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# Contributions to the malacology of Malta, III: First record of *Planorbella duryi* (Wetherby, 1879) (Gastropoda Planorbidae) for Comino

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**ABSTRACT** The freshwater and allochthonous species *Planorbella duryi* (Wetherby, 1879) (Gastropoda Planorbidae) (= *Helisoma duryi* Wetherby, 1879) is reported from the island of Comino (Maltese archipelago). This is the first record of a freshwater species and also of an allochthonous species for the third largest island of the Maltese archipelago.

**KEY WORDS** Allochthonous species; *Planorbella*; Maltese archipelago; Comino.

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## INTRODUCTION

Alien species of non-marine molluscs in the Maltese islands have already been treated in detail in various studies (Giusti et al., 1995; Beckmann, 2003; Mifsud et al., 2003; Barbara & Schembri, 2008; Cilia, 2009; Cilia et al., 2012a). Many of these species were noted to be restricted to anthropogenic habitats, but the potentially invasive character of some species should not be underestimated (Barbara & Schembri, 2008; Cilia et al., 2012a; Cilia, 2014).

Herein, the freshwater species *Planorbella duryi* (Wetherby, 1879) (Gastropoda Planorbidae) (= *Helisoma duryi*) is reported from the island of Comino (= Kemmuna) for the first time. A long-term previous study about non-marine molluscs of this island and others, carried out from 1998 to 2012, did not reveal any specimens of any freshwater species (Cilia et al., 2012b). Therefore, this is the first record of a freshwater species and also the first record of an allochthonous species for the third largest island of the Maltese archipelago.

## METHODS AND RESULTS

A small population of *P. duryi* consisting of several specimens in various stages of growth was discovered and studied in situ on the 13th of May of 2017 in a water reservoir, presumably used to store water for use in the little arable land in the same valley, close to Santa Marija Bay (36°00’52”N 14°20’12”E). Some live individuals were collected for further observation in a laboratory setting.

In addition to the mollusc population, various larvae of Ephemeroptera and Odonata were observed, as well as some individuals of an unidentified freshwater fish. A carpet of chlorophytes covered most of the available surface, but the water itself showed very little turbidity. Another similar reservoir in the vicinity (36°00’41”N, 14°20’29”E) did not seem to contain any specimens of *P. duryi*.

One of the adult specimens collected for further study laid a batch of 20 eggs, encased in a white gelatinous membrane, using the plastic container as a substrate. On their first day, these eggs were a

very pale yellow-brown with a miniscule black nucleus at their periphery.

## DISCUSSION AND CONCLUSIONS

All previous records and mentions of *P. duryi* in the Maltese islands (Beckmann, 1987; Beckmann, 1988; Giusti et al., 1995; Cachia, 1999; Mifsud et al., 2003) and in Italy (Mastrantuono, 1990; Mienis, 2004; Zettler & Richard, 2003 [as *Planorbella anceps* (Menke, 1830); the figures in this paper also indicate a misidentification]; Alexandrowicz, 2003; Cianfanelli et al., 2007; Reitano et al., 2007; Sparacio et al., 2017) seem to indicate that the species is subject to passive dispersal with ornamental freshwater plants and with the introduction of freshwater fish, and therefore mostly restricted to private aquariums, fountains, greenhouses and reservoirs, with the occasional foray into natural ecosystems. Such localized, semi-naturalized populations are highly prone to population explosions and extinctions. Notably, a survey of species in Lago Albano (Lazio, Italy) in 1950 omits the species (Stella, 1951), with the first living examples being discovered in 1986 (Mastrantuono, 1990). By 2008, no more living specimens were to be found occurring in this locality (Mastrantuono et al., 2011). Likewise, a population in a small stream in Wiedil-Luq (Rabat, Malta) became extinct around 1988 due to drying up of the stream. The present author can also recall sizeable populations in Maltese public and private gardens in the 1990s (Romeo Romano Gardens, Santa Venera; Vincenzo Bugeja Institute, Santa Venera) that have since become extinct.

Other allochthonous planorbids, namely *Ferrissia californica* (Rowell, 1863), reported as *F. fragilis* (Tryon, 1863), that is a junior synonym of *F. californica* (see Christensen, 2016), a placement also confirmed through COI and 16S sequencing (F. Marrone, *in litteris*), and *Planorbarius corneus* (Linnaeus, 1758) have been previously recorded from the Maltese islands (Mifsud et al., 2003; Cilia, 2009). Of these, only *Pl. corneus* has a shell that is superficially similar to that of *P. duryi*, though its adult size is usually much bigger, with a more corrugated periostracum. More reliable methods of distinguishing *P. duryi* from *Pl. corneus* are a slight angulation on the dorsal surface of the whorl and the dilated, auriform outline of the peristome in *P. duryi*. The congeneric *P. anceps* (Menke, 1830), recorded from natural habitats in River Frigido (Henrard, 1968) [maybe also case of mistaken identity with *P. duryi* (cf. Cianfanelli et al., 2007; Marrone & Naselli-Flores, 2015)] and Lake Prespa (Eröss at al., 2005), has a prominently flared peristome not observed in any of the specimens studied for this research.

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