

## Description of new species of Muricidae (Gastropoda) from New Caledonia, the Philippine Islands, the Northeast Atlantic, and West Africa

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ABSTRACT. Five new species of Muricidae are described: *Poirieria (Actinotrophon) fragilis* from the New Caledonia region and Western Australia, *Dermomurex (Takia) gofasi* from the Northeast Atlantic, *Attiliosa ruthae* from the Philippine Islands, *Ocenebra (Ocenebra) chavesi* from the Azores, and *Pterotyrphis ryalli* from Ghana. *Poirieria (Actinotrophon) actinophorus* (Dall, 1889) is reported for the first time from the Northeast Atlantic.

### INTRODUCTION

Identification of material obtained from recent expeditions, new dredging methods, and unflagging attempts for a better understanding of supraspecific classification have led to the discovery of new geographical distribution for many species and to the description of numerous new taxa in the family Muricidae. More than 380 species have been named since 1973 (HOUART, 1994).

Five new species belonging to four different subfamilies are described here. They originate from different sources: *Poirieria (Actinotrophon) fragilis* was collected during Musorstom and Bathus cruises in the New Caledonia region, organized by ORSTOM and Muséum national d'Histoire Naturelle, Paris using the ORSTOM ship "Alis"; *Dermomurex (Takia) gofasi* was collected during the Seamount 2 expedition, also organized by MNHN, which visited the Meteor Group seamounts in the Northeast Atlantic, using IFREMER ship "Le Suroît" with funding of Centre National de la Recherche Scientifique; *Attiliosa ruthae* is a species from the Philippine Islands, the source of numerous, recently described new species; *Ocenebra (O.) chavesi* was collected some one hundred years ago in the the Azores; *Pterotyrphis ryalli* from Ghana, West Africa, is a small and apparently rare species, few specimens have been collected since its discovery in 1977. It was confused with *P. pinnatus* (Broderip, 1833) by D'ATTILIO & HERTZ (1989).

### Abbreviations

IRSNB: Institut Royal des Sciences Naturelles de Belgique, Bruxelles, Belgium.  
MNHN: Muséum National d'Histoire Naturelle, Paris, France.  
SMNH: Swedish Museum of Natural History, Stockholm, Sweden.  
USNM: National Museum of Natural History, Washington, D.C., U.S.A.  
DE: Drague épibenthique (Epibenthic Sledge)  
DW: Drague Waren (Waren Dredge).  
CP: Chalut à perche (Beam Trawl).  
dd: empty shells.  
lv.: live-taken specimen(s).

### SYSTEMATICS

Family MURICIDAE Rafinesque, 1815  
Subfamily MURICINAE Rafinesque, 1815  
Genus *Poirieria* Jousseaume, 1880  
Subgenus *Actinotrophon* Dall, 1902

Type species by monotypy: *Trophon actinophorus* Dall, 1889

*Poirieria (Actinotrophon) actinophorus*  
(Dall, 1889)  
Figs 10-11

*Boreotrophon actinophorus* Dall, 1889: 206, pl. 15, fig. 2.

**Type locality:** off Santa Cruz (St Croix, Virgin Islands), 248 fms (454 m).

**Material examined**

Seamount 2, Great Meteor Bank, stn DE 140, 30°01.10' N-28°27.70' W, 308 m, 1 dd; stn DW 143, 30°09.90' N-28°18.10' W, 330 m, 2 dd; stn CP 144, 30°09.90' N-28°29.04' W, 335 m, 1 dd; stn DW 145, 30°11.40' N-28°28.50' W, 470 m, 1 dd; stn DW 152, 30°02.00' N-28°22.10' W, 470 m, 1 lv., 12 dd (8 juveniles); stn DE 157, 29°56.20' N-28°31.80' W, 290 m, 1 dd; stn DW 172, 30°05.10' N-28°41.50' W, 455 m, 1 dd; Hyères Bank, stn DW 184, 31°24.40' N-28°52.30' W, 705 m, 1 lv.; Irving Bank, stn DW 218, 31°52.30' N-28°03.60' W, 480 m, 2 lv.; stn DW 219, 32°01.00' N-27°53.30' W, 760 m, 2 lv.; stn DW 205, 32°01.10' N-27°57.20' W, 348 m, 1 lv.; stn DW 231, 32°01.50' N-27°54.50' W, 745 m, 6 lv., 6 dd (all MNHN).

