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Two new species of the genus *Pyrgocythara* (Gastropoda, Conidae) from Cuba

Raúl FERNÁNDEZ-GARCÉS (1) & Emilio ROLÁN (2)

(1) Centro de Estudios Ambientales de Cienfuegos (CEAC), División de Gestión Ambiental (DGA), calle 17, esquina Ave. 46, Cienfuegos, Cuba.
rfg@gestion.ceac.cu
(2) Museo de Historia Natural, Campus Universitario Sur,
15782 Santiago de Compostela, España.
erolan@emiiliorolan.com

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Resumen: Se describen dos nuevas especies del género *Pyrgocythara* Woodring, 1928 comparando las nuevas especies con otras previamente conocidas del área de estudio. Se cita por primera vez para la zona *Pyrgocythara annaclaireleeae* (García, 2008).

Abstract: Two new species of the genus *Pyrgocythara* Woodring, 1928 are described and compared with others previously known from the studied area. *Pyrgocythara annaclaireleeae* (García, 2008) is recorded for Cuba for the first time.

Introduction: The study of Caribbean species of the family **Conidae** Fleming, 1822 is dispersed through numerous general works: Warmke & Abbott (1961), Abbott (1974), Rios (1994), Díaz Merlano & Puyana Hegedus (1994), de Jong & Coomans (1988), Vokes & Vokes (1983), etc. More recently (Williams, 2005) a work with most of the Caribbean species was published.

The Caribbean is an area with numerous endemics. There is no complete revision of this group, even though short papers, such as Rolán & Espinosa (1999), García (2008) and others have been published.

Abbreviations

AMNH American Museum of Natural History, New York, USA
IES Instituto de Ecología y Sistemática, Habana, Cuba
MNCN Museo Nacional de Ciencias Naturales, Madrid, España
MCZ Museum of Comparative Zoology, Cambridge
BMNH The Natural History Museum, London
MHNS Museo de Historia Natural de Santiago de Compostela (coll. E. Rolán)
CFG Colección de Fernández Garcés, Cienfuegos, Cuba

Sytematic part:

Family CONIDAE Fleming, 1822
Subfamilia *Mangellinae* P. Fischer, 1883

Genus *Pyrgocythara* Woodring, 1928

Carnegie Inst. Washington Publ., nº 385, p. 171.
Type species (o. d.) *Pyrgocythara eminula* Woodring, 1928

Description: (in Powell, 1966) "Shell small, 4.3-8.9 mm, slender, subovate, with a tall turreted spire, elongate body-whorl, tapered with a short weakly notched anterior canal, and sculptured with prominent but narrow, flexuous, citharid-like axials over-ridden by spiral threads. Protoconch of three whorls the last sculptured with distinct fine, curved, protractive axial riblets. Aperture long, moderately wide, with a variced outer lip and a wide deep sinus, bearing a denticle just below its lower edge. Range: Recent Florida, Caribbean and tropical West America. Pliocene of Florida and Miocene of Jamaica".

Powell (1996) also mentions the existence of a few subgenera: *Platycythara* Woodring, 1928, *Glabrocythara* Fargo, 1953, and *Vitricythara* Fargo, 1953, but we consider this differentiation unnecessary.

Remarks: Species in this genus – such as *P. candidissima* (C. B. Adams, 1845) - have frequently been placed in the genus *Agathotoma* Cossmann, 1899 (*Rev. Crit. Paléozool.* 3 1: 45. nom. nov. pro *Diloma* Bellardi, 1877 (non Illiger, 1807). Type (monotypy) *Mangelia angusta* (Jan) Bellardi 1848). Nevertheless some characteristics (explained in Powell, 1966) seem to indicate that this is not the correct genus: "... the rounded whorls and a long ovate body-whorl, gradually contracted to a very short

anterior canal. Protoconch smooth and paucispiral. Adult sculpture of strong slightly oblique rounded axial, continuous suture to suture, usually in line whorl to whorl. Subsidiary sculpture of numerous spiral threads usually interrupted by the axials".

