

# New species of Muricidae (Gastropoda) from the northeastern Atlantic and the Mediterranean Sea

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## ABSTRACT

Extensive material originating from different sources is currently examined by the author for a review of Mediterranean and northeastern Atlantic Muricidae. As a result, three species are here described as new. *Ocenebra brevis-rostra* n. sp. is the species usually figured as *O. torosa* (Lamarck, 1816) in literature. It is reported from the Atlantic coast of Morocco, and recognized as distinct from *O. erinaceus* (Linnaeus, 1758). *Ocenebrina leukos* n. sp. is a species with a uniformly white or dirty-white, lanceolate, heavy shell with a high spire, broad axial ribs, and a small, paucispiral protoconch. It is reported from Lanzarote Island, in the Canary Archipelago, and is compared with *O. edwardsi* (Payraudeau, 1826) from which it differs in being larger and very stable in form, sculpture and colour, unlike the highly variable shell morphology of *O. edwardsi*. *?Muricopsis cevikeri* n. sp. is included in a group of species whose shell has reduced or obsolete second abapical cord, and is doubtfully included in the genus *Muricopsis* Bucquoy & Dautzenberg, 1882. It is reported from West Turkey and Cyprus, in the eastern Mediterranean Sea.

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## KEY WORDS

Northeastern Atlantic,  
Mediterranean,  
Gastropoda,  
Muricidae,  
new species.

## RÉSUMÉ

*Nouvelles espèces de Muricidae (Gastropoda) du Nord-Est Atlantique et de Méditerranée.*

De nombreux spécimens de Muricidae sont actuellement à l'étude pour l'élaboration d'une révision des espèces de Méditerranée et du Nord-Est Atlantique. Les résultats permettent déjà la description de trois nouvelles espèces. *Ocenebra brevisrostra* n. sp. est l'espèce habituellement figurée dans la littérature comme *O. torosa* (Lamarck, 1816). Elle est signalée sur la côte atlantique du Maroc et est comparée à *O. erinaceus* (Linnaeus, 1758). *Ocenebrina leukos* n. sp. possède une coquille blanche ou blanc sale à spire allongée, avec de larges côtes axiales et une protoconque paucispirale. Elle est signalée à Lanzarote, dans l'Archipel des Canaries et est comparée à *O. edwardsi* (Payraudeau, 1826) dont elle diffère par sa plus grande taille, sa couleur et sa morphologie très stable, contrairement à *O. edwardsi* qui présente une très large variété de forme et de couleur. ?*Muricopsis cevikeri* n. sp. est confinée dans un groupe d'espèces dont la coquille présente une différence importante vis-à-vis des « vrais » *Muricopsis*. Le deuxième cordon spiral abapical est réduit ou totalement absent. L'intégration de cette espèce dans le genre *Muricopsis* Bucquoy & Dautzenberg, 1882 est douteux. ?*M. cevikeri* est signalée à l'Ouest de la Turquie et à Chypre, en Méditerranée orientale.

## MOTS CLÉS

Nord-Est Atlantique,  
Méditerranée,  
Gastropoda,  
Muricidae,  
nouvelles espèces.

## INTRODUCTION

Extensive material originating from the northeastern Atlantic and the Mediterranean sea is currently examined by the author in order to publish a review of all Recent species. Intensive searches and dredging operations in Europe during the past ten or twenty years, in previously few explored areas, have also led to the discovery of several unknown, or poorly known, noteworthy forms. This first report deals with the description of three new species.

There are currently 54 (sub)species of Recent Muricidae in the studied area: Muricinae (10); Ocenebrinae (20); Muricopsinae (3); Rapaninae (4); Ergalataxinae (3); Typhinae (1); Trophoninae (13). The classification of the Muricidae in the different subfamilies is based on shell morphology, and on the operculum and radula characters.

