemipterus* L.”; CAMERON & CARUANA GATTO, 1907: 395.

Material examined: MALTA: 6 exs., Cameron Coll. B.M. 1936-555, 7477 [= 17 June 1902, *Carpophilus hemipterus*, Bosketto (Buskett)] (BMNH, CMM); Qormi, Hal-Farrug, 26.ii.2003, 2 exs. (under bark of dead *Ceratonia siliqua* L.), leg. D. Mifsud (CMM); Żejtun, 30.viii.1989, 4 exs. (in decaying grapes), leg. D. Mifsud (CMM), same data but 16.xii.1989, 1 ex. (CMM).

Distribution: Sub-cosmopolitan species in distribution. Probably the species is of Indo-Pakistan

origin but it was introduced and established throughout the intertropical and temperate regions of the world.

Chorological category: Sub-cosmopolitan.

Notes: *Carpophilus hemipterus* was recorded for the Maltese Islands by CAMERON & CARUANA GATTO (1907) and the abundance of this species was indicated as ‘common throughout the year’. The species is very common throughout its distribution range being relatively abundant in coastal regions. The species is mainly associated with decaying fruits where larval development takes place. It is often a serious pest of dried fruit but it can also provoke primary attack on mature fruit still hanging on trees, transmitting fungal and bacterial infections (HINTON, 1945; WILLIAMS *et al.*, 1983).

Carpophilus (Carpophilus) marginellus Motschulsky, 1858

Material examined: MALTA: Żebbuġ, 3.v.1978, 1 ex., leg. A. Leo (CAI).

Distribution: Sub-cosmopolitan species in distribution. Probably the species is of Southwestern Asian origin but it was introduced and established throughout the intertropical and temperate regions of the world.

Chorological category: Sub-cosmopolitan.

Notes: *Carpophilus marginellus* represents a new record for the Maltese Islands. The species is relatively frequent throughout its distribution range being sporadic in Sardinia and Corsica possibly due to a relatively recent introduction (AUDISIO, 1993). The species is mainly associated with decaying fruits where larval development takes place.

Carpophilus (Carpophilus) obsoletus Erichson, 1843

“*Carpophilus immaculatus* Luc.”; CAMERON & CARUANA GATTO, 1907: 395.
Carpophilus obsoletus Erichson; AUDISIO, 1993: 254.

Material examined: MALTA: Buskett, 12.ii.2000, 1 ex., leg. D. Mifsud (CMM); Fiddien, 19.v.2003, 1 ex., leg. D. Mifsud (CMM); Qormi, Hal-Farruġ, 5.i.2003, 9 exs. (under bark of dead *Ceratonia siliqua* L.), leg. D. Mifsud (CMM), same data but 26.ii.2003, 15 exs.; Siġġiewi, 29.xii.2003, 2 ex. (at base of beehive boxes), leg. D. Mifsud (CMM); Żejtun, 12.viii.1989, 1 ex., leg. D. Mifsud (CMM).

Distribution: Sub-cosmopolitan in distribution. Probably the species is of Asiatic origin but it was introduced and established throughout the intertropical and temperate regions of the world.

Chorological category: Sub-cosmopolitan.

Notes: This species was recorded from the Maltese Islands by CAMERON & CARUANA GATTO (1907) on the basis of material collected from Buskett during the month of June. AUDISIO (1993) recorded the presence of this species also from Malta and indicated its abundance as relatively common in Sicily, Malta, Sardinia and southern Corsica. The species is mainly associated with decaying fruits where larval development takes place; it is also often found under decaying cladodes of

Opuntia ficus-indica (L.) Miller.

***Carpophilus (Carpophilus) opacus* Grouvelle, 1909**

Material examined: MALTA: Żebbuġ, 3.v.1994, 1 ex., leg. D. Mifsud (CMM).

Distribution: Tropical Africa.

Chorological category: Afrotropical.

Notes: *Carpophilus opacus* represents a new record for the Maltese Islands. A single live specimen was found under bark of tree logs originating from Central Africa and intended for use in the timber industry. There are no records (JELÍNEK & AUDISIO, 2007) of stable establishment of this species outside its native range, where it is usually associated with decaying organic material of vegetable origin.

***Carpophilus (Carpophilus) quadrisignatus* Erichson, 1843**

Material examined: MALTA: Siġġiewi, 29.xii.2003, 1 ex. (at base of beehive box), leg. D. Mifsud (CMM); Żebbuġ, 3.v.1978, 1 ex., leg. A. Leo (CAI).