On the other hand, there are several Caribbean species which have been placed in the genus *Pyrgocythara*, but it is very dubious that they in fact belong in this genus: *P. albovittata* (C. B. Adams, 1845), *P. brevis* (C. B. Adams, 1850), *P. crassicostata* (C. B. Adams, 1850), *P. vicina* (C. B. Adams, 1850), *P. filosa* Rehder, 1943, *P. plicosa* (C. B. Adams, 1850), *P. caribbaea* (Orbigny, 1842), etc. All of them clearly have brown coloured shells, or else brown bands or a brown base, the micro-sculpture is not so fine, and very different from the species which are described in the present work.

Recently, García (2008) described a new species which he placed in the genus *Acmaturris* Woodring, 1928. In our opinion, there are not enough morphological differences to employ this genus instead of *Pyrgocythara* Woodring, 1928, so we keep this genus until anatomical or DNA studies shown any significant differences.

It is important to point out that in Powell (1966) there are 561 taxa names at genus or subgenus level in **Turridae**, from which 89 are in *Mangelinae*. Since this paper, many more names have been described. We think that the description of new taxa based on only slight morphological characteristics only can generate more confusion.

Pyrgocythara mairelae sp. nov.

Figs 1-5

Type material: Holotype (Fig. 1) in MNCN (15.05/53723. Paratypes in the following collections: USNM (1); MNHN (1); MHNS (1); IES (1); CFG (10), from type locality. MHNS (2) from Maria la Gorda, W Cuba.

Type locality: Rancho Luna Cienfuegos, 30-54m, Cuba.

Description: Shell small for the genus, elongated, with about 5 whorls, suture evident, profile a little stepped, and a large last whorl. Protoconch of 2 ½ whorls, the first two smooth whereas about 10 curved axial ribs appear in the last ½ whorl. Diameter of the nucleus about 60 μm; diameter of the protoconch about 560 μm. Teleoconch of about 2 1/2 or slightly more whorls. Axial sculpture formed by very prominent axial ribs, a little opisthocline and curved on its upper part; there are about 11 ribs on the first whorl, and about 10 on the second whorl. In the space between these axial ribs

there are very numerous axial striae (between 12 and 20), which are also present on the ribs. Spirally, they are crossed by about 3 spiral cordlets, 4 on the second whorl and about 10 on the last whorl. Between these larger spiral cordlets, there are very numerous smaller striae: about 8-20 between the larger ones. They cross the axial lines showing on the axial striae and form micro-tubercles at the crossing points. The last whorl is a little depressed. Aperture narrow and elongate, both lips almost parallel, on the upper part a deep U-shaped subsutural sinus. The external lip is strongly thickened. The siphonal canal continues the aperture and is about as wide as it. Dimensions: The holotype is 3.1 mm long.

Distribution: Rancho Luna, Cienfuegos, 30-40m, Los Labirintos, 40m; Cable Inglés, 31m, Cuba

Etymology: The species' name is after Mairel Nápoles Fernández, granddaughter of the first author.

Remarks: *Pyrgocythara candidissima* is larger (about 7 mm), the spiral sculpture is uniformly smaller and with numerous striae, lacking larger cordlets. Other taxa such as *P. badia* (Reeve, 1846) are considered to be colour forms of *P. candidissima*. *P. coxi* (Fargo, 1953), *P. densestriata* (C. B. Adams, 1850) and *P. millestriata* (Smith, 1882) are also considered to be the same species.

P. castellata (E. A. Smith, 1888) is also larger, has a subsutural line of large nodules which surpass the level of the suture, and the spiral sculpture also has minor striae.

The comparison with the other species described in the present work will be made below.

Pyrgocythara juliocesari sp. nov.
Figs 6-9

Type material: Holotype (Fig. 6) in MNCN (15.05.53724). Paratypes in the following collections: MNHN (1); MHNS (1); IES (1); CFG (5).

Type locality: Cienfuegos Bay, Cuba.