## ABBREVIATIONS

BMNH Natural History Museum, London, U.K.;  
IRSNB Institut royal des Sciences naturelles de Belgique, Bruxelles, Belgium;

MHNG Muséum d'Histoire naturelle, Geneva, Switzerland;  
MNHN Muséum national d'Histoire naturelle, Paris, France;  
SMNH Swedish Museum of Natural History, Stockholm, Sweden;  
dd dead specimen;  
lv live specimen.

## SYSTEMATICS

## Class GASTROPODA

## Family MURICIDAE Rafinesque, 1815

## Subfamily OCENEBRINAE Cossmann, 1903

Genus *Ocenebra* Gray, 1847*Ocenebra brevirobusta* n. sp.  
(Figs 1-3)

*Murex torosus* – Sowerby 1841: 174, fig. 39. – Kiener 1842: 82, pl. 33, fig. 2. – Reeve 1845: pl. 34, fig. 180. – Sowerby 1879: 45, sp. 209, fig. 195. – etc. (not *Murex torosus* Lamarck 1816: pl. 441, fig. 5).

TYPE MATERIAL. — Holotype in MNHN; paratypes: 3 (MNHN), 3 (SMNH), 1 (MHNG), 1 (BMNH), 3 (coll. R. Houart).

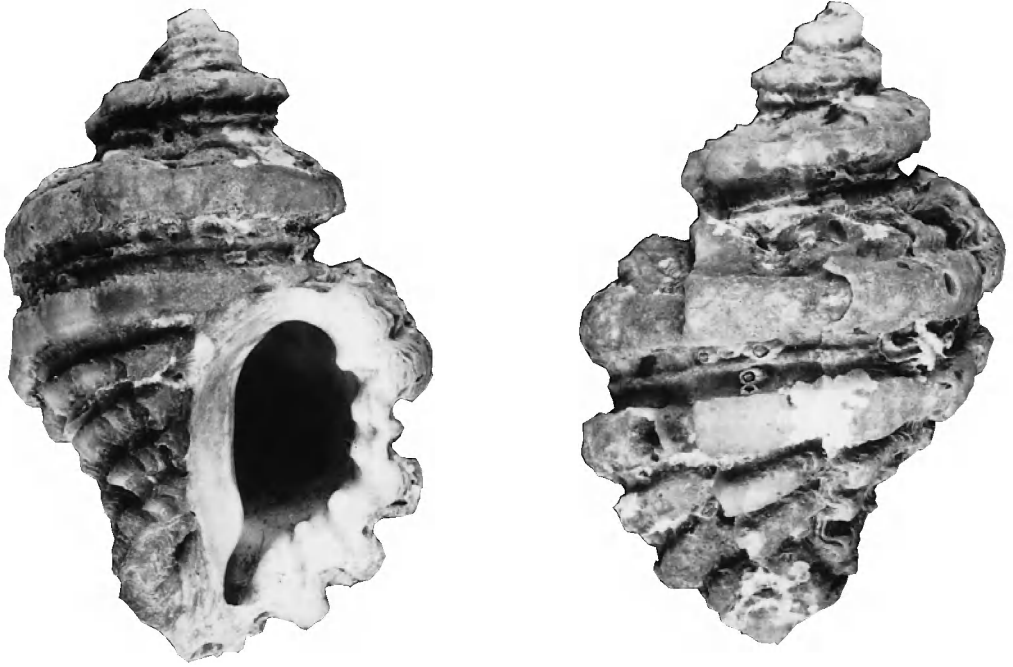


FIG. 1. — *Ocenebra brevirostra* n. sp., Morocco, Essaouira, holotype MNHN, 38.1 mm.

ETYMOLOGY. — From the Latin *brevis*: short, and *robusta*: strong.

MATERIAL EXAMINED. — **Essaouira (ex Mogador).** Morocco, Atlantic, intertidal, South of harbour pier, 40 lv and dd (holotype and paratypes).