**Remarks**

*P. actiniphorus* was reported alive, from different localities in the Caribbean Sea, and off Brazil, in depth from 256 to 774 m (DALL, 1889, BULLIS, 1964, BAYER, 1971, PAULMIER, 1994).

The specimens collected in the Northeast Atlantic were dredged, alive, from 290 to 760 m depth. The largest specimen is 14.8 mm in length, with 6 teleoconch whorls. The illustrated specimen (Fig. 12) is 13.5 mm in length, with 5.5 teleoconch whorls.

***Poirieria (Actinotrophon) fragilis* n.sp.**

Figs 1-2, 5-9, 27-28

**Type material examined**

New Caledonia: **Musorstom 6**, stn DW 483, 21°20' S-167°48' E, 600 m, Bouchet and Richer de Forges, 23 February 1989, holotype MNHN (lv.). Paratypes: Biocal, stn CP 75, 22°19' S-167°23' E, 825-860 m, Bouchet, Métivier & Richer de Forges, 04 September 1985, 1 MNHN (dd); **Bathus 1**, stn CP 698, 20°34' S-164°57' E, 491-533 m, Bouchet & Richer de Forges, 17 March 1993, 3 MNHN; stn CP 702, 20°35' S-165°35' E, 591-660 m, 1 MNHN, **Bathus 4**, stn CP 948, 20°33' S-164°57' E, 533-610 m, Métivier & Richer de Forges, 10 August 1994, 1 NMNZ M272477; 1 NML1857/T1361; 1 coll. R. Houart; 9 MNHN.

**Other material examined**

North West of Port Hedland, Australia (depth unknown), coll. R. Houart, (1 dd).

**Distribution**

New Caledonia and North West of Port Hedland, Australia; live collected in 610 m (New Caledonia).

**Description**

Shell delicate, up to 28 mm in length (Australian specimen, coll. R. Houart). Spire high, acutely conical with 1.5 protoconch whorls and 6 or 7 sharply angulate teleoconch whorls. Protoconch whorls rounded, smooth, glossy; terminal varix eroded, strongly curved, typical of *Poirieria*. Suture impressed. First and second teleoconch whorls with 6 or 7 lamellate varices; 7 or 8 varices from third to last teleoconch whorls. Varices produced into long, sharp, flattened, open shoulder spines, increasing gradually in length on next whorls. Aperture ovate, columellar lip rim entirely adherent. Anal notch indistinct. Outer lip thin, smooth within. Siphonal canal moderately long, open, weakly bent abaperturally. 2-4 previous canals retained. Milky white.

Radula (Fig. 27) with broad, sickle shaped lateral teeth. Rachidian with long central and lateral cusps, and short lateral denticles, similar to that of species of *Poirieria* sensu stricto (MARSHALL & HOUART, 1995).

Operculum (Fig. 28) ovate-elongate, with terminal nucleus.

**Remarks.**

This is the first record of a species of *Poirieria (Actinotrophon)* in the western Pacific, and the second known species. *Poirieria (Actinotrophon) fragilis* n.sp. is similar to *P. (A.) actiniphorus* (Dall, 1889) from the Caribbean and the Northeast Atlantic (Figs 10-11), but the teleoconch whorls of *P. actiniphorus* are smoother and higher with fewer axial lamellae, the aperture is narrower and more elongate, and the siphonal canal is broader.

**Etymology**

Named for the delicacy and fragility of the shell.

