The superfamily Pyramidelloidea Gray, 1840 (Mollusca, Gastropoda, Heterobranchia) in West Africa, 11. Addenda 3

La superfamilia Pyramidelloidea Gray, 1840 (Mollusca, Gastropoda, Heterobranchia) en Africa occidental, 11. Addenda 3

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RESUMEN

Se presenta un estudio del material de Pyramidellidae reunido a lo largo de unos 10 años por los propios autores además del cedido por otros colectores e instituciones. De ese material se identificaron 260 especies obteniendo nuevos datos sobre el área de distribución o el rango batimétrico para 147 de ellas. Veintitres especies son nuevas para la ciencia y siete más son descritas sin darle nombre. Se comenta y corrige la citación errónea de *Eulimella monolirata* para la costa africana. Se establecen las siguientes sinonimias: *Pyramidella schanderi* Aartsen, Gittenberger & Goud, 1998 con *P. inopinata* Schander, 1994; *Chrysallida jordii* Peñas & Rolán, 1998 con *Folinella moolenbeeki* Aartsen, Gittenberger & Goud, 1998; *Odostomia vanurki* Aartsen, Gittenberger & Goud, 1998 con *Odostomia wareni* (Schander, 1994); *Tiberia minusculoides* Aartsen, Gittenberger & Goud, 1998 con *Tiberia minúscula* (Monterosato, 1880).

ABSTRACT

A study of the Pyramidellidae material gathered over 10 years by the authors, with the addition of that obtained by other collectors and institutions, is presented. In this material, 260 species were identified, and new data on the distribution area or the depth range of 147 species were obtained. Of these, twenty three are new to science and seven more are described without giving a name. The erroneous citation of *Eulimella monolirata* for the African coast is discussed and corrected. The following synonymies are established: *Pyramidella schanderi* Aartsen, Gittenberger & Goud, 1998 with *P. inopinata* Schander, 1994; *Chrysallida jordii* Peñas & Rolán, 1998 with *Folinella moolenbeeki* Aartsen, Gittenberger & Goud, 1998; *Odostomia vanurki* Aartsen, Gittenberger & Goud, 1998 with *Odostomia wareni* (Schander, 1994); *Tiberia minusculoides* Aartsen, Gittenberger & Goud, 1998 with *Tiberia minuscula* (Monterosato, 1880).

INTRODUCTION

In recent decades, the Pyramidellidae have deserved special attention, both in Europe and the West African coast. In Europe their study began with VAN AARTSEN (1977, 1981, 1987 and 1994) and, for the Iberian Peninsula, with the work of PEÑAS, TEMPLADO & MARTÍNEZ (1996) on the Spanish

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Mediterranean. Meanwhile the study of the coast of Africa was started by Nofroni & Schander (1994) and Schander (1994). Shortly after, Peñas & Rolán (1997a, 1997b, 1998, 1999a, 1999b, 1999c, 2000, 2001a, 2001b and 2002) and Peñas, Rolán & Schander (1999) studied extensively the Pyramidellidae of the West African coast and the Atlantic seamounts south of the Azores. At the same time, Aartsen, Gittenberger & Goud (1998) also reviewed the Pyramidellids of these areas. Additional revisions were made in more general works referred to some areas or regions, such as that of Garraf (Giribet & Peñas, 1997), Alboran (Peñas, Rolán, Luque, Templado, Moreno, Rubio, Salas, Sierra & Gofas, 2006), Andalusia (Peñas & Rolán, 2011), Canary Islands (Hernández, Rolán & Swinnen, 2011), and others.

More recently, the authors have collected in new localities and the material so obtained is the object of the present work, showing new records of species already known and new species to be described herein. Some genera like *Pyramidella, Odostomella* or *Trabecula* had not been revised previously by us.

MATERIAL AND METHODS

Material collected since the last Addenda (Peñas & Rolán, 2002) was obtained by the authors from beach sediments, diving with snorkel or Scuba and also from dredgings. The sediments were examined under magnification and the shells sorted to species attempting to make a correct determination.

Another part of the material was collected by the EMEPC/M@Bis/ Selvagens 2010 expedition, within the project M@Bis (Marine Biodiversity Information System) conducted by the Portuguese Task Group for the Extension of the Continental Shelf. The ship conducting these campaigns was the "Creoula" and the material was provided by Monica Albuquerque.

A large amount of material was collected by the MNHN during several expeditions in West Africa (mainly Ivory Coast, Guinea Conakry, Gabon, etc.) Occasionally material from some personal collections (José María Hernández, Jacques Pelorce, Luis Dantart, etc.) was included in the present study.

In most cases the use of Scanning Electron Microscopy (SEM) was necessary. For this study an XL-30 set and a QUANTA-200 microscopes from the University of Vigo were used.

We have figured all species that were new or had some difference or peculiarity compared to the shells of previously known species.

The comparison of protoconch characters, such as the protoconch type (A, B or C as shown in Peñas, Templado & Martínez, 1996, and in other works), its diameter, the presence of occasional microsculpture, etc. are considered as an important basis for species-level separation. Measurements of shells are given also following Peñas, Templado & Martínez, 1996.

SYSTEMATIC PART

Until very recently the majority of European authors, including ourselves, had included in the genus *Chrysallida* s. l. as a catch-all, numerous species of this large group. However, strictly speaking, the only African species to be included in *Chrysallida* are those of the group *Chrysallida canariensis* Nordsieck & García-Talavera, 1979, because they are the only ones to match the characteristics of the type species *Chrysallida communis* (Carpenter, 1856).

This view was adopted by Pimenta, Absalão & Miyaji (2007, 2009) and Micali, Nofroni & Perna (2012) limiting the genus *Chrysallida* to the group of *C. communis* and including the other species of the subfamily Chrysallidinae in other genera; Schander, Aartsen & Corgan (1999) cited about 50 genera in this subfamily. Aartsen, Gittenberger & Goud (1998), referring specifically to West Africa, included in the genus *Folinella* Dall & Bartsch, 1904 some species formerly included in genus

Chrysallida; and later, the same authors AARTSEN, GITTENBERGER & GOUD (2000) provisionally used some subgenera such as *Parthenina, Pyrgulina, Tragula, Strioturbonilla* among others.

LYGRE & SCHANDER (2010) introduced the new genus *Kongsrudia*, which includes four already known African species: *K. gruveli* (as type species), *K. approximans*, *K. ersei* and *K. mutata*, and described a new species, *K. rolani*.

In the review that the present authors have completed recently, referring to deep waters of the South and Central Tropical Pacific (PEÑAS & ROLÁN, in press), we include all the genera related to *Chrysallida* in the tribe Chrysallidini, according to the nomenclature given by BOUCHET & ROCROI (2005). However, after studying abundant material from the Tropical South Pacific, we believe (PEÑAS & ROLÁN, in preparation), that some tribes such as Syrnolini or Tiberini, need further revision and this is planned to be done in the near future.

Abbreviations

AMNH American Museum of Natural History, New York
HMAC Great North Museum: Hancock, Newcastle upon Tyne,
MHNS Museo de Historia Natural de la Universidad, Santiago de Compostela
MMF Museo Municipal, Funchal, Madeira
MNHN Muséum National d'Histoire Naturelle, Paris
MNHNC Museu Nacional de História Natural e da Ciência, Lisbon
MNCN Museo Nacional de Ciencias Naturales, Madrid
MZB Museo de Zoología, Barcelona
NHMUK Natural History Museum United Kingdom, London
NNM Nationaal Natuurhistorisch Museum, Leiden
NRM Naturhistoriska Riksmuseet, Stockholm
RBINS Royal Belgian Institute for Natural Sciences, Brussels, Belgium
USNM United States National Musem, Washington
ZMBN Zoological Museum of University of Bergen, Norway
ZSM Zoologische Staatssammlung Museum, Munich
CAP collection of Anselmo Peñas, Vilanova i la Geltrú
CFS collection of Frank Swinnen, Lommel
CHO collection of José María Hernández Otero (†), Gran Canaria
CJP collection of Jacques Pelorce, Le Grau du Roi
CLD collection of Lluis Dantart (†), Barcelona
CMP collection of Marcel Pin (†), Dakar
CPD collection of Gustavo Pérez-Dionis, Tenerife
CPH collection of Paul Hattenberger, Gabon
CRG collection of Ramón Gómez, La Palma
CWE collection of Winfried Engl, Düsseldorf
sp specimen with soft parts
s shell
j juvenile
H: total height
h: height of last whorl (measured in apertural view)
A: height of aperture
D: maximum diameter

Family PYRAMIDELLIDAE Gray, 1840
Subfamily PYRAMIDELLINAE Gray, 1840
Tribe PYRAMIDELLINI Gray, 1840
Genus *Pyramidella* Lamarck, 1799

Pyramidella (Pyramidella) dolabrata (Linnaeus, 1758) (Figure 1A)

Trochus dolabratus Linnaeus, 1758. *Syst. Nat.*, ed. 10: 760. [type locality: stated as unknown]
Sayella micalii Peñas & Rolán, 1997a. *Iberus*, 15 (1): 36-38, figs. 1-5. - PEÑAS & ROLÁN, 2000b: 9.
Pyramidella dolabrata – Hernández *et al.*, 2011: 246, fig. 101Q.

Type material: Not examined. Eight syntypes in Linnean Society of London (A-F0020181).
Material examined: Cape Verde Archipelago: 12 s, intertidal, Tarrafal, San Nicolau (MHNS); 3 s, Sal Rei, Boavista (MHNS); 2 sp, 15 s, Matiota, Porto Mindelo, São Vicente (MHNS); 5 s, Santa Maria, Sal Island (MHNS). São Tomé and Príncipe: 3 s, Esprainha, São Tomé (CAP). Angola: 2 s, Praia da Corimba, 20 m (MHNS).

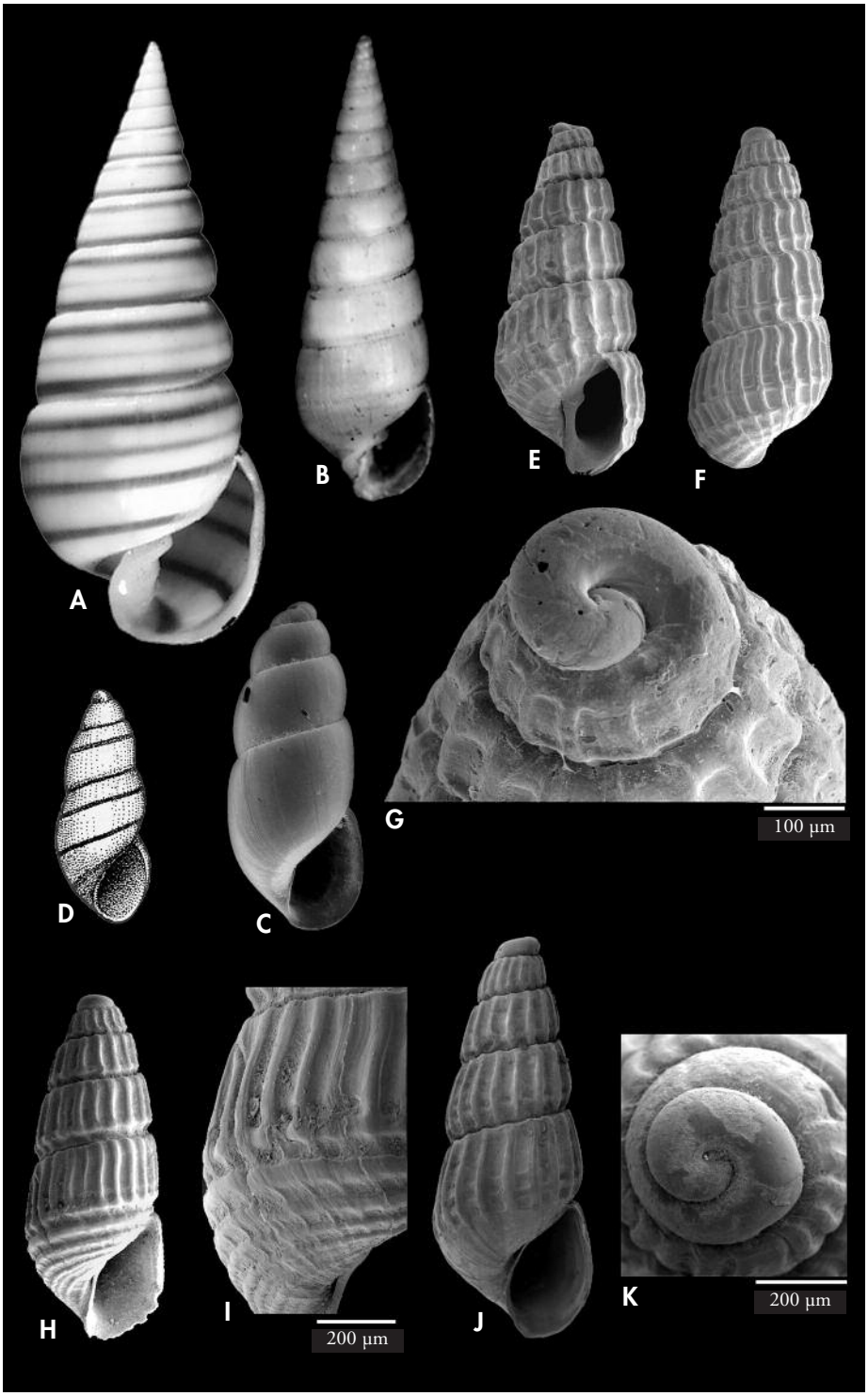
Distribution: The species is known in West Africa from the Cape Verde islands (Aartsen *et al*., 1998 and references therein), São Tomé (Tomlin & Shackleford, 1914) and Angola, in the Caribbean and in the Pacific Ocean, and was recorded from the Canary Islands by Rolán & Déniz (2009).

Pyramidella (Longchaeus) inopinata Schander, 1994 (Figure 1B)

Obeliscus suturalis von Maltzan, 1885. *Nachrichtsbl. Deut. Malak. Ges.*, 25: 26 (not *Pyramidella suturalis* Lea, 1846: 258, pl. 36, fig. 63). [Type locality: Gorée, Senegal, 20 m].
Pharcidella (?) inopinata Schander, 1994. *Notiz. CISMA*, 15 (1993): 48, figs. 7c, 13g-h. [Type locality: Cape Verde Islands, 16º36'3"N, 22º52'5"W, 25 m].
Pyramidella (Longchaeus) schanderi nom. nov. Aartsen *et al*. (1998). *Zool. Verhand.*, 321: 6, fig. 1. new synonym.

Type material: Not examined. Illustration in Schander (1994).
Material examined: Mauritania: 1 s, 60-80 m (CFS). Cape Verde Archipelago: 12 s, Porto Mindelo, São Vicente, 20 m (CAP); 12 s, Furna, Brava, 8-12 m (MHNS); 9 s, Palmeira, Sal, 6 m (MHNS); 4 s, Praia, Santiago, 15 m (MHNS); 1 s, Cidade Velha, Santiago; 3 s, Mordeira, Sal; 8 s, Tarrafal, Santiago, 7-12 m (MHNS). Senegal: 1 s, Saint Louis, near Mauritania, 100-120 m (CFS); 3 s, Island of Gorée, 7-12 m (CFS); 2 s, Dakar, in front of Oceanium Hotel, 10-15 m (MHNS). Ivory Coast: 31 s, Abidjan, Airport area, 50 m (MNHN); 2 s, Jacquesville, Stn. 4, 35 m (MNHN); Exp. "Benchaci I", off Grand Bassam (MNHN): 1 s, Stn. 7D (5°05,1'N - 3° 46.2' W, 55 m); 6 s, Stn. 12D (5°09.2'N - 3°47.2'W, 30 m); 1 s, Stn. 13D (5°08,9'N - 3°48.6'W, 35 m). São Tomé and Príncipe: 1 s, Santo Antonio, Príncipe, 8 m (CAP). Angola: 6 s, Mussulo, 20 m (MHNS); 15 s, Palmeirinhas, 15-20 m (MHNS); 9 s, Palmeirinhas, 60-80 m (MHNS); 5 s, off Ilha de Luanda, Macoco, 70-90 m (MHNS); 5 s, Corimba, Luanda, 20 m (MHNS); 7 s, Luanda, 50 m (MHNS).

(Right page) Figure 1. A: *Pyramidella (Pyramidella) dolabrata* (Linnaeus, 1758), shell, 36.8 mm, São Vicente, Cape Verde Archipelago (reproduced from Rolán, 2005). B: *Pyramidella (Longchaeus) inopinata* Schander, 1994, shell, 11.3 mm, Mordeira, Sal, Cape Verde Archipelago (from Rolán, 2005). C-D: *Sayella mercedordae* Peñas & Rolán, 1997; C: shell, 2.5 mm, Minerio, São Tomé, 41 m (MHNS); D: distribution of the colour bands (from Peñas & Rolán, 1997). E-G: *Parthenina anselmoi* (Peñas & Rolán, 1998); E-F: shells, 2.2 and 2.07 mm, Minerio, São Tomé, 35 m (MHNS); G: protoconch. H-I: *Parthenina incerta* (Milaschewich, 1916); H: shell, 1.9 mm, Lagoa Azul, São Tomé, 15 m (CFS); I: detail of the sculpture. J-K: *Parthenina connexa* (Dautzenberg, 1912); J: shell, 2.3 mm, Gorée, Senegal (MHNS); K: protoconch.
(Página derecha) Figura 1. A: Pyramidella (Pyramidella) dolabrata *(Linnaeus, 1758), concha de 36,8 mm, São Vicente, Archipiélago de Cabo Verde (tomado de Rolán, 2005). B:* Pyramidella (Longchaeus) schanderi *Aartsen, Gittenberger & Goud, 1998, concha, 11,3 mm, Mordeira, Sal, Archipiélago de Cabo Verde (tomado de Rolán, 2005). C-D:* Sayella mercedordae *Peñas & Rolán, 1997; C: concha, 2.5 mm, Minerio, São Tome, 41 m (MHNS); D: distribución de las bandas de color (tomado de Peñas & Rolán, 1997). E-G:* Parthenina anselmoi *(Peñas & Rolán, 1998); E-F: conchas, 2,2, 2,07 mm, Minerio, São Tomé, 35 m (MHNS); G: protoconcha. H-I:* Parthenina incerta (Milaschewich, 1916)*; H: concha, 1,9 mm, Lagoa Azul, São Tomé, 15 m (CFS); I: detalle de la escultura. J-K:* Parthenina connexa *(Dautzenberg, 1912); J: concha, 2,3 mm, Gorée, Senegal (MHNS); K: protoconcha.*


A
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Distribution: Previously known from Senegal and the Cape Verde archipelago (Aartsen *et al*., 1998). The distribution is here extended to include Ivory Coast, São Tomé and Príncipe, and Angola.

Remarks: Schander (1994) described *Pharcidella inopinata*, and compared this species with *Obeliscus suturalis* von Maltzan, 1885. Aartsen *et al*. (1998) mentioned that the latter was preoccupied by *Pyramidella suturalis* Lea, 1846, giving a new name *Pyramidella (Longchaeus) schanderi*, but they expressed doubts regarding the identity of *Pharcidella inopinata* which they found to be slightly different. We have examined a large number of shells from many countries including the type locality of both taxa and have not found consistent differences between them. For this reason we think that they are conspecific, being *Pharciella inopinata* a junior synonym. Since *Obeliscus suturalis* von Maltzan is a preoccupied name, we will employ the synonym *Pyramidella inopinata* (Schander, 1994) as the valid name.

Tribe Sayellini Wise, 1996
Genus *Sayella* Dall, 1885

Sayella mercedordae Peñas & Rolán, 1997 (Figure 1C-D)

Sayella mercedordae Peñas & Rolán, 1997. *Iberus*, 15 (1): 38, figs. 6-8. [Type locality: Mordeira Bay, Sal Island, Cape Verde Archipelago].

Type material: Holotype in MNCN. Paratype in MHNS.
New material examined: São Tomé Island: 1 s, Minerio, 35-40 m (MHNS).

Distribution: Described and hitherto known only from the Cape Verde Archipelago. The distribution range of this species is enlarged to include São Tomé Island.

Subfamily Odostomiinae Pelseneer, 1928
Tribe Chrysallidini Saurin, 1958
Genus *Parthenina* Bucquoy, Dautzenberg & Dollfus, 1883

Parthenina anselmoi (Peñas & Rolán, 1998) (Figures 1E-G)

Chrysallida anselmoi Peñas & Rolán 1998. *Iberus*, suppl. 4: 38-39, figs. 107-111. [Type locality: Miamia, Ghana].
Chrysallida (Parthenina) anselmoi – Aartsen, Gittenberger & Goud, 2000: 31, figs. 36-61.

Type material: Holotype and 2 paratypes in MNCN. Paratypes in MNHN, USNM, CAP and MHNS.
New material examined: Mauritania: 20 s, Nouakchott, 80-100 m (CFS). Guinea-Bissau: 2 s, in sediments, 30-80 m (CFS). São Tomé Island: 26 s, Minerio, 41 m (MHNS).

Distribution: Originally described from Ghana and Congo, in the infralittoral zone, recorded subsequently from the circalittoral of Guinea Conakry and Mauritania. In this paper we enlarge the distribution range of the species to include Guinea-Bissau and São Tomé Island.

Parthenina incerta Milaschewich, 1916 (Figures 1H-I)

Parthenina incerta Milaschewich, 1916. *Moll. Mers Russes*, 98 [Type locality: Black Sea].
Odostomia turbonilloides Brusina, 1869 (non Deshayes). *J. Conchyl.*, 17: 240 [Type locality: Lacroma (now Lokrum), Dubrovnik, Croatia].

Pyrgulina brusinai Cossmann, 1921. *Ess. Paléoconch. Comp.*, 12: 258, fig. 10 [replacement name]
Chrysallida brusinai – Peñas & Rolán, 1998: 36, figs. 102-103.
Chrysallida brusinai – Hernández *et al.*, 2011: 247, figs. 85A-C.

Type material: Not examined.
New material examined: Mauritania: 2 s, Nouakchott, 80-100 m (CFS). Senegal: Gorée Island, 7-15 m (CFS). Guinea-Bissau: 1 s, Bissagos Archipelago, 34-61 m (CLD). Guinea Conakry: Exp. "Sedigui I" (MNHN): 9 s, E Morébaya River, Stn. 170 (9°24'N - 13°45'W, 17 m); 1 s, W Ile Konebomby, Stn. 378 (9°48'N - 13°59'W, 12 m); Exp. "Sedigui II" (MNHN): 1 s, Yomponi River, Stn. 687 (10°24'N - 14°47'W, 23 m); 1 s, W Núñez River, Stn. 781 (10°39'N - 15°16'W, 16 m); 6 s, W Núñez River, Stn. 804 (10°35.5'N - 15°26'W, 9 m); Exp. "Chalgui 7" (MNHN): 7 s, SW Ile Tamara, Stn. 17, 18 m; 3 s, W Ile Tamara, Stn. 19D, 17-20 m; 1 s, NW Ile Tamara, Stn. 19D, 1-20 m; 2 s, W Ouendi-Taboria, Stn. 41, 17 m. Ivory Coast: Exp. "Benchaci I", off Grand Bassam (MNHN): 3 s, Stn. 13D (5°08,9'N - 3°48.6'W, 35 m). Gabon: Cap Esterias, intertidal: 16 c; Cap Santa Clara, intertidal, 12 c. São Tomé Island: 3 s, Minerio, 41 m (MHNS).

Distribution: Mediterranean, South of Portugal and West Africa down to Angola, including the Archipelagos, infralittoral and circalittoral. The species is here recorded for the first time from Gabon, Guinea Conakry and Ivory Coast.

Remarks: In the opinion of VAN AARTSEN & MENKHORST (1996) the taxon *Parthenina brusinai* employed by other authors should be superseded by the earlier name *P. incerta* (Milaschewich, 1916). We have not examined this type material but accept this opinion.

Parthenina connexa (Dautzenberg, 1912) (Figures 1J-K)

Pyrgulina connexa Dautzenberg, 1912. *Ann. Inst. Oceanogr.*, 5 (3): 72, pl. 3, figs. 31-32. [Type locality: Cap Rouge, Mauritania].
Chrysallida connexa - Peñas & Rolán, 1998: 48, figs. 133-136.
Chrysallida (Parthenina) connexa - Aartsen, Gittenberger & Goud, 1998: 34.

Type material: Holotype in MNHN.
New material examined: Senegal: 4 s, Dakar, in front of Oceanium Hotel, 10-15 m (MHNS). São Tomé Island: 5 s, Minerio, 35-40 m (MHNS).

Distribution: Previously known from the infralittoral and circalittoral of Mauritania and Senegal. We extend the distribution range to include São Tomé Island.

Parthenina dantarti (Peñas & Rolán, 2008) (Figures 2A-D)

Chrysallida dantarti Peñas & Rolán, 2008. *Iberus*, 26 (2): 30-32, figs. 35-38. [Type locality: Vallcarca, Sitges, Barcelona, 45-60 m].

Type material: Holotype and 3 paratypes in MNCN (15.05/4758).
New material examined: Mauritania: 20 s, Nouakchott, 80-100 m (CFS). Senegal: 35 s, Dakar, 20-40 m (MHNS); 15 s, Gorée Island, 7-12 m (CFS).

Description: See PEÑAS, ROLÁN & BALLESTEROS (2008).

Distribution: Mediterranean of Catalunya and also central Mediterranean and Adriatic (MICALI, NOFRONI & PERNA, 2012). The range is here extended to include Mauritania and Senegal, infralittoral and circalittoral.

Remarks: This species is characterized by a tiny, solid, subcylindrical shell, with flexuose and opisthocline ribs, wider than their interspaces, vanishing gradually at the periphery; faint spiral

sculpture, only in the interspaces, formed by three cordlets, the lower one placed at the periphery; aperture with a columellar tooth. We believe that the fact of this species not being recorded in most of the Western Mediterranean and Moroccan Atlantic may be due to its tiny dimensions.

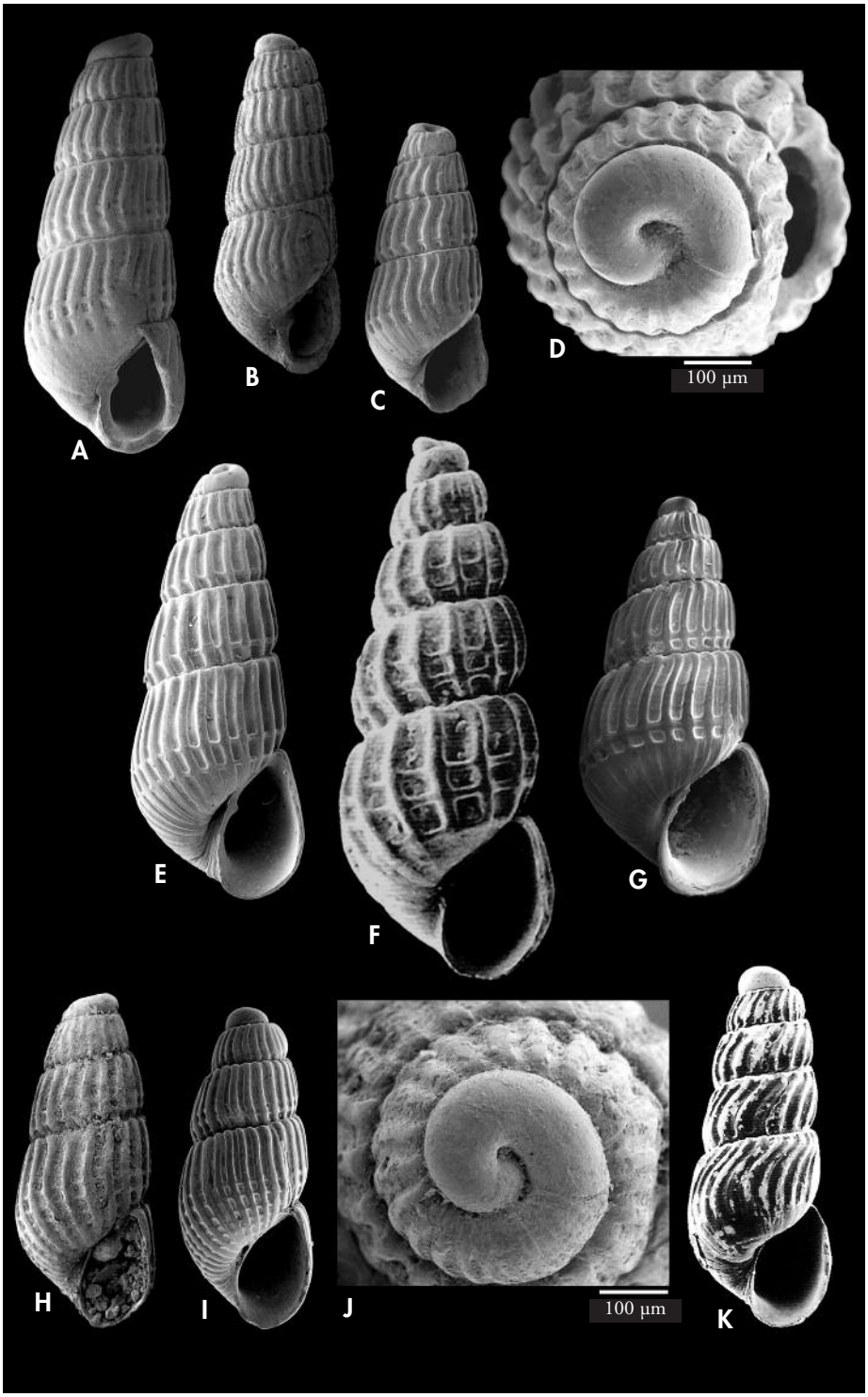
Parthenina interstincta (J. Adams, 1797) (Figure 2E)

Turbo interstinctus J. Adams, 1797. *Trans. Linn. Soc. Lond.*, 3: 66, fig. 39C. [Type locality: Bigberry Bay, Devonshire, British Islands].
Jaminia obtusa Brown, 1827. *Ill. Rec. Conch. Gr. Brit & Irel.*, pl. 50, fig. 38. [Type locality: not designated].
Chrysallida farolita Nordsieck, 1972. *Europ. Meeresschn.*, 96, pl. 1, fig. 22. [Type locality: Ibiza].
Chrysallida interstincta – Peñas & Rolán, 1998: 42-44, figs. 118-126.
Chrysallida (Parthenina) obtusa – Aartsen, Gittenberger & Goud, 2000: 28-29, fig. 33.
Chrysallida interstincta – Hernández *et al.*, 2011: 250, figs. 86J-L.

Type material: Not examined. Warén (1991) designated a neotype.
New material examined: Madeira: 23 s, off Funchal (R/V Auriga), 32º37.592'N, 16º53.796'W, 587 m (CFS). Mauritania: 2 s, Nouakchott, 80-100 m (CFS). Senegal: 20 s, Hann Bay, 7-15 m (CFS); 2 s, Casamance, 12º20.7'N, 16º53.1'W, 15 m (MNHN): 1 s, Dakar, in front of Oceanium Hotel, 10-15 m (MHNS). Guinea Conakry: Exp. "Sedigui I" (MNHN): 1 s, W Ile Tannah, Stn. 80 (9°12.3'N - 13°37'W, 16 m); 2 s, W of Sierra Leone border, Stn. 3 (9°03,4'N - 13°26'W, 10 m); 2 s, W Sangarea Bay, Stn. 369 (9°42'N - 14°05'W, 16 m); 4 s, W Ile Konebomby, Stn. 378 (9°48'N - 13°59'W, 12 m); 1 s, W Ouendi, Stn. 479 (9°54'N - 14°12'W, 13 m); Exp. "Sedigui II" (MNHN): 3 s, W Ile de Quito, Stn. 516 (10°00'N - 15°46'W, 28 m); 2 s, W Pointe Goro, Stn. 551 (10°06'N - 15°29'W, 24 m); 1 s, W Cap Verga, Stn. 590 (10°12'N - 14°41.5'W, 17 m); 1 s, W Foulaya, Stn. 625 (10°18'N - 15°57.5'W, 26 m); 1 s, W Yomponi River, Stn. 687 (10°24'N - 14°47'W, 23 m); 4 s, W Bel-Air (Koundinde), Stn. 655 (10°15'N - 14°43'W, 19 m); 4 s, W Ile Kouffin, Stn. 754 (10°30'N - 15°22'W, 21 m); 1 s, W Núñez River, Stn. 793 (10°39'N - 15°25'W, 24 m); Exp. "Chalgui 7" (MNHN): 3 s, W Ile Tannah, Stn. 12D, 15-16 m; 1 s, W Ile Tannah, Stn. 17, 18 m; 9 s, W Ouendi-Taboria, Stn. 4, 7 m. Ivory Coast: Exp. "Benchaci I", off Grand Bassam (MNHN): 3 s, Stn. 12D (5°09.2'N - 3°47.2'W, 30 m). Gabon: Exp. "Congo" (MNHN): 1 s, W Panga, Stn. 1051, 25 m.

Distribution: This species is common in the infralittoral and circalittoral of the European Atlantic and the Mediterranean, also along the West African

(Right page) Figure 2. A-D: *Parthenina dantarti* Peñas & Rolán, 2008. A-C: shells, 1.9, 1.6, 1.3 mm (A: Nouakchott, Mauritania; B-C: Gorée, Senegal); D: protoconch of another shell from Gorée, Senegal. E: *Parthenina interstincta* (J. Adams, 1797): shell, 2.1 mm, Madeira (R/V Auriga), 587 m (CFS). F: *Parthenina mauritanica* Peñas & Rolán, 1998, holotype, 4.5 mm, Nouadhibou, Mauritania (MNCN) (from Peñas & Rolán, 1998). G: *Parthenina multicostata* (Jeffreys, 1884), 2.5 mm, Fuerteventura (CWE, from Hernández *et al.*, 2011). H-J: *Parthenina palazzii* Micali, 1984. H-I: shells, 1.68, 1.5 mm, (H: Mauritania, 120 m; I: Bissagos archipelago, 32-50 m); J: protoconch, same shell as H. K: *Parthenina parasigmoidea* Schander, 1994, shell, 1.7 mm, Buraco, Bengo, Angola (MHNS) (from Peñas & Rolán, 1998).
(Página derecha) Figura 2. A-D: Parthenina dantarti *Peñas & Rolán, 2008. A-C: conchas, 1,9, 1,6, 1,3 mm (A: Nouakchott, Mauritania; B-C: Gorée, Senegal); D: protoconcha de otra concha de Gorée, Senegal. E:* Parthenina interstincta *(J. Adams, 1797): concha, 2,1 mm, Madeira (B/O Auriga), 587 m (CFS). F:* Parthenina mauritanica *Peñas & Rolán, 1998, holotipo, 4,5 mm, Nouadhibou, Mauritania (MNCN) (tomado de Peñas & Rolán, 1998). G:* Parthenina multicostata *(Jeffreys, 1884), 2,5 mm, Fuerteventura (CWE, tomado de Hernández et al., 2011). H-J:* Parthenina palazzii *Micali, 1984. H-I: conchas, 1,68, 1,5 mm, (H: Mauritania, 120 m; I: Bissagos Archipiélago, 32-50 m); J: protoconcha, misma concha que H. K:* Parthenina parasigmoidea *Schander, 1994, concha, 1,7 mm, Buraco, Bengo, Angola (MHNS) (tomado de Peñas & Rolán, 1998).*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coast down to Angola and in the Canary Islands, Madeira and Cape Verde archipelagos. This species is recorded here for the first time for Guinea Conakry and Ivory Coast, and also in deeper water (587 m) in Madeira, where it could have been transported downslope.

Parthenina mauritanica (Peñas & Rolán, 1998) (Figure 2F)

Chrysallida mauritanica Peñas & Rolán, 1998. *Iberus*, suppl. 4: 50-52, figs. 142-145. [Type locality: Baie de l'Etoile, near Nouadhibou, Mauritania].
Chrysallida (Parthenina) mauritanica – Aartsen, Gittenberger & Goud, 2000: 30, fig. 35.

Type material: Holotype and one paratype in MNCN (15.05/31748). Several paratypes in MNHN, USNM, CAP and MHNS.
New material examined: Senegal: 2 s, Saint Louis, 100-120 m (CFS); 4 s, Dakar, in front of Oceanium Hotel, 10-15 m (MHNS).

Distribution: Only known previously from Mauritania, this species is here recorded for the first time from Senegal, infralittoral and circalittoral.

Parthenina multicostata (Jeffreys, 1884) (Figure 2G)

Odostomia interstincta var. *multicostata* Jeffreys, 1884. *Proc. Zool. Soc. London*: 353. [Type locality: Ría de Arosa, Spain]
Chrysallida (Parthenina) multicostata – Aartsen, Gittenberger & Goud, 2000: 29-31, fig. 34.
Chysallida multicostata – Hernández *et al.*, 2011: 250, fig. 84.

Type material: Neotype designated by Aartsen *et al.* (2000), in NNM 59380.
New material examined: Mauritania: 30 s, Nouakchott, 80-100 m (CFS). Guinea Conakry: Exp. "Sedigui I" (MNHN): 1 s, W Ouendi, Stn. 479 (9°54'N - 14°12'W, 13 m) (MNHN). Ghana: 6 s, Miamia, down to 20 m (MHNS).

Distribution: Uncommon in the Mediterranean and the European Atlantic and relatively common in the African Atlantic down to Ghana, particularly in the circalittoral. This species is recorded here for the first time for Guinea Conakry.

Remarks: Aartsen *et al.* (2000) consider that this is a valid species, a view that we share. It differs from *C. interstincta* in having a more fragile shell, larger, wider and with more axial ribs.

Parthenina palazzii (Micali, 1984) (Figures 2H-J)

Chrysallida palazzii Micali, 1984. *Boll. Malac.*, 19 (9-12): 245-248. [Type locality: Medium Adriatic].
Chrysallida palazzii – Peñas & Rolán, 1998: 40, fig. 115.

Type material: Not examined. Holotype in the Museo di Zoologia, University of Bologna, photographed in Micali (1984).
New material examined: Mauritania: 3 s, Nouakchott, 80-100 m (CFS). Senegal: 1 s, off Saint Louis, 100-120 m (CFS). Guinea-Bissau: 2 s, Bissagos Archipelago, 32-50 m (CLD).

Distribution: Known previously from the Mediterranean and Mauritania. We extend the distribution area to include Senegal and Guinea-Bissau.

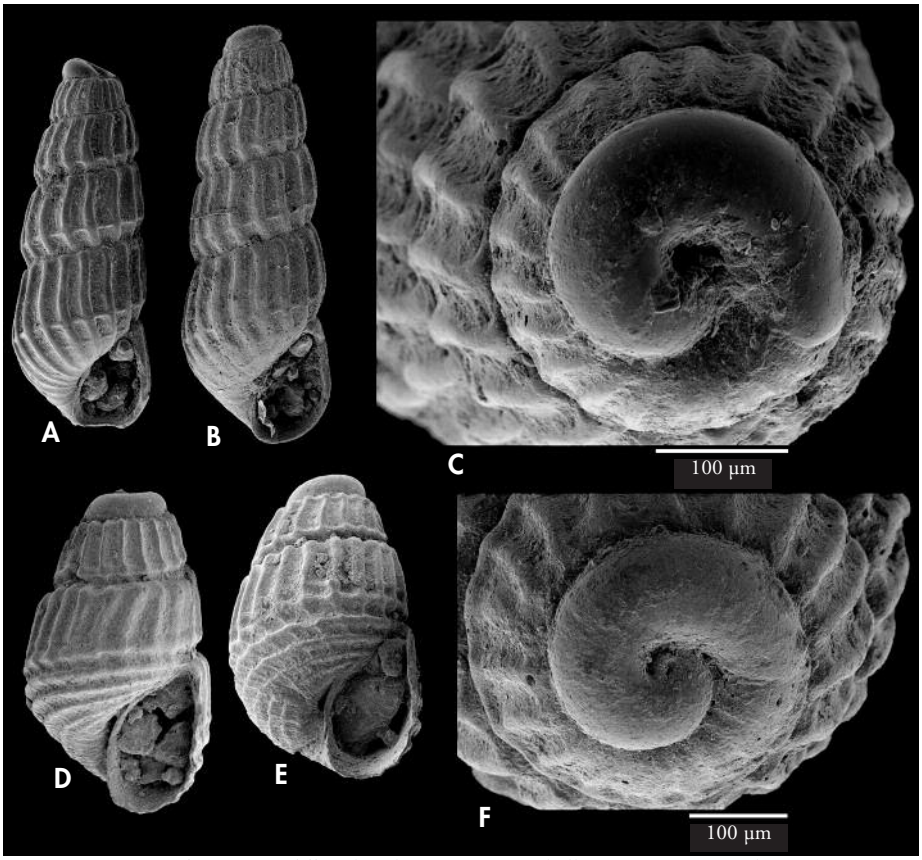


Figure 3. A-C: *Parthenina pyttelilla* Schander, 1994. A-B: shells, 1.4, 1.6 mm, Gabon (MHNS); C: protoconch. D-F: *Parthenina sergei* Nofroni & Schander, 1994. D-F: shells, 0.93 and 0.89 mm, Cap Esterias, Gabon (MHNS); F: protoconch.
Figura 3. A-C: Parthenina pyttelilla *Schander, 1994. A-B: conchas, 1,4, 1.6 mm; Gabón (MHNS); C: protoconcha. D-F:* Parthenina sergei *Nofroni & Schander, 1994. D-F: conchas, 0,93, 0.89 mm, Cabo Esterias, Gabón (MHNS); F: protoconcha.*

Parthenina parasigmoidea (Schander, 1994) (Figure 2K)

Chrysallida parasigmoidea Schander, 1994. *Notiz. CISMA*, 15: 23-24, fig. 2d, 10d and 17. [Type locality: Barra do Dande, Province of Bengo, Angola].
Chrysallida parasigmoidea – Peñas & Rolán, 1998: 56, figs. 155-156.

Type material: Holotype in MNHN. Not examined. Illustration of the holotype in SCHANDER (1994).
New material examined: Guinea Conakry: Exp. "Sedigui I" (MNHN): 1 s, W Quito I., Stn. 515 (10°00'N - 15°43'W, 26 m); Exp. "Sedigui II" (MNHN): 1 s, W Pointe Goro, Stn. 551 (10°06'N - 15°29'W, 24 m) (MNHN). Gabon: 2 s, Cap Esterias, intertidal (MHNS).

Distribution: Known previously in the infralittoral and circalittoral from Senegal, Ghana and Angola. This species is here recorded for the first time from Guinea Conakry and Gabon.

Parthenina pyttelilla (Schander, 1994) (Figures 3A-C)

Chrysallida pyttelilla Schander, 1994. *Notiz. CISMA*, 15: 25-26, figs. 3a and 10 f. [Type locality: Ilha de Luanda, 120 m, Angola].
Chrysallida pyttelilla – Peñas & Rolán, 1998: 46-47, figs. 129-132.

Type material: Holotype and 11 paratypes (MNHN). Photograph of the holotype in SCHANDER (1994).
New material examined: Guinea-Bissau: 1 s, Bissagos Archipelago, 34 m (CLD); Exp. "Chalbis II" (MNHN): 3 s, S Ilha do Mel, Stn. 8, 25 m. Guinea Conakry: Exp. "Sedigui I" (MNHN): 1 s, W Sierra Leone border, Stn. 10 (9°03'N - 13°47'W, 23 m); 1 s, W Sierra Leone border, Stn. 4 (9°03'N - 13°29'W, 12 m); 1 s, W Ile Tannah, Stn. 82 (9°12'N - 13°43.5'W, 24 m); 1 s, W River Morébaya, Stn. 170 (9°24'N - 13°45'W, 17 m); 1 s, W Ile de Quito, Stn. 488 (10°00'N - 14°20.5'W, 15 m); Exp. "Sedigui II" (MNHN): 3 s, W Pointe Goro, Stn. 566 (10°06'N - 14°43'W, 21 m); 1 s, W Cap Verga, Stn. 590 (10°12'N - 14°41.5'W, 17 m); 1 s, W Cap Verga, Stn. 593 (10°12'N - 14°50,5'W, 34 m); 2 s, W Bel-Air (Koundinde), Stn. 655 (10°15'N - 14°43'W, 19 m); 3 s, W Cap Verga, Stn. 659, 27 m; Exp. "Chalgui 7" (MNHN): 2 s, W Ouendi-Taboria, Stn. 41, 12 m. São Tomé Island: 27 s, Minerio, 40 m (MHNS). Gabon: 12 s, Cap Esterias, intertidal (MHNS).

Distribution: Known previously from Mauritania to Angola, and the archipelago of São Tomé and Príncipe, from the infralittoral to the circalittoral. This species is recorded for the first time from Guinea-Bissau and Gabon.

Parthenina sergei (Nofroni & Schander, 1994) (Figures 3D-F)

Chrysallida sergei Nofroni & Schander, 1994. *Notiz. CISMA*, 15: 4-5, figs. 1e, 1f and 2g, 2i, [Type locality: Barra de Dande, province of Bengo, Angola].
Chrysallida sergei – Peñas & Rolán, 1998: 36-38, figs. 104-106.

Type material: Holotype in MNHN. Not examined. Illustration of the holotype in NOFRONI & SCHANDER (1994).
New material examined: Senegal: 1 s, Casamance, 12º20.7N, 16º53.1W, 15 m. Gabon: 340 s, Cap Esterias, intertidal (MHNS). Guinea-Bissau: 1 s, Bissagos Archipelago, 32 m (CLD); Exp. "Chalbis II" (MNHN): 1 s, S Ilha do Mel, Stn. 8, 25 m. Guinea Conakry: Exp. "Sedigui II" (MNHN): 2 s, W Pointe Goro, Stn. 572D (10°06'N - 14°25'W, 12 m); 1 s, W Yomponi River, Stn. 687 (10°24'N - 14°47'W, 23 m); 3 s, W Bel-Air (Koundinde), Stn. 655 (10°15'N - 14°43'W, 19 m); 3 s, W Yomponi River, Stn. 688 (10°24'N - 14°50'W, 22 m); 1 s, W Núñez River, Stn. 781 (10°39'N - 15°16'W, 16 m); Exp. "Chalgui 7" (MNHN): 1 s, W Ile Tannah, Stn. 13D, 18-20 m; 5 s, W Ouendi-Taboria, Stn. 41, 17 m. Ivory Coast: Exp. "Benchaci I", off Grand Bassam (MNHN): 3 s, Stn. 12D (5°09.2'N - 3°47.2'W, 30 m). Gabon: 24 s, Cap Esterias, intertidal (MHNS); 1 s, Exp. "Congo" WSW Tchimbia, Stn. 749, 115 m (MNHN). São Tomé Island: 64 s, Minerio, São Tomé, 40 m (MHNS).

Distribution: Known previously from Guinea, Ghana, Congo and Angola. This species is recorded here for the first time from Guinea-Bissau, Ivory Coast and the island of São Tomé.

Parthenina jeanpaulkrepsi spec. nov. (Figures 4A-E)

Type material: Holotype in MMF (43316, Fig. 4A) and 10 paratypes (MMF 43317-43326, Fig. 4B). Other paratypes in the following institutions: MNCN (15.05/60122, 1 s), MNHN (IM-2012-2765, 3 s), MHNS (100609, 1 sp), RBINS (MT.3073, 1 s), CAP (2 s), CFS (10 s).
Type locality: Madeira, off Funchal, 32º37.592'N, 16º53.796'W, 587 m.
Material examined: Canary Islands: 6 s, El Socorro, Tenerife, 100 m (CAP); 30 s, Agaete, Gran Canaria, 100-120 m (CFS); 1 s, El Cabrón, Arinaga, Gran Canaria, 26-32 m (CFS); 4 s, Talliarte,

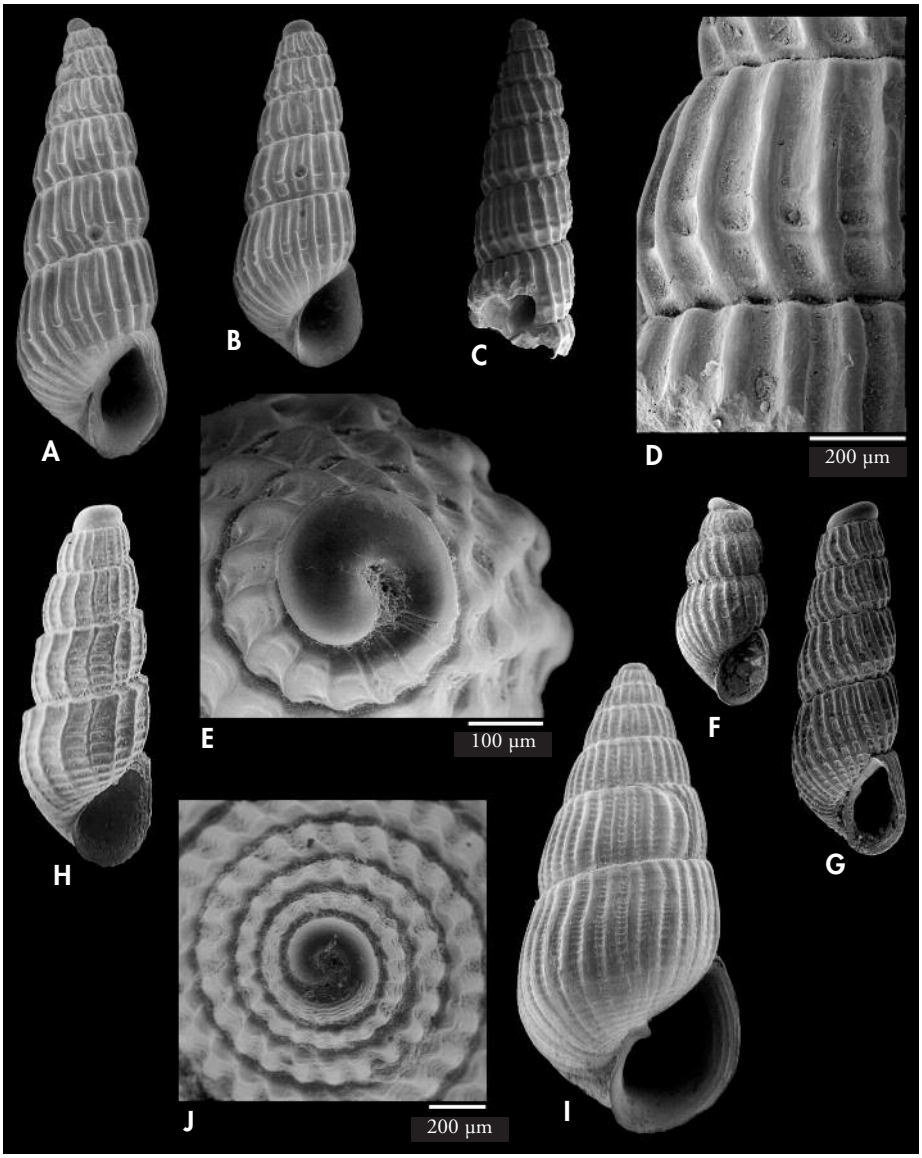


Figure 4. A-E: *Parthenina jeanpaulkrepsi* spec. nov. A: holotype, 2.9 mm (MMF); B: paratype, 2.3 mm (MMF), Madeira; C: fragment 2.4 mm, São Tomé (MHNS); D: detail of the sculpture; E: protoconch. F-G: *Pyrgulina dimidiata* Schander, 1994. F: shell, 1.16 mm, Dakar, Senegal, 20-40 m (CFS); G: shell, 1.7 mm, Hann Bay, Senegal (CFS). H: *Pyrgulina jullieni* (Dautzenberg, 1912), shell, 1.8 mm, Miamia, Ghana (MHNS). I-J: *Pyrgulina obesa* (Dautzenberg, 1912). I: shell, 5.3 mm, Luanda (MHNS); J: protoconch.