Description: Shell small for the genus, elongated, with about 4-5 whorls, suture evident, a somewhat stepped profile, and a large last whorl. Protoconch of 2 ¼ whorls, the first two smooth with isolated tubercles on the last one; in the last ¼ whorl about 6 axial curved ribs appear. Diameter of the nucleus about 100 µm; diameter of the protoconch about 510 µm. Teleoconch of about 2 ½ whorls, axial sculpture formed by very prominent axial ribs, a little opisthocline and curved on their upper part; they number about 9 on the first whorl, and about 10 on the second whorl. In the space between these axial ribs there are very numerous axial striae (between 12 and 15) which are also present on the ribs. They are spirally crossed by about 4 spiral cordlets on the first whorl and about 14 cordlets on the last whorls. Between these larger spiral cordlets, there are numerous smaller striae which are very tiny and difficult to see except one in the middle of the space between the main ones; they are less apparent that the axial lines. The last whorl is a little depressed. Aperture narrow and elongate, both lips almost parallel, on the upper part there is a deep U-shaped subsutural sinus. The external lip is strongly thickened. The siphonal canal is about as wide as the aperture and is like a continuation of it. Dimensions: Holotype is 2.7 mm.

Distribution: Rancho Luna, Cienfuegos, 30-40m, Los Labirintos, 40m; Cable Inglés, 31m, Cuba

Etymology: The species' name is after Julio César Fernández Artiles, grandson of the first author.

Remarks: *Pyrgocythara candidissima* (C. B. Adams, 1845) is larger (about 7 mm), the spiral sculpture is uniformly smaller and with numerous striae, lacking larger cordlets. Other taxa such as *P. badia* (Reeve, 1846) are considered a colour form of *P. candidissima*.

P. castellata (E. A. Smith, 1888) is also larger, has a subsutural line of large nodules which surpass the level of the suture, and the spiral sculpture also has minor striae lacking axial ones.

P. annaclaireleeae (García, 2008) see below.

P. mairelae sp. nov. is larger, the protoconch has almost ½ whorl more, the number of axial ribs at the end of the protoconch is higher (10 vs. 6), the micro-sculpture is formed by axial and spiral lines with micro-tubercles at the crossing points instead of axial predomination.

Pyrgocythara annaclaireleeae (García, 2008)
Figs 10-14

Garcia, E. F., 2008. *Novapex*, 9(1): 2, figs. 1-4.

Type material: Holotype ANSP (416414) (not examined).

Other material examined: 4 specimens, Cienfuegos Bay, Cuba.

Description: Shell small for the genus, elongated, with about 4-5 whorls, suture evident, a somewhat stepped profile, and a large last whorl. Protoconch of 2 ¼ whorls, the first 1 ¾ smooth and the last ½ whorl with about 8 axial ribs; diameter of the nucleus of 120 μm; diameter of the protoconch about 550 μm. Teleoconch of about 2 ½ whorls, axial sculpture formed by very prominent axial ribs, a little opisthocline and curved with the shape of an inverted S; there are about 12 ribs on the first whorl, and on the last ½ whorl these axial ribs are much attenuated. In the space between these axial ribs there are very numerous and much attenuated axial striae, which are almost invisible due the existence of more evident spiral striae. The spiral sculpture is formed by 10 narrow cords plus some narrower ones near the base. Between these larger spiral cordlets, there are between 5 and 9 very tiny striae. They are more apparent than the axial lines. The last whorl is a little depressed. Aperture narrow and elongate, both lips almost parallel, on the upper part of the external lip there is a deep U-shaped subsutural sinus. Columella oblique and almost straight, with a reinforcement. The external lip is strongly thickened. The siphonal canal is about as wide as the aperture and is like a continuation of it. Dimensions: Our specimens are only 2.7 mm long.

Distribution: The original description recorded this species from Bahamas, Florida and the Gulf of Mexico. We now record this species from Cuba.

Remarks: *Pyrgocythara candidissima* is larger (about 7 mm), the spiral sculpture is uniformly smaller and with numerous striae, lacking larger cordelets.

P. castellata is also larger, has a subsutural line of large nodules which surpass the level of the suture, the spiral sculpture also has minor striae.