Distribution: Throughout the Mediterranean basin with dispersal in a number of European localities and diffusing easterly up to Ukraine, Caucasus and northern Iran and southeasterly up to the Arabian Peninsula. Probably only introduced and established in a number of Afrotropical and South African regions and western Asia.

Chorological category: Probably Mediterranean or Afrotropical-Mediterranean; subsequently sub-cosmopolitan.

Notes: *Carpophilus quadrisignatus* represents a new record for the Maltese Islands. This species is relatively common throughout its distribution range but more sporadic in central Europe. The species is mainly associated with decaying and dried fruits where larval development takes place.

***Carpophilus (Myothorax) dimidiatus* (Fabricius, 1792)**

Material examined: MALTA: Marsaskala, 5.v.1998, 1 ex., leg. D. Mifsud (CMM); Siġġiewi, 29.xii.2003, 1 ex. (at base of beehive box), leg. D. Mifsud (CMM); Żejtun, 2.ix.1989, 1 ex., leg. D. Mifsud (CMM), same data but 5.x.1989, 1 ex., same data but 2.iii.1991, 1 ex., same data but 13.iv.2002, 1 ex. (in leaf litter under *Ceratonia siliqua* L.), (CMM).

Distribution: Sub-cosmopolitan in distribution. Probably the species is of Caribbean or Neotropical origin but it was introduced and established throughout the intertropical and temperate regions of the world.

Chorological category: Sub-cosmopolitan.

Notes: *Carpophilus dimidiatus* represents a new record for the Maltese Islands. The species is extremely common in the tropical regions and somewhat sporadic elsewhere. The species is

mainly associated with decaying fruits where larval development takes place. This species is particularly damaging to dried stored food products (particularly hazelnut in Italy) in warehouses and granaries (AUDISIO, 1993).

***Carpophilus (Myothorax) mutilatus* Erichson, 1843**

“*Carpophilus mutilatus* Er.”; CAMERON & CARUANA GATTO, 1907: 395.
Carpophilus mutilatus Erichson; AUDISIO, 1993: 246.

Material examined: MALTA: 2 exs., Cameron Coll. B.M. 1936-555 (BMNH); 4 exs., Cameron Coll. B.M. 1936-555, 5381 [= 14 August 1901, *Carpophilus mutilatus*, identified by Mr. Caruana Gatto] (BMNH, CMM); Bahrija Valley, 25.viii.1989, 1 ex., leg. D. Mifsud (CMM); Qormi, Hal-Farrug, 26.ii.2003, 2 exs. (under bark of dead *Ceratonia siliqua* L.), leg. D. Mifsud (CMM); Rabat, Tal-Virtu, 16.xi.1996, 3 exs. (in *Laetiporus sulphureus* (Bull.: Fr.) Murrill, on *Ceratonia siliqua* L.), leg. D. Mifsud (CMM); Siġġiewi, 29.xii.2003, 5 exs. (at base of beehive box), leg. D. Mifsud (CMM); Wied Babu, 12.xi.1995, 1 ex., leg. D. Mifsud (CMM); Żejtun, 7.v.1989, 1 ex., leg. D. Mifsud (CMM), same data but 24.vii.1989, 1 ex., same data but 11.viii.1989, 1 ex., same data but 30.viii.1989, 21 exs., same data but 21.ix.1989. GOZO: Xaghra, 22.xi.2002, 1 ex. (in rotting fruits), leg. D. Mifsud (CMM).

Distribution: Sub-cosmopolitan in distribution. Probably the species is of Caribbean origin but it was introduced and established throughout the intertropical and temperate regions of the world.

Chorological category: Sub-cosmopolitan.

Notes: This species was recorded from the Maltese Islands by CAMERON & CARUANA GATTO (1907) and its abundance was indicated as ‘common throughout the year’. AUDISIO (1993) recorded this taxon as abundant in Sicily, Malta, Sardinia and Corsica, and on many small islands of the Thyrennic coasts. The species is mainly associated with decaying fruits where larval development takes place. This species is of great agricultural importance due to the fact that it can induce primary attack on mature fruit still hanging on trees. The species is known to cause considerable damage to the fruiticulture industry in central and southern Italy, especially on cultivations of pomegranates, figs and peach (NUZZACI, 1968; TREMBLAY *et al.*, 1984).

***Carpophilus (Myothorax) nepos* Murray, 1864**

Material examined: MALTA: Żejtun, 30.viii.1989, 3 exs. (in decaying grapes), leg. D. Mifsud (CMM), same locality but 4.xii.1989, 1 ex. (CMM).

Distribution: Sub-cosmopolitan in distribution. Probably the species is of Neotropical origin but it was introduced and established throughout the intertropical and temperate regions of the world.