**El Jadida.** Rocks pools, intertidal, 8 lv (MNHN).

**Asilah.** Beach, in shell debris, 1 dd (MNHN).

**Rabat.** Lahlou, beach, in shell debris, 9 dd (MNHN).

**Temara.** Beach "Sables d'Or", 33°55'N, 07°00'W, rocks and silt, 0-2 m, 2 lv (MNHN).

**Safi.** On the market, 2 dd (MNHN).

**Agadir.** Between stones and on the beach, low tide, 12 dd (coll. F. Swinnen).

**Morocco.** No other data, 7 lv (coll. R. Houart).

TYPE LOCALITY. — Morocco, Atlantic, Essaouira (ex Mogador), intertidal, South of harbour pier.

DISTRIBUTION. — Atlantic, North Africa, Morocco. *O. brevirobusta* and *O. erinaceus* are sympatric at Asilah, Morocco, while, from the few samples examined, *O. brevirobusta* does apparently not occur at Tanger, where only *O. erinaceus* was collected. In a few other Moroccan localities (El Jadida, Rabat, Temora, Essaouira [formerly Mogador], Agadir), *O. brevirobusta* was collected alone, on rocks, rocky reef flat, or on the pier, without any specimen of *O. erinaceus* (Fig. 6).



FIG. 2. — *Ocenebra brevirostra* n. sp., Morocco, Essaouira, paratype MNHN, 24.6 mm.



FIG. 3. — Distribution map of *Ocenebra brevirostra* n. sp. (●) and of *?Muricopsis cevikeri* n. sp. (\*).

## DESCRIPTION

Shell up to 42 mm in length with 1.5 protoconch whorls and six teleoconch whorls. Protoconch small, globose, smooth with rounded whorls. Axial sculpture of last teleoconch whorl with two to six, usually broad, large, rounded varices; occasionally very low, almost obsolete, but still perceptible; or narrow and fairly high. Spiral sculpture of four high, strong, primary cords, and several threads. Two adapical cords usually broader and stronger than two abapical cords. Space between two adapical spiral cords broad, deeply channeled, with one to three threads. Single thread or absent spiral threads between next abapical spiral cords.

Aperture large, broad, roundly-ovate. Outer lip crenulate, with six, occasionally seven, strong denticles within. Abapical denticles usually largest. Columellar lip narrow, smooth, adherent. Siphonal canal short, broad, sealed. Light or dark brown. Aperture white.

## REMARKS

This species has been hitherto confused with *Ocenebra erinaceus* or known under the name *O. torosa* following a lead by Kiener (1842). Lamarck's figure (1816: pl. 441, fig. 5) as *Murex torosus* (unknown locality) is more similar to *Heteropurpura polymorpha* (Brocchi, 1814), a species described from the Pliocene of Italy, than to



FIG. 4. — Figure 2 of Lamarck (1816).

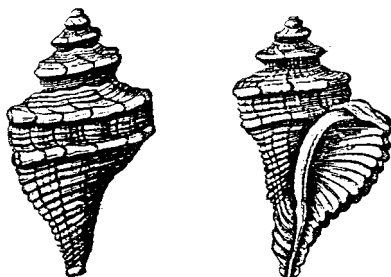


FIG. 5. — Figure 5 of Lamarck (1816).

any Recent species of Muricidae. It is not the species illustrated subsequently as *Murex torosus* by other authors. Unfortunately, the figured specimen by Lamarck was not localized in MHNG nor in MNHN, but even if it would be found in the future, it would not change anything about its wrong identification by subsequent authors.

There are two specimens labelled *Murex torosus* in MHNG (1099/67). The word "type" is written on the label (but not by Lamarck). This indication was crossed out since then (probably by Mermod, former Curator at MHNG). These specimens do not match the description nor the figures. The only resemblance is the general outline, and the two broader, rather spaced spiral cords, but the size given by Lamarck, almost 15 lines (33–34 mm), does not correspond with the specimens (respectively 24.3 and 18.3 mm), while the additional narrow spiral threads, and the apertural striae seen in Lamarck's figures are not observed in these specimens.