P. mairelae sp. nov. is larger, the protoconch has almost ½ whorl more, the nucleus of the protoconch is smaller, the microsculpture is formed by axial and spiral lines with micro-tubercules at the crossing points, instead of predominant spiral lines.

P. juliocesari sp. nov. has a rather similar protoconch but with fewer axial ribs at its end; the number of axial ribs of the teleoconch is also lower; the micro-sculpture is predominantly axial instead of spiral.

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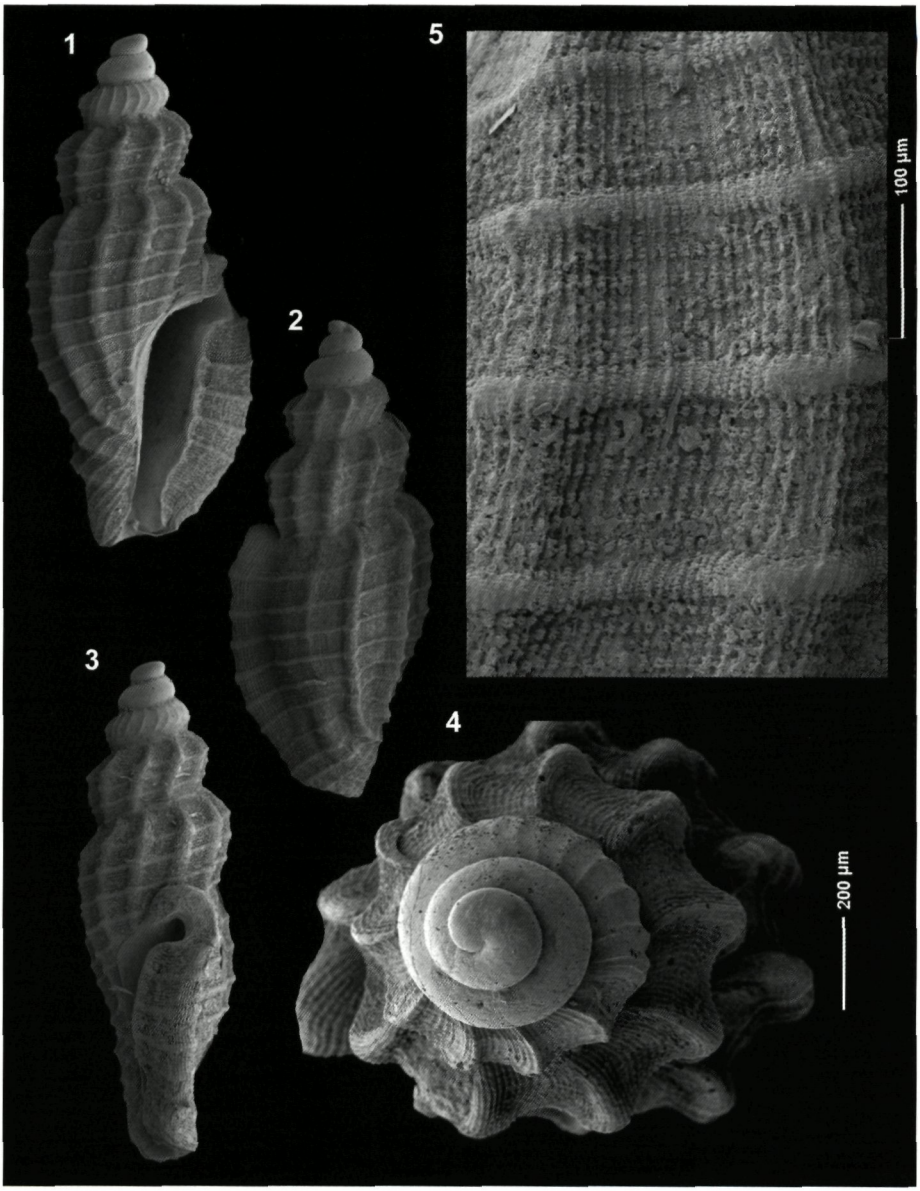

Plate 1

1-5: ***Pyrgocythara mairelae*** sp. nov.