Figura 4. A-E: Parthenina jeanpaulkrepsi *spec. nov. A: holotipo, 2,9 mm (MMF); B: paratipo, 2,3 mm (MMF), Madeira; C: fragmento 2,4 mm, São Tomé (MHNS); D: detalle de la escultura; E: protoconcha. F-G:* Pyrgulina dimidiata *Schander, 1994. F: concha, 1,16 mm, Dakar, Senegal, 20-40 m (CFS); G: concha, 1,7 mm, Hann Bay, Senegal (CFS). H:* Pyrgulina jullieni *(Dautzenberg, 1912), concha, 1,8 mm, Miamia, Ghana (MHNS). I-J:* Pyrgulina obesa *(Dautzenberg, 1912). I: concha, 5,3 mm, Luanda (MHNS); J: protoconcha.*

Fuerteventura, 100 m (CRG). Madeira: 30 s, off Funchal (Exp. R/V Auriga), 32º37.592'N, 16º53.796'W, 587 m (type material); 20 s, off Funchal, 32º37.816'N, 16º53.866'W, 386 m (CFS); 4 s, Funchal Bay, 134-136 m (R/V Auriga); 29 s, Machico, 38 m (CFS); 90 s, dredged in front of the airport, 70-90 m (CAP). São Tomé Island: 1 f, Lagoa Azul, 40 m (MHNS).

Etymology: The species name is after Jean Paul Kreps, Belgian malacologist, recently passed away.

Description: Shell small, solid, conical elongated, tending to subcylindrical, white-yellowish in colour, shiny, opaque. Protoconch of type C, obtuse, with a diameter of about 250 μm. Teleoconch of relatively high spire (h = 48% H on average), comprising 5-6 whorls, the first ones flat-convex and the later more convex, angled in the area of the spiral cord. Suture deep. Axial sculpture formed by about 18-20 orthocline or slightly prosocline ribs, almost straight, with an almost rectangular profile, equal to or somewhat wider than their interspaces, extending toward the base to reach the aperture, but attenuated.

Spiral sculpture only in the interspace of the ribs, formed in most spire whorls by one cord located just above the suture; in the two final whorls a second very weak cordlet becomes present, and another one appearing along the suture becomes peripheral on the last whorl. Aperture small (A < 30% H), pyriform; columella reflected outward, arched, opisthocline, with a columellar tooth scarcely prominent but obvious. Not umbilicated.

Dimensions of the holotype: 2.9 x 0.95 mm; h = 1.37 mm; A = 0.38 mm.

Distribution: Infralittoral, but even more circalittoral and bathyal, in the archipelagos of the Canary Islands, Madeira and São Tomé.

Remarks: The shells here assigned to this new species were known from years ago, but always caused us doubts: initially they were considered a form of *Parthenina suturalis* (see Hernández *et al*. 2011: figs. 84 M-N) and in Peñas & Rolán (1998: figs. 122-124) they were considered a form of *Parthenina interstincta*. However, after the examination of more than two hundred shells, we consider that they represent a new valid species.

C. suturalis (Philippi, 1844), described from the infralittoral of the Mediterranean, has a smaller shell with the same number of whorls, is most obviously subcylindrical, has a protoconch with a smaller diameter and is less obtuse, and it has more ribs which are weaker; the suture, although narrower, is deeper and canaliculated, and there is only one spiral cord on the suture.

C. connexa has two spiral cords on the lower part of the whorls above the suture, and three on the periphery of the last whorl, but not the lowest one suprasutural.

C. interstincta has a larger, more tronco-conical and wider shell with one whorl less at equal height; the whorls are flatter, the axial ribs are orthocline, a spiral cord is located closer to the suture, it is thicker and in no case is there a second spiral cordlet above the main one; in addition the interspaces between the ribs are generally abruptly interrupted at the periphery of the last whorl, and it does not have the small suprasutural cordlet.

C. clathrata has a more acute protoconch, tending to type B, the shell is more clearly subcylindrical, with more convex whorls, it has fewer axial ribs, and from the beginning of the whorls two spiral cords are observed which, in the last whorl, become three adding the peripheral one; all are of the same thickness, equidistant; the aperture is suboval, with the columellar tooth weak and internal.

C. dollfusi has a wider shell, with a shorter spire, with nearly 1.5 whorls less at equal height, the whorls are almost flat, the suture narrow, the spiral cords, which in the last whorl are three, are weak and clustered near the suture, the aperture is wide and the columellar tooth weak and internal.

Genus *Pyrgulina* A. Adams, 1863

Pyrgulina dimidiata (Schander, 1994) (Figures 4F-G)

Chrysallida dimidiata Schander, 1994. *Notiz. CISMA*, 15: 17-18, figs. 1d and 9h, i. [Type locality: Ambrizete, Angola].
Chrysallida dimidiata - Peñas & Rolán, 1998: 39-40, figs. 112-114.
Chrysallida dimidiata– Hernández *et al.*, 2011: 248, figs. 85M-O.

Type material: Not examined. Photograph of the holotype in SCHANDER (1994).
New material examined: Mauritania: 3 s, 60-80 m (CFS). Senegal: 3 s, Hann Bay, 7-15 m (CFS); 7 s, Dakar (Coll. Marche-Marchad) (MNHN), Stn. 58-4-2B, 43-44 m. Guinea-Bissau: Bissagos Archipelago: 5 s, 32-50 m (CLD). Guinea Conakry: Exp. "Sedigui I" (MNHN): 2 s, W Ile Tannah, Stn. 80 (9°12.3'N - 13°37'W, 16 m); 1 s, W Morébaya River, Stn. 170 (9°24'N - 13°45'W, 17 m); 1 s, W Ile de Quito, Stn. 487, 8 m; Exp. "Sedigui II" (MNHN): 1 s, W Yomponi River, Stn. 688 (10°24'N - 14°50'W, 22 m), 22 m; Exp. "Chalgui 7" (MNHN): 7 s, W Ouendi-Taboria, Stn. 41, 17 m. São Tomé Island: 3 s, Minerio, São Tomé, 40 m (MHNS).

Distribution: Previously known from the Canary Islands, Western Sahara, Mauritania, Senegal, Guinea, Ghana and Angola. This species is recorded for the first time for São Tomé Island.

Remarks: The shell from Hann Bay, Senegal (Fig. 4G), has a subcylindrical profile and one whorl more; however we believe that it belongs to the same species.

Pyrgulina jullieni Dautzenberg, 1912 (Figure 4H)

Pyrgulina jullieni Dautzenberg, 1912. *Ann. Inst. Oceanogr.*, 5 (3): 69, pl. 3, figs. 13-14. [Type locality: Grand Bassam, Ivory Coast].
Pyrgulina givenchyi Dautzenberg, 1912. *Ann. Inst. Oceanogr.*, 5 (3): 71, pl. 3, figs. 19-20. [Type locality: off Cotonou, Benin].
Chrysallida jullieni – Peñas & Rolán, 1998: 26-27, figs. 79-86.

Type material: One syntype of *C. jullieni* in MNHN; one syntype of *C. givenchyi* in MNHN.
New material examined: Senegal: 1 s, Casamance, 12º20.7'N, 16º53.1'W, 15 m (MNHN). Guinea Conakry: Exp. "Sedigui I" (MNHN): 4 s, W of Sierra Leone border, Stn. 3 (9°03,4'N - 13°26'W, 10 m); 2 s, W Sierra Leone border, Stn. 72 (9°06'N - 13°32'W, 16 m; 2 s), W Sierra Leone border, Stn. 74 (9°06'N - 13°25.7' W, 7 m); 6 s, W Morébaya River, Stn. 172, 15 m; 3 s, W Ile Konebomby, Stn. 378 (9°48'N - 13°59'W, 12 m); 2 s, W Ouendi, Stn. 476 (9°54'N - 14°21'W, 23 m); 5 s, W Ouendi, Stn. 479 (9°54'N - 14°12'W, 13 m); Exp. "Sedigui II" (MNHN): 2 s, W Ile de Quito, Stn. 524 (10°00'N - 16°10'W, 42 m); 1 s, W Pointe Goro, Stn. 541 (10°06'N - 15°59'W, 36 m); 5 s, W Pointe Goro, Stn. 572D (10°06'N - 14°25'W, 12 m); 2 s, W Núñez River, Stn. 793 (10°39'N - 15°25'W, 24 m); Exp. "Chalgui 7" (MNHN): 3 s, SW Ile Tamara, Stn. 17, 18 m; 24 s, W Ouendi-Taboria, Stn. 4, 17 m. Ivory Coast: Exp. "Benchaci I", off Grand Bassam (MNHN): 2 s, Stn. 3a (5°10.7'N - 3°46.8'W, 25 m); 1 s, Stn. 11B (5°11.5'N - 3°48,2'W, 25 m); 9 s, Stn. 12D (5°09.2'N - 3°47.2'W, 30 m); 2 s, Stn. 13D (5°08,9'N - 3°48.6'W, 35 m). São Tomé Island: 4 s, Minerio, São Tomé, 35-40 m (MHNS). Congo: Exp. "Kounda" (MNHN): 290 s, Konkouati, 17-19 m. Angola, Cabinda: Exp. "Congo" (MNHN): 1 s, W Landana, Stn. 933, 16 m.

Distribution: This species is recorded from most of the African coast, from Mauritania to Angola. It is here recorded for the first time from the island of São Tomé, Ivory Coast and Guinea Conakry.

Pyrgulina obesa Dautzenberg, 1912 (Figures 4I-J)

Pyrgulina obesa Dautzenberg, 1912. *Ann. Inst. Océanogr.*, 5 (3): 73-74, pl. 3, fig. 27-28. [Type locality: Libreville Bay, Gabon, Mission Gruvel].
Chrysallida antimaiae Schander, 1994. *Notiz. CISMA*, 15: 16-17, figs. 1e and 9g. [Type locality: Corimba, Luanda, Angola].
Chrysallida obesa – Peñas & Rolán, 1998: 32, figs. 91-97.
Chrysallida (Pyrgulina) obesa - Aartsen, Gittenberger & Goud, 2000: 38.
Chrysallida obesa – Peñas & Rolán, 2002: 6.

Type material: Lectotype of *Pyrgulina obesa* figured in Peñas & Rolán (1998: fig. 91). Holotype of *Chrysallida antimaiae* in MNHN.
New material examined: Mauritania: 1 s, 60-80 m (CFS). Ghana: 4 s, Miamia, 20 m. São Tomé Island: 1 s, Minerio, São Tomé, 40 m (MHNS). Gabon: 3 s, Cap Esterias, intertidal (MHNS). Angola: 1 s, Luanda, dredged 10-12 m (MHNS).

Distribution: This species is known in the infralittoral and circalittoral from Mauritania to Angola. We extend here its distribution range to include São Tomé Island.

Remarks: This species had been recorded with dimensions up to 4 mm, but the shell from Luanda here represented measures 5.3 mm; moreover, it has an almost negligible spiral sculpture.

Pyrgulina pinguis (Peñas & Rolán, 1998) (Figures 5A-C)

Chrysallida pinguis Peñas & Rolán, 1998. *Iberus*, suppl. 4: 18-20, figs. 50-55. [Type locality: Miamia, Ghana].

Type material: Holotype and one paratype in MNCN (15.05/31743). Paratypes in MNHN and CPH.
New material examined: Gabon: 3 s, Cap Esterias, intertidal (MHNS).

Distribution: Known previously from Ghana, São Tomé and Congo. This species is here reported for the first time from the infralittoral of Gabon.

Pyrgulina vanvelthoveni spec. nov. (Figures 5D-E)

Type material: Holotype in MNCN (15.05/60123, Figs. 5D-E).
Type locality: Cap Esterias, Gabon, intertidal.
Material examined: Only from the type locality.
Etymology: The species name is after Peter Vanvelthoven, the current Mayor of Lommel and a member of Parliament in Belgium.

Description: Shell very small, solid, oval to globose, opaque white, somewhat glossy. Protoconch of type C, with a diameter of about 260 μm. Teleoconch with short spire (h = 77% H), comprising three convex whorls, almost stepped, the last one round at the periphery. Suture deep. Axial sculpture formed in the last whorl by about 18 ribs almost orthocline, rounded in profile, somewhat narrower than their interspaces, continuing at the base to reach the aperture. Spiral sculpture in the interspaces formed by about 12 cordlets, and another 10 on the last whorl, very weak on the base. Aperture pyriform; columella slightly arched, opisthocline, with a conspicuous columellar tooth. Not umbilicated.

Dimensions: the holotype is 1.75 x 1 mm; h = 1.35 mm; A = 0.55 mm.

Distribution: Only known from the type locality, Gabon.

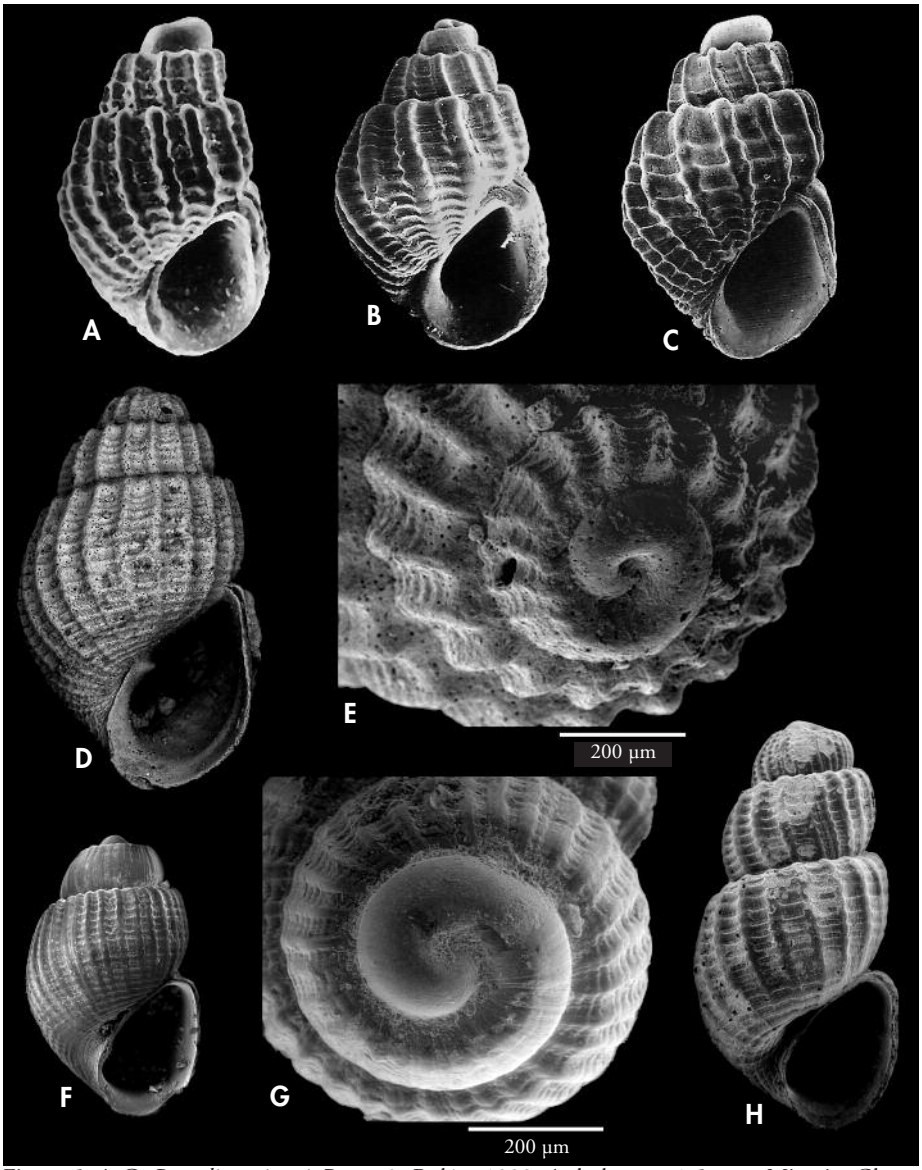


Figure 5. A-C: *Pyrgulina pinguis* Peñas & Rolán, 1998. A: holotype, 1.5 mm, Miamia, Ghana (MNCN); B: paratype, 1.68 mm, Pointe Noire, Congo (CPH); C: paratype, 1.38 mm, Miamia, Ghana (MNCN) (from PEÑAS & ROLÁN, 1998). D-E: *Pyrgulina vanvelthoveni* spec. nov. D: holotype, 1.75 mm, Cap Esterias, Gabon (MNCN); E: protoconch. F-G: *Pyrgulina reekmansae* spec. nov. F: holotype, 1.03 mm, Funchal Bay, Madeira (MMF); G: protoconch. H: *Pyrgulina stefanisi* (Jeffreys, 1869), Mauritania, 80-90 m (CFS).

Figura 5. A-C: Pyrgulina pinguis *Peñas & Rolán, 1998. A: holotipo, 1,5 mm, Miamia, Ghana (MNCN); B: paratipo, 1,68 mm, Pointe Noire, Congo (CPH); C: paratipo, 1,38 mm, Miamia, Ghana (MNCN) (tomado de PEÑAS & ROLÁN, 1998). D-E:* Pyrgulina vanvelthoveni *spec. nov. D: holotipo, 1,75 mm, Cabo Esterias, Gabón (MNCN); E: protoconcha. F-G:* Pyrgulina reekmansae *spec. nov. F: holotipo, 1,03 mm, Bahía de Funchal, Madeira (MMF); G: protoconcha. H:* Pyrgulina stefanisi *(Jeffreys, 1869), Mauritania, 80-90 m (CFS).*

Remarks: *Chrysallida reekmansae* spec. nov. (see below) has a similar shell, more globose and fragile, with a shorter spire, it has more ribs, about 28, as wide as their interspaces, lacks a columellar tooth and has an umbilicus.

Chrysallida pinguis Peñas & Rolán, 1998, has a shell with a more conical profile, with stepped whorls, it has fewer ribs that are more robust, prosocline, has spiral cordlets which overrun the ribs and the aperture lacks a columellar tooth.

Chrysallida obesa (Dautzenberg, 1912) has a shell that is much larger and more robust and the protoconch has also a larger diameter; its profile is oval-conical, almost cyrtoconoid in adult shells, the ribs are thicker and wider than their interspaces, the columellar tooth is very prominent and it has 5-6 inner spiral cords visible inside the outer lip.

Chrysallida stefanisi (Jeffreys, 1869) has a more elevated spire with some stepped whorls, and lives in deep water. For comparison we have represented a shell (Fig. 5H).

Pyrgulina reekmansae spec. nov. (Figures 5F-G)

Type material: Holotype in MMF (43335, Fig. 5F), ex-CFS.
Type locality: off Funchal, Madeira, 32º37.816'N, 16º53.866'W, 382-386 m.
Material examined: Only known from the type material.
Etymology: The specific name is after Cynthia Reekmans, miss Belgian Beauty in 2004.

Description: Shell tiny, fragile, globose to suboval. Whitish, opaque, shiny. Protoconch of type C with a diameter of about 330 μm. Teleoconch with a very short spire (h = 81% H), comprising just over two convex whorls, the last one round at the periphery. Suture deep. Axial sculpture somewhat obsolete in the first whorl, in the second consisting of about 28 somewhat irregular ribs, orthocline, rounded in profile, approximately as wide as their interspaces, more robust in their adapical part, surpassing the profile of the suture, extending attenuated at the base. The spiral sculpture formed by about 14 cordlets in the interspaces of the ribs, almost equidistant, as wide as their interspaces, plus about 7 weaker cordlets at the base. Aperture relatively large (A = 48% H), oval; columella arched, opisthocline, peristome continuous, without any visible columellar tooth. Umbilicus narrow but deep.

Dimensions: the holotype measures 1.03 x 0.65 mm; h = 0.85 mm; A = 0.5 mm.

Distribution: Only known from the type locality, Madeira.

Remarks: We have decided to describe this species based on a single shell, since it differs from all known species in the study area. *Chrysallida pinguis* Peñas & Rolán, 1998 also has a tiny shell but it is robust, its profile is oval-conical, with the stepped whorls; it has fewer ribs, about 12-14 on the last whorl, very robust, few spiral cords, which conspicuously overrun the ribs, and it lacks any umbilicus. See also *Remarks* in *P. vanvelthoveni.*

This species shows some limited resemblance to juvenile shells of *Kongsrudia mutata* (Dautzenberg, 1912), but these are not globose, the profile of their whorls is stepped, they have less ribs, about 18-20, much narrower than their interspaces between sutures on the last whorl, and only have 8 spiral cordlets with very deep and narrow intervals.

Non-adult shells of *Chrysallida stefanisi* (Jeffreys, 1869) (Fig. 5H), which has been cited from deep water off Mauritania, Madeira, Canary Islands and the Azores, have a rather stepped profile, the suture is very deep, they have less ribs, about 18, which are more robust and wider than their interspaces, also have less spiral cordlets, and do not have a continuous peristome. The umbilicus is wider.

Genus *Kongsrudia* Lygre & Schander, 2010

Type species: *Kongsrudia approximans* (Dautzenberg, 1912). By original designation.

Remarks: LYGRE & SCHANDER (2010) wrote that the genus *Kongsrudia* shows some similarities to the genus *Pyrgulina* A. Adams, 1863 (type species *Chrysallida casta* A. Adams, 1861, subsequent designation Dall & Bartsch, 1904), but that the spiral sculpture in this genus is far less prominent, and the species of *Pyrgulina* also tends to be broader in outline. This is debatable, but the reappraisal of this genus is beyond the scope of this work.

Kongsrudia approximans (Dautzenberg, 1912) (Figure 6A)

Pyrgulina approximans Dautzenberg, 1912. *Ann. Inst. Océanogr.*, 5 (3): 70-71, pl. 3 figs. 25-26. [Type locality: Libreville Bay, Gabon].
Chrysallida approximans – Peñas & Rolán, 1998: 24, figs. 66-70.

Type material: Not examined.
New material examined: Senegal: 1 s, Gorée Island, 7-12 m (MNHN). Guinea-Bissau: Exp. "Chalbis II" (MNHN): 6 s, S Mel I., Stn. 8, 25 m. Guinea Conakry: Exp. "Sedigui I" (MNHN): 1 s, W Morébaya River, Stn. 170 (9°24'N - 13°45'W, 17 m); Exp. "Sedigui II" (MNHN): 4 s, W Núñez River, Stn. 792 (10°39'N - 15°22.5'W, 12 m); Exp. "Chalgui 7" (MNHN): 3 s, W Ouendi-Taboria, Stn. 41, 17 m.

Distribution: Known in the infralittoral and circalittoral from several countries between Mauritania and Angola. This species is here recorded for the first time from Guinea-Bissau and Guinea Conakry.

Kongsrudia mutata (Dautzenberg, 1913) (Figures 6B-C)

Pyrgulina lamyi Dautzenberg, 1912. *Ann. Inst. Oceanogr.*, 5 (3): 70, pl. 3, figs. 33-34. [Type locality: Libreville Bay, Gabon].
Pyrgulina mutata Dautzenberg, 1913 (nom. nov. pro *P. lamyi* Dautzenberg, 1912 non *P. lamyi* Dautzenberg & Fischer, 1906). *J. Conchyl.*, 60: 300.
Chrysallida mutata – Peñas & Rolán, 1998: 24-26, figs. 73-78.

Type material: Lectotype designated by PEÑAS & ROLÁN (1998: fig. 73) (MNHN).
New material examined: Guinea-Bissau: 1 s, Bissagos Archipelago, 130-155 m (CLD). Guinea Conakry: Exp. "Sedigui I" (MNHN): 2 s, W Ile Kabak, Stn. 159 (9°18'N - 13°45'W, 21 m); 1 s, W Ile de Los, Stn. 263 (9°30'N – 13°56'W, 34 m); Exp. "Sedigui II" (MNHN): 2 s, W Ile de Quito, Stn. 520 (10°00'N - 15°58'W, 34 m); 1 s, W Pointe Goro, Stn. 542 (10°06'N - 15°56'W, 33 m); 1 s, W Pointe Goro, Stn. 566 (10°06'N - 14°43'W, 21 m); 1 s, W Yomponi River, Stn. 687 (10°24'N - 14°47'W, 23 m); Exp. "Chalgui 7" (MNHN): 1 s, SW Ile Tamara, Stn. 17, 18 m; 6 s, W Ouendi-Taboria, Stn. 41, 17 m. Ivory Coast: Exp. "Benchaci" off Grand Bassam (MNHN): 8 s, Stn. 12D (5°09.2'N - 3°47.2'W, 30 m).

Distribution: Known previously from several countries between Mauritania and Angola including São Tomé Island. This species is now recorded for the first time from rather deep water off Guinea-Bissau, from Guinea Conakry and Ivory Coast.

Genus *Strioturbonilla* Sacco, 1892

Strioturbonilla sigmoidea (Monterosato, 1880) (Figures 6D-E)

Odostomia sigmoidea Monterosato, 1880. *Boll. Soc. Malac. It.*, 6: 71. [Type locality: Tangiers Bay].
Chrysallida sigmoidea – Peñas & Rolán, 1998: 55-56, figs. 152-154.
Chrysallida (Strioturbonilla) sigmoidea – Aartsen, Gittenberger & Goud, 2000: 42.

Type material: Not examined.
New material examined: Canary Islands: 1 s, El Cabrón, Arinaga, Gran Canaria, 26-32 m (CFS). Mauritania: 3 s, 60-80 m (CFS). Senegal: 1 s, Dakar, in front of Oceanium Hotel, 10-15 m (MCNS). Guinea-Bissau: Exp. "Chalbis II" (MNHN): 1 s, S Mel Island., Stn. 8, 25 m. Guinea Conakry: Exp. "Sedigui II" (MNHN): 1 s, Stn. 534, 50 m; 2 s, W Ile Kouffin, Stn. 754 (10°30'N - 15°22'W, 21 m); Exp. "Chalgui 7" (MNHN): 4 s, W Ouendi-Taboria, Stn. 41, 17 m. Ivory Coast: Exp. "Benchaci I", off Grand Bassam (MNHN): 1 s, Stn. 3a (5°10.7'N - 3°46.8'W, 25 m); 1 s, Stn. 11B (5°11.5'N - 3°48,2'W, 25 m); 2 s, Stn. 12D (5°09.2'N - 3°47.2'W, 30 m); 1 s, Stn. 13D (5°08,9'N - 3°48.6'W, 35 m). Congo: Exp. "Kounda" (MNHN): 13 s, Konkouati, 17-19 m.

Distribution: Known previously in the infralittoral and circalittoral from the French Atlantic coast (Nordsieck, 1972), the Western Mediterranean (Peñas, Templado & Martínez, 1996), from several West African countries from Morocco to Angola, and in the Cape Verde archipelago. This species is recorded here for the first time from the Canary Islands, Guinea-Bissau, Guinea Conakry and Ivory Coast.

Genus *Folinella* Dall & Bartsch, 1904

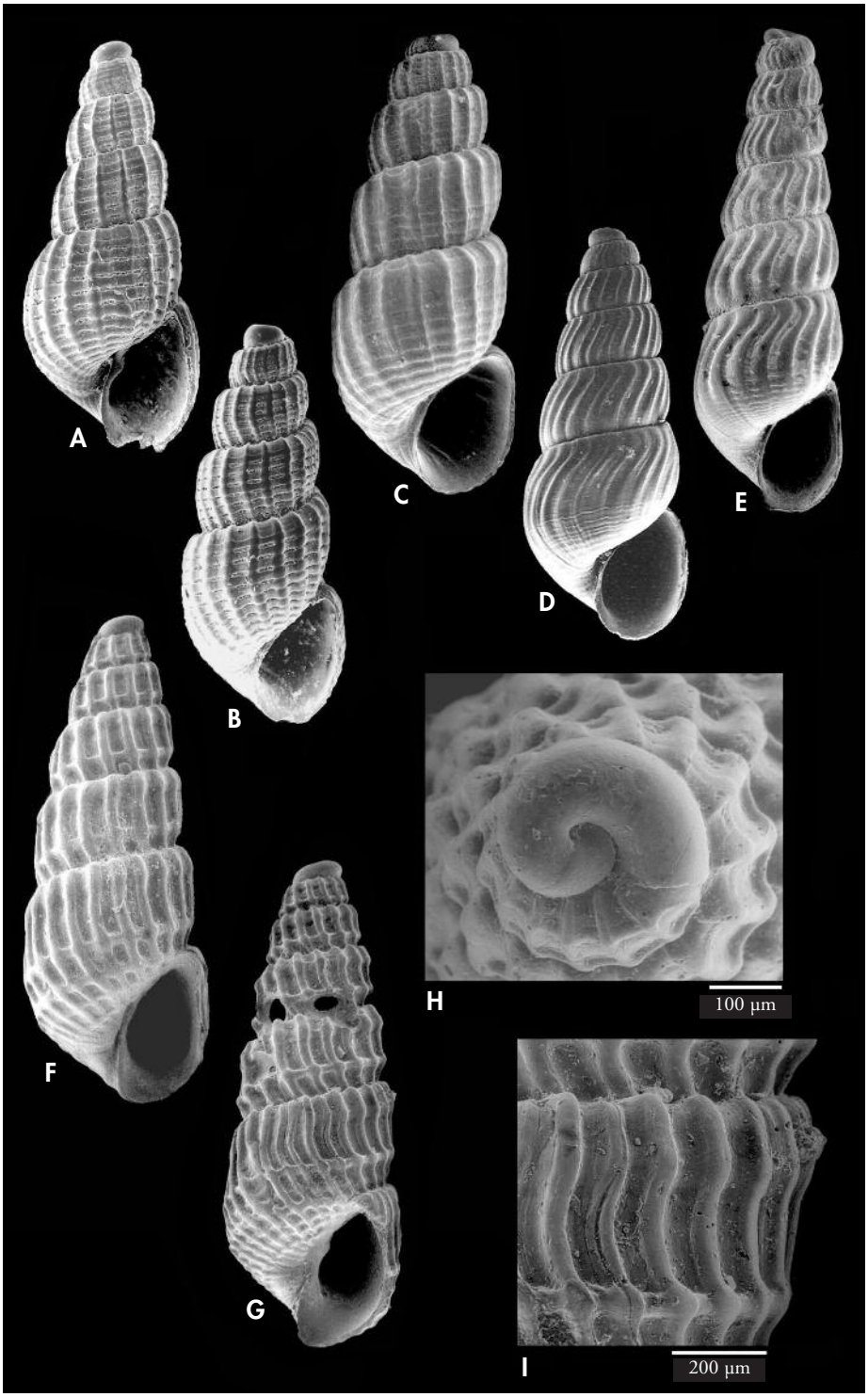
Folinella excavata (Philippi, 1836) (Figures 6F-I)

Rissoa excavata Philippi, 1836. *Enum. Moll. Sicil.*, 1: 154, pl. 10, fig. 6. [Type locality: Magnisi, Sicily].
Folinella excavata – Aartsen, Gittenberger & Goud, 1998: 17, figs. 17, 56.
Chrysallida excavata – Peñas & Rolán, 1998: 16, figs. 43-45.
Chrysallida excavata – Hernández *et al.*, 2011: 249, figs. 85U-V.

Type material: Not examined.
New material examined: Guinea-Bissau: 3 s, Bissagos Archipelago, 50 m (CLD). Guinea Conakry: Exp. "Sedigui II" (MNHN): 4 s, W Pointe Goro, Stn. 534, 50 m; 1 s, W Pointe Goro, Stn. 541 (10°06'N - 15°59'W, 36 m). Angola: Exp. "Congo" (MNHN): 2 s, W Landana, Stn. 934, 25 m.

Distribution: Known from the infralittoral to the circalittoral, from the British Isles to Angola, including the Mediterranean. It is cited here for the first time for Guinea-Bissau and Guinea Conakry.

(Right page) Figure 6. A: *Kongsrudia approximans* (Dautzenberg, 1912), shell, 2.1 mm, Miamia, Ghana (MHNS) (from Peñas & Rolán, 1998). B-C: *Kongsrudia mutata* (Dautzenberg, 1912); B: shell, 2.5 mm, Miamia, Ghana (MHNS) (from Peñas & Rolán, 1998); C: shell, 3.2 mm, Guinea Conakry (MNHN). D-E: *Strioturbonilla sigmoidea* (Monterosato, 1880); D: shell, 2.4 mm, Tarrafal, Santiago, Cape Verde (MHNS) (from Peñas & Rolán, 1998); E: shell, 2.8 mm, Dakar, Senegal (MHNS). F-I: *Folinella excavata* (Philippi, 1836). F-G: shells, 2.8, 2.9 mm, Bissagos Archipelago, Guinea-Bissau (CLD); H: protoconch, same shell as F; I: detail of the sculpture, same shell as G.
(Página derecha) Figura 6. A: Kongsrudia approximans *(Dautzenberg, 1912), concha, 2,1 mm, Miamia, Ghana (MHNS) (tomado de Peñas & Rolán, 1998). B-C:* Kongsrudia mutata *(Dautzenberg, 1912); B: concha, 2,5 mm, Miamia, Ghana (MHNS) (tomado de Peñas & Rolán, 1998); C: concha, 3,2 mm, Guinea Conakry (MNHN). D-E:* Strioturbonilla sigmoidea *(Monterosato, 1880); D: concha, 2,4 mm, Tarrafal, Santiago, Cabo Verde (MHNS) (tomado de Peñas & Rolán, 1998); E: concha, 2,8 mm, Dakar, Senegal (MHNS). F-I:* Folinella excavata *(Philippi, 1836). F-G: conchas, 2,8, 2,9 mm, Bissagos Archipiélago, Guinea-Bissau (CLD); H: protoconcha, misma concha que F; I: detalle de la escultura, misma concha que G.*


A
B
C
D
E
F
G
H
100 µm
I
200 µm

Remarks: A certain variability has been observed in this species: the shells from the Mediterranean are larger and with a very sturdy sculpture, with a single string at the base apart from the peripheral one; the shells from Angola are of much smaller size, less robust, and a spiral cord below the suture can be seen (see PEÑAS & ROLÁN, 1998: figs. 43-45). Nevertheless the shells here represented have a size and robustness similar to those of the Mediterranean, but have two or three spiral cords on the base, in addition to the peripheral one.

Folinella gubbiolii (Peñas & Rolán, 1998) (Figure 7A)

Chrysallida gubbiolii Peñas & Rolán, 1998. *Iberus,* suppl. 4: 22, figs. 58-60. [Type locality: Miamia, Ghana].

Type material: Holotype in MNCN (15.05/31744). Paratypes in MNHN, AMNH, MHNS and CAP.
New material examined: Guinea-Bissau: 1 s, Bissagos Archipelago, 50 m (CLD).

Distribution: Known previously from Angola and Ghana. The range of this species is here extended to Guinea-Bissau.

Folinella moolenbeeki Aartsen, Gittenberger & Goud, 1998 (Figure 7B)

Folinella moolenbeeki Aartsen, Gittenberger & Goud, 1998. *Zool. Verhand.*, 321: 17, figs. 16, 55. [Type locality: Mauritania, Banc d'Arguin, littoral].
Chrysallida jordii Peñas & Rolán, 1998. *Iberus,* suppl. 4: 16-18, figs. 46-49. [Type locality: Miamia, Ghana] new synonym.

Type material: Holotype of *Folinella moolenbeeki* in ZMA, photographed in AARTSEN *ET AL.* (1998), not examined. Holotype of *Chrysallida jordii* in MNCN.
New material examined: Guinea Conakry: Exp. "Sedigui I" (MNHN): 1 s, W Ile Tannah, Stn. 80 (9°12.3'N - 13°37'W, 16 m); Exp. "Sedigui II" (MNHN): 2 s, W Núñez River, Stn. 804 (10°35.5'N - 15°26'W, 9 m); Exp. "Chalgui 7" (MNHN): 1 s, W Ile Tannah, Stn. 13D, 18-20 m. Gabon: 26 s, Cap Esterias, intertidal (MHNS).

Distribution: Known previously in the infralittoral from Mauritania, Ghana, Angola and the São Tomé and Príncipe archipelago. This species is recorded here for the first time from Guinea Conakry and Gabon.

Genus *Tragula* Monterosato, 1884

Tragula fenestrata (Jeffreys, 1848) (Figure 7C)

Odostomia fenestrata Jeffreys, 1848. *Ann. Mag. Nat. Hist.*, 2 (2): 345. [Type locality: Dartmouth and Torquay, Devon, Great Britain].
Chrysallida fenestrata – Peñas & Rolán, 1998: 14-16, figs. 38-42.
Chrysallida (Tragula) fenestrata – Aartsen, Gittenberger & Goud, 2000: 40-41.
Chrysallida fenestrata – Hernández *et al.*: 249, figs. 86A-C.

Type material: Not found (WARÉN, 1980).
New material examined: Mauritania: 1 s, 60-80 m (CFS). Senegal: 1 s, Cap Vert, "Petit Thiouriba", 33 m (CJP). Ivory Coast: Exp. "Benchaci I", off Grand Bassam (MNHN): 11 s, Stn. 12D (5°09.2'N - 3°47.2'W, 30 m); 1 s, Stn. 14D (5°07.7'N - 3°46,2'W, 40 m). Ghana: 2 s, Miamia, 20 m (MHNS). Congo: Exp. "Kounda" (MNHN): 1 s, Konkouati, 17-19 m.

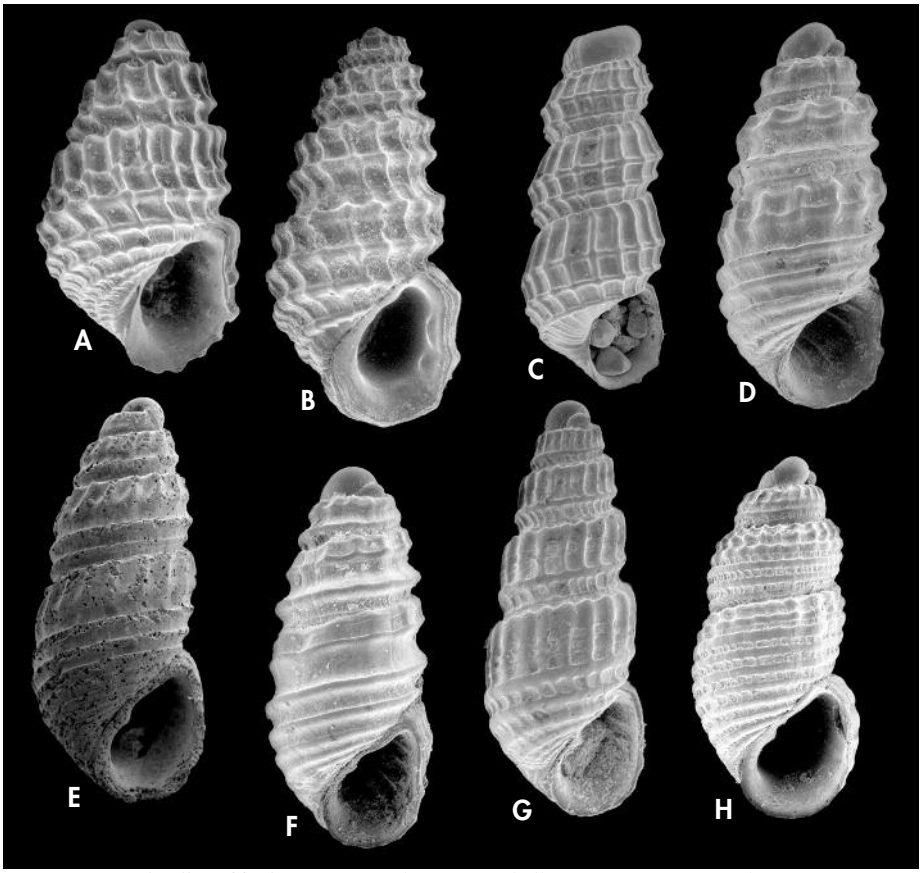


Figure 7. A: *Folinella gubbiolii* Peñas & Rolán, 1998, shell, 1.5 mm, Miamia, Ghana (MHNS). B: *Folinella moolenbeeki* Aartsen, Gittenberger & Goud, 1998, shell, 2.0 mm, Minerio, São Tomé I. (MHNS). C: *Tragula fenestrata* (Jeffreys, 1848), shell, 1.4 mm, Ivory Coast (MNHN). D-E: *Miralda elegans* (De Folin, 1870); D: shell, 1.5 mm, Minerio, São Tomé, 41 m (MHNS); E: shell, 1.8 mm, Las Canteras, Canary Islands (MHNS). F: *Miralda soteloi* Rolán, 1994, shell, 1.6 mm, Miamia, Ghana (MHNS). G: *Miralda superba* Rolán & Fernandes, 1993, shell, 2.1 mm, Miamia, Ghana, 15-25 m (MHNS). H: *Miralda temperata* Rolán & Fernandes, 1993, shell, 1.7 mm, Minerio, São Tomé, 35-40 m (MHNS).
Figura 7. A: Folinella gubbiolii *Peñas & Rolán, 1998, concha, 1,5 mm, Miamia, Ghana (MHNS). B:* Folinella moolenbeeki *Aartsen, Gittenberger & Goud, 1998, concha, 2,0 mm, Minerio, São Tomé I. (MHNS). C:* Tragula fenestrata *(Jeffreys, 1848), concha, 1,4 mm, Costa de Marfil (MNHN). D-E:* Miralda elegans *(De Folin, 1870); D: concha, 1,5 mm, Minerio, São Tome, 41 m (MHNS); E: concha, 1,8 mm, Las Canteras, Islas Canarias (MHNS). F:* Miralda soteloi *Rolán, 1994, concha, 1,6 mm, Miamia, Ghana (MHNS). G:* Miralda superba *Rolán & Fernandes, 1993, concha, 2,1 mm, Miamia, Ghana, 15-25 m (MHNS). H:* Miralda temperata *Rolán & Fernandes, 1993, concha, 1,7 mm, Minerio, São Tomé, 35-40 m (MHNS).*

Distribution: Known in the infralittoral and, above all, circalittoral from the European Atlantic coast south of the British Isles, from the Mediterranean and from the Canary Islands, Morocco, Mauritania, Ghana and Angola. This species is recorded here for the first time from Ivory Coast and Congo.

Genus *Miralda* A. Adams, 1865

Miralda elegans (De Folin, 1870) (Figures 7D-E)

Mathilda elegans De Folin, 1870. *Les fonds de la Mer*, 1: 212-213, pl. 26, fig. 11. [Type locality: Cagnabac, Bissagos archipelago, Guinea-Bissau]
Miralda elegans – Rolán & Fernandes, 1993: 6-7, figs. 1-3.
Liamorpha elegans – Aartsen, Gittenberger & Goud, 1998: 9-11.
Miralda elegans – Hernández *et al.*, 2011: 252, figs. 84I-J.

Type material: Holotype in MNHN. Not examined.
New material examined: Canary Islands: 1 s, Taliarte, 28°10.135'N 14°21.886'W, SO de Fuerteventura, 101 m (CFS). West Sahara: 10 s, 50-60 m (CFS). Mauritania: 2 s, Banc d'Arguin, intertidal; 3 s, 60-80 m (CFS). Senegal: 15 s, Gorée Island, 7-12 m (CFS); 12 s, Yeen sur Mer (CFS); 4 s, off Saint Louis, 100 m (CFS); 35 s, Hann Bay, 7-25 m (CFS); 3 s, Casamance, 12º20.7'N, 16º53.1W, 15 m. Guinea-Bissau: Exp. "Chalbis II" (MNHN): 18 s, S Ilha do Mel, Stn. 8, 25 m. Guinea Conakry: 1 s, W Cap Verga, Stn. B5CH, 20 m; Exp. "Sedigui I" (MNHN): 7 s, W of Sierra Leone border, Stn. 3 (9°03,4'N - 13°26'W, 10 m); 1 s, W Sierra Leone border, Stn. 4 (9°03' N - 13°29' W, 12 m); 1 s, W Sierra Leone border, Stn. 6 (9°03,4'N - 13°35'W, 19 m); 1 s, W Ile Tannah, Stn. 79 (9°12'N - 13°34,5'W, 15 m); 1 s, W Ile Kabak, Stn. 153 (9°18'N - 14°03'W, 26 m); 1 s, W Ile Kabak, Stn. 159 (9°18'N - 13°45'W, 21 m); 3 s, W Sierra Leone border, Stn. 72 (9°06'N - 13°32'W, 16 m; 2 s); 10 s, W Ile Tannah, Stn. 80 (9°12.3'N - 13°37'W, 16 m); 15 s, W Morébaya River, Stn. 170 (9°24'N - 13°45'W, 17 m); 3 s, W Morébaya River, Stn. 173 (9°24'N - 13°54'W, 20 m); 3 s, W Ile Konebomby, Stn. 378 (9°48'N - 13°59'W, 12 m); 2 s, W Ouendi, Stn. 476 (9°54'N - 14°21'W, 23 m); 4 s, W Ile Quito, Stn. 488 (10°00'N - 14°20.5'W, 15 m); Exp. "Sedigui II" (MNHN): 1 s, W Pointe Goro, Stn. 542 (10°06'N - 15°56'W, 33 m); 1 s, W Pointe Goro, Stn. 551 (10°06'N - 15°29'W, 24 m); 3 s, W Pointe Goro, Stn. 566 (10°06'N - 14°43'W, 21 m); 6 s, W Pointe Goro, Stn. 572D (10°06'N - 14°25'W, 12 m); 3 s, W Cap Verga, Stn. 590 (10°12'N - 14°41.5'W, 17 m); 4 s, W Cap Verga, Stn. 595 (10°12'N - 14°56.5'W, 38 m); 3 s, W Cap Verga, Stn. 602 (10°12'N - 15°18'W, 21 m); 10 s, W Yomponi River, Stn. 688 (10°24'N - 14°50'W, 22 m); 4 s, W Núñez River, Stn. 804 (10°35.5'N - 15°26'W, 9 m); Exp. "Chalgui 7": 1 s, W Ile Tannah, Stn. 13D, 18-20 m; 1 s, W Ile Tannah, Stn. 17, 18 m; 40 s, W Ouendi-Taboria, Stn. 41, 17 m. Ivory Coast: Exp. "Benchaci I", off Grand Bassam (MNHN): 1 s, Stn. 3D (5°11.3'N - 3°46'W, 20 m); 5 s, Stn. 12D (5°09.2'N - 3°47.2'W, 30 m). Ghana: 4 s, Bushua, 3 m (MHNS); 20 s, Miamia, 12-20 m (CAP). São Tomé and Príncipe: 1 s, Ilheu, Príncipe (MHNS); 28 s, Minerio, São Tomé, 40 m (MHNS); 4 s, Lagoa Azul, São Tomé, 30 m (MHNS). Angola: 9 s, Luanda, 60-100 m (MHNS); 4 s, Palmeirinhas, 3 m (MHNS).

Distribution: Known in the infralittoral and circalittoral from several countries between Guinea-Bissau and Angola, with isolated records in the Mediterranean (Hoenselaar & Moolenbeek, 1990; Gaglini, 1992). This species is here cited for the first time from Mauritania and Guinea Conakry.

Remarks: There are some differences between populations in relation to the number of spiral cords which are on the lower part of the last whorl and the number of axial ribs on its upper part.

Miralda soteloi Rolán, 1994 (Figure 7F)

Miralda soteloi Rolán, 1994. *La Conchiglia*, 26 (273): 6, fig. 1. [Type locality: Miamia, Ghana, 20-40 m].

Type material: Holotype in MNCN. Figuration in Rolán (1994, fig. 1).
New material examined: Ghana: 35 s, Miamia, 15-25 m.

Distribution: Only known from Ghana.

Remarks: The absence of this species in the material from other countries in spite of the large amounts of material examined made us think that this species may be an endemism from a small area.

