

Marco Taviani (*)

ON THE SYSTEMATIC POSITION OF *CERITHIOPSIS CONCINNA*
SYKES, 1925 WITH DESCRIPTION OF THE NEW GENUS
NARRIMANIA (GASTROPODA: EPITONIIDAE). (**)

KEY WORDS: Epitoniidae, Nystiellinae, *Narrimania*, Mediterranean

Riassunto

Tre esemplari di *Cerithiopsis concinna* SYKES, 1925, specie originariamente descritta per il Mediterraneo ma successivamente "dimenticata" dai compilatori della fauna di questo mare, sono stati rinvenuti nel Canale di Sicilia da ricerche oceanografiche e da pescatori. Questa specie viene considerata tipo del nuovo genere *Narrimania*, sottofamiglia Nystiellinae, famiglia Epitoniidae. La specie è probabilmente legata agli Scleractiniani profondi. La sottofamiglia Nystiellinae comprende, nell'Oceano Atlantico, i seguenti generi: *Narrimania*, *Nystiella*, *Iphitus* e *Solutiscala*.

Abstract

Cerithiopsis concinna SYKES, 1925, originally described for the Mediterranean sea, has been "rediscovered" with three recent findings from the Strait of Sicily. *C. concinna* appears to belong to the family Epitoniidae, subfamily Nystiellinae, and is considered as the type-species of the new genus *Narrimania*. This species is possibly related to deep-sea Scleractinians. The subfamily Nystiellinae in the Atlantic Ocean is considered to include the following genera: *Narrimania*, *Nystiella*, *Iphitus* and *Solutiscala*.

Introduction

In 1925 SYKES published a contribution on the marine mollusks recovered by the « Porcupine » expedition describing also some new species from the Mediterranean sea. Among these he described

(*) Istituto di Geologia Marina del C.N.R., via Zamboni 65, Bologna, Italy

(**) Lavoro accettato il 18 Novembre 1983.

Cerithiopsis concinna, based on about fifteen shells dredged off the Adventure Bank (South of Sicily), giving the following description:

"Shell moderately elongate, thick, white, somewhat glossy. Protoconch brown, the first whorl smooth, then with well-marked longitudinal riblets, these being somewhat curved. The rest of the shell is marked by conspicuous longitudinal and spiral riblets of equal size, forming at their intersection flattened nodules. Suture well impressed. Mouth rounded-oval. Long. 3.75; Lat. 1.4 mm."

The species was figured by SYKES (1925: pl. 9, fig. 1) but his drawing is quite difficult to decipher. Curiously this species has never been quoted by the Authors listing the Mediterranean mollusks (NORDSIECK, 1968; PARENZAN, 1970; PIANI, 1980) and, more particularly, the Cerithiopsidae (NORDSIECK, 1976).

Two years after Sykes, DALL (1927), examining the mollusks collected by the steamer Albatross off the coast of Georgia (western Atlantic Ocean), described the new species *Epitonium azelotes*, without figuring it. The single shell described by Dall was dredged from the coarse sandy bottom, with shell and coral fragments, of station 2415 (Lat. N. 30° 44', Long. W 79° 26') at a water depth of 948 m. Later, CLENCH & TURNER (1952), reviewing the family Epitoniidae in the western Atlantic, redescribed briefly the holotype, providing also a good picture of it (1).

Recently P. BOUCHET (M.N.H.N. of Paris) has been able to examine the Sykes material preserved in the British Museum of Natural History of London, getting also SEM pictures of a syntype of *C. concinna* (figures 2a and 2b). As shown by these pictures, the protoconch characteristics indicate that *C. concinna* is an Epitoniidae of the subfamily Nystiellinae CLENCH & TURNER (1952).

Moreover, this species is very close to *E. azelotes* from which it differs by having only three spiral cords (while a fourth one is already present on the sixth whorl of *concinna*); the suture of *azelotes* is deeper than the one of the syntype of *concinna*; Dall's holotype presents a stronger sculpture and finally the basal disc is worn so that the possible presence of cords as in *concinna* is not proven. Only the finding of new eastern Atlantic material showing the intraspecific variability of *azelotes* will allow to fully understand the relationships between Sykes's and Dall's species and their eventual synonymy.

