

Cerithiopsidae and Newtoniellidae (Gastropoda: Triphoroidea Gray) from French Polynesia area (South Pacific Ocean)

Alberto CECALUPO

Research Associate c/o Acquario e Civica Stazione Idrobiologica di Milano
Viale Gadio, 2 - 20121 Milano (MI).
- acecalupo@yahoo.com - - acecalupo@gmail.com -

Ivan PERUGIA

- Via Roncalceci, 152 - 48125 Ravenna, loc. Filetto (RA)
- ivanperugia@virgilio.it -

KEYWORDS. Mollusca, Gastropoda, Caenogastropoda, Triphoroidea, French Polynesia.

ABSTRACT. Fifty-seven species of Cerithiopsidae and Newtoniellidae from French Polynesia are recorded and listed, extending their range distribution. A new genus, *Australopsis*, fifteen new species of Cerithiopsidae and two new species of Newtoniellidae are described.

RESUME. Cinquante-sept espèces de Cerithiopsidae et Newtoniellidae de Polynésie française sont répertoriées et listées, étendant leurs aires de distribution géographique. Un nouveau genre, *Australopsis*, quinze nouvelles espèces de Cerithiopsidae et deux nouvelles espèces de Newtoniellidae sont décrits.

INTRODUCTION

We recently published two books on the Family Cerithiopsidae from the coast of the Central Philippines and Vanuatu identifying 261 new species and establishing 2 new genera (Cecalupo & Perugia, 2012; 2013). The purpose of this paper is to continue the identification of these micro-molluscs from some areas in French Polynesia.

Tröndlé & Boutet (2009) published a list of species from Polynesia reporting only 3 species of Cerithiopsidae and no Newtoniellidae, but they mention 25 additional, unidentified species. This paper allows us to add 74 new records to the list, of which 17 new species and a new genus of Cerithiopsidae.

Number of new species classified by genera

Cerithiopsidae: *Australopsis* n. gen: 1; *Clathropsis*: 3; *Joculator*: 2; *Marshallopsis*: 4; *Prolixodens*: 1; *Seila*: 2; *Synthopsis*: 2.

Newtoniellidae: *Cerithiella*: 1; *Eunetula*: 1.

MATERIALS AND METHODS

The material examined was collected during the expeditions conducted by MNHN in the Tropical Indo-Pacific. Specimens were collected during following cruises: **Austral Is.**, N/O "Alis" campagne BENTHAUS 2002, 2011; **Austral Is., Rapa**, Atelier RAPA (2002); **French Polynesia Is.** (1990, 1991); **Marquesas Is.** N/O "Alis" campagne TARASOC (1997); **Society Is.** N/O "Alis" campagne TARASOC

(2009); **Tarava Seamounts Is., Mont Punu Taipu**, N/O "Alis", campagne TARASOC (2009); **Tuamotu Is.**, N/O "Alis" campagne TARASOC (2009).

We also examined material from the private collections of Jean Letourneux and Michel Boutet (Tahiti) and of Jean Tröndlé (France).

Coll. Michel BOUTET.

Localities: Society Is., Tuamotu Is., number of specimens examined: 37.

Coll. Jean LETOURNEUX.

Localities: Society Is., Tuamotu Is., Marquesas Is., Austral Is., approximately number of specimens examined: 500.

Coll. Jean TRÖNDLÉ.

Localities: Society Is., Tuamotu Is., Marquesas Is., number of specimens examined: 752.

In the generic classification we gave priority to the type of protoconch. The species occasionally has some different morphological characters than those encountered in the genus in which it is placed. In this case we discuss about this doubtful classification. Only the study of the soft parts and the discovery of additional specimens will clarify these doubts. In this paper we consider appropriate to introduce the new genus *Australopsis*. Given the known difficulties in the discovery of shells belonging to this family, often without protoconch, and considering that the main purpose of our work is to identify as many species as possible for a geographic area which is not really easily accessible, we decided to introduce new species also based on a single specimen, however, with an intact protoconch and therefore correctly identifiable.

CLASSIFICATION

Our classification is only based on the shell characters, the soft parts are unknown. We mainly follow the provisional classification of the family proposed by Marshall (1978), using the same distinctive characters.

The size: we use the following terms: very large ≥ 14 mm, large $6\div 14$ mm, medium $3\div 6$ mm, small $2\div 3$ mm, very small > 2 mm. Variation in size is common, particularly in *Joculator* and *Horologica*.

The protoconch: this is the most important character to identify a species. The protoconch is very fragile, often missing in the available samples, and the lack of its detailed description can make difficult or impossible to identify correctly the species.

The teleoconch: the number of the spiral cords, of the axial ribs and the depth of the suture is important. The shape of the shell, the number of whorls, the maximum width and the prominence of beads at the intersections of the spiral cords and the axial ribs are also useful. In *Horologica* species there is occasionally a third spiral cord resulting from the division of the adapical cord.

The colour: it is quite constant and is an excellent character for a preliminary identification of the species; also to consider the range of variability especially for dead collected specimens.

The body whorl: we want to highlight the last whorl, particularly the limit between the base and the columella, a feature that seems to be constant in the specimens belonging to a same genus.

The current classification, updated by Bouchet & Rocroi (2005), differs slightly from that proposed by Marshall (1978).

The superfamily Triphoroidea Gray, 1847 is actually divided into three families: Triphoridae Gray, 1847, Cerithiopsidae H. Adams & A. Adams, 1853 and Newtoniellidae Korobkov, 1955.

The Cerithiopsidae are now divided into 3 subfamilies: Aliptinae Marshall, 1978, Cerithiopsinae H. Adams & A. Adams, 1853 and Seilinae Golikov & Starobogatov, 1975.

The subfamily Eumetulinae Golikov & Starobogatov, 1975 is now moved to the family Newtoniellidae.

Abbreviations and text conventions

Repositories

MNHN: Muséum national d'Histoire naturelle, Paris, France.

MSNM: Museo Civico di Storia Naturale, Milano, Italy.

UMB: Università Milano Bicocca, Dipartimento Scienze Geologiche e Geotecniche, Milano, Italy.

But: collection Boutet Michel, Papara, Tahiti, Polynésie française.

Ltn: collection Letouneux Jean, Mahina, Tahiti, Polynésie française.

Trn: collection Tröndlé Jean [France], attaché au Muséum national d'Histoire naturelle, Paris.

Other abbreviations

ICZN: International Code of Zoological Nomenclature.

juv: juvenile form

SEM: Scanning Electron Microscope.

spm(s): specimen(s)

stn: station

SYSTEMATICS

Family **CERITHIOPSIDAE** H. Adams & A. Adams, 1853

Genus *Australopsis* n. gen.

Type species: *Australopsis floresi* n. sp., Austral Is., Rapa.

Diagnosis: shell medium sized, conical, regularly increasing with flat sides and impressed suture, base moderately constricted. Protoconch of lecithotrophic type, of 2.5 whorls, blunt-tipped; whorls crossed by sub-median granulose carina, finer grains may extend over the entire surface of whorls.

Remarks. The decision to establish a new genus comes from the peculiar sculpture of the protoconch that has never been observed in the family Cerithiopsidae; more like the protoconchs of Triphoridae where, however, the genera with dextral shell always have a teleoconch with a sculpture of 4 or more spirals. The soft parts are unknown.

Australopsis floresi n. sp.

Figs 1-4, 24-30

Type material. Holotype - MNHN (n° Moll 26460), dim. 5.40 x 1.37 mm, protoconch 0.42 x 0.35 mm, RAPA 2002, stn 34.

Paratype 1 - MNHN (n° Moll 26461), dim. 4.60 x 1.35 mm, protoconch 0.42 x 0.32 mm, RAPA 2002, stn 27.

Paratype 2 - MNHN (n° Moll 26462), dim. 4.65 x 1.26 mm, protoconch 0.43 x 0.35 mm, RAPA 2002, stn 34.

Paratype 3 - MNHN (n° Moll 26462), dim. 4.65 x 1.27 mm, protoconch 0.42 x 0.37 mm, RAPA 2002, stn 34.

Type locality. Austral Is., Rapa, cave at SE Pointe Tematapu, 29 spms, 2-8 m, 27°34,8'S, 144°19,0'W, falling into large cave, muddy bottom, 19 nov. 2002.

Material examined. French Polynesia, Austral Is.: Rapa, stn 5, south of Tarakoi Is., 1 spm, 8 m, 27°5.6'S, 14.4°18.5'W, dead coral with algae, muddy-

sandy zones, 04 nov. 2002; stn 9, Baie Hiri, 16 spms, 3-24 m, 27°37.3'S, 144°22.2'W, coral, 06 nov. 2002; stn 10, Pointe Komire, 4 spms, 16-18 m, 27°34.8'S, 144°22.8'W, stones covered with brown algac, 07 nov. 2002; stn 11, N Rapa, Iti Is., 5 spms, 2 m, 27°37.2'S, 144°18.2'W, sandy area on rocky bottom and dead coral, 07 nov. 2002; stn 16, W Tauna Is., 6 spms, 5 m, 27°36.3'S, 144°18.4'W, mainly dead coral, 09 nov. 2002; stn 17, SW Rarapai Is., 8 spms, 10 m, 27°34.6'S, 144°22.7'W, heap of stones on sandy bottom, 10 nov. 2002; stn 20, Vavai, 4 spms, 5 m, 27°35.4'S, 144°23.3'W, blocks of coral on sandy bottom, 12 nov. 2002; stn 21, E Tapuaki Is., 7 spms, 5 m, 27°34.2'S, 144°20.6'W, blocks of dead coral on sandy bottom, 12 nov. 2002; stn 27, SW Pointe Gotenaonao, 2 spms, 6 m, 27°38.7'S, 144°19.2'W, heap of stones covered with brown algae, 14 nov. 2002 (1 paratype MNHN); stn 30, Pointe Mei, 2 spms, 16-20 m, 27°38.2'S, 144°18.2'W, dead coral on drop off, 16/18 nov. 2002; stn 32, Vavai, 2 spms, 15-20 m, 27°35.0/35.8'S, 144°22.7/23.0'W, coral, 18/23 nov. 2002; stn 34, cave at SE Pointe Tematapu, 29 spms, 2-8 m, 27°34.8'S, 144°19.0'W, falling into large cave, muddy bottom, 19 nov. 2002 (holotype MNHN, 2 paratypes MNHN); stn 44, NW Tauna Is., 27 spms, 30 m, 27°36.3'S, 144°18.2'W, drop off with muddy zones, 27 nov. 2002; stn 48, off Pointe Rokuaga, 1 spm, 36 m, 27°34.1'S, 144°22.1'W, plateau covered by sand, 30 nov. 2002.

Description of the holotype. Shell medium in size, conical with convex regularly increasing whorls, slender with flat sides, last whorl slightly constricted; light-salmon but shell clearly discoloured, base darker. Protoconch of lecithotrophic larval type, blunt-tipped of 2.5 whorls sculptured with one prominent, rounded, sub-median spiral carinae crossed by irregular grains. Teleoconch of 10.5 whorls, perfectly conical, sculpture reticulate of 3 equidistant spiral cords, equal in width, crossed by wider, prosocline axial ribs (about 20 on last whorl). Suture impressed. In last whorl emerging, from insertion of outer lip, fourth spiral cord. Columella short, separated from flat base of last whorl by furrow; aperture sub-quadrate, outer lip thin and indented by sculpture; siphonal canal open.

Remarks. These Cerithiopsidae from Austral Is. show an interesting protoconch; the many specimens observed show a darker colour with the third spiral cord red brown. Under SEM the surface of the protoconch appears to be minutely granulated throughout. Scervens (2011: 236, pl. 101, Figs 5) illustrate an unidentified sample of the genus *Metaxia* from Hawaii (fam. Triphoridae) with convex whorls and sculpture of 4 spiral cords but with similar protoconch.

Etymology. Dedicated to Heimata Florès, guide and advisor during the workshop "Atelier Rapa".

Genus *Clathropsis* Lascron, 1956

Type species: *Clathropsis impedita* Lascron, 1956, by original designation, Masthead Is., Capricorn Group, Qld, Australia,

Clathropsis tuanainaii n. sp.

Figs 6, 33-34

Type material. Holotype - MNHN (n° Moll 26464), dim. 2.32 x 0.75 mm, protoconch 0.46 x 0.27 mm, RAPA 2002, stn 36.

Type locality. Austral Is., Rapa, Pointe Kauria, 1 spm, 27 m, 27°33.5'S, 144°20.8'W, mainly living on coral, 21 nov. 2002.

Material examined. French Polynesia, Austral Is.: Rapa, stn 36, Pointe Kauria, 1 spm, 27 m, 27°33.5'S, 144°20.8'W, mainly living coral, 21 nov. 2002 (holotype MNHN).

Description of the holotype. Shell juvenile, conical with convex regularly increasing whorls, base excavate, suture impressed, colour yellowish. Protoconch short, cylindrical, of 2.5 convex whorls sculptured with minute irregular grains stronger in central zone, apex rounded. Colour whitish, semitransparent. Teleoconch of about 6 slightly convex whorls with reticulate sculpture of 3 equal spiral cords crossed by narrower axial ribs (16 on last whorl) forming beads at each intersection with spiral cords. Fourth cord emerging from suture on last whorl. Under SEM limit between columella and base is highlighted by furrow, columella short, crossed by growth lines throughout. Ridge bordering sub-quadrate aperture with outer lip indented by sculpture. Siphonal canal open.

Remarks. *Clathropsis tuanainaii* n. sp. is compared with *Tubercliopsis cataldinii* Cecalupo & Perugia, 2013 (Vanuatu Is.) which has an almost similar protoconch but which can be easily separated by the shape of the teleoconch.

Etymology. Dedicated to Tuanainai Narii, mayor of the village Ahurei which hosted the Rapa workshop team for 6 weeks.

Clathropsis peculiaris n. sp.

Figs 7, 35-36

Type material. Holotype - MNHN (n° Moll 26465), dim. 3.45 x 1.10 mm, protoconch 0.59 x 0.27 mm, TARASOC, stn DW3442.