Chorological category: Sub-cosmopolitan.

Notes: *Carpophilus nepos* (= *C. freemani* Dobson, 1956) represents a new record for the Maltese Islands. It is a very common species throughout its distribution range. The species is mainly associated with decaying fruits where larval development takes place. Contrary to *C. mutilatus*, at least in the Mediterranean Region, this species does not seem to cause strong primary damage to fruit as it often attacks ripe fruit already fallen on the ground (AUDISIO, 1993).

Urophorus (Anophorus) humeralis (Fabricius, 1798)

Material examined: MALTA: Siggiewi, 5.x.2001, 2 exs., leg. D. Mifsud (CMM), same data but 29.xii.2003, 8 exs. (at base of beehive box) (CMM); Wied Qirda, 27.xii.1997, 5 exs., leg. D. Mifsud (CMM); Żejtun, 25.v.-30.viii.1989, 7 exs. (in decaying grapes and vegetables), leg. D. Mifsud (CMM). GOZO: Ghasri, 11.vii.1993, 1 ex., leg. C. Farrugia (CMM); Xaghra, 22.xi.2002, 14 exs. (in decaying fruits), leg. D. Mifsud (CMM).

Distribution: Sub-cosmopolitan species in distribution. Probably the species is of paleotropical origin but it was introduced and established throughout the intertropical and temperate regions of the world.

Chorological category: Sub-cosmopolitan.

Notes: *Urophorus humeralis* represents a new record for the Maltese Islands. It is a relatively common species throughout its distribution range; sporadic and possibly of recent introduction in Sardinia and Corsica (AUDISIO, 1993). This species is associated with decaying vegetable refuse and rotting fruit where larval development takes place.

Urophorus (Urophorus) rubripennis (Heer, 1841)

(Fig. 3)

Material examined: MALTA: Miġra Ferha, 10.i.2004, 1 ex., leg. D. Mifsud (CMM), same locality but 31.iii.2004, 2 exs. (at base of decaying leaves of *Ferula communis* L.), leg. P. Audisio & D. Mifsud (CAI, CMM); Mtahleb, near Ta' Baldu, 3.iv.2004, 1 ex., leg. P. Audisio & D. Mifsud (CMM).



Figure 3 – Habitus of *Urophorus rubripennis*.

Distribution: Southwestern Switzerland, central-southern France (including Corsica), southern Spain, Italy (including Sardinia and Sicily), Malta (Fig. 4), ex-Yugoslavia, Albania, Greece, Bulgaria, Romania, Hungary, south-eastern Austria, southern Slovak Republic, Ukraine and Armenia.

Chorological category: South-European.

Notes: *Urophorus rubripennis* represents a new record for the Maltese Islands. The species is relatively rare throughout its distribution range, being more frequent in the southern areas. In natural habitats this species is strictly associated with the rotting basal portions of stems and leaves of large umbellifers, particularly *Ferula* spp. where larval development takes place. In 1988 this species caused severe losses in cultivated carrot plantations in Abruzzo, Italy (AUDISIO *et al.*, 1989).

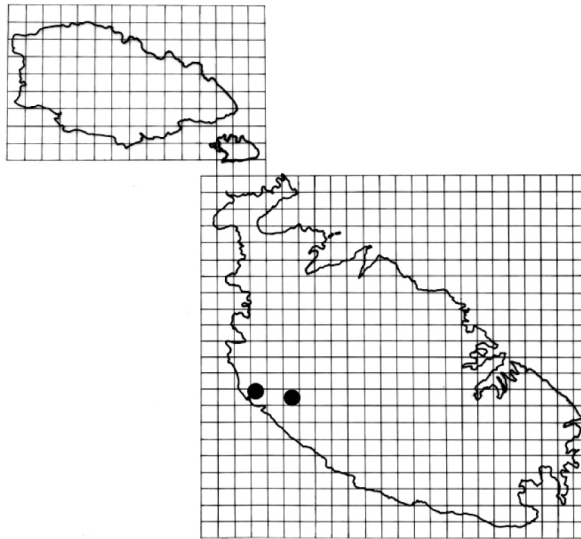


Figure 4 – Distribution of *Urophorus rubripennis* in the Maltese Islands.

Subfamily Nitidulinae

Nitidula carnaria (Schaller, 1783)

Material examined: MALTA: Chadwick Lakes, 19.v.1990, 1 ex., leg. D. Mifsud (CMM); Żejtun, 22.v.1989, 2 exs., leg. D. Mifsud (CMM), same data but 23.vi.1989, 1 ex. (CMM). GOZO: Dwejra, 25.iv.2003, 1 ex., leg. D. Mifsud (CMM).

