

The dermestid beetles (Coleoptera: Dermestidae) of the Maltese Archipelago (Central Mediterranean)

Jiří HÁVA¹⁾ & David MIFSUD²⁾

¹⁾ Private Entomological Laboratory and Collection,
Branická 13/574, CZ-147 00 Praha 4, Czech Republic;

e-mail: jh.dermestidae@volny.cz; <http://www.dermestidae.wz.cz>.

²⁾ Ministry for Rural Affairs and the Environment, Department of Agriculture,
Research & Development Centre,
Ghammieri, Marsa CMR 01, Malta; e-mail: david.a.mifsud@gov.mt

Taxonomy, faunistics, new synonymy, Coleoptera, Dermestidae, Malta, Mediterranean

Abstract. The dermestid beetle fauna of the Maltese Islands is reviewed, based on literature records and where possible examination of earlier citations and of recently collected material. Nineteen species of Dermestidae are reported for the Maltese Islands and the following ones represent new records for this area: *Dermestes (Dermestinus) maculatus* DeGeer, 1774, *Attagenus civetta* (Mulsant et Rey, 1868), *Attagenus fasciatus* (Thunberg, 1795), *Anthrenus (Anthrenus) delicatus* Kiesenwetter, 1851, A. (A.) *flavipes flavipes* LeConte, 1854, A. (A.) *dorsatus* Mulsant et Rey, 1868, *Trogoderma glabrum* (Herbst, 1783), and *T. inclusum* LeConte, 1854. A new synonym are proposed: *Attagenus tigrinus* (Fabricius, 1792) (= *Attagenus maltensis* Pic, 1894 syn. n.)

INTRODUCTION

Malta, Gozo and Comino, together with some minor islands, constitute the Maltese Archipelago, situated in the Central Mediterranean Basin. Malta, with a total surface area of 245.7 km² is the largest island, followed by Gozo with an area of 67.1 km². In total, the land mass of the Maltese Islands is about 316 km². The resident population numbers about 400,000 representing one of the highest population densities in the world, with over 1,200 persons per square kilometre. The islands are located in the Sicilian Channel, approximately 96 km from Sicily, 320 km from Tunisia and 330 km from Tripolitania (Libya). Despite the intense human impacts, the Maltese Islands still harbour a diverse array of natural habitats. The islands are semi-arid with an average annual precipitation of about 530 mm.

The Dermestidae is a moderate-sized family of about 45 genera and about 1200 described species and subspecies distributed worldwide (Háva, 2003). Adult dermestids usually feed on nectar or pollen, although some will feed on larval food. Most dermestid larvae are scavengers on dried animal remains and some feed on dried plant material. These include dried carrion, meat, fish, leather, wool, fur, silk, feather, dried insects, spider webbing and stored grain. A few species are also predacious.

To our knowledge, the only references in which records of Dermestidae are included from the Maltese Islands are to be found in the following publications. In a semi-popular work entitled

“Common beetles of the Maltese Islands”, Caruana Gatto (1893) cited *Thorictus grandicollis* Germar (found with no difficulty in moist localities), *Anthrenus fasciatus* Herbst and *A. verbasci* Linnaeus. In a list of Coleoptera of the Maltese Islands (Cameron & Caruana Gatto, 1907) nine species were included under the family name “Dermestidae” and one species was included under the family name “Thorictidae”. Luigioni (1929), in his work on the Italian Coleoptera, repeated the records of Cameron & Caruana Gatto (1907). 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 two species of Dermestidae namely *Dermestes frischii* Kugelann and *Dermestes cadaverinus* Fabricius. Tonna-Barthet (1931) published a list of 37 species of rare beetles “peculiar to the Island of Malta” and among these he mentioned two dermestids which were cited as follows: *Lanorus (Attagenus) maltensis* Pic and *Nathrenus (Anthrenus) biscrensis* Reitter. Cilia (1989), based on published information, included two species of Dermestidae in the Red Data Book for the Maltese Islands. These included *Attagenus maltensis* Pic and *Anthrenus biscrensis* Reitter. Species of Dermestidae occurring in the Maltese Islands were recently included in the catalogues of Mroczkowski (1968) and Háva (2003).

The present work was undertaken so as to provide a detailed account of the species of Dermestidae, which occur in the Maltese archipelago. This work forms a part of a much larger project, which the second author is undertaking, so as to update the knowledge of the coleopteran fauna of the Maltese Islands.