***Dermomurex (Takia) gofasi* n.sp.**

Figs 3-4, 13-14, 29-30

**Type material examined**

Northeast Atlantic, Hyères Bank, SEAMOUNT 2, stn DW 182, 31°23.20' N-28°53.50' W, 480 m, Gofas, Métivier, Warén coll., 16 January 1993, holotype (lv.) and 3 paratypes MNHN, 1 paratype coll. R. Houart; stn DW 188, 31°30.00' N-28°59.50' W, 310 m, 17 January 1993, 1 paratype MNHN (dd); Irving Bank, stn DW 205, 32°01.10' N-27°57.20' W, 348 m, 25 January 1993, 1 paratype MNHN (dd).

**Distribution**

Northeast Atlantic, from 31°23.20' N, 28°53.50' W to 32°01.10' N, 27°57.20' W, in 310-480 m.

**Description**

Shell up to 18.75 mm in length at maturity, lightly built. Spire high, with 1.5-1.75 protoconch whorls and 6 broad, convex, weakly shouldered teleoconch whorls. Suture impressed. First teleoconch whorl with 6 high, strong, rounded varices, 7 on second and third, 6 or 7 on fourth, 6 on fifth and last whorls. Spiral sculpture, when intritacalx removed, of primary and secondary cords, and weak threads (Fig. 30). Aperture broad, roundly-ovate. Columellar lip flaring, smooth, rim partially erect, adherent at adapical extremity. Anal notch shallow, broad. Outer lip smooth, with 5 weak, low denticles within.

Siphonal canal short, narrow, straight, open.

Greyish-white, covered by a thick, relatively smooth, ivory-white or light tan intritacalx (Fig. 29). Aperture glossy white.

Operculum and radula unknown.

**Remarks.**

The subgenus *Takia* is actually known from five Recent species: *Dermomurex (Takia) africanus* Vokes, 1978, from South Africa, *D. (T.) bobyini* (Kosuge, 1984), from the Philippine Islands, *D. (T.) infrons* Vokes, 1974, from Japan and South Africa, *D. (T.) myrakeenae* (Emerson & D'Attilio, 1970), from Mexico, Eastern Pacific, and *D. (T.) wareni* Houart, 1990, from New Caledonia. In addition to that, there are several fossil forms in the Western Atlantic (VOKES, 1992), but they are rather different from *D. gofasi* n.sp. and do not need to be compared here.

This is the first record of a living *Takia* species in the Atlantic Ocean. Such a record was nicely predicted by VOKES (1992:80) who noted: "At this time there are no known species of *Takia* living in the Atlantic Ocean - but given the rate of discovery of new species of *Dermomurex* in the Caribbean of late, one may yet appear"...

**Etymology**

Named after Serge Gofas (MNHN), on board of R.V. "Suroît", during the SEAMOUNT 2 expedition.

Genus *Attiliosa* Emerson, 1968

Type species by original designation: *Coralliophila incompta* Berry, 1960

*Attiliosa ruthae* n.sp.

Figs 15, 31-32

**Type material examined**

Holotype MNHN, and 1 paratype coll. R. Houart, Cebu, Philippine Islands (lv.).

**Distribution**

Only known from the type locality, Cebu, Philippines, depth unknown.

**Description**

Shell up to 27.5 mm in length at maturity (holotype), heavy, weakly spinose. Spire high, acute, with 1.25 - 1.50 protoconch whorls, and up to 7 distinctly shouldered, teleoconch whorls. Suture adpressed. Protoconch small, whorls rounded, smooth.

Axial sculpture of teleoconch whorls consisting of high, narrow, spinose varices, each with one short, acute, adapically recurved shoulder spine. Last whorl with webbed varices and relatively shorter shoulder spines. Spiral sculpture of low, weak, nearly indistinct, smooth, primary and secondary cords.

Aperture broad, roundly-ovate. Columellar lip flaring, smooth, with 3 strong, small knobs abapically. Rim partially erect. Anal notch indistinct. Outer lip crenulate, with 8 weak denticles within. Siphonal canal short, narrow, strongly abaperturally recurved, open.

Light tan with darker coloured shoulder spines on 4 last whorls (holotype), or bluish white with milky white varices and aperture (paratype).