1) ABBOTT (1974) reports this same picture with, once again, only Dall's original datum. In the rich malacological collection of the N.M.N.H. of Washington D.C. no other specimens but the type is attributable to this species; a worn, uncomplete specimen, labeled as *azelotes* appears to belong to a different taxon. As far as I know no other record of this species has been reported since Dall's finding and thus *Epitonium azelotes* is known only from the holotype.

New findings

In recent time three more shells (figures 1,3 and 4) have been dredged offshore the southern coast of Sicily at depths greater than 200 m. Data relative to these findings are reported in Tab. 1.

Generally speaking, it appears that these recent specimens show a size comparable or larger than those collected by Sykes. Furthermore, SEM enlargements (figures 1c, 2a, and 2b) show the presence of a punctate microsculpture arranged in parallel, spiral lines.

Tab.1 - Data concerning the findings

Station	Locality	Water depth (m)	Remarks
CS73-7	36°53.6'Lat.N - 13°06.3'Long.E 36°51.8'Lat.N - 13°06.3'Long.E	695/370	Dredging
GESITE 37	36°27'Lat.N - 12°20'Long.E	≥ 200	Dredging
-	Unprecised, Strait of Sicily	> 200	Trawling

Systematic position

In their revision of the family Epitoniidae, CLENCH & TURNER (1952) enclose *E. azelotes* DALL into the new genus *Nystiella* (genotype: *Epitonium opalinum* DALL, 1927) comprised in their new subfamily Nystiellinae. According to these Authors:

"This subfamily differs from the Epitoniinae for the reason of the strong axial sculpture on the nuclear whorls... In addition, there is no abrupt change in the whorl shape at the start of the post-nuclear whorls. Radula of the Nystiellinae are very different from those in the Epitoniinae".

They indicate the radula of *Solutiscala formosissima* JEFFREYS, 1884, as an example for this subfamily.

The genus *Nystiella* is described by CLENCH & TURNER with the following diagnosis:

"Shells with the whorls attached, usually strongly and axially costate and having the nuclear whorls beyond the first whorl strongly and evenly axially ribbed or costate. Spiral sculpture of the post-nuclear whorls usually much finer than the axial sculpture".

CLENCH & TURNER group in this genus few species, all typical of the western Atlantic deep waters. These are:

Nystiella opalina DALL, 1927 (synonyms, according to Clench & Turner, are: *Epitonium lavatorum* DALL, 1927 and *Opalia* (?) *dromio* DALL, 1927
N. concava DALL, 1927
N. cania DALL, 1927
N. azelotes DALL, 1927
N. atlantis CLENCH & TURNER, 1952

There are notoriously many difficulties in the establishment of a natural classification in the family Epitoniidae. As regards the deep-water ones, the anatomical features of most species are unknown: this is particularly true for the Nystiellinae that are mostly known from empty shells. Thus, the conventional classification based on the morphological characteristics of the shell is largely used and accepted even if somewhat artificial. I was very doubtful about the convenience to describe another taxon for the family Epitoniidae. But the conchological characteristics of *concinna* and *azelotes* are really so distinguished from those of the other Nystiellinae that compell me to describe a new genus for them.

Narrimania, new genus

DESCRIPTION: general features all as in *Nystiella* s.s., but with the sculpture given by equally strong axial and spiral ridges forming very deep square excavations.

TYPE: *Cerithiopsis concinna* SYKES, 1925.

ORIGIN OF THE NAME: named after my wife Narriman to acknowledge her invaluable help in my malacological work.

REMARKS: the deep square excavations easily allow to distinguish this new genus from *Nystiella* s.s. that shows a predominant axial sculpture. Presently only two species, e.g. *N. concinna* and *N. azelotes* belong to this new genus; *Nystiella cania* (found by DALL, 1927, in the same station of *N. azelotes*) is close to *Narrimania* but its excavations are much more attenuate and thus its collocation in *Nystiella* seems more acceptable.

CLENCH & TURNER (1952) ascribed to the subfamily Nystiellinae also the genus *Solutiscala* DE BOURY, 1909, with the two subgenera *Solutiscala* s.s. and *Foratiscala* De Boury, 1909, for the characteristics of the nuclear whorls. Very recently BEU (1978) collocates in the family Epitoniidae the puzzling genus *Iphitella* THIELE, 1925 (= *Iphitus* JEFFREYS, 1883), attributed before to the Littorinidae, especially because of its protoconch characteristics. *Iphitus* comprehends few

species distributed in the deep waters of the Atlantic Ocean (Mediterranean included) and New Zealand (TAVIANI & SABELLI, 1982 with references therein). The characteristics of the nuclear whorls perfectly match those of the Nystiellinae so that it seems logical to collocate *Iphitus* in this subfamily.