MATERIAL AND METHODS

Material was examined or is cited from the following institutions and private collections:

- BMNH British Museum of Natural History [= The Natural History Museum], London, United Kingdom;
- DMM private collection, David Mifsud, Zejtun, Malta;
- HBBC private collection, Henry Borg-Barthet, Mellieha, Malta;
- JHAC Private Entomological Laboratory and Collection, Jiří Háva, Prague, Czech Republic;
- MNHN Muséum National d’Histoire Naturelle, Paris, France;
- ZSPC private collection Zdeněk Švec, Prague, Czech Republic;
- ZMAN Zoölogisch Museum Amsterdam, Amsterdam, The Netherlands.

Material of Dermestidae was collected from the Maltese Islands between 1989 and 2005. Most of the material was collected from Malta, but additional material was also collected from the nearby island of Gozo. Historical material of Dermestidae was also available for study during the present work. Two main collections were available. One collection was that of Malcom Cameron which either he himself collected or the Maltese naturalist Alfredo Caruana Gatto (or both). 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 also conserved in the BMNH. This material was collected from the Maltese Islands between 1874-76 almost exclusively between October and March and is labeled as "G.C. Champion Coll. B.M. 1927-409". Except for the name Malta, there are no other data accompanying this material. Both mentioned collections were available when the 1907 coleoptera list of Cameron and Caruana Gatto was published.

For each species, earlier cited references (works which repeated earlier references and in which no material examined is cited are not included e. g. Caruana Gatto, 1893; Luigioni, 1929; Mroczkowski, 1968; Háva, 2003 and Mroczkowski, 1968) material examined, global distribution and notes where relevant are included.

All identifications were carried out by the first author and the classification of Dermestidae follows Háva (2003, 2006) and Lawrence & Slipinski (2005). Distributional data follow Háva (2003, 2006).

CHECK LIST OF MALTESE DERMESTIDAE

- Dermestes (Dermestes) ater* DeGeer, 1774
Dermestes (Dermestinus) frischii Kugelann, 1792
Dermestes (Dermestinus) maculatus DeGeer, 1774
Dermestes (Dermestinus) undulatus Brahm, 1790
Thorictus grandicollis grandicollis Germar, 1842
Attagenus brunneus Faldermann, 1835
Attagenus civetta (Mulsant et Rey, 1868)
Attagenus fasciatus (Thunberg, 1795)
Attagenus tigrinus (Farbicius, 1792)
 = *Attagenus maltensis* Pic, 1894 **syn. n.**
Attagenus unicolor unicolor (Brahm, 1791)
Anthrenus (Anthrenus) flavipes flavipes LeConte, 1854
Anthrenus (Anthrenus) delicatus Kiesenwetter, 1851
Anthrenus (Anthrenus) dorsatus Mulsant et Rey, 1868
Anthrenus (Anthrenus) oceanicus Fauvel, 1903
Anthrenus (Helocerus) fuscus Olivier, 1789
Anthrenus (Nathrenus) biskrensis Reitter, 1886
Anthrenus (Nathrenus) verbasci (Linnaeus, 1767)
Trogoderma glabrum (Herbst, 1783)
Trogoderma inclusum LeConte, 1854

ANNOTATED SPECIES LIST

Subfamily Dermestinae

Tribe Dermestini

Dermestes (Dermestes) ater DeGeer, 1774

Dermestes cadaverinus Fabricius, 1775; Andres, 1916: 58.

Material examined. Malta: Ghajn Rihana, 3.iii.1990, 1 spec., leg. D. Mifsud (DMM); Malta (without detailed distributional data), 1 spec. (JHAC).

Distribution. Cosmopolitan.

Notes. This species was previously recorded only by Andres (1916) from larvae which he collected and from which adults emerged on the 20th of October of 1915.

Dermestes (Dermestinus) frischii Kugelann, 1792

Dermestes frischii Kugelann, 1792; Cameron & Caruana Gatto 1907: 395.

Dermestes Frishi Kugelann, 1792; Andres, 1916: 58.