Distribution: Throughout the Palearctic Region and probably introduced in the United States and Canada.

Chorological category: Holarctic.

Notes: *Nitidula carnaria* represents a new record for the Maltese Islands. It is a very common species almost throughout its distributional range, being more common in the Mediterranean

basin and rare in northern Europe (AUDISIO, 1993). The species is mainly associated with decaying vertebrates where larval development takes place on semi-dried and partially exposed bones.

***Nitidula flavomaculata* Rossi, 1790**

“*Nitidula flavomaculata* Rossi”; CAMERON & CARUANA GATTO, 1907: 395.

Material examined: MALTA: 1 ex., G.C. Champion Coll. B.M. 1927-409 (BMNH); Siggiewi, Wied il-Hesri, 23.x.1993, 15 exs. (on dog in an advanced stage of decay), leg. D. Mifsud (CMM).

Distribution: Throughout the Mediterranean basin, central-southern Europe (northern limits include France, Belgium and Germany) extending to eastern Turkey and southeasterly up to the Persian Gulf. Introduced in North America and Macaronesia.

Chorological category: Turanic-Mediterranean.

Notes: *Nitidula flavomaculata* was recorded by CAMERON & CARUANA GATTO (1907) from Marsa (Malta), on the basis of a single specimen collected during the month of October. The species is rare in central Europe but very common throughout the Mediterranean basin. The species is mainly associated with decaying vertebrates where larval development takes place on semi-dried and exposed bones.

***Omosita discoidea* (Fabricius, 1775)**

Material examined: MALTA: Marsa, Ghammieri, 29.i.1997, 1 ex., leg. D. Mifsud (CMM).

Distribution: Madeira, Canary Islands, southern Europe up to Japan, extending in northern Europe up to Sweden and southern Norway, southwards up to southern Spain, Balkans, Malta, Israel and in Caucasus. In North America, the species was probably introduced from Europe.

Chorological category: Palaearctic.

Notes: *Omosita discoidea* represents a new record for the Maltese Islands. The species is common throughout its distribution range especially in southern Europe and more sporadic in the North. It is mainly associated with vertebrates in an advanced state of decomposition; larval development takes place on semi-dried and exposed bones. In the Maltese Islands the specimen cited above was collected in a trap baited with dead fish.

Subfamily Cillaeinae

***Brachypeplus deyrollei* Murray, 1864**

Material examined: MALTA: Żebbuġ, 3.v.1994, 2 exs., leg. D. Mifsud (CMM).

Distribution: Tropical Western Africa.

Chorological category: Afrotropical.

Notes: *Brachypeplus deyrollei* represents a new record for the Maltese Islands. The correct identification of this taxon to species level is somewhat problematic due to the fact that the Afrotropical *B. depressus/deyrollei* species group is in need of taxonomic revision. Two specimens were found alive under bark of tree logs originating from Central Africa intended for use in the timber industry. This taxon is frequently found in ports and points of entry in both Europe and North Africa on logs originating from tropical Africa (AUDISIO, 1993). This species was recently recorded as probably established in southern France (BURLE & LECHANTEUR, 1999), where it was found in rural habitats on decaying fruit and other vegetable material for a consecutive number of years. In its natural habitat, this species is mainly found under bark of trees where it is usually associated with rotting fungi and other decaying organic material.

Brachypeplus rubidus Murray, 1859

Material examined: MALTA: Żebbuġ, 3.v.1994, 1 ex., leg. D. Mifsud (CMM).

Distribution: Tropical Western Africa.

Chorological category: Afrotropical.

Notes: *Brachypeplus rubidus* represents a new record for the Maltese Islands. A single live specimen was found under bark of tree logs originating from Central Africa and intended for use in the timber industry. There are no records of establishment of this species outside its native range (JELÍNEK & AUDISIO, 2007), however, it is frequently found in ports and points of entry in both Europe and North Africa on logs originating from tropical Africa (AUDISIO, 1993). The species is mainly found under bark of trees where it is usually associated with rotting fungi and other organic material.

Subfamily Meligethinae

Meligethes lindbergi Rebmann, 1940

Meligethes lindbergi Rebmann; AUDISIO, 1993: 686.

Material examined: MALTA: Dingli Cliffs, 31.iii.2002, 2 exs., leg. Schuh & Lang (CMM); Wied Babu, 1.iv.2004, 2 exs., leg. P. Audisio & D. Mifsud (CAI, CMM); Wied id-Dis, 13.vi.2002, 2 exs., leg. D. Mifsud (CMM). GOZO: Xlendi, 2.iv.2004, 1 ex., leg. P. Audisio & D. Mifsud (CMM).