1: holotype, 3.1 mm (MNCN);
2: paratype, 2.9 mm (MNHN);
3: paratype, 3.0 mm (USNM);
4: protoconch of a paratype (MHNS);
5: microsculpture.

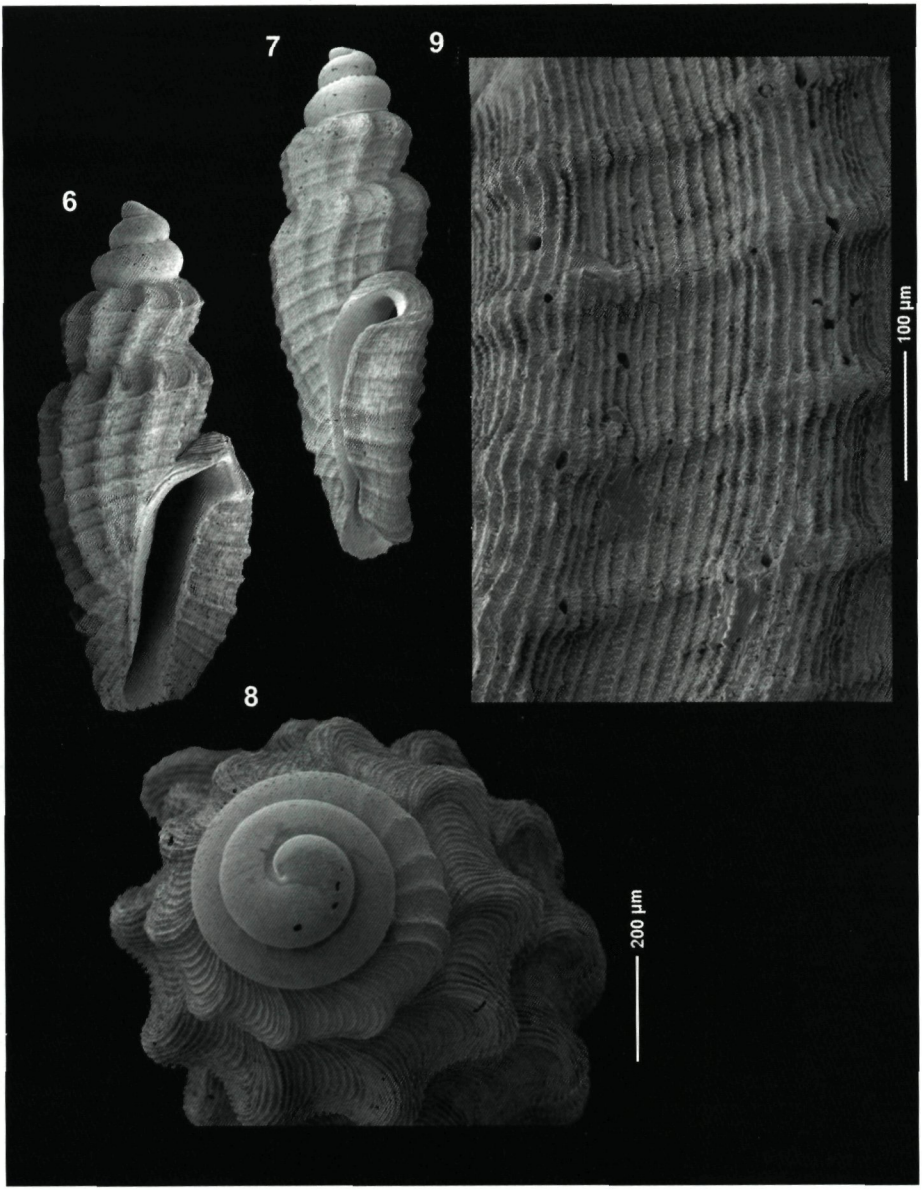

Plate 2

6-9: *Pyrgocythara juliocesari* sp. nov.