Material examined. Malta: G. C. Champion coll. B. M. 1927-409, 2 spec. (BMNH); 5495 [= *Dermestes frischii*, Masascala, 17 Aug.1901], M. Cameron coll., B. M. 1936-555, 4 spec. (BMNH); 5388 [= *Dermestes frischii*, Mellieha, 1901], M. Cameron coll., B. M. 1936-555, 1 spec. (BMNH); Mtarfa, 6.ix.1989, 1 spec., leg. P. Sammut (JHAC); St. Thomas Bay, 6.ix.1996, 2 spec., near dead cat, leg. D. Mifsud (DMM); St. Thomas Bay, Tal-Munxar, 16.iii.2003, 3 spec., leg. D. Mifsud (DMM); Marsaxlokk, Il-Balutta, 15.ix.1989, 1 spec., near salt marsh vegetation, leg. D. Mifsud (DMM); Blata l-Blajda, 14.v.1990, 1 spec., on decaying fish, leg. D. Mifsud (DMM); Qrendi, 19.vii.2003, 1 spec., leg. D. Mifsud (DMM); Zejtun, 22.viii.2002, 12 spec., leg. D. Mifsud (DMM); Ricasoli, 17.vii.1954, D. H. Heppell, B. M. 1955-407, 2 spec. (BMNH); Mellieha, Melliha Hill, 3.iv.2004, 12 spec., leg. H. Borg-Barthet (HBBC).

Distribution. Cosmopolitan.

Notes. Cameron & Caruana Gatto (1907) reported the abundance of this species as 'very common'.

Dermestes (Dermestinus) maculatus DeGeer, 1774

Material examined. Malta: Marsa, Ghammieri, 9.xii.1993, 2 spec., under bark of *Eucalyptus*, leg. D. Mifsud (DMM); Qrendi, 19.vii.2003, 1 spec., leg. D. Mifsud (DMM); Rabat, 16.viii.2004, 1 spec., leg. P. Sammut (DMM).

Distribution. Cosmopolitan. New record for the Maltese Islands.

***Dermestes (Dermestinus) undulatus* Brahm, 1790**

Dermestes undulatus Brahm, 1790; Cameron & Caruana Gatto 1907: 395.

Material examined. Malta: Zejtun, 21.v.1989, 1 spec., leg. D. Mifsud (DMM); same data but, 24.v.1989, 1 spec., (DMM); same data but 30.vi.1989, 1 spec. (DMM); Bidnija, 8.ix.1996, 1 spec., leg. D. Mifsud (DMM).

Distribution. Holarctic.

Notes. Cameron & Caruana Gatto (1907) reported this species from Gozo and ‘Encita’(= Wied Incita) during the months of March and April and reported its abundance as ‘rare’.

Subfamily Thorictinae
Tribe Thorictini

***Thorictus grandicollis grandicollis* Germar, 1842**

Thorictus grandicollis Germar, 1842; Cameron & Caruana Gatto, 1907: 396.

Material examined. Malta: G. C. Champion coll., B. M. 1927-409, 40 spec. (BMNH); 6167 [= 2 Nov. 1901, Ta Baldu], M. Cameron coll. B. M. 1936-555, 1 spec. (BMNH); 6045 [= *Thorictus grandicollis*, Fort Manoel, 19 Oct. 1902], M. Cameron coll. B. M. 1936-555, 8 spec., (BMNH); St. Thomas Bay, 20.iv.1996, 2 spec., leg. D. Mifsud (DMM); same data but 2.x.1989, 1 spec., leg. D. Mifsud (DMM); Ta’Qali, 13.ii.2000 under bark of *Eucalyptus*, 1 spec., leg. D. Mifsud (DMM); Zejtun, 5.x.1989, 1 spec., leg. D. Mifsud (DMM); Ghadira, 23.v.1990, 1 spec., leg. D. Mifsud (DMM); Gozo: Ramla, 18.i.1999, 1 spec., leg. D. Mifsud (DMM); Xwieni Bay, 16.vii.1989, 1 spec., leg. D. Mifsud (DMM).

Distribution. Armenia, Croatia, France, Greece, Italy, Malta, Portugal, Russia: European Part, Spain, Turkey, Algeria, Egypt, Morocco and Tunisia.

Notes. Cameron & Caruana Gatto (1907) reported the abundance of this species as ‘general’.

Subfamily Attageninae
Tribe Attagenini

***Attagenus brunneus* Faldermann, 1835**

Attagenus piceus v. *dalmatinus* Küster, 1847; Cameron & Caruana Gatto 1907: 395.

Attagenus marginicollis Küster, 1847; Cameron & Caruana Gatto 1907: 395.

Material examined. None.

Distribution. Europe, Turkey, Algeria, Egypt, Morocco, Tunisia, Canada, U.S.A., Afghanistan, Iran, Kyrgyzstan, Pakistan, Turkmenistan and Uzbekistan.

Notes. Cameron & Caruana Gatto (1907) reported the abundance of this species as ‘not common’ and recorded the species from Valletta in May.

