

Cerithium balletoni n. sp. from Tuamotu Archipelago (French Polynesia) (Gastropoda, Cerithiidae)

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Abstract

Cerithium balletoni n. sp. is described based on material collected by divers at Takapoto Atoll (northern Tuamotu Archipelago, French Polynesia), 15-30 m and at Punaauia (Tahiti Island), 50 m. The new species is compared with *Cerithium lissum* Watson, 1880, *C. rehderi* Houbrick, 1992 and *C. torresi* E.A. Smith, 1884, all sharing conical-lanceolate shell profile and strong, prominent, roundish tubercles in the spiral sculpture.

Riassunto

Viene descritto *Cerithium balletoni* n. sp. su materiale raccolto manualmente in immersione nell'atollo di Takapoto (nord Arcipelago Tuamotu, Polinesia Francese), 15-30 m ed a Punaauia (Tahiti), 50 m. La nuova specie è stata confrontata con *Cerithium lissum* Watson, 1880, *C. rehderi* Houbrick, 1992 e *C. torresi* E.A. Smith, 1884, simili per la forma della conchiglia conico-lanceolata e per la scultura spirale con tubercoli robusti, rotondeggianti e prominenti. I principali caratteri distintivi di *C. balletoni* n. sp. sono: la scultura, dominata da due file di tubercoli robusti, acuti e biancastri, che occupano quasi tutta l'altezza del giro; il canale sifonale corto e poco deviato; la colorazione, composta da sottilissime linee sagittate di colore marrone su tutta la teleoconca.

Key words

Gastropoda, Cerithiidae, *Cerithium*, new species, French Polynesia.

Introduction

In November 2007 Michel Balleton, a skilled Polynesian diver living at Tahiti, collected some cerithiid specimens (fresh, empty shells) during a diving at the Takapoto Atoll (northern Tuamotu Archipelago, French Polynesia) on the external side of the coralline barrier, among and below the blocks of death corals, between 15 and 30 m.

Later on, during a diving at Punaauia (Tahiti Island) other fresh, empty shells were collected at a depth of about 50 m, in a similar biotope.

Because of the impossibility of determining these shells at species level, Mr. Balleton, who is preparing with some other Polynesian specialists an important contribution to the malacofauna of the Tuamotu Archipelago, were going to list this species as *Cerithium* sp. Mr. Balleton and collaborators, aware of my interest for cerithiids, asked for my help for the specific determination. After an extensive check, I decided to describe this material as a new species.

Systematics

Superfamily Cerithioidea Férussac, 1819

Family Cerithiidae Férussac, 1822

Genus *Cerithium* Bruguière, 1792

[type species *C. adansonii* Bruguière, 1792]

Cerithium balletoni n. sp.

(Fig. 1A-M)

Type material

Holotype (H 19.9 mm, D 6.9 mm), Takapoto Atoll, Tuamotu Archipelago, French Polynesia, 15-30 m (Muséum National d'Histoire Naturelle, Paris, MNHN n° 22385). Paratype A, H 24.7 mm, D 8.8 mm, Takapoto Atoll (Balleton coll.). Paratype B, H 21.0 mm, D 7.6 mm, Takapoto Atoll (Cecalupo coll.). Paratype C, H 21.1 mm, D 7.2 mm, Takapoto Atoll (Florida Museum of Natural History, Gainesville, UF 428202). Paratype D, H 20.8 mm, D 6.2 mm, Takapoto Atoll (Acquario Civico Milano, AC-QMI P822514). Paratype E, H 27.5 mm, D 9.2 mm, Takapoto Atoll (Gourguet coll.). Paratype F, H 22.4 mm, D 8.8 mm, Takapoto Atoll (Letourneux coll.). Paratype G, H 20.8 mm, D 7.5 mm, Punaauia, Tahiti Island 50 m (Letourneux coll.).

Type locality

Takapoto Atoll (northern Tuamotu Archipelago, French Polynesia), 15-30 m depth [14° 34' 57,20" S, 145° 09' 47,57" W].

Other material

Two empty shells from Punaauia (Tahiti Island), 50 m [17° 38' 05,21" S, 149° 37' 08,74" W].

Distribution

The new species is only known from Takapoto Atoll



Fig. 1. *Cerithium balletoni* n. sp. **A-C.** Holotype, H 19.9 mm, D 6.9 mm Takapoto Atoll (MNHN 22385). **D, E.** Paratype A, H 24.7 mm, D 8.8 mm, Takapoto Atoll (Balleton coll.). **F, G.** Paratype B, H 21.0 mm, D 7.6 mm, Takapoto Atoll (Cecalupo coll.). **H.** Paratype C, H 21.1 mm, D 7.2 mm, Takapoto Atoll (Florida Museum of Natural History Gainesville, UF 428202). **I.** Paratype D, H 20.8 mm, D 6.2 mm, Takapoto Atoll (Acquario Civico Milano, ACQMI P822514). **J.** Paratype E, H 27.5 mm, D, 9.2 mm, Takapoto Atoll (Gourguet coll.). **K, L.** Paratype F, H 22.4 mm, D 8.8 mm, Takapoto Atoll (Letourneux coll.). **M.** Paratype G, H 20.8 mm, D 7.5 mm, Punaauia (Tahiti Island), 50 m (Letourneux coll.).