Operculum and radula unknown.

**Remarks**

*Attiliosa ruthae* n.sp. differs from *A. nodulifera* (Sowerby, 1841) (Fig. 16) and *A. caledonica* (Jousseume, 1881) (Fig. 17) in having narrower varices, shorter, sharper, more adapically recurved shoulder spines, and fimbriate instead of spinose varices on the last whorl.

There are very few morphological differences in the shells of the numerous specimens of *A. nodulifera* that I examined throughout the years, and none of them had fimbriate varices and/or short, adapically pointed shoulder spines. Although fewer specimens of *A. caledonica* were examined, all of them also lack these particular features. The

genus was reviewed by VOKES & D'ATTILIO (1982).

#### Etymology

Named after Ruth Barbier, wife of Jean-Pierre Barbier, name proposed by Jean-Pierre, who provided the type material.

Subfamily OCENEBRINAE Cossmann, 1903

Genus *Ocenebra* Gray, 1847

Subgenus *Ocenebra* sensu stricto

Type species by monotypy: *Murex erinaceus* Linnaeus, 1758

#### *Ocenebra (Ocenebra) chavesi* n.sp.

Figs 22-25

#### Type material

Holotype IRSNB IG 10591/474, Azores, San Miguel. Paratypes: 11 IRSNB; 1 coll. R. Houart (same locality) (lv. & dd); San Miguel, Ponta Delgada, 3 SMNH 4797; San Miguel, Ponta Delgada, 10-20 m, 1 MNHN; San Miguel, Ponta de Pirâmide, 13 m, 1 MNHN.

#### Distribution

San Miguel, Azores, depth unknown.

#### Description

Shell up to 21.42 mm in length at maturity, heavy, nodose. Spire high, acute, with 1.5 protoconch whorls, and up to 6 shouldered teleoconch whorls. Suture impressed. Protoconch ocenebrine, globose, whorls rounded, smooth.

Axial sculpture of teleoconch whorls consisting of high, rounded, squamous ribs: first whorl with 9 ribs, second with 10, third with 8-10, fourth with 7-9, fifth and last whorl with 6 or 7 ribs. Spiral sculpture of high, nodose, squamous, primary and secondary cords: 2 on first to third whorls, 3 on fourth and fifth, 5 on last whorl. Shoulder usually with 2 secondary cords.

Aperture ovate. Columellar lip smooth, adherent. Anal notch indistinct. Outer lip smooth. Siphonal canal short, narrow, straight, ventrally sealed.

Light tan to light brown. Aperture white.

Operculum and radula unknown.

#### Remarks

In the collection of P. Dautzenberg stored in the Institut Royal des Sciences Naturelles de Belgique, I located a sample of specimens of an unknown ocenebrine species labelled as "*Ocenebra chavesi* Dautz. mss, San Miguel, Cap. Chaves, 1895" and compared with the Western Atlantic *Murex nuceus* Mörch,

currently referred to *Favartia* (Muricopsinae). The shell morphology is approximately similar to *F. nuceus*, but the sealed siphonal canal in *O. chavesi* clearly indicates a relationship with the Ocenebrinae.

The original lot also included a juvenile and a worn adult specimen of *Ocenebra erinaceus* (Linnaeus, 1758) (Fig. 26).

*O. chavesi* differs from *O. erinaceus* in its smaller absolute size at maturity and the size relative to the number of whorls, more strongly nodular sculpture, fewer spiral cords, more deeply channelled suture, and usually more rounded whorls.

#### Etymology

The name previously chosen by P. Dautzenberg is retained.

Subfamily TRIPTEROTYPHINAE

D'Attilio & Hertz, 1988

Genus *Pterotyphis* Jousseau, 1880

Type species by original designation: *Typhis pinnatus* Broderip, 1833

#### *Pterotyphis ryalli* n.sp.

Figs 18-20

*Pterotyphis pinnatus* -D'ATTILIO & HERTZ, 1989: 105, figs 1 & 2 [not *P. pinnatus* (Broderip, 1833)].

