

**New data on *Spirolaxis clenchi* Jaume & Borro, 1946, from the Mediterranean Sea
(Gastropoda Prosobranchia: Architectonicidae)**

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A living individual of *Spirolaxis clenchi* Jaume & Borro, 1946, from the Mediterranean Sea (coast of Latium, Italy) is here reported for the first time. The authors discuss the systematic position of this species, suggesting that it is a taxon distinct from *Spirolaxis centrifugus* (Monterosato, 1890).

Key words: Gastropoda, Prosobranchia, Architectonicidae, *Spirolaxis*, taxonomy, Mediterranean Sea, Italy.

INTRODUCTION

The genus *Spirolaxis* belongs to the family Architectonicidae and includes the species *Spirolaxis clenchi* Jaume & Borro, 1946, and *S. centrifugus* (Monterosato, 1890).

There is a taxonomic controversy about these two taxa: Taviani (1974) and Melone & Taviani (1984) reported *S. clenchi* from the Atlantic Ocean (Cuba) and the Mediterranean Sea (two individuals from the North Tyrrhenian Sea, one individual from the Gulf of Naples; all specimens were lacking soft parts) and *S. centrifugus* from the Atlantic Ocean (European and African coasts). At the same time Bieler (1984) considered *S. clenchi* a synonym of *S. centrifugus*, the two holotypes never having been compared. *S. clenchi* has also been reported by Cecalupo (1985) from the South Sardinian Sea (two individuals lacking soft parts) and by Cecalupo & Giusti (1986, 1989) from the North Tyrrhenian Sea (three individuals lacking soft parts).

A lot of specimens, including a living individual, of *S. clenchi* have been collected in the course of an investigation (Smriglio et al., 1987, 1989) on some deep-sea coral biocoenoses (Pérès & Picard, 1964) located in the Mediterranean Sea. These numerous records permit a greater insight in the taxonomic position and relationship of the two species above mentioned.

SYSTEMATICS

Ordo	Mesogastropoda
Superfamilia	Cerithioidea
Familia	Architectonicidae
Genus	<i>Spirolaxis</i>

MATERIAL

Several kilogrammes of marine sediment dredged at a depth of 450-600 m from the Central Tyrrhenian Sea (coast of Latium, 41°51'N 11°28'E; 41°44'N 11°49'E; 41°24'N 12°3'E) have been analyzed. Forty individuals, in different stages of development, and several fragments of *S. clenchi* have been identified (figs. 1, 3, 5-10, 15-17). One exceptionally still containing the soft parts, was dissected in order to obtain the operculum (fig. 11).

Two specimens labeled *S. centrifugus* and belonging to the Monterosato collection deposited in the Museo Civico di Zoologia di Roma (MCZR) have also been analyzed (figs. 2, 4, 12-14).

DISCUSSION

A lot of specimens, including a living individual and many fragments, of *Spirolaxis clenchi* Jaume & Borro, 1946, have been identified in several samples of sediment dredged offshore from the coast of Latium.

We consider these findings noteworthy for the following reasons.

— (1) It is the first report of a living individual of *S. clenchi* from the Mediterranean Sea.