Fig. 1. *Cerithium balletoni* n. sp. **A-C.** Olotipo, H 19,9 mm, D 6,9 mm Atollo Takapoto (MNHN 22385). **D, E.** Paratipo A, H 24,7 mm, D 8,8 mm, Atollo Takapoto (coll. Balleton). **F, G.** Paratipo B, H 21,0 mm, D 7,6 mm, Atollo Takapoto (coll. Cecalupo). **H.** Paratipo C, H 21,1 mm, D 7,2 mm, Atollo Takapoto (Florida Museum of Natural History Gainesville, UF 428202). **I.** Paratipo D, H 20,8 mm, D 6,2 mm, Atollo Takapoto (Acquario Civico Milano, ACQMI P822514). **J.** Paratipo E, H 27,5 mm, D, 9,2 mm, Atollo Takapoto (coll. Gourguet). **K, L.** Paratipo F, H 22,4 mm, D 8,8 mm, Atollo Takapoto (coll. Letourneux). **M.** Paratipo G, H 20,8 mm, D 7,5 mm, Punaauia (Tahiti) (coll. Letourneux).

(French Polynesia) and Punaauia (Tahiti Island), at 15-50 m.

Etymology

As requested by the co-Authors of Mr. Balleton in their malacological book, the specific name is a tribute to Michel Balleton, living at Tahiti, who collected the specimens used to describe the new species.

Description

Shell small, solid, turriculated, conic-lanceolate, apical angle 26°-27°, not remarkably variable in shape and sculpture. Protoconch and initial teleoconch whorls unknown. Teleoconch consisting of 11-12 whorls, slightly convex, with two spirals cords bearing 10-11 tubercles on each whorl. Tubercles are large, prominent, whitish, regularly spaced, producing a poorly defined pattern of prosocline axial rows. Shell surface with very fine spiral striae, crossed by equally fine opisthoclinal axial striae, both seen under high magnification. Suture very shallow, clearly visible on the last whorl only; a narrow sub-sutural cord is present. Aperture oval elongated, about 33% of shell height, whitish inside. Outer lip expanded, thickened by a labial varix. Columella concave with a moderately thick parietal callus, without teeth or fold; posterior sinus open, moderately deep, thickened by a callus slightly expanding inside aperture and set off by a parietal columellar plait. Siphonal canal slightly deviated, relatively long, with a deep duct. Shell colour pattern dominated by the whitish tubercles and fine, sagittate, reddish-brown axial lines, on waxy white background. Interspaces of the adapical row of tubercles whitish; in the second row only tubercles are whitish while interspaces have the brown lines. Operculum and soft parts unknown.

Discussion

A rich bibliography on the mollusca of the Polynesian area and the Tuamotu Archipelago is available, but only few Authors have studied the family Cerithiidae in details (Salvat, 1967; Richard, 1982). The bibliographic research was then extended to works dealing with the Indo-Pacific area in general (Gould, 1849; Philippi, 1849; Sowerby, 1855, 1865; Pease, 1861, 1869; Watson, 1880; Pilsbry & Vanatta, 1905; Kay, 1979; Rehder, 1980; Houbriek, 1992; Moretzsohn & Kay, 1995; Coles et al., 2002).

The new species was found to be similar to *Cerithium lissum* Watson, 1880, *C. rehderi* Houbriek, 1992 and *C. torresi* E.A. Smith, 1884, all sharing a conic-lanceolate shell profile and a sculpture consisting of strong, prominent, roundish tubercles.

Cerithium lissum Watson, 1880 was described on material from Levuaka (Fiji Islands), but reported also from Philippines, Maldive Is., Chagos Is., Comores Is. and La Réunion Is. (Houbriek, 1992: p. 110). *Cerithium balletoni*

differs from *C. lissum* by having not angulated whorls, much stronger tubercles, less deep suture, rare varices (not always present), a shorter siphonal canal and different colour pattern (*C. lissum* is clear beige).

Cerithium rehderi is endemic to Tahuata Island (Marquesi Archipelago). It has a fusiform teleoconch, with a weak varix on each whorl. The spiral sculpture consists of two main beaded cords only on the anterior portion of the whorls. The siphonal canal is reflected dorsally and slightly to left of shell axis, and the shell is tan brown or dark beige. The new species has a conic-lanceolate profile without varices, the sculpture is dominated by two rows of strong tubercles which occupy almost all the whorl height, the siphonal canal is only slightly deviated and the shell colour is waxy white with dark brown lines.

Cerithium torresi E.A. Smith, 1884, distributed in the Indo-West-Pacific from Australia to Solomon Islands, has a very solid shell, moderately elongated, quite variable in shape, with 13-14 convex whorls and impressed suture. The main difference from the new species is in the sculpture, consisting of three (instead of two) rows formed by 6-8 well developed, pearl-shaped tubercles. Varices are occasionally present. The columella is concave, with a well developed callus; the aperture is ovate, with a thick outer lip and well defined labial teeth. The siphonal canal is moderately elongate and slightly deviated.

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