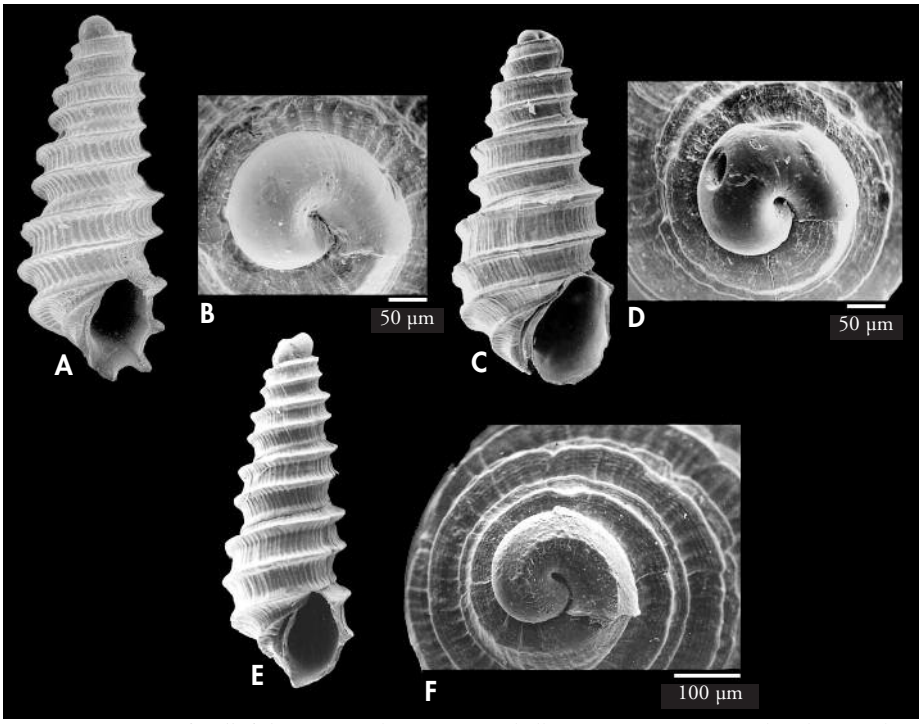


Figure 8. A-D: *Pseudoscilla bilirata* (De Folin, 1870); A: shell, 1.6 mm, San Antonio de Palé, Annobon (MHNS); B: protoconch; C: neotype, 1.6 mm, Dakar, Senegal (MNHN); D: protoconch (from PEÑAS & ROLÁN, 1999c). E-F: *Pseudoscilla saotomensis* Peñas & Rolán, 1999. E: holotype, 2.2 mm, Lagoa Azul, São Tome (MNCN); F: protoconch of the holotype (from PEÑAS & ROLÁN, 1999).
Figura 8. A-D: Pseudoscilla bilirata *(De Folin, 1870); A: concha, 1,6 mm, San Antonio de Palé, Annobón (MHNS); B: protoconcha; C: neotipo, 1,6 mm, Dakar, Senegal (MNHN); D: protoconcha (tomado de PEÑAS & ROLÁN, 1999c). E-F:* Pseudoscilla saotomensis *Peñas & Rolán, 1999. E: holotipo, 2,2 mm, Lagoa Azul, São Tome (MNCN); F: protoconcha del holotipo (tomado de PEÑAS & ROLÁN, 1999).*

Miralda superba Rolán & Fernandes, 1993 (Figure 7G)

Miralda superba Rolán & Fernandes, 1993. *Notiz. CISMA*, 14 (1992): 9-10, figs. 6-7. [Type locality: Luanda, Angola, 50-100 m].

Type material: Holotype in MNCN. Illustration in ROLÁN & FERNANDES (1993: fig. 7).
New material examined: Guinea Conakry: Exp. "Sedigui I" (MNHN): 1 s, W of Sierra Leone border, Stn. 3 (9°03,4'N - 13°26'W, 10 m); 1 s, W Ile Tannah, Stn. 80 (9°12.3'N - 13°37'W, 16 m); 1 s, W Ile Tannah, Stn. 81 (9°12'N - 13°40.5'W, 20 m); 1 s, W Morébaya River, Stn. 170 (9°24'N - 13°45'W, 17 m); 1 s, W Ile Konabomby, Stn. 378 (9°48'N - 13°59'W, 12 m); 2 s, W Ouendi, Stn. 479 (9°54'N - 14°12'W, 13 m); 2 s, W Ile Quito, Stn. 488 (10°00'N - 14°20.5'W, 15 m); Exp. "Sedigui II" (MNHN): 1 s, W Yomponi River, Stn. 687 (10°24'N - 14°47'W, 23 m); 1 s, W Núñez River, Stn. 792 (10°39'N - 15°22.5'W, 12 m); Exp. "Chalgui 7" (MNHN); 3 s, W Ile Tannah, Stn. 13D, 18-20 m; 11 s, W Ouendi-Taboria, Stn. 41, 17 m. Ghana: 14 s, Miamia, 15-25 m (MHNS); 10 s, Bushua, 5 m (CAP). São Tomé and Príncipe: 3 s, Lagoa Azul, São Tomé (MNHN); 3 s, St. Antonio, Príncipe, 8 m (MHNS). Gabon: 2 s, Cap Esterias, intertidal (MHNS). Angola: 8 s, Luanda, 60-100 m (MHNS); 3 s, Corimba, 20 m (MHNS); 2 s, Palmeirinhas, 15-20 m (MHNS).

Distribution: Known previously in the infralittoral and circalittoral of São Tomé and Príncipe and Angola. We extend its range to Ghana and Gabon.

Miralda temperata Rolán & Fernandes, 1993 (Figure 7H)

Miralda temperata Rolán & Fernandes, 1993. *Notiz. CISMA*, 14 (1992): 7-8. [Type locality: São Tomé city, São Tomé Island].

Type material: Holotype in MNCN. Illustration in Rolán & Fernandes (1993: fig. 4).
New material examined: Ghana: 24 s, Miamia, 8-25 m (MHNS); 5 s, Bushua, 5 m (MHNS). São Tomé and Príncipe: 1 s, Ilheu, Príncipe (MHNS); 18 s, St. Antonio, Príncipe (MHNS); 30 s, Minerio, São Tomé, 35-40 m (MHNS); 6 s, Lagoa Azul, São Tomé, 30 m (MHNS): 14 s, São Tomé, Praia (MNHN): 4 s, Baia das Agulhas, São Tomé (MHNS). Gabon: 20 s, Cap Esterias, intertidal (MHNS). Angola: 1 s, Macoco, 70-90 m (MHNS); 13 s, Luanda, 60-100 m (NHNS).

Distribution: Known previously in the infralittoral and circalittoral of São Tomé and Príncipe, Ghana and Angola. The range of this species is extended to Gabon.

Genus *Pseudoscilla* Boettger, 1901

Pseudoscilla bilirata (De Folin, 1870) (Figures 8A-D)

Jaminea bilirata De Folin, 1870. *Les fonds de la Mer*, I: 214, pl. 29, fig. 3. [Type locality: Cap Sainte Anne, Mauritania].
Aclis tricarinata Watson, 1897. *J. Linn. Soc., Zool.*, 26 (168): 255, pl. 20, fig. 23. [Type locality: Madeira].
Pseudoscilla babylonia – Aartsen, Gittenberger & Goud, 1998: 9, figs. 5, 53.
Pseudoscilla bilirata – Peñas & Rolán, 1999c: 16-18, figs. 7-31.
Pseudoscilla bilirata – Hernández *et al.*, 2011: 252, figs. 87E-F.

Type material: Neotype (Peñas & Rolán, 1999c: figs. 7, 9) from Dakar, Senegal, in MNHN. Lectotype of *Aclis tricarinata* in Aartsen *et al.* (1998).
New material examined: Canary Islands: 6 s, Las Canteras, Gran Canaria (CAP). Annobon: 35 s and f, San Antonio de Palé, 5-12 m, (MHNS). Gabon: 21 s, Cap Esterias, intertidal (MHNS).

Distribution: Previously known from the Canary Islands, Madeira, Cape Verde Islands, Mauritania, Senegal, Ghana and Angola. The distribution range of this species is here extended to the island of Annobón and to Gabon.

Remarks: It has been observed that, while Annobon is part of the islands of the Gulf of Guinea, it does not share with São Tomé and Príncipe the presence of species such as *P. saotomensis*, with its characteristic spiral belt on the protoconch. The species found there shares the main characteristics of *P. bilirata*, living from the Canary Islands to Angola, and the small differences that can be seen in the figures (spiral cords with an angulous profile and axial small ribs more marked in the shells from Annobon) do not seem sufficient to consider it a different species.

Pseudoscilla saotomensis Peñas & Rolán, 1999 (Figures 8E-F)

Pseudoscilla saotomensis Peñas & Rolán, 1999c. *Iberus*, 17 (2): 22, figs. 36-40. [Type locality: Lagoa Azul, São Tomé Island, 4 m].

Type material: Holotype and 5 paratypes in MNCN (15.05/20549); paratypes in other museums.

New material examined: São Tomé and Príncipe: 13 s, Minerio, São Tomé, 35-41 m (MHNS); 20 s, Lagoa Azul, São Tomé, 30 m (MHNS)

Distribution: Only known from the Archipelago of São Tomé and Príncipe.

Remarks: This species is shown here for comparison with the previous one: being very similar in the teleoconch, *P. bilirata* (Figs. 8A-D) has a smooth protoconch, while *P. saotomensis* (Figs. 8E-F) has a strong spiral cord on the upper part of the protoconch.

Tribe ODOSTOMELLINI Saurin, 1959
Genus *Odostomella* Bucquoy, Dautzenberg & Dollfus, 1883

Odostomella cf. *africana* Schander, 1994 (Figures 9A-B)

Odostomella africana Schander, 1994. *Notiz. CISMA,* 15 (1993): 13-14, figs. 7a, 13d, 13e. [Type locality: Lucira, Santa Marta, province of Moçamedes (currently Namibe), Angola, 40 m].

Type material: Holotype and two paratypes in MNHN. Illustration of the holotype in SCHANDER (1994: fig. 7a).
Material examined: São Tomé Island: 6 s, Minerio, 35-40 m (MHNS); 1 s, Lagoa Azul, São Tomé, 30 m (MHNS). Cape Verde archipelago: 2 s, Porto Mindelo, 20 m (MHNS). Ghana: 7 s, Miamia, 12-25 m (NHNS). Angola: 2 s, Luanda, 60-100 m (MHNS): 6 s, Namibe (MHNS).

Distribution: Described from Angola, this species is here reported from São Tomé Island, Cape Verde archipelago and Ghana.

Remarks: SCHANDER (1994) described this as a new species considering that its shells had smaller dimensions, a different protoconch and also a weaker axial sculpture than *Odostomella doliolum*. Conversely, AARTSEN *ET AL.* (2000) consider that it is the same species. In our opinion, probably they are two different species, but, although in the countries south of Ghana *O. africana* is the dominating morphospecies, other forms closer to *O. doliolum* have also been found. On the other hand, in the Mediterranean hundreds of shells of the latter have been studied that hardly show differences, while in the Canary Islands the forms found are closer to those of the South.

We believe that whereas *O. bicincta* presents obvious differences which point to a distinct species, the same does not happen with *O. africana* and *O. doliolum*. The shell found in São Tomé, Lagoa Azul, - 30 m (Figs. 9A-B) has the typical ribs of *O. africana* but presents a protoconch that is very large, globose, with a diameter of 340 μm (Fig. 9B), even greater than that of the *O. doliolum*. In contrast, deep waters shells of Gran Canaria identified as *O. doliolum* (Figs. 9C-D) have smaller shells and a protoconch (Fig. 9E) about 280 μm in diameter.

Odostomella doliolum (Philippi, 1844) (Figures 9C-E)

Rissoa doliolum Philippi, 1844. *Enum. Moll. Sic.*, 2: 132, pl. 23, fig. 19. [Type locality: Taranto, Italy (fossil) and Suez, Egypt (recent)].
Odostomia tricincta Jeffreys, 1856: *Ann. Mag. Nat. Hist.*, 2 (17): 185, pl. 2, figs. 12-13. [Type locality: Sestri di Levante, Piemontese Coast, Italy].
Parthenina bucquoyi Locard, 1886. *Cat. gén. Moll. France*: 227, 572. [Type locality: Paulilles, Mediterranean coast of France].
Odostomella doliolum – Peñas, Templado & Martínez, 1996: 30-31, fig. 8.
Odostomella doliolum – Aartsen, Gittenberger & Goud, 2000: 45.
Odostomella doliolum – Hernández *et al*., 2011: 253, figs. 87H-K.

Type material: Not examined.
Material examined: Canary Islands: 4 s, Agaete, Gran Canaria, 100-120 m (CFS): 6 s, Santiago Beach, La Gomera, 30 m (CAP); 2 s, Santiago Beach, La Gomera, 30 m (MHNS): 1 s, Las Canteras, Gran Canaria (MHNS); 1 s, NW Gran Canaria (CFS); 9 s, El Socorro, Tenerife, 100 m (CAP). Madeira: 1 s, 2 j, off Funchal (R/V Auriga), 32º37.592'N, 16º53.796'W, 587 m (CFS). Selvagens Islands: Isla Grande: 1 s, 1 j, Stn. L10D0651, 30º06'25.7"N, 15º55'00.9"W, 700 m (CFS); 8 s, Illheu de Fora, 14-20 m (CFS); 1 s, N Selvagem Pequena, 14-19 m (CFS). Mauritania: 2 s, Nouakchott, 80-100 m (CFS). Senegal: 1 s, Cap Vert, "Tacoma" shipwreck (14º40'18.7"N, 17º25'50.1"W), 13 m (CJP). Cape Verde archipelago: 1 s, Ilheu, Santiago I. (MHNS); 4 s, Tarrafal, Santiago, 20 m (MHNS); 13 s, Porto da Cruz, Boavista, 2 m (MHNS); 2 s, Cidade Velha, Santiago (MHNS); 2 s, Porto Mindelo, 20 m (MHNS); 1 s, Sal-Rei (MHNS): 2 s, Furna, Brava, 8-30 m (MNHN). Annobón Island: 3 s, San Antonio de Palé, 10 m (MHNS). Angola: 2 s, Mayuco, 20 m (MHNS).

Distribution: Known previously from the infralittoral to the bathyal from European Atlantic coasts, from the entire Mediterranean, and from several countries between Morocco and Angola, including the Macaronesian archipelagos. This species is recorded for the first time in Selvagens Islands.

Remarks: See remarks in *O. africana.*

It should not surprise us that besides many collecting places in shallow water, the species also appears in other places in deep water. In the Mediterranean this species is just as abundant in a few metres depth as at 350 m in the Garraf area or 200 m in Alborán. It is a species with an extensive bathymetric range.

Odostomella bicincta (Tiberi, 1868) (Figure 9F)

Odostomia tricincta var. *bicincta*. Tiberi, 1868. *J. Conchyl.*, 16: 62-63. [Type locality: Bay of Naples, Italy].
Mumiola doliolum var. *elongata* Monterosato, 1884: 93. (placed in synonymy by Aartsen et al., 2000: 46).
Odostomella doliolum – Peñas, Templado & Martínez, 1996: 17, fig. 9.
Odostomella bicincta – Aartsen, Gittenberger & Gould, 2000: 45-47.
Odostomella bicincta – Hernández *et al*., 2011: fig. 87G.

Type material: Not examined.
Material examined: Madeira: 1 s, Machico, 38 m (CFS). Canary Islands: 1 s, El Tostón, Gran Canaria, 28º46.474'N, 13º59.921'W, 400 m (Exp. Bautismal) (CFS).

Distribution: Known from the infralittoral to the bathyal, predominantly in the circalittoral, in the Mediterranean, Canary Islands, Madeira and Cape Verde archipelago.

Genus *Trabecula* Monterosato, 1884

Trabecula jeffreysiana Monterosato, 1884 (Figures 9G-I)

Trabacula jeffreysiana Monterosato, 1884. *Nomencl. Gen. Conch. Medit.*, p. 86. [Type locality: Palermo, Sicilia].
Odostomia (Turbonilla) undata Watson, 1897. *Jour. Lin. Soc. Zool. London*, 26: 262, pl. 20, fig. 31.
Odostomella jeffreysiana – Peñas, Templado & Martínez, 1996: 31, fig. 10.
Chrysallida (Trabecula) jeffreysiana – Aartsen, Gittenberger & Goud, 2000: 41.
Odostomella jeffreysiana – Hernández *et al*., 2011: 253, figs. 87L-N.

Type material: Holotype supposedly in ZMR. Not examined.

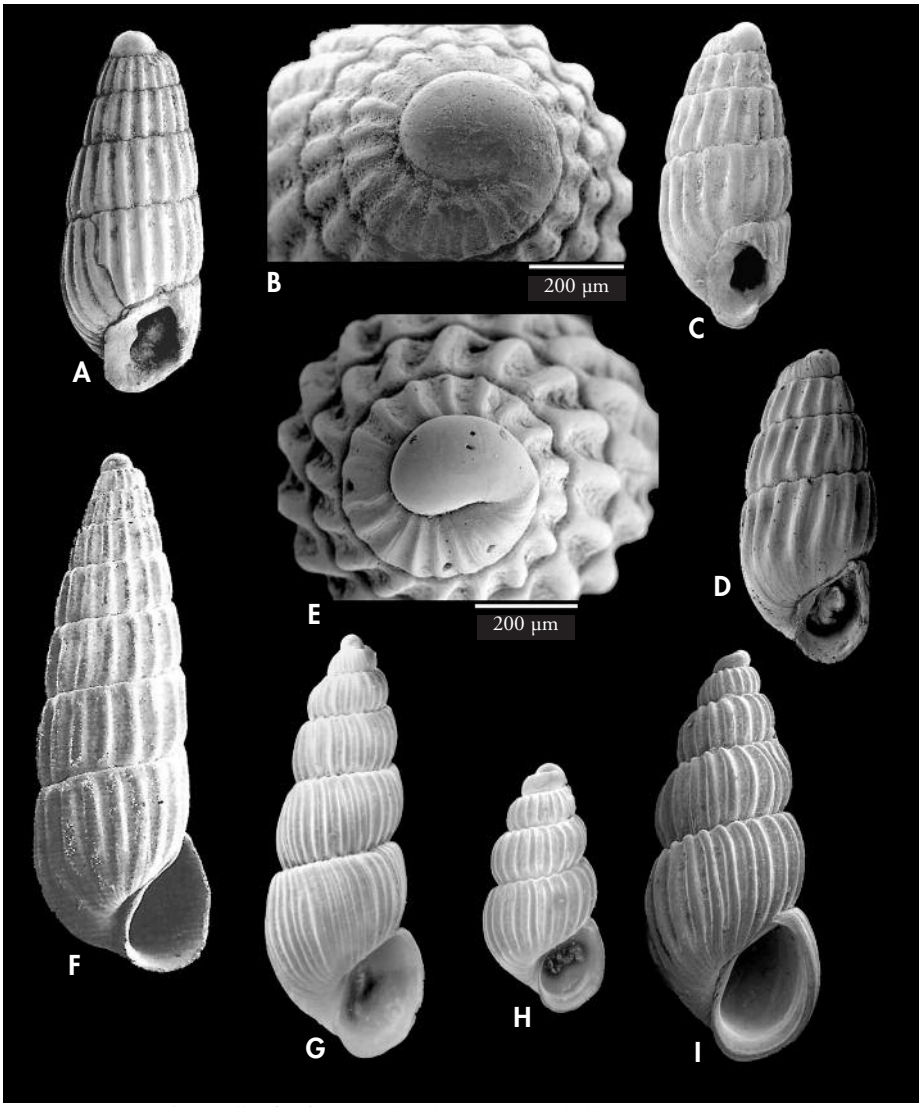


Figure 9. A-B: *Odostomella* cf. *africana* Schander, 1994; A: shell, 2.23 mm, Lagoa Azul, São Tome (MHNS); B: protoconch. C-E: *Odostomella doliolum*; C-D: shells, 1.6, 1.7 mm, Gran Canaria (CFS): E: protoconch. F: *Odostomella bicincta* (Tiberi, 1868), shell, 4.8 mm, La Herradura, Granada (CAP) (from PEÑAS, TEMPLADO & MARTÍNEZ, 1996). G-I: *Trabecula jeffreysiana* Monterosato, 1884; G: shell, 3.8 mm, Sal-Rei, Boavista, Cape Verde Is. (MHNS) (from ROLÁN, 2005); H: shell, 2.4 mm, Palmeira, Sal, Cape Verde Islands (from ROLÁN, 2005); I: shell, 3.3 mm, Mijas Costa, Málaga, Spain (MHNS) (from HERNÁNDEZ *ET AL.* 2011).

Figura 9. A-B: Odostomella *cf.* africana *Schander, 1994; A: concha, 2,23 mm, Lagoa Azul, São Tome (MHNS); B: protoconcha. C-E:* Odostomella doliolum*; C-D: conchas, 1,6, 1,7 mm, Gran Canaria (CFS): E: protoconcha. F:* Odostomella bicincta *(Tiberi, 1868), concha, 4,8 mm, La Herradura, Granada (CAP) (tomado de PEÑAS, TEMPLADO & MARTÍNEZ, 1996). G-I:* Trabecula jeffreysiana *Monterosato, 1884; G: concha, 3,8 mm, Sal-Rei, Boavista, Archipiélago de Cabo Verde (MHNS) (tomado de ROLÁN, 2005); H: concha, 2,4 mm, Palmeira, Sal, Archipiélago de Cabo Verde (tomado de ROLÁN, 2005); I: concha, 3,3 mm, Mijas Costa, Málaga, España (MHNS) (tomado de HERNÁNDEZ ET AL. 2011).*

Material examined: Canary Islands: 4 s, Puerto del Carmen, Lanzarote, 45 m (CAP); 4 s, Las Canteras, Gran Canaria, intertidal (CAP). Selvagens Islands: 4 s, Illheu de Fora, 14-20 m (CFS); 1 s, N Selvagem Pequena (CFS); 2 s, Selvagem Grande, Ilheu Preto, 7-17 m (CFS); 1 s, Selvagem Grande, Punta Espinha, 16-18 m (CFS). Mauritania: 1 s, Banc d'Arguin, intertidal (CAP). Cape Verde archipelago: 2 s, Cidade Velha, Santiago (MHNS); 1 s, Tarrafal, Santiago, 4 m (MHNS): 4 s, Furna, Brava, 30 m (MHNS). Senegal: 1 s, Cap Vert, "Tacoma" shipwreck, N of Gorée (14º40'18.7"N, 17º25'50.1"W), 13 m (CJP).

Distribution: Infralittoral and circalittoral in the Mediterranean, Mauritania, Canary Islands, Madeira and Cape Verde archipelago. This species is here recorded for the first time from Senegal.

Tribe ODOSTOMIINI Pelseneer, 1928
Genus *Megastomia* Swainson, 1837

Megastomia aliter Peñas & Rolán, 1999 (Figure 10A-C)

Megastomia aliter Peñas & Rolán, 1999a. *Iberus*, suppl. 5: 24-26, figs. 47-52. [Type locality: Palmeirinhas, Angola, 16-20 m].

Type material: Holotype in MNCN (nº 15.05/33089) (Fig. 10A). Paratypes in MNHN, ZSM, USNM, MMF and CAP.
New material examined: Mauritania: 22 s, 60-80 m (CFS). Guinea-Bissau: Exp. "Chalbis II" (MNHN): 2 s, S Ilha do Mel, Stn. 8, 25 m. Guinea Conakry: Exp. "Sedigui I" (MNHN): 2 s, W Sierra Leone border, Stn. 72 (9°06'N - 13°32'W, 16 m; 2 s); 5 s, W Morébaya River, Stn. 172 (9°24'N - 13°51'W, 15 m); 2 s, W Morébaya River, Stn. 173 (9°24'N - 13°54'W, 20 m); Exp. "Sedigui II" (MNHN): 1 s, W Ile de Quito, Stn. 516 (10°00'N - 15°46'W, 28 m); 3 s, W Pointe Goro, Stn. 541 (10°06'N - 15°59'W, 36 m); 2 s, W Pointe Goro, Stn. 572D (10°06'N - 14°25'W, 12 m); 2 s, W Cap Verga, Stn. 593 (10°12'N - 14°50,5'W, 34 m); 4 s, W Cap Verga, Stn. 602 (10°12'N - 15°18'W, 21 m); 1 s, W Foulaya, Stn. 625 (10°18'N - 15°57.5'W, 26 m); 2 s, W Yomponi River, Stn. 727 (10°24'N - 15°30'W, 31 m). Ivory Coast: 28 s, Abidjan (Aviation area) (MNHN), Airport, Stn. B73, 15 m. Congo: Exp. "Kounda" (MNHN): 5 s, Conkouati, 17-19 m. Gabon: Exp. "Congo" (MNHN): 144 s, W of Panga, Stn. 768, 28 m (MNHN).

Distribution: Known previously from the infralittoral and circalittoral in several countries between Mauritania and Angola, including São Tomé and Príncipe. This species is recorded here for the first time from Ivory Coast, Guinea-Bissau, Guinea Conakry and Congo.

Megastomia corimbensis (Schander, 1994) (Figure 10D)

Odostomia (Megastomia) corimbensis Schander, 1994. *Notiz. CISMA*, 15: 37-38, figs. 5f and 12e, [Type locality: Praia Etambar, Corimba, Province of Luanda, Angola].
Megastomia corimbensis – Peñas & Rolán, 1999a: 32, figs. 62, 63, 93-95.

Type material: Holotype in MNHN, not examined. Illustration of the holotype in SCHANDER (1994).
New material examined: Guinea-Bissau: Exp. "Chalbis II" (MNHN): 2 s, S Ilha do Mel, Stn. 8, 25 m. Guinea Conakry: Exp. "Sedigui I" (MNHN): 1 s, W Ile de Los, Stn. 258, 26 m; Exp. "Sedigui II" (MNHN); 1 s, W Ile de Quito, Stn. 516 (10°00'N - 15°46'W, 28 m); 2 s, W Ile de Quito, Stn. 517 (10°00'N - 15°49'W, 29 m); 2 s, W Ile de Quito, Stn. 520 (10°00'N - 15°58'W, 34 m); 2 s, W Ile de Quito, Stn. 524 (10°00'N - 16°10'W, 42 m); 1 s, W Pointe Goro, Stn. 536, 41 m; 1 s, W Pointe Goro, Stn. 541 (10°06'N - 15°59'W, 36 m); 1 s, W Cap Verga, Stn. 590 (10°12'N - 14°41.5'W, 17 m); 1 s, W Cap Verga, Stn. 595 (10°12'N - 14°56.5'W, 38 m); 1 s, W Cap Verga, Stn. 602 (10°12'N - 15°18'W, 21 m). Ivory Coast: Exp. "Benchaci I", off Grand Bassam (MNHN): 1 s, off Grand Bassam, Stn. 3a (5°10.7'N - 3°46.8'W, 25 m); 2 s, Stn. 6B (5°06' N - 3°46.6' W, 50 m); 1 s, Stn. 7D (5°05,1'N -

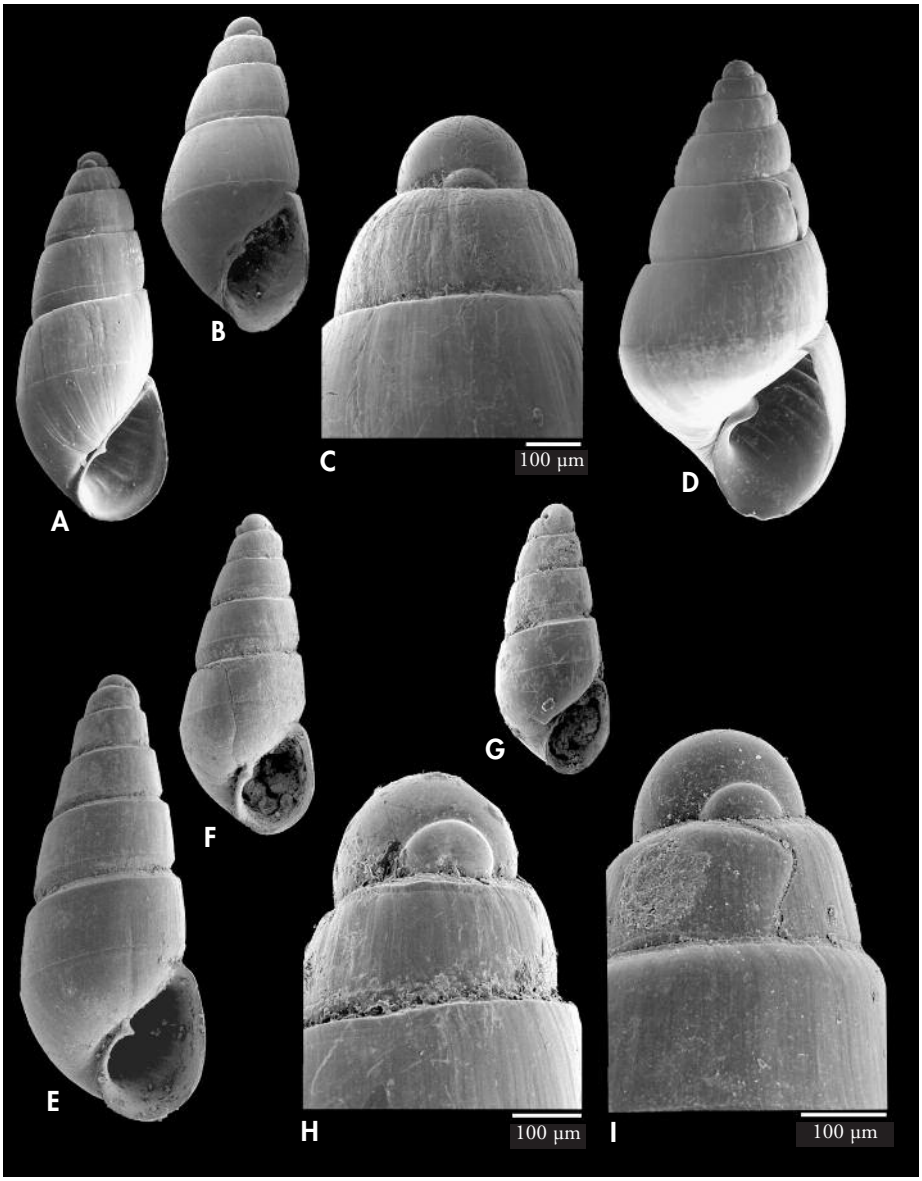


Figure 10. A-C: *Megastomia aliter* Peñas & Rolán, 1999. A: holotype, 2.6 mm, Palmeirinhas, Angola (MNCN) (from PEÑAS & ROLAN, 1999a); B: shell, 2.1 mm, Cape Three Points, Ghana (MHNS); C: protoconch. D: *Megastomia corimbensis* (Schander, 1994), shell, 3.7 mm, Mussulo, Angola (MHNS) (from PEÑAS & ROLAN, 1999a). E-I: *Megastomia gilsoni* (Dautzenberg, 1912); E-F: shells, 2.8, 2.0 mm, Gabon (MNHN); G: shell, 1.7 mm, Gorée, Senegal (CFS); H-I: protoconchs, from Gabon.
Figura 10. A-C: Megastomia aliter *Peñas & Rolán, 1999a. A: holotipo, 2,6 mm, Palmeirinhas, Angola (MNCN) (tomado de PEÑAS & ROLAN, 1999a); B: concha, 2,1 mm, Cape Three Points, Ghana (MHNS); C: protoconcha. D:* Megastomia corimbensis *(Schander, 1994), concha, 3,7 mm, Mussulo, Angola (MHNS) (tomado de PEÑAS & ROLAN, 1999a). E-I:* Megastomia gilsoni *(Dautzenberg, 1912); E-F: conchas, 2,8, 2,0 mm, Gabón (MNHN); G: concha, 1,7 mm, Gorée, Senegal (CFS); H-I: protoconchas de Gabón.*

3°46.2'W, 55 m); 3 s, Stn. 8D (5°04'N - 3°45.8'W, 64 m); 1 s, Stn. 11B (5°11.5'N - 3°48.2'W, 25 m); 2 s, Stn. 13D (5°08.9'N - 3°48.6'W, 35 m). Gabon: Exp. "Congo" (MNHN): 1 s, W Panga, Stn. 1051, 25 m; 1 s, W embouchure Nyanga, Stn. 1114, 70 m. Congo: Exp. "Congo" (MNHN): 2 s, WSW Conkouati, Stn. 715, 114 m; 1 s, Pointe Noire, 1-2 m. Angola: Exp. "Congo" (MNHN); 1 s, W Luanda, Stn. 928, 35 m; 1 s, W Luanda, Stn. 937, 40 m.

Distribution: Known previously from the infralittoral and circalittoral of several countries between Senegal and Angola, including the archipelagos of Cape Verde and São Tomé and Príncipe. This species is cited here for the first time for Guinea-Bissau, Guinea Conakry, Ivory Coast and Gabon.

Megastomia gilsoni (Dautzenberg, 1912) (Figures 10E-I)

Odostomia gilsoni Dautzenberg, 1912. *Ann. Inst. Oceanogr.*, 5 (3): 56-57, pl. 2, figs. 26-27. [Type locality: dredged between Punta Padrone and Shark Point, mouth of Congo River, 25 m].
Megastomia gilsoni – Peñas & Rolán, 1999a: 22, figs. 36-42, 98.

Type material: Types in MNHN; Illustration of the lectotype in Peñas & Rolán (1999a: figs. 36-37).
New material examined: Madeira: 4 s, off Funchal (R/V Auriga) 32º37.592'N, 16º53.796'W, 587 m (CFS). Mauritania: 1 s, Nouakchott, 80-100 m (CFS). Senegal: 90 s, off Saint Louis, 100-120 m (CFS); 4 s, Gorée Is., 15 m (CFS); 1 s, Dakar, au large de Gorée, 155 m (MNHN). Guinea-Bissau: Exp. "Chalbis II" (MNHN): 20 s, S Ilha do Mel, Stn. 8, 25 m. Guinea Conakry: Exp. "Sedigui II" (MNHN): 4 s, W Yomponi River, Stn. 727 (10°24'N - 15°30'W, 31 m); 1 s, W Núñez River, Stn. 781 (10°39'N - 15°16'W, 16 m); 4 s, W Núñez River, Stn. 793 (10°39'N - 15°25'W, 24 m); Exp. "Chalgui 7" (MNHN): 4 s, W Sierra Leone border, Stn. 6, 12 m; 3 s, SW Ile Tamara, Stn. 17, 18 m. Ivory Coast: 1 s, Abidjan (Aviation) (MNHN); 1 s, Jacquesville, Stn. 2, 35 m; 220 s, airport, 50 m; 4 s, Panga, Stn. 1051, 25 m; 2 s, W Panga, Stn. 1064, 62 m; Exp. "Benchaci I", off Grand Bassam (MNHN): 1 s, Stn. 4D (5°06.4' N - 3°45.9' W, 45 m; 1 s, Stn. 6B (5°06' N - 3°46.6' W, 50 m); 1 s, Stn. 7D (5°05,1'N - 3°46.2'W, 55 m); 1 s, Stn. 11B (5°11.5'N - 3°48.2'W, 25 m); 47 s, Stn. 12D (5°09.2'N - 3°47.2'W, 30 m); 3 s, Stn. 14D (5°07.7'N - 3°46.2'W, 40 m); 1 s, Stn. 15D (5°06.7'N - 3°47.9'W, 45 m). Ghana: 1 s, Takoradi (MNHN). São Tomé Island: 7 s, Minerio, 35-40 m (MHNS). Congo: Exp. "Kounda" (MNHN): 198 s, Conkouati, 17-19 m: Exp. "Congo" (MNHN): 2 s, W Mekoundji, Stn. 728, 40 m (MNHN). Gabon: Exp. "Congo" (MNHN); 1 s, W lagune Banio, Stn. 787, 100 m; Exp. "Congo" (MNHN): 144 s, W of Panga, Stn. 768, 28 m.

Distribution: Known from the infralittoral and circalittoral of several countries between Mauritania and Angola, including the island of São Tomé. This species is recorded here for the first time from Ivory Coast, Guinea-Bissau, Guinea Conakry, Gabon and from deep waters of Madeira.

Remarks: A slightly different form (Fig. 10G), with a more pronounced subsutural step, internal lirae not so evident and protoconch with a more visible nucleus, was considered at the beginning of this study as a different species, although after the revision of many specimens we came to the conclusion that it was a local variation of *M. gilsoni*.

Megastomia marci (Aartsen, Gittenberger & Goud, 1998) (Figure 11A)

Odetta marci Aartsen, Gittenberger & Goud, 1998. *Zool. Verhand*, 321: 14, fig. 12. [Type locality: Banc d'Arguin, Mauritania, 21-34 m].

Type material: Holotype in NNM. Not examined. Photograph of the holotype in Aartsen *et al*. (1998).
New material examined: Ghana: 1 s, Miamia, infralittoral (MHNS).

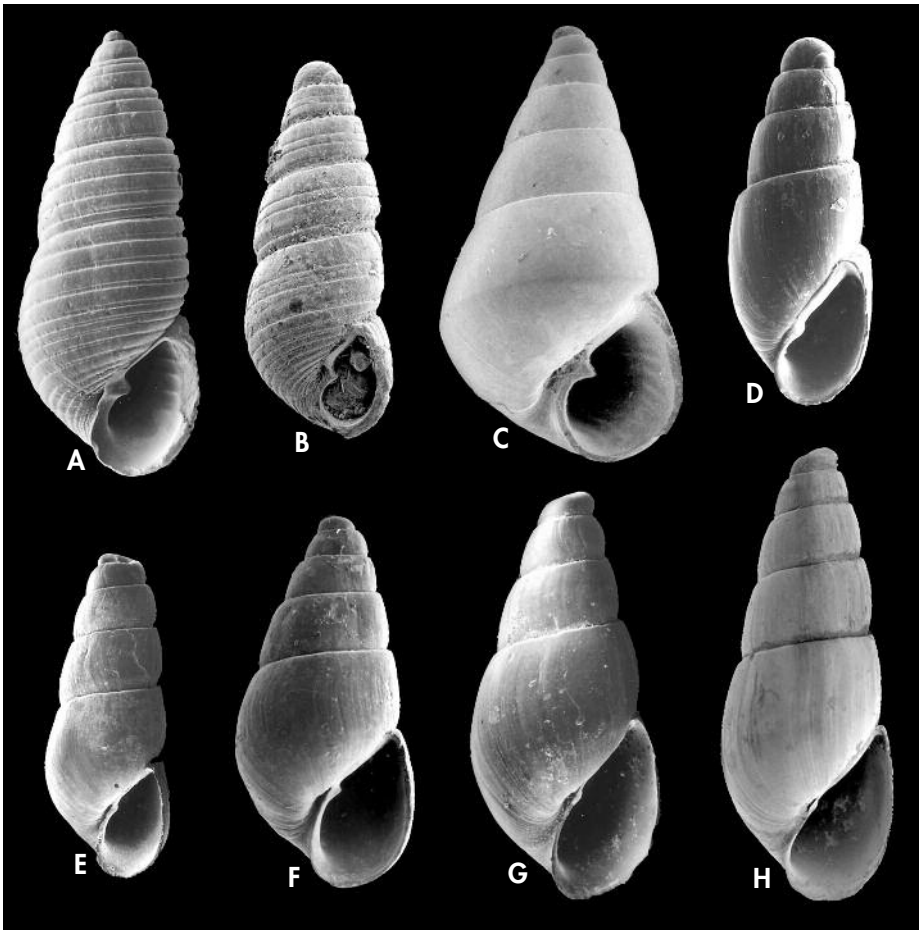


Figure 11. A: *Megastomia marci* Aartsen, Gittenberger & Goud, 1998, shell, 3.0 mm, Agadir, Morocco (CFS) (from PEÑAS & ROLÁN, 1999a). B: *Megastomia sulcata* (De Folin, 1870), shell, 1.8 mm, Cap Esterias, Gabon (MHNS). C: *Megastomia winfriedi* Peñas & Rolán, 1999, shell, 2.4 mm, Madeira, 40 m (CFS). D: *Odostomia desuefacta* Peñas & Rolán, 1999, holotype, 1.6 mm, Pointe Noire, Gabon (MNHN) (from PEÑAS & ROLÁN, 1999a). E: *Odostomia digitulus* Peñas & Rolán, 1999, holotype, 1.6 mm, Luanda, Angola (MNCN) (from PEÑAS & ROLÁN, 1999a). F: *Odostomia dijkhuizeni* Aartsen, Gittenberger & Goud, 1998, shell, 2.3 mm, Luanda, Angola (MHNS) (from PEÑAS & ROLÁN, 1999a). G: *Odostomia eremita* Peñas & Rolán, 1999, holotype, 2.6 mm, Regona, Sal Cape Verde (MNCN) (from PEÑAS & ROLÁN, 1999a). H: *Odostomia erjaveciana* Brusina, 1869, shell, 3.0 mm, Dakar, Senegal (CFS).

Figura 11. A: Megastomia marci *Aartsen, Gittenberger & Goud, 1998, concha, 3,0 mm, Agadir, Morocco (CFS) (tomado de PEÑAS & ROLÁN, 1999a). B:* Megastomia sulcata *(De Folin, 1870), concha, 1,8 mm, Cabo Esterias, Gabón (MHNS). C:* Megastomia winfriedi *Peñas & Rolán, 1999, concha, 2,4 mm, Madeira, 40 m (CFS). D:* Odostomia desuefacta *Peñas & Rolán, 1999, holotipo, 1,6 mm, Pointe Noire, Gabón (MNHN) (tomado de PEÑAS & ROLÁN, 1999a). E:* Odostomia digitulus *Peñas & Rolán, 1999, holotipo, 1,6 mm, Luanda, Angola (MNCN) (tomado de PEÑAS & ROLÁN, 1999a). F:* Odostomia dijkhuizeni *Aartsen, Gittenberger & Goud, 1998, concha, 2,3 mm, Luanda, Angola (MHNS) (tomado de PEÑAS & ROLÁN, 1999a). G:* Odostomia eremita *Peñas & Rolán, 1999, holotipo, 2,6 mm, Regona, Sal Cabo Verde (MNCN) (tomado de PEÑAS & ROLÁN, 1999a). H:* Odostomia erjaveciana *Brusina, 1869, concha, 3,0 mm, Dakar, Senegal (CFS).*

Distribution: Known previously only from Mauritania. This species is here reported for the first time from Ghana, infralittoral.

Megastomia sulcata (De Folin, 1870) (Figure 11B)

Ondina sulcata De Folin, 1870. *Les fonds de la Mer* 1: 214, pl. 29, fig. 1. [Type locality: Cagnabac Island, Bissagos islands, Guinea-Bissau, restricted by the lectotype designation of Aartsen et al., 1998].
Odetta sulcata De Folin, 1873: pl. 29, fig. 1.
Pyrgulina infrasulcata Dautzenberg, 1912. *Ann. Inst. Océanogr.*, 5 (3): 68, pl. 3, figs. 17-18. [Type locality: Libreville Bay, Gabon].
Odetta sulcata – Aartsen, Gittenberger & Goud, 1998: 14-16, figs. 10, 13, 54.
Megastomia sulcata – Peñas & Rolán, 1999a: 40, figs. 77-85, 96, 99.

Type material: Lectotype of *O. sulcata* designated by AARTSEN *ET AL.* (1998, fig. 10).
New material examined: Canary Islands: 1 s, El Cabrón, Arinaga, Gran Canaria, 26-32 m (MHNS). São Tomé Island: 29 s, Minerio, 40 m (MHNS): 80 s, Lagoa Azul, 35 m (MHNS). Gabon: 26 s, Cap Esterias, intertidal (MHNS).

Distribution: Known previously from the infralittoral and circalittoral of several countries between Western Sahara and Angola, including the archipelago of São Tomé and Príncipe. This species is recorded here for the first time from the Canary Islands.

Megastomia winfriedi Peñas & Rolán, 1999 (Figure 11C)

Megastomia winfriedi Peñas & Rolán, 1999. *Iberus*, suppl. 5: 8-10, figs. 3-7. [Type locality: Puerto del Carmen, Lanzarote, Canary Is.].

Type material: Holotype and 10 paratypes in ZSM (nº 19990446). Paratypes in several museums and collections.
New material examined: Selvagens Islands, Isla Grande: 1 s, 600-700 m (CFS); 3 s, 1 j, Stn. L10D0651, 30º06'25.7"N, 15º55'00.9"W, 700 m (CFS).

Distribution: Known previously from the infralittoral and circalittoral of Canary Islands and Madeira. This species is recorded for the first time in the bathyal of the Selvagens Islands.

Genus *Odostomia* Fleming, 1813

Odostomia desuefacta Peñas & Rolán, 1999 (Figure 11D)

Odostomia desuefacta Peñas & Rolán, 1999. *Iberus*, suppl. 5: 52-54, figs. 117-119. [Type locality: Pointe Noire, Congo].

Type material: Holotype and one paratype in MNHN. One paratype in MNCN (15.05/33127).
New material examined: Guinea-Bissau: 2 s, Bissagos Archipelago, 36 m (CLD). Congo: Exp. "Kounda" (MNHN): 54 s, 17-19 m.

Distribution: Known previously from the infralittoral of Ghana, Congo and Angola. The range of this species is here extended to Guinea-Bissau.

Odostomia digitulus Peñas & Rolán, 1999 (Figure 11E)

Odostomia digitulus Peñas & Rolán, 1999. *Iberus,* suppl. 5: 110-112, figs. 293-296. [Type locality: Luanda, Angola].

Type material: Holotype in MNCN (15.05/33106). Paratypes in MNHN, USNM, CAP and MHNS. **New material examined**: Guinea-Bissau: 1 s, Bissagos Archipelago, 50 m (CLD). Guinea Conakry: Exp. "Sedigui I" (MNHN): 1 s, W Morébaya River, Stn. 170 (9°24'N - 13°45'W, 17 m); 1 s, W Ile Tannah, Stn. 80 (9°12.3'N - 13°37'W, 16 m); 1 s, W Ile Kabak, Stn. 155 (9°18'N - 13°57'W, 21 m); Exp. "Sedigui II" (MNHN): 3 s, W Yomponi River, Stn. 688 (10°24'N - 14°50'W, 22 m); 3 s, W Ile Yomboya, Stn. 745 (10°27'N - 15°28.5'W, 22 m); Exp. "Chalgui 7" (MNHN): 3 s, W Ouendi-Taboria, Stn. 41, 17 m. Gabon: 3 s, Cap Esterias, intertidal (MHNS).

Distribution: Known from the infralittoral and circalittoral of several countries from Senegal to Angola, including São Tomé Island. This species is here cited for the first time from Guinea-Bissau and Gabon.

Odostomia dijkhuizeni Aartsen, Gittenberger & Goud, 1998 (Figure 11F)

Odostomia (Odostomia) dijkhuizeni Aartsen, Gittenberger & Goud, 1998. *Zool. Verhand.*, 321: 25-26, fig. 27. [Type locality: Mauritania, Banc d'Arguin, 25 m].
Odostomia dijkhuizeni – Peñas & Rolán: 1999a: 78-80, figs. 208-215.

Type material: Holotype in NNM (nº 57340). It is figured in AARTSEN *ET AL.* (1998).
New material examined: Senegal: 2 s, Gorée Is., 10-20 m (CFS). Guinea Conakry: Exp. "Sedigui I" (MNHN): 1 s, W Sangarea Bay, Stn. 363CH, 22 m; 1 s, W Sierra Leone border, Stn. 74 (9°06'N - 13°25.7' W, 7 m); 3 s, W Ouendi, Stn. 479 (9°54'N - 14°12'W, 13 m); Exp. "Chalgui 7" (MNHN): 3 s, W Ouendi-Taboria, Stn. 41, 17 m. São Tomé Island: 1 s, Lagoa Azul, São Tomé, 30 m (MHNS). Gabon: 4 s, Cap Esterías, intertidal (MHNS). Congo: Exp. "Kounda" (MNHN): 10 s, Conkouati, 17-19 m.

Distribution: Known from the infralittoral and circalittoral of several countries from Mauritania to Angola, including São Tomé Island. This species is recorded here for the first time from Guinea Conakry, Congo and Gabon.

Odostomia eremita Peñas & Rolán, 1999 (Figure 11G)

Odostomia eremita Peñas & Rolán, 1999. *Iberus,* suppl. 5: 102, figs. 266-271. [Type locality: Regona, Sal, Cape Verde archipelago].

Type material: Holotype in MNCN (nº 15.05/33102). Paratypes in MNHN, MHNS, CPH and CAP. **New material examined**: Senegal: 3 s, off Saint Louis, near to Mauritania, 100-120 m (CFS).

Distribution: Known previously from the infralittoral of Cape Verde islands, Congo and Angola. We extend its range to the circalittoral of Senegal.

Odostomia erjaveciana Brusina, 1869 (Figure 11H)

Odostomia erjaveciana Brusina, 1869. *J. Conchyl.*, 17: 242. [Type locality: Pago and Ulvo, Croatia].
Odostomia nitens sensu Parenzan, 1970, non Jeffreys, 1870.
Menestho tenuicula Nordsieck, 1972. *Europ. Meeresschn.*: 105, pl. PIII, fig. 5. [Type locality: Ibiza].
Odostomia erjaveciana – Peñas & Rolán, 1999: 106, figs. 284-289.
Odostomia erjaveciana – Peñas & Rolán, 2002: 22, figs. 38-39.
Odostomia erjaveciana – Hernández *et al.*, 2011: 259, fig. 88Z.

Type material: Of *O. erjaveciana* not found. Illustration of the holotype of *M. tenuicula* in AARTSEN & MENKHORST (1996: 54, fig. 16).
New material examined: Mauritania: 3 s, Nouakchott, 80-100 m (CFS). Senegal: 3 s, Dakar, 20-40 m (CFS).

Distribution: Known from the Mediterranean, Portugal, Canary Islands and Guinea Conakry. We report it for the first time from Mauritania and Senegal.

Odostomia fehrae Aartsen, Gittenberger & Goud, 1998 (Figures 12A-B)

Odostomia (Pyramistomia) fehrae Aartsen, Gittenberger & Goud, 1998. *Zool. Verhand.*, 321: 37, fig. 40. [Type locality: CANCAP, Azores, 38º34'N, 28º33'W, 88 m].
Odostomia fehrae – Peñas & Rolán, 1999b: 164, figs. 34, 35.

Type material: Not examined. Illustration of the holotype in AARTSEN *ET AL.* (1998, fig. 40).
New material examined: Canary Islands: 4 s, Agaete, Gran Canaria, 100-120 m (CFS); 1 s, El Tostón, Gran Canaria, 28º46.474'N, 13º59.921'W, 400 m (Exped. Bautismal) (CFS). Selvagens Islands, Isla Grande: 1 s, Stn. L10D0651, 30º06'25.7"N, 15º55'00.9"W, 700 m (CFS).

Distribution: Known previously from deep water of Azores and the Meteor group seamounts. Its range is here extended to the Canary and Selvagens Islands.