The specimen figured by Kiener as *Murex torosus* Lamarck (1842: pl. 33, fig. 2) was not localized

FIG. 6. — *Ocenebra erinaceus* (Linnaeus, 1758). Spain, San Carlos de la Rapita, Puerto de Los Alfaques, 40 m (coll. R. Houart) 49.1 mm.

in MHNG, and does not fit Lamarck's description.

According to Mermod (on MNHG cards), the indication of Lamarck (1822: 175): "Encyclop. pl. 441, f.5.a.b" is a mistake by Lamarck himself. Mermod writes "Encyclo. méth. pl. 441 fig. 2a-b. supposedly 5a-b but probably by mistake". In my opinion, the figure 2 of Lamarck (Fig. 4) represents a juvenile ranellid or an ocenebrine. Lamarck (1816) presents fig. 2 as *Triton doliarum* var., and he also (1816 and 1822) presents its fig. 5 (Fig. 5) as *Murex torosus*, and I find it difficult to believe that he made twice the same mistake.

Lamarck's fig. 2 somewhat resembles a juvenile of *O. torosa* auct. (= *O. brevirobusta* n. sp.) but in *O. brevirobusta* the two adapical cords of the last teleoconch whorl are larger, broader, and more broadly spaced than subsequent cords,

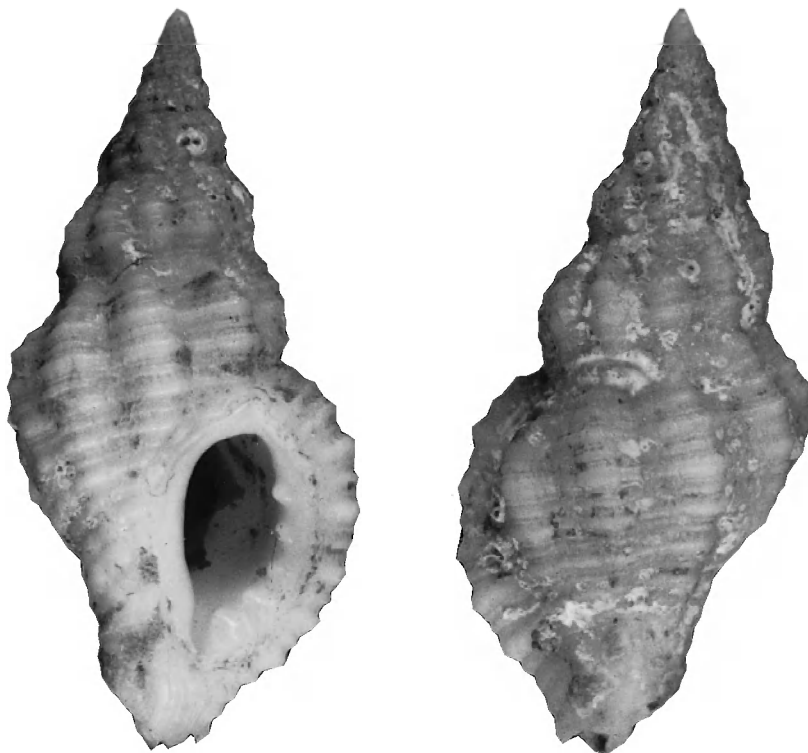


FIG. 7. — *Ocinebra leukos* n. sp. Canary Islands, Lanzarote, La Isleta, intertidal, holotype MNHN, 18.9 mm.

separated by a large gap. In fig. 2, all cords are obviously similar and equidistant.

*Ocinebra brevirobusta* n. sp. resembles *O. erinaceus* (Linnaeus, 1758) (Fig. 6) but some stable differences, and a restricted geographical distribution for *O. brevirostra*, have led me to separate both taxa on species level. *O. erinaceus* has a shell with highly variable morphology, although, to my knowledge, none of these varieties are similar to the very particular shell characters of *O. brevirobusta*.