Distribution: Tunisia, northern Algeria, southern France, Italy, Malta (Fig. 5), Greece, Croatia, Albania, Slovenia, Serbia and Montenegro.

Chorological category: Mediterranean.

Notes: *Meligethes lindbergi* was previously recorded by AUDISIO (1993) from Mellieħa Bay and Wied Babu (both localities in Malta). This is a relatively rare species throughout its distribution range with the exception of some areas in central-southern Italy where it is often abundantly found (AUDISIO, 1993). Larvae of this species are strictly monophagous on *Teucrium flavum* L. (Lamiaceae), whereas adults are usually found also on unrelated yellow flowers, especially in early spring.

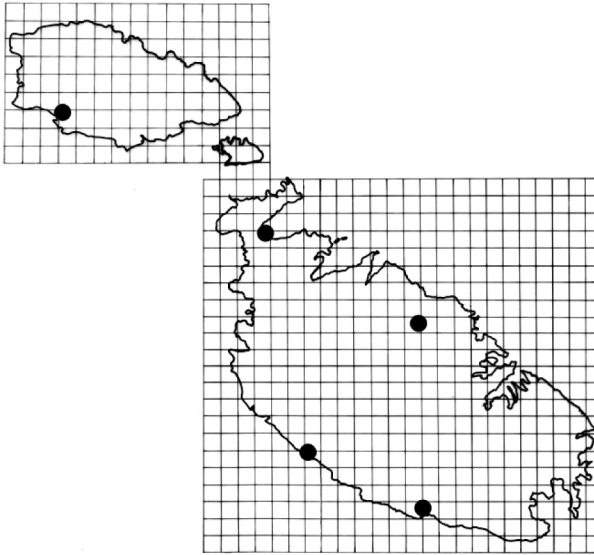


Figure 5 – Distribution of *Meligethes lindbergi* in the Maltese Islands.

Meligethes nigrescens Stephens, 1830

“*Meligethes picipes* Sturm”; CAMERON & CARUANA GATTO, 1907: 395.

Material examined: MALTA: 22 exs., G.C. Champion Coll. B.M. 1927-409 (BMNH, CMM); 13 exs., Cameron Coll. B.M. 1936-555 (BMNH, CMM); Bahrija, 12.v.1996, 3 exs., leg. D. Mifsud (CMM), same data but 20.iv.2002, 1 ex. (CMM); Buskett, 3.xii.1997, 1 ex., leg. D. Mifsud (CMM); Mtaħleb, 2.v.1997, 1 ex., leg. D. Mifsud (CMM); St. Thomas Bay, Tal-Munxar, 5.i.2003, 1 ex., leg. D. Mifsud (CMM), same data but 24.i.2004, 1 ex. (CMM); Wied Has-Sabtān, 14.iv.1990, 1 ex., leg. D. Mifsud (CMM); Żejtun, 13.i.1991, 1 ex., leg. D. Mifsud (CMM), same data but 14.iv.2002, 1 ex. (CMM). GOZO: Ramla, 28.i.1997, 7 exs., leg. D. Mifsud (CMM).

Distribution: Throughout Europe and North Africa, Madeira, Middle East, Arabian Peninsula, Iran, central and north-eastern Asia and North America (probably accidentally introduced).

Chorological category: Palearctic.

Notes: This species was previously recorded by CAMERON & CARUANA GATTO (1907) from Buskett (Malta). This species is very common throughout its distribution range. Larvae of this species are able to develop on different Fabaceae, particularly *Trifolium* spp., *Vicia* spp., *Medicago* spp. and *Lotus* spp. However, the preferred host plant is *Trifolium repens* L. In North America, this species is particularly damaging in cultivations of medicinal plants.

Meligethes rotundicollis C. Brisout de Barneville, 1863

Material examined: MALTA: Dingli Cliffs, 31.iii.2002, 1 ex., leg. Schuh & Lang (CMM); Hagar Qim, 4.iv.2004, 34 exs. (on *Sisymbrium officinale* (L.) Scop.), leg. P. Audisio & D. Mifsud (CAI, CMM).

Distribution: Throughout North Africa, Iberian Peninsula, France, Italy, Holland, Belgium, Germany, Switzerland, United Kingdom, Hungary, Romania, ex-Yugoslavia, Albania, Bulgaria, Greece, European Russia, Turkey and the syro-palestinian areas up to northern Iraq.

Chorological category: Mediterranean.