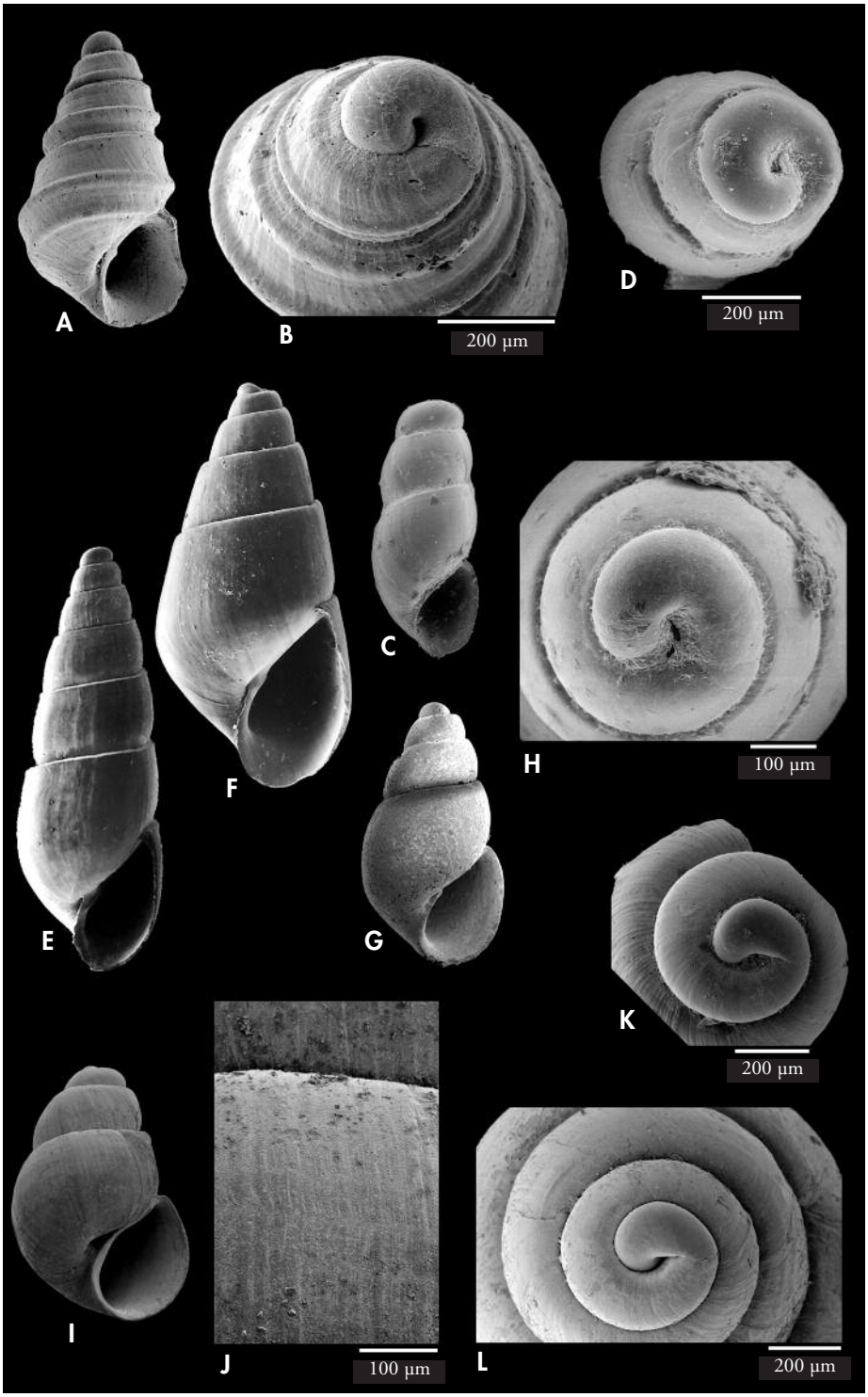
Odostomia francoi Peñas & Rolán, 1999 (Figures 12C-D)

Odostomia francoi Peñas & Rolán, 1999. *Iberus,* suppl. 5: 112, figs. 300, 301. [Type locality: Mauritania].

Type material: Holotype en MNHN (15.05/33107).
New material examined: Mauritania: 1 s, 60-80 m (CFS). Senegal: 1 s, off St. Louis, border Senegal-Mauritania, 100-120 m (CFS).

Distribution: Known previously from the infralittoral and circalittoral of Mauritania, Ghana and Gabon. This species is here reported for the first time from the circalittoral of Senegal.

(Right page) Figure 12. A-B: *Odostomia fehrae* Aartsen, Gittenberger & Goud, 1998. A: shell, 1.3 mm, Selvagens Islands, Isla Grande, 700 m (CFS); B: protoconch. C-D: *Odostomia francoi* Peñas & Rolán, 1999. C: shell, 1.1 mm, off Mauritania, 80-90 m (CFS); D: apical view. E: *Odostomia gradusuturae* Peñas & Rolán, 1999, holotype, 3.2 mm, Pointe Noire, Congo (MNCN) (from PEÑAS & ROLÁN, 1999a). F: *Odostomia jacquesi* Peñas & Rolán, 1999, holotype, 3.0 mm, Mboro, Senegal, 246 m (MNCN) (from PEÑAS & ROLÁN, 1999a). G-H: *Odostomia kuiperi* Aartsen, Gittenberger & Goud, 1998; G: shell, 1.7 mm, Honda Beach, Lanzarote, Canary Islands (CFS); H: protoconch. I-L: *Odostomia cf. mamoi* (Mifsud, 1993); I: shell, 1.75 mm, Fuerteventura, 200 m (CRG); J: microsculpture (from Canary Islands); K: protoconch (from Canary Islands); L: protoconch (from Madeira).
(Página derecha) Figura 12. A-B: Odostomia fehrae *Aartsen, Gittenberger & Goud, 1998. A: concha, 1,3 mm, Islas Salvages, Isla Grande, 700 m (CFS); B: protoconcha. C-D:* Odostomia francoi *Peñas & Rolán, 1999. C: concha, 1,1 mm, costa de Mauritania, 80-90 m (CFS); D: vista apical. E:* Odostomia gradusuturae *Peñas & Rolán, 1999, holotipo, 3,2 mm, Pointe Noire, Congo (MNCN) (tomado de PEÑAS & ROLÁN, 1999a). F:* Odostomia jacquesi *Peñas & Rolán, 1999, holotipo, 3,0 mm, Mboro, Senegal, 246 m (MNCN) (tomado de PEÑAS & ROLÁN, 1999a). G-H:* Odostomia kuiperi *Aartsen, Gittenberger & Goud, 1998; G: concha, 1,7 mm, Playa Honda, Lanzarote, Islas Canarias (CFS); H: protoconcha. I-L:* Odostomia *cf.* mamoi *(Mifsud, 1993); I: concha, 1,75 mm, Fuerteventura, 200 m (CRG); J: microescultura (de las Islas Canarias); K: protoconcha (de las Islas Canarias); L: protoconcha (de Madeira).*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Odostomia gradusuturae Peñas & Rolán, 1999 (Figure 12E)

Odostomia gradusuturae Peñas & Rolán, 1999. *Iberus*, suppl. 5: 98-100, figs. 262-265. [Type locality: Pointe-Noire, Congo].

Type material: Holotype in MNCN (nº 15.05/33101). Paratypes in MNCN, MHNS, USNM, ZSM, NNM, MMF, CPH and CAP.
New material examined: Senegal: 10 s, Gorée, 20-40 m (MHNS).

Distribution: Known from the infralittoral from Guinea Conakry (Peñas & Rolán, 2002), Congo and Angola. The distribution range of this species is here expanded to Senegal.

Odostomia jacquesi Peñas & Rolán, 1999 (Figure 12F)

Odostomia jacquesi Peñas & Rolán, 1999. *Iberus*, suppl. 5: 105-106, figs. 276-283. [Type locality: Mboro, Senegal, 246 m].

Type material: Holotype and 3 paratypes in MNCN (15.05/33104). Paratypes in MNHN, MHNS, ZSM, USNM and CAP.
New material examined: Guinea-Bissau: 1 s, Bissagos Archipelago (CLD): circalittoral. Ghana: 20 s, Miamia, 20-30 m (MHNS).

Distribution: Known previously only from rather deep water off Senegal and Angola. This species is here cited for the first time from Guinea-Bissau and Ghana.

Odostomia kuiperi Aartsen, Gittenberger & Goud, 1998 (Figure 12G-H)

Odostomia (Odostomia) kuiperi Aartsen, Gittenberger & Goud, 1998. *Zool. Verhand.*, 321: 29-30, fig. 31. [Type locality: Azores, NE Terceiro, São Sebastião].

Type material: Holotype (ZMA, 3/97.014) figured in Aartsen, Gittenberger & Goud (1998: fig. 31).
New material examined: Canary Islands: 1 s, Playa Honda, Lanzarote, 28º54.551'N, 13º34.744'W, 317-500 m (CFS).

Distribution: Known from the infralittoral and circalittoral of Azores. The range of this species is here extended to deep waters of the Canary Islands.

Odostomia cf. mamoi (Mifsud, 1993) (Figures 12I-L)

Liostomia mamoi Mifsud, 1993. *La Conchiglia*, 25 (266): 17, 28, fig. s/n. [Type locality: Ras-il Qammieh, Malta].
"Liostomia" mamoi – Nofroni & Tringali: 36, figs. 28-33.
Odostomia mamoi – Aartsen, Gittenberger & Goud, 1998: 38-39, fig. 43.
Odostomia mamoi – Peñas & Rolán, 1999a: 118, figs. 311-312.
Odostomia mamoi – Hernández *et al.*, 2011: 261, fig. 89J.

Type material: Not examined. Illustration of the holotype in Mifsud (1993).
New material examined: Canary Islands: 2 s, Fuerteventura, 28º17.517'N, 14º46.949'W, 200 m (CRG). Madeira: 1 s, Lido, Funchal, 100 m (CFS).

Distribution: Known from the circalittoral of the central Mediterranean, Madeira and the Canary Islands; it is here reported for the first time from the island of Fuerteventura.

Remarks: NOFRONI & TRINGALI (1995) defend some differences between the Mediterranean and Canary Islands forms, but do not consider them enough to separate them as different species. Micali (pers. comm.) believes that they are different species. In our opinion, we lack sufficient material to make a decision, however we acknowledge that Canary shells have a larger size, the whorls have an almost stepped profile and we appreciate clear spiral microsculpture, which no author had previously shown.

Odostomia megerlei (Locard, 1886) (Figures 13A-C)

Ptychostomon megerlei Locard, 1886 (based on *O. glabrata* sensu Forbes & Hanley, 1850, non Mühlfeld). *Prodr. Mal. Française*, p. 234. [Type locality: not designated].
Odostomia megerlei– Peñas & Rolán, 2002: 24, figs. 40-42.
Odostomia megerlei – Hernández *et al.*, 2011: 261, fig. 89D.

Type material: Syntypes supposedly in MNHN and NHMUK. Not examined.
New material examined: Madeira: 7 s, in front to the airport, 190 m (CFS). Selvagens Islands, Isla Grande: 1 s, 600-700 m (CFS).

Distribution: Known from the infralittoral to the bathyal of the European Atlantic and Mediterranean coasts, and from the Canary Islands. We have extended the range of this species to Madeira and Selvagens Islands.

Odostomia meijeri Aartsen, Gittenberger & Goud, 1998

Odostomia (Odostomia) meijeri Aartsen, Gittenberger & Goud, 1998.*Zool. Verhand.*, 321: 32, fig. 32. [Type locality: Mauritania, 19º04'N, 16º25'W, 15 m].

Type material: Holotype in NNM. Not examined. Illustration of the holotype (NNM 57512), in AARTSEN *ET AL.* (1998).
New material examined: Guinea-Bissau: 3 s, S Ilha do Mel, Stn. 8, 25 m. Guinea Conakry: Exp. "Sedigui I" (MNHN): 2 s, W Morébaya River, Stn. 170 (9°24'N - 13°45'W, 17 m); 1 s, W front Sierra Leone, Stn. 3, 20 m; 4 s, W Ile Tannah, Stn. 80 (9°12.3'N - 13°37'W, 16 m); 1 s, W Ile Tannah, Stn. 81 (9°12'N - 13°40.5'W, 20 m); 1 s, W Morébaya River, Stn. 172 (9°24'N - 13°51'W, 15 m); 1 s, W Morébaya River, Stn. 173 (9°24'N - 13°54'W, 20 m); 5 s, W Ouendi, Stn. 476 (9°54'N - 14°21'W, 23 m); 5 s, W Ouendi, Stn. 479 (9°54'N - 14°12'W, 13 m); Exp. "Sedigui II" (MNHN): 2 s, W Pointe Goro, Stn. 534, 50 m; 2 s, W Pointe Goro, Stn. 566 (10°06'N - 14°43'W, 21 m); 1 s, W Cap Verga, Stn. 593 (10°12'N - 14°50,5'W, 34 m); 3 s, W Yomponi River, Stn. 727 (10°24'N - 15°30'W, 31 m); Exp. "Chalgui 7" (MNHN): 1 s, W Ile Tannah, Stn. 13D, 18-20 m; 15 s, W Ouendi-Taboria, Stn. 41, 17 m.

Distribution: Described from the infralittoral of Mauritania. The range of this species is here extended to Guinea-Bissau and Guinea Conakry.

Odostomia micrometrica Peñas & Rolán, 1999 (Figures 13D-H)

Odostomia micrometrica Peñas & Rolán, 1999. *Iberus*, suppl. 5: 102-104, figs. 272-275. [Type locality: Coast of Sahara].

Type material: Holotype deposited in MNCN (15.05/33103). Paratypes in MNHN, MHNS and CAP.

New material examined: Canary Islands: 2 s, Talliarte, Fuerteventura, 28º17.517'N, 4º46.949'W, 200 m (CFS). Senegal: 7 s, Hann Bay, 7-15 m (CFS).

Distribution: Known previously from the infralittoral of West Sahara and Ghana. The distribution range of this species is here enlarged to Senegal and to the circalittoral of Canary Islands.

Odostomia nitens Jeffreys, 1870 (Figure 13I)

Odostomia nitens Jeffreys, 1870. *Ann. Mag. Nat. Hist.*, 4: 79. [Type locality: Hydra Channel, Greece, 130 fms].

Oceanida ovalis de Folin, 1887. *Les fonds de la mer*, 4: 206, 207, pl. 4, fig. 4. [Type locality: Bay of Biscay, 43º57'N, 7º29.5'W, 800 m].

Type material: That of *O. nitens not examined.* A syntype of *O. ovalis* (MNHN) designated lectotype in Aartsen (1987).
New material examined: Canary Islands: 3 s, Exp. Bautismal, El Tostón, Gran Canaria, Stn. 16, 28º46.474'N-13º59.921'W, 400 m (CFS); 2 s, Exp. Bautismal, Stn. 31, Punta Fariones, Lanzarote, 28°50.702'N 13°39.791'W, 900 m (CFS); 1 s, Talliarte, Fuerteventura, 200-202 m (CFS).

Distribution: Known from the circalittoral and bathyal of the European Atlantic and Mediterranean, Canary and Cape Verde Islands. The bathymetric range of this species is here extended to 900 m.

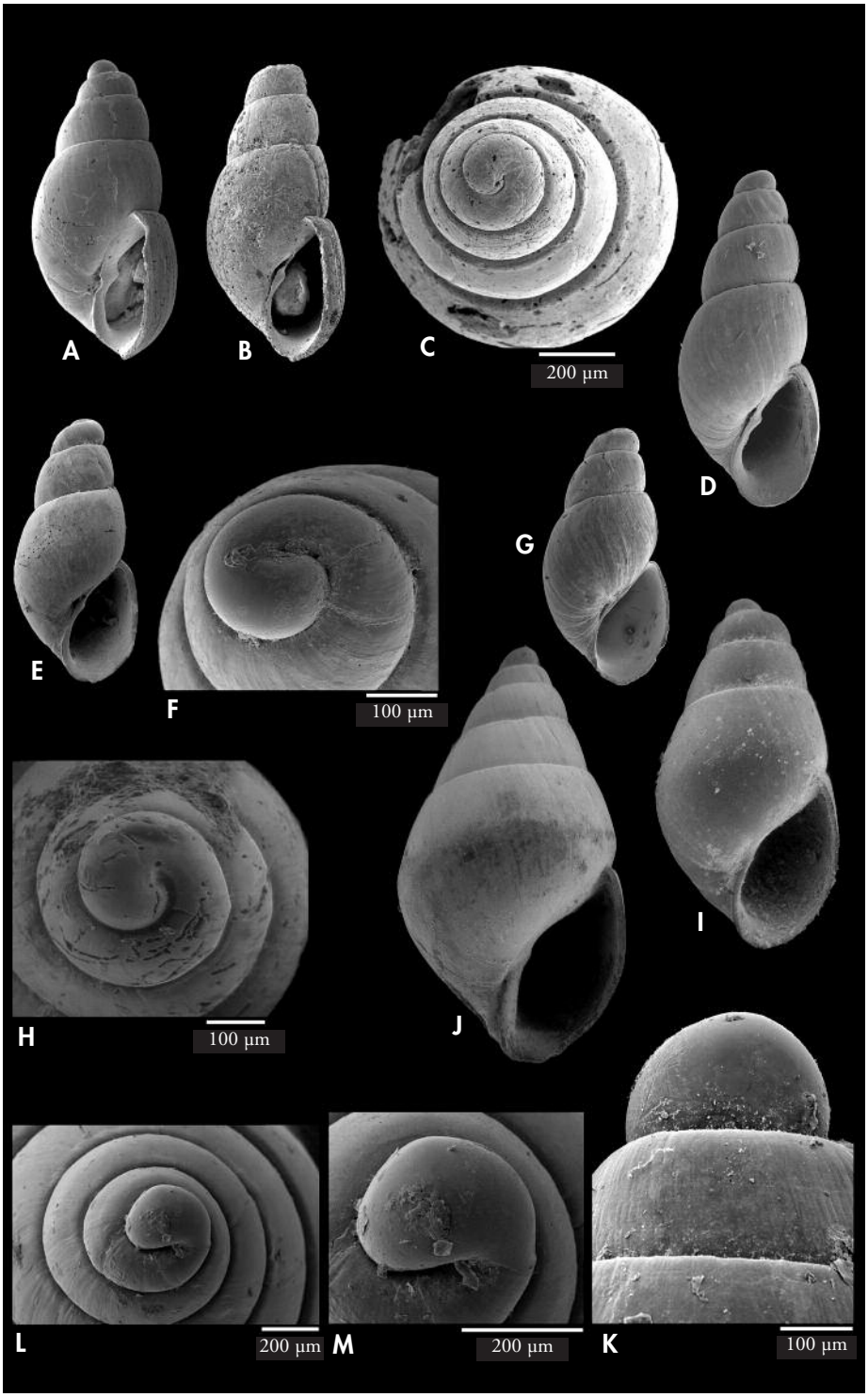
Odostomia odostomella Peñas & Rolán, 1999 (Figures 13J-M)

Odostomia odostomella Peñas & Rolán, 1999. *Iberus,* suppl. 5: 168, pls. 41, 42. [Type locality: Hyères Seamount, Stn. DW200, 31ºº09.50'N 28º36.00'W, 1060 m].

Type material examined: Holotype and 3 paratypes in the MNHN.
New material examined: Selvagens Islands: Isla Grande, 1 s, Stn. 10, 30º06'27.2''N, 15º55'00.3''W, 695 m (CFS); 2 s, Stn. L10D0654, 30º06'36.1''N, 15º54'98.0''W, 669 m (CFS); 1 s, 1 j, Stn. L10D0651, 30º06'25.7''N, 15º55'00.9''W, 700 m (CFS).

Distribution: Only known previously from the Hyères seamount, of the Meteor group, at a depth between 750 and 1520 metres. The range of this species is here extended to Selvagens Islands.

(Right page) Figure 13. A-C: *Odostomia megerlei* (Locard, 1886). A–B: shells, 1.5, 1.5 mm, in front of the airport, Funchal, Madeira (CFS); C: apical view. D-H: *Odostomia micrometrica* Peñas & Rolán, 1999. D-E: shells, 1.7, 1.3 mm, Hann Bay, Senegal (CFS); F: protoconch; G: shell, 1.35 mm, Fuerteventura, Canary Islands (CFS); H: protoconch. I: *Odostomia nitens* Jeffreys, 1870; 1 s, 1.9 mm, Exp. Bautismal, Stn. 31, Punta Fariones, Lanzarote, 28º46.474'N-13º59.921'W, Canary Islands, 400 m (CFS). J-M: *Odostomia odostomella* Peñas & Rolán, 1999; J: shell, 3.1 mm, Selvagens Islands, 700 m (CFS); L: apical view of the spire; K, M: lateral and apical view of the protoconch.
(Página derecha) Figura 13. A-C: Odostomia megerlei *(Locard, 1886). A–B: conchas, 1,5, 1,5 mm, frente al aeropuerto, Funchal, Madeira (CFS); C: vista apical. D-H:* Odostomia micrometrica *Peñas & Rolán, 1999. D-E: conchas, 1,7, 1,3 mm, Hann Bay, Senegal (CFS); F: protoconcha; G: concha, 1,35 mm, Fuerteventura, Islas Canarias (CFS); H: protoconcha. I:* Odostomia nitens *Jeffreys, 1870; 1 s, 1,9 mm, Exp. Bautismal, Stn. 31, Punta Fariones, Lanzarote, 28º46,474'N-13º59,921'W, Islas Canarias, 400 m (CFS). J-M:* Odostomia odostomella *Peñas & Rolán, 1999; J: concha, 3,1 mm, Islas Salvages, 700 m (CFS); L: vista apical de la espira; K, M: vistas lateral y apical de la protoconcha.*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Odostomia omphaloessa Watson, 1897 (Figures 14A-C)

Odostomia omphaloessa Watson, 1897. *Zool. J. Linn.Soc.*, 26: 261, pl. 20, fig. 30. [Type locality: Madeira].
Odostomia (Odostomia) omphaloessa – Aartsen, Gittenberger & Goud, 1998: 21-22, figs. 22, 58.
Odostomia omphaloessa – Peñas & Rolán, 1999a: 84-85, figs. 224-228,
Odostomia omphaloessa – Hernández *et al.*, 2011: 261, figs. 89L-M.

Type material: One syntype, from Madeira (NHMUK nº 1911.7.17.5), designated lectotype in Peñas & Rolán (1999a: fig. 224). #
New material examined: Madeira: 60 s, off Funchal (R/V Auriga), 32º37.592'N, 16º53.796'W, 587 m (CFS); 24 s, Machico, 38 m (CFS); 1 s, Machico, 32º43.053'N, 16º44.437'W, 168 m (CFS); 50 s, Funchal Bay, 32º37.816'N, 16º53.866'W, 386 m (CFS); 45 s, Funchal Bay, Res. Vessel, 134/136 m (CFS); 2 s, Praia Formosa (CFS).

Distribution: Known from the infralittoral and circalittoral of Madeira and the Canary Islands. This species is recorded here for the first time at a depth of 587 m, although this could be the result of downslope transport.

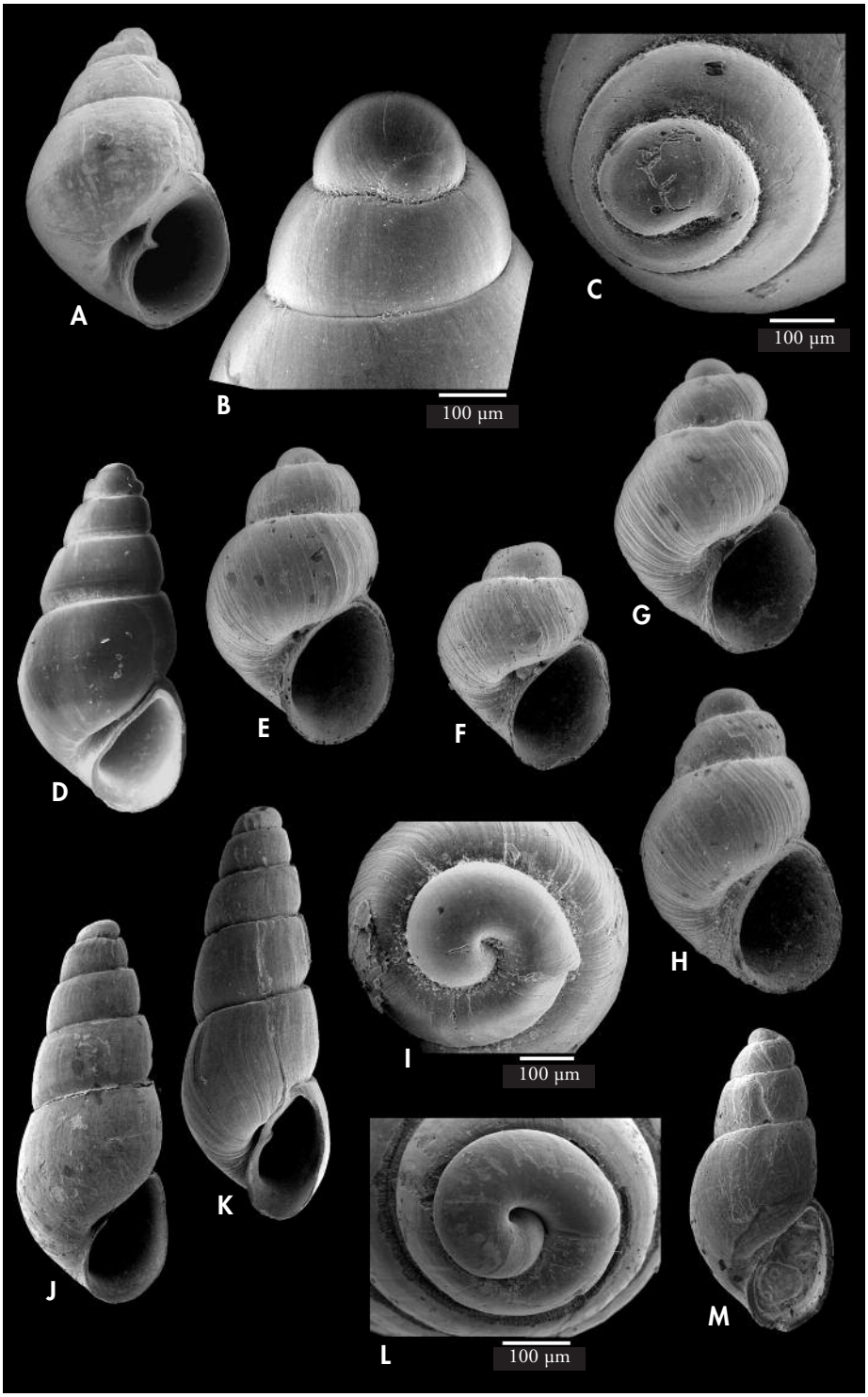
Odostomia parodontosis Schander, 1994 (Figure 14D)

Odostomia (?) parodontosis Schander, 1994. *Notiz. CISMA*, 15: 41-42, figs. 6c and 12j. [Type locality: region of Dakar, Senegal].
Odostomia parodontosis – Peñas & Rolán, 1999a: 46, figs. 100-102.

Type material: Holotype in MNHN. Not examined. Illustration of the holotype in Schander (1994).
New material examined: Guinea Conakry: Exp. "Sedigui I" (MNHN): 1 s, W Ile Tannah, Stn. 81 (9°12'N - 13°40.5'W, 20 m); 2 s, W Ile Tannah, Stn. 82 (9°12'N - 13°43.5'W, 24 m); 1 s, W Ouendi, Stn. 476 (9°54'N - 14°21'W, 23 m); 1 s, W Ile de Quito, Stn. 488 (10°00'N - 14°20.5'W, 15 m); Exp. "Sedigui II" (MNHN): 3 s, W Núñez River, Stn. 804 (10°35.5'N - 15°26'W, 9 m); Exp. "Chalgui 7" (MNHN): 7 s, W Ouendi-Taboria, Stn. 41, 17 m. Ivory Coast: Exp. "Benchaci I", off Grand Bassam (MNHN): 3 s, Stn. 12D (5°09.2'N - 3°47.2'W, 30 m); 2 s, Stn. 13D (5°08.9'N - 3°48.6'W, 35 m). Congo: Exp. "Kounda" (MNHN): 4 s, Conkouati, 17-19 m.

Distribution: Known from the infralittoral and circalittoral of Mauritania, Senegal, Ghana and Angola. This species is recorded here for the first time from Ivory Coast, Guinea Conakry and Congo.

(Right page) Figure 14. A-C: *Odostomia omphaloessa* Watson, 1897. A: shell, 1.0 mm, Madeira, 587 m (CFS); B-C: protoconch. D: *Odostomia parodontosis* Schander, 1994, shell, 1.6 mm, Luanda, Angola (MHNS) (from Peñas & Rolán, 1999a). E-I: *Odostomia prona* Peñas & Rolán, 1999; E-H: shells, 1.0, 0.8, 1.3, 1.4 mm, Selvagens Islands, 700 (CFS); I: protoconch. J-L: *Odostomia pyxidata* Schander, 1994; J-K: shells, 2.2, 2.4 mm, Mauritania (CFS); L: protoconch. M: *Odostomia schrami* Aartsen, Gittenberger & Goud, 1998; shell, 1.34 mm, Madeira (CFS).
(Página derecha) Figura 14. A-C: Odostomia omphaloessa *Watson, 1897. A: concha, 1,0 mm, Madeira, 587 m (CFS); B-C: protoconcha. D:* Odostomia parodontosis *Schander, 1994, concha, 1,6 mm, Luanda, Angola (MHNS) (tomado de Peñas & Rolán, 1999a). E-I:* Odostomia prona *Peñas & Rolán, 1999; E-H: conchas, 1,0, 0,8, 1,3, 1,4 mm, Islas Salvages, 700 (CFS); I: protoconcha. J-L:* Odostomia pyxidata *Schander, 1994; J-K: conchas, 2,2, 2,4 mm, Mauritania (CFS); L: protoconcha. M:* Odostomia schrami *Aartsen, Gittenberger & Goud, 1998; concha, 1,34 mm, Madeira (CFS).*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Odostomia prona Peñas & Rolán, 1999 (Figures 14E-I)

Odostomia prona Peñas & Rolán, 1999. *Iberus*, suppl. 5: 170-172, pls. 45-49. [Type locality: Hyères seamount, "Seamount 2" Stn. DW200, 31º19.10'N, 28º36.00'W, 1060 m].

Type material: Holotype and 12 paratypes in MNHN.
New material examined: Selvagens Islands, Isla Grande: 1 s, Stn. 10, 30º06'27.2"N, 15º55'00.3"W, 695 m (CFS); 8 s, Stn. B4-A4, 600-700 m (CFS); 28 s, Stn. L10-D06B1A10, 30º06'25.5"N, 15º55'00.9"W, 600 m (CFS); 5 s, Stn. L10D0651, 30º06'25.7"N, 15º55'00.9"W, 700 m (CFS); 10 s, Stn. L10D0652, 30º06'25.3"N, 15º55'00.6"W, 700 m (CFS).

Distribution: Only known from the Hyères and Irving seamounts, of the Meteor group, between 670 and 1060 metres deep. The distribution range of this species is here extended to the Selvagens Islands.

Odostomia pyxidata Schander, 1994 (Figures 14J-L)

Odostomia (Auristomia) pyxidata Schander, 1994. *Notiz. CISMA*, 15: 43-44, figs. 1a, 9a, 9b. [Type locality: Ambrizete, province of Zaire, Angola, 45 m].
Odostomia pyxidata Schander, 1994 – Peñas & Rolán, 1999a: 72-74, figs. 186-187.

Type material: Holotype and 5 paratypes in MNHN, figured in Schander (1994).
New material examined: Mauritania: 2 s, Nouakchott, 80-100 m (CFS). São Tomé Island: 1 s, Minerio, 35-40 m (MHNS); 1 s, Lagoa Azul, 30 m (MHNS). Gabon: 20 s, Cap Esterias, intertidal (MHNS).

Distribution: Known from the infralittoral and circalittoral of several countries from Mauritania to Angola. This species is recorded here for the first time from Mauritania and Gabon.

Odostomia schrami Aartsen, Gittenberger & Goud, 1998 (Figure 14M)

Odostomia (Odostomia) schrami Aartsen, Gittenberger & Goud, 1998. *Zool. Verhan.*, 321: 26-27, figs. 29, 60. [Type locality: Mauritania, 20º21'N, 17º17'W].
Odostomia schrami – Peñas & Rolán: 2002: 24, figs. 43, 44.

New material examined: Madeira: 2 s, Garajau, 80 m (CFS). Senegal: 7 s, Casamance, 12º20.7'N, 16º53.1'W (MNHN).

Distribution: Known previously from the infralittoral and circalittoral of Mauritania and Guinea Conakry. Cited here for the first time from Senegal and Madeira.

Odostomia cf. *striolata* Forbes & Hanley, 1850 (Figures 15A-D)

Odostomia striolata Forbes & Hanley, 1850. *Hist. Brit. Moll.*, 3: 267-268, pl. 95, fig. 5. [Type locality: Northumberland, British Islands].
Odostomia (Odostomia) striolata – Aartsen, Gittenberger & Goud, 1998: 27.
Odostomia striolata – Peñas & Rolán, 1999a: 88-90, figs 234-240.

Type material: Holotype in HMAC. Not examined. Illustration of the holotype in Aartsen (1987, fig. 25).
New material examined: Madeira: 2 s, off Funchal (R/V Auriga), 32º37.592'N, 16º53.796'W, 587 m (CFS). Canary Islands: 2 s, Gran Canaria, Maspalomas, littoral (CFS). Selvagens Islands, Isla Grande: 2 s, Stn. L10D0651, 30º06'25.7"N, 15º55'00.9"W, 700 m (CFS).

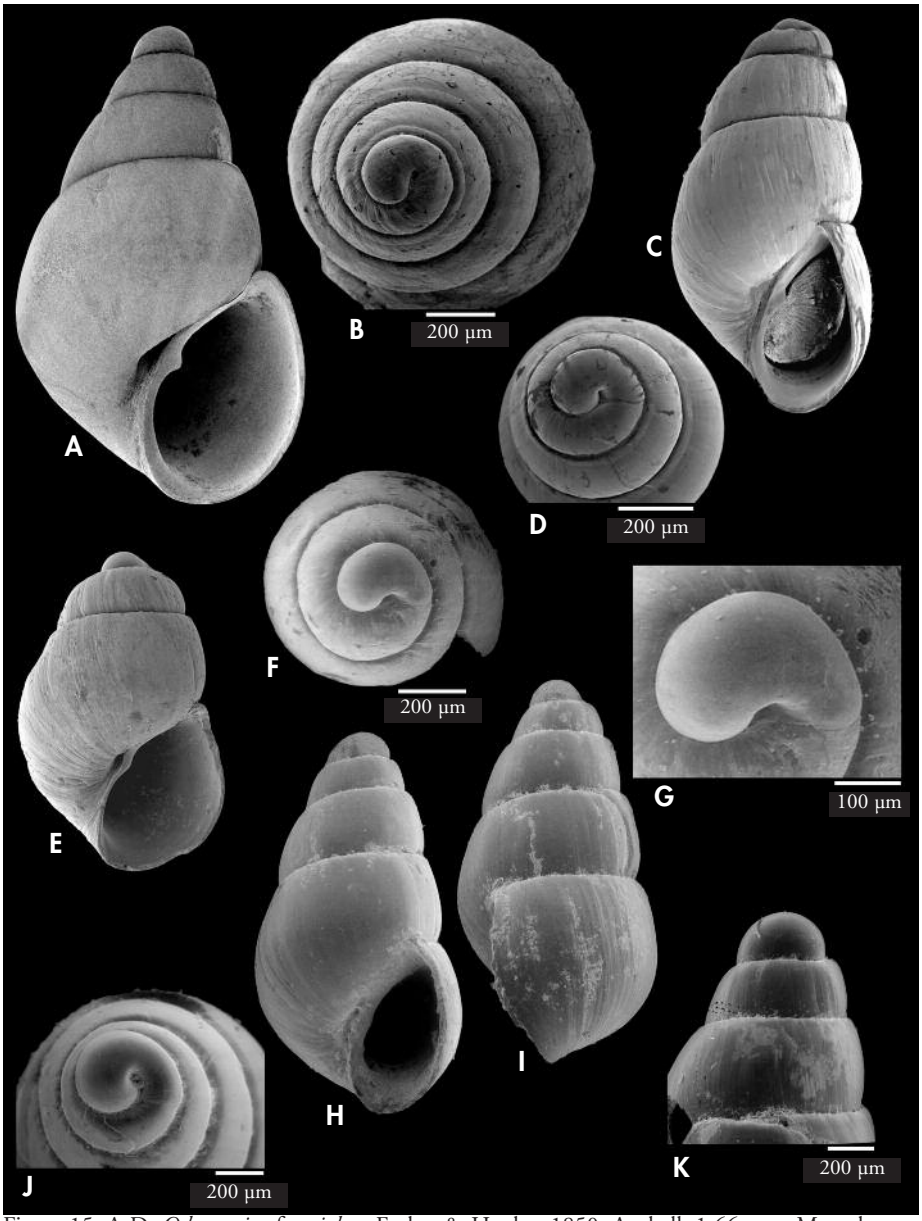


Figure 15. A-D: *Odostomia* cf. *striolata* Forbes & Hanley, 1850. A: shell, 1.66 mm, Maspalomas, Gran Canaria (CFS); B: its apical view; C-D: *Odostomia* cf. *striolata,* 1.2 mm, Madeira (37º35.592'N, 16º53.796'W, 587 m) and its apical view. E-G: *Odostomia* sp. 1. E: shell, 1.05 mm, off Saint Louis, Senegal, 100-120 m (CFS); F-G: apical view and detail of the protoconch. H-K: *Odostomia subobblonga* Jeffreys, 1884; H-I: shell, 2.2 mm, Selvagens Islands, 695 m (CFS); J-K: protoconchs.
Figura 15. A-D: Odostomia *cf.* striolata *Forbes & Hanley, 1850. A: concha, 1,66 mm, Maspalomas, Gran Canaria (CFS); B: vista apical; C-D:* Odostomia *cf.* striolata*, 1,2 mm, Madeira (37º35,592'N, 16º53,796'W, 587 m) y su vista apical. E-G:* Odostomia *sp. 1. E: concha, 1,05 mm, off Saint Louis, Senegal, 100-120 m (CFS); F-G: vista apical y detalle de la protoconcha. H-K:* Odostomia subo-blonga *Jeffreys, 1884; H-I: concha, 2,2 mm, Islas Salvages, 695 m (CFS); J-K: protoconchas.*

Distribution: Known from the infralittoral and circalittoral of the Atlantic coast of Europe, the Mediterranean, the Canary Islands, Madeira, the Cape Verde Islands and Ghana. It is here reported from the Selvagens Islands and its depth range is extended down to 700 m.

Remarks: Peñas & Rolán (1998: figs. 234-240) showed the great variability of this species. The shells that are figured here confirm this variability to the point of creating doubts that the shells of Maspalomas (Figs. 15C-D) belong to the same species: they differ by the tiny size of the shell (1.2 x 0.6 mm), despite having a larger diameter of the protoconch (255 μm), the more oval profile of the shell, which is also narrower (H/D = 2.1), the almost obsolete subsutural cordlet and the growth lines that are hardly prosocline. On the other hand, the shells from deep waters of Madeira (Figs. 15A-B) present a more conical profile, wider (H/D = 1.75) with the last whorl angled at the periphery and with an evident umbilicus. Accepting that both belong to a single species, they would be two extreme forms.

Odostomia sp. 1 (Figures 15E-G)

Material examined: Senegal: 1 s, Saint Louis, 100-120 m (MNHN).

Remarks: A shell (Figs. 13E-G) included here is the only one found, from St. Louis, Senegal, at 100-120 m, measuring 1.1 x 0.67 mm, which shares with *O. striolata* the shape, the type of protoconch and prosocline growth lines, but lacks the subsutural cord, typical of this species. It also recalls *O. hierroensis*, but this species has H/D = 2, the growth lines are orthocline, and the protoconch is smaller.

Odostomia suboblonga Jeffreys, 1884 (Figures 15H-K)

Odostomia suboblonga Jeffreys, 1884. *Proc. Zool. Soc. London* (1884): 345-346, pl. 26, fig. 3. [Type locality: not designated; syntypes from the Porcupine Expedition].
Odostomia fallax Monterosato, 1875 (*nomen nudum*). *Nuova Rivista,* 31.

Type material: Not examined. Photograph of a syntype (USNM 132598) in Warén (1980: fig.29) and van Aartsen (1987: fig. 21).
New material examined: Selvagens Islands, Isla Grande: 1 s, Stn. L10D0654, 30º06'36.1"N, 15º54'98.0"W, 669 m (CFS); 1 s, 30º06'27.2"N, 15º55'00.3"W, 695 m (CFS). Canary Islands: 2 s, Gran Canaria, Exp. Punta Fariones, Lanzarote, Stn. 31, 28°50.702'N, 13°39.791'W, 900 m (CFS)

Distribution: Known from the circalittoral and bathyal of the European Atlantic and of the Mediterranean, also in the Moroccan Atlantic, Madeira, Canary and Cape Verde Archipelagos. This species is here recorded for the first time from Selvagens Islands and its depth range is extended to 900 m.

Odostomia unidentata (Montagu, 1803) (Figures 16A-B)

Turbo unidentatus Montagu, 1803. *Testacea Britannica*, 2: 324. [Type locality: Salcombe Bay, Devonshire, Great Britain].
Turbonilla albella Lovén, 1846. *Ind. Moll. Scand.*, 19. [Type locality: Norway].
Odostomia (Odostomia) unidentata – Aartsen, Gittenberger & Goud, 1998: 23, fig. 24.
Odostomia unidentata – Peñas & Rolán, 1999a: 63-65, figs. 153-161.
Odostomia unidentata– Hernández *et al.*, 2011: 263, figs. 89T-U.

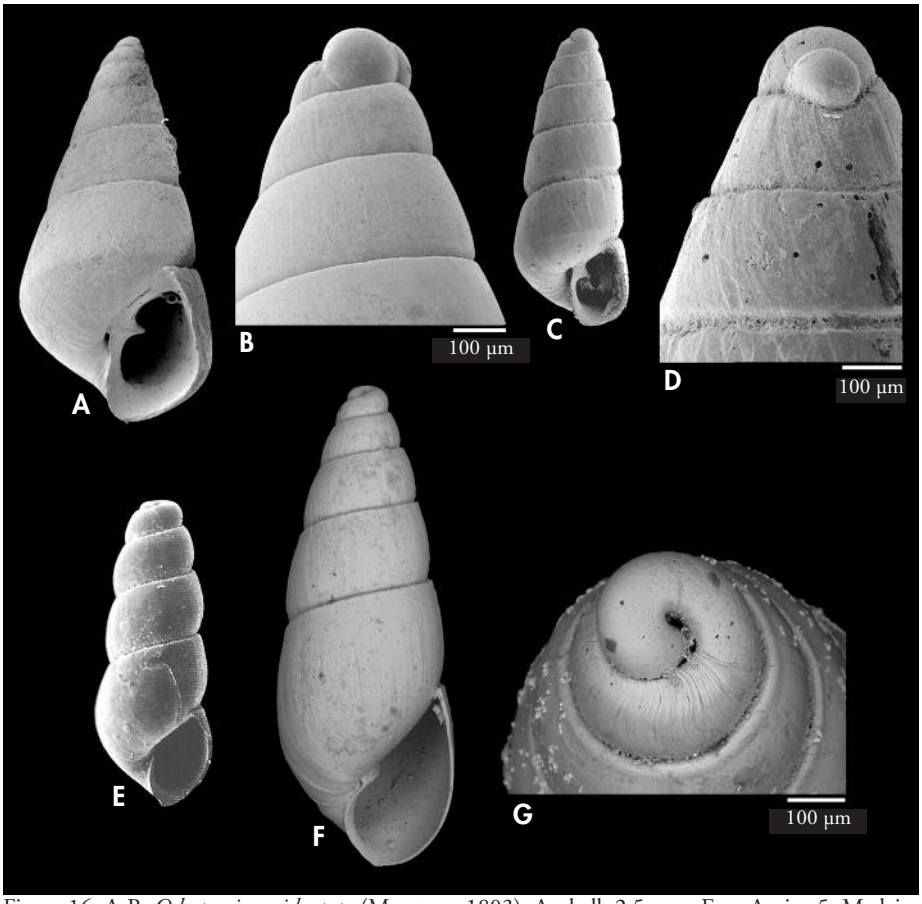


Figure 16. A-B: *Odostomia unidentata* (Montagu, 1803). A: shell, 2.5 mm, Exp. Auriga 5, Madeira (CFS); B: apex. C-D: *Odostomia verhoeveni* Aartsen, Gittenberger & Goud, 1998; shell, 1.7 mm, Minerio, São Tomé (MHNS); D: protoconch. E: *Odostomia wareni* (Schander, 1994), shell, 1.3 mm, Esprainha, São Tome (MHNS). F-G: *Odostomia principalis* spec. nov. F: holotype, 2.75 mm, Cap Esterias, Gabon (MNCN); G: protoconch of the holotype.
Figura 16. A-B: Odostomia unidentata *(Montagu, 1803). A: concha, 2,5 mm, Exp. Auriga 5, Madeira (CFS); B: ápice. C-D:* Odostomia verhoeveni *Aartsen, Gittenberger & Goud, 1998; concha, 1,7 mm, Minerio, São Tomé (MHNS); D: protoconcha. E:* Odostomia wareni *(Schander, 1994), concha, 1,3 mm, Esprainha, São Tome (MHNS). F-G:* Odostomia principalis *spec. nov. F: holotipo, 2,75 mm (MNCN); G: protoconcha del holotipo.*

Type material: Not examined. Illustration of the holotype of *O. albella* in AARTSEN (1987, fig. 36) (NRM).
New material examined: Madeira: 6 s, off Funchal (R/V Auriga), 32º37.592'N, 16º53.796'W (CFS); 20 s, Funchal Bay, 134-136 m (CFS); 1 s, Cámara de Lobos, 70 m (CFS); 15 s, Machico, 38 m (CFS). Canary Islands: 10 s, Gran Canaria, Agaete, 100-120 m (CFS); 1 s, El Cabrón, Arinaga, Gran Canaria, 26-32 m (MHNS). Mauritania: 20 s, Nouakchott, 80-100 m (CFS). Senegal: 1 s, Hann Bay, 7-15 m (CFS). Guinea Conakry: Exp. "Sedigui I" (MNHN): 1 s, W Ile Tannah, Stn. 81 (9°12'N - 13°40.5'W, 20 m); 1 s, W Ile Tannah, Stn. 95, 42 m; Exp. "Sedigui II" (MNHN); 1 s, W Ile

de Quito, Stn. 516 (10°00'N - 15°46'W, 28 m); 2 s, W Cap Verga, Stn. 590 (10°12'N - 14°41.5'W, 17 m); 1 s, W Foulaya, Stn. 625 (10°18'N - 15°57.5'W, 26 m). Gabon: 1 s, Cap Esterias, intertidal (MHNS). São Tomé Island: 3 s, Minerio, São Tomé, 30 m (MHNS). Angola: 1 s, Luanda, 50 m (MHNS).

Distribution: Known from the infralittoral and circalittoral (200 m) of the European Atlantic coasts and the Mediterranean, and in several countries of West Africa from Morocco to Angola. This species is recorded here for the first time from Guinea Conakry and Gabon and, over all, the depth range of this species is increased down to the bathyal (587 m) in Madeira, possibly transported downslope.

Odostomia verhoeveni Aartsen, Gittenberger & Goud, 1998 (Figures 16C-D)

Odostomia (Odostomia) verhoeveni Aartsen, Gittenberger & Goud, 1998. *Zool. Verhand.*, 321: 23-25, figs. 25, 29. [Type locality: Mauritania, Banc d'Arguin, 26 m].
Odostomia verhoeveni – Peñas & Rolán, 1999a: 62, figs. 142-150.
Odostomia verhoeveni – Hernández *et al.*, 2011: 263, fig. 90B.

Type material: Holotype in NNM. Not examined. Figuration of the holotype (NNM 57402) en Aartsen *et al.* (1998: fig. 25).
New material examined: Canary Islands: 2 s, El Cabrón, Arinaga, Gran Canaria, 26-32 m (CFS). Mauritania: 2 s, Nouakchott, 80-100 m (CFS). Senegal: 3 s, Yeen sur Mer, 7-12 m (CFS). Guinea-Bissau: Exp. "Chalbis II" (MNHN): 1 s, S Ilha do Mel, Stn. 8, 25 m. Guinea Conakry: Exp. "Sedigui I" (MNHN): 4 s, W Ile Tannah, Stn. 80 (9°12.3'N - 13°37'W, 16 m); Exp. "Sedigui II" (MNHN): 1 s, W Ile de Quito, Stn. 515 (10°00'N - 15°43'W, 26 m); 1 s, W Pointe Goro, Stn. 566 (10°06'N - 14°43'W, 21 m); 3 s, W Pointe Goro, Stn. 572D (10°06'N - 14°25'W, 12 m); 1 s, W Bel-Air (Koundinde), Stn. 655 (10°15'N - 14°43'W, 19 m); 1 s, W Yomponi River, Stn. 727 (10°24'N - 15°30'W, 31 m); 1 s, W Núñez River, Stn. 792 (10°39'N - 15°22.5'W, 12 m); Exp. "Chalgui 7" (MNHN): 8 s, W Ouendi-Taboria, Stn. 41, 17 m. Ivory Coast: Exp. "Benchaci I", off Grand Bassam (MNHN): 5 s, Stn. 12D (5°09.2'N - 3°47.2'W, 30 m). São Tomé Island: 170 s, Minerio, 35-40 m (MHNS): 85 s, Lagoa Azul, 30 m (MHNS). Gabon: 50 s, Cap Esterias, intertidal (MHNS).

Distribution: Known from the infralittoral of several countries between Mauritania and Angola including São Tomé Island. This species is recorded here for the first time for the Canary Islands, Ivory Coast, Guinea-Bissau, Guinea Conakry and Congo.

Odostomia wareni (Schander, 1994) (Figure 16E)

Liostomia wareni Schander, 1994. *Notiz. CISMA*, 15: 33-34, figs. 4f, 11f, 11g. [Type locality: region of Dakar, Senegal].
Odostomia (Odostomia) vanurki Aartsen, Gittenberger & Goud, 1998. *Zool. Verhan.*, 321: 33, fig 35. [Type locality: Cape Verde archipelago, E of Boavista, SW of Ilheu Calheta do Velho, 16º10'N, 22º58'W, 39 m] new synonym.
Odostomia wareni – Peñas & Rolán, 1999a: 114, figs. 302-305.