*O. brevirobusta* differs from the typical *O. erinaceus* and all its subsequently named forms or varieties, in having always four broad, rounded, spiral cords on last teleoconch whorl, instead of usually five in *O. erinaceus*. It also differs in having a broad, channeled interspace between first and second adapical cords on the last whorl. The penultimate, and occasionally the antepenultimate whorls, have a broad carinal cord, and one

or two obviously smaller abapical threads in *O. brevirobusta*. In *O. erinaceus* there are two or three similar, or almost similar cords, and occasionally one or two threads between each pair of cords. *O. brevirobusta* also has a broader, more strongly denticulate aperture, and shorter siphonal canal relative to *O. erinaceus*.

Settepassi (1970: 51, pl. 41, fig. 116) described *O. (O.) erinaceus africanus* from the coasts of Algeria, Morocco, and Gibraltar. It differs from typical specimens of *O. erinaceus* in having four spiral cords on last whorl. However, the shouldered, angulate outline, the spiral sculpture of penultimate and antepenultimate whorls consisting of almost similar sized cords, the narrow aperture and fairly long siphonal canal differ constantly from *O. brevirobusta*. I am convinced that *africanus* is only a form of *O. erinaceus* with reduced second abapical spiral cord on last teleoconch whorl.

Genus *Ocinebrina* Jousseaume, 1880*Ocinebrina leukos* n. sp.  
(Figs 7-10)

TYPE MATERIAL. — Holotype in MNHN; paratypes: 6 (MNHN), 2 (SMNH), 1 (BMNH), 3 (coll. R. Houart), 2 (coll. F. Swinnen).

ETYMOLOGY. — From the Greek *leukos*: white.

MATERIAL EXAMINED. — **Lanzarote.** Canary Islands, La Isleta, intertidal, 13 lv and dd (holotype and paratypes); Lanzarote (no other data), 2 dd (coll. R. Houart).

**Orzola.** Tide line, 8 lv, 11 dd (MNHN); on rocks, 6 dd (2 paratypes) (coll. F. Swinnen).

TYPE LOCALITY. — Canary Islands, Lanzarote, La Isleta, intertidal.

DISTRIBUTION. — Canary Islands, NW Lanzarote, intertidal (Fig. 10).

## DESCRIPTION

Shell large sized for the genus, up to 18.9 mm in length at maturity (holotype), lanceolate, heavy, weakly nodose. Spire very high, with 1.5 protoconch whorls, and up to 6-6.5, broad, convex teleoconch whorls. Suture adpressed. Protoconch small. Whorls rounded, smooth, glossy; ending straight, abrupt.

Axial sculpture of teleoconch whorls consisting of high, broad, rounded ribs. First to third whorls with eleven or twelve ribs, fourth with eleven, fifth with nine or ten, last whorl with eight or nine ribs, and broad, strong terminal varix, occasionally with one or two other erratically placed varices. Spiral sculpture of low, broad, primary and secondary cords, and weak threads. Last whorl, including shoulder, with six or seven primary cords, six or seven secondary cords between each pair of primary cords, and usually a thread between secondary and primary cords.

Aperture small, ovate. Columellar lip narrow, smooth, with small parietal tooth, adherent, briefly and weakly erect abapically. Anal notch broad. Outer lip weakly erect, crenulate, with five, occasionally six strong, broad denticles within. Abapical denticle strongest; when six denticles, adapical (additional) denticle small. Siphonal canal short, weakly dorsally bent, sealed, spirally sculptured.



FIG. 8. — *Ocinebrina leukos* n. sp. Canary Islands, Lanzarote, La Isleta, intertidal, paratype MNHN, 18.4 mm.

Uniformly white, dirty-white, or tan-white. Aperture white.

Operculum light brown, D-shaped, with lateral nucleus in lower right. Attached surface with about four growth lines, and broad callused rim. Radula consisting of a sickle shaped lateral tooth with broad base and a rachidian bearing a short, projecting central cusp, long lateral cusp with inner lateral denticle on base; marginal area with three short denticles and long marginal cusp.

