



A new species of *Mangelia* (Turridae: Mangeliinae) from the Mediterranean Sea

Una nueva especie de *Mangelia* (Turridae: Mangeliinae) del Mediterráneo

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Recibido el 17-VII-2007. Aceptado el 12-III-2008

ABSTRACT

A new species *Mangelia melitensis* nov. sp., from Malta, is introduced and compared with other similar congeneric species.

RESUMEN

Se describe una nueva especie *Mangelia melitensis*, de Malta, y se compara con especies congénéricas de aspecto similar.

KEY WORDS: Mollusca, Conoidea, Turridae, Mangeliinae, *Mangelia* nov. sp., Mediterranean.

PALABRAS CLAVE: Mollusca, Conoidea, Turridae, Mangeliinae, *Mangelia* nov. sp., Mediterráneo.

INTRODUCTION

The genus *Mangelia* is represented in the Mediterranean Sea by about 28 species (CLEMAM 2007). The shells are slender, fusiform in shape, with a sculpture consisting of axial, and often spiral sculpture. The siphonal canal is short and open and the columella is smooth without any processes. The mollusc has a wide foot, long tentacles with eyes situated on the sides of the stalks and at about $\frac{2}{3}$ their height, a long siphon and the body is mostly of a transparent white colouration, but sometimes with opaque coloured streaks or blotches, especially on the siphon. The radula consists of hollow marginal teeth, rarely barbed, with an irregular basal swelling (MCLEAN, 1971). The animal lacks an operculum. The diet consists mainly of

polychaete worms, sometimes larger than the mollusc itself. (C. M. pers. obs.)

Certain authors (BOUQUOY, DAUTZENBERG AND DOLLFUS, 1883; POWELL, 1966; VAN AARTSEN AND FEHR DE WAL, 1978) have proposed that the Mediterranean species classification should be separated into two genera, *Mangelia* (Risso, 1826) type species *Mangelia attenuata* (Montagu, 1803) and *Mangiliella* (B.D.D., 1826) type species *Mangiliella multilineolata* (Deshayes, 1836). The proposition is based on the type of development of the protoconch. *Mangelia* has a multi-spiral or planktotrophic type of protoconch, usually consisting of $2\frac{1}{2}$ or more whorls while *Mangiliella* has a paucispiral or direct type of protoconch consisting of $1\frac{1}{2}$ to

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2 whorls. Although this arrangement is very convenient for separating the species, BOUCHET (1990) advised against such methods for creating genera and subgenera in this already problematic family.

The Mediterranean species have been dealt with by several authors (NORDSIECK, 1977; VAN AARTSEN AND FEHR DE WAL, 1978; SABELLI, GIANNUZZI-

-SAVELLI AND BEDULLI, 1990; CACHIA, MIFSUD AND SAMMUT, 2001; GRUPPO MALACOLOGICO LIVORNESE AND GRUPPO MALACOLOGICA ROMAGNOLO, 2005).

During our ongoing research on the marine mollusca which inhabit the coasts of the Maltese Islands, we have come across many specimens of a distinct *Mangelia* species which is new to science. It will be introduced herein.

SYSTEMATICS

Superfamily CONOIDEA Vaught, 1989

Family TURRIDAE Swainson, 1840

Subfamily MANGELIINAE Vaught, 1989

Genus *Mangelia* Risso, 1826

Mangelia melitensis nov. sp. (Figs. 1, 2)

Material studied: All studied material is from the Maltese Islands. **Holotype**, collection number BMNH 20070312 (H= 6mm, W= 2.5mm), and two paratypes, collection number BMNH 20070313, off Gnejna Bay, in sand and algae from 40 m., x-2006, The Natural History Museum, London. Three paratypes, off Ras il-Wahx, 35 m., ix-1992, collection number MNHN 9988, Muséum National d'Histoire Naturelle, Paris. Three paratypes, off Rdum id-Delli, 50 m., ix-2006, collection number. TAU MO 57001, National Collections of Natural History, Department of Zoology, Tel Aviv University. Four paratypes, off Ras il-Wahx, 25-30 m., ix-1992, and three paratypes, St Thomas Bay, 3-4 m., viii-1987, National Museum of Natural History (Mdina, Malta). Other Paratypes: Salina Bay, 4 m viii-2000, 21 shells; off Rdum id-Delli, 60 m, viii-2006, 5 shells; off Cirkewwa Point, 34 m, viii-1996, 14 shells, in private collection of Charles Cachia.[Coll. No 1185]. Off St. Paul's Bay, 40-50 m., ix-1986, 3 shells; Qammieh, Cumnija, 50 m., viii-1986, 4 shells; St. Thomas Bay, 3-4 m., viii-1987, 11 shells; Bahar ic-Caghaq, beached, i-1991, 5 shells; Gozo Island, Dwejra, Coral cave, in sand, 25 m., 1 shell, 9-vi-2001 (leg. Anthony Sammut); off Golden Bay, 40 m, iii-1991, 9 shells; off Ras il-Wahx, 25-30 m., ix-1992, 31 shells; off Rdum id-Delli, 50 m., ix-2006, 9 shells, in private collection of Constantine Mifsud [coll. No. M1601]. Off Ras il-Wahx, 25-30 m., ix-1992, 2 shells, in private collection of Charles Sammut. Salina Bay, 4 m., viii-1998, 2 shells (C. Cachia leg.), in private collection of Gert Lindner.

Type locality: Gnejna Bay, Maltese Islands.