Type material: We have examined the type material of both species, holotype and one paratype of *Liostomia wareni* in MNHN; holotype of *O. vanurki* in NNM (nº57520).
New material examined: Guinea Conakry: Exp. "Sedigui I" (MNHN): 1 s, W Ile Tannah, Stn. 80 (9°12.3'N - 13°37'W, 16 m); Exp. "Sedigui II" (MNHN): 1 s, W Pointe Goro, Stn. 566 (10°06'N - 14°43'W, 21 m); Exp. "Chalgui 7" (MNHN): 1 s, W Ouendi-Taboria, Stn. 41, 17 m.

Distribution: Known from the infralittoral of Senegal, Ghana, Cape Verde Islands and São Tomé. This species is recorded here for the first time for Guinea Conakry.

Odostomia principalis spec. nov. (Figures 16F-G)

Type material: Holotype in MNCN (15.05/60124, Fig. 16F-G). Paratypes in the following collections: MNHN (IM-2012-2766, 10 s); RBINS (MT.3074-3083, 10 s), MHNS (100610, 23 s); MMF (43336-43340, 5 s); CAP (5 s); CFS (3).
Type locality: Cap Esterias, Gabon, intertidal.
Etymology: The name alludes to its morphology which is original in the genus.

Description: Shell small, not very solid, cyrtoconoid, white, vitreous and semitransparent in fresh shells, shiny. Protoconch relatively large, of type C tending to B, with a diameter of 320 μm. Teleoconch with a relatively high spire (h = 55% H), comprising five convex whorls, the last one oval at the periphery. Suture deep, but not canaliculate, with a narrow subsutural belt. No axial sculpture except for the growth lines, which are orthocline; no apreciable spiral microsculpture. Aperture pyriform (A = 35% H); columella narrow, almost straight, reflected outwards on its base, with a weak columellar tooth, pliciform, placed below the middle of the columella; outher lip sharp. Not umbilicated.

Dimensions of the holotype: 2.75 x 1 mm; h = 1.55 mm; A = 1 mm.

Distribution: Only known from the type locality.

Remarks: *Odostomia gradusuturae* Peñas & Rolán, 1999 has a protoconch of type B, with a smaller diameter, the shell is narrower with the same number of whorls (H/D = 3.2 versus 2.75 in *O. principalis* spec. nov.), the spire is higher with the whorls slightly stepped due to the conspicuous subsutural shelf, and the aperture is narrow and small (A = 30% H).

Odostomia jacquesi Peñas & Rolán, 1999 has a larger shell, but with a protoconch having a smaller diameter, the whorls are flat, slightly stepped with a subsutural shelf, the aperture instead of a columellar tooth has an oblique small fold, above the middle of the columella.

Odostomia extenuata Peñas & Rolán, 1999 has a rather subcylindrical, narrower shell, the whorls are a little stepped, the suture has an evident subsutural shoulder but it lacks a belt and the aperture is suboval, narrow.

Odostomia (Odostomia) schrami Aartsen, Gittenberger & Goud, 1998, described for the infralittoral and circalittoral of Mauritania, has a narrower shell (H/D = 3.2 versus 2.75 in *O. principalis*), the suture is deep but lacks any subsutural belt, and the protoconch is type B.

Odostomia bismichaelis Sacco, 1892, described from the Italian Pliocene has a shell with a similar profile but it is much larger (between 3.9 and 4.6 mm) with the same number of whorls; it lacks the subsutural belt and the protoconch is type B with a much smaller diameter.

Odostomia minormirabilis spec. nov. (Figures 17A-B)

Type material: Holotype in MMF (43341, Fig. 17A) and 3 paratypes (MMF 43342-43344). Paratypes: CAP (1 s) and CFS (3 s).
Type locality: Funchal Bay, Madeira, 100-180 m.
Etymology: From the Latin words *minor* "smaller", and *mirabilis* "admirable".

Description: Shell very small, fragile, conical, white vitreous, shiny. Protoconch of type C, relatively large, with a diameter of about 310 μm. Teleoconch with a short spire (h >70% H), comprising three whorls, convex, the last one rounded at the periphery. Suture deep. Growth lines well marked, prosocline. Without spiral microsculpture. Aperture pyriform, thin; columella almost straight, opisthocline, with a small columellar pliciform tooth rather internal; outer lip very thin; no umbilicus, but with a narrow umbilical fissure.

Dimensions: Holotype is 1.7 mm x 0.86 mm.

Distribution: Only known from the type locality, Madeira.

Remarks: *Odostomia (Odostomia) kuiperi* Aartsen, Gittenberger & Goud, 1998, described from the infralittoral and circalittoral of Azores, has a shell similar in profile and dimensions, but more solid, wider (H/D = 1.75 versus 2 in *O. minormirabilis* spec. nov.), the spire is higher, the last whorl more globose, the columellar tooth is more prominent and the protoconch is of type B.

Odostomia hierroensis Peñas & Rolán, 1999, described from the infralittoral and circalittoral of the Canary Islands, has a larger shell at the same number of whorls, more solid; the spire is more elevated, the growth lines are orthocline and the protoconch is of type B, with a diameter of 240 μm.

Odostomia carrozzai Aartsen, 1987 has a larger shell, tending to be suboval, solid and not translucent, while the new species is conical, fragile, vitreous white; having besides an internal columellar pliciform tooth; the protoconch of *O. carrozai* has a larger diameter (340 μm) being of type C tending to type B, while the new species has a protoconch of type C with a diameter of 310 μm.

Odostomia sp. 2 (Figures 17C-E)

Material examined: 10 s, West Sahara, Cap Barba, 50-60 m.

Description: Shell small, not very solid, conoid, milk white, opaque, shiny. Protoconch of type C, relatively high, with a diameter between 270 and 310 μm. Teleoconch with a rather short spire (h > 65% H), comprising 4 slightly convex whorls, the last one oval at the periphery. Suture linear, shallow. Without axial sculpture except the growth lines evidently prosocline. Without any observable spiral microsculpture. Aperture relatively large (A = 40% H), pyriform; columella slightly arched, opisthocline, with a columellar tooth not prominent but evident; outer lip not thickened. Shell not umbilicate.

Dimensions 2.45 x 1 mm; h = 1.65 mm; A = 1 mm.

Distribution: Only known from West Sahara.

Remarks: In spite of having enough material, we decide to keep these specimens without a name due to the only slight differences with other similar species of the genus. These are:

O. dijkhuizeni Aartsen, Gittenberger & Goud, 1998 has a shell of similar dimensions, that is more solid, the suture has a narrow subsutural shelf, the growth lines are flexuose, orthocline or almost opisthocline on their upper part, and the protoconch has a much smaller diameter.

Odostomia carrozzai Aartsen, 1987 has a larger protoconch, the shell is also a little larger, the whorls are more convex, with a quick increase, the last whorl is rounded at the periphery, and the columellar tooth is very small, internal.

Odostomia kromi Aartsen, Menkhorst & Gittenberger, 1984, described for the Western Mediterranean, has a smaller shell with the same number of whorls, with a profile that is more evidently conical, the last whorl is angled at the periphery, the growth lines are orthocline, and the protoconch is of type B, with the nucleus almost visible.

Odostomia madeirensis spec. nov. (Figures 17F-G)

Type material: Holotype in MMF (43348, Fig. 17F-G) and one paratype in CFS.
Type locality: Madeira, Funchal (Lido): 100-180 m.
Etymology: The specific name alludes to the island where the species was found.

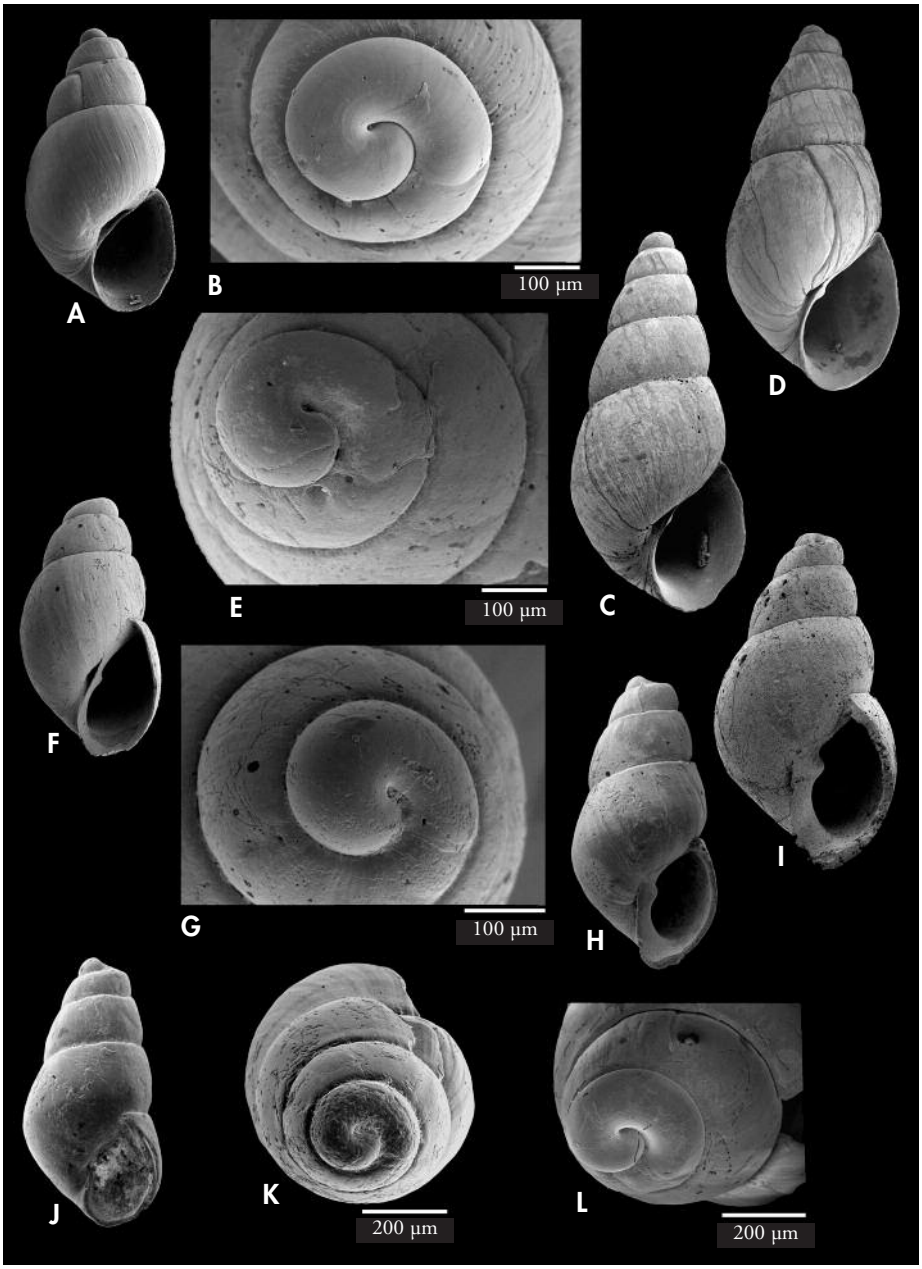


Figure 17. A-B: *Odostomia minormirabilis* spec. nov. A: holotype, 1.7 mm, Funchal Bay, Madeira (MMF); B: protoconch. C-E: *Odostomia* sp. 2; C-D: shells, 2.45, 2.4 mm (RBINS); E: protoconch. F-G: *Odostomia madeirensis* spec. nov. F: holotype, 1.25 mm (MMF); G: protoconch. H-L: *Odostomia* sp. 2. H-J: shells, 1.16, 1.5, 1.0 mm, Madeira (MMF); K-L: protoconchs.
Figura 17. A-B: Odostomia minormirabilis *spec. nov. A: holotipo, 1,7 mm, Bahía de Funchal, Madeira (MMF); B: protoconcha. C-E: Odostomia* sp. 2; C-D: conchas, 2.45, 2.4 mm (RBINS); E: protoconcha. *F-G:* Odostomia madeirensis *spec. nov. F: holotipo, 1,25 mm (MMF); G: protoconcha. H-L:* Odostomia *sp. 2. H-J: conchas, 1,16, 1,5, 1,0 mm, Madeira (MMF); K-L: protoconchas.*

Description: Shell tiny, fragile, suboval, white, vitreous, shiny. Protoconch proportionally large, of type C, tending to type B, with a diameter of 250 μm. Teleoconch with a very short spire (h = 80% H), comprising 2.5 convex whorls, the last one very large, oval at the periphery. Suture shallow. Growth lines scarcely marked, slightly prosocline. Without appreciable spiral microsculpture. Aperture large (A = 50% H), nearly oval; columella almost straight, opisthocline, with a little prominent columellar tooth, evident at the middle; peristome continuous; narrow but deep umbilicus. Outer lip sharp.

Dimensions of the holotype: 1.25 x 0.64 mm; h = 1 mm; A = 0.62 mm.

Distribution: Only known from the type locality, Madeira.

Remarks: *Odostomia microeques* Rolán & Templado, 1999, live collected from the littoral of Funchal, Madeira, has a smaller, oval-cylindrical shell and also a protoconch (diameter 200 μm) which is of type B; the whorls are more convex and the suture deeper, the growth lines are very marked, as small riblets, very prosocline, the peristome is very prominent forming a great umbilical chink behind the columella and the columellar fold is very internal, not easily observable.

Odostomia madeirensis spec. nov. also shows some similarity to some forms of *O. striolata*, but this species has a protoconch of type B and has, below the suture, a typical and evident subsutural cordlet. Also *O. hierroensis* has a protoconch of type B, the last whorl of the teleoconch is rounded at the periphery and the growth lines are orthocline.

O. micrometrica Peñas & Rolán, 1999 has an oval-conical and narrower shell (H/D = 2,2), with a higher spire, with almost stepped whorls, the protoconch is of type B, the growth lines are flexuose, opisthocline on their upper part, the aperture is narrower, with a columellar fold instead of a tooth.

O. kuiperi has a type B protoconch, the shell is wider (H/D = 1.75) and the spire is more elevated (h = 66% H), the whorls are more convex, the last one is rounded at the periphery.

O. bernardi Aartsen, Gittenberger & Goud, 1998, described from the Azores, is a shell of similar dimensions, but the spire is higher (h = 73% H in the holotype compared to 80% in that of *O. madeirensis*), the whorls are stepped and the suture is very deep with an evident subsutural shoulder; its protoconch is of type C, but in the description of the species it was neither measured nor shown in vertical.

Odostomia sp. 3 (Figures 17H-L)

Material examined: Madeira: 6 shells, in front of the airport of Funchal, 190 m (MMF).

Description: Shell tiny, light, conoid, tending to subcylindrical, whitish, opaque, shiny. Protoconch of type C, with a diameter of about 250 μm. Teleoconch with a spire little elevated, comprising three convex whorls, the last one rounded, almost angled, in the periphery. Suture shallow, with a weak subsutural shoulder. Growth lines little marked, prosocline; without noticeable spiral microsculpture. Aperture pyriform; columella slightly arched, opisthocline, with a non prominent, but evident columellar tooth. Not umbilicate.

Dimensions: the holotype is 1.2 mm x 0.56 mm.

Distribution: Only known from the studied locality, Madeira.

Remarks: The material studied is not in good condition and for this reason, we decided not to name this species. The comparison with similar species is the following:

Odostomia brandhorsti Aartsen, Gittenberger & Goud, 1998, described from the infralittoral and circalittoral of Cape Verde and São Tomé and Príncipe, has a shell with a higher spire, is wider, has a

feeble spiral groove below the suture, the columellar tooth is very small and internal and, above all, has a different protoconch, with a central cord like a carina.

Odostomia natata Peñas & Rolán, 1999, described from the infralittoral of Ghana, has a cylindrical shell, with more convex whorls, the last one being rounded at the periphery; the suture is deeper and it has a small subsutural groove.

Odostomia lesuroiti Peñas & Rolán, 1999, described from Atlantis Seamount of the Meteor group, has a somewhat larger shell, but the protoconch has a much larger diameter (340 μm), is not smooth; the profile is clearly conical, the growth lines are very prosocline, the aperture is pyriform, with a continuous peristome and it has a small columellar fold instead of a tooth.

Odostomia exiliter spec. nov. (Figures 18A-D)

Type material: Holotype in MNCN (15.05/60125, s, Fig. 18A). Paratypes in the following: MNHN (IM-2012-2767, 2 s, Fig. 18B), MHNS (100611, 7 s, Figs. 18C-D), MMF (43350, 1 s); RBINS (MT.3084-3086, 3 s); CAP (2 s).
Type locality: Cap Esterias, Gabon, intertidal.
Etymology: The specific name derives from the Latin adverbe *exiliter*, which means weak, feeble, insignificant, alluding to its small size.

Description: Shell very small, solid, conical tending to suboval, milky white, opaque, shiny. Protoconch obtuse, of type C, with a diameter of 280 μm and the spire almost completely exposed. Teleoconch with a short spire, comprising three flat-convex whorls, very rapid in growth, specially in width; the last whorl is large (h = 72% H on average), globose, rounded at the periphery. Suture shallow. Without axial sculpture except for growth lines that are slightly prosocline. Without appreciable spiral microsculpture. Aperture relatively large (A = 45% H in average), pyriform; columella thick, slightly arched, opisthocline, with a prominent columellar tooth, perpendicular to the columella. Without a clear umbilicus.

Dimensions: Holotype is 1.5 mm x 0.9 mm.

Distribution: Only known from the type locality, Gabon.

Remarks: *Odostomia scalaris* MacGillivray, 1843 has a very variable shell but always has a narrow subsutural shelf, the growth lines are orthocline and under great magnification its surface is rough, with tiny pits; furthermore its whorls do not grow as quickly in width.

Odostomia kuiperi has a shell with a higher spire, the whorls are definitely convex, the aperture has a very small columellar tooth and the protoconch is of type B.

O. brandhorsti Aartsen, Gittenberger & Goud, 1998, described from deep water of Cape Verde, has a tronco-conical, narrower shell, the suture is shallower and has a narrow subsutural belt, the growth lines are very prosocline and the aperture is small, suboval, with a narrow umbilicus.The protoconch has a central spiral cord like a carina.

Odostomia lukisii Jeffreys, 1859 has a larger shell, with a higher spire (h = 60% H on average), the whorls are clearly convex, it has a ratio H/D = 2 (against 1.65 in *O. exiliter* spec. nov.), the growth lines are orthocline and it is usually umbilicate.

Odostomia albuquerqueae spec. nov. (Figures 18E-H)

Type material: Holotype in RBINS (MT.3087, Fig. 18E). Paratypes in the following: MMF (43351-43354, 4 s); MHNS (100612, 1 s), MNHN (IM-2012-2768, 1 s), MNCN (15.05/60126, 1 s), CFS (2 s), all from the type locality. In CAP 6 more (Figs. 18F-G) from Cap Vert, Sect. Thouriba, 30 m.

Type locality: Gorée Island, Senegal, 7-8 m
Other material examined: Senegal: 3 s, Dakar, 20 m (MHNS).
Etymology: The specific name is after Monica Albuquerque, for her help loaning the material for the study.

Description: Shell very small, not very solid, tronco-conical to suboval, white vitreous, semi-transparent, shiny. Protoconch of type C with a diameter of about 240-250 μm, presenting an evident central elevation like a carina. Teleoconch with a low spire, comprising 3.5 convex whorls, the last one round at the periphery. Suture deep, not canaliculate. Without axial sculpture, except for little marked growth lines, which are slightly prosocline. Under high magnification microscopic spiral striae can be seen. Aperture large (A = 40% H) semicircular; columella thickened, slightly arched, opisthocline, with a prominent columellar tooth in the middle; always with a narrow but clear umbilicus.

Dimensions of the holotype: 1.66 x 0.85 mm; h = 1.1 mm; A = 0.66 mm.

Distribution: Only known from the infralittoral of Senegal.

Remarks: *Odostomia scalaris* has a more robust shell, opaque, larger, and although variable in size generally nearly twice as large for the same number of whorls, which are less convex; it has an apparent subsutural shoulder, the microsculpture is rugged, consisting of tiny pits, the umbilicus, when present, is narrower and the protoconch has almost half a whorl more visible. Peñas & Rolán (1999a: fig. 192) figured as *O. scalaris* a shell from Cap Vert, Senegal, which we think belongs to the present new species.

Odostomia brandhorsti has a wider shell, with less convex whorls, the growth lines are definitely prosocline, the columellar tooth is weaker and the protoconch has a spiral cord like a carina.

Odostomia lukisii has a much larger and more robust shell, wider, ovoid nearly globose, with the whorls increasing very quickly in width; the growth lines are orthocline, the microsculpture is rough, formed by pits, the aperture is much larger (A = 46% H) and the protoconch proportionally has a larger diameter (about 300 μm), being obtuse, and lacking any carinae.

Odostomia circumcordata spec. nov. (Figures 19A-D)

Type material: Holotype in MNCN (15.05/60127H, Fig. 19A) and 5 paratypes (MNCN 15.05/60127P, Fig. 19B). Other paratypes in the following: MNHN (IM-2012-2769, 5 s), MHNS (100613, 60 s), RBINS (MT.3088-3089, 2 s), MMF (43355-43356, 2 s), CAP (5 s) and CFS (2 s).
Type locality: Cap Esterias, Gabon, intertidal.
Etymology: The specific name alludes to the subsutural cord which goes around the first whorls.

Description: Shell small, solid and conical, milky white, opaque and somewhat shiny. Protoconch of type A, with a semi-submerged nucleus, with a diameter of about 210 μm. Teleoconch with a low spire (h = 54% H on average), comprising about four flat-convex whorls, the last one slightly angular at the periphery. Suture deep with a subsutural belt, more evident in the early whorls, and disappearing on the last one. Growth lines well marked, clearly prosocline, without appreciable spiral microsculpture. Aperture pyriform; columella slightly curved, opisthocline, with a narrow but prominent columellar tooth, perpendicular to the columella; outer lip not thickened. Without a clear umbilicus, but with a narrow umbilical chink behind the columella.

Dimensions of the holotype: 2.3 x 1 mm; h = 1.25 mm; A = 0.7 mm.

Distribution: Known from the type locality, Gabon. However the specimens illustrated in Peñas & Rolán (1999a: pag. 55, figs. 128-130) from Ghana, which then we considered similar to *O.*

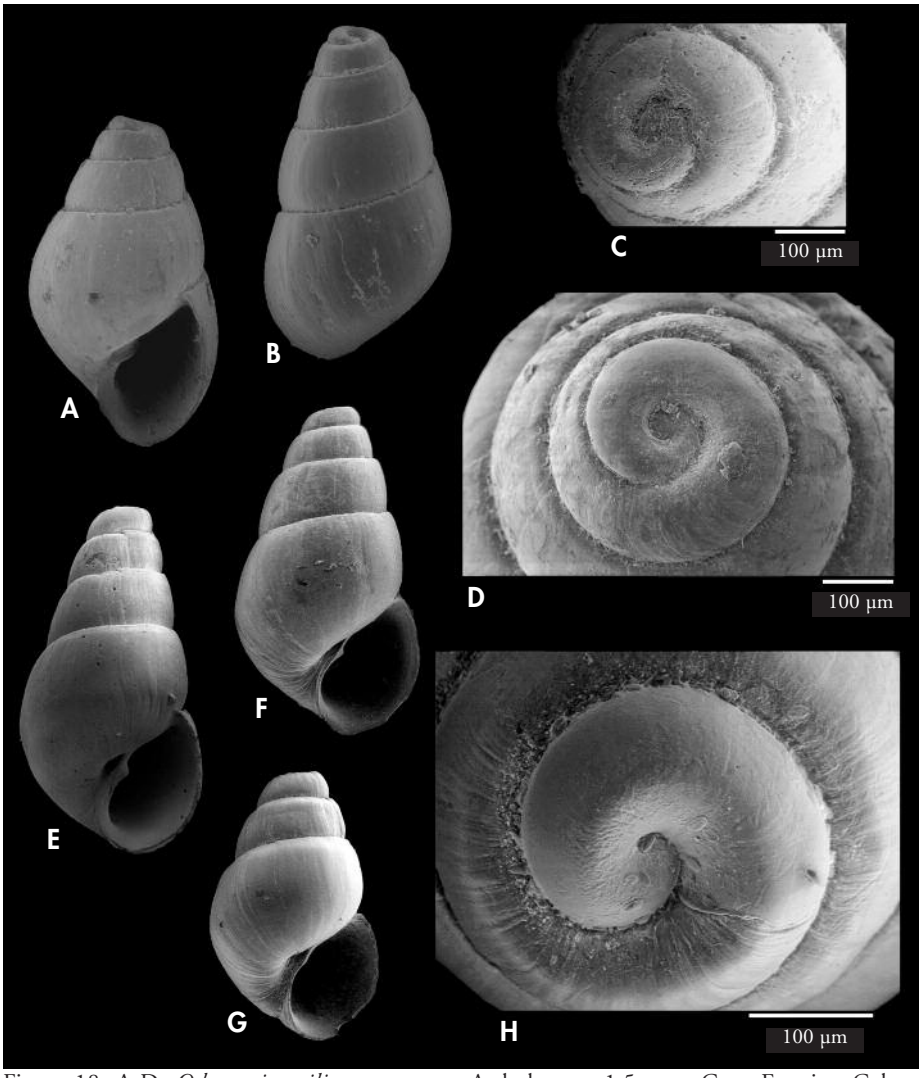


Figure 18. A-D: *Odostomia exiliter* spec. nov. A: holotype, 1.5 mm, Cape Esterias, Gabon (MNCN); B: paratype, 1.6 mm (MNHN); C-D: protoconchs of paratypes. E-H: *Odostomia albuquerqueae* spec. nov. E: holotype, 1.66 mm, Gorée I., Senegal (RBINs); F-G: shells, 1.53, 1.27 mm, Cap Vert, Thouriba, Senegal (MMF); H: protoconch.
Figura 18. A-D: Odostomia exiliter *spec. nov. A: holotipo, 1,5 mm, Cabo Esterias, Gabón (MNCN); B: paratipo, 1,6 mm (MNHN); C-D: protoconchas de paratipos. E-H:* Odostomia albuquerqueae *spec. nov. E: holotipo, 1,66 mm, Isla de Gorée, Senegal (RBINs); F-G: conchas, 1,53, 1,27 mm, Cap Vert, Thouriba, Senegal (MMF); H: protoconcha.*

turrita, could be of the present species now described.

Remarks: At some time we thought that this could be a form of *O. turrita*, but we have noticed that the material of the European Atlantic, Mediterranean, Canary Islands and Madeira of *O.turrita* have a smaller shell, shallow suture, less promi-

nent columellar tooth, have no umbilicus and do not have the subsutural cord.

Odostomia plicata Montagu, 1803 has a shell with a higher spire, the whorls are more convex, the last one is rounded at the periphery, the suture is shallow, the growth lines are orthocline, it lacks a subsutural cordlet and the columellar tooth is not pointed.

Odostomia brandhorsti Aartsen, Gittenberg & Goud, 1988 is somewhat similar, but has a protoconch of type C.

Odostomia apexdemissus spec. nov. (Figures 19E-H)

Type material: Holotype in RBINS (MT.3090, Fig. 19E) and two paratypes in RBINS (MT.3091-3092, Fig. 19F).
Type locality: Gorée Island, Senegal, 7-12 m.
Etymology: The specific name derives from the Latin words *apex* and *demissus,* which means deep, alluding to the very open shape of the protoconch.

Description: Shell tiny, fragile, oval-subcylindrical, milky white, shiny. Protoconch relatively wide, obtuse, type C, with a diameter of about 330 μm. Teleoconch with a very short spire (h = 70% H), comprising a little more than two slightly convex whorls, the last one oval at the periphery. There are one or two sulci at the periphery. Suture shallow. Without axial sculpture except for the growth lines, little marked, which are slightly prosocline. Aperture large, suboval; columella curved, opisthocline, with a continuous peristome, and a small columellar tooth, internal; with a narrow but deep umbilicus.

Dimensions: the holotype is 1.2 x 0.66 mm.

Distribution: Only known from the type locality, Gorée Island in Senegal.

Remarks: *Liostomia clavula* (Lovén, 1846) has a slightly larger shell, with an evident more subcylindrical profile, the suture is deeper and with a narrow subsutural shelf, the umbilicus is wider and deeper, and it has no peripheral sulcus or columellar tooth.

Odostomia laicismorum spec. nov. (see below) has a wider shell, almost globose (H/D = 1.55 against 1.8 in *O. apexdemissus* spec. nov.) the protoconch has a larger diameter, the growth lines are orthocline, the aperture is larger, semicircular and the columellar tooth is more conspicuous, clearly visible.

Odostomia meijeri Aartsen, Gittenberger & Goud, 1998, described from the infralittoral of Mauritania, has a similar but larger, oval-conical shell, with an almost stepped profile, with more convex whorls. The spire is higher (h = 67% H in the holotype, against 75% in that of *O. apexdemissus* spec. nov.), the suture is deeper and has several evident spiral striae on the periphery; the growth lines are orthocline (instead of prosocline), the peristome is discontinuous and the protoconch has a smaller diameter (it was not measured or represented in the original description).

Odostomia laicismorum spec. nov. (Figures 19I-K)

Type material: Holotype in RBINS (MT.3093, Fig. 19I) and three paratypes (RBINS, MT.3094-3096, 3 s, Figs 19J).
Type locality: Gorée, Senegal, sediments between 20 and 40 m.
Other material examined: Yeen sur Mer, Senegal, 7-12 m: 1 s, 5 m (CFS).
Etymology: The name is after the friends of the associations "El Observatorio del Laicismo" and "Europa Laica".

Description: Shell tiny, fragile, suboval tending to globose, white, vitreous, shiny. Protoconch of type C, with a diameter of about 350 μm. Teleoconch with

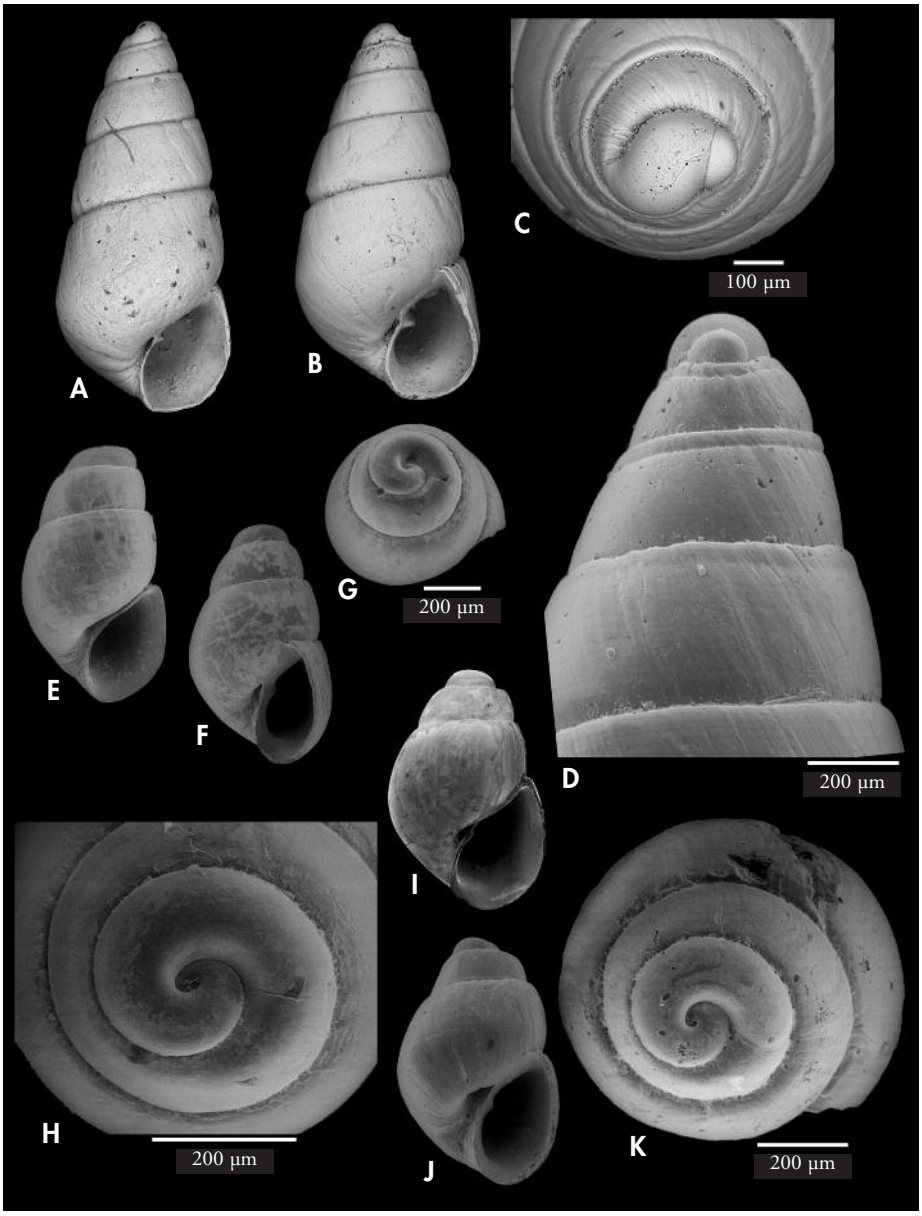


Figure 19. A-D: *Odostomia circumcordata* spec. nov. A: holotype, 2.3 mm, Cap Esterias, Gabon (MNCN); B: paratype, 2.15 mm (MNHN); C-D: apical view and protoconch. E-H: *Odostomia apexdemissus* spec. nov. E: holotype, 1.2 mm, Gorée, Senegal (RBINS); F: paratype, 1.12 mm (RBINS); G: apical view; H: protoconch. I-K: *Odostomia laicismorum* spec. nov. I: holotype, 1.1 mm (RBINS); J: paratype, 1.1 mm (RBINS), Gorée, Senegal. K: protoconch of the paratype.
Figura 19. A-D: Odostomia circumcordata *spec. nov. A: holotipo, 2,3 mm, Cabo Esterias, Gabón (MNCN); B: paratipo, 2,15 mm (MNHN); C-D: vista apical y protoconcha. E-H:* Odostomia apexdemissus *spec. nov. E: holotipo, 1,2 mm, Gorée, Senegal (RBINS); F: paratipo, 1,12 mm (RBINS); G: vista apical; H: protoconcha. I-K:* Odostomia laicismorum *spec. nov. I: holotipo, 1,1 mm (RBINS); J: paratipo, 1,1 mm (RBINS), Gorée, Senegal. K: protoconcha del paratipo.*

a very short spire (h = 78% H), comprising a little more than two convex whorls, the last one rounded at the periphery. Suture deep. Without axial sculpture except for the growth lines, little marked, which are orthocline. Without appreciable spiral microsculpture. Aperture large (A > 50%H), semicircular; columella slightly curved, opisthocline, with a small but evident columellar tooth; outer lip not thickened; with a small umbilicus at the level of the columellar tooth.

Dimensions of the holotype: 1.1 x 0.73 mm; h = 0.90 mm; A = 0.52.

Distribution: Only known from the infralittoral of Senegal.

Remarks: *Odostomia hierroensis* Peñas & Rolán, 1999, described from the infralittoral and circalittoral of the Canary Islands, has a shell with a more conical profile, the spire is higher (h = 70% H), it has no umbilicus and, above all, it has a type B protoconch.

Odostomia mamoi (Mifsud, 1993) has a protoconch of type B, the teleoconch whorls are quite convex, the suture is deep, the growth lines are well marked, prosocline, and it lacks a columellar tooth. It is a bathyal species, contrary to *O. laicismorum* spec. nov.

Odostomia lukisii Jeffreys, 1859 has a much larger shell, generally up to 2 mm, solid and opaque, with a ratio H/D = 2 (versus 1.5 mm in *O. laicismorum* spec. nov.) and a protoconch with a smaller diameter (300 μm), more obtuse; it does not have a clear umbilicus. See also remarks under *O. apexdemissus.*

Odostomia bissagosensis spec. nov. (Figures 20A-C)

Type material: Holotype and two paratypes deposited in MZB (CRBA-19961 and CRBA-19962-63) respectively (ex-CLD)
Type locality: Bissagos Archipelago, Guinea-Bissau, 57-61 m (CLD, Stn. 657).
Etymology: The specific name is after the archipelago where the type material was collected.

Description: Shell tiny, fragile, conic-suboval, white vitreous, shiny. Protoconch rather obtuse, of type C, with a diameter of about 260 μm. Teleoconch with a low spire (h = 77% H), comprising about 3 slightly convex whorls; profile somewhat stepped, the last whorl oval at the periphery. Suture shallow, with an obvious subsutural shoulder. Without axial sculpture, except for the growth lines that are orthocline. Aperture rather large, (A = 50%H), pyriform; columella thin, arched, opisthocline, curled outwards, without a clear columellar tooth, but with a small fold situated deep internally. The holotype has an umbilicus produced by a growth scar, but this is not seen in the two paratypes.

Dimensions of the holotype: 1.6 x 0.8 mm; h = 1.2 mm; A = 0,8 mm.

Distribution: Only known from Guinea-Bissau, Bissagos archipelago.

Remarks: *Liostomia hansgei* Warén, 1991, described from deep water of the North Atlantic and West Mediterranean is characterized by having a ferruginous periostracum, has a larger shell and also a larger protoconch, with a diameter up to 400 μm; the teleoconch has more convex whorls, almost stepped, the suture is deeper, lacks a columellar tooth and it has only a narrow umbilical chink, not an umbilicus.

Odostomia micrometrica has a narrower shell (H/D = 2.2 versus 2 in *O. bissagosensis* spec. nov.), the protoconch is of type B, the teleoconch whorls increase more quickly in height, the growth lines are flexuous, very opisthocline on their upper part, the aperture is very narrow, with a thin columella without umbilicus.

Odostomia franki Peñas & Rolán, 1999, described from the intertidal zone of Morocco, has a larger shell, the protoconch is very obtuse of type C, the teleoconch has a higher spire (h = 70% H *versus* 77% en *O. bissagosensis*), with a regular increase of the whorls, the last one being rounded at the periphery; it has a narrow shelf below the suture, the

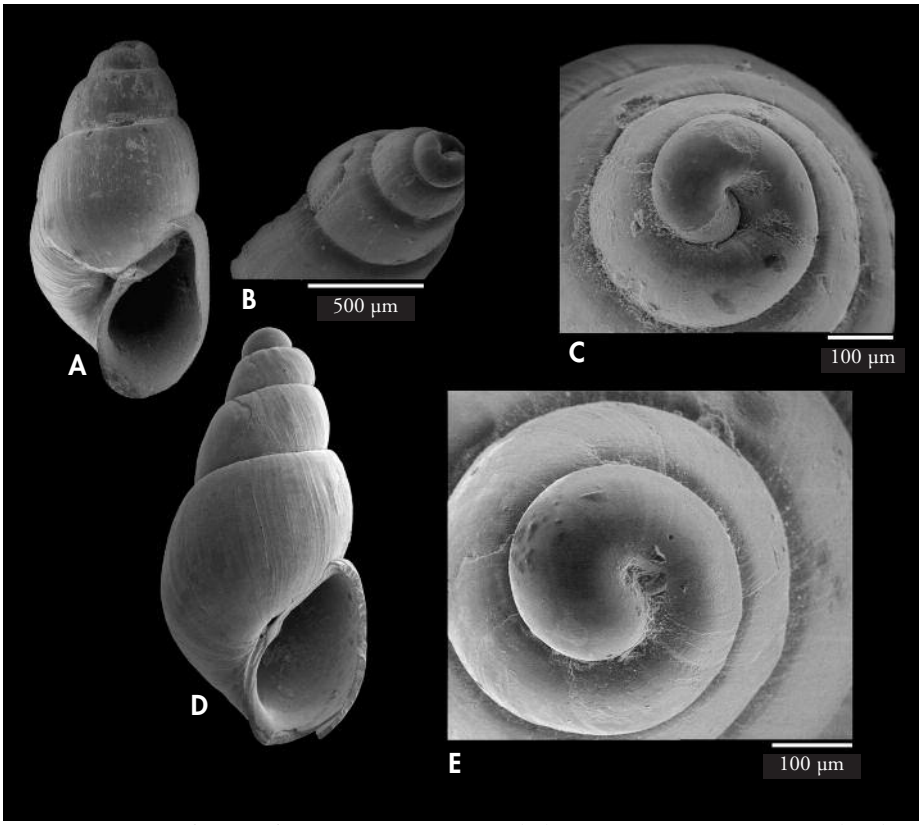


Figure 20. A-C: *Odostomia bissagosensis* spec. nov. A: holotype, 1.57 mm, Bissagos Archipelago (MZB); B: detail of a paratype; C: protoconch of the paratype. D-E: *Odostomia gomezi* spec. nov.; D: holotype, 1.8 mm, Talliarte, S of Fuerteventura, 100 m (MNCN); E: protoconch.
Figura 20. A-C: Odostomia bissagosensis *spec. nov. A: holotipo, 1,57 mm, Archipiélago Bissagos (MZB); B: detalle de un paratipo; C: protoconcha del paratipo. D-E:* Odostomia gomezi *spec. nov.; D: holotipo, 1,8 mm, Talliarte, S de Fuerteventura, 100 m (MNCN); E: protoconcha.*

growth lines are very marked, flexuous, very opisthocline below the suture; it has a microscopical spiral sculpture, lacks an umbilicus; the edge of the outer lip is very flexuous, following the growth lines.

Odostomia meijeri has a shell that is wider (H/D = 1.8), the spire higher (h = 60% H), with more convex whorls, stepped, the last one rounded at the periphery, the suture is very deep and it has evident spiral sculpture at the periphery.

Odostomia bernardi Aartsen, Gittenberger & Goud, 1998, described from the Azores, has a shell of similar profile, but the whorls are stepped, the suture is very deep, canaliculated, the growth lines are prosocline, it lacks an umbilicus and the columellar tooth, is small and deeper.

Odostomia jacquesi Peñas & Rolán, 1999 has a rather larger shell, and it is tronco-conical, opaque ivory white in colour; it has a ratio H/D = 2.3 (versus 2 in *O. bissagoensis* spec. nov.); the suture is deeper, does not have an evident subsutural shoulder, but a narrow subsutural step, and the protoconch has a diameter over 300 µm.

Odostomia gomezi spec. nov. (Figures 20D-E)

Type material: Holotype (Fig. 20D) in MNCN (15.05/60128).
Type locality: Talliarte, south of Fuerteventura, Canary Islands, 28º10.39'N, 14º21.866'W, 100 m (ex CFS).
Etymology: The specific name is after Ramón Gómez, malacologist of La Palma, Canary islands, thanking him for his frequent help.

Description: Shell small, not very solid, conical, milky white in colour. Protoconch of type C, tending to B, rather elevated, with a diameter of about 300 μm. Teleoconch with a low spire (h = 70% H), comprising three convex whorls, the last one oval at the periphery. Suture deep, with a shoulder. Growth lines almost straight, slightly prosocline. Aperture pyriform; columella slightly curved, opisthocline, with a little prominent tooth. Not umbilicate.

Dimensions: 1.8 x 0.9 mm.

Distribution: Only known from Fuerteventura, Canary Islands.

Remarks: In spite of having studied only one shell, it is in good condition and different from the most similar species, and for this reason we decide to name it.

Odostomia dijkhuizeni Aartsen, Gittenberger & Goud, 1998, described from Mauritania has a larger shell, with a more conical profile, with a higher spire (h = 60% H), the whorls are less convex, with slower growth, the last whorl is angled at the periphery and the growth lines are orthocline.

Odostomia hierroensis Peñas & Rolán, 1999, described from the Canary Islands, has a wider shell, the growth lines are orthocline, and the protoconch is type B with a diameter of 240 μm.

Odostomia carrozzai Aartsen, 1987 is characterized by a large protoconch, with a diameter of about 340 μm; the shell is also much larger for the same number of whorls and the suture is very deep, with a clear subsutural shoulder.

Odostomia eremita Peñas & Rolán, 1999 has a shell with a similar profile but the whorls are flatter, the last one is oval-rounded at the periphery and the growth lines are very flexuous, quite opisthocline on their adapical area.

Odostomia sorianoi Peñas & Rolán, 2006, described from the coralligenous of Alboran Island, has a narrower shell, with a ratio of H/D = 2.25, the whorls are almost stepped, the growth lines are very marked, flexuous, opisthocline below the suture and the columella is almost straight with a more prominent columellar tooth.

Genus *Ondina* De Folin, 1870

Ondina cf. mosti Aartsen, Gittenberger & Goud, 1998 (Figures 21A-B)

Ondina mosti Aartsen, Gittenberger & Goud, 1998. *Zool. Verhand.*, 321: 18, fig. 18. [Type locality: Cape Verde archipelago, South of São Nicolau, Praia San Jorge, 16º33'N, 24º16'W, 405 m].
Ondina mosti – Peñas & Rolán, 1999a: 129, figs. 317, 318.

Type material: Holotype in NNM. Not examined. Illustration of the holotype in Aartsen *et al.* (1998: fig. 18).
New material examined: Madeira: 1 s, Quinta do Cerdo, 5 m (CFS).

Distribution: Known from the Cape Verde Islands and Madeira

Remarks: *Ondina mosti* is a species described from deep water of Cape Verde Islands and recorded from Madeira (119 m) in Peñas & Rolán (1999a). The shell illustrated here comes from Madeira, Quinta do Cerdo, 5 m (CFS) and it could be a juvenile of *O. mosti*, but it is much smaller (1.0 x 0.55

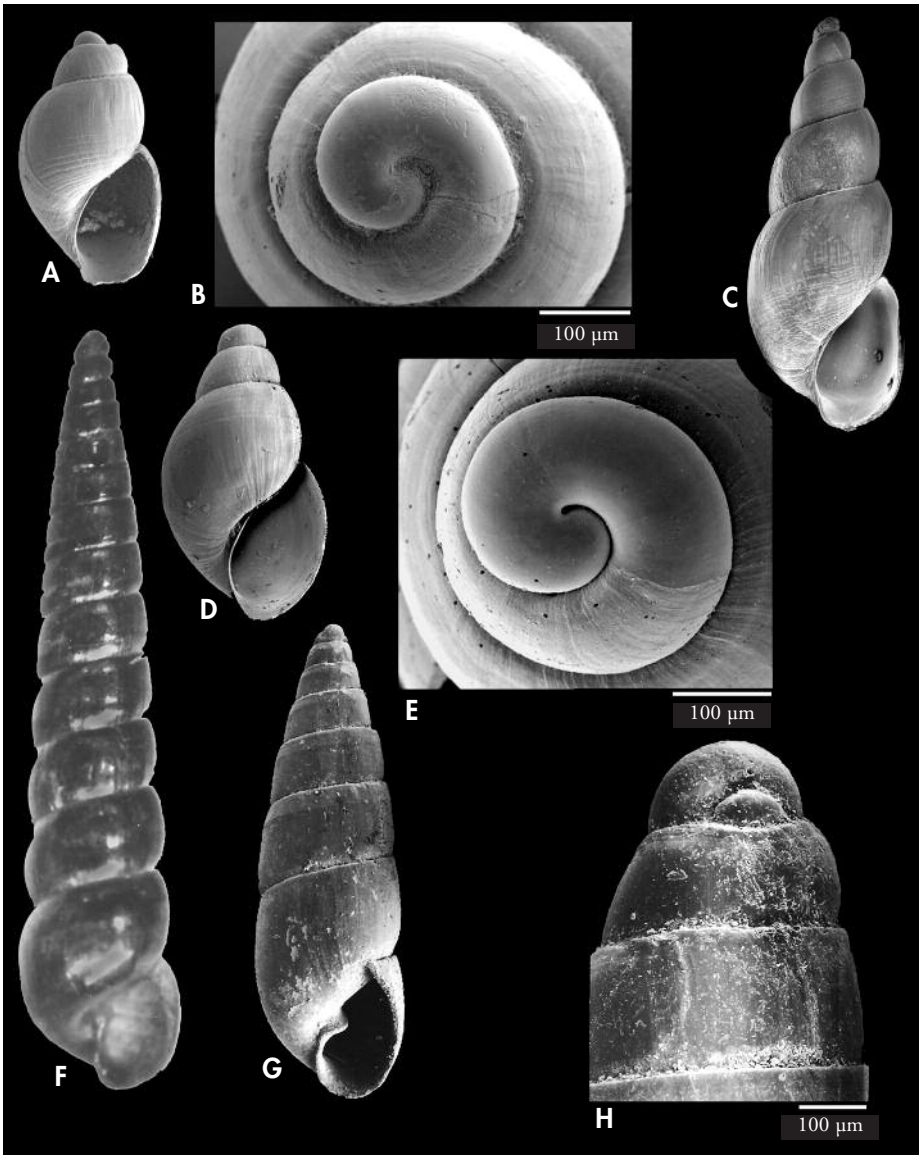


Figure 21. A-B: *Ondina* cf. *mosti* Aartsen, Gittenberger & Goud, 1998. A: shell, 1.0 mm, Quinta do Cerdo, Madeira, 5 m (CFS); B: protoconch. C: *Ondina warreni* (Thompson, 1845), shell, 2.8 mm, Calheta, Porto Santo, Madeira (CFS). D-E: *Ondina lacrimaeformae* spec. nov.; D: holotype, 1.3 mm (MMF); E: protoconch. F: *Syrnola endolamellata* (Schander, 1994), holotype (optical photograph of the shell metallized), 5.3 mm, Ivory Coast (MNHN) (from PEÑAS & ROLÁN, 1999a). G-H: *Syrnola candida* (de Folin, 1870); G: shell, 3.5 mm, Luanda, Angola (MNHN) (from PEÑAS & ROLÁN, 1999a). *Figura 21. A-B:* Ondina *cf.* mosti *Aartsen, Gittenberger & Goud, 1998. A: concha, 1,0 mm, Quinta do Cerdo, Madeira, 5 m (CFS); B: protoconcha. C:* Ondina warreni *(Thompson, 1845), concha, 2,8 mm, Calheta, Porto Santo, Madeira (CFS). D-E:* Ondina lacrimaeformae *spec. nov.; D: holotipo, 1,3 mm (MMF); E: protoconcha. F:* Syrnola endolamellata *(Schander, 1994), holotipo (fotografía óptica de la concha metalizada), 5,3 mm, Costa de Marfil (MNHN) (tomado de PEÑAS & ROLÁN, 1999a). G-H:* Syrnola candida *(de Folin, 1870)); G: concha, 3,5 mm, Luanda, Angola (MNHN) (tomado de PEÑAS & ROLÁN, 1999a).*

mm), with only two whorls of teleoconch that increase rapidly. The teleoconch presents small differences and it comes from the littoral, but having only one shell we have opted for not describing it now as a new species.