#### Type material examined

Holotype IRSNB IG 28292/473, and one paratype P. Ryall coll., Ghana, off Busua Island, under rocks, approximately 10 m depth (dd). Paratypes: Ghana, off Busua Id, under rocks, approximately 6 m depth, coll. R. Houart (dd); Ghana, off Busua Id, 15 m, coll. P. Ryall (dd); Ghana, Sekondi Bay (fragment), coll. P. Ryall; Ghana, Takoradi, coll. P. Ryall (lv.); Ghana, Busua Beach, near Abokwa Id, low tide, coll. E. Rolán (lv.).

#### Distribution

Ghana, West Africa, living at low tide.

#### Description

Shell up to 11.1 mm in length (paratype, P. Ryall). Spire high, up to 5 weakly convex, narrow, teleoconch whorls. Suture adpressed. Protoconch unknown.

Axial sculpture of teleoconch whorls consisting of three strong, narrow, lamellose varices. Other axial sculpture of numerous growth lamellae. Apertural varix more strongly developed. Short, spire-like, ventrally sealed



tube at shoulder immediately behind varix. Spiral sculpture of strong, smooth cords, and a few smooth threads: 2 or 3 cords on first and second whorls, 3 or 4 on third, 5 or 6 on fourth, 8 or 9 on last whorl. Shoulder with 2-4 narrow threads.

Aperture small, ovate. Columellar lip narrow, smooth, rim adherent. Anal notch indistinct. Outer lip weakly crenulate, smooth within. Siphonal canal short, broad, narrowly open.

Light tan, occasionally with darker coloured bands at shoulder and periphery.

Operculum and radula unknown.

#### Remarks

*Pterotyphis pinnatus* (Broderip, 1833) (Fig. 21) from the Western Atlantic is superficially similar, but differs in having a relatively larger, more strongly shouldered and broader shell, with narrower, more numerous spiral cords and threads, and thinner, more strongly fimbriate varicial wings.

The only other known Recent species of *Pterotyphis* is *P. fimbriatus* (A. Adams, 1854) from the Gulf of California and Mexico, Eastern Pacific.

#### Etymology

Named for Peter S. Ryall (Klagenfurt, Austria) who provided most of the type material.

#### Acknowledgements.

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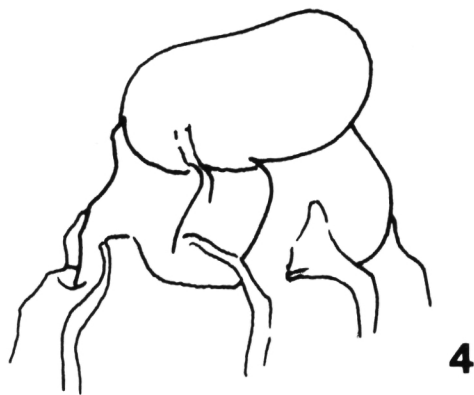
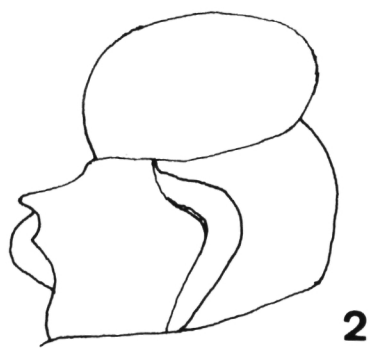
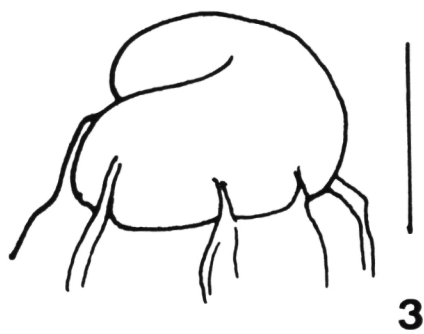
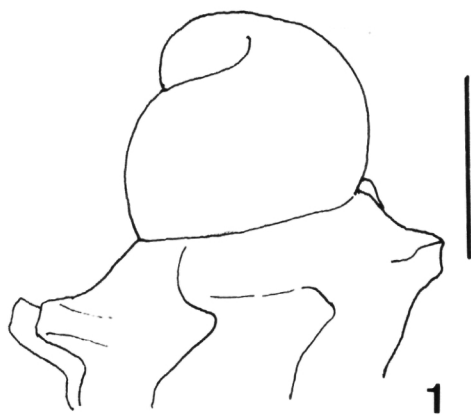
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**Figures 1-4** (*opposite page*).