## REMARKS

*Ocinebrina leukos* n. sp. differs from *O. edwardsi* (Payraudeau, 1826), that occurs in La Caleta, Lanzarote, sympatrically with *O. leukos*, in being

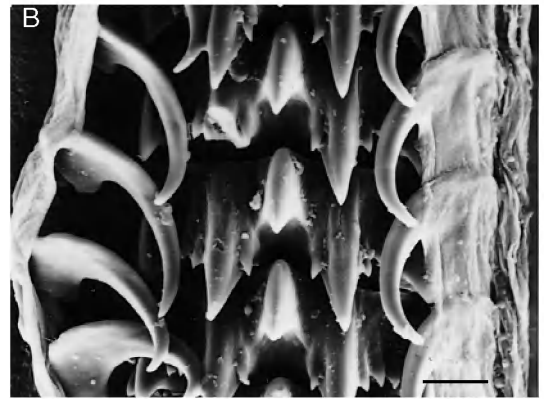
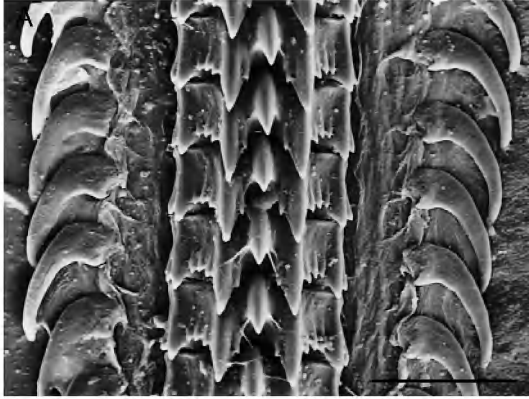


FIG. 9. — Radula of *Ocinebrina leukos* n. sp. La Isleta, Lanzarote, Canary Islands. Scale bars: A, 50  $\mu$ m; B, 20  $\mu$ m.

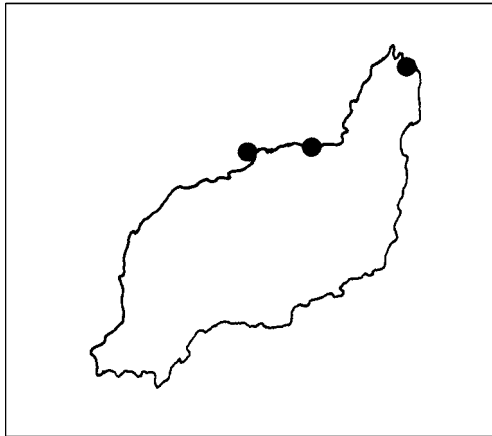


FIG. 10. — Distribution map of *Ocinebrina leukos* n. sp. (Lanzarote, Canary Islands).

larger, and very stable in form, sculpture, and colour, while *O. edwardsi* has a highly variable morphology, even in a same locality, as in La Caleta. *O. leukos* has constantly a uniform whitish shell with a very high spire, broad axial ribs, broad, rounded outer apertural lip, and broad, voluminous last teleoconch whorl. I never observed a single specimen of *O. edwardsi* from the Canary Islands, or from any other locality, with these characters combined. *Ocinebrina edwardsi* may be occasionally (rarely) of a uniform white colour, or may have a broad apertural lip, or a high spire, but then it lacks other characters, peculiar to *O. leukos*.

*O. leukos* was recorded, and illustrated by Nordsieck & Talavera (1979: 113, pl. 30, fig. 17) as *O. nicolai* Monterosato, 1884, a different species known from scattered localities throughout the Mediterranean Sea.

Subfamily MURICOPSINAE

Radwin & D'Attilio, 1971

Genus *Muricopsis* Bucquoy & Dautzenberg, 1882

?*Muricopsis cevikeri* n. sp.