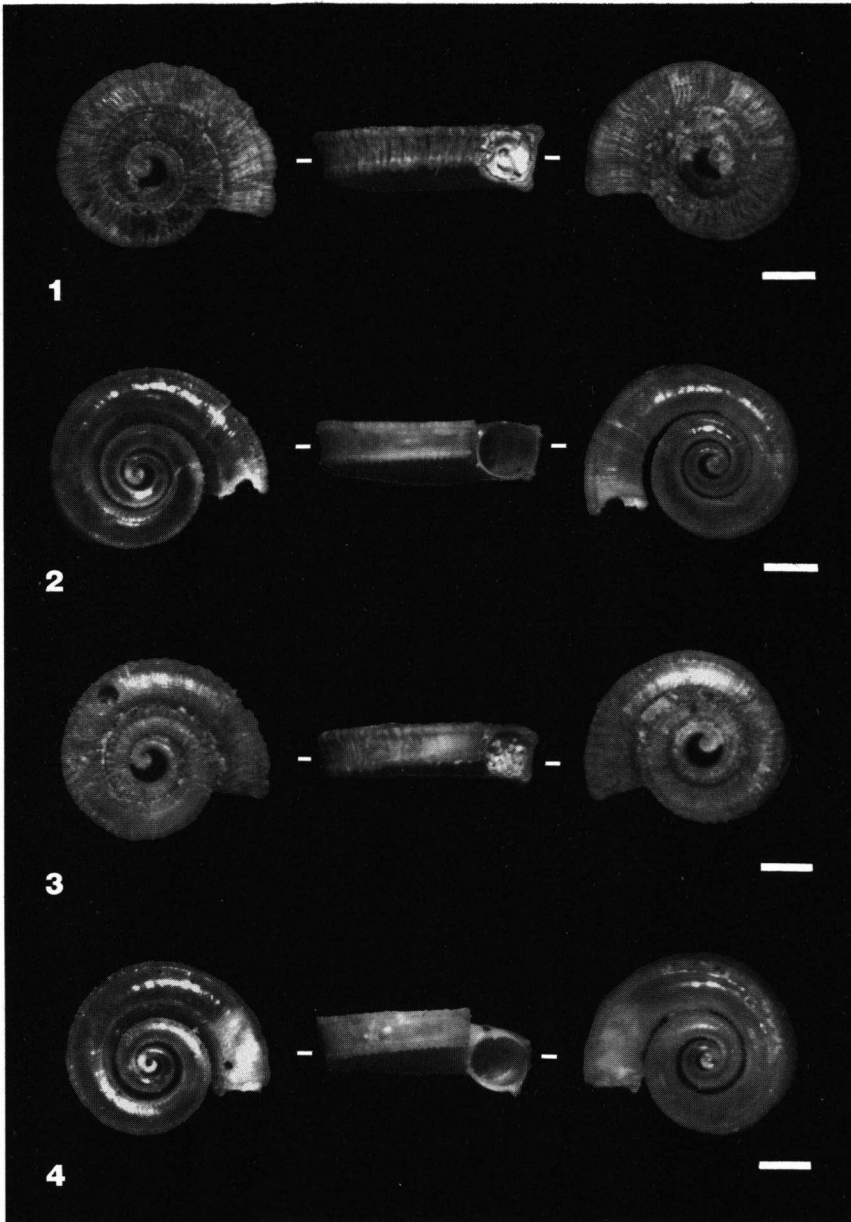
— (2) This species seems to belong to the deep-sea coral biocoenosis of the Central Tyrrhenian Sea, up to now scarcely known. Our investigation supports the view that it is worth-while to better characterize the faunal assemblages of this poorly studied community. Major components of this bathyal biocoenosis are the azooxanthellate corals like *Dendrophyllia cornigera* (Lam.), *Desmophyllum cristagalli* Edw. & Haime and *Madrepora oculata* L. Among sessile organisms we have found a great number of polychaetes of the family Serpulidae, such as *Vermiliopsis monodiscus* Zibrowius, *Metavermilium multicristata* (Philippi) and *Janitra fimbriata* (Delle Chiaje).

Associated with the corals we have identified the following mollusc species: *Protilidium ancyloide* (Forbes, 1840), *Addisioia lateralis* (Requien, 1848), *Putzeysia wiseri* (Calcara, 1845), *Tharsiella romettensis* (G. Seguenza, 1873), *Turbona cimicoides* (Forbes, 1844), *Aclis walleri* Jeffreys, 1867, *Lunatia fusca* (Blainville, 1825), *Argobuccinum olearium* (L., 1758), *Trophonopsis multilamellosa* (Philippi, 1844), *Trophonopsis muricata* (Montagu, 1803), var. *barvicensis* (Johnston, 1825), *Fusinus rostratus* (Olivi, 1782) var. *albescens* (Coen, 1935), *Pyramidella octaviana* Di Geronimo, 1973, *Barbatia scabra* (Poli, 1795), *Bathyarca grenophia* (Risso, 1826), *Bathyarca philippiana* (Nyst, 1848) *Cyclopecten hoskynsi* (Forbes, 1844), *Delectopecten vitreus* (Gmelin in L., 1791), *Abra longicallus* (Scacchi, 1834), *Pholadomya loveni* Jeffreys, 1882, and *Haliris berenicensis* (Sturany, 1896).