Attagenus civetta (Mulsant et Rey, 1868)

Material examined. Malta: Mellieha, Kortin, U.V. light trap, 27.v.-3.vi.2005, 10 spec., leg. Henry Borg-Barthet (DMM, HBBC, JHAC); Gozo: Xlendi, Wied ta' Kantra, 18-28.viii.2001, 1 spec., leg. V. Navrátil (JHAC).

Distribution. Spain, Algeria, Libya, Morocco and Tunisia. New record for the Maltese Islands.

Attagenus fasciatus (Thunberg, 1795)

Material examined. Malta: Mtarfa, 6.ix.1989, 2 spec., leg. P. Sammut (JHAC); Buskett 27.iii.1989, 2 spec., leg. D. Mifsud (DMM); same data but 17.iii.1990, 1 spec. (DMM); Marsa, Ghammieri, 28.xii.1993, 2 spec., under bark of *Eucalyptus*, leg. D. Mifsud (DMM).

Distribution. Cosmopolitan. New record for the Maltese Islands.

Attagenus tigrinus (Fabricius, 1792)
(Figs 1-6)

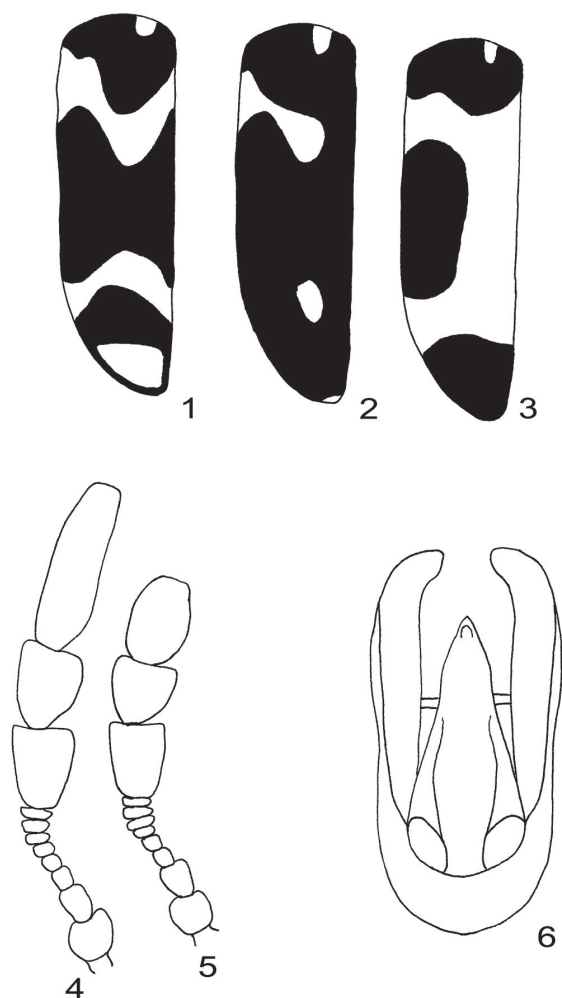
Attagenus bifasciatus Rossi, 1794; Cameron & Caruana Gatto 1907: 395.

Attagenus maltensis Pic, 1894: 66 **syn. n.**

Attagenus melitensis Pic; Pic, 1899: 253 (misspelling of *maltensis*).

Type material. 3 syntypes *A. maltensis*: „Malte, Bellon“ \ „Type“ \ „melitensis Pic“. 1 male designated here as lectotype, 1 female and 1 male as paralectotypes (all in MNHN). All type specimens were labelled with red, printed labels bearing the text as follows: “LECTOTYPE [or PARALECTOTYPE, respectively] *Attagenus maltensis* Pic, J. Háva design. 2005“.