Type locality. Society Is., between Raiatea & Tahaa, 515-550 m, 16°41'S, 151°26'W, 16 oct. 2009.

Material examined. French Polynesia, Society Is.: between Raiatea & Tahaa, N/O "Alis" campagne

TARASOC, stn DW3442, 1 spm, 515-550 m, 16°41'S, 151°26'W, 16 oct. 2009 (holotype MNHN)

Description of the holotype. Shell of medium size, conical with convex, regularly increasing whorls, turritid; base excavate. Protoconch acute, conical of 4.5 smooth convex whorls; last 2.5 with prominent, about sub-median, broad, rounded carina. Showing under SEM: two apical whorls granulate, next are smooth except for band of minute, irregular granulation on carina; suture marked by thin cord and abapical thin band of small, regularly spaced, grains. Colour yellowish, semitransparent. Teleoconch of 6.5 convex whorls with well impressed suture. Reticulate sculpture of 3 spiral cords (first immediately under suture, second thicker), crossed by axial ribs (16 on last whorl). Under SEM: limit between base and columella highlighted by weak groove. Squared tubercles at each intersection of spiral cords with axial ribs. Another narrow beaded spiral at base of last whorl. Columella short, acuminate; aperture with outer lip thin, indented by sculpture and wide siphonal canal. White.

Remarks. The protoconch of *Clathropsis peculiaris* has an interesting sculpture while in the diagnosis of the genus (Laseron, 1956) there are no references to

sculpture (obviously Laseron could not rely on a SEM analysis). The teleoconch showing all the characteristics typical of the genus *Clathropsis* and, being soft parts unknown, we must consider that the genus present a range of variability of the sculpture in the protoconch.

Etymology. Latin, *peculiaris*, in English peculiar, for the sculpture of its protoconch.

Clathropsis payriae n. sp.

Figs 5, 31-32

Type material. Holotype - MNHN (n° Moll 26466), dim. 4.40 x 1.25 mm, protoconch 0.37 x 0.22 mm, RAPA 2002, stn 32.

Paratype 1 - MNHN (n° Moll 26467), dim. 4.20 x 1.12 mm, protoconch 0.37 x 0.20 mm, RAPA 2002, stn 31.

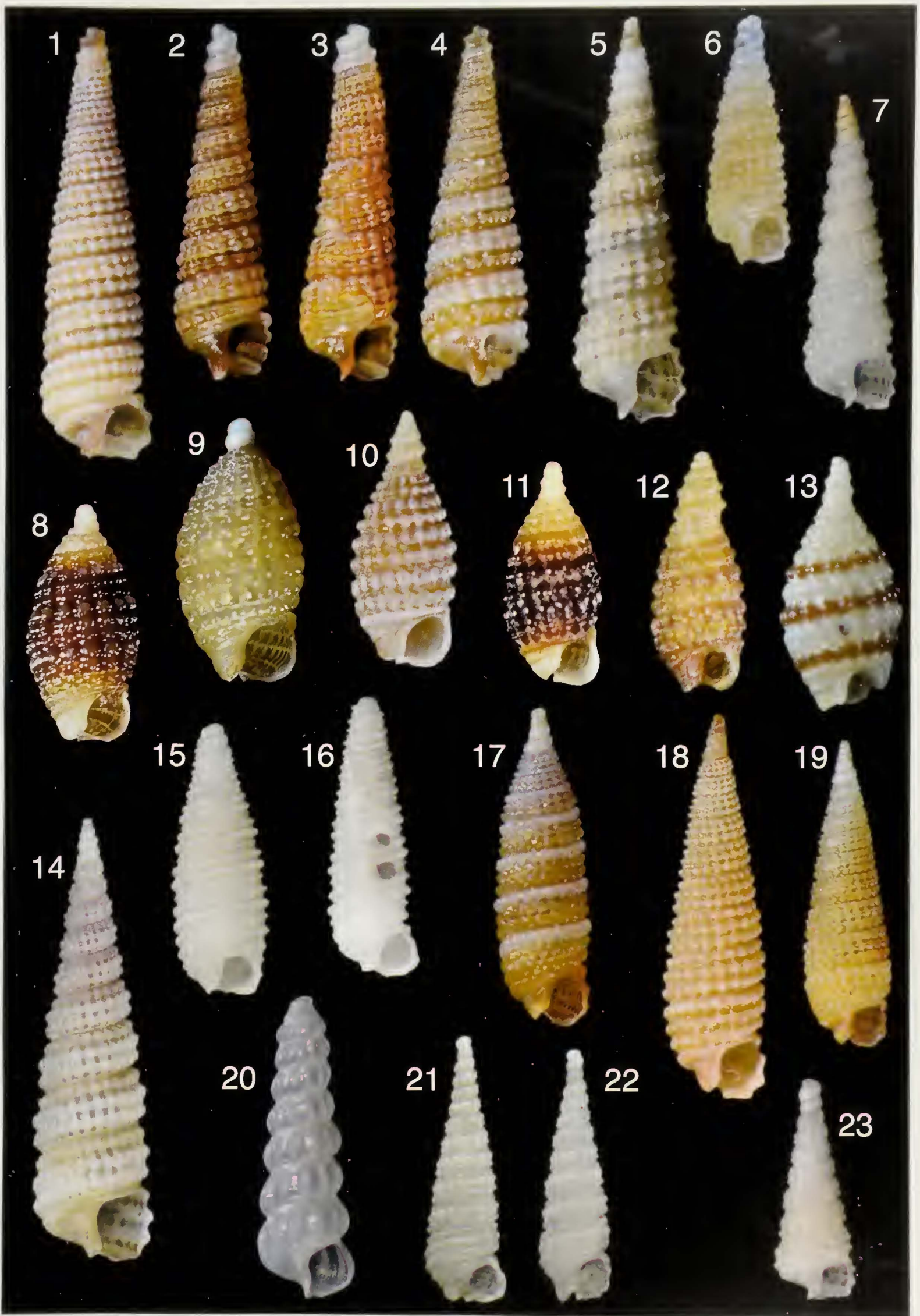
Paratype 2 - MNHN (n° Moll 26468), dim. 4.45 x 1.14 mm, protoconch 0.37 x 0.21 mm, RAPA 2002, stn 32.

Paratype 3 - MNHN (n° Moll 26469), dim. 3.90 x 1.05 mm, protoconch 0.37 x 0.20 mm, RAPA 2002, stn 44.

Type locality. Austral Is., Rapa, Vavai, 15-20 m, coral, 27°35.0/35.8'S, 144°22.7/23.0'W, 18/23 nov. 2002.

Figures 1 - 23

1 - 4. *Australopsis floresii* n. sp., Austral Is., Rapa. 1. Holotype MNHN (n° Moll. 26460), 2-8 m [RAPA 2002, stn 34, Cave at SE Tematapu point], 5.40 x 1.37 mm; 2. Paratype 1, MNHN (n° Moll. 26461), 6 m [RAPA 2002, stn 27, SW Gotenaonao point], 4.60 x 1.35 mm; 3. Paratype 2, MNHN (n° Moll. 26462), 2-8 m [RAPA 2002, stn 34, Cave at SE Tematapu point], 4.65 x 1.26 mm; 4. Paratype 3, MNHN (n° Moll. 26462), 2-8 m [RAPA 2002, stn 34, Cave at SE Tematapu point], 4.65 x 1.27 mm; 5. *Clathropsis payriae* n. sp., Austral Is., Rapa, holotype MNHN (n° Moll. 26466), 15-20 m [RAPA 2002, stn 32, Vavai], 4.40 x 1.25 mm; 6. *Clathropsis tuainainaii* n. sp., Austral Is., Rapa, holotype MNHN (n° Moll. 26464), 15-20 m [RAPA 2002, stn 36, Kauria point], 2.32 x 0.75 mm; 7. *Clathropsis peculiaris* n. sp., Society Is., holotype MNHN (n° Moll. 26465), 15-20 m [TARASOC, stn DW3442], 3.45 x 1.10 mm; 8. *Joculator itiensis* n. sp., Austral Is., holotype MNHN (n° Moll 26472), 2 m [RAPA 2002, stn 11, N Rapa Iti Is.], 1.95 x 0.85 mm; 9. *Joculator bouteti* n. sp., Austral Is., holotype MNHN (n° Moll. 26470), 2 m [RAPA 2002, stn 6, Rapa Is.], 1.67 x 0.77 mm; 10. *Marshallopsis bazzocchii* n. sp., Marquesas Is., holotype MNHN (n° Moll. 26475), 2 m [MUSORSTOM 9, stn DR1247, Fatu Hiva Is.], 2.02 x 0.82 mm; 11. *Marshallopsis trondlei* n. sp., Tahiti, holotype MNHN (n° Moll. 26479) [stn DR1247, Tahiti Is. Arue], 1.88 x 0.84 mm; 12. *Marshallopsis letourneuxi* n. sp., Marquesas Is., holotype MNHN (n° Moll. 26476), 68 m [Ua Pou Haakuti], 1.47 x 0.56 mm; 13. *Marshallopsis tahitiensis* n. sp., Tahiti Is., holotype MNHN (n° Moll. 26478), 30-60 m [Afaahiti], 1.85 x 0.90 mm; 14. *Prolixodens proxima* n. sp., Marquesas Is., holotype MNHN (n° Moll. 26480), 340-352 m [MUSORSTOM 9, stn DW 1222, Hiva Oa Is.], 5.30 x 1.50 mm; 15. *Seila societatis* n. sp., Society Is., holotype MNHN (n° Moll. 26484), 720 m, [TARASOC, stn DW3474, Moorea], 3.65 x 1.22 mm; 16. *Seila retusa* n. sp., Tuamotu Is., holotype MNHN (n° Moll. 26483), 507-607 m [TARASOC, stn DW3373, Kaukura], 3.65 x 1.05 mm; 17. *Synthopsis rapaensis* n. sp., Austral Is., Rapa, holotype MNHN (n° Moll. 26485), 2-8 m [RAPA 2002, stn 34, SE Tematapu], 3.60 x 1.05 mm; 18 - 19. *Synthopsis vavaiensis* n. sp., Austral Is. Rapa, 18. Holotype MNHN (n° Moll. 26493), 15-20 m [RAPA 2002, stn 32, Vavai], 4.44 x 1.28 mm; 19. Paratype 1, MNHN (n° Moll. 26494), 3 m, [RAPA 2002, stn 25, Anatakuri Nako bay], 3.68 x 1.05 mm; 20. *Emmetula albaeharuae* n. sp., Tuamotu Is., Rapa, holotype MNHN (n° Moll. 26491), 462-980 m, [TARASOC, stn DW3359, Kaukura], 4.70 x 1.32 mm; 21 - 23. *Cerithiella francescoi* n. sp., Tuamotu, Anaa Is., 21. Holotype MNHN (n° Moll. 26488), 3.45 x 0.90 mm; 22. Paratype 2, MNHN (n° Moll. 26490), Tuamotu, Anaa Is., 3.00 x 0.85 mm; 23. Paratype 1, MNHN (n° Moll. 26489), 507-607 m, [TARASOC, stn DW3373, Kaukura], 2.76 x 0.93 mm.



Material examined. French Polynesia, Austral Is.: Rapa, stn 4, Rarapai Is., 3 spms, 18 m, heap of stones covered by brown algae, 27°34.3'S, 144°22.1'W, 04 nov. 2002; stn 5, south of Tarakoi Is., 1 spm, 8 m, dead corals with algae, muddy sand zones, 27°5.6'S, 144°8.5'W, 04 nov. 2002; stn 6, off Baie Ahurei, 13 spms, 42 m, living and dead coral, 27°36.8'S, 144°16.7'W, 05 nov. 2002; stn 8, SE Tauna Is., 5 spms, 52-57 m, rocky bottom with sandy area, 27°36.5'S, 144°17.7'W, 06/22 nov. 2002; stn 9, Baie Hiri, 6 spms, 3-4 m, coral, 27°37.3'S, 144°22.2'W, 06 nov. 2002; stn 31, Pointe Mei, 2 spms, 6 m, heap of stones, 27°38.2'S, 144°18.2'W, 16 nov. 2002 (1 paratype MNHN); stn 32, Vavai, 15 spms, 15-20 m, coral, 27°35.0/35.8'S, 144°22.7/23.0'W, 18/23 nov. 2002 (holotype MNHN, 1 paratype MNHN); stn 44, au NW Tauna Is., 13 spms, 30 m, drop off with muddy zones, falling with muddy past, 27°36.3'S, 144°18.2'W, 27 nov. 2002 (1 paratype MNHN); stn 47, Baie Ahurei bay, 6 spms, 33 m, mud with coral heads, 27°36.7'S, 144°19.1'W, 29 nov 2002.

Description of the holotype. Shell medium in size, conical with convex regularly increasing whorls, suture strongly impressed, base excavate. Protoconch near cylindrical, of 3 convex whorls. Under SEM: apex spherical, initially smooth then showing rather regular granulation extended to entire second whorl and arranged in 5 lines. Colour yellowish, opaque. Teleoconch of 8.5 convex whorls. Reticulate sculpture of 3 spiral cords crossed by axial ribs (16 on last whorl); spirals and ribs equal in size. Beads at each intersection of spiral cords with axial ribs. Fourth spiral at base of last whorl. Under SEM: thin close-set axial threads on entire surface; limit between flat base of spire and columella highlighted by weak groove. Shell covered by thin, transparent periostracum. Columella acuminate, crossed by many growth lines; aperture sub-circular with siphonal canal well defined. Outer lip thin, indented by sculpture. Background

colour yellowish, semitransparent.

Remarks. *Clathropsis payriae* n. sp. is compared with *C. poppearum* and *C. zannii*, both of Cecalupo & Perugia, 2012 from Central Philippines; the first has the main difference in the protoconch of 4.5 whorls vs 3, *C. zannii* has a protoconch of 3.5 whorls and an apex with a different, thicker, granulation. It is also compared with *C. tuanainaii* n. sp. (see below), which has a similar protoconch but shorter, of 2.5 whorls with more marked granulation, and a larger but narrower teleoconch.

