

First record of a sharp-tailed bee (Hymenoptera: Apoidea) from the Maltese Islands, with an updated checklist of Megachilidae

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ABSTRACT. The genus *Coelioxys* is recorded from the Maltese Islands for the first time on the basis of a specimen of *Coelioxys (Allocoelioxys) afra* Lepeltier, 1841. A check-list of the 24 species of Megachilidae occurring in Malta is also provided.

KEY WORDS. *Coelioxys*, bees, new record, Malta, Mediterranean.

INTRODUCTION

The first entomological records of the bee species inhabiting the Maltese Islands were provided by ALFKEN (1929), who at that time included 20 species in his list of Maltese Hymenoptera. The Apoidea of the archipelago were not mentioned again until over 40 years later, with the lists provided by VALLETTA (1971, 1979) recording a total of 50 species. SCHEMBRI (1982) added a further 15 species to the known bee fauna. BALZAN *et al.* (2016) recorded another species and reviewed the Maltese Apoidea, listing some previous records as dubious and considering a total of 95 species to represent the local fauna. BALZAN *et al.* (2017) added a further nine species.

The present work records for the first time a kleptoparasitic megachilid bee of the genus *Coelioxys* in the Maltese Islands, *C. afra*, bringing the total known Megachilidae and Apoidea for the Maltese Islands to 24 and 105 respectively. A checklist of Maltese megachilids is also provided in Appendix I.

MATERIAL AND METHODS

The specimen was identified using the key provided by ORTIZ-SÁNCHEZ *et al.* (2009). The specimen was double-mounted and photographed using an Olympus TG-5 on macro mode with focus stacking in conjunction with a Leica M80 stereomicroscope.

Coelioxys (Allocoelioxys) afra Lepeltier, 1841

(Fig. 1)

Material examined. MALTA: Mellicha (St. Maria Estate), 25.vii-25.viii.2017, 1♀ (malaise trap), leg. D. Mifsud.

Notes. *Coelioxys* Latreille, 1809 is a large and globally-distributed genus of kleptoparasitic bees, most diverse in South America with some 200 described species – twice the number occurring in

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North America, Australia and the Palaearctic combined; the genus also occurs in Africa, where about 80 species are known. They are morphologically distinctive bees, readily distinguished from all other genera within the tribe Megachilini by the abundance of hairs on their eyes; the males are instantly recognized by the multispinose appearance of the sixth tergite, as it bears four long preapical spines (MICHENER, 2000).

Coelioxys afra is the type species for the subgenus *Allocoelioxys* Tkalců, 1974 – an Old World taxon distributed from Europe to East and South Asia; it also has representatives in Africa, with over 40 described species globally (PROSHCHALYKIN & LELEJ, 2004; MICHENER, 2000). *Coelioxys afra* is a kleptoparasite of *Megachile* species, such as *M. apicalis*, *M. argentata*, *M. leachella* and *M. pilidens* (WARNCKE, 1992; SCHREVEN, 2011). Females deposit a single egg into the nest tunnel of their host while they are elsewhere harvesting leaf fragments; the egg is laid exactly near the host's egg and provisions, where the larva of *Coelioxys afra* hatches first and feeds directly on the chorion of the *Megachile* egg, consuming the nectar and pollen provisions in later instars (ROZEN & KAMEL, 2008).



Figure 1: Female *Coelioxys (Allocoelioxys) afra* Lepeltier, 1841 collected in Malta. Collection data as in material examined.

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Appendix I. Updated checklist of the Megachilidae of the Maltese Islands with species listed alphabetically within their respective tribes; two species are omitted from the fauna as their presence was considered dubious by BALZAN *et al.* (2016).

Tribe Anthidiini

Anthidiellum strigatum (Panzer, 1805)
Anthidium florentinum (Fabricius 1775)
Anthidium manicatum (Linnaeus, 1758)
Rhodanthidium septemdentatum (Latreille 1809)
Rhodanthidium siculum (Spinola, 1838)

Tribe Lithurgini

Lithurgus tibialis (Morawitz, 1875)

Tribe Megachilini

Coelioxys afra Lepeltier, 1841
Megachile fertoni (Pérez, 1896)
Megachile pusilla Pérez, 1884
Megachile schmiedeknechti (Costa, 1884)
Megachile sicula (Rossi, 1792)

Tribe Osmiini

Heriades crenulata (Nylander, 1856)
Heriades punctulifera (Schletterer, 1889)
Heriades rubicola (Pérez, 1890)
Hoplitis adunca (Panzer, 1798)
Osmia caerulescens (Linnaeus, 1758)
Osmia ferruginea (Latreille, 1811)
Osmia frieseana (Ducke, 1899)
Osmia kohlii (Ducke, 1899)
Osmia latreillei (Spinola, 1806)
Osmia notata (Fabricius, 1804)
Osmia rufohirta (Latreille 1811)
Osmia submicans (Morawitz, 1870)
Osmia tunensis (Fabricius, 1787)