Material examined. Malta: Malta, G. C. Champion coll. B. M. 1927-409, 44 spec. (BMNH); M. Cameron coll. B. M. 1963-555, 7 spec. (BMNH); Marsascala, 23.iv.2003, 8 spec., leg. Z. Švec (JHAC, ZSPC); Zejtun, 20. iv.1998, 1 spec., leg. D. Mifsud (JHAC); same data but 16.iii.1990, 1 spec. (JHAC); Pwales Valley, 14.v.1992, 1 spec., leg. A. J. de Boer (ZMAN); Mellieha, Selmun, Ghajn Hadid side, 23.iv.2005, 1 spec., leg. H. Borg-Barthet (HBBC); Mellieha, Main Street, 10.i.2004, 1 spec., leg. H. Borg-Barthet (HBBC); Mellieha, Selmun, 22.iv.2005, 1 spec., leg. H. Borg-Barthet (HBBC); same data but 20.iii.2002, 1 spec., (HBBC); Mellieha, Mellieha hill, 1.v.2003, 1 spec., leg. H. Borg-Barthet (HBBC); Mellieha, Kortin, 19.iv.2004, 1 spec., leg. H. Borg-Barthet (HBBC); Mellieha, Kortin U. V. light trap, 28-30.iv.2005, 2 spec., leg. H. Borg-Barthet (HBBC); Landrijiet, 9.v.2004, 3 spec., leg. H. Borg-Barthet (HBBC); Mellieha Bay, NR Mellieha Holiday Centre, 23.iv.2005, 9 spec., leg. H. Borg-Barthet (DMM, HBBC); Gozo:



Figs 1-6. *Attagenus tigrinus* (Fabricius): 1- habitus of typical form; 2 & 3- very rare colour variability; 4- antenna of male; 5- antenna of female; 6- aedeagus (all figures drawn schematically and without setation).

Dwejra, 25.iv.2003, 2 spec., leg. Z. Švec, (JHAC); Victoria Citadel, 7.v.1992, 4 spec., leg. A. J. de Boer (ZMAN, JHAC).

Distribution. Italy, Malta, Sardinia, Sicily, Algeria, Egypt, Morocco and Tunisia.

Notes. Through the study of the type material of *Attagenus maltensis* Pic and recently collected material from Malta, it was possible to synonymize this species with *A. tigrinus* (Fabricius). All morphological characters studied in the material available proved to be identical (elytra of *maltensis* covered by more dense yellowish pubescence). The colour variability and patterns on elytra, antennae and aedeagus are illustrated in Figs 1-6.

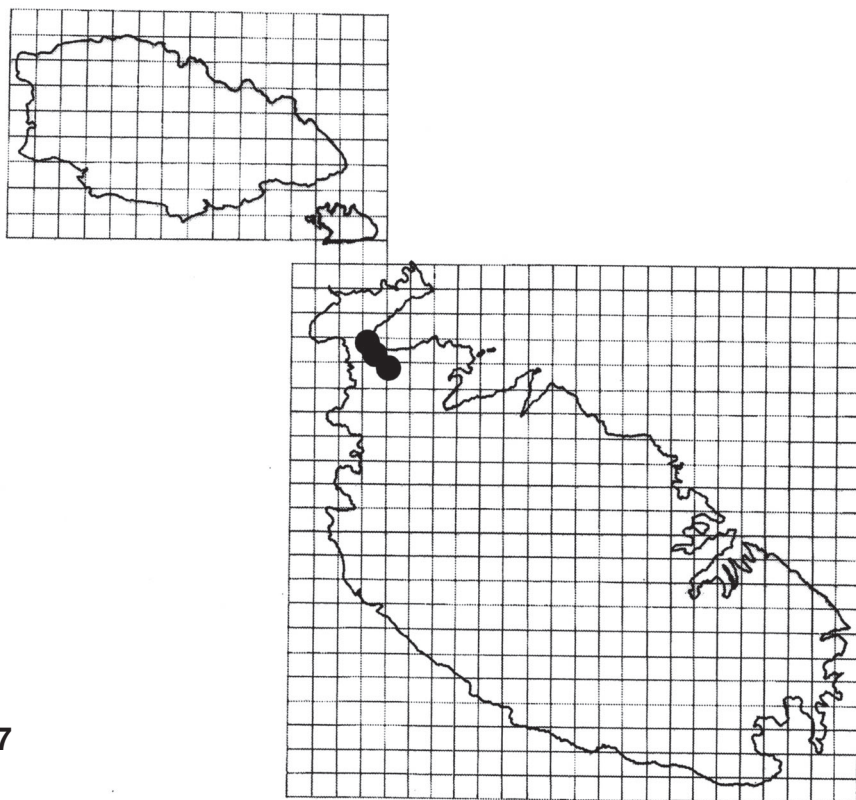


Fig. 7. Distribution of *Anthrenus* (*Anthrenus*) *dorsatus* Mulsant et Rey in the Maltese Islands.

Attagenus unicolor unicolor (Brahm, 1791)

Attagenus piceus Olivier, 1790; Cameron & Caruana Gatto, 1907: 395.

Material examined. Malta: 25.vi.1902, in coll. Gatto, 1 spec. (BMNH); Zejtun, 4.vi.1989, 1 spec., leg. D. Mifsud (DMM); same data but 11.vi.1989, 1 spec. (DMM); Ghammieri (Marsa), 13.v.2002, 1 spec., leg. D. Mifsud (DMM).