Etymology. Named after Claude Payri, Université de Polynésie française, (coordinator of “Faune et Flore de Rapa”) who very efficiently coordinated this field work in Rapa.

Genus *Joculator* Hedley, 1909

Type species: *Cerithiopsis ridicula* Watson, 1886. Wednesday Is., Cape York, NE Australia.

Joculator bouteti n. sp.

Figs 9, 37-38

Type material. Holotype, MNHN (n° Moll 26470), dim. 1.67 x 0.77 mm, protoconch. 0.22 x 0.19 mm, RAPA 2002, stn 6.

Paratype 1 - MNHN (n° Moll 26471), dim. 1.52 x 0.68 mm, without protoconch. RAPA 2002, stn 6.

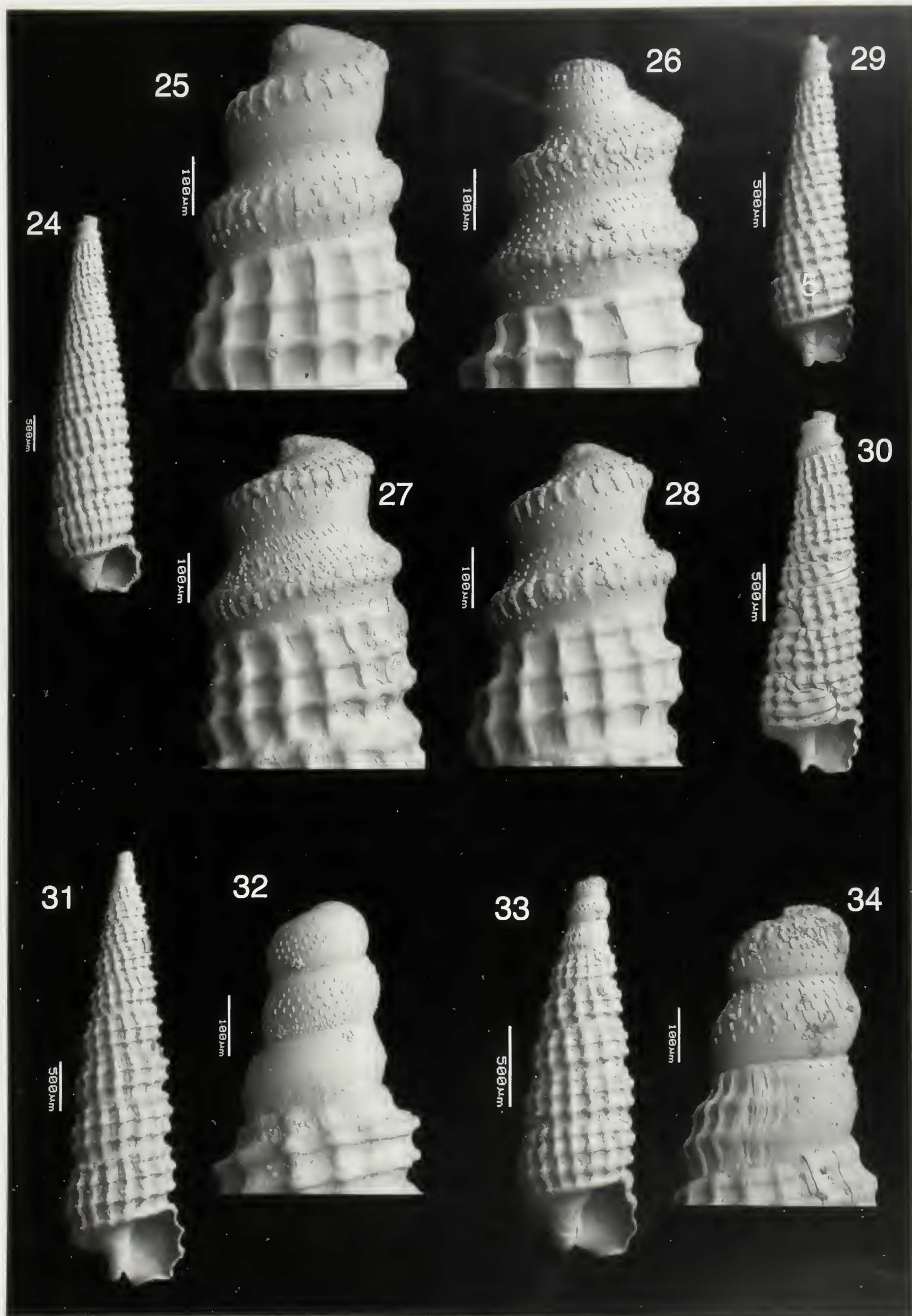
Type locality. Austral Is., Rapa, off Ahurei bay, 42 m, 27°36.8'S, 144°16.7'W, living and dead coral, 05 nov. 2002.

Material examined. French Polynesia, Austral Is.: Rapa, stn 6, off Ahurei bay, 2 spms, 42 m, 27°36.8'S, 144°16.7'W, living and dead coral, 05 nov. 2002 (holotype MNHN, 1 paratype MNHN).

Figures 24 – 34

24 - 30. *Australopsis floresi* n. sp., Austral Is., Rapa. **24-25.** Holotype MNHN (n° Moll. 26460), 2-8 m [stn 34, Cave at SE Tematapu point], 5.40 x 1.37 mm, protoconch 0.42 x 1.77 mm; **26, 29.** Paratype 1, MNHN (n° Moll. 26461), 6 m [stn 27, SW Gotenaonao point], 4.60 x 1.35 mm, protoconch 0.42 x 0.32 mm; **27, 30.** Paratype 2, MNHN (n° Moll. 26462), 2-8 m [stn 34, Cave at SE Tematapu point], 4.65 x 1.26 mm, protoconch 0.43 x 0.35 mm; **28.** Paratype 3, MNHN (n° Moll. 26462), 2-8 m [stn 34, Cave at SE Tematapu], protoconch 0.42 x 0.37 mm; **31 - 32.** *Clathropsis payriae* n. sp., Austral Is., Rapa, holotype MNHN (n° Moll. 26466), 15-20 m, [stn 32, Vavai], 4.40 x 1.25 mm, protoconch 0.37 x 0.22 mm.

33 - 34. *Clathropsis tuanainaii* n. sp., Austral Is., Rapa, holotype MNHN (n° Moll. 26464), 15-20 m, [stn 36, Kauria point], 2.32 x 0.75 mm, protoconch 0.46 x 0.27 mm.



Description of the holotype. Shell very small, oval with constricted base; suture not very distinct. Protoconch very short, near cylindrical of 2.5 smooth convex whorls; apex rounded showing, under SEM, very minute granulation; last whorl partially submerged in first whorl of teleoconch. Colour white, opaque. Teleoconch of 4.5 whorls. Reticulate sculpture of 3 spiral cords, about equal in strength, crossed by weaker axial ribs, about 16 on last whorl. Strong beads at each intersection with spiral cords. In last whorl first spiral is slightly stronger and fourth narrower beaded spiral at base. Columella short and broad, obliquely truncate, divided from last whorl with cord, surface crossed by many crisp growth lines. Columellar callus bordering sub-circular aperture; anal sulcus and siphonal canal wide and well defined. Colour yellow.

Remarks. *Joculator bouteti* n. sp. shows a very short protoconch, typical of the genus *Specula*, but its outline is clearly typical of the genus *Joculator*. It is compared with some similar species, *J. minutus*, *J. geminae*, *J. luteolus*, *J. perlucidus*, *J. recisus* and *J. priorai*, all from Central Philippines (see Cecalupo & Perugia, 2012) with, obviously, a main difference in the protoconch. The protoconch of *J. bouteti* n. sp. is very like to *Specula fragilis* Cecalupo & Perugia, 2012 but easily distinguishable by its more conical, turreted teleoconch with a wider suture.

Etymology. Dedicated to Michel Boutet of Tahiti.

Joculator itiensis n. sp.

Figs 8, 39-40

Type material. Holotype - MNHN (n° Moll 26472), dim. 1.95 x 0.85 mm, protoconch 0.25 x 0.18 mm, RAPA 2002 stn 11.

Paratype 1 - MNHN (n° Moll 26473), dim. 1.78 x 0.78 mm, protoconch 0.22 x 0.20 mm, RAPA 2002, stn 11.

Paratype 2 - MNHN (n° Moll 26473), dim. 1.98 x 0.95 mm, protoconch 0.25 x 0.18 mm, RAPA 2002, stn 11.

Paratype 3 - MNHN (n° Moll 26474), dim. 1.55 x 0.76 mm, protoconch 0.23 x 0.18 mm, RAPA 2002, stn 41.

Paratype 4 - MNHN (n° Moll 26473), dim. 1.70 x 0.80 mm, protoconch 0.22 x 0.18 mm, RAPA 2002, stn 11.

Paratype 5 - MNHN (n° Moll 26473), dim. 1.65 x 0.73 mm, protoconch 0.20 x 0.17 mm, RAPA 2002, stn 11.

Paratype 6 - MNHN (n° Moll 26473), dim. 1.71 x 0.70 mm, protoconch 0.23 x 0.16 mm, RAPA 2002, stn 11.

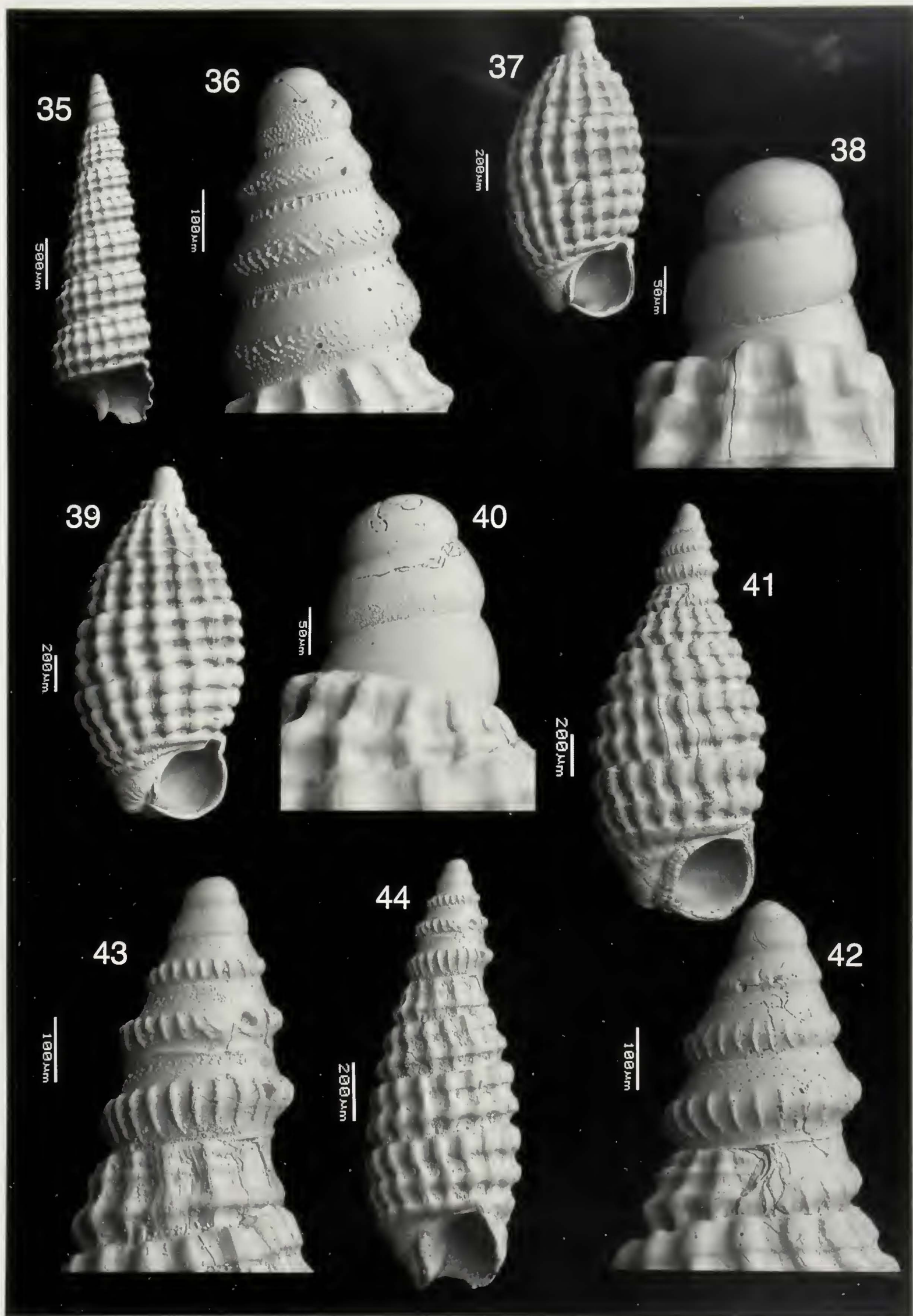
Type locality. Austral Is., Rapa (Rapa Iti), 1 spm, 2 m, 27°37.2'S, 144°18.2'W, small sandy zones on flat rocky bottom et dead coral, 07 nov. 2002.

