

“...On the afternoon tide we were
collected on El Mogote...
all snails in general,
but particularly the large conch...”

The Log from the Sea of Cortez
John Steinbeck

First Record of *Strombus (Doxander) vittatus vittatus* LINNAEUS, 1758 from the Mediterranean Sea, with a Brief Review of Strombids in the Levant Basin

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Introduction

Strombids, the conch shells, are one of the well-defined and attracting group of marine gastropods in tropical seas (DANCE, 1992), with a few species succeeded to penetrate the Mediterranean Sea (POPPE & GOTO, 1991; ZENETOS *et al.*, 2003; MIENIS, 2004; REPETTO *et al.*, 2005). Many conch shells are colorful; most are thick and heavy. Therefore, strombidae includes many species, which are intensively targeted, both by collectors and commercial fishermen. According to most recent literature of exotic molluscs in the Mediterranean Sea (ZENETOS *et al.*, 2003), currently 3 strombids, *Strombus lentiginosus* LINNAEUS, 1758; *S. mutabilis* SWAINSON, 1821; and *S. persicus* Swainson, 1821, have been recorded from the Levanten Basin. However, the presence of *S. mutabilis* is considered as questionable (ZENETOS *et al.*, 2003: 95), while its presence in the Mediterranean Sea has to be confirmed by additional finds (MIENIS, 2004); the record of *S. lentiginosus* is rejected by ZENETOS *et al.* (2003) and MIENIS(2004), due to the single finding of the species by AHARONI (1934).

While she was snorkeling in waters of Gokova Bay in September 2004 (Fig. 1), Miss Zeynep Lapaoglu has been found a single empty shell on sandy bottom at a depth of 5 m. She was brought the shell to us for identification, nearly six months later, after the sampling. As well as following the revision of subgenus *Doxander* by MAN IN T'VELD & VISSER (1993), this single shell identified as *Strombus (Doxander) vittatus vittatus* LINNAEUS, 1758 (Fig. 2). This is the first record of the species from the Mediterranean Sea. The shell is kept in the personnel collection of the first author. The following description is based on this single shell.

Description

A spindle-shaped shell (height 60.75 mm); teleconch with 6 flat-edged, shouldered whorls; protoconch is damaged. The body whorl is comprised about 66 percent of the shell height; spire is medium high (height 20.45 mm). Suture is comprised of a prominent, grove-like subsutural band, and not so deep. First 3 whorls of the teleconch with prominent axiale sculpture, which are visible to naked eye. Spiral sculpture is only present on the base of the shell; there are 11 spiral chords on the base of the examined shell. A slight axiale fold is present on the body whorl. Weak spiral striae, which can be seen only with a proper loupe, are present on the lower halves of the first whorls of the spire. Aperture is long, oblique and widely opened, with glossy inside. Columella is thick and columellar callus is slightly expanded to the body whorl. According to MAN IN T'VELD & VISSER(1993), weak teeth (or lirae) on the upper part of columella. In the examined shell, this lirae are so reduced, that

can only be seen with the loupe. Outer lip is expanded like a wing; posterior channel reaches the suture; strombid notch is prominent. A few labial teeth is seen on the lower part of the outer lip, close to siphonal channel. Shell is pale to whitish, with slightly reddish-brown pattern. In the original illustrations of *S. v. vittatus* from north to northeastern Australia (MAN IN T'VELD & VISSER, 1993), this reddish-brown pattern is remarkable, which didn't seen on the examined shell, probably due to the superficial erosion of the specimen in nature.

According to map seen in the article by MAN IN T'VELD & VISSER (1993; original figure 14 in the text, page 31), *S. v. vittatus* is common in Indo-Pacific area from north to northeastern Australia to Moluccas, Sulu archipelago, New Hebrids, Fiji and east Indonesia.

Discussion

According to most recent list of lessepsian mollusca in Turkish waters (OZTURK *et al.*, 2002), a total of 31 gastropods have been reported from Levanten basin to date. To best of our knowledge, only one strombid, *Strombus persicus* SWAINSON, 1821, recorded from Turkish Mediterranean waters (BUZZURRO & GREPPI, 1996; OZTURK & Cevik, 2000; Demir, 2003, as *Strombus (Conomurex) decoratus* [RÖDING, 1798]); however, a lot of speculation on the origin of this *Strombus* in the Mediterranean. Some researchers think it is a lessepsian species, considering that an accidental introduction of veligers released in the Mediterranean with ballast water discarded by tankers (POPPE & GOTO, 1991; OLIVERIO, 1995). Regarding *Strombus mutabilis* (SWAINSON, 1821), the origin of the species in the Mediterranean is much more clarified, as the the distributional area is included the Red Sea (DANCE 1992), as well as ZENETOS *et al.* (2003) reported doubtly this strombid gastropod as a possible Lessepsian immigrant. The only known specimen of *Strombus lentiginosus* LINNAEUS, 1758, is based on the recording by AHARONI (1934).

For the moment, we think that the present recording of *Strombus (Doxander) vittatus vittatus*, in Gokova Bay, Levanten basin, is the product of accidental introduction of veligers released with ballast water by the ships, as the species is not appeared in the most recent malacological list of the Red Sea by DEKKER & ORLIN (2000). We hope that further investigations would clarify the origin of this strombid in the future. For the meantime this species is considered as exotic mollusc species of which the presence in the Mediterranean Sea has to be confirmed by additional records.

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Figure 1. Sampling locality (●) of *Strombus (Doxander) vittatus vittatus* Linnaeus 1758, in Gokova Bay.

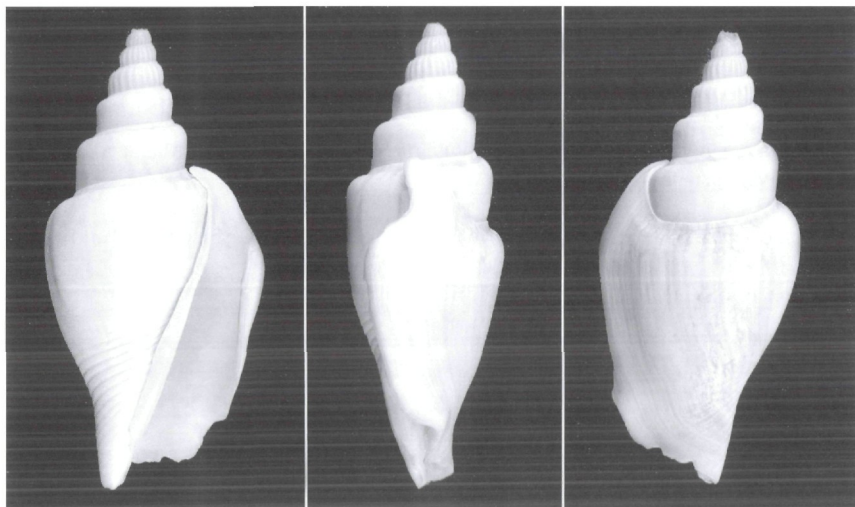


Figure 2. *Strombus (Doxander) vittatus vittatus* Linnaeus, 1758.

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