Notes: *Meligethes rotundicollis* represents a new record for the Maltese Islands. This species is relatively common in the Mediterranean area, but rare and sporadic in the northwestern parts of its distribution. Larvae of this species are able to develop on different genera of crucifers (Brassicaceae), such as *Brassica* spp., *Sinapis* spp. and particularly *Sisymbrium* spp. In the Maltese Islands *Meligethes rotundicollis* seems to develop only on its preferred host plant, *Sisymbrium officinale*, since field investigation on other Brassicaceae proved futile.

Meligethes ruficornis (Marsham, 1802)

Material examined: MALTA: Mdina, 2.iv.2004, 32 exs. (on *Ballota nigra* L.), leg. P. Audisio & D. Mifsud (CAI, CMM).

Distribution: Northern Tunisia and northeastern Algeria, throughout Europe, southern Siberia up to the syro-palestinian areas and the Middle East.

Chorological category: West Palaearctic.

Notes: *Meligethes ruficornis* represents a new record for the Maltese Islands. It is a common species in central and southern Europe; more localized and sporadic elsewhere. Larvae of this species in Europe are strictly monophagous on *Ballota nigra* (Lamiaceae), although in syro-palestinian areas and in SE Turkey they develop also on the related *B. saxatilis* Sieber.

Meligethes submetallicus Sainte-Claire Deville, 1908

“*Meligethes lugubris* Sturm”; CAMERON & CARUANA GATTO, 1907: 395.
Meligethes submetallicus Sainte-Claire Deville; AUDISIO, 1993: 699.

Material examined: MALTA: 30 exs., Cameron Coll. B.M. 1936-555, 7420 [= June 1902, *Meligethes lugubris*, ER (identified by E. Reitter), Jniena (Ġnejna)] (BMNH, CMM).

Distribution: Southern France, Italy, Malta (Fig. 6), Hungary, Romania, ex-Yugoslavia, Albania, Bulgaria, Greece, north-western Turkey extending in the east up to Central Asia and southern Siberia.

Chorological category: Central-Asiatic-European-Mediterranean.

Notes: This species was recorded by CAMERON & CARUANA GATTO (1907) from Ġnejna (Malta) during the month of June. It was also recorded by AUDISIO (1993) as widely distributed in Sicily, Malta, Sardinia, Corsica and the island of Elba. This species is somewhat rare throughout its distribution range. The larvae of this species are strictly monophagous on *Mentha pulegium* L. (Lamiaceae).

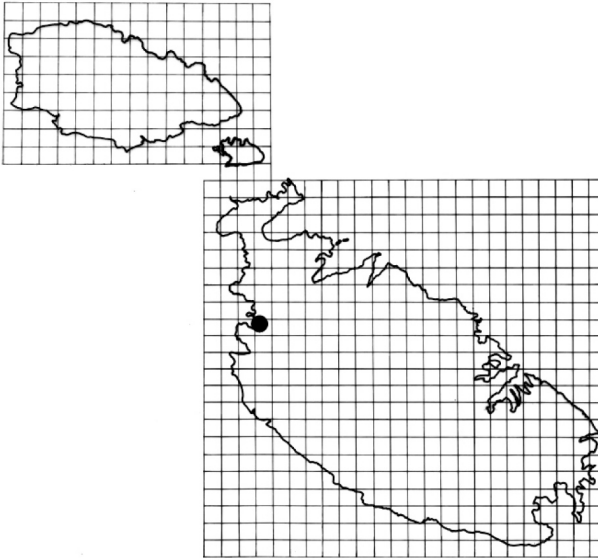


Figure 6 – Distribution of *Meligethes submetallicus* in the Maltese Islands.

***Pria dulcamarae* (Scopoli, 1763)**

“*Pria dulcamarae* Scop.”; CAMERON & CARUANA GATTO, 1907: 395.

Material examined: MALTA: Bahrija, 31.iii.2004, 1 ex., leg. P. Audisio & D. Mifsud (CAI); Chadwick Lakes, 26.ii.1997, 3 exs., leg. D. Mifsud (CMM); Mtahleb, 7.iv.1996, 2 exs., leg. D. Mifsud (CMM). GOZO: Ghasri, 1.xii.1994, 1 ex. (in apple blossoms), leg. C. Farrugia (CMM), same data but 3.vii.1995, 1 ex. (on almond tree), (CMM).

Distribution: Palaearctic, from the Canary Islands and Madeira up to Japan, northern up to the United Kingdom, Denmark, southern Norway and Sweden; southerly in the Palestine area, in western North Africa and in northern Egypt.

Chorological category: Palaearctic.