Ondina lacrimaeformae spec. nov. (Figures 21D-E)

Type material: Holotype in MMF (43357, Fig. 21D) and 2 paratypes (MMF 43358-43359).
Type locality: Madeira: Lido, Funchal, 100 m.
Etymology: The specific name alludes to its profile which is like a tear.

Description: Shell tiny, very fragile, conical-suboval, yellowish, semitransparent, glossy. Protoconch relatively large, type C, with a diameter of about 280 μm. Teleoconch with a short spire (h = 77% H), comprising a little more than two convex whorls, increasing rapidly, the latest whorl at the periphery. Suture shallow, with a weak and wide subsutural belt. The growth lines little marked, orthocline. Under high magnification in the adapical third of the whorls, some spiral groove can be observed, the lower one wider and deeper, and some striae on the base near the aperture. Aperture very large (A = 51% H), semicircular; columella very thin, almost straight, opisthocline, generating a narrow umbilical chink behind it. No columellar tooth, only an internal fold of the columella itself. Outer lip sharp.

Dimensions of the holotype: 1.3 x 0.7 mm; h = 1 mm; A = 0.66 mm.

Distribution: Only known from the type locality, Madeira.

Remarks: *Ondina mosti* has a much larger and narrower shell (H/D = 2.2 versus 1.85 in *O. lacrimaeformae*) with a higher spire and a slower growth of the whorls, the growth lines are opisthocline, the aperture is also narrower and it has evident spiral grooves at the lower part of the whorls and at the base.

Ondina strufaldi Peñas & Rolán, 1999, described from the infralittoral of Cape Verde, also has a tiny shell, the whorls are scarcely convex, the last one angular at the periphery, the suture is narrow but deep, the growth lines are flexuous, opisthocline below the suture, it lacks spiral sculpture, the columellar fold is more conspicuous and the protoconch is of type B.

This species has some similarity to young shells of *Ondina warreni* (Thompson, 1845) (Fig. 21C), however this species has flatter early whorls, the columella has an obvious and typical outward fold. *Odostomia warreni* has a spiral sculpture visible without high magnification, which consists of regular, almost equidistant lines, not located on the upper third as in *Ondina lacrimaeformae* spec. nov.

Ondina fragilissima Peñas & Rolán, 2002, described from the infralittoral and circalittoral of Ghana and Guinea Conakry, has a much narrower shell (H/D = 2.3), the growth lines are flexuous, opisthocline below the suture, the aperture is very narrow and, above all, it has a protoconch of type B, with 215 μm in diameter, very high and angled in profile, with an exposed nucleus.

Subfamily Syrnolinae Saurin, 1958
Tribe Syrnolini Saurin, 1958
Genus *Syrnola* A. Adams, 1860

Syrnola endolamellata (Schander, 1994) (Figure 21F)

Eulimella endolamellata Schander, 1994. *Notiz. CISMA*, 15: 28-29, fig 3d, 10i. [Type locality: Region of Abidjan, Ivory Coast].
Syrnola endolamellata – Peñas & Rolán, 1999a: 134, figs. 238-239.

Type material: Holotype and one paratype (MNHN) figured in PEÑAS & ROLÁN (1999a).
New material examined: Guinea Conakry: Exp. "Sedigui II" (MNHN): 1 s, W Ile de Quito, Stn. 524 (10°00'N - 16°10'W, 42 m); 1 s, W Pointe Goro, Stn. 536, 41 m; 1 s, W Pointe Goro, Stn. 566 (10°06'N - 14°43'W, 21 m).

Distribution: Known from the infralittoral and circalittoral of Mauritania, Senegal and Ivory Coast. We record it here for the first time from Guinea Conakry.

Syrnola candida (de Folin, 1870) (Figures 21G-H)

Turbonilla candida De Folin, 1870. *Les Fonds de la Mer,* I: 207-208, pl. 28, fig. 13. [Type locality: Cap Sainte Anne, Mauritanie].
Odostomia etiennei Dautzenberg, 1912. *Ann. Inst. Océanogr.*, 5 (3): 57, pl. II, figs. 28-29. [Type locality: dredged in Punta Padrona, Shark Point, Congo Estuary, 25 m].
Syrnola etiennei – Peñas & Rolán, 1999a: 136, figs. 335-339.
Syrnola candida – Aartsen, Gittenberger & Goud, 2000: 19-20, figs. 21, 22.

Type material: Lectotype (PEÑAS & ROLÁN, 1999) and eight paralectotypes (MNHN) of *Turbonilla candida.* A syntype (MNHN) of *Odostomia etiennei* designated lectotype in PEÑAS & ROLÁN (1999a: fig. 336).
New material examined: Guinea Conakry: Exp. "Sedigui I" (MNHN): 1 s, W Ile Kabak, Stn. 160D, 20 m; 1 s, W Sierra Leone border, Stn. 72 (9°06'N - 13°32'W, 16 m; 2 s); 1 s, W Ile Tannah, Stn. 80 (9°12.3'N - 13°37'W, 16 m); 1 s, W Ile Kabak, Stn. 159 (9°18'N - 13°45'W, 21 m); 1 s, W Morébaya River, Stn. 170 (9°24'N - 13°45'W, 17 m); 1 s, W Ile Tamara, Stn. 264DW, 10 m; 2 s, W Ile Konebomby, Stn. 378 (9°48'N - 13°59'W, 12 m); 1 s, W Ile Quito, Stn. 488 (10°00'N - 14°20.5'W, 15 m); Exp. "Sedigui II" (MNHN): 1 s, W Pointe Goro, Stn. 534, 50 m; 1 s, W Pointe Goro, Stn. 536, 41 m; Exp. "Chalgui 7" (MNHN): 3 s, W front Sierra Leone, Stn. 6, 12 m; 2 s, W Ile Tannah, Stn. 12D, 15-16 m; 1 s, W Ile Tamara, Stn. 17, 18 m; 17 s, W Ouendi-Taboria, Stn. 41, 17 m; 1 s, Ile de Los, NE Ile de Kassa, 1-3 m. Ivory Coast: 88 s, Abidjan (Aviation), 50 m; Exp. "Benchaci I", off Grand Bassam (MNHN): Stn. 11B (5°11.5'N - 3°48,2'W, 25 m); 10 s, Stn. 12D (5°09.2'N - 3°47.2'W, 30 m); 1 s, Stn. 13D (5°08,9'N - 3°48.6'W, 35 m); 2 s, Stn. 14D (5°07.7'N - 3°46.2'W, 40 m); Gabon: Exp. "Congo" (MNHN): 1 s, W Panga, Stn. 1051, 25 m. Congo: Exp. "Kounda" (MNHN): 10 s, Conkouati, 17-19 m. Angola, Cabinda: Exp. "Congo" (MNHN): 1 s, W Landana, Stn. 933, 16 m; Exp. "Congo" (MNHN): 1 s, Mekoundi, Stn. 728, 40 m.

Distribution: Known from the infralittoral and circalittoral of several countries between Mauritania and Angola. It is reported here for the first time from Ivory Coast, Guinea Conakry and Gabon.

Remarks: AARTSEN *ET AL.* (2000) considered *Syrnola lamothei* (Dautzenberg, 1912) as a synonym, but PEÑAS & ROLÁN (1999a: 136, figs. 332-334) designated a lectotype and supported the specific distinction.

Syrnola lanceata spec. nov. (Figures 22A-C)

Type material: **Type material**: Holotype in MNHN (IM-2000-27673, sp, Fig. 22A) and two paratypes in MNHN (IM-2000-27674, sp, Fig. 22B)
Type locality: Casamance, Senegal, 12º20.7'N, 16º53.1'W, 15 m.
Etymology: The specific name alludes to the elongate form like a lance point.

Description: Shell small, solid, cyrtoconoid, whitish, vitreous, semi-transparent, shiny. Protoconch of type A, with a diameter of about 250 μm, with the nucleus partly immersed. Teleoconch with a low spire (h = 60% H), comprising a little more than four slightly convex whorls, with a rapid growth in height,

the last one oval at the periphery. Suture shallow, linear, with a narrow subsutural shelf. Without axial sculpture except growth lines, little marked, orthocline. The spiral microsculpture is not apparent but under high magnification a spiral sulcus placed at one third above the suture can be seen. Aperture pyriform; columella thickened, almost straight, opisthocline, with a prominent and oblique columellar tooth. By transparency, about six spiral internal cordlets, also visible inside the aperture, can be seen. Not umbilicate.

Dimensions of the holotype: 2.6 x 0.96 mm; h = 1.6 mm; A = 0.96 mm.

Distribution: Only known from the type locality, Senegal.

Remarks: This species has some similarity to *O. schrami* Aartsen, Gittenberger & Goud, 2000, described from Mauritania and Guinea; the latter has a similar profile, but the protoconch is type B, tending to C, typical of the genus *Odostomia*, the shell is less solid, has a very weak and internal columellar tooth and lacks spiral cordlets in the aperture.

Syrnola arae Peñas & Rolán, 2002, described from the infralittoral of Ivory Coast, has a much larger shell, although the protoconch has a similar diameter, the whorls are flat, of slower growth in height, the suture is deeper, lacks spiral microsculpture and has 8-9 spiral internal cordlets.

Megastomia aliter Peñas & Rolán, 1999 has a shell with an oval-conical profile, the protoconch is larger, the teleoconch whorls grow more slowly, the suture is deeper; the last whorl has a peripheral spiral cordlet, the columella is narrower, the peristome is continuous and the columellar tooth, although prominent, is narrow, and perpendicular to the columella.

Syrnola lamothei (Dautzenberg, 1912) has a narrower shell (H/D = 3.3 against 2.7 in *S. lanceata*) with a higher spire, with at least one more whorl at equal height, the convexity of the whorls is limited to the lower third, the suture is shallow without a subsutural shelf, and the protoconch has a much smaller diameter (195 μm) with three quarters of the nucleus emerged.

Odostomia desuefacta Peñas & Rolán, 1999 has a smaller shell, oval-conical, the protoconch is smaller, the teleoconch whorls have a stepped profile, it has almost the same H/D but with almost a whorl less, the aperture is semicircular with a weak columellar tooth and lacks internal spiral cordlets.

Tribe TIBERIINI Saurin, 1958

Genus *Tiberia* Monterosato, 1875

Tiberia minuscula (Monterosato,1880) (Figures 22D-E)

Pyramidella minuscula Monterosato, 1880. *Boll. Soc. Mal. Ital.*, 5: 224 [Type locality: not designated].

Tiberia minusculoides Aartsen, Gittenberger & Goud, 1998. *Zool. Verh. Leiden*, 321: 7, fig.2. [Type locality: Cape Verde Islands, SW of Maio, 273 m] (new synonym).

Type material: Supposedly in Roma Museum. Not examined.
New material examined: Canary Islands: 1 s, Exp. Bautismal, Stn. 31, Punta Fariones, Lanzarote, 28°50.702'N, 13°39.791'W, 900 m (CFS).

Distribution: Species recorded from the West Mediterranean, Canaries and Cape Verde.

Remarks: We have not found any appreciable difference between the shell here illustrated and the examined material from the Mediterranean, so we consider *T. minusculoides* Aartsen, Gittenberger & Goud, 1998 a synonym.

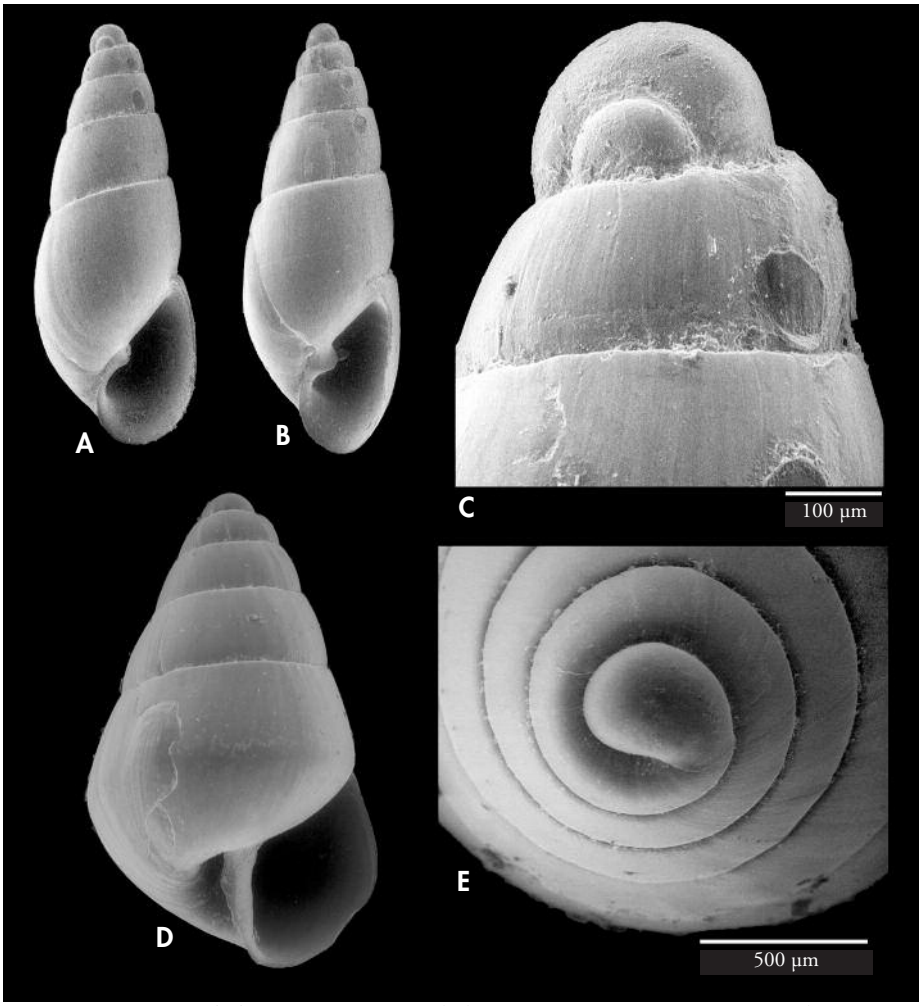


Figure 22. A-C: *Syrnola lanceata* spec. nov. A: holotype, 2.6 mm, Casamance, Senegal (MNHN); B: paratype, 2.7 mm (MNHN); C: protoconch of the holotype. D-E: *Tiberia minuscula* (Monterosato, 1880); D: shell, 3.6 mm, Canary Islands, 900 m (CFS); E: protoconch.
Figura 22. A-C: Syrnola lanceata *spec. nov. A: holotipo, 2,6 mm, Casamance, Senegal (MNHN); B: paratipo, 2,7 mm (MNHN); C: protoconcha del holotipo. D-E:* Tiberia minuscula *(Monterosato, 1880); D: concha, 3,6 mm, Islas Canarias, 900 m (CFS); E: protoconcha.*

Subfamily TURBONILLINAE Bronn, 1849
Tribe EULIMELLINI Saurin, 1958
Genus *Eulimella* Forbes & McAndrew, 1846

Eulimella acicula (Philippi, 1836) (Figures 23A-D)

Melania acicula Philippi, 1836. *Enum. Moll. Sicil.*: 135. [Type locality: Palermo, Sicily (Pleistocene fossil)].

? Pyramis laevis Brown, 1827. *Rec. Conch. Gr. Brit. & Ir.*: pl. 50, figs, 51-52. [Type locality: Dunbar, NE of Great Britain].
Eulima subcylindrata Dunker, in Weinkauff, 1862. *J. Conchyl.*, 10: 342, pl. 13, fig. 7. [Type locality: Algiers].
Odostomia scillae var. *compactilis* Jeffreys, 1867. *Brit. Conch.*, 4: 169. [Type locality: Hebrides].
Eulimella acicula – Peñas & Rolán, 1997: 84-86.
Eulimella acicula – Aartsen, Gittenberger & Goud, 2000: 4.
Eulimella acicula – Peñas & Rolán, 2000: 62.
Eulimella acicula – Hernández *et al.*, 2011: 254, figs. 87P-R.

Type material: Not examined.
New material examined: West Sahara: 1 s, Cap Barba, 60-80 m (CFS). Mauritania: 35 s, Nouakchott, 120 m (CFS); 125 s, 60-80 m (CFS). Senegal: 60 s, off Saint Louis, 100 m (CFS); 1 s, Gorée Island, 15 m (CFS). Guinea-Bissau: 1 s, Bissagos Archipelago, 140-220 m (CLD).

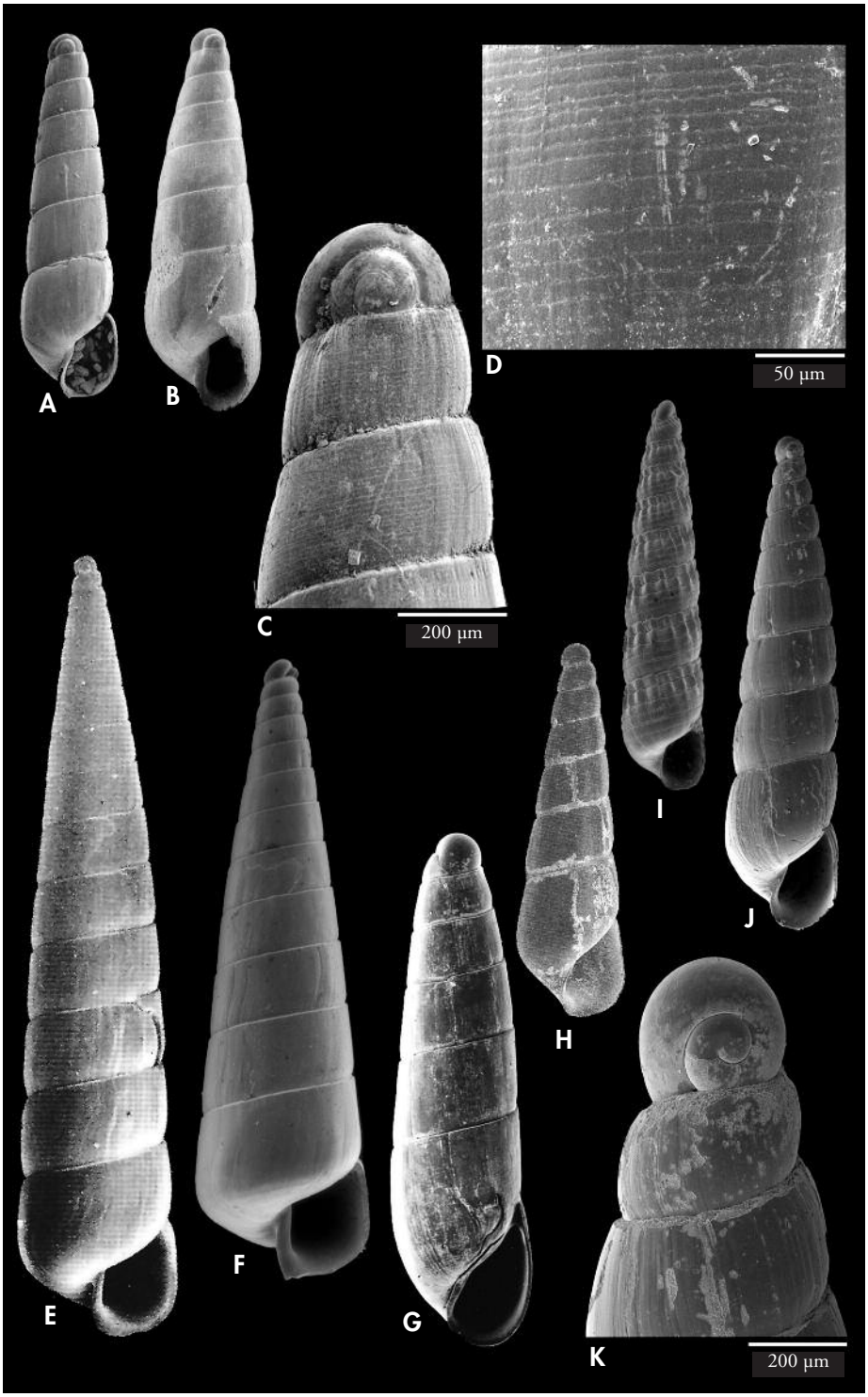
Distribution: Known from the European Atlantic and Mediterranean and, in the West African Atlantic, from Mauritania and the Canary Islands. We increase its range to Senegal and Guinea-Bissau. It lives from the infralittoral to the bathyal, predominantly in the circalittoral.

Remarks: A shell from Guinea-Bissau (Fig. 23B) corresponds to the shape of *E. subcylindrata*, which Nofroni & Tringali (1995) considered valid and different from *E. acicula*, because of the smaller diameter of the protoconch and the first whorls of the teleoconch. In our opinion, after examination of hundreds of shells, it is an extreme form of the same species, with intermediate forms, and we therefore consider that it is the same species.

Eulimella angeli Peñas & Rolán, 1997 (Figures 23E-F)

Eulimella angeli Peñas & Rolán, 1997. *Iberus*, suppl. 3: 88-89, figs. 239-246. [Type locality: Palmeirinhas, Angola].
Eulimella angeli – Aartsen, Gittenberger & Goud, 2000: 8.

(Right page) Figure 23. A-D: *Eulimella acicula* (Philippi, 1836). A: shell, 2.9 mm, Mauritania, 120 m (CFS); B: shell, 3.1 mm, Guinea-Bissau, Bissagos archipelago, 140-220 m (MZB); C: protoconch, same shell as A; D: microsculpture. E-F: *Eulimella angeli* Peñas & Rolán, 1997; E: holotype, 9.2 mm, Palmeirinhas, Angola (MNCN) (from Peñas & Rolán, 1997); F: shell, 7.5 mm, Corimba, Angola, 20 m (MHNS). G: *Eulimella calva* Schander, 1994, shell, 4.5 mm, Miamia, Ghana (MHNS) (from Peñas & Rolán, 1997). H: *Eulimella fontanae* Aartsen, Gittenberger & Goud, 2000, 3.6 mm, Azores, N of São Jorge, 400 m (from *Zool. Med. Leiden*, by courtesy of Ed. Gittenberger). I: *Eulimella giribeti,* 3.35 mm, Minerio, São Tome, 41 m (MHNS). J-K: *Eulimella ignorabilis* Peñas & Rolán, 1997; J: shell, 4.2 mm, Gorée Island, Senegal, 10-20 m (CFS); K: protoconch.
(Página derecha) Figura 23. A-D: Eulimella acicula *(Philippi, 1836). A: concha, 2,9 mm, Mauritania, 120 m (CFS); B: concha, 3,1 mm, Guinea-Bissau, Archipiélago de Bissagos, 140-220 m (MZB); C: protoconcha, misma concha que A; D: microescultura. E-F:* Eulimella angeli *Peñas & Rolán, 1997; E: holotipo, 9,2 mm, Palmeirinhas, Angola (MNCN) (tomado de Peñas & Rolán, 1997); F: concha, 7,5 mm, Corimba, Angola, 20 m (MHNS). G:* Eulimella calva *Schander, 1994, concha, 4,5 mm, Miamia, Ghana (MHNS) (tomado de Peñas & Rolán, 1997). H:* Eulimella fontanae *Aartsen, Gittenberger & Goud, 2000, 3,6 mm, Azores, N de São Jorge, 400 m (tomado de Zool. Med. Leiden, por cortesía de Ed. Gittenberger). I:* Eulimella giribeti*, 3,35 mm, Minerio, São Tome, 41 m (MHNS). J-K:* Eulimella ignorabilis *Peñas & Rolán, 1997; J: concha, 4,9 mm, Isla de Gorée, Senegal, 10-20 m (CFS); K: protoconcha.*


A
B
C
D
50 µm
200 µm
E
F
G
H
I
J
K
200 µm

Type material: Holotype in the MNCN (nº15.05/27814). Paratypes in: AMNH, MNHN, MHNS, NHMUK and CAP.
Other material examined: Ivory Coast: 2 s, Abidjan (Aviation area), 50 m; Exp. "Benchaci I", off Grand Bassam (MNHN): 1 s, Stn. 8D (5°04'N - 3°45,8'W, 64 m); 2 s, Stn. 12D (5°09.2'N - 3°47.2'W, 30 m).

Distribution: Known from the infralittoral and circalittoral of Bay of Biscay, Western Sahara to Senegal and Angola. We record it for the first time from Ivory Coast.

Eulimella calva Schander, 1994 (Figure 23G)

Eulimella calva Schander, 1994. *Notiz. CISMA*, 15: 27-28, pl. 3, fig. b and pl. 10, figs. g, h. [Type locality: region of Abidjan, Ivory Coast].
Eulimella calva – Peñas & Rolán, 1997b: 94, figs. 254-255.

Type material: Not examined. Holotype figured in SCHANDER (1994).
New material examined: Guinea Conakry: Exp. "Sedigui II" (MNHN): 2 s, W Ile de Quito, Stn. 515 (10°00'N - 15°43'W, 26 m); 5 s, W Ile de Quito, Stn. 516 (10°00'N - 15°46'W, 28 m); 1 s, W Ile de Quito, Stn. 517 (10°00'N - 15°49'W, 29 m); 1 s, W Pointe Goro, Stn. 536, 41 m; 1 s, W Pointe Goro, Stn. 542 (10°06'N - 15°56'W, 33 m); 1 s, W DangaraRiver, Stn. 581, 9 m; 2 s, W Cap Verga, Stn. 593 (10°12'N - 14°50,5'W, 34 m). Ivory Coast: 6 s, Abidjan (Aviation), aeroport, Stn. B73, 15 m (MNHN). Gabon: Exp. "Congo" (MNHN): 1 s, WSW Tchimbia, Stn. 1049, 115 m. Congo: Exp. "Kounda" (MNHN): 1 s, Conkouati, 17-19 m.

Distribution: Known from the infralittoral of Senegal, Ghana, Ivory Coast and Angola, and from the island of Príncipe. This species is recorded here for the first time from the circalittoral of Guinea Conakry, Congo and Gabon.

Eulimella cf. fontanae Aartsen, Gittenberger & Goud, 2000 (Figure 23H)

Eulimella fontanae Aartsen, Gittenberger & Goud, 2000. *Zool. Med. Leiden*, 74 (1): 11-12, fig. 13. [Type locality: N of São Jorge, Azores, 38º39'N, 27º54'W, 400 m].

Type material: Not examined. Ilustration of the holotype in AARTSEN *ET AL.* (2000: fig. 13).
New material examined: Selvagens Islands, Isla Grande: 1 s, Stn. L10D06, 30º06'25.5"N, 15º55'08.5"W, 600 m (CFS).

Distribution: Known from deep water off the Azores. This species is now recorded for the first time from the Selvagens Islands.

Eulimella giribeti Peñas & Rolán, 1997 (Figure 23I)

Eulimella giribeti Peñas & Rolán, 1997b. *Iberus*, suppl. 3: 79-80, figs. 208, 209. [Type locality: Baia de Santo Antonio, Príncipe Island, Archipelago de São Tomé and Príncipe].

Type material: Holotype in MNCN (nº 15.15/27818).
New material examined: São Tomé and Príncipe: 2 s, Minerio, São Tomé, 41 m (MHNS).

Distribution: Known only from the infralittoral of Príncipe Island. Recorded here from the circalittoral of São Tomé.

Remarks: The illustrated shell is larger than any specimens collected up to now.

Eulimella ignorabilis Peñas & Rolán, 1997 (Figures 23J-K)

Eulimella ignorabilis Peñas & Rolán, 1997b. *Iberus*, suppl. 3: 92-93, figs. 251-253. [Type locality: Luanda, Angola].
Eulimella ignorabilis – Aartsen, Gittenberger & Goud, 6, figs. 6, 51.

Type material: Holotype and one paratype in MNCN (15.05/27816). Paratypes in AMNH, BMHN, MNHN, MHNS and CAP.
New material examined: Mauritania: 4 s, Nouakchott, 80-100 m (CFS). Senegal: 1 s, Gorée Island, 10-20 m (CFS). Guinea-Bissau: Exp. "Chalbis" (MNHN): 25 s, S Ilha do Mel, Stn. 8, 25 m.

Distribution: This species is known from Mauritania, Guinea, Ghana and Angola, in the infralittoral and circalittoral. It is reported here for the first time for Senegal and Guinea-Bissau.

Eulimella levidensis Peñas & Rolán, 1997 (Figure 24A)

Eulimella levidensis Peñas & Rolán, 1997b. *Iberus*, suppl. 3: 86-88, figs. 232-235. [Type locality: Miamia, Ghana].

Type material: Holotype in MNCN (15.05/27813). Paratypes in AMNH, NHMUK, MNHN, MHNS and CAP.
New material examined: Guinea-Bissau: 2 s, Bissagos Archipelago, 50 m (CLD).

Distribution: Known from the infralittoral and circalittoral of Ghana and Angola. Its range is here extended to Guinea-Bissau.

Eulimella nana Locard, 1897 (Figure 24B)

Eulimella nana Locard, 1897. *Exp. Sci. Travailleur et Talisman*, 1: 431, pl. 19, figs. 9-10. [Type locality: Exp. "Travailleur" 1882, haul 40, off Morocco, 33°09'N, 09°38'W, 1900 m].

Type material: Holotype in MNHN, figured in PEÑAS & ROLÁN (1997b: fig. 259).
New material examined: Selvagens Islands, Isla Grande: 1 s, Stn. L10D0651, 30º06'25.7"N, 15º55'00.9"W, 700 m (CFS).

Distribution: Only known from deep water off western Morocco. This species is recorded here for the first time from the Selvagens Islands.

Eulimella neoattenuata Gaglini, 1992 (Figure 24C)

Odostomia (Eulimella) angusta Monterosato, 1875. *Nuova Revista, Atti Acc.Pal. Sc. Lett. Arti.*, Palermo Sez. II, 34 [*nomen nudum*; localities recorded: Adventure Bank, Palermo and S. Vito, 80-100 m].
Odostomia attenuata Monterosato, 1878 nom. nov. pro *Odostomia (Eulimella) angusta* Monterosato, 1875, non *Turbonilla angusta* Gabb, 1873. *Giornale Sc. Natur. Econ.*, 13: 93.
Eulimella neoattenuata Gaglini, 1992 (1991): *Argonauta*, 7 (1-6): 140-141, fig. 143. [Type locality: Palermo, Sicily].
Eulimella verduini van Aartsen, Gitteenberger & Goud, 1998. *Zool. Verhandel.*, 321: 43, fig. 47. [Type locality: Punta de Jandia, south of Fuerteventura, Canary Islands].

Type material: Ilustration of the holotype of *Eulimella neoattenuata* (not examined) in Gaglini (1992: fig. 143). We examined the holotype of *Eulimellla verduini* (NNM 57585).

New material examined: Selvagens Islands, Isla Grande: 1 s, Stn. L10, 30º06'27.2"N, 15º55'00.3"W, 695 m (CFS); 1 s, Stn. L10D0654, 30º06'36.1"N, 15º54'98.0"W, 669 m (CFS); 1 j, Stn. L10D0652, 30º06'25.3"N, 15º55'00.6"W, 700 m (CFS).

Distribution: Known from deep water in the central and Western Mediterranean, Atlantic seamounts of the Meteor group south of the Azores, Canary Islands and Mauritania between 67 and 1340 meters in depth. Its distribution range is here extended to the Selvagens Islands.

Remarks: After having examined many shells of these taxa, we can point out the following differences: *E. unifasciata* is larger, the whorls are flat-convex while in *E. neoattenuata* they are flat-concave; in *E. unifasciata* the colour band is wider with diffuse edges and there is a columellar fold which is not visible in *E. neoattenuata.*

Eulimella ortizae Peñas & Rolán, 2002 (Figure 24D)

Eulimella ortizae Peñas & Rolán, 2000a. *Argonauta*, 13 (2): 60-62, figs. 3-6. [Type locality: Mauritania, 80-90 m].
Eulimella ortizae – Peñas & Rolán, 2002: 12, figs. 22-24.

Type material: Holotype and two paratypes in MNCN (15.05/39801).
New material examined: Guinea-Bissau: 1 s, Bissagos Archipelago (CLD). Mauritania: 8 s, 60-80 m (CFS).

Distribution: The species is known from Mauritania and Gabon. Its distribution is here increased to Guinea-Bissau.

Eulimella polita De Folin, 1870 (Figure 24E)

Eulimella polita De Folin, 1870. *Les Fonds de la Mer* 1: 208-209, pl. 28, fig. 7. [Type locality: Cagnabac, Bissagos islands, Guinea-Bissau].
Eulimella polita – Peñas & Rolán, 1997b: 84, figs. 225-228.
Eulimella polita – Aartsen, Gittenberger & Goud, 2000: 14, fig. 17.

Type material: Not examined.
New material examined: Mauritania: 4 s, 60-80 m (CFS). Senegal: 3 s, off Saint Louis, 100 m (CFS). Guinea-Bissau: 1 s, Bissagos Archipelago, 34 m (CLD). Guinea Conakry: Exp. "Sedigui I" (MNHN): 1 s, W Ile Kabak, Stn. 153 (9°18'N - 14°03'W, 26 m); 1 s, W Morébaya River, Stn. 170 (9°24'N - 13°45'W, 17 m); 1 s, W of Sierra Leone border, Stn. 3 (9°03,4'N - 13°26'W, 10 m); 1 s, W Morébaya River, Stn. 183, 43 m; 2 s, W Ouendi, Stn. 479 (9°54'N - 14°12'W, 13 m); Exp. "Sedigui II" (MNHN): 3 s, W Pointe Goro, Stn. 566 (10°06'N - 14°43'W, 21 m); 1 s, W Bel-Air (Koundinde), Stn. 655 (10°15'N - 14°43'W, 19 m); 1 s, W Bel-Air (Koundinde), Stn. 659, 27 m; 2 s, W Foulaya, Stn. 625 (10°18'N - 15°57.5'W, 26 m); 1 s, W Núñez River, Stn. 792 (10°39'N - 15°22.5'W, 12 m); Exp. "Chalgui 7" (MNHN); 1 s, W Ile Tannah, Stn. 12D, 15-16 m; 7 s, W Ouendi-Taboria, Stn. 41, 17 m. Ivory Coast: Exp. "Benchaci I", off Grand Bassam (MNHN): 2 s, Stn. 12D (5°09.2'N - 3°47.2'W, 30 m). Gabon: 1 s, Cap Esterias, intertidal (MHNS). Congo: Exp. "Kounda" (MNHN): 20 s, Conkouati, 17-19 m. São Tomé and Príncipe: 1 s, Minerio, São Tomé, 41 m, MHNS).

Distribution: Known from the infralittoral and circalittoral of several countries between Mauritania and Angola, including São Tomé Island. It is reported here for the first time from Congo, Gabon, Ivory Coast, and Guinea Conakry.

Eulimella robusta Aartsen, Gittenberger & Goud, 1998 (Figures 24F-G)

Eulimella robusta Aartsen, Gittenberger & Goud, 1998. *Zool. Verhan.*, 43-44, figs. 48, 67. [Type locality: Mauritania, 18º46'N, 16º40'W, 167 m].
Eulimella robusta – Peñas & Rolán, 2000a: 60, figs. 1-2.

Type material: Not examined. Holotype (NNM 57592-57593) photographed in AARTSEN *ET AL.* (1998).
New material examined: Senegal: 1 s, off Saint Louis, 100 m (CFS).

Distribution: Described from rather deep water off Mauritania, and recorded in PEÑAS & ROLÁN (2000a) for the Western Sahara and Guinea Conakry. We extend its range to the circalittoral of Senegal.

Eulimella scillae (Scacchi, 1835) (Figure 24H)

Melania scillae Scacchi, 1835. *Ann. Civ. Reg. Due Sicilia*, 7 (13): 51. [Type locality: fossil of the Upper Pliocene of southern Italy, near Gravina di Puglia].
Chemnitzia macandrei Forbes, 1844. *Ann. Mag. Nat. Hist.* (1)14: 412. [Type locality: Loch Fyne, Scotland].
Odostomia nisoides Brugnone, 1873. *Miscel. Malac.* [Type locality: fossil of the Pliocene, Altavilla, Palermo].
Eulimella scillae – Peñas & Rolán, 1997b: 90.
Eulimella scillae – Hernández *et al.*, 2011: 255, fig. 88D.

Type material: Unknown.
New material examined: Guinea-Bissau: 1 s, Bissagos Archipelago, 140-220 m (CLD).

Distribution: Species from deep water, known in the European Atlantic and Mediterranean. LOCARD (1897) mentions it for West Africa, Cape Verde and Madeira, PALLARY (1912) for Tangiers, PEÑAS & ROLÁN (1997b) for the Sahara, AARTSEN *ET AL.* (2000) recorded it for Mauritania. It is cited here for the first time from Guinea-Bissau.

Eulimella similminuta Peñas & Rolán, 1997 (Figures 24I-J)

Eulimella similminuta Peñas & Rolán, 1997. *Iberus*, suppl. 3: 94-96, figs. 256-258. [Type locality: Mboro, Senegal, 246 m].

Type material: Holotype in MNCN (15.05/27817). Paratypes in: AMNH, MNHN, MHNS, NHMUK, CMP and CAP.
New material examined: Guinea-Bissau: Bissagos Archipelago: 3 s, Stn. 685, 140-220 m (CLD).

Distribution: This species is only known from rather deep water of the type locality in Senegal. Its range is here extended to Guinea-Bissau.

Eulimella unifasciata (Forbes, 1844) (Figure 24K)

Eulima unifasciata Forbes, 1844. *Rep. Brit. Ass. Adv. Sci.* (1843): 188. [Type locality: Lycia (SW Turkey), Aegean Sea].
Turbonilla smithi Verrill, 1881. *Proc. U. S. Nat. Mus.*, vol. 3: 380. [Type locality: Stn. 949, Martha's Vineyard, Mass., U.S.A.].

Type material: The type material of *E. unifasciata* has not been found. Two syntypes of *T. smithi* were examined, and one of them was designated lectotype (USNM 45482) in Peñas & Rolán (1999b).
New material examined: Selvagens Islands, Isla Grande: 2 s, Stn. L10, 30º06'27.2"N, 15º55'00.3"W, 695 m (CFS); 3 j, Stn. L10D0652, 30º06'25.3"N, 15º55'00.6"W, 700 m (CFS).

Distribution: In our opinion, this is an amphiatlantic species; it has been found in deep water of the Mediterranean, North European and American Atlantic, the Canary Islands, the Azores and the seamounts of the Meteor group, and in the African Atlantic down to Angola. It is reported here for the first time from the Selvagens Islands.

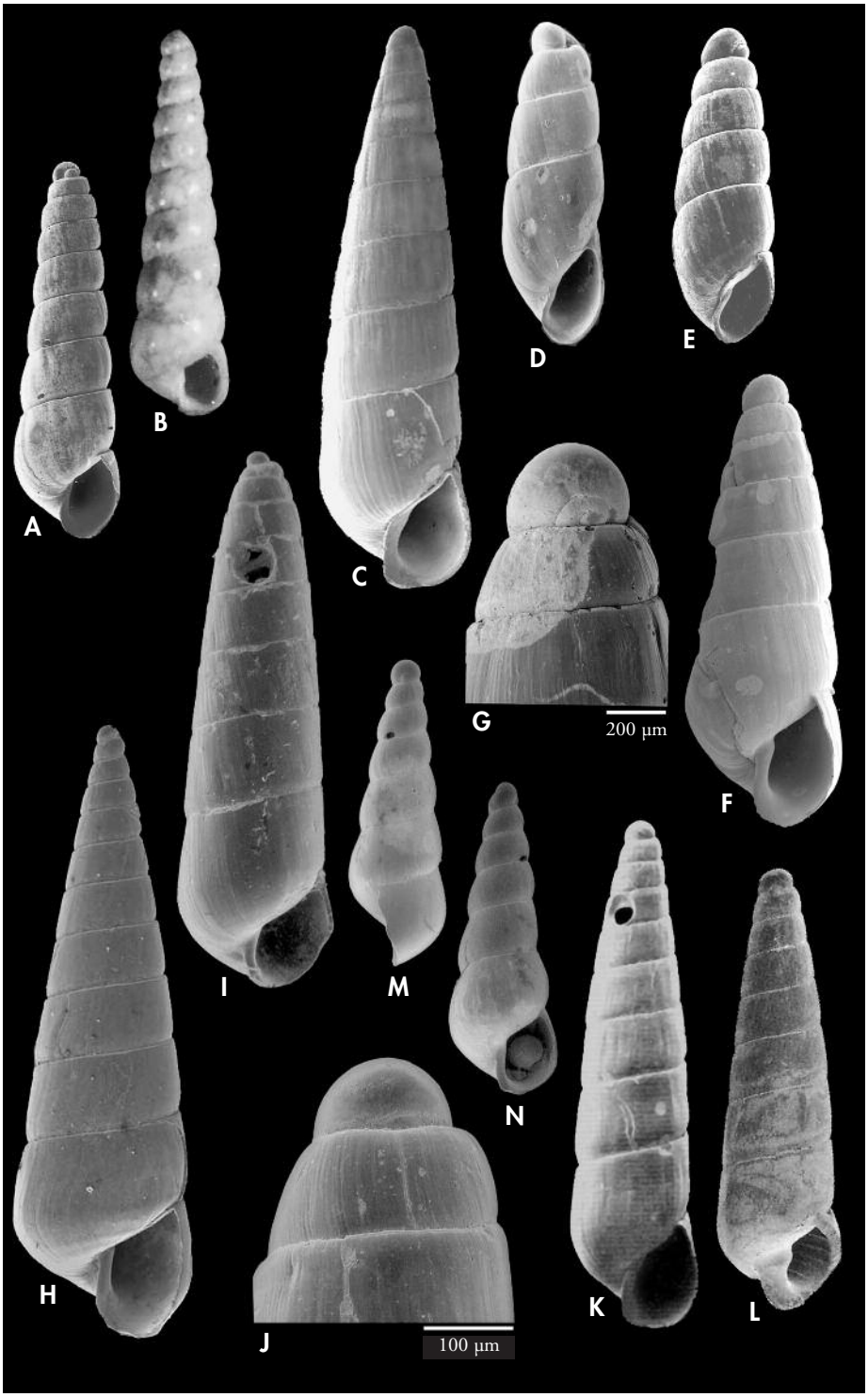
Eulimella vanhareni Aartsen, Gittenberger & Goud, 1998 (Figure 24L)

Eulimella vanhareni Aartsen, Gittenberger & Goud, 1998. *Zool. Verh. Leiden*, 321: 44-45, figs. 50, 68. [Type locality: Canary Islands, S of La Palma, 28º26'N, 17º51'W, 420 m].

Type material: Holotype in NNM (57559). Illustration in Aartsen *et al.* (1998, figs. 50, 68).
New material examined: Selvagens Islands, Isla grande: 3 s, Stn. L10D0654, 30º06'36.1"N, 15º54'98.0"W, 669 m (CFS).

Distribution: Known from the Canary and Selvagens Islands, between 200 and 585 metres in depth. Its bathymetric range is here extended down to 669 m.

(Right page) Figure 24. A: *Eulimella levidensis* Peñas & Rolán, 1997, holotype, 3.0 mm, Miamia, Ghana (MNCN) (from Peñas & Rolán, 1997). B: *Eulimella nana* Locard, 1897, holotype, 3.6 mm, W Morocco, deep water (MNHN) (from Peñas & Rolán, 1997). C: *Eulimella neoattenuata* Gaglini, 1992, shell, 5.6 mm, Alborán Sea (CAP) (from Hernández *et al.* 2011). D: *Eulimella ortizae* Peñas & Rolán, 2002, holotype, 1.5 mm, Mauritania, 80-90 m (MNCN) (from Peñas & Rolán, 2002). E: *Eulimella polita* De Folin, 1870, 1.5 mm, Santo Antonio, Príncipe (MHNS) (from Peñas & Rolán, 1997). F-G: *Eulimella robusta* Aartsen, Gittenberger & Goud, 1998. F: shell, 4.1 mm, Saint Louis, Senegal (CFS); G: protoconch. H: *Eulimella scillae* (Scacchi, 1835), shell, 6.3 mm, Huelva (CAP) (from Hernández *et al.* 2011). I-J: *Eulimella similminuta* Peñas & Rolán, 1997; I: shell, 5.3 mm, Bissagos Archipelago (CLD); J: protoconch. K: *Eulimella unifasciata* Forbes, 1844, 5 mm, Blanes, Gerona (CAP) (from Peñas & Rolán, 2011). L: *Eulimella vanhareni* Aartsen, Gittenberger & Goud, 1998, holotype, 4.6 mm, La Palma, 420 m (NNM) (from Hernández *et al.*, 2011 and by courtesy of Aartsen *et al.* 1998). M-N: *Eulimella ventricosa* (Forbes, 1844), shell, 2.2 mm, Guinea-Bissau, Bissagos Archipelago (MZB).
(Página derecha) Figura 24. A: Eulimella levidensis *Peñas & Rolán, 1997, holotipo, 3,0 mm, Miamia, Ghana (MNCN) (tomado de Peñas & Rolán, 1997). B:* Eulimella nana *Locard, 1897, holotipo, 3,6 mm, O de Marruecos, agua profunda (MNHN) (tomado de Peñas & Rolán, 1997). C:* Eulimella neoattenuata *Gaglini, 1992, concha, 5,6 mm, Alborán Sea (CAP) (tomado de Hernández et al. 2011). D:* Eulimella ortizae *Peñas & Rolán, 2002, holotipo, 1,5 mm, Mauritania, 80-90 m (MNCN) (tomado de Peñas & Rolán, 2002). E:* Eulimella polita *De Folin, 1870, 1,5 mm, Santo Antonio, Príncipe (MHNS) (tomado de Peñas & Rolán, 1997). F-G:* Eulimella robusta *Aartsen, Gittenberger & Goud, 1998. F: concha, 4,1 mm, Saint Louis, Senegal (CFS); G: protoconcha. H:* Eulimella scillae *(Scacchi, 1835), concha, 6,3 mm, Huelva (CAP) (tomado de Hernández et al. 2011). I-J:* Eulimella similminuta *Peñas & Rolán, 1997; I: concha, 5,3 mm, Archipiélago de Bissagos (CLD); J: protoconcha. K:* Eulimella unifasciata *Forbes, 1844, 5 mm, Blanes, Gerona (CAP) (tomado de Peñas & Rolán, 2011). L:* Eulimella vanhareni *Aartsen, Gittenberger & Goud, 1998, holotipo, 4,6 mm, La Palma, 420 m (NNM) (tomado de Hernández et al., 2011 y por cortesía de Aartsen et al. 1998). M-N:* Eulimella ventricosa *(Forbes, 1844), concha, 2,2 mm, Guinea-Bissau, Archipiélago de Bissagos (MZB).*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Eulimella ventricosa (Forbes, 1844) (Figure 24M-N)

Parthenia ventricosa Forbes, 1844. *Rep. Brit. Ass. Adv. Sci.* (1843): 188. [Type locality: Cerigo, Cyclades (Greece) and Lycia (SW Turkey), Aegean Sea].
Eulimella obeliscus Jeffreys, 1858. *Ann. Mag. Nat. Hist.*, 1 (3): 46. [Type locality: Shetland and Skye, Hebrides].
Eulimella ventricosa – Peñas & Rolán, 1997b: 97.
Eulimella ventricosa – Aartsen, Gittenberger & Goud, 2000: 10.
Eulimella ventricosa var. – Aartsen, Gittenberger & Goud, 2000, 11, fig. 11, 12.
Eulimella ventricosa – Hernández *et al.* (2011): 256, fig. 88M.

Type material: Not examined.
New material examined: Guinea-Bissau: 2 s, Bissagos Archipelago, Stn. 680, 216-245 m (CLD). Madeira: 20 s, off Funchal (R/V Auriga), 32º37.592'N, 16º53.796'W, 587 m (CFS); 12 s, Funchal Bay, 134-136 m (CFS). Canary Islands: 1 s, Exp. Bautismal, Stn. 31, Punta Fariones, Lanzarote, 28°50.702'N, 13°39.791'W, 900 m (CFS).

Distribution: Known from the circalittoral and bathyal of the European Atlantic, Mediterranean, Madeira and Canary Islands. Its distribution range is here extended to include Guinea-Bissau.

Eulimella zornikulla Schander, 1994 (Figure 25A)

Eulimella zornikulla Schander, 1994. *Notiz. CISMA*, 15: 31-32, pl. 3, fig. h, pl. 10, fig. f. [Type locality: 13º57'N, 17º15'W, Region of Dakar, Senegal].
Eulimella zornikulla – Peñas & Rolán, 1997b: 86, figs. 229-231.
Eulimella zornikulla – Aartsen, Gittenberger & Goud, 2000: 6, figs. 7, 52.

Type material: Not examined. Holotype figured in Schander (1994).
New material examined: Mauritania: 3 s, 60-80 m (CFS). Guinea-Bissau: Exp. "Chalbis II" (MNHN): 1 s, S Ilha do Mel, Stn. 8, 25 m. Guinea Conakry: Exp. "Sedigui I" (MNHN): 1 s, W Ile de Quito, Stn. 488 (10°00'N - 14°20.5'W, 15 m); Exp. "Sedigui II" (MNHN): 2 s, W Pointe Goro, Stn. 536, 41 m: Exp. "Chalgui 7" (MNHN): 1 s, W Ile Tannah, Stn. 12D, 15-16 m. Gabon: Exp. "Congo" (MNHN): 4 s, W Lagune Banio, Stn. 787, 100 m. Congo: Exp. "Congo" (MNHN): 2 s, W Conkouati, Stn. 726, 60 m. Angola, Cabinda: Exp. "Congo" (MNHN): 24 s, W Landana, Stn. 933, 16 m. São Tomé and Príncipe: 1 s, Minerio, São Tomé, 41 m (MHNS).

Distribution: The species is known from the infralittoral and circalittoral between Morocco and Angola. It is cited here for the first time for Guinea-Bissau, Guinea Conakry, Gabon and Congo.

Eulimella gabonensis spec. nov. (Figures 25B-C)

Type material: Holotype in MNCN (15.05/60129, Fig. 25B) and three paratypes deposited in MNHN (IM-2012-2770).
Type locality: Cap Esterias, Gabon, intertidal.
Etymology: The specific name is that of the country where the material was collected.

