

# The cockroach wasps (Hymenoptera: Ampulicidae) of the Maltese Islands

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**ABSTRACT.** The cockroach wasp fauna of the Maltese Islands is reviewed. The family Ampulicidae is represented by solely two congeneric species, *Dolichurus corniculus* (Spinola) and *Dolichurus haemorrhous* A. Costa, the latter is here recorded for the first time from the Maltese archipelago.

**KEY WORDS.** Malta, new record, *Dolichurus*.

## INTRODUCTION

The family Ampulicidae, historically considered a subfamily within the paraphyletic Sphecidae *sensu lato*, is a relatively small group consisting of about 200 extant species in six genera (AGUIAR *et al.*, 2013). Ampulicidae is split into two extant subfamilies, the Ampulicinae (consisting of the genera *Ampulex* and *Trirogma*) and the Dolichurinae (composed of the genera *Dolichurus*, *Paradolichurus*, *Aphelotoma* and *Riekefella*) (PULAWSKI, 2020). The monophyly of Ampulicidae is well-supported and the group possesses a number of distinctive features (OHL & SPAHN, 2010). They are elongated wasps with legs adapted for running across the ground; the notauli are long and often deeply impressed; the mesopleuron lacks an episternal sulcus on its lateral surface; and the collar is angular; the sexes differ somewhat in the shape of the gaster – attenuate in females, blunt in males (BOHART & MENKE, 1976).

The greatest diversity of ampulicids exists in the tropics, with much fewer species occurring in more temperate regions. Adult female ampulicids hunt cockroaches (Blattodea) to provision their nest cells, which may be in pre-existing cavities or constructed by the wasps themselves by burrowing. The cockroach-hunting behaviour of ampulicids has been most extensively studied in the tropical species *Ampulex compressa*, due to its unusual sting which induces transient paralysis followed by hypokinesia in its blattodean prey (LIBERSAT, 2003).

The Ampulicidae of the Maltese Islands were never treated alone, but a single species was mentioned by SCHEMBRI (1991). The present study adds another species and provides notes for both taxa.

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## KEY TO AMPULICIDAE OF THE MALTESE ISLANDS



1. Tergites and mandibles wholly black; frons densely puncto-reticulate, lacking large shiny interspaces ..... *Dolichurus corniculus*
- Fourth to sixth tergites red, mandibles red with yellow spot at base; frons with large shiny interspaces ..... *Dolichurus haemorrhous*



1. Mandibles black, frons striate or densely punctate; tergites 1-3 with increasingly dense punctuation ..... *Dolichurus corniculus*
- Mandibles reddish or yellowish, frons in front of ocellus shiny; tergites 1-3 evenly punctate ..... *Dolichurus haemorrhous*

## ANNOTATED SPECIES LIST

*Dolichurus corniculus* (Spinola, 1808)

**Material examined.** None.

**Notes.** A species widely distributed in Europe and North Africa, *Dolichurus corniculus* was first recorded from the Maltese Islands by SCHEMBRI (1991) on the basis of two males collected in late August and early September of 1979. SCHEMBRI (1991) associated *D. corniculus* exclusively with freshwater in valleys, though this may not necessarily be the case. The fact that no material of this species has been collected in the present study may indicate that *D. corniculus* is a relatively rare species. This is to be expected as females provision nest cells with cockroaches of the genus *Ectobius*, represented by only one rare taxon in the Maltese Islands, *E. kraussianus* (PAGLIANO, 1986; SCHEMBRI, 1980).

*Dolichurus haemorrhous* A. Costa, 1886

(Fig. 1)

**Material examined.** MALTA: Mellieha (St Maria Estate), 25.vii-25.viii.2017, 1♀ & 3♂♂ (malaise trap), leg. D. Mifsud; Fawwara, 22-29.v.2017, 2♂♂ (malaise trap), leg. D. Mifsud; Buskett, 1.vii-30.viii.2014, 2♂♂ (malaise trap), leg. D. Mifsud.

**Notes.** *Dolichurus haemorrhous* is less widely distributed in Europe than the preceding species, occurring in southern territories such as the Iberian Peninsula and Italy; it also occurs in North Africa. The abundance of material collected in malaise traps in different localities around Malta indicates that this species is much more common than *D. corniculus*, which is also expected given that females provision their nest cells with the immobilized bodies of *Loboptera* cockroaches. In fact *Loboptera decipiens* is a very common and widespread species in the Maltese Islands (PAGLIANO, 1986; SCHEMBRI, 1980).



**Figure 1:** *Dolichurus haemorrhous* A. Costa, 1886, ♀. Collection data: Mellieħa (St Maria Estate), 25.vii-25.viii.2017 (malaise trap), leg. D. Mifsud.

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