

## Three new deep-water epitoniid (Mollusca: Gastropoda) species from the southern Philippines

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**KEYWORDS.** Gastropoda, Epitoniidae, *Cirsotrema*, *Cycloscala*, *Epitonium*, new species, Philippines.

**ABSTRACT.** Three new deep-water gastropod species from Aliguay Island, Mindanao, Philippine Islands, assigned to the family Epitoniidae, are described and compared with their closest relatives. *Cirsotrema ernestoilaoi* n. sp., is compared with *Cirsotrema plexis* Dall, 1908, *C. amamiense* Nakayama, 2000, *C. cochlea* (Sowerby, 1844), and *C. dalli* Rehder, 1945. *Cycloscala aldynzeri* n. sp., is compared with *Eccliseogyra nitida* (Verrill & Smith, 1885), *Cycloscala laxata* (Sowerby, 1844), and *C. okezoko* (Azuma, 1962). *Epitonium (Parviscala) bevdyneri* n. sp., is compared with its congeners.

### INTRODUCTION

For the past several decades the more than 7,000 islands that officially comprise the Philippine Archipelago have yielded an astonishing number of new molluscan species. Due to the highly profitable commerce in rare shells, the awareness and interest of the native population in the collecting and marketing of specimen shells, particularly deep-water, more expensive species, has increase manifold; and the deep-water collecting that used to be the monopoly of such well-known localities as Punta Engaño, Zamboanga, and Balut and Talikud Ids., has expanded to many other localities throughout the Philippines. And the methods of collecting these deep-water species have also diversified. Many new species of epitoniids have come to light in recent year, more recently 14 new taxa described by Nakayama (2000). Three other new species of epitoniids, described herein, were obtained by Mr. Al Deynzer, who lived in the Philippines for several years, and by his Philippino partner, Mr. Ernesto Ilaó. The specimens were collected by bamboo trawlers, small hand made bamboo framed trawls that are used with a small "banca" boat. These boats were working in muddy sand in deep-water off northwestern Mindanao, the second largest island in the Archipelago.

### Abbreviations of repository institutions

ANSP- The Academy of Natural Sciences,  
Philadelphia, U. S. A.  
NM- Natal Museum, Pietermaritzburg, South Africa

### SYSTEMATICS

Superfamily EPITONIOIDEA  
Family EPITONIIDAE S. S. Berry, 1910

Genus *Cirsotrema* Mörch, 1852

Type species: *Scalaria varicosa* Lamarck, 1822

*Cirsotrema ernestoilaoi* n. sp.  
(Figures 1a-c)

### Description

Holotype 18.9 mm in length, turreted, white, solid. Protoconch unknown. Teleoconch of 8 whorls, whorls tabulated and excavated on shoulder. First whorl eroded, second and third whorls sculptured with numerous, slanted, lamellate axial ribs; starting on fourth whorl ribs becoming increasingly frilled below shoulder; frills filling interspaces between axial ribs, by fifth whorl beginning to obscure ribs, except at suture; frills becoming more dense in later whorls, creating somewhat of a grill pattern when thick, slanted threads, produced by the frilly ornamentation, cross visible top of axial ribs; this pattern more obviously seen on penultimate and antepenultimate whorls; interspaces of grill pattern filled with minute lamellae. Axial ribs on top of shoulders slightly frilled, broader and reflected abaperturally at middle of shoulder, creating a sinuous edge; rising at shoulder to form adapically oriented spines, giving whorls a coronated appearance; 23 such ribs on penultimate whorl. Spiral sculpture of numerous microscopic, uneven striae between axial ribs, striae tending to go up axial ribs abaperturally. Occasional, randomly arranged varices begin to appear on antepenultimate whorl. Sutures obscured by ornamentation, adapically pitted by remnants of axial sculpture. Basal ridge heavy, pitted at either side by remnants of axial sculpture. Aperture round, peristome continuous, thick, flattened and radially striated at outer lip; becoming thinner on parietal area, slightly free posteriorly, creating a

pseudoumbilicus. Operculum black with brownish edge, round, paucispiral.

#### Type material

Holotype (ANSP 407854) length 18.9 mm, width 8.1 mm (Figs. 1a-c).

#### Type locality

Off Aliguay Island, northwest of Dipolog, northern Mindanao, Philippine Islands. Collected by bamboo trawler in 240 m, in muddy sand.

#### Distribution

Western Mindanao Sea, from Balicasag Island, off Bohol, central Philippine Islands, to northern Mindanao, southern Philippine Islands, in 240- 380 m.