**1-2.** Protoconch of *Poirieria (Actinotrophon) fragilis* n.sp. Holotype MNHN (scale bar 0.5 mm)

**3-4.** Protoconch of *Dermomurex (Takia) gofasi* n.sp. Holotype MNHN (scale bar 0.5 mm)



**Figures 5-9.** *Poirieria (Actinotrophon) fragilis* n.sp. (opposite page).

**5-6.** Holotype MNHN, New Caledonia, Musorstom 6, stn DW 483, 21° 20' S, 167° 48' E, 600 m, 16 mm. **7-9.** Paratype MNHN, New Caledonia, Biocal, stn CP75, 22° 19' S, 167° 23' E, 825-860 m, 15.9 mm.



**Figures 10-14** (*opposite page*).

**10-12.** *Poirieria (Actinotrophon) actinophorus* (Dall, 1889).

**10-11.** Paratype USNM 87089. Blake Sta. 134, 248 fms (456 m), off Santa Cruz, 16.3 mm. **12.** Irving Bank, Northeast Atlantic, SEAMOUNT 2, stn DW 205, 32° 01.10' N, 27° 57.20' W, 348 m, 12.7 mm.

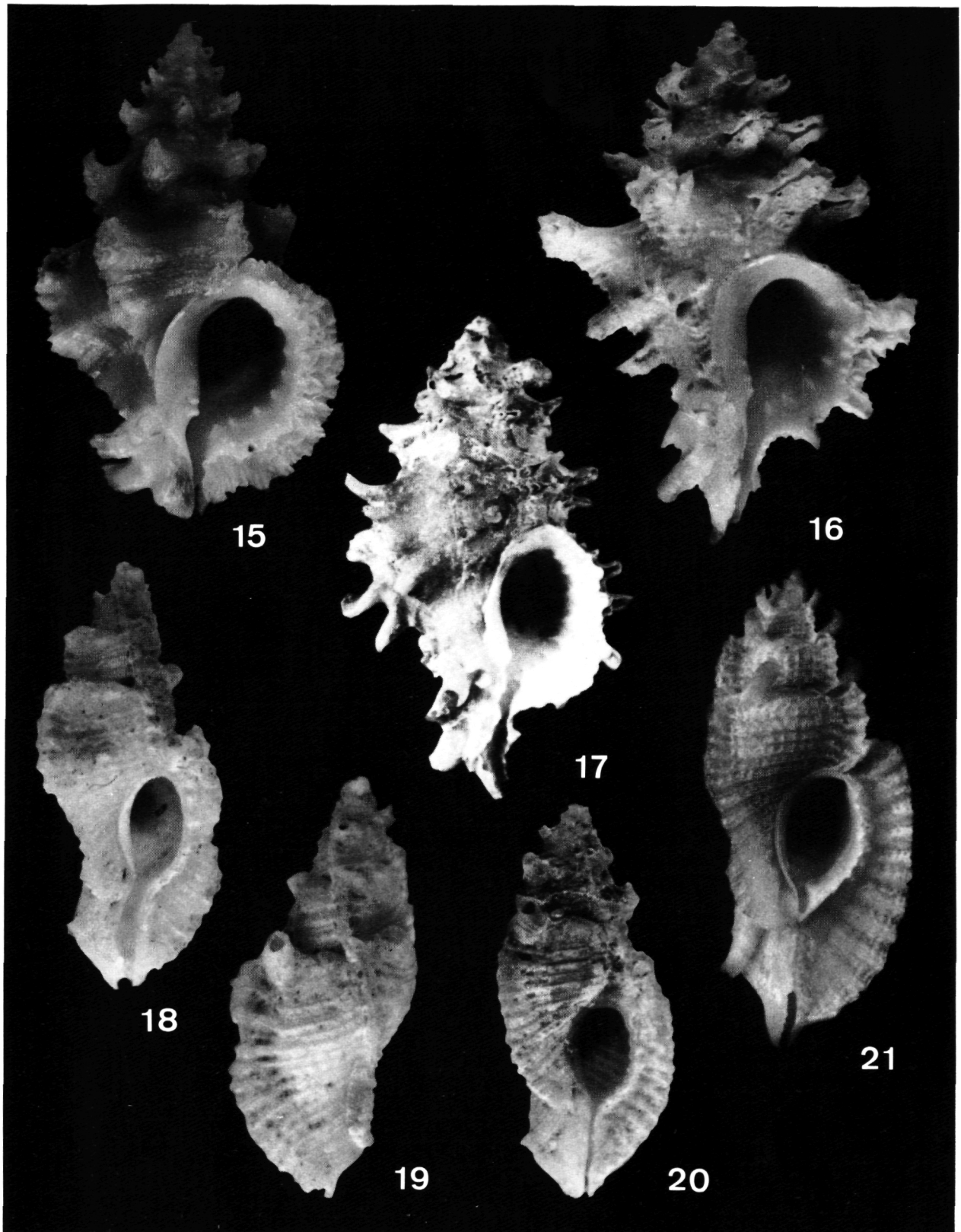
**13-14.** *Dermomurex (Takia) gofasi* n.sp. Holotype MNHN. Hyères Bank, Northeast Atlantic, SEAMOUNT 2, stn DW 182, 31° 23.20' N, 28° 53.50' W, 480 m, 18.8 mm.