Distribution. Cosmopolitan.

Subfamily Megatominae
Tribe Anthrenini

Anthrenus (Anthrenus) flavipes flavipes LeConte, 1854

Material examined. Malta: Mdina, 25.iii.2004, 4 spec., leg. D. Mifsud (DMM).

Distribution. Cosmopolitan. New record for the Maltese Islands.

Anthrenus (Anthrenus) delicatus Kiesenwetter, 1851

Material examined. Malta: Mtarfa, 6.ix.1989, 2 spec., leg. P. Sammut (JHAC); Migra Ferha, 3.vi.1990, 1 spec., leg. D. Mifsud (DMM); Marsa, Ghammieri, 28.xii.1993, 1 spec., under bark of *Eucalyptus*, leg. D. Mifsud (DMM); Mellieha, around Ghadira area, 2.vi.2002, 1 spec., leg. D. Mifsud (DMM); Zejtun, 18-21.v.1989, 2 spec., leg. D. Mifsud (DMM).

Distribution. Southern Europe, Turkey, Algeria, Egypt, Morocco, Tunisia, Caucasus, Iran, Israel and Syria. New record for the Maltese Islands.

Anthrenus (Anthrenus) dorsatus Mulsant et Rey, 1868
(Fig. 7)

Material examined. Malta: Mellieha, Mellieha Bay near Nature reserve, 8.v.2004, 2 spec., leg. H. Borg-Barthet (DMM, HBBC); Mellieha Bay NR., Mellieha Holiday Centre, 23.iv.2005, 1 spec., leg. H. Borg-Barthet (JHAC).

Distribution. Algeria and Tunisia. New record for the Maltese Islands.

Anthrenus (Anthrenus) oceanicus Fauvel, 1903

Anthrenus fasciatus Herbst, 1797; Cameron & Caruana Gatto, 1907: 395.

Material examined. None.

Distribution. Egypt, Hawaiian Islands, India, Malaysia, Sri Lanka, New Caledonia and Europe (introduced): United Kingdom, Czech Republic.

Notes. Cameron & Caruana Gatto (1907) reported the abundance of this species as ‘common’. Most likely, this record is based on a misidentification and probably it should refer to *A. dorsatus* Mulsant et Rey.

Anthrenus (Helocerus) fuscus Olivier, 1789

Anthrenus fuscus Latr. [sic!]; Cameron & Caruana Gatto, 1907: 395.

Material examined. None.

Distribution. Europe, Morocco, St. Helena Is. (intr.), Canada, U.S.A. and Bonin Is.

Notes. Cameron & Caruana Gatto (1907) reported this species from Boschetto (= Buskett) during the month of June and reported its abundance as 'rare'.

Anthrenus (Nathrenus) biskrensis Reitter, 1886
(Fig. 8)

Anthrenus biskrensis [sic!] Reitter, 1886; Cameron & Caruana Gatto, 1907: 395.

Material examined. Malta: (without distributional data), 1 spec. (JHAC); Reitter coll. (without distributional data), 1 spec. (JHAC); 7504 [= *Anthrenus biskrensis*, Imtahleb, 17 June 1902], M. Cameron coll. B. M. 1936-555, 8 spec. (BMNH); St. Thomas Bay, 6.vii.1989, 1 spec., on flowers of *Foeniculum vulgare*, leg. D. Mifsud (DMM); St. Peter's Pool (Delimara), 15.vi.2002, 1 spec., on *Darniella melitensis*, leg. D. Mifsud (DMM); Gozo: Ramla, 16.vii.1989, 2 spec., leg. D. Mifsud (DMM, JHAC).

Distribution. Malta, Sicily, Algeria, Libya, Morocco and Tunisia.

Notes. Cameron & Caruana Gatto (1907) reported the abundance of this species as 'very common' in June, July and August.

Anthrenus (Nathrenus) verbasci (Linnaeus, 1767)

Anthrenus verbasci Linnaeus, 1767; Cameron & Caruana Gatto, 1907: 395.