Description: Shell small, not very solid, conical with an almost concave profile, whitish to grayish, opaque, shiny. Protoconch of type B, with a diameter of 310 μm, with a nucleus in spiral form. Teleoconch with a relatively short spire for the genus (h = 49% H), comprising a little more than five whorls, the first two flat-convex and the later ones flat, the last one rather angular at the periphery; whorls increase

in width relatively quickly. Suture shallow but well marked, linear and somewhat tilted. Without axial sculpture except for growth lines, little marked, orthocline or slightly prosocline. Spiral microsculpture is not visible. Aperture pyriform; columella slightly curved, opisthocline, no columellar tooth visible but with a fold very deep inside. Not umbilicate.

Dimensions of the holotype: 2.9 x 0.89 mm; h = 1.46 mm.

Distribution: Only known from the type locality, Gabon.

Remarks: *Eulimella kobelti* (Dautzenberg, 1912) has a shell with a subcylindrical profile, the protoconch has a larger diameter (370 μm), the spire is higher, the whorls have a regular growth and the suture is shallower.

Eulimella variabilis De Folin, 1870 has a narrow shell, cyrtoconoid in the early whorls, a more elevated spire with a slower increase in width; the whorls are flat-convex, the last one oval at the periphery and a columellar fold can be seen in the aperture.

Eulimella vanderlandi Aartsen, Gittenberger & Goud, 2000, described from deep water off Cape Verde Islands, has a smaller protoconch, with a different nucleus, the spire is higher (h = 44% H) for the same number of whorls, which have a slower increase in width (H/D = 3 against 3.9 in *E. gabonensis* spec. nov.); the growth lines are opisthocline and it presents slight axial thickenings like obsolete ribs.

Eulimella fontanae Aartsen, Gittenberger & Goud, 2000, described from deep water off the Azores, has a protoconch with a smaller diameter and a different arch-shaped nucleus, the shell is larger for the same number of whorls and narrower, the spire is higher, the whorls are flat-convex and the suture is deep.

Eulimella robusta Aartsen, Gittenberger & Goud, 1998, described from deep water off Mauritania, has a similar profile, but the shell is much higher (the holotype measured 4.7 x 1.8 mm for the same number of whorls) and wider; the protoconch is obtuse, has a much larger diameter, about 450 μm, with different, barely emerged arch shaped nucleus, the last whorl is clearly angular at the periphery and the suture is deeper.

Eulimella talea spec. nov. (see below) has a smaller shell for the same number of whorls, with a more conical profile, a protoconch of type A-I planispiral; the teleoconch whorls are flat with a subsutural depression like a belt, the aperture is semicircular without any columellar fold.

Eulimella perturbata spec. nov. (Figures 25D-E)

Eulimella monolirata – (non de Folin, 1872) *sensu* Peñas & Rolán, 1997: 80, figs. 212-215.
Eulimella monolirata – Hernández *et al.*, 2011: 254, figs. 88A-B.

Type material: Holotype (Fig. 25D), in MNCN (nº 15.05/27811). Paratypes in: CAP (10 s), from the type locality; MNHN (IM-2012-2771, 3 s), RBINS (MT.3097, 1 s), MHNS (1000614, 3 s) and CFS (5 s) from Mauritania, 60-80 m.
Type locality: Ghana, Miamia, 20-40 m.
Other material examined: Senegal: 4 s, Saint Louis, 100 m (CFS). Angola: 4 s (CAP), 4 s (MNHN) Palmeirinhas, 60-80 m. São Tomé and Príncipe: 2 s (CAP), 4 s (MHNS), Santo Antonio, 8 m.
Etymology: The specific name alludes to the confusion of this species in previous papers by the authors.

Description: Shell very small, thin but strong, subcylindrical, white vitreous, shiny. Protoconch of type A-I planispiral, with 2.5 whorls, whose profile protrudes from the suture of the first whorl of the teleoconch, with a diameter of about 310 μm. Teleoconch with an elevated spire, comprising 6-8 whorls, slightly convex, with the convexity in the lower third, the last one oval at the periphery. Suture shallow, linear with a kind of weak duplicate suture above it, and a depression below the suture producing a spiral cord. Without axial sculpture except growth

lines that are prosocline. Ocasionally between 1-3 fine spiral sulci can be seen. Aperture suboval; columella curved, opisthocline, no columellar tooth. Not umbilicate.

Dimensions: the holotype measures 2.4 x 0.6 mm.

Distribution: Known from the infralittoral and circalittoral of Mauritania, Senegal, Ghana, Angola, and São Tomé and Príncipe Islands.

Remarks: We made the mistake (Peñas & Rolán, 1997b) of citing *Eulimella monolirata* (De Folin, 1872) as coming from West Africa, even designating a neotype, when the type locality of this species is Hong Kong, and it is difficult to suppose that the species can range so far away. As a result, the African species should be considered a valid species, different from the taxon *E. monolirata* (De Folin, 1872) and presenting obvious differences with all the known species of this genus in the study area. The neotype designated in that publication (1997b) is invalid because it does not originate from near the original type locality of *Eulimella monolirata* and it becomes the holotype of the new species here described.

Aartsen *et al.* (2000) erroneously consider this species as being the same as *E. gofasi* (Schander, 1994) (Fig. 25F); both have a similar profile, the protoconchs are obtuse, but the teleoconchs have clearly different sculptures: the spiral sculpture of *E. gofasi* is formed by four clear furrows between sutures whereas *E. perturbata* may have occasionally 1-3 fine spiral sulci, but usually is smooth except for the subsutural depression; its suture is shallower and does not have the narrow step and the duplicate appearance; in addition, the growth lines are more prosocline than in *E. gofasi*.

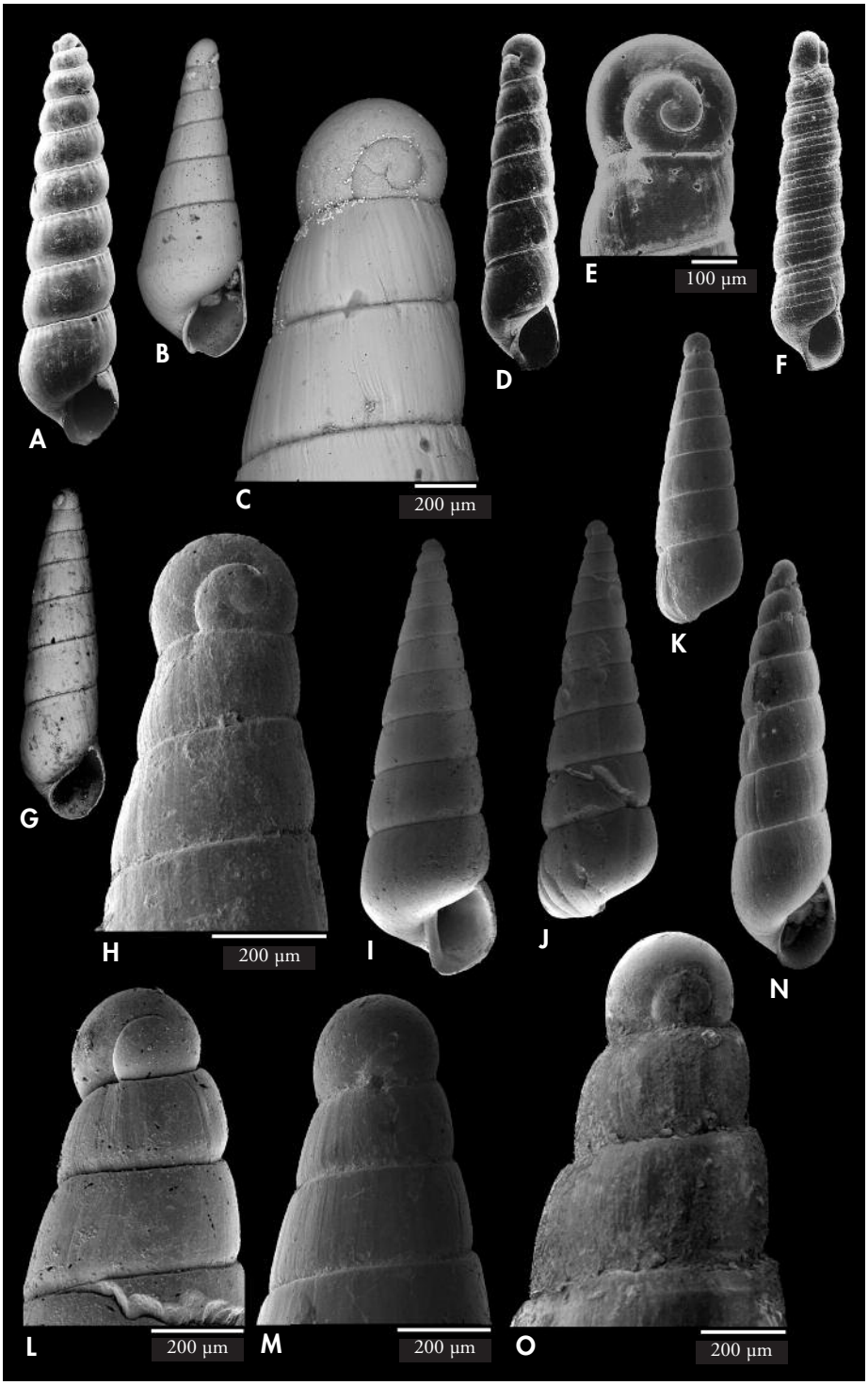
E. polygyrata (Dautzenberg, 1912) has a conical shell, much larger and also its protoconch has a larger diameter (350 μm), the whorls are very convex, the suture is deeper without duplicate suture and the growth lines are very marked.

E. kobelti (Dautzenberg, 1912) has a larger shell, with a conical profile, the protoconch has a much larger diameter (370 μm), the whorls are flat with a very shallow suture similar to that of the genus *Eulima*.

Eulimella talea spec. nov. (Figures 25G-H)

Type material: Holotype in MNCN (15.05/60131) (Fig. 25G).

(Right page) Figure 25. A: *Eulimella zornikulla* Schander, 1994, shell, 5.8 mm, Miamia, Ghana (MHNS) (from Peñas & Rolán, 1997). B-C: *Eulimella gabonensis* spec. nov., Cap Esterias, Gabon. B: holotype, 2.9 mm (MNCN); C: apex and protoconch. D-E: *Eulimella perturbata* spec. nov. D: holotype, 2.4 mm, Ghana, Miamia, 20-40 m (MNCN); E: protoconch. F: *Eulimella gofasi* (Schander, 1994), shell, 4.7 mm, Miamia, Ghana (MHNS). G-H: *Eulimella talea* spec. nov. G: holotype, 2.13 mm, Cap Esterias, Gabon (MNCN); H: protoconch. I-L: *Eulimella coysmani* spec. nov. I: holotype, 4.4 mm, Abra Bay, Madeira (MMF); J: paratype, 4.0 mm (MNHN); K: shell, 2.7 mm, Fuerteventura, Canary Islands (CFS); L: protoconch, same paratype as J. M-O: *Eulimella solita* spec. nov. M-N: holotype, 3.85 mm, Senegal (RBINS); O: protoconch of a paratype.
(Página derecha) Figura 25. A: Eulimella zornikulla *Schander, 1994, shell, 5,8 mm, Miamia, Ghana (MHNS) (tomado de Peñas & Rolán, 1997). B-C:* Eulimella gabonensis *spec. nov., Cabo Esterias, Gabón. B: holotipo, 2,9 mm (MNCN); C: ápice y protoconcha. D-E:* Eulimella perturbata *spec. nov. D: holotipo, 2,4 mm, Ghana, Miamia, 20-40 m (MNCN); E: protoconcha. F:* Eulimella gofasi *(Schander, 1994), concha, 4,7 mm, Miamia, Ghana (MHNS). G-H:* Eulimella talea *spec. nov. G: holotipo, 2,13 mm, Cabo Esterias, Gabón (MNCN); H: protoconcha. I-L:* Eulimella coysmani *spec. nov. I: holotipo, 4,4 mm, Abra Bay, Madeira (MMF); J: paratipo, 4,0 mm (MNHN); K: concha, 2,7 mm, Fuerteventura, Islas Canarias (CFS); L: protoconcha, mismo paratipo que J. M-O:* Eulimella solita *spec. nov. M-N: holotipo, 3,85 mm, Senegal (RBINS); O: protoconcha de un paratipo.*


A
B
C
200 µm
D
E
100 µm
F
G
H
200 µm
I
J
K
N
L
200 µm
M
200 µm
O
200 µm

Type locality: Cap Esterias, Gabon, intertidal.
Etymology: The specific name refers to the shape of the shell like a pointed stake.

Description: Shell small, thin, fragile, conical, somewhat cyrtoconoid in the early whorls, white, vitreous, shiny. Protoconch of type A-I, planispiral, with 2.25 whorls, and a diameter of about 250 μm. Teleoconch with very high spire, comprising six whorls, the first two flat-convex and the subsequent ones flat, with a belt-like depression or concavity below the suture; last whorl oval at the periphery. Suture narrow but deep, linear. Without appreciable axial sculpture except for growth lines that are slightly prosocline. Aperture semicircular; columella straight, very opisthocline, peristome continuous, without appreciable columellar fold or tooth. Not umbilicate.

Dimensions: the holotype measures 2.13 x 0.54 mm.

Distribution: Only known from the type locality in Gabon.

Remarks: We have decided to describe this new species, in spite of there being a single specimen known, because it is an adult shell that is very different from any other species known in the study area.

E. acicula has a shell of subcylindrical profile, the protoconch is of type A-II helicoid, with a larger diameter and 2.75 whorls, the teleoconch whorls are flat-convex, the subsutural depression is not visible, the growth lines are orthocline and the aperture is rhomboid.

E. fontanae Aartsen, Gittenberger & Goud, 2000 has flat-convex whorls, the last one is angled at the periphery, it has no subsutural belt, the aperture is pyriform, and the protoconch is of type B.

E. kobelti (Dautzenberg, 1912) has a larger shell with a protoconch of much larger diameter, more than 350 μm, with 0.25 whorl more, the suture is very shallow, and the aperture lacks a subsutural belt and is pyriform. See also remarks under *E. gabonensis*.

Eulimella coysmani spec. nov. (Figures 25I-M)

Type material: Holotype in MMF (43360, Fig. 25I) and one paratype (MMF 43361). Other paratypes in: MNCN (15.05/60132, 1 s); MNHN (IM-2012-2772, 2 s); RBINS (MT.3100-3101, 2 s), CAP (2 s), CFS (1 s) all from Funchal Bay, between 100 and 180 m.
Other material examined: Madeira: 3 j, Lido, 180 m: (CFS); 2 s, 2 j, Funchal Bay, between 100 and 180 m: (CFS). Canary Islands: 1 s, Fuerteventura, Talliarte, 100 m (CFS).
Type locality: Abra Bay, Madeira, 80 m.
Etymology: The specific name is after Martin Coysman very good friend of the third author and companion of some fieldtrips.

Description: Shell small, solid, regularly conical. White, opaque, shiny. Protoconch of type B, with a diameter of about 280 μm, the nucleus with the suture in "C" form. Teleoconch with a high spire, comprising about 9 whorls of slow increase in height, flat-convex, with the convexity on their lower part, the last whorl angular at the periphery. Suture deep with a narrow subsutural shelf. Without any axial sculpture, except the growth lines which are orthocline. Spiral microsculpture is not appreciated. Aperture subquadrangular, small, straight columella, orthocline, no columellar tooth. Not umbilicate.

Dimensions of the holotype: 4.6 x 1.4 mm; h = 1.65 mm; A = 0.95 mm.

Distribution: Known from deep water off Madeira and the Canary Islands.

Remarks: *Eulimella scillae* is also a deep water species, with a similar shell profile, but larger, having flat whorls, a shallow suture, opisthocline growth lines and a type A protoconch.

Eulimella bogii has a smaller, narrower shell with rapid increase of the whorls, the last whorl rounded at the periphery, the aperture is suboval with an opisthocline columella and it has spiral microsculpture.

Eulimella robusta, also typical of deep water, has a shell similar in profile, but with a faster growth of the whorls (at equal height it has 3 whorls less), the whorls are almost flat-concave, and the protoconch is much higher (about 450 μm) with a spiral shaped nucleus that is barely visible.

Eulimella angeli has a higher, narrower shell, the growth lines are opisthocline, and the protoconch is of type A with a very prominent nucleus.

Eulimella solita spec. nov. (Figures 25M-O)

Type material: Holotype in RBINS (MT.3102, Figs. 25M-N) and 3 paratypes (RBINS, MT.3103-3105).
Type locality: Dakar, Senegal, 20-40 m.
Etymology: The specific name is derived from the Latin word *solitus –a -um*, which mean "the usual, customary", making reference to the morphology similar to that of many species.

Description: Shell small, not very solid, conical, white, vitreous, shiny. Protoconch of type B, with a diameter of about 300 μm, with the suture of the nucleus in a spiral shape. Teleoconch (h = 35% H) with a high spire, comprising 5-6 flat-convex whorls, the convexity situated in the middle of the whorls, which are slightly stepped, the last one oval at the periphery. Suture deep, sloping, with a weak subsutural shoulder. Without axial sculpture except the growth lines, which are orthocline. Spiral microsculpture is not appreciated. Aperture pyriform, small; columella slightly curved, opisthocline, without appreciable columellar tooth. Not umbilicate.

Dimensions of the holotype: 3.85 x 0.95 mm; h = 1.4 mm; A = 0.85 mm.

Distribution: Only known from the type locality in Senegal.

Remarks: *Eulimella polygyrata* Dautzenberg, 1912 has a much larger protoconch, globose, about 350 μm in diameter, which protrudes from the profile of the first whorl of the teleoconch; the teleoconch has clearly convex whorls, with slower growth in height, the last whorl is rounded at the periphery, it has an internal spiral cord visible by transparency below the suture and also a subsutural groove, and the aperture is subcircular.

Eulimella kobelti (Dautzenberg, 1912) also has a much larger protoconch (350 μm), protruding out of the profile of the teleoconch, which is subcylindrical, with flat whorls, the suture is shallow and the growth lines are prosocline.

Eulimella ignorabilis Peñas & Rolán, 1997, has a wider protoconch exceeding the profile of the first whorl of the teleoconch, the teleoconch whorls increase much faster in height, the spire is shorter (h = 40% H) and the growth lines are prosocline.

Eulimella variabilis de Folin, 1870 has a larger, wider shell, with nearly flat whorls, the suture is shallower, the growth lines are prosocline, it has a spiral cord at the center of the whorls, visible by transparency, which actually is the columellar fold that can be observed inside the columella; its protoconch stands out from the profile of the first whorl of the teleoconch.

Eulimella buijsi Aartsen, Gittenberger & Goud, 2000, described from deep water off Cape Verde Islands, has a protoconch with a larger diameter (400 μm), the shell is wider (h/D = 3.1 versus 4 in *E. solita*), it has a whorl less for the same height, and the whorl is nearly angular at the periphery.

Eulimella troncosoi spec. nov. (Figures 26A-E)

Type material: Holotype deposited in MMF (43362, Fig. 26A). Paratypes in: MNHN (IM-2012-2773, 2 s) Madeira, Aralia, 132 m; RBINS (MT.3106, 1 s) Madeira, Funchal Bay, 80-130 m); MHNS (100615, 1 s, Bibra Bay, 102 m).

Type locality: Madeira, in front of the airport, 190 m.
Other material examined: Madeira: 1 s, 1 j, Funchal Bay, 80-130 m (CFS); Canary Islands: 1 s, Talliarte, S of Fuerteventura, 101 m (CFS).
Etymology: The specific name is after Jesús S. Troncoso, President of the Sociedad Española de Malacología for his contributions to Malacology.

Description: Shell small, slight, narrowly conical tending to subcylindrical, white, vitreous, shiny. Protoconch of type B, with a diameter of about 250 μm. Teleoconch with a high spire, comprising seven flat-convex whorls, regular in growth, the last whorl rounded at the periphery. Suture shallow. No sculpture, except for growth lines that are orthocline, very thin. Spiral microsculpture is not visible. Aperture pyriform; columella thin, slightly opisthocline. No columellar tooth. Not umbilicate.

Dimensions of the holotype: 3.05 x 0.95 mm; h = 1.20 mm; A = 0.7 mm.

Distribution: Only known from deep water of Madeira and Canary Islands.

Remarks: *Eulimella coysmani spec. nov.* has a larger shell, with a clear conical profile, the whorls are flatter, the last one is angular at the periphery, the aperture is subquadrangular with the columella orthocline.

Eulimella zornikulla Schander, 1994 has a narrow shell, the whorls are convex, with a subsutural belt and it has a protoconch of type A, with a prominent nucleus.

Eulimella similebala Peñas & Rolán, 1999, described from deep water of the submarine Meteor banks South of the Azores, has a very globose protoconch, with the nucleus barely marked, the whorls are clearly convex, the growth lines are opisthocline.

Eulimella sinuata Aartsen, Gittenberger & Goud, 1998, described from deep waters of the Cape Verde Islands, has a more conical shell, the last whorl is angled at the periphery, the growth lines are prosocline, and the protoconch is of type A.

Eulimella sp. 1 (Figures 26F-H)

Material examined: One shell, from Guinea Conakry, W Yomponi River, Exp. "Sedigui II", Stn. 724, 10º24'N, 15º21'W, 21 m (MNHN).

Description: Shell conical very elongated, solid, white, opaque. Protoconch of type B with a diameter of 280 μm, with the suture of the nucleus of spiral shape.Teleoconch with an elevated spire, comprising about 8 slightly convex whorls with the convexity in the lower third of the whorls, the last one oval at the periphery.Suture shallow, very inclined. Growth lines prosocline.

Remarks: This shell is very similar to *E. variabilis*, but has a sharper protoconch, with a larger diameter, the whorls are flat and there is one less whorl for equal height.

E. ignorabilis also has a protoconch with a larger diameter, the whorls of the teleoconch grow much faster, the convexity is at the center of the whorls, and it lacks any columellar fold.

Eulimella boydae Aartsen, Gittenberger & Goud, 2000, described from Cape Verde Islands, has a rather small shell despite having one whorl more, the whorls are more convex, with slower growth, with the convexity at the middle of the whorls, the last one is rounded at the periphery, the suture is deeper and the aperture is rhomboid.

Eulimella sp. 2 (Figures 26I-K)

Material examined: 1 s, Selvagens Islands, Isla Grande, Stn. L10D0654, 30º06'36.1"N, 15º54'98.0"W, 669 m (CFS).

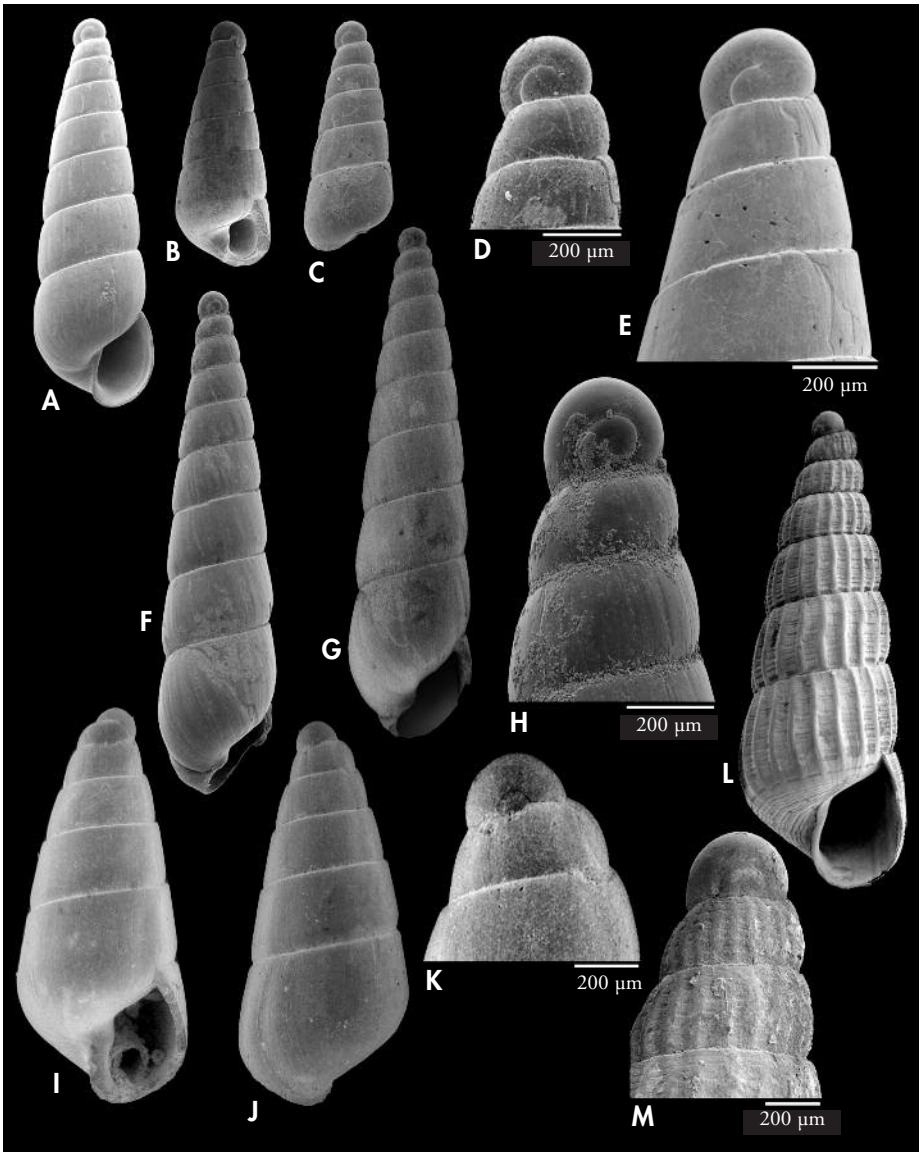


Figure 26. A-E: *Eulimella troncosoi* spec. nov. A: holotype, 3.05 mm, Madeira, in front of the airport, 190 m (MMF); B-C: paratypes, 1.8, 1.7 mm (MNHN); D: protoconch, same paratype as C; E: protoconch of a shell from Canary Islands. F-H: *Eulimella* sp. 1; F-G: shell, 4.46 mm, Guinea Conakry, W Yomponi River (MNHN); H: protoconch. I-K: *Eulimella* sp. 2; I-J: shell, 3.3 mm, Selvagens Islands, Isla Grande, 669 m (CFS); K: protoconch. L-M: *Turbonilla abrardi* Fischer & Nicklès, 1946; L: shell, 4.1 mm, Dakar, Senegal, 20-40 m (MHNS); M: apex and protoconch.
Figura 26. A-E: Eulimella troncosoi *spec. nov. A: holotipo, 3,05 mm, Madeira, frente al aeropuerto, 190 m (MMF); B-C: paratipos, 1,8, 1,7 mm (MNHN); D: protoconcha, mismo paratipo que C; E: protoconcha de una concha de las Islas Canarias. F-H:* Eulimella *sp. 1; F-G: concha, 4,46 mm, Guinea Conakry, oeste Río Yomponi (MNHN); H: protoconcha. I-K:* Eulimella *sp. 2; I-J: concha, 3,3 mm, Islas Salvages, Isla Grande, 669 m (CFS); K: protoconcha. L-M:* Turbonilla abrardi *Fischer & Nicklès, 1946; L: concha, 4,1 mm, Dakar, Senegal, 20-40 m (MHNS); M: ápice y protoconcha.*

Remarks: This shell, probably juvenile, reminds us of *Eulimella carminae* Peñas & Micali, 1999, with a colour band placed in the same area and a similar columellar fold but the protoconch is different, of type B and helmet-shaped, with a concealed nucleus, while it is visible in *E. carminae*; besides its whorls increase more quickly in width and it has a subsutural step.

Tribe Turbonillini, 1849
Genus *Turbonilla* Risso, 1826

Turbonilla abrardi Fischer-Piette & Nicklès, 1946 (Figures 26L-M)

Turbonilla abrardi Fischer-Piette & Nicklès, 1946. *J. Conchyl.*, 87: 59, fig. 17. [Type locality: Dakar, Senegal].
Turbonilla abrardi – Peñas & Rolán, 1997b: 60-62, figs. 161-166, 173.

Type material: A syntype (MNHN) designated lectotype in Peñas & Rolán (1997b: fig. 161).
New material examined: Senegal: 2 s, Dakar, 20-40 m (MHNS); 2 s, Casamance (MHNS). Guinea-Bissau: Exp. "Chalbis II" (MNHN): 6 s, S Ilha do Mel, Stn. 8, 25 m. Guinea Conakry: Exp. "Sedigui II" (MNHN): 3 s, W Ile de Quito, Stn. 520 (10°00'N - 15°58'W, 34 m); 1 s, W Ile Quito, Stn. 524 (10°00'N - 16°10'W, 42 m); 1 s, W Yomponi River, Stn. 687 (10°24'N - 14°47'W, 23 m); 2 s, W Núñez River, Stn. 781 (10°39'N - 15°16'W, 16 m); 2 s, W Núñez River, Stn. 792 (10°39'N - 15°22.5'W, 12 m); 12 s, W Ile Yomboya, Stn. 745 (10°27'N - 15°28.5'W, 22 m). Ivory Coast: 88 s, Abidjan (Aviation), 50 m (MHNS); Exp. "Benchaci I", off Grand Bassam (MNHN): 1 s, Stn. 11B (5°11.5'N - 3°48.2'W, 25 m); 10 s, Stn. 12D (5°09.2'N - 3°47.2'W, 30 m); 1 s, Stn. 13D (5°08,9'N - 3°48.6'W, 35 m); 2 s, Stn. 14D (5°07.7'N - 3°46.2'W, 40 m); Ghana: 5 s, Miamia, 20 m (MHNS). Gabon: 18 s, Cap Esterias, intertidal (MHNS).

Distribution: Known from the infralittoral and circalittoral of the westernmost Mediterranean Sea and from several countries of West Africa from Morocco to Angola. *Turbonilla abrardi* is here recorded for the first time from Ivory Coast, Guinea-Bissau, Guinea Conakry and Gabon.

Turbonilla abreui Peñas & Rolán, 2000 (Figures 27A-B)

Turbonilla abreui Peñas & Rolán, 2000. *Argonauta*, 13 (2): 70, figs. 40-45. [Type locality: Madeira].

Type material: Holotype and a paratype in MMF; figured in Peñas & Rolán (2000a).
New material examined: Madeira: 1 s, Funchal Bay, 130 m (CFS).

Distribution: This species is only known from the circalittoral of Madeira.

Remarks: It was described based on a shell and two fragments, the holotype having the aperture broken; the new material collected is a new shell, without the apex, but with a perfect aperture.

Turbonilla bedoyai Peñas & Rolán, 1997 (Figures 27C-E)

Turbonilla bedoyai Peñas & Rolán, 1997b. *Iberus,* suppl. 3: 32, figs. 51-55. [Type locality: off Ilha de Luanda, Macoco, Angola].
Turbonilla bedoyai – Peñas & Rolán, 2000: 74, figs. 53-65.
Turbonilla bedoyai – Peñas & Rolán, 2002: 28.

Type material: Holotype in MNCN (15.05/27793). Paratypes in AMNH, MNHN and MHNS.
New material examined: Ghana: 6 s, Miamia, 22 m (MHNS).

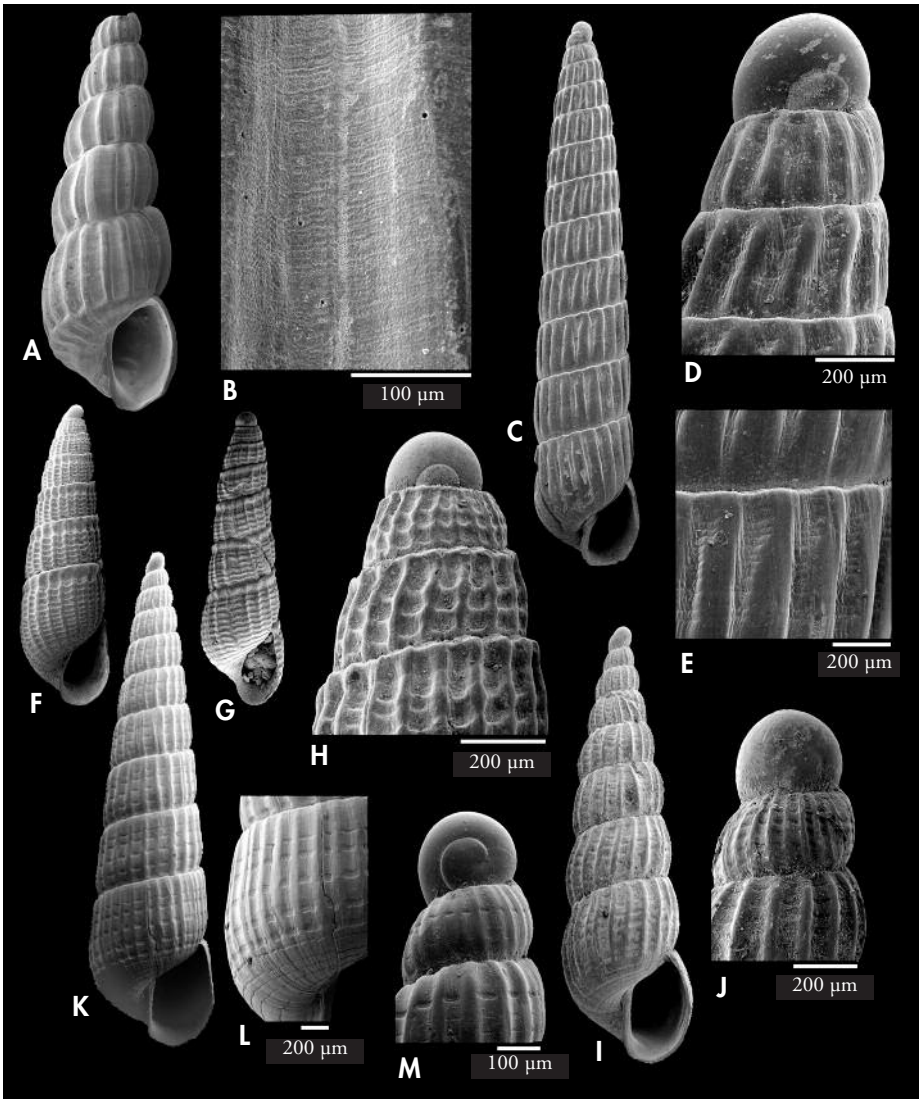


Figure 27. A-B: *Turbonilla abreui* Peñas & Rolán, 2000. A: shell, 4.4 mm, Funchal Bay, Madeira (CFS); B: microsculpture. C-E: *Turbonilla bedoyai* Peñas & Rolán, 1997; C: shell, 7.1 mm, Miamia, Ghana (MHNS); D: protoconch; E: sculpture. F-H: *Turbonilla carlottoi* Schander, 1994; F-G: shells, 3.1, 2.9 mm, Cap Esterias, Gabon (MHNS); H: protoconch. I-J: *Turbonilla coseli* Peñas & Rolán, 2002; I: holotype, 5.6 mm, Mauritania (MNHN); J: protoconch (from PEÑAS & ROLÁN, 2002). K-M: *Turbonilla* cf. *crenata* (Brown, 1827); K: shell, 6.4 mm, Machico, Madeira (CFS); L: sculpture; M: protoconch.

Figura 27. A-B: Turbonilla abreui *Peñas & Rolán, 2000. A: concha, 4,4 mm, Bahía de Funchal, Madeira (CFS); B: microescultura. C-E:* Turbonilla bedoyai *Peñas & Rolán, 1997; C: concha, 7,1 mm, Miamia, Ghana (MHNS); D: protoconcha; E: escultura. F-H:* Turbonilla carlottoi *Schander, 1994; F-G: conchas, 3,1, 2,9 mm, Cabo Esterias, Gabón (MHNS); H: protoconcha. I-J:* Turbonilla coseli *Peñas & Rolán, 2002; I: holotipo, 5,6 mm, Mauritania (MNHN); J: protoconcha (tomado de PEÑAS & ROLÁN, 2002). K-M:* Turbonilla *cf.* crenata *(Brown, 1827); K: concha, 6,4 mm, Machico, Madeira (CFS); L: escultura; M: protoconcha.*

Distribution: Known from the infralittoral and circalittoral of Senegal, Ghana, Ivory Coast, Gabon and Angola.

Remarks: The holotype had 5.8 mm. We present here a shell with 2 whorls more and 7.1 mm in size.

Turbonilla carlottoi Schander, 1994 (Figures 27F-H)

Turbonilla carlottoi Schander, 1994. *Notiz. CISMA*, 15: 53-54, pl. 8, fig. e; pl. 14, fig. i. [Type locality: Cacuaco, province of Bengo, Angola].
Turbonilla carlottoi – Peñas & Rolán, 1997b: 50.
Turbonilla carlottoi– Peñas & Rolán, 2002: 28-30, figs. 54-58.

Type material: Not examined. Photograph of the holotype in SCHANDER (1994).
New material examined: Gabon: 50 s, Cap Esterias, intertidal (MHNS).

Distribution: This species is known from the infralittoral of Ghana, Gabon and Angola.

Remarks: In the last samplings, it was found abundantly in Gabon where previously only scarce shells had been collected.

Turbonilla coseli Peñas & Rolán, 2002 (Figures 27I-J)

Turbonilla coseli Peñas & Rolán, 2002. *Iberus,* 20 (1): 46, figs. 97-101. [Type locality: Mauritania, 20º30'N-17º38'W, 120 m].

Type material: Holotype in MNHN.
New material examined: Senegal: 3 s, Mboro, 250 m (CFS).

Distribution: Known from the circalittoral of Mauritania, Congo and Gabon. It is recorded for the first time from Senegal.

Turbonilla cf. *crenata* (Brown, 1827) (Figures 27K-M)

Pyramis crenatus Brown, 1827. *Ill. Conch. Gr. Brit. & Ireland*, pl. 50, fig. 53.
Turritella fulvocincta Thompson, 1840. *Ann. Mag. Nat. Hist.*, (1)5: 98.
Turbonilla crenata – Hernández *et al.*, 2011: 265, figs. 90Q-R.

Type material: Not examined.
New material examined: Madeira: 5 s, Machico, 15 m (CFS).

Distribution: Atlantic Ocean, from the British Islands to West Sahara, including Madeira, Canary Islands and the Mediterranean.

Remarks: Generally some authors, including ourselves, have assigned to *Turbonilla rufa* (Philippi, 1836) some taxa which were doubtful. In PEÑAS, ROLÁN & ALMERA (2009) this group is discussed and *T. crenata* and *T. rufa* are separated showing the obvious differences between them. The material examined from the Canary Islands and Madeira and the images in PEÑAS & ROLÁN (1997b: figs. 194-198) identified there as *T. rufa* correspond to the group of *T. crenata.* However, the protoconch of the specimen here illustrated, with a diameter of about 350 μm, presents differences in dimensions and shape of the nucleus with other forms found along the mainland; in addition, even in fresh shells, the colour is white, not cream, and lacks the brown colour band.

Turbonilla fulgidula (Jeffreys, 1884) (Figures 28A-C)

Odostomia fulgidula Jeffreys, 1884. *Proc. Zool. Soc. London* (1884): 359-360, pl. 27, fig. 3. [Type locality: Exp. "Porcupine" 1870, Stn. 13, 40º16'N, 09º37'W, 220 fathoms, off Portugal].
Turbonilla fulgidula – Peñas & Rolán, 1997b: 38, figs. 67-72.

Type material: Not examined.
New material examined: Mauritania: 28 s, off Nouakchott, 90-100 m (CAP). Senegal: 3 s, Saint Louis, near Mauritania, 100 m (CFS); 1 s, S M'bao, región of Dakar (col. Marché-Marchad) (MNHN), 30 m. Guinea Conakry: Exp. "Sedigui I" (MNHN): 1 s, W Ile Tannah, Stn. 80 (9°12.3'N - 13°37'W, 16 m); 1 s, W Ile Konebomby, Stn. 378 (9°48'N - 13°59'W, 12 m); 2 s, W Ouendi, Stn. 476 (9°54'N - 14°21'W, 23 m); 2 s, W Ile de Quito, Stn. 488 (10°00'N - 14°20.5'W, 15 m); 1 s, Exp. "Sedigui II" (MNHN); 1 s, W Pointe Goro, Stn. 551 (10°06'N - 15°29'W, 24 m); 1 s, W Cap Verga, Stn. 590 (10°12'N - 14°41.5'W, 17 m); 1 s, W Bel-Air (Koundinde), Stn. 655 (10°15'N - 14°43'W, 19 m); Exp. "Chalgui 7" (MNHN): 9 s, W Ouendi-Taboria, Stn. 41, 17 m. Ivory Coast: Exp. "Benchaci I", off Grand Bassam (MNHN); 1 s, Stn. 3D (5°11.3'N - 3°46'W, 20 m); 1 s, Stn. 11D (5°11.5'N - 3°48.2'W, 25 m); 10 s, Stn. 12D (5°09.2'N - 3°47.2'W, 30 m). São Tomé Island: 3 s, Minerio, São Tomé, 41 m (MHNS). Congo: Exp. "Kounda" (MNHN): 25 s, Conkouati, 17-19 m. Angola: 2 s, Mussulo, 90-100 m (MNHN); 1 s, Ilha de Luanda, 120 m (MNHN); 1 s, Ilha de Luanda, 40-60 m (MNHN).

Distribution: Known from the infralittoral and circalittoral off Portugal and from several countries in West Africa, between Mauritania and Angola. It is cited here for the first time for Ivory Coast and Congo.

Turbonilla cf. ghanensis Peñas & Rolán, 1997 (Figures 28D-F)

Turbonilla ghanensis Peñas & Rolán, 1997b. *Iberus,* suppl. 3: 46-48, figs. 106, 107. [Type locality: Miamia, Ghana].
Turbonilla ghanensis – Peñas & Rolán, 2002: 31.
Turbonilla sp. 4 – Peñas & Rolán, 2002: 49-50, figs. 121-123.

Type material: Holotype and one paratype in MNCN (15.05/27801). Paratypes in other museums and collections.
New material examined: Gabon: 6 s, Cap Esterias, intertidal (MHNS).

Distribution: Known from the infralittoral of Guinea Conakry, Ghana, Congo and Gabon.

Remarks: The form shown here, identified in PEÑAS & ROLÁN (2002: figs. 121-123) as *Turbonilla* sp. 4 was cited previously only from Miamia, Ghana, between 45 and 65 meters deep. These shells resemble *T. ghanensis* (Fig. 28D) in protoconch type, as well as in sculpture, but this species is characterized by its serrated profile due to the presence of a subsutural cord which seems like a second suture, while in the shells of Figs. 28E-F and of *Turbonilla* sp. 4 (of PEÑAS & ROLÁN, 2002) that cord is obsolete. However, since other features match the type material of *T. ghanensis* we consider that it could be a form of this species.

Turbonilla hattenbergeri Peñas & Rolán, 1997 (Figure 28G)

"Turbonilla" hattenbergeri Peñas & Rolán, 1997b. *Iberus,* suppl. 3: 50-51, figs. 116-118. [Type locality: Miamia, Ghana].
"Turbonilla" hattenbergeri – Peñas & Rolán, 2002: 31.

Type material: Holotype and one paratype (MNCN 15.05/27801). Other paratypes in AMNH, MNHN and MHNS.

New material examined: São Tomé Island: 4 s, Lagoa Azul, 30 m (MHNS).

Distribution: Known from the infralittoral of Ghana and Guinea-Bissau. Its distribution range is increased to São Tomé Island.

Turbonilla haullevillei Dautzenberg, 1912 (Figures 28H-I)

Turbonilla haullevillei Dautzenberg, 1912. *Ann. Inst. Océanogr.*, 5 (3): 62, pl. 2, figs. 34, 35. [Type locality: Shark Point, mouth of the Congo].
Turbonilla marteli Dautzenberg, 1912. *Ann. Inst. Océanogr.*, 5 (3): 62-63, pl. 3, figs 1, 2. [Type locality, restricted by lectotype designation of Peñas & Rolán (1997): off Cotonou, Benin].
Turbonilla haullevillei – Peñas & Rolán, 1997b: 8, figs. 6-11.
Turbonilla haullevillei – Peñas & Rolán, 2002: 31-32.

Type material: Lectotype of *T. haullevillei* (MNHN), represented in Peñas & Rolán (1997b: fig. 6). Lectotype of *T. marteli* (MNHN), represented in Peñas & Rolán (1997: fig. 10)
New material examined: Gabon: 2 s, Cap Esterias, intertidal (MHNS). Ghana: 3 s, Miamia, 22 m (MHNS).

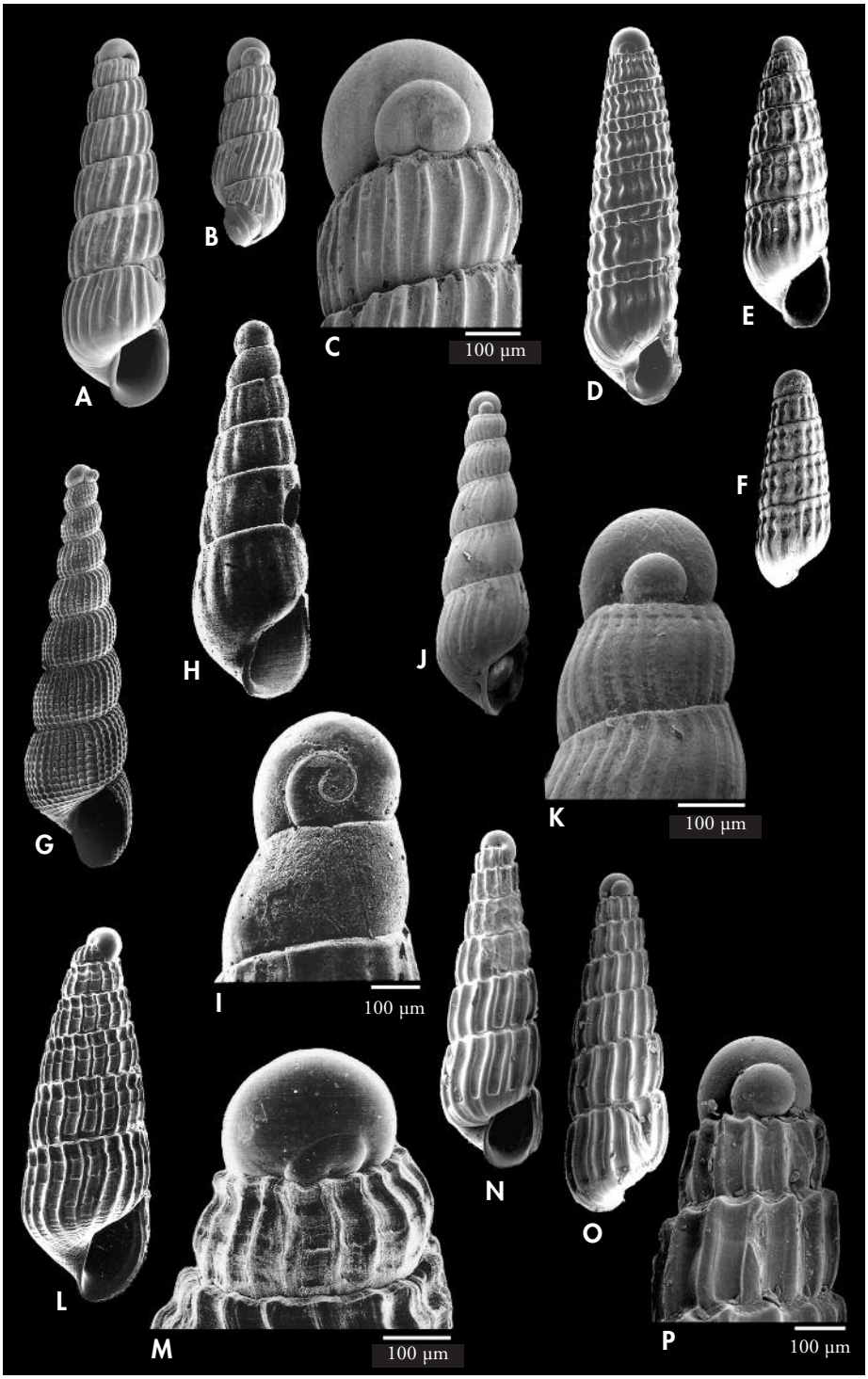
Distribution: Known from Guinea, Ghana, Congo and Angola. This species is reported here for the first time from Gabon.

Turbonilla iseborae Lygre & Schander, 2010 (Figures 28J-K)

Turbonilla iseborae Lygre & Schander, 2010. *Zootaxa*, 2657: 9, fig. 6A-E. [Type locality: 00º19'N, 09º19'E, 24 m].

Type material: Not examined. Ilustration of the holotype (ZMBN 86660) in Lygre & Schander (2010).
New material examined: Ghana: 4 s, Takoradi, 14-16 m (MHNS).

(Right page) Figure 28. A-C: *Turbonilla fulgidula* (Jeffreys, 1884). A-B: shells, 2.66, 1.5 mm, Mauritania (CAP); C: protoconch. D: *Turbonilla ghanensis* Peñas & Rolán, 1997; holotype, 2.8 mm, Miamia, Ghana (MNCN) (from Peñas & Rolán, 1997). E-F: *Turbonilla* cf. *ghanensis* Peñas & Rolán, 1997; shells, 2.3, 1.7 mm, Cap Esterias, Gabon (MHNS). G: *Turbonilla hattenbergeri* Peñas & Rolán, 1997, holotype, 3.2 mm, Miamia, Ghana (MNCN) (from Peñas & Rolán, 1997b). H-I: *Turbonilla haullevillei* Dautzenberg, 1912. H: shell, 2.6 mm, Miamia, Ghana (MHNS); I: protoconch. J-K: *Turbonilla iseborae* Lygre & Schander, 2010; J: shell, 1.9 mm, Takoradi, Ghana (MHNS); K: protoconch. L-M: *Turbonilla kerstinae* Schander, 1994; L: shell, 2.7 mm, Miamia, Ghana (MHNS); M: protoconch. N-P: *Turbonilla krakstadi* Lygre & Schander, 2010; N: shell, 2.3 mm, Gorée Island, Dakar, Senegal (CFS); P: protoconch.
(Página derecha) Figura 28. A-C: Turbonilla fulgidula *(Jeffreys, 1884). A-B: conchas, 2,66, 1,5 mm, Mauritania (CAP); C: protoconcha. D:* Turbonilla ghanensis *Peñas & Rolán, 1997; holotipo, 2,8 mm, Miamia, Ghana (MNCN) (tomado de Peñas & Rolán, 1997). E-F:* Turbonilla *cf.* ghanensis *Peñas & Rolán, 1997; conchas, 2,3, 1,7 mm, Cabo Esterias, Gabón (MHNS). G:* Turbonilla hattenbergeri *Peñas & Rolán, 1997, holotipo, 3,2 mm, Miamia, Ghana (MNCN) (tomado de Peñas & Rolán, 1997b). H-I:* Turbonilla haullevillei *Dautzenberg, 1912. H: concha, 2,6 mm, Miamia, Ghana (MHNS); I: protoconcha. J-K:* Turbonilla iseborae *Lygre & Schander, 2010; J: concha, 1,9 mm, Takoradi, Ghana (MHNS); K: protoconcha. L-M:* Turbonilla kerstinae *Schander, 1994; L: concha, 2,7 mm, Miamia, Ghana (MHNS); M: protoconcha. N-P:* Turbonilla krakstadi *Lygre & Schander, 2010; N: concha, 2,3 mm, Isla de Gorée, Dakar, Senegal (CFS); P: protoconcha.*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Distribution: The species is known from the infralittoral of Gabon. The distribution range of this species is here extended to Ghana.