Material examined. French Polynesia, Austral Is.: Rapa, stn 4, Rarapai Is., 5 spms, 18 m, 27°34.3'S, 144°22.1'W, heap of stones covered with brown algae, 04 nov 2002; stn 6, off Baie Ahurei, 4 spms, 16-20 m, 27°36.8'S, 144°16.7'W, living and dead coral, 05 nov 2002; stn 11, N Rapa Iti Is., 1 spm, 2 m, 27°37.2'S, 144°18.2'W, small sandy zones on flat rocky bottom et dead coral, 07 nov. 2002 (holotype MNHN, 5 paratypes MNHN); stn 16, W Tauna Is., 6 spms, 5 m, 27°36.3'S, 144°18.4'W, mainly dead coral, 09 nov 2002; stn 25, Baie Anatakuri Nako, 4 spms, 3 m, 27°38.4'S, 144°18.9'W, blocks of dead coral sandy area, 13 nov 2002; stn 28, Pointe Taekateke, 4 spms, 30 m, 27°38.4'S, 144°20.6'W, lot of stones covered with algae, 15 nov. 2002; stn 30, Pointe Mei, 3 spms, 16-20 m, 27°38.2'S, 144°18.2'W, coral mort on drop off, 16/18 nov. 2002; stn 32, Vavai, 13 spms, 15-20 m, 27°35.0/35.8'S, 144°22.7/23.0'W, coral, 18/23 nov 2002; stn 33, Pointe Teruametitoui, 10 spms, 30 m, 27°34.8'S, 144°18.6'W, dead coral, 19 nov. 2002; stn 36, Pointe Kauria, 18 spms, 27 m, 27°33.5'S, 144°20.8'W, mainly living coral, 21 nov 2002; stn 41, Baie Anarua, 2 spms, 5 m, 27°36.3'S, 144°22.7'W, coral heads on sandy bottom, 25 nov 2002 (1 paratype MNHN); stn 44, NW Tauna Is., 6 spms, 30 m, 27°36.3'S, 144°18.2'W, drop off with muddy zones, 27 nov. 2002; stn 47, Baie Ahurei, 4 spms, 33 m, 27°36.7'S, 144°19.1'W, mud with coral heads, 29 nov. 2002; stn 48, off Pointe Rukuaga, 6 spms, 36 m, 27°34.1'S, 144°22.1'W, plateau covered by sand, 30 nov. 2002.

Description of the holotype. Shell very small, oval in shape with constricted base, suture moderately impressed. Protoconch short, conical of 3.5 convex whorls, smooth with exception, seen under SEM, for adapical narrow band of microgranules in first 2 whorls; apex rounded. Last whorl partially submerged in first whorl of teleoconch. Colour whitish.

Figures 35 - 44.

35 - 36. *Clathropsis peculiaris* n. sp., Society Is., holotype MNHN (n° Moll. 26465), 15-20 m, [TARASOC, stn DW3442], 3.45 x 1.10 mm, protoconch 0.59 x 0.27 mm; **37 - 38.** *Joculator itiensis* n. sp., Austral Is., holotype MNHN (n° Moll. 26472), 2 m, [stn 11, N Rapa Iti Is.], 1.95 x 0.85 mm, protoconch 0.25 x 0.18 mm; **39 - 40.** *Joculator bouteti* n. sp., Austral Is., holotype MNHN (n° Moll. 26470), 2 m, [stn 6, Rapa Is.], 1.67 x 0.77 mm, protoconch 0.22 x 0.19 mm; **41 - 42.** *Marshallopsis bazzocchii* n. sp., Marqueses Is., holotype MNHN (n° Moll. 26475), 2 m, [stn DR1247, Fatu Hiva Is.], 2.02 x 0.82 mm, protoconch 0.50 x 0.30 mm; **43 - 44.** *Marshallopsis letourneuxi* n. sp., Marqueses Is., holotype MNHN (n° Moll. 26476), 68 m, [Ua Pou Haakuti], 1.47 x 0.56 mm, protoconch 0.50 x 0.30 mm.



Teleoconch of 5 whorls. Sculpture of 3 spiral cords (second narrower) crossed by wider axial ribs, 16 on last whorl. Strong beads at each intersection with spiral cords. Another beaded cord is at base of last whorl. Columella short and broad divided from columella by fourth cord and with surface crossed by many thin crisp folds. Ridge bordering sub-circular aperture. Anal sulcus and wide siphonal canal well defined. Colour red brown, first whorl and columella pale yellowish.

Remarks. *Joculator itiensis* n. sp. is a shell with a typical outline of *Joculator* and can be compared with many species from Central Philippines (Cecalupo & Perugia, 2012) as: *J. fuscus*, *J. furvus*, *J. ater*, *J. carpatinus*, *J. caliginosus*, *J. obscurus*, all with similar colour but different protoconch and *J. minutus*, *J. pygmaeus*, *J. perlucidus*, *J. drivasi*, *J. recisus*, that have a different colour. It is also compared with *J. lazzarii* and *J. granulatus* Cecalupo & Perugia, 2013 from Vanuatu Is.: both have a different teleoconch, the first is more constricted at the base and a larger protoconch, the second has a protoconch of 4.5 whorls and an oval elongated teleoconch.

Etymology. From the type locality.

Genus *Marshallopsis* Cecalupo & Perugia, 2012

Type species: *Marshallopsis albachiarae* Cecalupo & Perugia, 2012. Bohol Is., Philippines.

Marshallopsis bazzocchii n. sp.

Figs 10, 41-42

Type material. Holotype - MNHN (n° Moll 26475), dim. 2.02 x 0.82 mm, protoconch 0.50 x 0.30 mm, MUSORSTOM 9, stn DR1247.

Type locality. Marquesas Is., Fatu Hiva, 1150-1250 m, 10°34'S, 138°42'W, 01 nov. 1997.

Material examined. French Polynesia, Marquesas Is.: Fatu Hiva, N/O "Alis" campagne MUSORSTOM 9, stn DR1247, 1 spm, 1150-1250 m, 10°34'S, 138°42'W, 01 nov. 1997 (holotype MNHN)

Description of the holotype. Shell very small, oval elongated with constricted base. Protoconch conical, acute of 5-5.5 convex whorls with rounded apex. Showing under SEM first 1.5 apical whorls are smooth, next whorls are smooth in upper half where showing narrow band of weak grains under suture while lower half is crossed by thin axial prosocline riblets (16-18 per whorl). Last whorl partly submerged in first whorl of teleoconch. Colour yellowish, opaque. Teleoconch of 4.5-5 whorls; suture moderately impressed. Reticulate sculpture of 2 about equal spiral cords crossed by narrower axial ribs, 16 on last whorl. Strong bead at each intersection with spiral cords. Fourth beaded cord at base of last whorl. Columella

short and broad with weak cord and surface crossed by thin threads. Clear ridge bordering sub-circular aperture; siphonal canal wide and well defined. Colour orange with first spiral cord darker.

Remarks. *Marshallopsis bazzocchii* n. sp. is compared with *M. atrata* Cecalupo & Perugia, 2012 from Central Philippines: same protoconch but teleoconch with 3 spiral cords vs 2 and darker in colour.

Etymology. Dedicated to Piero Bazzocchi member of the "Gruppo Malacologico Romagnolo", Pesaro, Italy.

Marshallopsis letourneuxi n. sp.

Figs 12, 43-44

Type material. Holotype - MNHN (n° Moll. 26476) dim. 1.47 x 0.56 mm, protoconch 0.50 x 0.30 mm.

Paratype 1 - MNHN (n° Moll. 26477) dim. 1.45 x 0.54 mm, protoconch 0.50 x 0.30 mm.

Type locality. Marquesas Is., Ua Pou, Haakuti, 68 m.

Material examined. French Polynesia, Marquesas Is.: Ua Pou, Haakuti, 68 m, 2 spms, ex coll. Letourneux. (holotype MNHN, 1 paratype MNHN).

Description of the holotype. Shell conical, very small, suture impressed, base slightly constricted. Protoconch conical of 5.5 convex whorls. Under SEM: 1.5 apical whorls smooth, next whorls smooth in upper half and with regularly spaced fine riblets in lower half, about 18 in last whorl. Suture marked by fine cord and weak grains. Colour yellowish. Teleoconch conical of 4 whorls with reticulate sculpture of 2 spiral cords (first stronger in last whorl) crossed by narrower axial ribs (about 16 on last whorl). Beads at each intersection with spiral cords. Fourth smooth beaded cord at base of last whorl emerging of insertion of outer lip. Columella short with spiral cord and crossed by many growth lines; clear ridge bordering aperture; siphonal canal well defined. Colour dark orange.

Remarks. This shell could be a juvenile specimen and can be confused with *Synthopsis praeacuta* Cecalupo & Perugia, 2012 from which it differs mainly by the sculpture of the protoconch.

Etymology. Dedicated to Jean Letourneux of Tahiti.

Marshallopsis tahitiensis n. sp.

Figs 13, 45-46

Type material. Holotype - MNHN (n° Moll. 26478) dim. 1.85 x 0.90 mm, protoconch 0.43 x 0.24 mm.

Type locality. Tahiti, Afaahiti, sediment, 30-60 m.

Material examined. French Polynesia, Society Is.: Tahiti, Afaahiti, sediment, 30/60 m, 6 spms, protoconch broken, Jun. 1985 ex coll. Tröndlé. (holotype MNHN).

Description of the holotype. Shell with incomplete aperture, very small, oval, suture moderately impressed, base constricted. Protoconch conical of 4-4.5 convex whorls. Under SEM: 1.5 apical whorls smooth, next whorls smooth in upper half and with regularly spaced fine prosocline riblets in lower half, about 18 in last whorl. Suture marked by fine cord. Colour yellowish. Teleoconch conical of 5 whorls with reticulate sculpture of 2 spiral cords (first very stronger and axially elongated in last whorl) crossed by axial ribs (about 18-19 on last whorl). Beads at each intersection with spiral cords. Fourth smooth narrow cord at base of last whorl emerging of insertion of outer lip. Columella short with spiral cord and crossed by many growth lines; clear ridge bordering aperture; outer lip broken. Colour yellowish, with second spiral cord orange.

Remarks. This species is compared with *Marshallopsis jolandae* Cecalupo & Perugia, 2013 from Vanuatu. The examined sample of *M. tahitiensis* is smaller in size with an oval feature but the main difference is the colour, having the second spiral cord of teleoconch orange while *M. jolandae* has the first red brown. Other shells with similar colour are *Horologica mariani*, *H. splendida* and *Joculator ziliolii* all of Cecalupo & Perugia, 2012 from Central Philippines, easily distinguishable by having a smooth protoconch.

Etymology. From the type locality.

Marshallopsis troendlei n. sp.
Figs 11, 47-48

Type material. Holotype - MNHN (n° Moll. 26479) dim. 1.88 x 0.84 mm, protoconch 0.39 x 0.25 mm.

Type locality. Tahiti, Arue, Récif du Tombeau du Roi, 22 may 1982.

Material examined. French Polynesia, Society Is.: Tahiti, Arue, Récif du Tombeau du Roi, 1 spm, 22 may 1982, ex coll. Tröndlé (holotype MNHN).

Description of the holotype. Shell oval, very small, suture moderately impressed, base constricted. Protoconch conical of 3.5 convex whorls. Under SEM: apical whorl with an irregular granulation, next whorls smooth in upper 3/4 and with band of regularly spaced fine riblets in lower part, about 20 in last whorl. Colour yellowish. Teleoconch conical of 5 whorls with reticulate sculpture of 2 spiral cords (first stronger and, in last whorl, divided by furrow) crossed by narrower axial ribs (about 14 on last whorl). Beads

at each intersection with spiral cords. Fourth smooth beaded cord at base of last whorl emerging of insertion of outer lip. Columella short with clear spiral cord and crossed by many growth lines; ridge bordering aperture; siphonal canal and anal sulcus well defined. Colour pale brown with first 2 whorls and columella yellowish.

Remarks. Similar in colour to *Joculator alligatus* Cecalupo & Perugia, 2012 from the Philippines and *J. itiensis*, here reported from French Polynesia, but it is smaller than *J. alligatus* and has a completely different protoconch from both species.

Etymology. Dedicated to Jean Tröndlé of La Force (France).

Genus *Prolixodens* Marshall B.A., 1978

Type species: *Cerithiopsis infracolor* Laseron, 1951. Off Long Reef, NSW, Australia.

Prolixodens proxima n. sp.
Figs 14, 49-50

Type material. Holotype - MNHN (n° Moll 26480), dim. 5.30 x 1.50 mm, protoconch 0.62 x 0.27 mm, MUSORSTOM 9, stn DW1222.

Paratype 1 - MNHN (n° Moll 26481), dim. 2.25 x 0.72 mm, protoconch 0.62 x 0.27 mm, MUSORSTOM 9, stn DR1200.

Paratype 2 - MNHN (n° Moll 26482), dim. 4.10 x 1.25 mm, protoconch 0.62 x 0.26 mm, Atelier MARQUISES 1997, stn 24 bis.

Type locality. Marquesas Is., Hiva Oa, 340-352 m, 9°44'S, 138°51'W, 30, aug. 1997.

Material examined. French Polynesia, Marquesas Is.: Hiva Oa, N/O "Alis" campagne MUSORSTOM 9, stn DR1200 1 spm, 340-352 m, 9°44'S, 138°51'W, 30 aug. 1997 (holotype MNHN); stn DR1200, 1 spm, 96-100 m, 9°49.9'S, 139°08.9'W, 28 aug. 1997; Atelier MARQUISES 1997 (1 paratype MNHN); stn 24 bis, NW coast of Baie Haahue, 1 spm, 20-34 m, 8°53.60'S, 139°37.00'W, sandy bottom, 10 oct. 1997 (1 paratype MNHN).

Description of the holotype. Shell of medium size, conical with convex regularly increasing whorls, turreted, base excavate. Protoconch acute, conical of 4.5 smooth, convex whorls. Under SEM: 1.5 apical whorls granulate, suture defined by thin cord with 2 series of small grains, those adapical more minute. Next whorls are smooth in upper one-third and with regularly spaced fine prosocline riblets in lower two-thirds. Colour whitish, semitransparent. Teleoconch of 9 convex whorls with well impressed suture. Reticulate sculpture of 3 main equal spiral cords (first immediately under suture) crossed by axial ribs of same strength (about 22 on last whorl). Squared

tubercles at each intersection with spiral cords. Under SEM: limit between base and columella highlighted by weak groove. Another narrow spiral cord at base of last whorl. Columella short, acuminate; outer lip thin, indented by sculpture, siphonal canal open, well defined. Colour whitish, suture and first spiral yellowish.

