

The Monotomidae of the Maltese Islands (Coleoptera)

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ABSTRACT. Information is given about four species of Monotomidae which occur in the Maltese Islands, namely *Rhizophagus unicolor*, *Monotoma bicolor*, *M. brevicollis* and *M. spinicollis*. A previous record of *Rhizophagus bipustulatus* was found to be incorrect and should refer to *R. unicolor*. A dichotomous key for the identification of the four species is also provided.

KEY WORDS. Malta, Mediterranean, *Rhizophagus*, *Monotoma*.

INTRODUCTION

The Monotomidae is a small family of beetles with some 80 described species in the Palaearctic Region. Most species are saprophagous, living either under bark and/or on fermenting sap of trees (*Rhizophagus*) or in various decaying vegetal substrates (*Monotoma*).

CAMERON & CARUANA GATTO (1907) recorded three species of Monotomidae from Malta namely *Rhizophagus bipustulatus* (under Nitidulidae), *Monotoma spinicollis* and *M. picipes* (both under Cucujidae). In the Fauna Europaea database, four species were mentioned as occurring in Malta, *Rhizophagus unicolor*, *Monotoma bicolor*, *M. brevicollis* and *M. spinicollis* (JELÍNEK & AUDISIO, 2004) whereas in the more recent catalogue of Palaearctic coleoptera five species were reported for Malta, *Rhizophagus bipustulatus*, *R. unicolor*, *Monotoma bicolor*, *M. brevicollis* and *M. spinicollis* (JELÍNEK, 2007). Since only one species of *Rhizophagus* occurs in Malta and due to the fact that for some species there is no published original collecting data from Malta, it was considered important to present the data currently at hand in the present work.

The collectors' names are given in initials thus: Charles Farrugia - CF; David Mifsud - DM. The depository of specimens not in the author's collections is indicated in parenthesis, thus (BMNH) - The Natural History Museum, London, UK.

ANNOTATED SPECIES LIST

Rhizophagus unicolor P.H. Lucas, 1849

(Fig. 1)

Material examined. MALTA: 28 exs., G.C. Champion coll., B.M. 1927-409 (BMNH); Bidnija, 1.iv.2002, 1 ex., DM; Buskett, 8.xi.1991, 1 ex., DM; Msida, University grounds, 28.x.1993, 2 ex., DM; Mellieha, Torri l-Ahmar, 27.xii.1998, 1 ex., CF; Qormi, Hal-Farrug, 26.ii.2003, 12 exs., under bark of *Ceratonia siliqua*, DM; Rabat, Tal-Virtu, 16.xi.1996, 12 exs., in the bracket fungus *Laeteporus sulphureus* var. *ceratonae* on *Ceratonia siliqua*, DM; Wied Babu, 31.x.1999, 1 ex., found dead under bark of *Ceratonia siliqua* infested with xylophagous beetles, CF; Zejtun, 16.xii.1989, 1 ex., DM, 2 exs., same data but collected via sifting leaf litter under *Ceratonia siliqua*, 13.iv.2002, 2 exs., same data but 8.i.2004.

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Notes. *Rhizophagus unicolor* is a typical Mediterranean species. CAMERON & CARUANA GATTO (1907) recorded this species from Zurrieq (Malta) as *R. bipustulatus* (Fabricius, 1792) which is incorrect since all material that was studied during the present work, including historical material available to Cameron and Caruana Gatto (upon which their coleoptera list for Malta was based) proved to be *R. unicolor*. *Rhizophagus bipustulatus* was also incorrectly included in the Catalogue of Palaearctic Coleoptera (JELÍNEK, 2007). The name *R. unicolor* is somewhat misleading, because the colouration of the beetle varies from unicoloured yellow-brown to piceous, but the most frequent colour pattern is black-brown with reddish humeral area and an indistinct subapical spot on each elytron, resembling that of *R. bipustulatus*, which is why the two species were sometimes confused. They can be readily distinguished by the differences found in the male genitalia (Figs. 2-5) and the pronotum which is comparatively longer in *R. bipustulatus*, especially in males. Ratio length/width of pronotum in *R. unicolor* = 0.92-1.02 in males, 0.95-1.04 in females; in *R. bipustulatus* 1.02-1.10 in males, 0.97-1.06 in females.