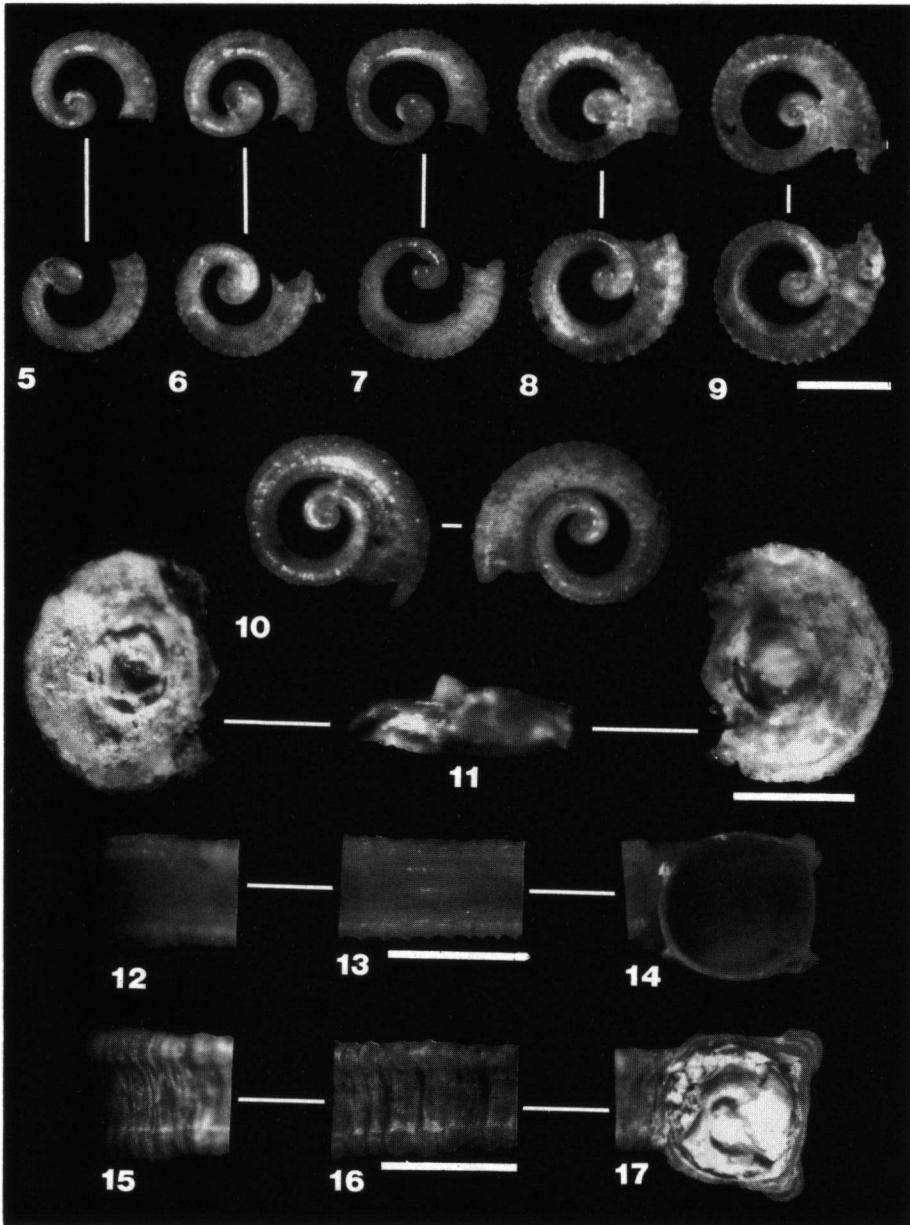
— (3) The geographical distribution of *S. clenchi* in the Mediterranean Sea is slightly extended.

— (4) The great number of individuals of *S. clenchi* identified prompted us to try to clear up the taxonomic controversy about the possible synonymy of this species with *S. centrifugus* as proposed by Bieler (1984). In fact, we could compare many specimens of *S. clenchi* with two specimens labeled *S. centrifugus* in the Monterosato collection (MCZR).

Unfortunately, besides a label indicating the species name only, no other data were available. So, without any clues, one of the two individuals analyzed cannot be considered the holotype described by Monterosato (1890), in spite of the fact that Melone



Figs. 1-4. Shells of *Spirolaxis* species. 1, *S. clenchi*, Central Tyrrhenian Sea; 2, *S. centrifugus*, Monterosato collection (MCZR); 3, *S. clenchi*, Central Tyrrhenian Sea; 4, *S. centrifugus*, Monterosato collection (MCZR). All scale bars 1 mm.



Figs. 5-17. Shells of *Spirolaxis* species. 5-10, *S. clenchi*, Central Tyrrhenian Sea, developmental stages, scale bar 1 mm; 11, *S. clenchi*, operculum, scale bar 0.5 mm; 12-14, *S. centrifugus*, Monterosato collection (MCZR), details of shell sculpture, scale bar 1 mm; 15-17, *S. clenchi*, Central Tyrrhenian Sea, details of shell sculpture, scale bar 1 mm.

& Taviani (1984) and Bieler (1984) mention the Rome museum as the holotype location.

Notwithstanding the above, we agree with Melone & Taviani (1984) that *S. clenchi* can be easily distinguished from *S. centrifugus* on the basis of its morphological characters. The protoconchs, body whorls, spiral cords, shell sculpture and opercula show marked differences in the two species. In particular, the body whorls of *S. centrifugus* are not joined as in *S. clenchi*: the initial teleoconch whorl of *S. clenchi* joins the shell body very soon producing a characteristic semilunate shaped opening (figs. 5-10).

The whorls in both species are quadrangular in cross-section (figs. 14, 17), but the ribs are different in number and size; in particular, in *S. centrifugus* the upper peripheral rib (UPR) and the lower peripheral rib (LPR) are small, but clearly evident as well as the two additional ribs formed by the basal field (BF) (figs. 12-14). On the other hand, in *S. clenchi* only the big LPR and one big rib formed by the BF are present (figs. 15-17). The nomenclature is according to the designation proposed by Bieler (1988).

Finally, the operculum of *S. clenchi* does not have external spiral laminae and the internal peg-shaped projection is less developed than the one of *S. centrifugus* (fig. 11).

These morphological differences and the fact that no record of *S. centrifugus* from the Mediterranean Sea has been available until now, at least as far as we know, show that *S. clenchi* and *S. centrifugus* can be separated as two distinct taxa. The finding of *S. clenchi* here reported brings more evidence in favour of this and gives more data about the ecology of this architectonicid.

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