Remarks. For the sculpture of the protoconch it is compared with *Prolixodens captiosa* Cecalupo & Perugia, 2012 from Central Philippines. *P. proxima* n. sp. has a shorter protoconch, a teleoconch with a less open suture; the shell is also less slender, reaching a larger diameter in width. In those two species the protoconch has a different sculpture from the diagnosis of the genus *Prolixodens* (Marshall, 1978) "Subsequent whorls with granules on shoulder and fine, crisp, regularly spaced riblets on prosocline sides." (add riblets from suture to suture). Even the base "Base fairly evenly contracted at maturity, smooth." looks different and does not present any contraction in our species. We consider provisional the assignment to the genus *Prolixodens*.

Etymology. Latin *proxima*, for its resemblance with ?*Prolixodens captiosa*.

Genus *Seila* A. Adams, 1861

Type species: *Triphoris dextroversus* A. Adams & Reeve, 1850. China seas.

Seila retusa n. sp.
Figs 16, 53-54

Type material. Holotype - MNHN (n° Moll 26483), dim. 3.65 x 1.05 mm, protoconch 0.45 x 0.50 mm, TARASOC, stn DW3373. Dead sample.

Type locality. Tuamotu Is., Kaukura, 507-607 m, 15°41'S, 148°54'W, 04 oct. 2009.

Material examined. French Polynesia, Tuamotu Is.: Kaukura, N/O "Alis" campagne TARASOC, stn DW3373, 1 spm, 507-607 m, 15°41'S, 148°54'W, 04 oct. 2009 (holotype MNHN).

Description of the holotype. Shell medium in size, conical with flat sides, suture not easily discernible, colour opaque white. Protoconch of lecithotrophic larval type, blunt-tipped, merging insensibly into teleoconch but of about 2.5 whorls, conical with same inclination of teleoconch and sculptured with one prominent median smooth spiral carinae; dim. about 0.43 x 0.50 mm. Teleoconch of 7 whorls, sculptured with three prominent smooth spiral carinae, second very narrower. Showing under SEM at base of last whorl, two other thin spiral emerging from suture; in intervals between carinae very thin, close-set axial lamellae; limit between base of shell and columella highlighted by groove. Columella short, obliquely truncated; aperture sub-circular with siphonal canal wide.

Remarks. Few species can be compared with *Seila retusa* n. sp.: *Seila (Lyroseila) cincta* (Hutton, 1885) from N. Zealand, a species living between 6 and 30 m depth, illustrated by Marshall (1978), has a flatter protoconch, a more conical teleoconch and a different colour (reddish to yellowish brown). Hutton (1885) included *S. cincta* in the genus *Bittium*. *Seila (Lyroseila) dilecta* Marshall, 1978, from New Zealand, living in a greater depth, up to 805 m, has a similar outline to *S. retusa* n. sp. but a different colour (yellowish brown, spiral cords white) and a more rounded, not blunt-tipped protoconch.

Etymology. Latin *retusa*, for the apical truncated form.

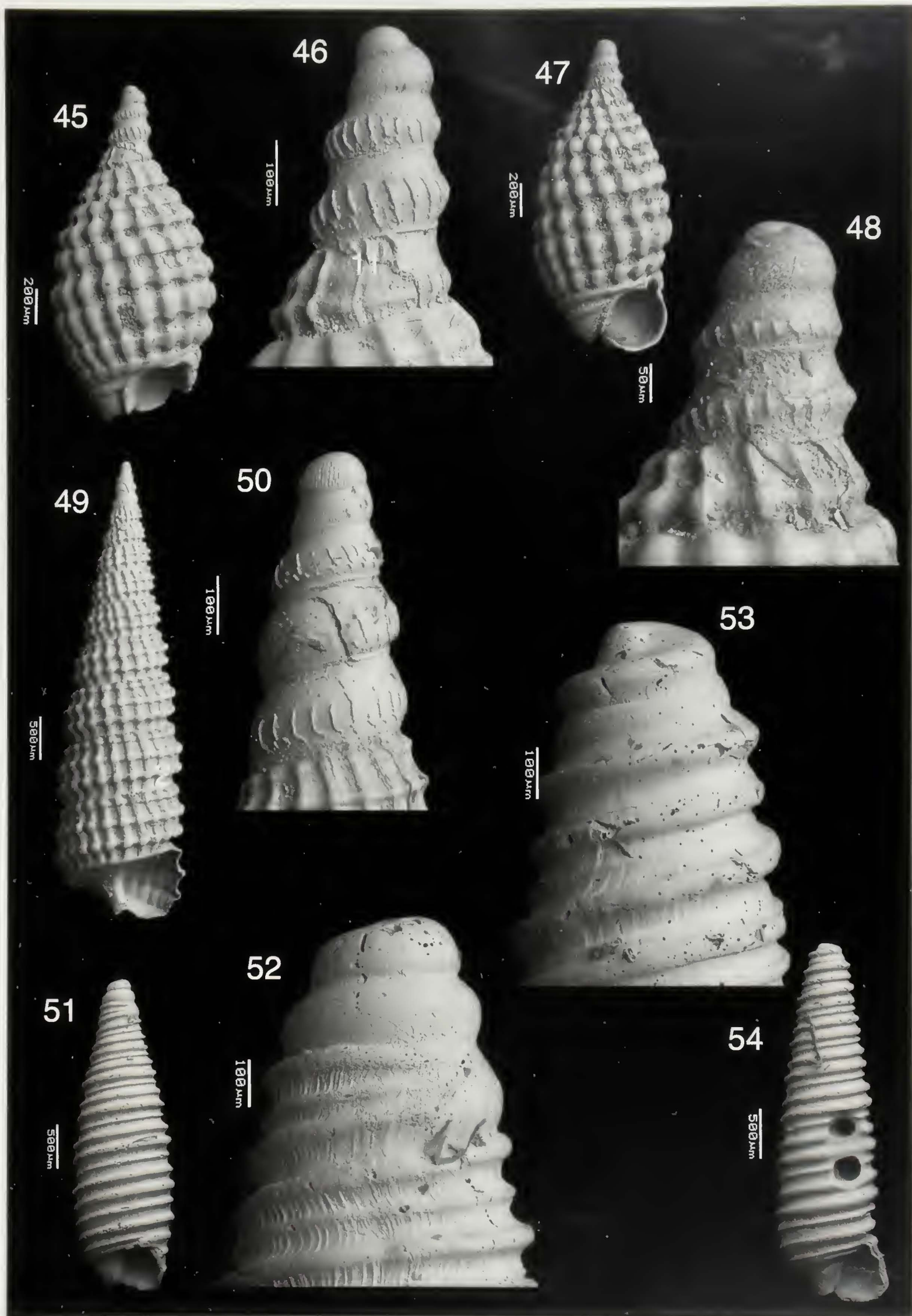
Seila societatis n. sp.
Figs 15, 51-52

Type material. Holotype - MNHN (n° Moll 26484), dim. 3.65 x 1.22 mm, protoconch 0.47 x 0.40 mm, TARASOC, stn DW3374. Dead sample.

Type locality. Society Is., Moorea, 720 m, 17°28'S, 151°26'W, 21 oct. 2009.

Figures 45 - 54.

45 - 46. *Marshallopsis tahitiensis* n. sp., Tahiti Is., holotype MNHN (n° Moll. 26478), 30-60 m, [Afaahiti], 1.85 x 0.90 mm, protoconch 0.43 x 0.24 mm; **47 - 48.** *Marshallopsis trondlei* n. sp., Tahiti, holotype MNHN (n° Moll. 26479), [stn DR1247, Tahiti Is. Arue], 1.88 x 0.84 mm, protoconch 0.39 x 0.25 mm; **49 - 50.** *Prolixodens proxima* n. sp., Marqueses Is., holotype MNHN (n° Moll. 26480), 340-352 m, [Hiva Oa Is.], 5.30 x 1.50 mm, protoconch 0.62 x 0.27 mm; **51 - 52.** *Seila societatis* n. sp., Society Is., holotype MNHN (n° Moll. 26484), 720 m, [TARASOC, stn DW3474, Moorea], 3.65 x 1.22 mm, protoconch 0.47 x 0.40 mm; **53 - 54.** *Seila retusa* n. sp., Tuamotu Is., holotype MNHN (n° Moll. 26483), 507-607 m, [TARASOC, stn DW3373, Kaukura], 3.65 x 1.05 mm, protoconch 0.45 x 0.50 mm.



Material examined. French Polynesia, Society Is.: Moorea, N/O "Alis" campagne TARASOC, stn DW3474, 1 spm, 720 m, 17°28'S, 151°26'W, 21 oct. 2009 (holotype MNHN).

Description of the holotype. Shell medium in size, conical with slightly constricted base, suture indistinct, colour opaque white, probably yellowish in fresh samples. Protoconch short of 2.5 smooth, convex whorls. Teleoconch of 7 whorls with spiral sculpture of 3 smooth spiral cords (adapical cord stronger, second very narrower). Under SEM: fine very close-set axial lamellae in their intervals, well distinct. Limit between base of shell and columella highlighted by groove. At base of last whorl other two thin spirals emerging from suture. Columella short and broad, obliquely truncate. Aperture and outer lip damaged.

Remarks. *Seila societatis* n. sp. is compared with *Seila (Lyroseila) dilecta* Marshall, 1978 and *Seila (Lyroseila) cincta* (Hutton, 1885) both from New Zealand; it is easily distinguished by having a smooth protoconch without keels.

Etymology. From the type locality.

Genus *Synthopsis* Laseron, 1956

Type species: *Synthopsis cylindrica* Laseron, 1956. Michaelmas Cay, Qld, Australia.

Synthopsis rapaensis n. sp.
Figs 17, 55-56

Type material. Holotype - MNHN (n° Moll 26485), dim. 3.60 x 1.05 mm, protoconch 0.50 x 0.26 mm, RAPA 2002, stn 34.

Paratype 1 - MNHN (n° Moll 26486), dim. 3.55 x 1.00 mm, protoconch 0.50 x 0.21 mm, RAPA 2002, stn 44.

Paratype 2 - MNHN (n° Moll 26486), dim. 3.70 x 1.15 mm, protoconch 0.50 x 0.22 mm, RAPA 2002, stn 44.

Paratype 3 - MNHN (n° Moll 26487), dim. 4.00 x 1.05 mm, protoconch 0.50 x 0.23 mm, RAPA 2002, stn 44.

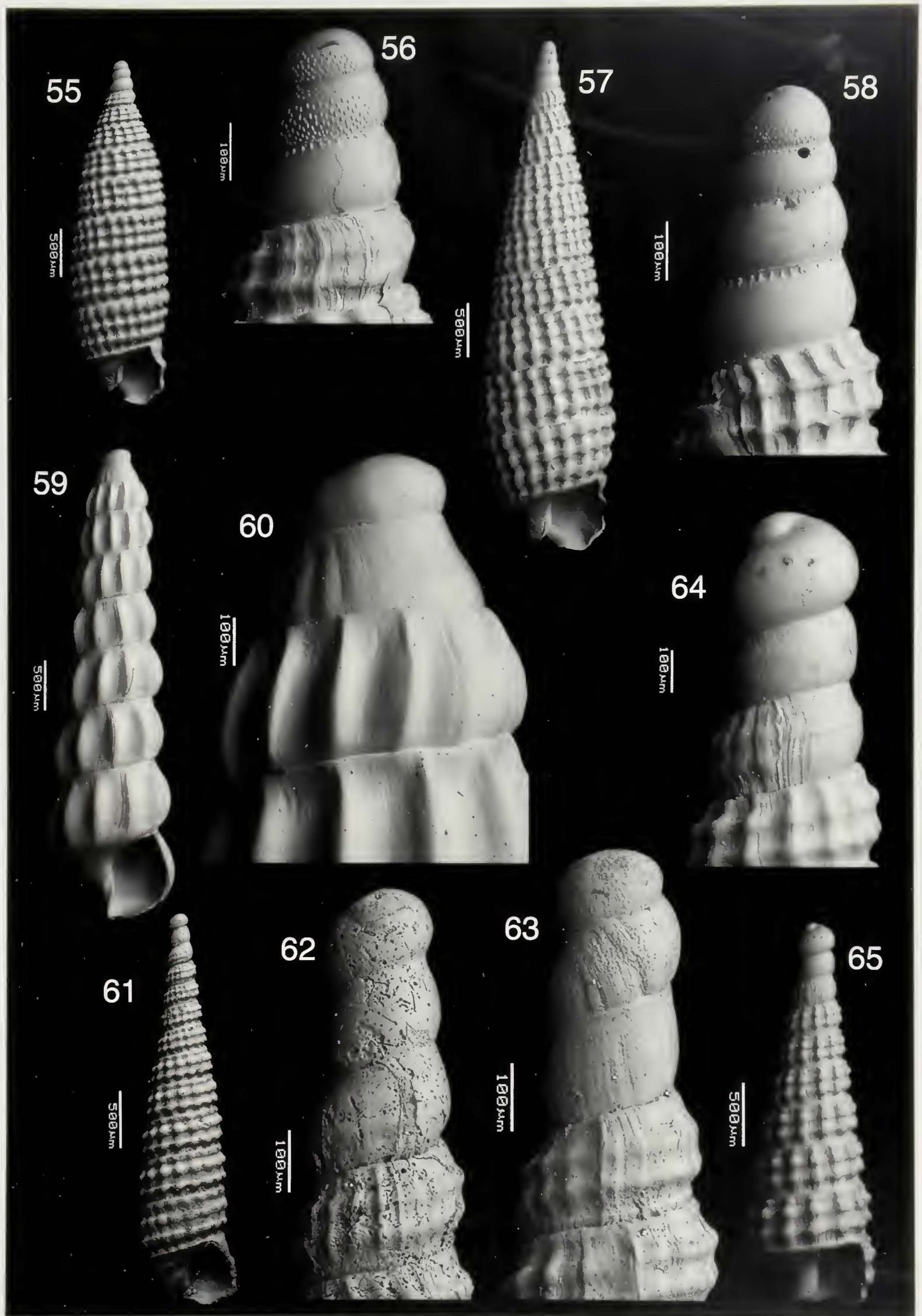
Type locality. Austral Is., Rapa, cave SE Pointe Tematapu, 26 spms, 2-8 m, 27°34,8'S, 144°19.0'W, falling inside large cave, muddy bottom, 19 nov. 2002.