The up-to-dated subfamily Nystiellinae CLENCH & TURNER, 1952, in the Atlantic Ocean is as follows:

genus *Narrimania* new gen.

genus *Nystiella* CLENCH & TURNER, 1952

genus *Iphitus* JEFFREYS, 1883

genus *Solutiscala* DE BOURY, 1909 (with the subgenera *Solutiscala* s.s. and *Foratiscala* DE BOURY, 1909).

Ecological remarks

We have no detailed information about the ecology of Nystiellinae. BEU (1978) and TAVIANI & SABELLI (1982) publish evidence that *Iphitus* is linked to deep-sea Scleractinians, parasitizing branching corals. *Narrimania* too could possibly be related to deep-sea ahermatypic Scleractinians since fragments are well represented in one of the dredging stations in the Strait of Sicily (CS 73-7) and in the station off Georgia, as quoted by DALL (1927). Since deep-sea Scleractinians are present in all the Oceans, it seems reasonable to foresee that the Nystiellinae have a wider distribution than the Atlantic and New Zealand waters only.

Paleontology

No evidence of fossil Nystiellinae has been published. However few specimens of a *Nystiella* s.s. have been recently recovered from post-Sicilian (Pleistocene) sandy-gravel deposits at Archi, near Reggio Calabria, southern Italy (CROVATO & TAVIANI in prep.).

The specimen from station CS 73-7 appears encrusted by biomite. Moreover the existence in this same station of a Pleistocene thanatocoenosis, possibly of the last glacial, has been repeatedly supposed (TAVIANI & COLANTONI, 1979, TAVIANI & SABELLI, 1982, GUIDASTRI et al. in press) and then confirmed by a C14 dating of a scleractinian giving an age ≥ 32.500 yr B.P. (DELIBRIAS & TAVIANI in prep.). It is therefore possible that *N. concinna* was already present in the Mediterranean basin from the late Pleistocene.

Acknowledgements

I am very indebted with Dr. Philippe Bouchet (Museum National d'Histoire Naturelle of Paris) that generously shared with me his unpublished data on *C. concinna* and for the SEM pictures of Sykes' specimen.

Thanks are also due to the curators of the National Museum of Natural History of Washington, D.C., Richard Houbriek, Joseph Rosewater and Harald Rehder, for the kind permission to examine the Epitoniidae preserved in their Institution and for the loan of the type of *Epitonium azelotes*.

Piero Piani loaned a specimen of *N. concinna* from his collection.

Constructive criticism and useful discussion with P. Bouchet, R. Houbriek and Bruno Sabelli are appreciated.

SEM pictures of Mediterranean shells by Vladimiro Landuzzi.