Notes: This species was recorded from Gozo by CAMERON & CARUANA GATTO (1907) and its abundance was reported as ‘not common’. Throughout its distribution range it is a frequently found species. It is associated with flowers of Solanaceae, particularly *Solanum dulcamara* L. (especially in damp places), but also *S. nigrum* L. where larval development takes place. Adults are to be found also on flowers of other unrelated species.

Subfamily Cybocephalinae

***Cybocephalus politus* (Gyllenhal, 1813)**

“*Cybocephalus politus* Germ.”; CAMERON & CARUANA GATTO, 1907: 394.

Material examined: None.

Distribution: Central and southern Europe, southern Sweden, Russia (Central European and North European Territory), Ukraine, Cyprus and Turkey.

Chorological category: European.

Notes: This species was not found during the present study and no historical material was found in the BMNH. It is possible that this record represents a misidentification of *C. rufifrons rufifrons*.

Cybocephalus rufifrons rufifrons Reitter, 1874

Material examined: MALTA: Girgenti, 8.x.1996, 1 ex., leg. D. Mifsud (CMM); St. Thomas Bay (towards tal-Munxar), 20.iv.1996, 1 ex., leg. D. Mifsud, same data but 13.iv.2003, 18 exs., leg. D. Mifsud (CMM); Żejtun, 20.ix.1997, 1 ex., leg. D. Mifsud (CMM); Fgura, 4.xii.1997, 1 ex., leg. C. Farrugia (CMM); Wardija, 23.ii.2000, 1 ex., on *Lycium intricatum* Boiss., leg. D. Mifsud (CMM); Mellieħa Bay, 3.iii.2002, 1 ex., leg. D. Mifsud (CMM); San Gwann, 23.iv.2008, 30 exs., on *Cupressus sempervirens* L. highly infested with *Carulaspis* sp., leg. D. Mifsud (CMM).

Distribution: Central and southern Europe, Caucasus.

Chorological category: European.

Notes: *Cybocephalus rufifrons rufifrons* represents a new record for the Maltese Islands. It is an active predator (SILVESTRI, 1910) of armoured scale-insects (Coccoidea: Diaspididae) on a large series of shrubs and trees, both in natural and anthropogenic habitats.

DISCUSSION

The present work lists a total of 3 Kateretidae and 26 Nitidulidae collected or cited from the Maltese Islands. Of these, 17 Nitidulidae and 1 Kateretidae represent new records for the Maltese Islands. Four different faunistic groups can be deduced from the recorded species cited in the present work. These include species which are occasionally introduced but there is no evidence of establishment; sub-cosmopolitan species which are mainly allochthonous; species having relatively confined distributions but which are autochthonous and species which are autochthonous but with small distribution ranges (Mediterranean/European). Table 1 provides chorological categories for all species recorded from the Maltese Islands. Three species of Nitidulidae (*Brachypeplus rubidus*, *Brachypeplus deyrollei* and *Carpophilus opacus*) are of Tropical African origin and were accidentally introduced in Malta with logs intended for the timber industry. There is no evidence that any of these three species became established in the Maltese Islands. Only *B. deyrollei* was for a number of consecutive years reported to be established in southern France (BURLE & LECHANTEUR, 1999). Eleven species are sub-cosmopolitan in distribution. Of these 10 represent allochthonous species that were introduced and established. The other species (*Carpophilus quadrisignatus*) is probably of Mediterranean origin but was introduced and established throughout the tropical and intertropical regions of the world. Species with relatively confined distributions and which are autochthonous are represented by 8 taxa. Of these one is Holarctic, one Central-Asiatic-European-Mediterranean, one Turanic-Mediterranean, three Palaearctic, and two West Palaearctic. The Mediterranean/European component is finally represented by 6 species, sub-divided as follows: two Mediterranean, one West Mediterranean, one European-Mediterranean, and one South-European (provisionally excluding the doubtful

Table 1. Kateretidae and Nitidulidae recorded from the Maltese Islands with respective chorological category and codes (after VIGNA TAGLIANTI *et al.*, 1993, 1999).