Material examined. French Polynesia, Austral Is.: Rapa, stn 4, Rarapai Is., 1 spm, 18 m, 27°34.3'S, 144°22.1'W, blocks of coral covered with brown algae, 04 nov. 2002; stn 8, S/E Tauna Is, 5 spms, depth 52-57 m, 27°36.5'S, 144°17.7'W, on sandy area, 06 nov. 2002; stn 16, W Tauna Is., 1 spm, 5 m, 27°36.3'S, 144°18.4'W, manly dead coral, 09 nov. 2002; stn 21, E Baie Tupuaki, 4 spm, 5 m, 27°34.2'S, 144°20.6'W, blocks of dead coral on sandy bottom, 12 nov. 2002; stn 25, Baie Anatakuri Nako, 6 spms, 3 m, 27°38.4'S, 144°18.9'W, blocks of dead coral on sandy zones, 13 nov. 2002; stn 32, Vavai, 1 spm, 15-20 m, 27°35.0/35.8'S, 144°22.7/23.0'W, coral, 18/23 nov. 2002; stn 34, cave SE Pointe Tematapu, 26 spms, 2-8 m, 27°34,8'S, 144°19.0'W, falling inside large cave, muddy bottom, 19 nov. 2002 (holotype MNHN); stn 38, N Baie Anatakuri, 1 spm, 2 m, 27°37.4'S, 144°18.4'W, sediment on big rock, 22 nov. 2002; stn 44, NW Tauna Is., 27 spms, 30 m, 27°36.3'S, 144°18.2'W, drop off with muddy zones, 27 nov. 2002 (3 paratypes MNHN); stn 47, Baie Ahurei, 5 spms, 33 m, 27°36,7'S, 144°19,1'W, mud with coral heads, 29 nov. 2002; stn 67, Baie Pariati, 1 spm, 3-4 m, 27°34.7'S, 144°21.7'W, sand, mud and algae, 18 nov. 2002.

Description of the holotype. Shell medium in size, nearly cylindrical with slightly constricted base. Protoconch conical of 3.5 convex whorls. Under SEM: apex rounded, initially smooth then with fine granulation extended to lower part of second whorl, roughly arranged in 6-7 lines; suture marked by minute grains. Colour opaque white, suture orange. Teleoconch of 8 whorls, suture moderately impressed. Reticulate sculpture of 3 spiral cords (second lightly narrower) crossed by weaker axial ribs, 18-19 on last whorl, adapical spiral cord larger. Strong beads at each intersection with axial ribs. Another beaded cord at base of last whorl. Under SEM: intervals between spirals crossed by thin close-set axial threads; limit between base of shell and columella is highlighted by clear groove. Columella short and broad, obliquely truncate, with surface crossed by growth lines throughout. Columellar callus bordering sub-circular aperture with wide siphonal canal well defined. Ground colour orange with first spiral cord white.

Figures 55 – 65

55 - 56. *Synthopsis rapaensis* n. sp., Austral Is., Rapa, holotype MNHN (n° Moll. 26485), 2-8 m, [stn 34, SE Tematapu], 3.60 x 1.05 mm, protoconch 0.50 x 0.26 mm; **57 - 58.** *Synthopsis vavaiensis* n. sp., Austral Is. Rapa, holotype MNHN (n° Moll. 26493), 15-20 m, [stn 32, Vavai], 4.44 x 1.28 mm, protoconch 0.52 x 0.25 mm; **59 - 60.** *Enmetula albachiarae* n. sp., Tuamotu Is., Rapa, holotype MNHN (n° Moll. 26491), 462-980 m, [TARASOC, stn DW3359, Kaukura], 4.70 x 1.32 mm, protoconch 0.37 x 0.45 mm; **61 - 65.** *Cerithiella francescoi* n. sp., Tuamotu, Anaa Is. **61.** Holotype MNHN (n° Moll. 26488), 3.45 x 0.90 mm, **62.** Protoconch holotype 0.60 x 0.23 mm; **63.** Protoconch paratype 2, 0.60 x 0.22 mm; **64.** Protoconch Paratype 1, 0.60 x 0.27 mm; **65.** Paratype 1, MNHN (n° Moll. 26489), 507-607 m, [TARASOC, stn DW3373, Kaukura], 2.76 x 0.93 mm, protoconch 0.60 x 0.23 mm.



Remarks. *Synthopsis rapaensis* n. sp. is compared with *S. enzae* Cecalupo & Perugia, 2012 from Central Philippines. It is similar in size and colour, with the first spiral cords of the teleoconch white, but it differs in having a protoconch of 3.5 whorls, with sculpture of minute grains in the first two whorls, vs 4.5 elongated, smooth whorls in *S. enzae*.

Etymology. From the type locality.

Synthopsis vavaiensis n. sp.

Figs 18-19, 57-58

Type material. Holotype - MNHN (n° Moll. 26493) dim. 4.55 x 1.28 mm, protoconch 0.52 x 0.25 mm, RAPA 2002, stn 32.

Paratype 1 - MNHN (n° Moll. 26494) dim. 3.68 x 1.05 mm, protoconch 0.52 x 0.25 mm, RAPA 2002, stn 25.

Paratype 2 - MNHN (n° Moll 26495), dim. 3.60 x 1.00 mm, protoconch 0.50 x 0.25 mm, RAPA 2002, stn 44.

Paratype 3 - MNHN (n° Moll 26496), dim. 2.90 x 0.90 mm, protoconch 0.52 x 0.25 mm, RAPA 2002, stn 8.

Type locality. Austral Is., Rapa, Vavai, 15-20 m, 27°35.0/35.8'S, 144°22.7/23.0'W, coral, 18/23 nov. 2002.

Material examined. French Polynesia, Austral Is.:

Rapa, stn 5, south of Tarakoi Is., 1 spm, 8 m, 27°5.6'S, 144°18.5'W, dead coral with algae, muddy-sandy zones, 04 nov. 2002; stn 8, SE Tauna Is., 9 spms, 52-57 m, 27°36.5'S, 144°17.7'W, rocky bottom with sandy area, 06/22 nov. 2002 (1 paratype MNHN); stn 9, Baie Hiri, 2 spms, 3-24 m, 27°37.3'S, 144°22.2'W, coral, 06 nov. 2002; stn 10, Pointe Komire (+ 79 m), 1 spm, 16-18 m, 27°34.8'S, 144°22.8'W, stones covered with brown algae, 07 nov. 2002; stn 16, W Tauna Is., 1 spm, 5 m, 27°36.3'S, 144°18.4'W, mainly dead coral, 09 nov. 2002; stn 20, Vavai, 3 spms, 5 m, 27°35.4'S, 144°23.3'W, blocks of coral on sandy bottom, 12 nov. 2002; stn 25, Baie Anatakuri Nako, 1 spm, 3 m, 27°38.4'S, 144°18.9'W, blocks of dead coral on sandy area, 13 nov. 2002 (1 paratype MNHN); stn 32, Vavai, 2 spms, 15-20 m, 27°35.0/35.8'S, 144°22.7/23.0'W, coral, 18/23 nov. 2002 (holotype MNHN); stn 43, Baie Ahurei, 1 spm, 45 m, 27°36.8'S, 144°18.3'W, drop off with muddy bottom at the base, 26 nov. 2002; stn 34, cave SE Pointe Tematapu, 1 spm, 2-8 m, 27°34.8'S, 144°19.0'W, falling inside large cave, muddy bottom, 19 nov. 2002; stn 44, NW Tauna Is., 6 spms, 30 m, 27°36.3'S, 144°18.2'W, drop off with muddy zones, 27 nov. 2002

(1 paratype MNHN); stn 47, Baie Ahurei, 1 spm, 33 m, 27°36.7'S, 144°19.1'W, mud bottom with coral heads, 29 nov. 2002; stn 48, off Pointe Rukuaga, 1 spm, 36 m, 27°34.1'S, 144°22.1'W, plateau covered by sand, 30 nov. 2002.

Description of the holotype. Shell medium in size,

perfectly conical with flat sides and constricted base. Ground colour orange. Protoconch slender, conical of 3.5 smooth convex whorls with same inclination of teleoconch. Apex spherical, seen under SEM with slight granulation. Teleoconch of 9.5 flat whorls. Suture moderately impressed. Reticulate sculpture of 3 spiral cords crossed by axial ribs, 18-19 on last whorl. Spirals and ribs of about equal strength; adapical spiral cord stronger on last whorl. Under SEM: thin close-set threads in intervals of spirals; limit between base of shell and columella highlighted by clear groove. Beads at each intersection of spiral cords with axial ribs. Another cord at base of last whorl emerging from suture. Columella short and broad, obliquely truncate, with surface crossed by many growth lines. Columellar callus bordering sub-circular aperture with wide and well defined siphonal canal.

Remarks. *Synthopsis vavaiensis* n. sp. is compared with *Cerithiopsis powelli* Marshall, 1978 from New Zealand which has a similar conical shape. The main difference is localized in the protoconch; *C. powelli* shows a paler protoconch of 4.5-5 whorls with a sculpture from minute granules, on the first 1.5 embryonic whorls, to broken prosocline riblets on the last. In *S. vavaiensis* n. sp. the protoconch is of 3.5 smooth whorls with only the embryonic whorls slightly granulate and the sutures marked by a series of minute grains.

Etymology. From the type locality.

Family **NEWTONIELLIDAE** Korobkov, 1955

Genus *Cerithiella* Verrill, 1882

Type species: *Cerithium metula* Lovén, 1846. Bergen, Norway.

Cerithiella francescoi n. sp.

Figs 21-23, 61-65

Type material. Holotype - MNHN (n° Moll 26488), dim. 3.45 x 0.90 mm, protoconch 0.60 x 0.23 mm, Tuamotu Is., Anaa.

Paratype 1 - MNHN (n° Moll 26489), dim. 2.76 x 0.93 mm, protoconch 0.60 x 0.27 mm, Tuamotu Is., Kaukura, TARASOC, stn DW3373.

Paratype 2 - MNHN (n° Moll 26490), dim. 3.00 x 0.85 mm, protoconch 0.60 x 0.22 mm, Tuamotu Is., Anaa.

Type locality. Tuamotu Is., Anaa, sediment on the external beach.

Material examined. French Polynesia, Tuamotu Is.: Anaa, sediment on the external beach, 40 spms, coll. Tröndlé (holotype MNHN, 1 paratype MNHN); stn DW3373, Tuamotu Is., Kaukura, N/O "Alis", campagne TARASOC, 1 spm, 507-607 m, 15°41'S, 148°54'W, 04 oct 2009 (1 paratype MNHN).

Description of the holotype. Shell medium in size,

regularly conical with distinct suture, last whorl slightly constricted, light white in colour. Protoconch cylindrical of 2.5 smooth convex whorls, apex bulbous. Teleoconch of 9.75 convex whorls. Reticular sculpture of 3 spiral cords (adapical cord narrower) crossed by weaker axial ribs (about 16 on last whorl); strong rounded beads on each intersection. Distance between first 2 cords very small; fourth spiral cord emerging from outer lip. Columella short, separated from base of teleoconch by fifth smooth cord. Columellar callus bordering circular aperture; siphonal canal well defined, anal sulcus barely hinted, margin of outer lip little corroded.

Remarks. It is compared with *Cerithiella cucuminatea* (Hedley & Petterd, 1906) from Australia. The drawing of *C. cucuminatea* shows a more bulbous apex of 1.5 whorls, the suture of the teleoconch is indistinct and there is an obvious columellar fold, details that differentiate it from *Cerithiella francescoi* n. sp.

Etymology. Dedicated to Francesco, grandson of Alberto Cecalupo.

Genus *Emmetula* Thiele, 1912

Type species: *Eumetula dilecta* Thiele, 1912, by monotypy. Antarctic.

Emmetula albachiarae n. sp.
Figs 20, 59-60

Type material. Holotype - MNHN (n° Moll 26491), dim. 4.70 x 1.32 mm, protoconch 0.37 x 0.45 mm, TARASOC, stn DW3359.

Paratype 1 - MNHN (n° Moll 26492), dim. 4.45 x 1.25 mm, protoconch 0.37 x 0.45 mm, TARASOC, stn DW3373.

Paratype 2 - MNHN (n° Moll 26492), dim. 7.50 x 1.62 mm, protoconch 0.37 x 0.45 mm, TARASOC, stn DW3373.

Type locality. Tuamotu Is., Kaukura, 462-980 m, 15°57'S, 147°08'W, 01 oct. 2009.

Material examined. French Polynesia, Tuamotu Is.: Kaukura, N/O "Alis" campagne TARASOC. stn DW3359, 1 spm, 462-980 m, 15°57'S, 147°08'W, 01 oct. 2009 (holotype MNHN); stn DW3373, 2 spms, 507-607 m, 15°41'S, 146°54'W, 04 oct. 2009 (2 paratypes MNHN).

Description of the holotype. Shell slightly conical with convex regularly increasing whorls, distinct suture, vitreous, semitransparent, colourless. Protoconch very short of about 1.5 smooth whorls, not demarked from spire. Teleoconch of 7 convex whorls, smooth except for many fine growth lines, sculptured with 10 axial prominent ribs from suture to suture, rather orthocone. Aperture sub-circular, outer lip thin,

columella acuminate, smooth.

Remarks. No comparable species from our bibliographical research.

Etymology. Dedicated to Albachiara, grand-daughter of Ivan Perugia.

OTHER MATERIAL EXAMINED FROM PRIVATE COLLECTIONS

These records extend the range distribution from the type locality up to French Polynesia.

Clathropsis multispirae Cecalupo & Perugia, 2012

Type locality: Panglao Is., Philippines.