Turbonilla kerstinae Schander, 1994 (Figures 28L-M)

Turbonilla kerstinae Schander, 1994. *Notiz. CISMA,* 15: 54-55, pl. 8, fig. f; pl. 14, figs. j, k; pl. 15, fig. k. [Type locality: "Tacoma" shipwreck (14º40'18.7"N, 17º25'50.1"W), Region of Dakar, Senegal].
Turbonilla kerstinae in Peñas & Rolán, 1997b: 48-50, figs. 114, 115.

Type material: Not examined. Holotype represented in SCHANDER (1994).
New material examined: Guinea-Bissau: Exp. "Chalbis II" (MNHN): 26 s, S Ilha do Mel, Stn. 8, 25 m. Guinea Conakry: Exp. "Sedigui I" (MNHN): 3 s, W Ile Tannah, Stn. 80 (9°12.3'N - 13°37'W, 16 m); 1 s, W Ouendi, Stn. 476 (9°54'N - 14°21'W, 23 m); Exp. "Sedigui II" (MNHN): 1 s, W Ile de Quito, Stn. 517 (10°00'N - 15°49'W, 29 m); W Cap Verga, Stn. 659, 27 m; 1 s, W Núñez River, Stn. 781 (10°39'N - 15°16'W, 16 m); 30 s, W Ile Yomboya, Stn. 745 (10°27'N - 15°28.5'W, 22 m). Ghana: 21 s, Miamia, 24 m (MHNS). Gabon: 10 s, Cap Esterias, intertidal (MHNS). São Tomé and Príncipe: 2 s, Minerio, São Tomé, 41 m (MHNS).

Distribution: Known from the infralittoral of several countries between Mauritania and Angola. This species is reported here for the first time from Guinea Conakry, Guinea-Bissau and Gabon.

Turbonilla krakstadi Lygre & Schander, 2010 (Figures 28N-P)

Turbonilla krakstadi Lygre & Schander, 2010. *Zootaxa,* 2657: 7-8, fig 4A-E. [Type locality: Gabon: 02º40'S, 09º14'E, 90 m].

Type material: Not examined. Illustration of the holotype (ZMBN 86657) in LYGRE & SCHANDER (2010).
New material examined: Senegal: 2 s, Gorée Island, 7-15 m (CFS).

Distribution: Known from the circalittoral of Gabon. It is reported here for the first time from the infralittoral of Senegal.

Turbonilla melvilli Dautzenberg, 1912 (Figures 29A-B)

Turbonilla melvilli Dautzenberg, 1912. *Ann. Inst. Océanogr.*, 1: 65, lám.3, figs. 3, 4. [Type locality: Libreville Bay, Gabon].
Turbonilla aartseni Schander, 1994. *Notiz. CISMA,* 15: 50-51, lám. 7, figs. i-j. [Type locality: Mussulo, prov. Luanda, Angola, 90-100 m].
Turbonilla melvilli – Peñas & Rolán, 1997b: 14-16, figs. 24-28.
Turbonilla melvilli – Peñas & Rolán, 2002: 34-36.

Type material: 1 s, syntype designated as lectotype in PEÑAS & ROLÁN (1997b, fig. 25).
New material examined: Mauritania: 6 s, off Nouakchott, 90 m (CFS). São Tomé & Príncipe: 4 s, Minerio, São Tomé, 41 m (MHNS).

Distribution: The species is known from the infralittoral and circalittoral of Ghana, Congo, Gabon and Angola. It is recorded here for the first time for Mauritania and São Tomé and Príncipe.

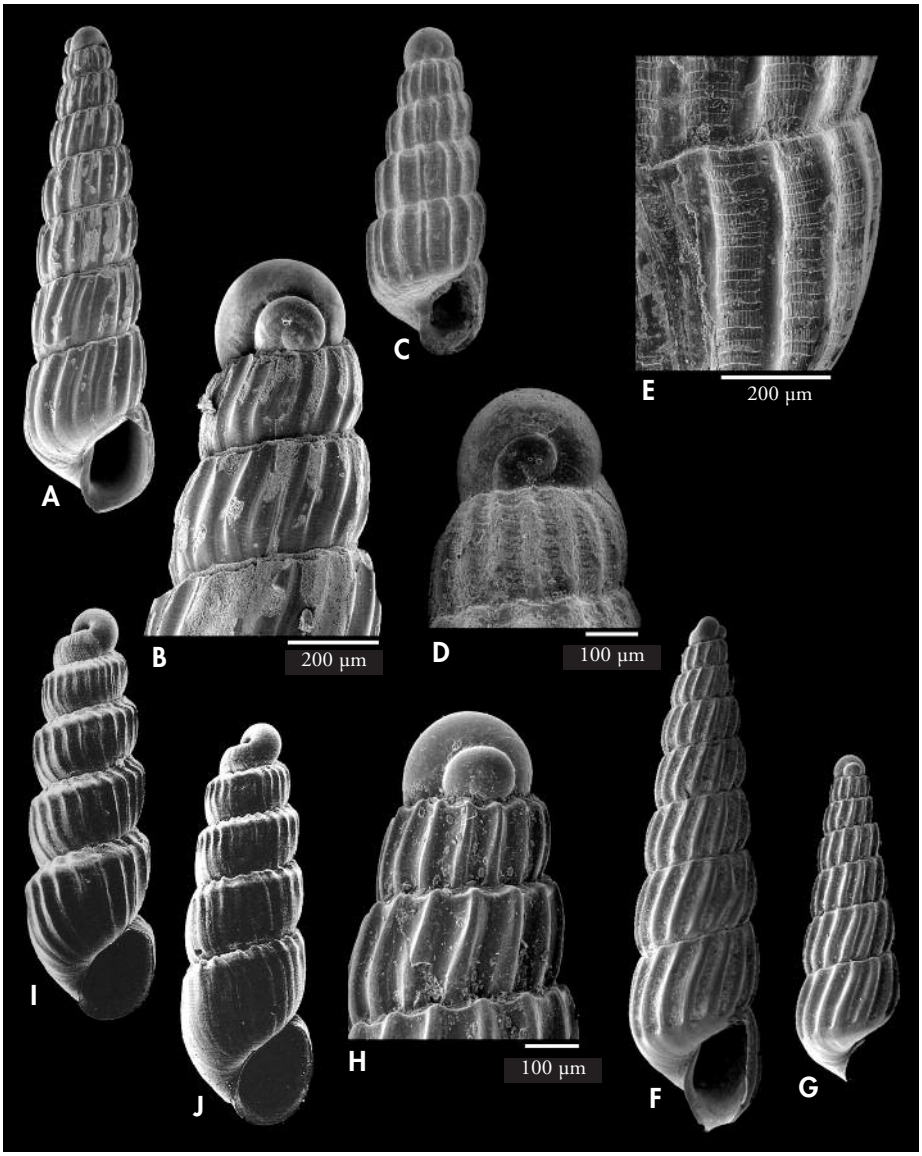


Figure 29. A-B: *Turbonilla melvilli* Dautzenberg, 1912. A: shell, 3.24 mm, Mauritania (CFS); B: protoconch. C-E: *Turbonilla parsysti* Peñas & Rolán, 2002; C: shell, 2.0 mm, Miamia, Ghana (MHNS); D: protoconch; E: sculpture. F-H: *Turbonilla perezdionisi* Peñas & Rolán, 1997. F-G: shells, 3.9, 2.5 mm, Gorée Island, Dakar, Senegal (CFS); H: protoconch. I-J: *Turbonilla pyrgidium* Tomlin & Shackleford, 1914; shells, 2.18, 2.36 mm, Miamia, Ghana (MHNS) (from PEÑAS & ROLÁN, 1997b).

Figura 29. A-B: Turbonilla melvilli *Dautzenberg, 1912. A: concha, 3,24 mm, Mauritania (CFS); B: protoconcha. C-E:* Turbonilla parsysti *Peñas & Rolán, 2002; C: concha, 2,0 mm, Miamia, Ghana (MHNS); D: protoconcha; E: escultura. F-H:* Turbonilla perezdionisi *Peñas & Rolán, 1997. F-G: conchas, 3,9, 2,5 mm, Isla de Gorée, Dakar, Senegal (CFS); H: protoconcha. I-J:* Turbonilla pyrgidium *Tomlin & Shackleford, 1914; conchas, 2,18, 2,36 mm, Miamia, Ghana (MHNS) (tomado de PEÑAS & ROLÁN, 1997b).*

Turbonilla parsysti Peñas & Rolán, 2002 (Figures 29C-E)

Turbonilla parsysti Peñas & Rolán, 2002. *Iberus*, 20 (1): 44-46, figs. 90-06.

Type material: Holotype and 5 paratypes in MNCN (15.15/455.883). [Type locality: Miamia, Ghana, 35-60 m].
New material examined: Ghana: 6 s, 4 j, Miamia, 45-46 m (MHNS); 2 s, Miamia, 3 m (MHNS).

Distribution: Only known from the infralittoral and circalittoral of Ghana.

Remarks: The species has been collected now in very shallow water.

Turbonilla perezdionisi Peñas & Rolán, 1997 (Figures 29F-H)

Turbonilla perezdionisi Peñas & Rolán, 1997b. *Iberus*, suppl. 3: 16, figs. 29-30. [Type locality: Miamia, Ghana].
Turbonilla perezdionisi – Peñas & Rolán, 2000: 66.
Turbonilla perezdionisi – Peñas & Rolán, 2002: 36.

Type material: Holotype and one paratype in MNCN (15.05/27790). Paratypes in AMNH, MHNS, MNHN, NHMUK, CPD and CAP.
New material examined: Senegal: 1 s, Gorée Isl., 10-20 m (CFS); 1 s, Dakar, 20-40 m (CFS).

Distribution: Known from the infralittoral of Guinea, Ghana and Angola. Its distribution range is increased to include Senegal.

Turbonilla pyrgidium Tomlin & Shackleford, 1914 (Figures 29I-J)

Turbonilla pyrgidium Tomlin & Shackleford, 1914. *J. Conchol.*, 14 (10): 309, pl. 5, fig. 3. [Type locality: São Tomé].
? Oceanida graduata De Folin – Gofas, Pinto Afonso & Brandão, 1985: 102, pl. 42, fig. a.
Turbonilla pyrgidium – Peñas & Rolán, 1997b: 6, figs. 3-5.
"Eulimella" pyrgidium – Aartsen, Gittenberger & Goud, 2000: 16, fig. 19.

Type material: Not examined.
New material examined: Guinea-Bissau: Exp. "Chalbis II" (MNHN): 7 s, S Ilha do Mel, Stn. 8, 25 m. Guinea Conakry: Exp. "Sedigui II" (MNHN): 7 s, W Ile de Quito, Stn. 517 (10°00'N - 15°49'W, 29 m). Ghana: 6 s, Miami, 30 m (MHNS). Gabon: 85 s, Cap Esterias, intertidal (MHNS).

Distribution: Known from the infralittoral of several countries between Mauritania and Angola, it is here reported for the first time from Guinea-Bissau, Guinea Conakry and Gabon.

Remarks: Aartsen at al. (2000) associated this species with *Eulimella* rather than *Turbonilla*, illustrating a shell with almost obsolete ribs. However, the illustration of Tomlin & Shackleford (1914: fig. 3) as well as the images in Peñas & Rolán (1997b), in addition to the large number of examined shells, allow us to conclude beyond doubt that this species belongs to the *Turbonilla* group. The species that Gofas, Pinto Afonso & Brandão (1985) misidentified as *Oceanida graduata* de Folin, undoubtedly is *T. pyrgidium*.

Turbonilla rafaeli Peñas & Rolán, 1997 (Figures 30A-C)

Turbonilla rafaeli Peñas & Rolán, 1997b. *Iberus*, suppl. 3: 66-68, figs. 191-193. [Type locality: Miamia, Ghana].

Turbonilla rafaeli – Peñas & Rolán, 2002: 38.

Type material: Holotype en el MNCN (nº 15.05/27810). Paratypes in AMNH, MHNS, MNHN, NHMUK and CAP.
New material examined: Guinea-Bissau: 2 s, Bissagos Archipelago, 155-292 m (CLD). Ghana: 3 s, 1 j, Miamia, 35-39 m (MHNS).

Distribution: This species is known from the infralittoral of Guinea, Guinea-Bissau, Ghana and Angola. The species is reported here for the first time from rather deep water off Guinea-Bissau.

Turbonilla angelinagagliniae Schander, 1997 (Figures 30D-E)

Turbonilla scrobiculata Schander, 1994. *Notiz.CISMA*, 15: 57-58, lám 8, fig. j; pl. 15, figs b, c, i. [Type locality: Grand Bassam, 35 m, Abidjan, Ivory Coast].
Turbonilla scrobiculata – Peñas & Rolán, 1997b: 32-34, figs. 56-59.
Turbonilla angelinagagliniae Schander, 1997 nom. nov. pro *Turbonilla scrobiculata* Schander, 1994 non Yokoyama, 1922.

Type material: Holotype and two paratypes (MNHN).
New material examined: Ivory Coast: 7 s, Abidjan (Aviation), 50 m (MNHN): 3 s, Abidjan, Continental shelf, 35 m (MNHN). Gabon: Exp. "Congo" (MNHN): 1 s, W mouth. Nganga, Stn. 1114, 70 m. Angola, Cabinda: Exp. "Congo" (MNHN): 2 s, W Landana, Stn. 932, 9 m.

Distribution: Known from the infralittoral and circalittoral of several countries between Senegal and Angola. It is cited here for the first time for Gabon.

Turbonilla secernenda Dautzenberg, 1912 (Figure 30F)

Turbonilla secernenda Dautzenberg, 1912. *Ann. Inst. Océanogr.*, 5 (3): 60-61, pl. 21, figs. 32-33. [Type locality: Shark Point, Congo, Mission Gruvel (MNHN)].
Turbonilla secernenda – Peñas & Rolán, 1997b: 62, figs. 167-170.

Type material: A syntype (MNHN), designated lectotype in PEÑAS & ROLÁN (1997b).
New material examined: Ivory Coast: 1 s, Abidjan (Aviation), 50 m; Exp. "Benchaci I", off Grand Bassam (MNHN): 1 s, Stn. 6B (5°06' N - 3°46.6' W, 50 m). Gabon: Exp. "Congo" (MNHN): 5 s, W Panga, Stn. 1051, 25 m. Angola: 1 s, Corimba Bay, 10-20 m (MNHN).

Distribution: Known from the infralittoral and circalittoral from Senegal, Ghana, Congo and Angola.

Remarks: The species is reported here for the first time from Ivory Coast and Gabon.

Turbonilla senegalensis von Maltzan, 1885 (Figure 30G)

Turbonilla senegalensis von Maltzan, 1885. *Nachrichtbl. Dtsch. Malak. Ges.*, 16: 27-28. [Type locality: Gorée, Senegal].
Turbonilla senegalensis – Peñas & Rolán, 1997b: 9-10, figs. 14-16.

Type material: Not examined. Holotype represented in SCHANDER (1994: pl. 8, fig. c)
New material examined: Mauritania: 1 s, Continental Platform (MNHN); 1 s, Stn. 170, 50 m (MNHN); 1 s, Stn. 171, 74 m (MNHN). Senegal: Exp. "Calypso", col. Marche-Marchad (MNHN): Stn. 50: 1 s. Guinea Conakry: Exp. "Sedigui I" (MNHN): 1 s, W front Sierra Leone, Stn. 51, 52 m; 1 s, W Kaporo,

Stn. 284, 35 m; Exp. "Sedigui II" (MNHN): 1 s, W Pointe Goro, Stn. 536, 41 m; 1 s, W Pointe Goro, Stn. 551 (10°06'N - 15°29'W, 24 m); 1 s, W Pointe Goro, Stn. 566 (10°06'N - 14°43'W, 21 m); 1 s, W Cap Verga, Stn. 593 (10°12'N - 14°50,5'W, 34 m). Angola: 1 s, Caotinha, prov. Benguela, infralittoral (MNHN); 2 s, Caota, prov. Benguela, 0-2 m (MNHN).

Distribution: Known from the infralittoral and circalittoral of several countries between Mauritania and Angola. Ths species is reported here for the first time from Guinea Conakry.

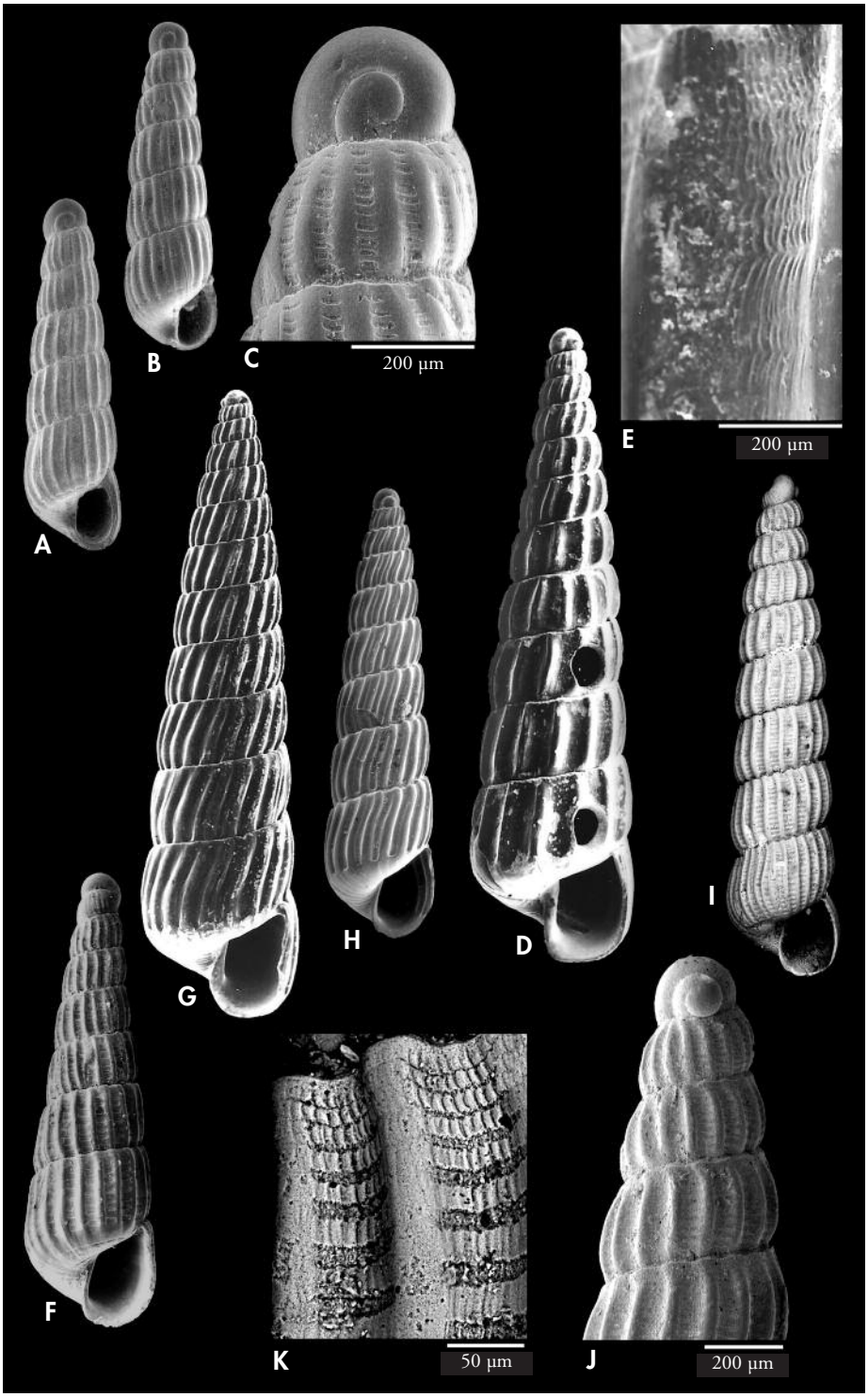
Turbonilla subulina Monterosato, 1889 (Figure 30H)

Turbonilla subulina Monterosato, 1889. *J. Conchyl.*, 37 (1): 38. [Type locality: Mogador (now Essaouira, Morocco)].
Turbonilla bedoti Dautzenberg, 1912. *Ann. Inst. Océanogr.*, 15 (3): 63, lám 2, figs. 39, 40. [Type locality: Banana, Congo].
Turbonilla obliquecostata Dautzenberg, 1912. *Ann. Inst. Océanogr.*, 15 (3): 63, lám 2, figs. 30, 31. [Type locality: Port Etienne, Pointe Cansado, Mauritania].
Turbonilla bedoti – Peñas, Templado & Martínez, 1996: 60, figs. 194-196.
Turbonilla subulina – Peñas & Rolán, 1997b: 44-46, figs. 96-102.

Type material: Syntype of *T. subulina* figured in Gaglini (1992: 165-166). A syntype (MNHN) of *T. obliquecostata* designated lectotype in Peñas & Rolán (1997b: fig 96).
New material examined: Senegal: 1 s, Región de Dakar, col. Marché-Marchad (MNHN). Guinea-Bissau: Exp. "Chalbis II" (MNHN): 15 s, S Ilha do Mel, Stn. 8, 25 m. Guinea Conakry: Exp. "Sedigui I" (MNHN): 1 s, W Ile de Quito, Stn. 488 (10°00'N - 14°20.5'W, 15 m); Exp. "Sedigui II" (MNHN): 2 s, W Ile de Quito, Stn. 515 (10°00'N - 15°43'W, 26 m); 2 s, W Ile de Quito, Stn. 517 (10°00'N - 15°49'W, 29 m); 1 s, W Ile de Quito, Stn. 524 (10°00'N - 16°10'W, 42 m); 2 s, W Pointe Goro, Stn. 551 (10°06'N - 15°29'W, 24 m); 1 s, W Pointe Goro, Stn. 572D (10°06'N - 14°25'W, 12 m); 5 s, W Cap Verga, Stn. 602 (10°12'N - 15°18'W, 21 m); 2 s, W Yomponi River, Stn. 727 (10°24'N - 15°30'W, 31 m); 7 s, W Ile Yomboya, Stn. 745 (10°27'N - 15°28.5'W, 22 m); Exp. "Chalgui 7" (MNHN): 1 s, W Ile Tannah, Stn. 13D, 18-20 m. Angola: 250 s, Corimba Bay, 10-20 m (MNHN); 2 s, Ilha de Luanda, 120 m (MNHN); 2 s, Cacuaco, litoral (MNHN).

Distribution: Known from the infralittoral and circalittoral of the westernmost Mediterranean and in West Africa of several countries between Morocco and Angola. It is cited here for the first time for Guinea-Bissau and Guinea Conakry.

(Right page) Figure 30. A-C: *Turbonilla rafaeli* Peñas & Rolán, 1997. A-B: 2.3, 2.2 mm, Miamia, Ghana (MHNS); C: protoconch. D-E: *Turbonilla angelinagagliniae* Schander, 1997; D: shell, 6.0 mm, Macoco, Angola (MHNS) (from Peñas & Rolán, 1997b); E: microsculpture. F: *Turbonilla secernenda* Dautzenberg, 1912, shell, 3.5 mm, Corimba, Luanda, Angola (MHNS) (from Peñas & Rolán, 1997b). G: *Turbonilla senegalensis* von Maltzan, 1885, shell, 6.7 mm, Miamia, Ghana (MHNS) (from Peñas & Rolán, 1997b). H: *Turbonilla subulina* Monterosato, 1889, 3.8 mm, Corimba beach, Luanda, 10-20 m (MHNS). I-K: *Turbonilla templadoi* Peñas & Rolán, 1997; I: shell, 3.9 mm, Cap Esterias, Gabon (MHNS); J: protoconch; K: microsculpture.
(Página derecha) Figura 30. A-C: Turbonilla rafaeli *Peñas & Rolán, 1997. A-B: 2,3, 2,2 mm, Miamia, Ghana (MHNS); C: protoconcha. D-E:* Turbonilla angelinagagliniae *Schander, 1997; D: concha, 6,0 mm, Macoco, Angola (MHNS) (tomado de Peñas & Rolán, 1997b); E: microescultura. F:* Turbonilla secernenda *Dautzenberg, 1912, concha, 3,5 mm, Corimba, Luanda, Angola (MHNS) (tomado de Peñas & Rolán, 1997b). G:* Turbonilla senegalensis *von Maltzan, 1885, concha, 6,7 mm, Miamia, Ghana (MHNS) (tomado de Peñas & Rolán, 1997b). H:* Turbonilla subulina *Monterosato, 1889, 3,8 mm, Corimba, Luanda, 10-20 m (MHNS). I-K:* Turbonilla templadoi *Peñas & Rolán, 1997; I: concha, 3,9 mm, Cabo Esterias, Gabón (MHNS); J: protoconcha; K: microescultura.*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200 µm

Turbonilla templadoi Peñas & Rolán, 1997 (Figures 30I-K)

Turbonilla templadoi Peñas & Rolán, 1997b. *Iberus*, suppl. 3: 56, figs. 139-142. [Type locality: Santo Antonio Bay, Príncipe, Archipelago of São Tomé and Príncipe].
Turbonilla templadoi – Peñas & Rolán, 2000: 72, figs. 46-47.
Turbonilla templadoi – Peñas & Rolán, 2002: 40, figs. 76-78.

Type material: Holotype and a paratype (MNCN 15.06/27805). Paratypes in AMNH, MNHN, MHNS, NHMUK and CAP.
New material examined: Gabon: 1 s, Cap Esterias, intertidal (MHNS).

Distribution: Known from the infralittoral and circalittoral of several countries between Guinea Conakry and Congo, including the islands of São Tomé and Príncipe. It is recorded from Gabon for the first time.

Turbonilla gabrielae spec. nov. (Figures 31A-C)

Type material: Holotype in MNHN (IM-2000-27675, s, Fig. 31A).
Type locality: Off Gorée, region of Dakar, Senegal, 145-155 m (col. Marche-Marchad, MNHN).
Other material examined: Mauritania: 1 s, continental shelf, R/V N'Diago, Stn. 171, 74 m (MNHN) (figured in Peñas & Rolán, 2002: fig. 108, 114, as *Turbonilla* sp. 2). Angola: Luanda, Exp. "Congo", Stn. 1025 (MNHN): 1 s (figured in Peñas & Rolán, 2002: 109-113, 115-116, as *Turbonilla* sp. 2).
Etymology: The specific name is after Gabriela Peñas Villén, granddaughter of the first author.

Description: Shell relatively large, solid, regularly conical, white, opaque and glossy. Protoconch large, globose, of type B, with a diameter of 400 μm, with the suture of the nucleus in spiral. Teleoconch with a high spire (h = 41% H with 6 whorls; 35% with 8 whorls); whorls slightly convex, the last one almost angular at the periphery. Suture shallow. Axial sculpture formed by 20-22 small high ribs, angled in profile, orthocline, much narrower than their interspaces; both ribs and interspaces are interrupted below the periphery of the last whorl. Spiral sculpture consisting of about 8 spaced grooves, narrow, only in the interspaces; there is also an axial microsculpture which forms a kind of reticule with spiral grooves in the interspace of the ribs. Base with spiral striae. Aperture small, rhomboid; columella opisthocline, without visible columellar tooth.

Dimensions of the holotype: 4.3 x 1.2 mm with 6 whorls of teleoconch; the shell from Mauritania measures 6.5 mm with 8 whorls; the shell from Angola measures 8.5 mm with 9 whorls.

Distribution: Only known from the circalittoral of Mauritania, Senegal and Angola.

Remarks: In Peñas & Rolán (2002) this species is cited and illustrated as "sp. 2", and it was not described as a new species because of lack of enough specimens. The discovery of this third specimen has induced us to describe it as a new species, presenting a different sculpture from the remaining species in the study area.

Turbonilla fuscoelongata Peñas & Rolán, 1997 described from the infralittoral of Angola, has a protoconch of type A, with a much smaller diameter, the ribs are rounded in profile, as wide as their interspaces, it has spiral cords instead of grooves, and these are more numerous.

Turbonilla gruveli Dautzenberg, 1912 has a larger protoconch, the fresh shells have two bands of reddish colour between the sutures, it is narrower, the whorls are more convex, the suture is very oblique, the ribs are wider, rounded in profile, it has much wider spiral grooves, as wide as their interspaces.

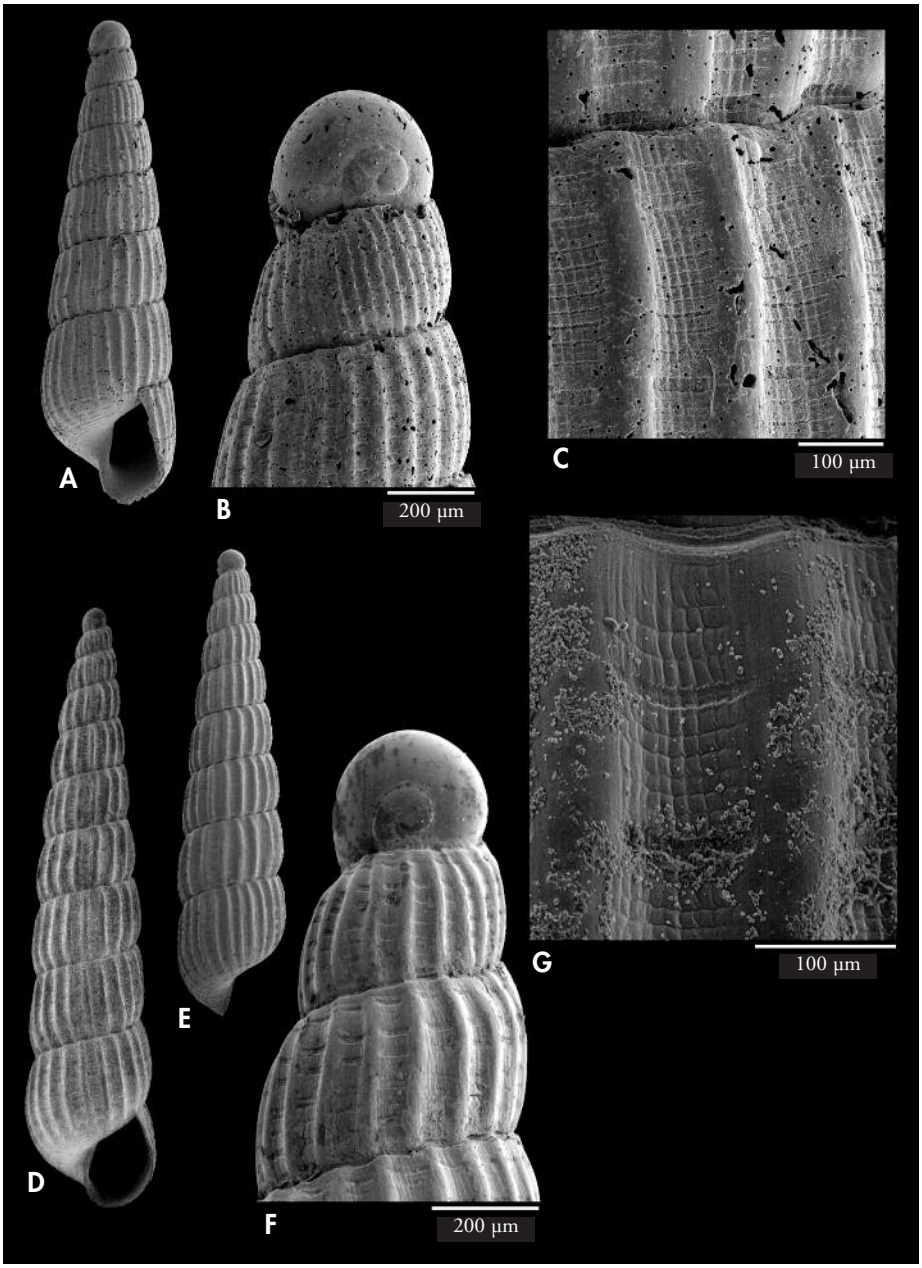

Figure 31. A-C: *Turbonilla gabrielae* spec. nov. A: holotype, 4.3 mm, Gorée, region of Dakar, Senegal, 145-155 m (MNHN); B: protoconch; C: microsculpture. D-G: *Turbonilla pablopenasi* spec. nov.; D: holotype, 5.9 mm, off Oceanium Hotel, Dakar, Senegal (MNCN); E: paratype, 4.6 mm (MNHN); F: protoconch of the paratype; G: microsculpture.

Figura 31. A-C: Turbonilla gabrielae *spec. nov. A: holotipo, 4,3 mm, Gorée, región de Dakar, Senegal, 145-155 m (MNHN); B: protoconcha; C: microescultura. D-G:* Turbonilla pablopenasi *spec. nov.; D: holotipo, 5,9 mm, costa del Hotel Oceanium, Dakar, Senegal (MNCN); E: paratipo, 4,6 mm (MNHN); F: protoconcha de un paratipo; G: microescultura.*

Turbonilla pablopenasi spec. nov. (Figures 31D-G)

Type material: Holotype in MNCN (15.05/60133, Fig. 31D); Paratypes in: MMF (43363, 1 s, Fig. 31E), RBINS (MT.3107, 1 s), MNHN (IM-2012-2774, 3 s); MHNS (100616, 1 sp, 9 s, 8 j); CAP (1 sp, 3 s); CFS (2 s).
Type locality: Gorée I., Senegal, dredged in 10-12 m.
Other material examined: Senegal: 5 s, Dakar, off the Oceanium Hotel, 10-15 m (MHNS).
Etymology: The specific name is after Pablo Peñas Villén, grandson of the first author.

Description: Shell small, solid, conical to subcylindrical, narrow. In fresh shells the colour is pink, with a band of the same color but darker, located in the lower third of the whorls; fading to whitish in non-fresh shells. Protoconch of type B, with a diameter of about 310 μm, the nucleus suture, visible in its entirety. Teleoconch with a very high spire (h = 30% H), comprising 8-9 slightly convex whorls, the last one round at the periphery. Suture shallow, slightly wavy.

Axial sculpture formed by about 20 orthocline ribs of rounded profile, approximately as wide as their interspaces, fading gradually at the periphery of the last whorl. Spiral sculpture only in the interspaces, formed by 7 rows in the early whorls, and 8-9 on the last, much narrower than their interspaces and about 3 spiral striae in the base. Under magnification it is seen that in the interspaces of ribs there are axial ridges crossed by other spirals, forming a kind of reticle. Aperture pyriform; columella curved, opisthocline, no columellar tooth. Not umbilicate.

Dimensions of the holotype: 5.9 x 1.3 mm.

Distribution: Only known from the type locality, Gorée and Dakar in Senegal.

Remarks: *Turbonilla gruveli* Dautzenberg, 1912 has a significantly larger shell (the lectotype is 9 mm with 10 whorls), different color, with two bands between sutures, also the protoconch is much larger in diameter (about 420 μm), the teleoconch profile is clearly conical, the ribs are prosocline and it has many spiral grooves.

Turbonilla secernenda Dautzenberg, 1912 has a shell that is slightly larger for the same number of whorls, and a protoconch that is proportionally larger, globose, with a diameter of 360-370 μm; it has spiral cords instead of grooves, closer together and the microsculpture of the interspaces is not reticulate.

Turbonilla rubioi Peñas & Rolán, 1997 has a wider shell (H/D = 4.1 to 4.9 in *T. pablopenasi* for the same number of whorls) and a shorter spire (h = 35% H, also for the same number of whorls), the protoconch is more obtuse, with a smaller diameter, the teleoconch whorls are slightly stepped, the ribs are less robust, rather low, prosocline and it has many spiral grooves, about 18 on the penultimate whorl.

Turbonilla inaequabilis Peñas & Rolán, 1997 has a smaller shell, wider (H/D = 4), the protoconch is obtuse, with a nucleus partly not visible; suture less deep, less ribs, about 16 of angular profile, rather narrower than their interspaces, in which there are about 14 spiral grooves and at the base there are 7-8 spiral striae.

Turbonilla rafaeli has a smaller, subcylindrical, yellow shell, the protoconch is proportionately larger, the teleoconch has slightly convex whorls, but with the convexity in the lower third, the last whorl is nearly angulose at the periphery, it has less axial ribs, half as wide as their interspaces, which have about 10 spiral grooves of almost equal width in their interspaces.

Turbonilla pablopenasi spec. nov. has a shell similar to *T. gabrielae* spec. nov. but with a higher spire, it has almost two more whorls for the same height (4.5 mm), it is narrower for the same height and has a ratio H/D = 4.2 versus 3.65 in *T. gabrielae*; the whorls are more convex, the last one is more rounded at the periphery, the protoconch has a much smaller diameter (310 μm versus 400 μm in *T. gabrielae* spec. nov.). However the most constant character is the colour difference: the shell of *T. pablopenasi* is pink with a more or less dark color band, while *T. gabrielae* is white.

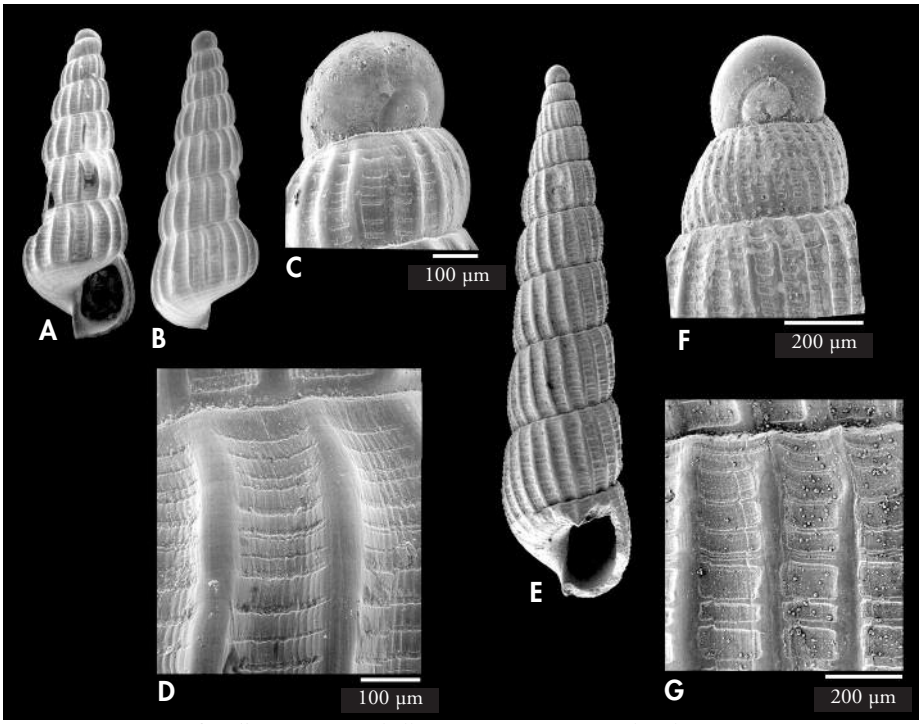

Figure 32. A-D: *Turbonilla* sp. 1. A-B: shell, 3.4 mm, Bissagos Archipelago, 140-238 m, Guinea-Bissau (CLD); C: protoconch; D: detail of the microsculpture. E-G: *Turbonilla* sp. 2, 6.5 mm Congo, Exp. "Kounda" (MNHN); F: protoconch; G: detail of the microsculpture.
Figura 32. A-D: Turbonilla *sp. 1. A-B: concha, 3,4 mm, Archipiélago de Bissagos, 140-238 m, Guinea-Bissau (CLD); C: protoconcha; D: detalle de la microescultura. E-G:* Turbonilla *sp. 2, 6,5 mm, Congo, Exp. "Kounda" (MNHN); F: protoconcha; G: detalle de la microescultura.*

Turbonilla sp. 1 (Figures 32A-D)

Material examined: Guinea-Bissau: 3 s, Bissagos Archipelago, 140-238 m (CLD).

Description: Shell small, solid, conical, whitish, opaque, somewhat shiny. Protoconch of type B, with a diameter of about 340 µm, with the suture of the nucleus in spiral, attached to the first whorl of the teleoconch. Teleoconch with a low spire, comprising 6 slightly convex whorls, the last one angular at the periphery. Suture shallow, linear. Axial sculpture formed by about 15 ribs, almost orthocline, irregular, somewhat narrower than their interspaces, interrupted in the periphery of the last whorl. Only in the interspaces, spiral sculpture formed by very narrow, not equally spaced grooves, about 10 between sutures of the penultimate whorl. Some spiral grooves on the base. Aperture subquadrangular; columella orthocline without columellar tooth. Not umbilicate.

The shell of Figure 32A-B measures 3.4 x 1.1 mm.

Remarks: The shells are probably not fully adult. They have a certain resemblance to *T. martae* Peñas & Rolán, 1997 in shape and sculpture, but this species has a very different protoconch, of type A, with a very prominent nucleus.

They also resemble immature shells of *T. striatula* (Linnaeus, 1758), known from the South European Atlantic and

Mediterranean, but this species has a larger shell for the same number of whorls, the ribs are markedly varicose, the colour is pale brown with darker bands, the protoconch has a larger diameter and a different nucleus.

Turbonilla abrardi has a pinkish colour on the shell, the whorls are quite convex, the last one rounded at the periphery, it has more axial ribs, the spiral sculpture is composed of cords and the protoconch has an arch shaped nucleus.

Turbonilla sp. 2 (Figures 32E-G)

Material examined: Congo: 1 s, Exp. "Kounda" (MNHN).

Description: Shell small, solid, conical. Whitish, opaque and shiny. Protoconch of type B, with a diameter of about 290 μm, the suture of the nucleus in spiral form. Teleoconch with a very high spire (h = 35%H), with about eight whorls slightly convex, the last one oval at the periphery. Suture deep. Axial sculpture formed by about 18 slightly prosocline ribs, somewhat narrower than their interspaces. Spiral sculpture in the interspaces formed by about 12 very narrow spiral cordlets.

Dimensions: the photographed shell measures 6.5 x 1.5 mm.

Remarks: *T. lozoueti* Peñas & Rolán, 2002 has a subcylindrical shell and the spiral sculpture consists of 8 grooves between sutures of the last whorl.

T. parsysti Peñas & Rolán, 2002 has a much smaller shell, but the protoconch is larger, the teleoconch whorls are stepped, the last one is angled at the periphery.

T. inaequabilis has a smaller and wider shell and the last whorl is angled at the periphery, the suture is shallower and the spiral sculpture consists of 14 rows between sutures on the last whorl.

Family AMATHINIDAE Ponder, 1987

Genus *Leucotina* A. Adams, 1860

Leucotina elongata (Aartsen, Gittenberger & Goud, 1998) (Figure 33A-D)

Adelactaeon elongata Aartsen, Gittenberger & Goud, 1998. *Zool. Verhan.*, 321: 12, fig. 8. [Type locality: Cansado Bay, Mauritania, 8 m].

Type material: Not examined. Ilustration of the holotype (NNM 57294) in AARTSEN *ET AL.* (1998).
Other material examined: Guinea Conakry: 1 s, W. Ile Quito, 8 m (MNHN). Ghana: 1 s, Miamia, 25 m (MHNS); 1 s, Miamia, 25 m (CAP). Angola: 1 s, Corimba, 20 m (MHNS); 2 s, Cacuaco, 10 m (MHNS).

Distribution: Described from the infralittoral of Mauritania. We have extended its range to include Guinea Conakry, Ghana and Angola.

Leucotina lilyae (Aartsen, Gittenberger & Goud, 1998) (Figure 33E-G)

Adelacteon lilyae Aartsen, Gittenberger & Goud, 1998. *Zool. Verhand.*, 321: 12-13, fig. 9. [Type locality: Banc d'Arguin, Mauritania, 21-34 m].

Type material: Not examined. Holotype photographed in AARTSEN *ET AL.* (1998).
Other material examined: Senegal: 3 s, Gorée Island, 7-12 m (CFS); 2 s, Dakar, 9-12 m (CAP). Ghana: 1 s, Miamia, 35-45 m (MHNS).

Distribution: Previously known from the infralittoral of Mauritania. Its distribution is extended to Senegal and Ghana.

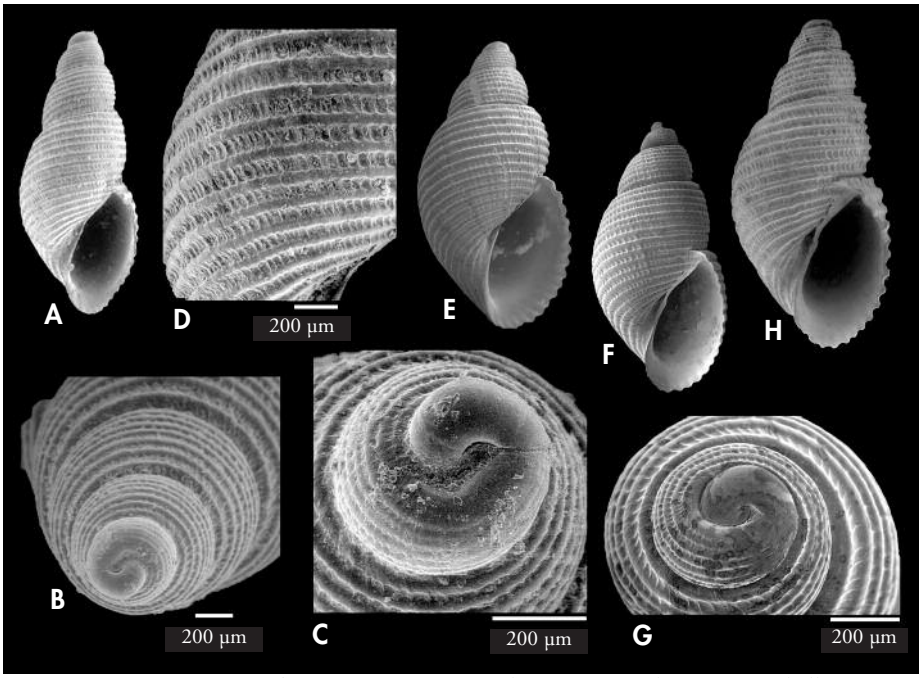

Figure 33. A-D: *Leucotina elongata* (Aartsen, Gittenberger & Goud, 1998); A: shell, 3.8 mm, Guinea Conakry (MNHN); B-C: apical view and protoconch; D: microsculpture. E-G: *Leucotina lilyae* (Aartsen, Gittenberger & Goud, 1998); E-F: shells, 3.6, 3.0 mm, Goree, Dakar, Senegal (CAP); G: protoconch. H: *Leucotina puncturata* (Smith, 1872), shell, 4.0 mm, Cacuaco, Angola (MHNS).

Figura 33. A-D: Leucotina elongata *(Aartsen, Gittenberger & Goud, 1998); A: concha, 3,8 mm, Guinea Conakry (MNHN); B-C: vista apical y protoconcha; D: microescultura. E-G:* Leucotina lilyae *(Aartsen, Gittenberger & Goud, 1998); E-F: conchas, 3,6, 3,0 mm, Gorée, Dakar, Senegal (CAP); G: protoconcha. H:* Leucotina puncturata *(Smith, 1872), concha, 4,0 mm, Cacuaco, Angola (MHNS).*

Leucotina puncturata (Smith, 1872) (Figure 33H)

Monoptygma (Myonia) puncturata Smith, 1872. *Proc. Zool. Soc. London* (1871): 734, pl. 75, fig. 16. [Type locality: Whydah, Benin].
Adelacteon pucturata – Aartsen, Gittenberger & Goud, 1998: 12, fig. 7.

Type material: Not examined. Ilustration of the lectotype in AARTSEN *ET AL.* (1998: fig. 7).
Material examined: Mauritania: 2 s, 3 j, Banc d'Arguin (MHNS). Guinea Conakry: Exp. "Sedigui I" (MNHN): 3 s, W Kaporo, Stn. 269, 4 m; 1 s, W Kaporo, Stn. 277, 23 m; 1 s, W front Sierra Leone, Stn. 8, 22 m; Exp. "Sedigui II" (MNHN): 1 s, W Ile de Quito, Stn. 520 (10°00'N - 15°58'W, 34 m); 3 s, W Ile de Quito, Stn. 487, 8 m; 1 s, W Yomponi River, Stn. 687 (10°24'N - 14°47'W, 23 m). Ghana: 1 s, 2 j, Miamia, 35-45 m (MHNS); 1 s, Miamia, 35-45 m (CAP). São Tomé and Príncipe: 1 s, 1 j, Santo Antonio, Príncipe (MHNS). Congo: Exp. "Kounda" (MNHN); 1 s, Conkouati, 17-19 m. Angola: 1 s, Cacuaco, 10 m (MHNS).

Distribution: This species was only known previously from the type locality, in Benin. We extend its distribution range to the infralittoral of Mauritania, Guinea Conakry, the island of Príncipe, Congo and Angola.

FINAL COMMENTS

For the present work about 9000 specimens, both adult shells and juveniles, have been examined. This material was collected by different persons and institutions over the last ten years. The material recorded for those species included in this work is composed of about 6000 shells.

In total about 260 species have been identified. In a ratio of 25% the species identified did not add new information to the distributions and taxonomy already known. In 75% the information increased the known distribution area for the species, by including additional countries or extending the depth range. Thirty species are apparently new to science, and although in 7 cases we had doubts that made us include them as sp., without naming them, 23 others were named in this work.

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