Material examined. Malta: M. Cameron coll. B. M. 1936-555, 2 spec. (BMNH); 7531 [= *Anthrenus verbasci*, E.R. (= identified by E. Reitter), Boschetto, 22 June 1902], 1 spec. (BMNH); Mtarfa, 6.ix.1989, 3 spec., leg. P. Sammut (JHAC); Zejtun, 12.v.1989, 1 spec., leg. D. Mifsud (DMM); same data but 20.iv.1998, 1 spec. (DMM); Mellieha, Kortin, 2.v.2004, 1 spec., leg. H. Borg-Barthet (HBBC); Landrijiet, 9.v.2004, 2 spec., leg. H. Borg-Barthet (HBBC); Marsa, Ghammieri, 7.iii.2003, 1 spec., leg. D. Mifsud (DMM); Qormi, Wied il-Kbir near Ghammieri, 27.iv.2005, 3 spec., leg. H. Borg-Barthet (HBBC); Mellieha, Mellieha Bay near Nature Reserve, 8.v.2004, 1 spec., leg. H. Borg-Barthet (HBBC).

Distribution. Cosmopolitan.

Notes. Cameron & Caruana Gatto (1907) recorded this species from Buskett in June and reported its abundance as 'not common'.

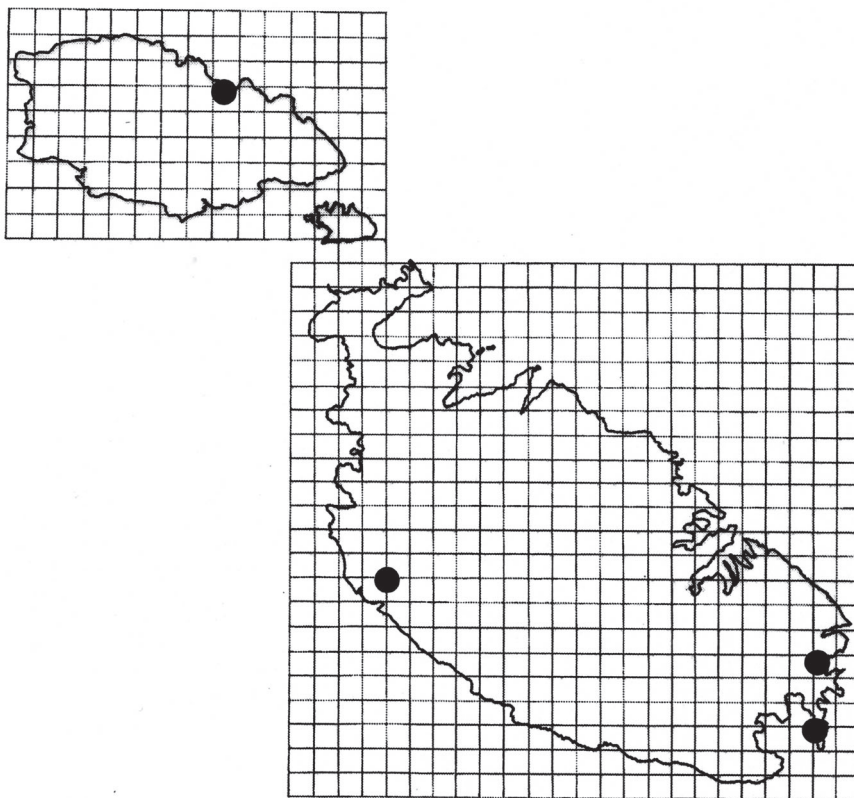


Fig. 8. Distribution of *Anthrenus* (*Nathrenus*) *biskrensis* Reitter in the Maltese Islands.

Tribe Megatomini

***Trogoderma glabrum* (Herbst, 1783)**

Material examined. Malta: St. Thomas Bay, Tal-Munxar, 28.iv.2002, 1 spec., leg. D. Mifsud (DMM).

Distribution. Cosmopolitan. New record for the Maltese Islands.

***Trogoderma inclusum* LeConte, 1854**

Material examined. Malta: Zejtun, 12.xii.2004, 1 spec., leg. D. Mifsud (DMM).

Distribution. Europe, Canary Is. (intr.), Turkey, Algeria, Egypt, Morocco, Tunisia, South Africa, Canada, USA, India, Iran, Iraq, Israel, Japan and Russia. New record for the Maltese Islands.