French Polynesia: Society Is. - Tahiti, Mahina, Baie de Matavai, 4 spms, 5 m, 01/1980 [Trn]; Tahiti, Mahina, Baie de Matavai, 20 m [Ltn]; Tahiti, Mahina, reef sediment, 3 spms, 06/1980 [Trn]; Tahiti, Mahina, Orofara, sediment on the beach, 1 spm [But]; Tahiti, Papenoo, 1 m [Ltn]; Moorea [Ltn]; Tahiti, Papara, rock brushing, 1 spm, 0.50 m, 30/11/89 [Trn]; Tetiaroa [Ltn]; Mehetia, 55 m, 20 spms [Ltn]; Tuamotu Is. - Rangiroa, Otepipi, sediment on external beach, 2 spms, 08/2001 [Trn]; Makemo, Passe Arikitamiro, sand under dead coral block, 1 spm, 1 m [Ltn].
Marquesas Is. - Ua Pou, Haakuti, 68 m, 4 spms; Ua Pou, Hakahetau 5 m [Ltn].

Clathropsis poppearum Cecalupo & Perugia, 2012

Type locality: Mactan Is., Philippines.

French Polynesia: Society Is. - Tahiti, Arue, chanel, lagoon, 12 m [Ltn]; Tahiti, Arue, outer slope, 35 m [Ltn]; Tahiti, Mahina, Pointe Vénus, Banc du Dauphin, 9 spms, 18 m [Ltn]; Moorea [Ltn]; Tetiaroa [Ltn]; Mehetia [Ltn].

Clathropsis pulchella Cecalupo & Perugia, 2012

Type locality: Bohol Is., Philippines.

French Polynesia: Society Is. - Tahiti, Mahina, Baie de Matavai, 20 m [Ltn]; Tahiti, Papenoo, 1 m [Ltn]; Moorea [Ltn]; Tetiaroa [Ltn]; Mehetia, 55 m, 20 spms [Ltn].

Clathropsis zannii Cecalupo & Perugia, 2012

Type locality: Mactan Is., Philippines.

French Polynesia: Society Is. - Tahiti, Arue, outer slope, 2 spms, 20-57 m [Ltn]; Moorea [Ltn]; Tetiaroa [Ltn]; Mehetia, [Ltn].

Horologica acuta Cecalupo & Perugia, 2013

Type locality: Espiritu Santo Is., Vanuatu.

French Polynesia: Tuamotu Is. - Makemo, Pouheva reef, Arikitamiro, 1 m, sediment between dead coral blocks, 1 spm [Ltn].

Horologica alligata Cecalupo & Perugia, 2012

Type locality: Panglao Is., Philippines.

French Polynesia: Tuamotu Is. - Rangiroa, near Passe de Tiputa, 1 spm, 100 m [Ltn].

Horologica diffusa Cecalupo & Perugia, 2012

Type locality: Cebu Is., Philippines.

French Polynesia: Society Is. - Tahiti, Tiarei, sediment, 1 spm, 1 m [Ltn]; Moorea [Ltn]; Tetiaroa [Ltn]; Mehetia [Ltn].

Horologica flava Cecalupo & Perugia, 2013

Type locality: Espiritu Santo Is., Vanuatu.

French Polynesia: Society Is. - Bora Bora, sediment from outer slope of the reef barrier, 2 spms [But].

Horologica frauduleuta Cecalupo & Perugia, 2013

Type locality: Espiritu Santo Is., Vanuatu.

French Polynesia: Society Is. - Tahiti, Faaone, reef along the coast, 28 spms, 23/05/85 [Trn]; Tahiti, Mitirapa, sediment on the beach, 2 spms [But]; Tahiti, Passe de Papeete, reef sediment, 20 spms, 1980/1981 [Ltn]; Tahiti, Punaauia, reef, 16 spms, 1980/81 [Ltn]; Tahiti, Mahina, Orofora, sediment on the beach, 3 spms, 01/2009 [Ltn]; Moorea [Ltn]; Mehetia [Ltn]; Tetiaroa, beach sediment [Ltn]; Bora Bora reef, 2 spms, 1 m [Ltn]; Tuamotu Is. - Hao, sediment on the external beach, 1 spm, 1981 [Ltn].

Horologica infuscata Cecalupo & Perugia, 2012

Type locality: Mactan Is., Philippines.

French Polynesia: Society Is. - Tahiti, Pajara, lagoon, sandy bowls near reef, 1 spm [But]; Tahiti, Mitirapa, sediment on the beach, 2 spms [But].

Horologica incuuda Cecalupo & Perugia, 2013

Type locality: Espiritu Santo Is., Vanuatu

French Polynesia: Society Is. - Tahiti, Passe de Papeete, reef sediment, 3 spms, 01/1979 [Trn]; Tahiti, Arue, chancel, lagoon, 12 spms, 12 m [Ltn]; Tahiti,

Mahina, Pointe Vénus, brushing on coral rocks, 1 spm, 11/1989 [Trn]; Moorea [Ltn]; Tetiaroa [Ltn]; Mehetia [Ltn]; Tuamotu Is. - Makemo, Pohuc, 1 spm, 83 m [Ltn]; Anaa, sediment on external beach, 2 spms, 07/1980 [Trn]; Austral Is. - Rurutu, sandy sediment near reef, 51m [Ltn]; Raivavae, sandy sediment, lagoon, 2 spms [Ltn].

Horologica jayi Cecalupo & Perugia, 2012

Type locality: Mactan Is., Philippines.

French Polynesia: Society Is. - Tahiti, Pajara, Mahaiatea, reef blocks, 1 spm, 14/07/81 [Trn].

Horologica uicaelae Cecalupo & Perugia, 2012

Type locality: Panglao Is., Philippines.

French Polynesia: Austral Is., Rapa - stn 10, Pointe Komire, + 79 m, 1 spm, 16-18 m, 27°34,8'S, 144°22,8'W, heap of stones covered with brown algae, 07 nov 2002; stn 28, Pointe Taekateke, 1 spm, 30 m, 27°38,4'S, 144°20,6'W, lot of stones covered with algae, 15 nov 2002; stn 43, Baie Ahurei, 3 spms, 45 m, 27°36,8'S, 144°18,3'W, drop off with muddy bottom at the base, 26 nov 2002; stn 44, NW Tauna Is., 12 spms, 30 m, 27°36,3'S, 144°18,2'W, drop off with muddy zones, 27 nov 2002; stn 47, Baie Ahurei, 5 spms, 33 m, 27°36,7'S, 144°19,1'W, mud with coral heads, 29 nov 2002; stn 48, off Pointe Rukuaga, 3 spms, 36 m, 27°34,1'S, 144°22,1'W, plateau covered by sand, 30 nov 2002.

Horologica uodosa Cecalupo & Perugia, 2012

Type locality: Bohol Is., Philippines.

French Polynesia: Society Is. - Tahiti, Papeete, Motu Uta, 2 m [Ltn]; Tahiti, Punaauia, outer slope, 20 m [Ltn]; Tahiti, Arue, outer slope, 15-60 m [Ltn]; Tahiti, Arue, lagoon, 10-18 m [Ltn]; Tahiti, Mahina, Baie de Matavai, 18 m [Ltn]; Tahiti, Mahaena, fringing reef [Ltn]; Tahiti, Tiarei, fringing reef, 1 m [Ltn]; Moorea, [Ltn]; Tetiaroa [Ltn], Mehetia, [Ltn].

Horologica paupercula Cecalupo & Perugia, 2012

Type locality: Bohol Is., Philippines.

French Polynesia: Society Is. - Tahiti, Taravao, Port Phaeton, in sand along beachfront, 3 spms [But].

Horologica tabanellii Cecalupo & Perugia, 2012

Type locality: Mactan Is., Philippines.

French Polynesia: Society Is. - Tahiti, Tiarei, sediment, 1 spm, 1 m [Ltn]; Moorea [Ltn]; Tetiaroa [Ltn]; Mehetia, [Ltn].

Horologica gwenauellae Cccalupo & Perugia, 2013

Type locality: Espiritu Santo Is., Vanuatu.

French Polynesia: Society Is. - Tahiti, Arue, outer slope, 20-40 m [Ltn]; Tahiti, Mahina, Les roses de Matavai, 45 m, 4 spms [Ltn]; Moorea [Ltn]; Tetiaroa [Ltn]; Mehetia [Ltn].

Joculator alligatus Cccalupo & Perugia, 2012

Type locality: Panglao Is., Philippines.

French Polynesia: Society Is. - Tahiti, Punaauia, outer slope, 20 m [Ltn]; Tahiti, Arue, outer slope, 15-20 m [Ltn]; Tahiti, Arue, lagoon, 10-18 m [Ltn]; Tahiti, Tiarei, fringing reef, 1 m [Ltn]; Tahiti, Afaahiti, sediment, 3 spms, 30 m, 06/1985 [Trn]; Moorea [Ltn]; Tetiaroa [Ltn]; Mehetia [Ltn].

Joculator arduiuii Cccalupo & Perugia, 2012

Type locality: Panglao Is., Philippines.

French Polynesia: Tuamotu Is. - Makemo, Pouheva, reef, 1 m, Passe Arikitamiro, 45 m [Ltn]; Ahe, sand on reef bord, 9 spms [Ltn].

Joculator carpatiuus Cccalupo & Perugia, 2012

Type locality: Bohol Is., Philippines.

French Polynesia: Society Is. - Tahiti, Afaahiti, sediment, 7 spms, 30 m, 06/1985 [Trn].

Joculator furvus Cccalupo & Perugia, 2012

Type locality: Panglao Is., Philippines.

French Polynesia: Society Is. - Tahiti, Tiarei, fringing reef, 1 m [Ltn]; Moorea [Ltn]; Tetiaroa [Ltn]; Mehetia [Ltn].

Joculator iuflatus Cccalupo & Perugia, 2012

Type locality: Panglao Is., Philippines.

French Polynesia: Society Is. - Tahiti, Tiarei, sediment, 1 spm, 1 m [Ltn]; Moorea [Ltn]; Tetiaroa [Ltn]; Mehetia [Ltn].

Joculator iauthiuus Cccalupo & Perugia, 2013

Type locality: Espiritu Santo Is., Vanuatu.

French Polynesia: Austral Is. - Rapa, Hiri bay, 1 spm, 5 m [Ltn].

Joculator lividus Cccalupo & Perugia, 2012

Type locality: Panglao Is., Philippines.

French Polynesia: Society Is. - Tahiti, Punaauia, outer slope, 20 m [Ltn]; Tahiti, Arue, outer slope, 15-20 m [Ltn]; Tahiti, Arue, lagoon, 10-18 m [Ltn]; Tahiti, Tiarei, fringing reef, 1 m [Ltn]; Moorea [Ltn]; Tetiaroa [Ltn]; Mehetia [Ltn].

Joculator uiuuutus Cccalupo & Perugia, 2012

Type locality: Panglao Is., Philippines.

French Polynesia: Society Is. - Tahiti, Afaahiti, sediment, 13 spms, 60 m, 06/1985 [Trn].

Joculator recisus Cccalupo & Perugia, 2012

Type locality: Panglao Is., Philippines.

French Polynesia: Society Is. - Tahiti, Mahina, Pointe Vénus, Banc du Dauphin, 2 spms, 18 m [Ltn]. Moorea [Ltn]; Tetiaroa [Ltn]; Mehetia [Ltn].

Joculator siuulaus Cccalupo & Perugia, 2012

Type locality: Panglao Is., Philippines.

French Polynesia: Society Is. - Tahiti, Tiarei, sediment, 1 spm, 1 m [Ltn]; Moorea [Ltn]; Tetiaroa [Ltn]; Mehetia [Ltn].

Joculator subcuticus Cccalupo & Perugia, 2012

Type locality: Pamilacan Is., Philippines.

French Polynesia: Society Is. - Tahiti, Mitirapa, sediment on the beach, 2 spms [But].

Joculator pruuus Cccalupo & Perugia, 2013

Type locality: Espiritu Santo Is., Vanuatu.

French Polynesia: Society Is. - Tahiti, Arue, outer slope, 1 spm, 20 m [Ltn]; Tahiti, Tiarei, sediment, 1 spm, 1 m [Ltn]; Moorea [Ltn]; Tetiaroa [Ltn]; Mehetia [Ltn].

Joculator variabilis Cccalupo & Perugia, 2012

Type locality: Panglao Is., Philippines.

French Polynesia: Society Is. - Bora Bora, in sediment of the extreme point of the reef barrier, 2 spms [But].

Joculator voucoseli Cecalupo & Perugia, 2012

Type locality: Panglao Is., Philippines.

French Polynesia: Society Is. - Tahiti, outer slope, 1 spm, 65 m [Ltn]; Moorea [Ltn]; Tetiaroa [Ltn]; Mehetia [Ltn].

Marshallopsis blauda Cecalupo & Perugia, 2012

Type locality: Pamilacan Is., Philippines.

French Polynesia: Society Is. - Bora Bora, in sediment of the extreme point of the reef barrier, 2 spms [But]; Marquesas Is. - Nuku Hiva, sediment, 1 spm, 10 m, 1980 [Trn].

Marshallopsis boucheti Cecalupo & Perugia, 2012

Type locality: Panglao Is., Philippines.

French Polynesia: Society Is. - Tahiti, Passe de Papeete, reef sediment, 1 spm, 06/1980 [Trn].

Marshallopsis gattellii Cecalupo & Perugia, 2012

Type locality: Bohol Is., Philippines.

French Polynesia: Society Is. - Tahiti, Papeete, Motu Uta, 2 m [Ltn]; Tahiti, Arue, outer slope, 15-60 m [Ltn]; Tahiti, Arue, outer slope, 22 spms, 20-57 m [Ltn]; Tahiti, Mahina, Pointe Vénus, Banc du Dauphin, 1 spm, 18 m [Ltn]; Tahiti, Mahina, Baie de Matavai, 18/20 m [Ltn]; Tahiti, Tiarei, fringing reef, 1 m [Ltn]; Tahiti Mahaena, [Ltn]; Moorea [Ltn]; Tetiaroa [Ltn]; Mehetia [Ltn]; Tuamotu Is. - Rangiroa, near Passe de Tiputa, 7 spm, 100 m [Ltn].