(Figs 3; 11; 12)

*Ocenebra hybrida* – Tenekides 1989: 38, fig. 50.12 (not *O. hybrida* [Aradas & Benoît, 1876]).

TYPE MATERIAL. — Holotype in IRSNB 28833/486; paratypes: 1 (MNHN), 1 (BMNH), 1 (SMNH), 3 (coll. R. Houart), 3 (coll. D. Çeviker), 1 (coll. W. Engl), 1 (coll. C. Delongueville), 1 (coll. R. Scaillet), 1 (coll. F. Swinnen).

TYPE LOCALITY. — West Turkey, Aegean Sea, Iskenderun Gulf.

ETYMOLOGY. — Named after Dogan Çeviker, Istanbul, Turkey, who provided the type material and very useful information about turkish muricids.

MATERIAL EXAMINED. — **Iskenderun Gulf.** West Turkey, Aegean Sea, 9 lv (holotype, paratypes MNHN, Engl, Houart, Çeviker), 5 lv (coll. Çeviker). **Bozcaada.** Paratypes BMNH, SMNH, Delongueville, Scaillet, 13 lv and dd (coll. Çeviker), 9 lv and dd (coll. R. Houart).

**Kale.** 1 lv (coll. R. Houart).

**Mersin.** Tasucu, 1 lv (coll. R. Houart); Liman Kalesi, 1 lv (coll. R. Scaillet).



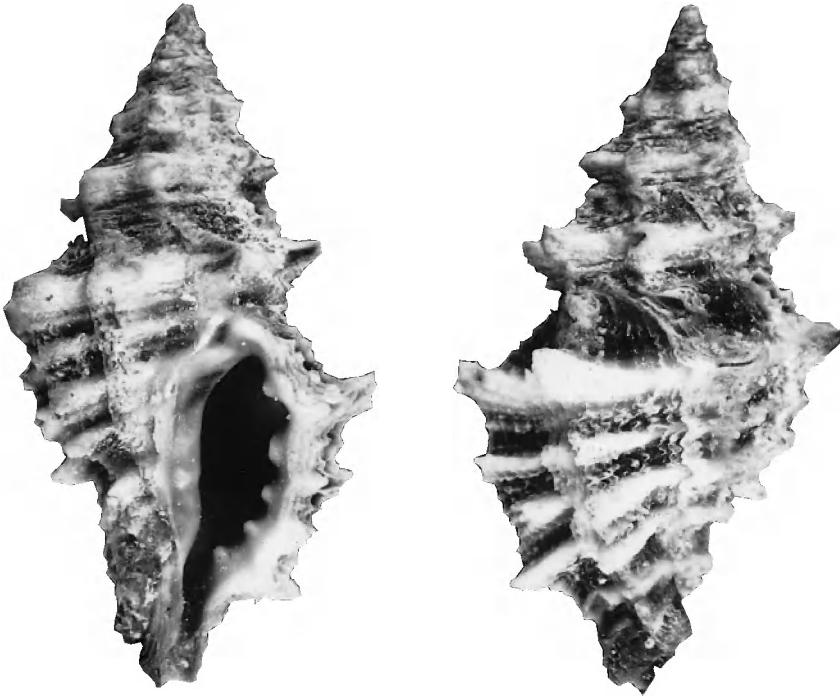


FIG. 11. — *Muricopsis cevikeri* n. sp. West Turkey, Iskenderun Gulf, holotype IRSNB, 24.5 mm.

**Cyprus.** Aya Napa, 65 (1 paratype and 64 juveniles), lv and dd (coll. F. Swinnen), 2 lv (coll. R. Scaillet).

**DISTRIBUTION.** — Eastern Mediterranean Sea, Greece, Saronikos (Tenekides 1989); Turkey: Bozcaada, Mersin, Iskenderun; Cyprus: Aya Napa (Fig. 13).