Monotoma bicolor A. Villa & G. B. Villa, 1835

Material examined. MALTA: 26 exs., G.C. Champion coll., B.M. 1927-409 (BMNH); Marsaxlokk, Il-Ballut saltmarsh, 21.xi.1993, 1 ex., DM; Melliha, near Ghadira nature reserve, 1 ex., 2.vi.2002, DM; Selmun, Ballut ta' l-Imgiebah, 23.ii.2000, 1 ex., in leaf litter under *Quercus ilex*, DM; Zejtun, 22.v./4.vii./7.x./9.x./4.xii./18.xii.1989, 7 exs., DM, 1 ex., same data but 3.iii.1991.

Notes. *Monotoma bicolor* is a widely distributed species in the Palaearctic Region and is also recorded from the Nearctic and Australian Regions. CAMERON & CARUANA GATTO (1907) did not record this species from Malta, but it was included in both the Fauna Europaea database and the Catalogue of Palaearctic coleoptera since one of us (JJ) had examined the above mentioned material in 2004.

Monotoma picipes Herbst, 1793

Material examined. MALTA: Buskett, 24.vi.2003, 11 exs., attracted to light in mixed woodland of *Pinus halepensis* and *Cupressus sempervirens*, DM.

Notes. *Monotoma picipes* is a cosmopolitan species. CAMERON & CARUANA GATTO (1907) recorded this species from Malta on the basis of a single specimen and no locality data was given.

Monotoma spinicollis Aubé, 1837

(Fig. 6)

Material examined. MALTA: vi.1902, 5 exs., MC [Malcom Cameron], 7438 [*Monotoma spinicollis*, identified by ER (Edmond Reitter), St. Paul's Bay], M. Cameron Coll., B.M. 1936-555 (BMNH); 2 exs., G.C. Champion coll., B.M. 1927-409 (BMHN); Buskett, 24.vi.2003, 2 exs., attracted to light in mixed woodland of *Pinus halepensis* and *Cupressus sempervirens*, DM; Zejtun, 15.iv.1989, 1 ex., DM.

Notes. *Monotoma spinicollis* is a cosmopolitan species. CAMERON & CARUANA GATTO (1907) recorded this species from St. Paul's Bay (Malta) indicating its occurrence as "not common"; this material was also available for the present study. Recently, VORST (1999) realized that *Monotoma quadricollis* Aubé, 1837 was confused with *M. spinicollis*; nevertheless the male genitalia of the Maltese specimens examined correspond to those of *M. spinicollis* as figured by VORST (1999).