#### Etymology

Named for Mr. Ernesto Ilao, of Punta Engaño, Mactan Island, Cebu, central Philippines, who obtained the specimen. Mr. Ilao has been Mr. Deynzer's friend and assistant for 25 years.

#### Discussion

A second specimen of this new taxon, 19 mm in length, was obtained by Mr. Emmanuel Guillot de Suduiraut from fishermen in Balicasag Island, off Bohol, in central Philippines. It was obtained by means of tangle nets set in 380 m, in hard bottom with muddy sand associated with volcanic stones (pers. comm.). The specimen, slightly more pitted than the holotype, was shown in Mr. Guillot de Suduiraut's web site (see references) as *C. multiperforatum* (Sowerby, 1874), a junior synonym of *C. varicosum* (Lamarck, 1822). Unfortunately, when I contacted him he had already disposed of the specimen. Of the Indo-Pacific *Cirsotrema*, the new species generally resembles *C. plexis* Dall, 1925, a deep-water species found from Japan to the Philippines. However, the latter has about twelve, less tabulated whorls, a more elongated shell, a spiral sculpture of about 4 spiral cords with numerous threads between costae, and a different ornamentation, lacking the elaborate frilly design that obscures the axial ribs in the new species. It also resembles *Cirsotrema (Cirsotrema) amamiense* Nakayama, 2000 from Amami-Oshima Island, Japan. However, this species is wider relative to its height, has a much more angulate shoulder, and heavier axial sculpture. The two closest taxa to the new species are the tabulated form of *C. cochlea* (Sowerby, 1844) (Fig. 3), which has been named *C. pallaryi* de Boury, 1911, from the eastern Atlantic; and the tabulated

form of *C. dalli* Rehder, 1945 (Fig. 2) which has been named *C. arcella* Rehder, 1945, from the western Atlantic. These two taxa are practically inseparable in their conchological characteristics. They are readily separable from the new species by the narrower, less excavated shoulders, the heavier spiral threads and, more importantly, the heavily pitted axial sculpture that appears between ribs. This pitted appearance of *C. dalli* and *C. cochlea* is created when, instead of being continuous as in the new species, frilled processes on top of each axial ribs alternate; where there is frilling, the axial ribs touch each other, where the frilling is lacking a deep pitting appears. The two Atlantic species reach a larger size than the new taxon.

Genus *Cycloscala* Dall, 1889

Type species: *Scala dunkeriana* Dall, 1889

#### *Cycloscala aldeyzeri* n. sp. (Figures 4 a-d, 5a-b)

#### Description

Holotype 19.5 mm in length, vermiform, white, delicate, translucent. Protoconch glassy, conical, of about 5 attached whorls; first whorl(s) missing, following whorls smooth, convex, rapidly increasing size. Teleoconch of 8 rounded whorls, first three whorls loosely attached, following whorls conspicuously solute. Axial sculpture of numerous thin, evenly spaced ribs, about 60 on penultimate whorl, ribs about as wide as interspaces, completely encircling disjunct whorls and diminishing in strength in umbilical area. Interspaces smooth. Aperture subcircular, thin, with a slightly thickened rib behind lip. Operculum unknown.

#### Type material

Holotype (ANSP 407855) length 19.5 mm, width 7.5 mm (Figs. 4a-d). Paratype (NM L5596/T1775) length 20.2 mm, width 7.7 mm (Figs. 5a-b).

#### Type locality

Off Aliguay Island, northwest of Dipolog, northern Mindanao, Philippine Islands. Collected by bamboo trawler in 240 m, in muddy sand.

#### Distribution

Known only from the type locality.

#### Etymology

Named for Mr. Albert E. Deynzer, the well-known seashell dealer from Sanibel Island, Florida, who donated the specimens.