	Chorological category	Code
KATERETIDAE		
<i>Brachypterus curtulus</i>	West Mediterranean	WME
<i>Brachypterus glaber</i>	West Palearctic	WPA
<i>Kateretes rufilabris</i>	European-Mediterranean	EUM
NITIDULIDAE		
Subfamily Epuraeinae		
<i>Epuraea (Haptoncus) luteola</i>	Sub-cosmopolitan	COS
<i>Epuraea (Haptoncus) ocularis</i>	Sub-cosmopolitan	COS
Subfamily Carpophilinae		
<i>Carpophilus (Carpophilus) bifenestratus</i>	Afrotropical	AFT*
<i>Carpophilus (Carpophilus) hemipterus</i>	Sub-cosmopolitan	COS
<i>Carpophilus (Carpophilus) marginellus</i>	Sub-cosmopolitan	COS
<i>Carpophilus (Carpophilus) obsoletus</i>	Sub-cosmopolitan	COS
<i>Carpophilus (Carpophilus) opacus</i>	Afrotropical	AFT
<i>Carpophilus (Carpophilus) quadrisignatus</i>	Mediterranean/(?), Afrotropical-Mediterranean	MED*/AFM*
<i>Carpophilus (Myothorax) dimidiatus</i>	Sub-cosmopolitan	COS
<i>Carpophilus (Myothorax) mutilatus</i>	Sub-cosmopolitan	COS
<i>Carpophilus (Myothorax) nepos</i>	Sub-cosmopolitan	COS
<i>Urophorus (Anophorus) humeralis</i>	Sub-cosmopolitan	COS
<i>Urophorus (Urophorus) rubripennis</i>	South-European	SEU
Subfamily Nitidulinae		
<i>Nitidula carnaria</i>	Holarctic	OLA
<i>Nitidula flavomaculata</i>	Turanic-Mediterranean	TUM
<i>Omosita discoidea</i>	Palearctic	PAL
Subfamily Cillaeinae		
<i>Brachypeplus deyrollei</i>	Afrotropical	AFT
<i>Brachypeplus rubidus</i>	Afrotropical	AFT
Subfamily Meligethinae		
<i>Meligethes lindbergi</i>	Mediterranean	MED
<i>Meligethes nigrescens</i>	Palearctic	PAL
<i>Meligethes rotundicollis</i>	Mediterranean	MED
<i>Meligethes ruficornis</i>	West Palearctic	WPA
<i>Meligethes submetallicus</i>	Central-Asiatic-European-Mediterranean	CEM
<i>Pria dulcamarae</i>	Palearctic	PAL
Subfamily Cybocephalinae		
<i>Cybocephalus politus</i>	European	EUR
<i>Cybocephalus rufifrons rufifrons</i>	European	EUR

* indicates a chorological category which subsequently became sub-cosmopolitan in distribution.

presence of the European *Cybocephalus politus*).

From a zoogeographical point of view, the Kateretidae and Nitidulidae show a strong affinity to the Italian fauna. All species recorded (with the exception of the three Afrotropical accidentally introduced Nitidulidae) are known to occur in Sicily, whereas two species (*Urophorus rubripennis* and *Meligethes submetallicus*) are absent from North Africa. No endemism was found in the two families studied during the present work.

Several other species of phytophagous Kateretidae and Nitidulidae, widespread throughout southern Europe and western North Africa, and whose host-plants are known to occur in the Maltese Islands are not yet recorded from the Maltese archipelago. Such host plants were intensively searched on the field by both authors but without success. Extremely strange, for instance, is the complete absence in the Maltese Islands of the very common and widespread *Meligethes aeneus* (Fabricius, 1775) (Nitidulidae), a pest of cultivated crucifers throughout Europe and North Africa, which has colonized almost all the other large and small Mediterranean islands. A similar situation occurs with the common and widespread *Brachypterolus antirrhini* (Murray, 1864) (Kateretidae), a pest of flowers of wild and ornamental *Antirrhinum* spp. (Scrophulariaceae) and which is found throughout the Mediterranean Region. However, even this species is completely absent from Malta and Gozo despite the local abundance of its host-plants. Another absence which is difficult to explain is that of *Meligethinus pallidulus* (Erichson, 1843) (Nitidulidae), a widespread West Mediterranean species associated with male flowers of the dwarf palm *Chamaerops humilis* (L.) (Arecaceae), almost always introduced everywhere in southern Europe and North Africa with its host plant even in private gardens and in completely artificial habitats. Although the dwarf palm is a widespread re-introduced ornamental plant in towns and villages in Malta and Gozo, no *Meligethinus* are apparently present. Other species of Nitidulidae not found so far, despite their host plants being widespread in the Maltese Islands, are *Meligethes planiusculus* (Heer, 1841) (on *Echium* spp., Boraginaceae), *M. fuscus* (Olivier, 1790) (on *Cistus* spp., Cistaceae), and *Xenostrogylus* spp. (on cultivated Brassicaceae). These absences constitute rather strong evidence of the presence of important barriers to the recent (Pleistocenic) diffusion in the Maltese Islands of widespread phytophagous species characterized by usually high active and passive dispersion rates.

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