#### DESCRIPTION

Shell medium sized for the genus, up to 23 mm in length at maturity, biconical. Heavy, spinose. Spire high with 1.5 protoconch whorls and up to six angulate, shouldered, spinose teleoconch whorls. Suture impressed, partially obscured by small axial lamellae of following whorl. Protoconch large. Whorls rounded, minutely punctate. Terminal varix delicate, thin, erect, strongly curved.

Axial sculpture of teleoconch whorls consisting of moderately strong, broad varices, each with four primary, short spines, rarely with an additional spinelet between first and second adapical primary spines. Shoulder spine longest. First teleo-

conch whorl with eight to ten varices, second with seven to nine, third, fourth and fifth with eight or nine, last with six to eight. Other axial sculpture of numerous, weak, growth lamellae.

Spiral sculpture of one or occasionally two primary cords on first to fifth teleoconch whorls. Last whorl with four primary cords, forming small spines at intersection with axial varices, occasionally with five cords. Presence of one to three squamous threads between each pair of cords; three or four threads between last abapical cord of last whorl and adapical cord of siphonal canal.

Aperture narrow, ovate. Columellar lip narrow, with two, occasionally weak, abapical folds. Lip weakly erect abapically, adherent at adapical extremity. Anal notch broad, deep. Outer lip weakly erect, with five weak, or strong denticles within. Second adapical denticle usually strongest. Siphonal canal short, narrow, weakly dorsally recurved, open, with one short spine.



FIG. 12. — *Muricopsis cevikeri* n. sp. West Turkey, Iskenderun Gulf, paratype coll. D. Çeviker, 25.8 mm.

Greyish or milky-white, spiral cords and threads whitish or light brown. Dark brown or blackish brown on shoulder and between spiral cords.

Operculum dark brown, ovate-elongate, with apical nucleus.

Radula not examined.

#### REMARKS

?*Muricopsis cevikeri* n. sp. is included in a group of species with its main occurrence in the New World (i.e. the ?*M. oxytatus* [M. Smith, 1938] group). The “true” species of *Muricopsis* have five, rarely six spiral cords on the last whorl. The shells in the *oxytatus* group differ from the typical *Muricopsis* species in having a reduced, or obsolete second spiral cord (D. Merle, *in litt.*). ?*M. cevikeri* n. sp. differs from *M. cristatus*, a sympatric species apparently living in the same environment, in having the spire whorls ornamented

with a single primary, keel, forming the main keel of last teleoconch whorl, or with two primary cords of which the abapical one is narrower, and forms the second, narrower, adapical primary cord on last whorl. In comparison, *M. cristatus* has two primary cords of similar size, occasionally three, on spire whorls.

The last whorl of *M. cevikeri* is ornamented with four primary spiral cords of which the first one is broadest, second one smallest. The third and fourth ones are similar and of an intermediate size. A fifth secondary cord rarely occurs between first and second adapical primary cords. *M. cristatus* usually has five spiral cords, rarely six. The apical cord is broadest, the second and third ones are narrower, the fourth one is broad, and the fifth one is slightly narrower than the fourth one, or similar in size.

In juvenile specimens of *M. cevikeri* the spiral cords are narrower, and more broadly spaced than in juveniles of *M. cristatus*.

The colour is also interesting as I never observed any form of *M. cristatus* with such a constant pattern (see description and figures).

#### Acknowledgements

Many people have helped during the preparation of my review of Mediterranean and northeastern Atlantic species of Muricidae. This first result is the result of collaboration with P. Bouchet (Muséum national d'Histoire naturelle, Paris), D. Çeviker (Istanbul, Turkey), C. Delongueville (Brussels, Belgium), W. Engl (Düsseldorf, Germany), Y. Finet (Muséum d'Histoire naturelle, Genève), S. Gofas (Facultad de Ciencias, University of Malaga, Spain), D. Merle (Étampes, France), R. Scaillet (Brussels, Belgium), F. Swinnen (Lommel, Belgium), and A. Warén (Swedish Museum of Natural History, Stockholm). I am very thankful to all of them.

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