## Discussion

Kilburn (1985: 257) raised the subgenus *Cycloscala* Dall, 1889, from subgeneric to generic level. I agree with his conclusions and treat this taxon as such. Taxa assigned to the genera *Cycloscala* and *Eccliseogyra* Dall, 1892, are characterized by their disjunct whorls. There are members of both genera that closely resemble in general shape the new taxon described herein. *Eccliseogyra nitida* (Verrill & Smith, 1885), an Atlantic species, is the closest to the new species. However, Watson (1886: 142) described its protoconch as being brown in color, with four connected whorls and sculptured with closely placed axial ribs. Moreover, this, like all other species in *Eccliseogyra*, has spiral threads. The new species has been placed in *Cycloscala* because of its polygyrate, smooth, conical protoconch (Fig. 4c), its lack of spiral sculpture, and its disjunct whorls. However, it does not have the usually scalloped or fluted axial ribs shared by other *Cycloscala*, and it reaches a much larger size than other congeners with conspicuously disjunct whorls. Although *Cycloscala laxata* (Sowerby, 1844) attains a comparable size and inhabits Philippine waters, its whorls are much less disjunct, and has only 18-20 ribs per whorl. *C. okezoko* (Azuma, 1962), a Japanese species very similar to *C. laxata*, has 13-15 axial ribs per whorl. The combination of its relatively large size, numerous axial ribs, and conspicuously disjunct coiling of last 5 teleoconch whorls, readily distinguishes this taxon from related species. Yochelson (1971), suggests that in sedentary forms the loose coiling could function to maintain position in the substratum. We presume that the slightly thickened rib that appears behind the outer lip of the holotype may imply the reaching of full maturity of the specimen, and seems to be diagnostic of the species. This characteristic is replicated in the paratype, this time as a slightly thickened lip.

Genus *Epitonium* Röding, 1798

Subgenus *Parviscala* de Boury, 1887

Type species: *Scalaria algeriana* Sowerby, 1844

*Epitonium (Parviscala) bevdeynzerae* n. sp.  
(Figures 6a-c)

## Description

Holotype 27.8 mm in length, acuminate, white, thin. Protoconch unknown. Teleoconch of about 14 whorls; whorls slightly shouldered, otherwise rounded, ornamented with numerous, thin axial ribs, some ribs on last whorl reflected; becoming sinuous and slightly coronated at shoulders (Fig. 6c); approximately 67 ribs on penultimate whorl. Spiral ornamentation of numerous microscopic incised spiral lines of even strength between axial ribs, lines not crossing ribs, positioned slightly diagonally to

them. Varices absent. Suture closed, strongly constricted, crossed by axial ornamentation. Aperture subcircular; peristome simple, continuous, becoming thinner on parietal area. Color, white. Umbilicus closed. Operculum unknown.

## Type material

Holotype (ANSP 407856) length 27.8 mm, width 7.0 mm (Figs. 6a-c).

## Type locality

Off Aliguay Island, northwest of Dipolog, northern Mindanao, Philippine Islands. Collected by bamboo trawler in 240 m, in muddy sand.

## Distribution

Northern Mindanao, Philippine Islands.

## Etymology

Named for Mrs. Beverly A. Deynzer who, together with her husband, Mr. Al Deynzer, donated the specimen.