Marshallopsis granosa Cecalupo & Perugia, 2012

Type locality: Bohol Is., Philippines.

French Polynesia: Society Is. - Tahiti, Tiarei, sediment, 1 spm, 1 m [Ltn]; Moorea [Ltn]; Tetiaroa [Ltn]; Mehetia [Ltn].

Marshallopsis liupida Cecalupo & Perugia, 2012

Type locality: Balicasag Is., Philippines.

French Polynesia: Society Is. - Bora Bora, in sediment of the extreme point of the reef barrier, 2 spms [But].

Marshallopsis lutea Cecalupo & Perugia, 2012

Type locality: Pamilacan Is., Philippines.

French Polynesia: Society Is. - Tahiti, Punaauia, blocks on the reef, 1 spm, 02/1982 [Trn]; Tahiti, Papara, ringing reef, 1 spm, 50 m, 06/1982 [Trn]; Tahiti, Papara, reef brushing, 2 spms, 0.50 m 30/11/1989 [Trn]; Tahiti, Arue, 1 spm, 30 m [Ltn]; Tahiti, Mahina, Orofara, sediment on the beach, 3 spms [But]; Tahiti, Tiarei, sediment, 1 spm, 1 m, [Ltn]; Bora Bora, in sediment of the extreme point of the reef barrier, 1 spm [But]; Moorea [Ltn]; Tetiaroa [Ltn]; Mehetia [Ltn]; Marquesas Is. - Ua Pou, Haakuti, 2 spms, 70 m [Ltn].

Marshallopsis maesta Cecalupo & Perugia, 2012

Type locality: Balicasag Is., Philippines.

French Polynesia: Marquesas Is. - Ua Pou, Haakuti, 1 spm, 68 m [Ltn].

Marshallopsis melanesiana Cecalupo & Perugia, 2013

Type locality: Espiritu Santo Is., Vanuatu.

French Polynesia: Society Is. - Tahiti, Passe de Papeete, reef sediment, 39 spms, 01/1981 [Trn]; Tahiti, Arue, 3 spms, 27 m [Ltn]; Tahiti, Arue, reef, Mission Poli Transect, 6 spms, 17/04/1982 [Trn]; Tahiti, Arue, sediment on Lafayette reef, 1 spm, 1985 [Trn]; Tahiti, Mahina, Pointe Vénus, Banc du Dauphin, 18m, [Ltn]; Tahiti, Mahina, blocks on the reef, 1 spm, 02/1982 [Trn]; Tahiti, Mahina, Pointe Vénus, brushing on coral blocks, 1 spm, 11/1989, [Trn]; Tahiti, Mahina, Orofara, beach sediment, 1 spm, 01/2009 [Trn]; Tahiti, Mahaiatea, blocks on the reef, 35 spms, 14/07/81 [Trn]; Tahiti, Afaahiti, sediment, 52 spms, 30/60m 06/1985 [Trn]; Tahiti, Faaone, Tahiti, brushing on coastal reef, 13 spms, 23/05/85 [Trn]; Moorea [Ltn]; Tetiaroa [Ltn]; Mehetia [Ltn]; Tuamotu Is. - Anaa, sediment on the externe beach, 5 spms, 1980-81 [Trn]; stn TH02-03, Hereheretue, 4 spms, 60 m, 19°52,48'S, 145°00,40'w, 28/04/2011, Meru 34; Moruroa Atoll, 6 spms [But]; Rangiroa, Passe de Tiputa, 25 spm, 81/100 m, [Ltn]; Makemo, Passe d'Arikitamiro, 6 spms, 45 m [Ltn]; Makemo, sediment on reef front, 1 m [Ltn]; Anaa, sediment on extern beach, 36 spms, 1980-81 [Trn]; Moruroa, sediment on esterne beach, 14 spms, 1980 [Trn]; Austral Is. - Rurutu, sandy sediment on ringing reef, 51 m [Ltn]; Raivavae, sandy sediment on the lagoon, 2 spms [Ltn]; Banc du Président Thiers, N/O "Alis" campagne BENTHAUS, stn DW1927, 3 spms, 105-95 m, 24°39'S, 146°01,6'W, 13/11/2002.

Marshallopsis tutubaeusis Cecalupo & Perugia, 2013

Type locality: Espiritu Santo Is., Vanuatu.

French Polynesia: Tuamotu Is. - Tikehau, in sediment of the extreme point of the reef barrier, 1 spm [But].

Mendax cf. *marginata* Suter, 1908

Type locality: Three Kings Is., New Zealand.

French Polynesia: Society Is. - Tahiti, Arue, outer slope, 6 spms, 35 m [Ltn]; Tahiti, Mahina, Baie de Matavai, 16 m [Ltn]; Moorea [Ltn]; Tetiaroa [Ltn]; Mehetia [Ltn].

Mendax rufulus Ceealupo & Perugia, 2013

Type locality: Espiritu Santo Is., Vanuatu.

French Polynesia: Society Is. - Bora Bora, on sediment on the outer slope of reef, 2 spm [But]; Tuamotu Is. - Moruroa, sediment on the externe beach, 2 spms, 1980 [Trn].

Ondulopsis annae Ceealupo & Perugia, 2012

Type locality: Panglao Is., Philippines.

French Polynesia: Society Is. - Tahiti, 1 spm, 20 m [Ltn]; Tahiti, Punaauia, outer slope, 1 spm, 30 m [Ltn]; Moorea [Ltn]; Tetiaroa [Ltn]; Mehetia [Ltn]; Austral Is. - Rapa, Baie de Ahurei [Ltn]; Rurutu, sandy sediment on fringing reef, 1 spm [Ltn];

Ondulopsis intricata Ceealupo & Perugia, 2012

Type locality: Panglao Is., Philippines.

French Polynesia: Marquesas Is. - Ua Pou, Haakuti, 68m, 4 spms [Ltn].

Seila vanmatensis Ceealupo & Perugia, 2013

Type locality: Espiritu Santo Is., Vanuatu.

French Polynesia: Tuamotu Is. - Anaa, sediment on the externe beach, 1 spm, 07/1980 [Trn].

Synthopsis albachiarae Ceealupo & Perugia, 2012

Type locality: Bohol Is., Philippines.

French Polynesia: Society Is. - Tahiti, Papeete, Motu Uta, 2 m [Ltn]; Tahiti, Arue, outer slope, 15-60 m [Ltn]; Tahiti, Mahina, Baie de Matavai, 18 m [Ltn]; Tahiti, Mahaena [Ltn]; Tahiti, Tiarei, fringing reef, 1 m [Ltn]; Moorea [Ltn]; Tetiaroa [Ltn]; Mehetia [Ltn].

Synthopsis bongiardinoi Ceealupo & Perugia, 2012

Type locality: Panglao Is., Philippines.

French Polynesia: Society Is. - Tahiti, Taravao, Baie de Port Phaeton, sediment on the beach, 2 spms [But]; Tahiti, Mahina, Pointe Vénus point, brushing on coral blocks, 1 spm, 11/1989 [Trn].

Synthopsis cebuensis Ceealupo & Perugia, 2012

Type locality: Cebu Is., Moalboal, Philippines.

French Polynesia: Society Is. - Tahiti [Ltn]; Motu One, sandy sediment, 2 spms, 1 m, bord récif [Ltn]; Moorea [Ltn]; Tetiaroa [Ltn]; Mehetia [Ltn].

Synthopsis noninii Ceealupo & Perugia, 2012

Type locality: Panglao Is., Philippines.

French Polynesia: Society Is. - Tahiti, Tiarei, sediment, 1 spm, 1 m [Ltn]; Moorea [Ltn]; Tetiaroa [Ltn]; Mehetia [Ltn].

Synthopsis panglaoensis Ceealupo & Perugia, 2012

Type locality: Panglao Is., Philippines.

French Polynesia: Society Is. - Tahiti, Tiarei, sediment, 1 spm, 1 m [Ltn]; Moorea [Ltn]; Tetiaroa [Ltn]; Mehetia [Ltn].

Synthopsis prima Ceealupo & Perugia, 2012

Type locality: Panglao Is., Philippines.

French Polynesia: Society Is. - Tahiti, Mahina, coral blocks on the reef, 2 spms, 16/05/82 [Trn].

Synthopsis praeacuta Ceealupo & Perugia, 2012

Type locality: Panglao Is., Philippines.

French Polynesia: Society Is. - Tahiti, Papeete, reef sediment, 2 spms, 06/1980 [Trn]; Tahiti, Punaauia, outer slope, 20 m [Ltn]; Tahiti, Arue, outer slope, 15-20 m [Ltn]; Tahiti, Baie de Arue 10-18 m [Ltn]; Tahiti, Mahina, Pointe Vénus, brushing on coral blocks, 1 spm, 11/1989 [Trn]; Tahiti, Tiarei, sediment, 1 spm, 1 m [Ltn]; Tahiti, Mahaena, fringing reef, 1 m [Ltn]; Tahiti, Mahaiatea, blocks on the reef, 2 spms, 14/07/81 [Trn]; Tahiti, Faaone, brushing on the coastal reef, 4 spms, 23/05/85 [Trn]; Tahiti, Afaahiti, sediment, 3 spms, 60 m, 06/1985 [Trn]; Tahiti, Afaahiti, sediment, 7 spms, 30 m, 06/1985 [Trn]; Moorea [Ltn]; Tetiaroa [Ltn]; Mehetia [Ltn]; Marquesas Is. - Ua Pou, Hakahetau, 5m [Ltn]; Ua Pou, Haakuti 68 m, 4 spms [Ltn].

Synthopsis silviae Ceealupo & Perugia, 2012

Type locality: Panglao Is., Philippines.

French Polynesia: Society Is. - Tahiti, Afaahiti, sediment, 1 spm, 60m, 06/1985 [Trn].

Specula albengai Cecalupo & Perugia, 2013

Type locality: Espiritu Santo Is., Vanuatu.

French Polynesia: Austral Is. - Raps, Baie Hiri, 1 spm, 5 m [Ltn].

Specula dubia Cecalupo & Perugia, 2013

Type locality: Espiritu Santo Is., Vanuatu.

French Polynesia: Society Is. - Tahiti [Ltn]; Bora Bora, reef, 2 spms, 1 m [Ltn]; Moorea [Ltn]; Tetiaroa, sandy sediment [Ltn]; Mehetia [Ltn].

Specula moalboalensis Cecalupo & Perugia, 2012

Type locality: Cebu Is., Moalboal, Philippines.

French Polynesia: Society Is. - Tahiti, Papeete, Motu Uta, 2 m [Ltn]; Tahiti, Arue, outer slope, 15-60 m [Ltn]; Tahiti, Mahina, Baie de Matavai, 18 m [Ltn]; Tahiti, Mahaena, [Ltn]; Tahiti, Tiarei, fringing reef, 1m [Ltn]; Tahiti, Mahina, Pointe Vénus brushing on coral blocks, 4 spms, 0.50 m, 15/11/89 [Trn]; Tahiti, Afaahiti, sediment, 5 spms, 30m, 06/1985 [Trn]; Tahiti, Afaahiti, sediment, 3 spms, 60 m, 06/1985 [Trn]; Moorea [Ltn]; Tetiaroa [Ltn]; Mehetia [Ltn].

Tubercliopsis miranda Cecalupo & Perugia, 2012

Type locality: Pamilacan Is., Philippines.

French Polynesia: Society Is. - Tahiti, Afaahiti, sediment, 1 spm, 60m, 06/1985 [Trn].

ACKNOWLEDGEMENTS

We would like to thank the malacological staff of the Museum national d'Histoire naturelle of Paris, Philippe Bouchet, Virginie Héros and Philippe Maestrati, for the availability of their material and the scientific and bibliographic support; Michel Boutet (Tahiti), Jean Letourneux (Tahiti) and Jean Tröndlé (France), who have put their collections available to us.

We are also very grateful to the Museo di Storia Naturale di Milano, particularly to Michele Zilioli, for the SEM photos and to Elio Robba (UBM of Milano) for his constant suggestions. Thanks also to Jean Tröndlé, La Force, France, for his useful comments on the manuscript.

REFERENCES

- Bouchet, P. & Rocroi, J-P. 2005. Classification and Nomenclator of Gastropod Families. International Journal of Malacology, *Malacologia*, 47(1-2): 1-397.
- Cecalupo, A. & Perugia I., 2012. Family Cerithiopsidae H. Adams & A. Adams, 1853 in the Central Philippines (Caenogastropoda: Triphoroidea). *Quaderni della Civica Stazione Idrobiologica di Milano*, 30[2011]: 1-262.
- Cecalupo, A. & Perugia I., 2013. *The Cerithiopsidae (Caenogastropoda, Triphoroidea) of the Espiritu Santo -Vanuatu- South Pacific Ocean*. Published by the authors, 253 pp.
- Hutton F.W., 1885. New Species of Tertiary Shells. Art. LVI, *Transactions and Proceedings of the Royal Society of New Zealand*, 18: 333-335.
- Jay, M. & Drivas, J. 2002. The Cerithiopsidae (Gastropoda) of Reunion Island (Indian Ocean). *Novapex*, 3(1): 1-45.
- Laserson, C.F., 1956. The Family Cerithiopsidae (Mollusca) from the Solanderian and Dampierian Zoogeographical Province. *Australian Journal of Marine and Freshwater Research*, 7 (1): 151-182, Figs. 1-57.
- Marshall, B.A. 1978. Cerithiopsidae (Mollusca: Gastropoda) of New Zeland, and a provisional classification of the family. *New Zealand Journal of Zoology*, 5: 47-120, Figs 1-19.
- Severns, M., 2011. *Shells of the Hawaiian Islands. The Sea Shells*. ConchBooks, Hackenheim, 564 pp.
- Tröndlé, J. & Boutet, M. 2009. Inventory of Marine Molluscs of French Polynesia. Atoll Research Bulletin, No. 50, National Museum Natural History Smithsonian Institution, Washington. 87 pp.