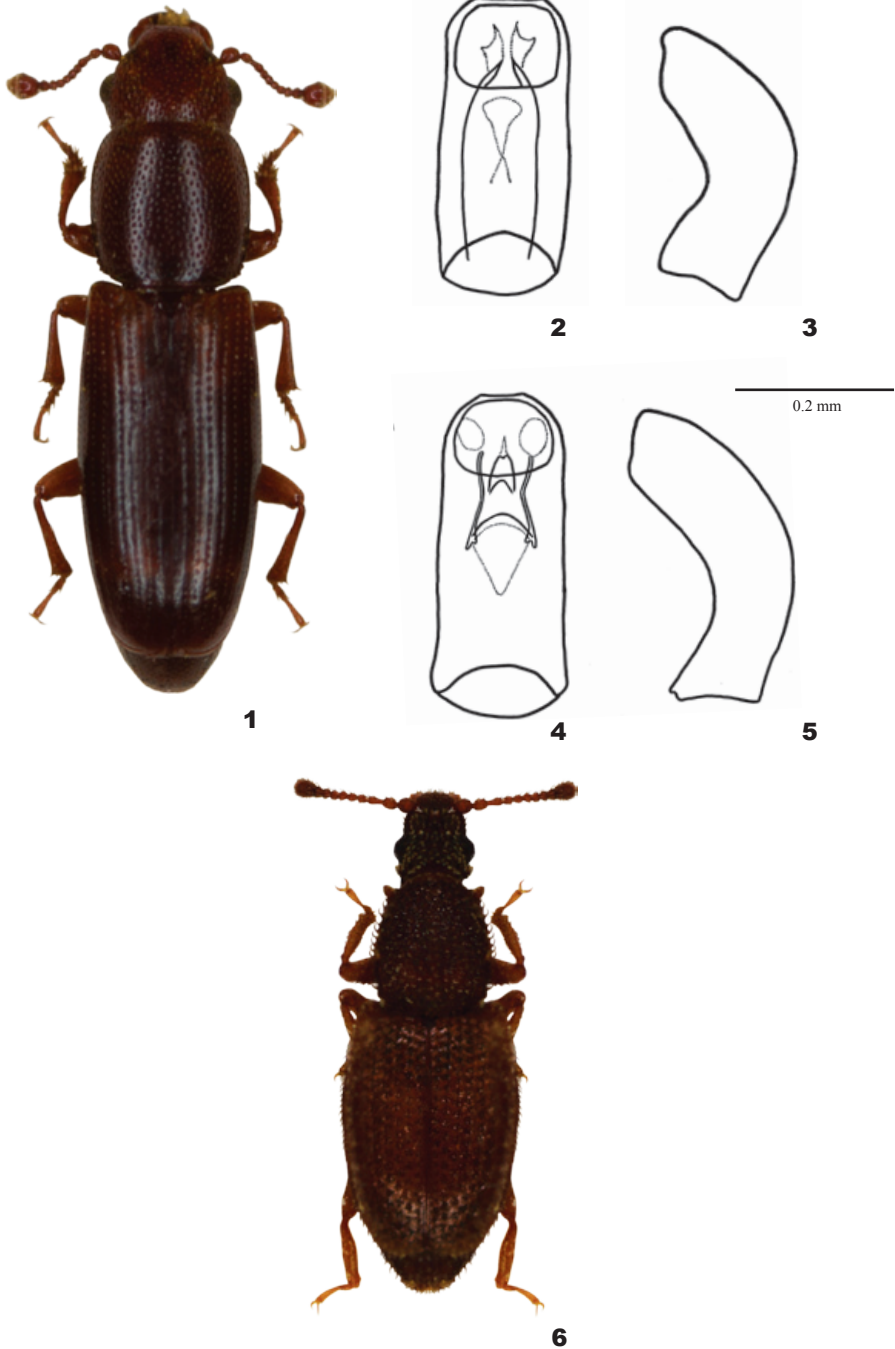


Figure 1: *Rhizophagus unicolor*; **Figures 2-5:** Aedeagus (dorsal and lateral view) of *Rhizophagus bipustulatus*, Czech Republic, Hluboká (2-3) and of *R. unicolor*, Malta, Rabat (4-5) (Scale bar for figures 2-5); **Figure 6:** *Monotoma spinicollis*.

Key to the Monotomidae occurring in Malta

1. Dorsum glabrous. Lateral margins of pronotum smooth, both anterior and posterior pronotal angles rounded, not prominent. Elytra finely and regularly seriate-punctate, interstries microscopically reticulate. Colour pattern variable, as a rule black-brown, humeral portions of elytra and sometimes an indistinct subapical spot on each elytron reddish. Length 2.0-3.1 mm *Rhizophagus unicolor*
- Dorsum pubescent. Lateral margins of pronotum more or less denticulate, fringed with stout outstanding setae, anterior pronotal angles pointed. Elytra seriate punctate with series of semi-erect setae **2**
2. Temples angular, prominent. Frons between eyes with a pair of deep oblong grooves. Black, elytra brown, legs and antennae yellow-brown. Length 1.9-2.5 mm *Monotoma picipes*
- Temples rounded. Frons between eyes without oblong grooves **3**
3. Lateral margins of pronotum arcuate, more strongly converging anteriorly than posteriorly, anterior pronotal angles projecting into strong acute teeth. Black, legs and antennae red-brown. Length 2.0-2.3 mm *Monotoma spinicollis*
- Lateral margins of pronotum almost rectilinear, subparallel, anterior pronotal angles obtuse, not prominent. Black, elytra brown, legs and antennae yellow-brown. Length 2.0-2.3 mm *Monotoma bicolor*

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