## Discussion

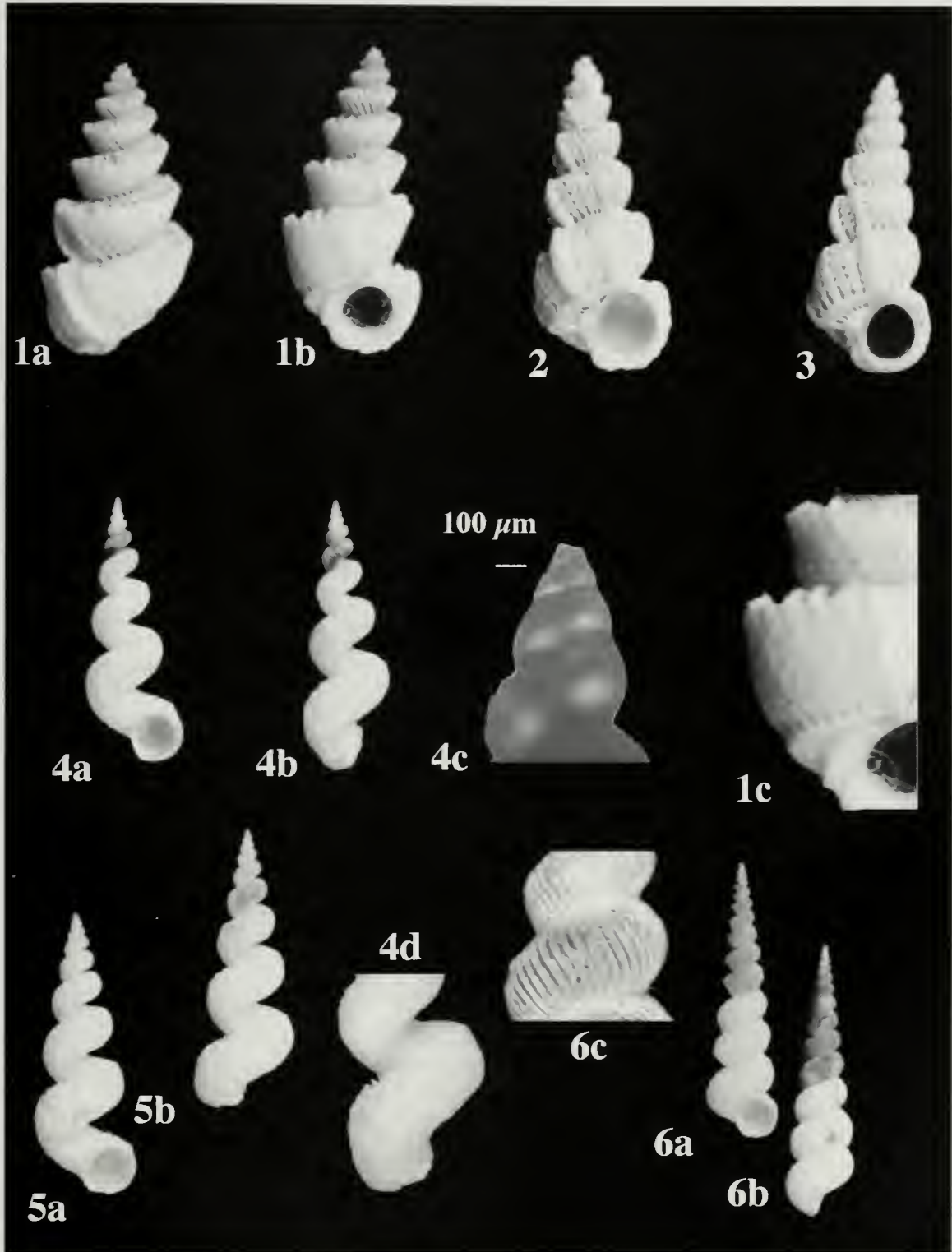
Clench & Turner (1952), and later Dushane (1974), placed all spirally sculptured species under the subgenus *Asperiscala* de Boury, 1909. Since the subgenus *Parviscala* de Boury, 1887 also has intervals with spiral thread, *Asperiscala* would become a synonym. We agree with Kilburn (1985: 314) that "the very large number of species that would have to be included in *Parviscala* s. l. negates much of the practical value of such grouping." Therefore, we consider *Parviscala* a valid subgenus, very similar to *Asperiscala* but with closed umbilicus. The acuminate shape, the slightly coronated axial ribs, the spiral sculpture, and the closed umbilicus place the new species in *Parviscala*, notwithstanding the generic misnomer for this large shell. *E. (P.) bevdeynzerae* is much larger and has many more axial ribs than all known *Parviscala*. Moreover, the round whorls, and the elongated shape readily distinguish this from its closest relatives.

## ACKNOWLEDGMENTS.

My thanks to Al and Bev Deynzer and Mr. Ernesto Hlo for donating the specimens of the three new species; to Dr. Gary Rosenberg, of the Academy of Natural Sciences of Philadelphia, for providing pertinent literature; to Dr. Emily Vokes, Emerita, Tulane University, New Orleans, Louisiana, for reading the manuscript; and to Dr. Suzanne Fredericq, of the Biology Department at the University of Louisiana at Lafayette, whose help was essential in the production of the plate.

## Figures

- 1a-c. *Cirsotrema ernestoilaoi* n. sp. Aliguay Island, northern Mindanao, Philippine Islands. Holotype (ANSP 407854) length 18.9 mm, width 8.1 mm: a) dorsal view b) ventral view c) enlargement showing sculpture.
2. *Cirsotrema dalli* Rehder, 1945, 24.2 mm. Off Jacksonville, Florida, U.S.A., in 90- 100 m. (García collection No. 10001)
3. *Cirsotrema cochlea* (Sowerby, 1844), 24.9 mm. Marbella, Málaga, Spain, in 10- 12 m. (García collection No. 12488)
- 4 a-d. *Cycloscala aldeynzeri* n. sp. Aliguay Island, northern Mindanao, Philippine Islands. Holotype (ANSP 407855) length 19.5 mm, width 7.5 mm: a) ventral view b) dorsal view c) protoconch d) enlargement showing sculpture
- 5a-b. *Cycloscala aldeynzeri* n. sp. Aliguay Island, northern Mindanao, Philippine Islands. Paratype (NM L5596/T1 775) length 20.2 mm, width 7.7 mm: a) ventral view b) dorsal view
- 6a-c. *Epitonium (Parviscala) bevdeynzeri* n. sp. Aliguay Island, northern Mindanao, Philippine Islands. Holotype (ANSP 407856) length 27.8 mm, width 7.0 mm: a) ventral view b) dorsal view c) enlargement showing sculpture



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