CONCLUSIONS

Nineteen species of Dermestidae are recorded from the Maltese Islands, of which, one species, *Anthrenus* (*Anthrenus*) *oceanicus* Fauvel is most likely based on a misidentification. The Maltese Dermestidae can be conventionally divided into four groups according to their geographical distributions. The first group is represented by cosmopolitan and sub-cosmopolitan species which accounts for 63.2% of the species. These include: *Dermestes* (*Dermestes*) *ater* De Geer, *Dermestes* (*Dermestinus*) *frischii* Kugelann, *Dermestes* (*Dermestinus*) *maculatus* De Geer, *Attagenus brunneus* Faldermann, *Attagenus fasciatus* (Thunberg), *Attagenus unicolor unicolor* (Brahm), *Anthrenus* (*Anthrenus*) *flavipes flavipes* LeConte, *Anthrenus* (*Anthrenus*) *oceanicus* Fauvel, *Anthrenus* (*Helocerus*) *fuscus* Olivier, *Anthrenus* (*Nathrenus*) *verbasci* (Linnaeus), *Trogoderma glabrum* (Herbst) and *Trogoderma inclusum* LeConte. The second group is represented by species having relatively wide distributions (e.g. Holarctic and West Palaearctic) and these account for 15.8 % of the species. These include: *Dermestes* (*Dermestinus*) *undulatus* Brahm, *Thorictus grandicollis grandicollis* Germar and *Anthrenus* (*Anthrenus*) *delicatus* Kiesenwetter. The third group of species are those having typical Mediterranean or West-Mediterranean distributions, and these are represented by 10.5% of the species, namely *Attagenus civetta* (Mulsant et Rey) and *Attagenus tigrinus* (Farbicius). The last group, also represented by two species, have a North African distribution which penetrates southern Europe only marginally (through either Malta and/or Sicily). These are represented by *Anthrenus* (*Anthrenus*) *dorsatus* Mulsant et Rey and *Anthrenus* (*Nathrenus*) *biskrensis* Reitter which are the most interesting species from a zoogeographical point of view. These two species represent North African elements in the Maltese coleoptera fauna. Figure 8 and Figure 9 provide the distribution of these two species in the Maltese Islands.

ACKNOWLEDGMENTS. The second author is grateful for access to the Natural History Museum, London, for studying historical material of Coleoptera from Malta (Sys-Resource programme funded by the EU). We would like to express our thanks to the following persons for the possibility to examine and for the donation of material collected in Malta: Zdeněk Švec and Vladimír Navrátil from Czech Republic and Paul Sammut and Henry Borg-Barthet from Malta.

REFERENCES

- ANDRES A. 1916: Verzeichnis der während meiner Kriegsgefangenschaft von mir auf Malta gesammelten Lepidoptera, Hemiptera und Coleoptera. *Entomologische Rundschau* 33 (9): 43-54; 33 (10): 48-49; 33 (11): 50.
- CARUANA GATTO A. 1893: Common Beetles of the Maltese Islands. *The Mediterranean Naturalist – A Review of Natural Science* 3(27): 447-451.
- CAMERON M. & CARUANA GATTO A. 1907: A list of the Coleoptera of the Maltese Islands. *The Transactions of the Entomological Society of London* 59: 383-403.
- CILIA J. L. 1989: Coleoptera. In: SCHEMBRI P. J. & SULTANA J. (eds.): *Red Data Book for the Maltese Islands*. Malta: Department of Information, viii + 142 pp.
- HÁVA J. 2003: World Catalogue of the Dermestidae (Coleoptera). *Studie a zprávy Oblastního Muzea Praha-východ v Brandýse nad Labem a Staré Boleslavi*, Supplementum 1: 1-196.

- HÁVA J. 2006: Dermestidae World (Coleoptera). World Wide Web electronic publication: <http://www.dermestidae.wz.cz>
- LAWRENCE F. F. & SLIPINSKI A. 2005: Three new genera of Indo-Australian Dermestidae (Coleoptera) and their phylogenetic significance. *Invertebrate Systematics* 19: 231-261.
- LUIGIONI P. 1929: I Coleotteri d'Italia, Catalogo Sinonimico, Topografico, Bibliografico. *Memorie della Pontificia Accademia delle Scienze, I Nuovi Licei* (serie II) 13: 1-1160.
- MROCKOWSKI M. 1968: Distribution of the Dermestidae (Coleoptera) of the world with a catalogue of all known species. *Annales Zoologici* 26: 15-191.
- PIC M. 1894: Descriptions et notes entomologiques (Coléoptères). *L'Échange, Revue Linnéenne* 10: 66.
- PIC M. 1899: Diagnoses de Coléoptères d'Orient. Deuxieme Article. *Bulletin Société d'Histoire Naturelle d'Autun* 12: 252-261.
- TONNA-BARTHET G. 1931: A list of rare coleoptera peculiar to the Island of Malta. The Barthet's Laboratory. *Science* 1: 1-7.