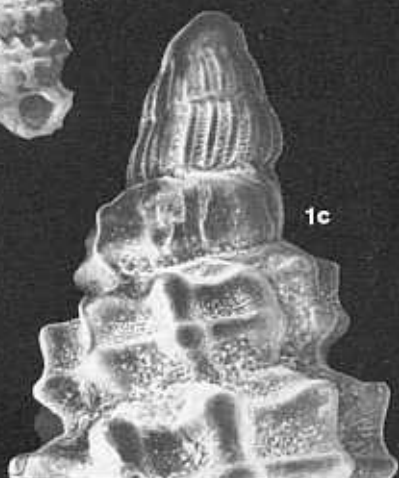
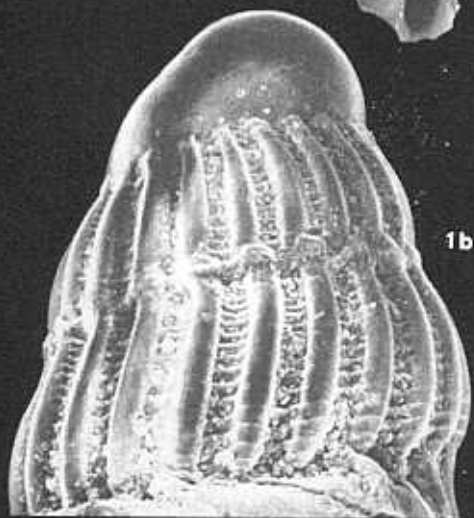
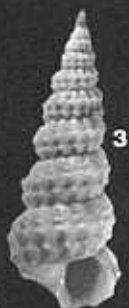
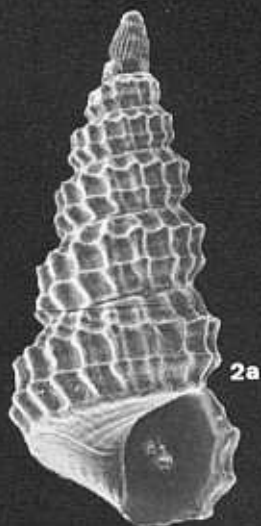
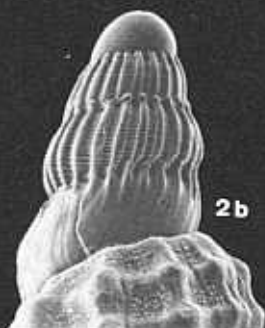
PLATE 1 Figure Captions

Fig. - *Narrimania concinna* (SYKES, 1925 from station GESITE 37 (Strait of Sicily); actual size 5.2 mm a) shell; b) protoconch; c) apical view, SEM pictures.

Narrimania concinna (SYKES, 1925), paratype from British Museum (N.H.); actual size 5.7 mm a) shell; b) apical view, note the planktatropic protoconch, x SEM pictures from Photo Centre de Microscopie of Paris.

Narrimania concinna (SYKES, 1925) from fishermens (Strait of Sicily); actual size 7,2 mm.

Narrimania concinna (SYKES, 1925) from station CS 73-7 (Strait of Sicily); actual size 7.1 mm.



REFERENCES

- ABBOTT R. T., 1974 - American seashells. 2nd edit., Van Nostrand Reinhold Co.: 663 p.
- BEU A. G., 1978 - Habitat and relationships of *Iphitella neozelanica* (DELL) (Gastropoda: Epitoniidae). *N. Z. Journal of Marine and Freshwater Research*, **12** (4): 391-396.
- CLENCH W. J. & TURNER R. D., 1952 - The genera *Epitonium* (Part II), *Depressiscala*, *Nystiella* and *Solutiscala* in the Western Atlantic. *Johnsonia*, **2** (31): 289-3.
- DALL W. H., 1927 - Small shells from dredgings off the southeast coast of the United States by the United States Steamer "Albatross" in 1885 and 1886. *Proc. U.S. National Museum*, **70**: 1-134.
- GUIDASTRI R., MELONE G. & TAVIANI M. - Systematic position of "*Trochus*" *wiseri* CALCARA, 1845 *Arch. fur Mollusk.* (in press).
- NORDSIECK F., 1968 - Die Europäischen Meeres Gehäuseschnecken (Prosobranchia). Gustav Fischer Verlag, Stuttgart: 273 p.
- NORDSIECK F., 1976 - Il genere *Cerithiopsis* FORBES & HANLEY, 1849 nei mari d'Europa. *La Conchiglia*, 85/86: 6-7 and 18.
- PARENZAN P., 1970 - Carta d'identità delle conchiglie del Mediterraneo. Vol. 1: Gasteropodi. Bios-Taras, Taranto: 283 p.
- PIANI P., 1980 - Catalogo dei molluschi conchiferi viventi nel Mediterraneo. *Bollettino Malacologico*, **16** (5-6): 113-224.
- SYKES E. R., 1925 - On the Mollusca procured during the "Porcupine" expeditions, 1869-70. Supplemental notes, Part V. *Proc. Malac. Soc. London*, **16**: 181-193.
- TAVIANI M. & COLANTONI P., 1979 - Thanatocoenoses wurmiennes associées aux coraux blancs. *Rapp. Comm. int. Mer Médit.*, **25/26** (4): 141-142.
- TAVIANI M. & SABELLI B., 1982 - *Iphitus* (Mollusca, Gastropoda) a deep-water genus new to the Mediterranean sea. *Lavori Soc. Malac. Ital.*: 129-131.