6: holotype, 2.7 mm (MNCN);
7: paratype, 2.8 mm (MHNS);
8: protoconch of a paratype (CFG);
9: microsculpture.

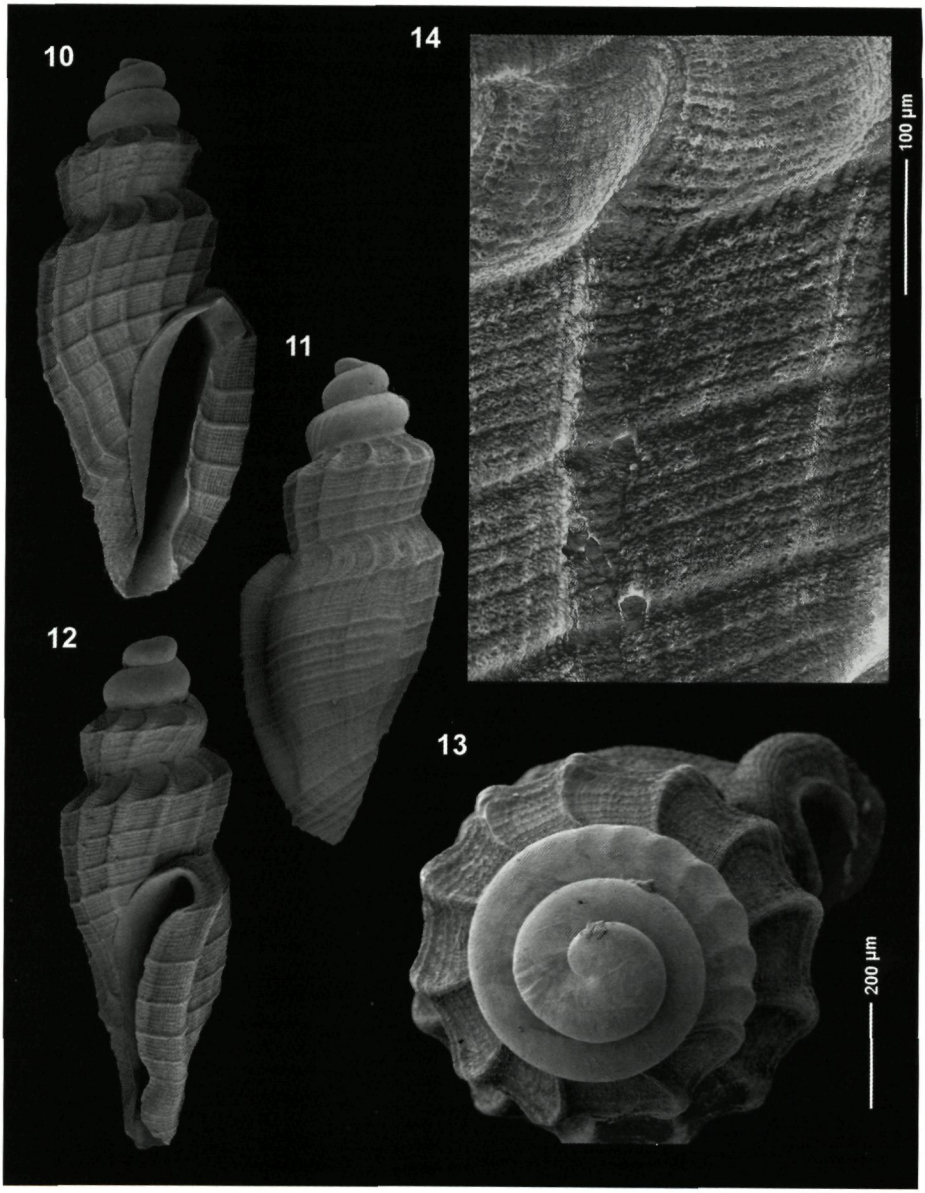

Plate 3

10-14: ***Pyrgocythara annaclaireleeae*** (García, 2008).
10-12: shells, 2.7, 2.4, 2.5 mm (MHNS);
13: protoconch;
14: microsculpture.