Etymology: Named after the type locality.

Description: Shell small, rather fragile, fusiform, typical of the genus. Protoconch consists of 2 1/2, rounded, transparent white, glassy whorls, the last with a few small, close-set axial riblets crossed by spiral micro-striae. Teleoconch consists of up to four whorls which are sub-angulated at their adapical third and curving regularly towards the suture. Sculpture of 8-9 narrow, flexuous, slightly opisthocline, axial ribs which continue to the base. Their interspaces are about twice as wide. The whole surface of the

shell is covered with dense micro-spiral striae of about the same thickness and close-set axial growth lines, producing an iridescent pattern. There are about 45-50 of these micro-spiral striae at the penultimate whorl. There are also 5-6 well spaced, thicker spiral chords at the base of the shell, near the siphonal canal. Aperture about half height of shell. Outer lip sharp, thin and fragile, thickened internally, with its topmost part clearly curved. Lip varix present in some specimens. Sinus shallow. Columella smooth.



Figure 1. *Mangelia melitensis* nov. sp., shells. A: holotype from off Gnejna Bay, in sand and algae, 40 m (height 6 mm); B: paratype from the type locality (height 6 mm); C, D: paratype from off Ras il-Wahx, 25-30 m (height 6.1 mm).

Figura 1. *Mangelia melitensis* nov. sp., conchas. A: holotipo, frente a Gnejna Bay, en arena y algas, 40 m (altura 6 mm); B: paratipo de la localidad tipo (altura 6 mm); C, D: paratipo, frente a Ras il-Wahx, 25-30 m (altura 6,1 mm).

Siphonal canal short and wide. The shell colour is white or beige. Rarely, some specimens are decorated with four, faint, brownish spiral bands or with tiny, brown sub-sutural blotches on the penultimate whorl, while others have a dark blotch at the middle of the exterior of the outer lip. A single specimen is completely brown.

The animal is transparent white with large black eyes at about two-thirds of the height of the tentacle stems. The foot has opaque white spots, while the siphon has small opaque yellowish spots. There is no operculum.

The species is found near or in *Posidonia oceanica* (Linnaeus) Delile, substratum at depths of 3 to 50 metres.

DISCUSSION

M. melitensis nov. sp. had already been introduced as *Mangelia* sp. A. in CACHIA ET AL. (2001). It differs from all the other Mediterranean forms of the *M. unifasciata* (Deshayes, 1835) complex, to which it is very similar, by the lack of bold spiral cords on its whorls. It is similar in this respect to *M. costulata* Risso, 1826 [= *M. smithii* (Forbes, 1840)], but in that species the spiral striae are fewer, flatter, much bolder, and continuous, not crossed by growth lines, while their interspaces are deeply incised. *Mangelia costulata* never forms a thickened rib on the

aperture, unlike the present species: Moreover, in *M. costulata* the last protoconch whorl has a bold reticulate type of sculpture, whilst in *M. melitensis* nov. sp. this whorl has only close-set flexuous axials with spiral micro-striae. *M. costulata* usually has a continuous wide brown band on the ultimate whorl and the animal has a bright orange spotted siphon.

Mangelia melitensis nov. sp., also offers similarities to *Mangelia costata* (Donovan, 1804). In that species however the whorls are very evenly convex not somewhat subangulated as

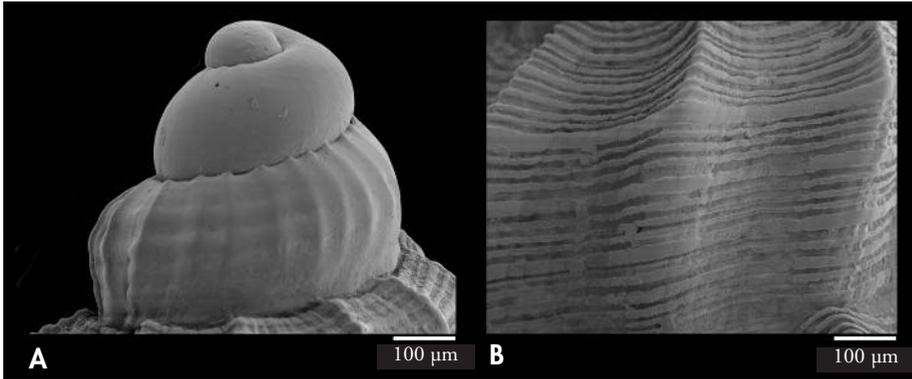


Figure 2. *Mangelia melitensis* nov. sp., scanning electron micrographs, same paratype as Figures 1C-D. A: protoconch; B: detail of the sculpture on a spire whorl.

Figure 2. *Mangelia melitensis* nov. sp., vistas en microscopía electrónica, mismo paratipo que las Figura 1C-D. A: protoconcha; B: detalle de la escultura en una vuelta de la espira.

in *Mangelia melitensis* nov. sp. The shell is also smaller, rather glossy, differently coloured, of a more fusiform aspect and with a slightly different protoconch. The animal is completely white.

Distribution: The Maltese Islands. The authors have not come across any specimens of *M. melitensis* nov. sp. from any other Mediterranean locality.

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ACKNOWLEDGEMENTS

We would like to thank our colleague P. Sammut (Rabat, Malta) for revising the manuscript and G. Lindner (Germany) for his kind disposition. The scanning electron micrographs for this paper were produced at the University of Málaga with the help of Gregorio Martín Caballero.