**Figures 15-21** (*opposite page*).

- 15.** *Attiliosa ruthae* n.sp. Paratype coll. R. Houart, Cebu, Philippine Islands, 26.8 mm.
- 16.** *Attiliosa nodulifera* (Sowerby, 1841), Punta Engaño, Philippine Islands, coll. R. Houart, 29.1 mm.
- 17.** *Attiliosa caledonica* (Jousseau, 1881), Tahiti, coll. M. Boutet, 37 mm.
- 18-20.** *Pterotyphis ryalli* n.sp.
- 18-19.** Holotype IRSNB IG 28292/473, Ghana, off Busua Island, 8.6 mm. **20.** Paratype coll. E. Rolán, Ghana, Busua Beach, near of Abokwa Island, 7.7 mm.
- 21.** *Pterotyphis pinnatus* (Broderip, 1833), La Habana, Cuba, coll. R. Houart, 24 mm.

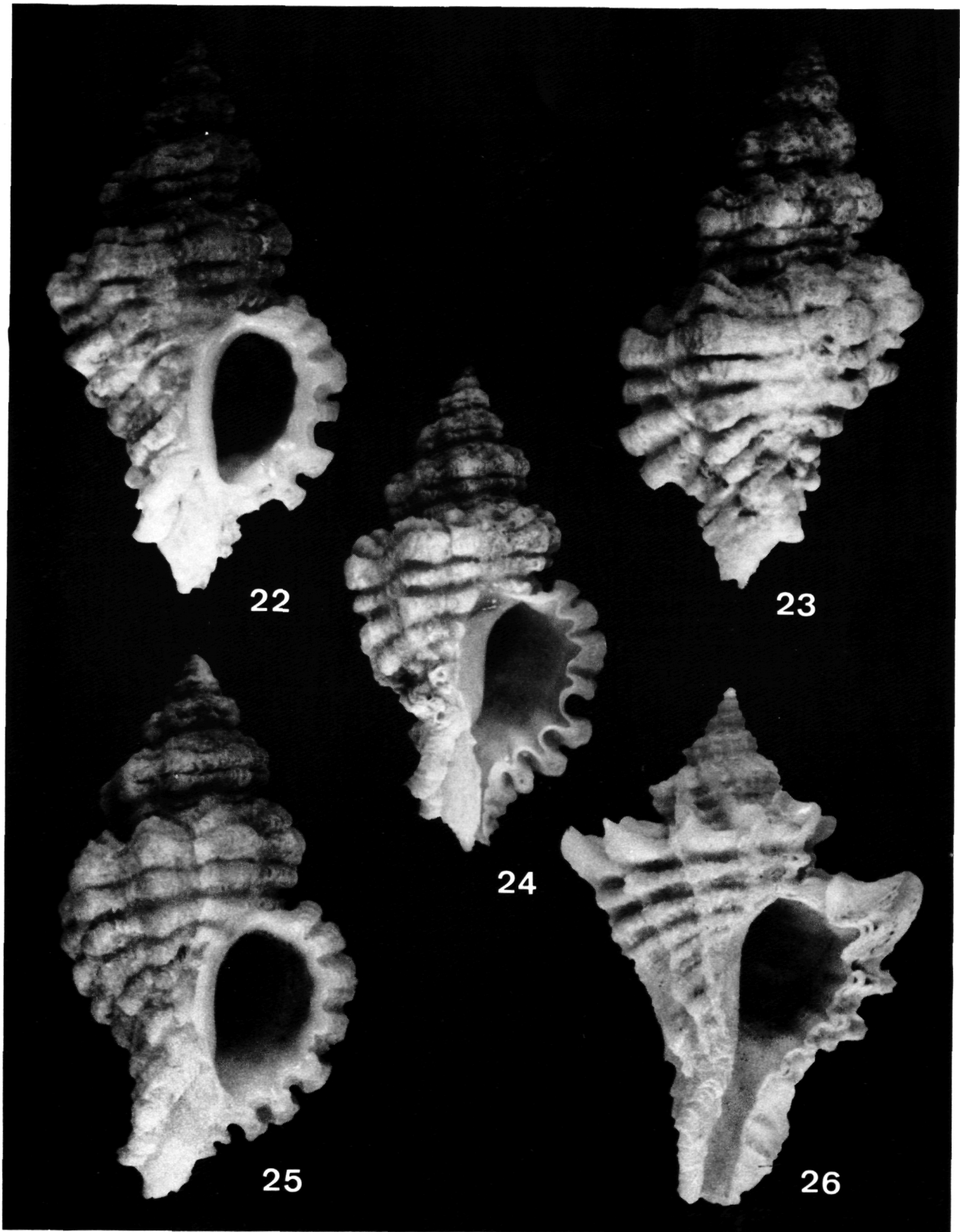


**Figures 22-26** (*opposite page*).

**22-25.** *Ocenebra chavesi* n.sp., San Miguel, Azores

**22-23.** Holotype IRSNB IG 10591/474, 21.4 mm. **24.** Paratype IRSNB, 18.7 mm (subadult).  
**25.** Paratype IRSNB, 21 mm.

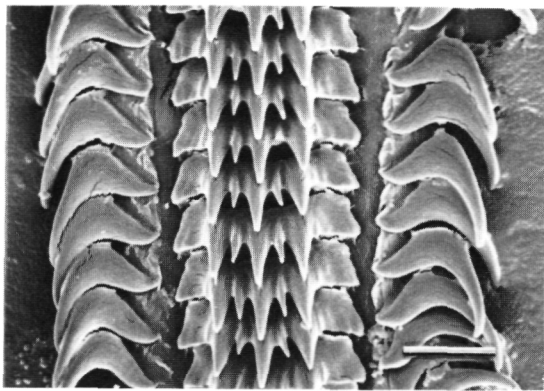
**26.** *Ocenebra erinaceus* (Linnaeus, 1758), IRSNB IG-10591, San Miguel, Azores, 20.4 mm (juvenile).



**Figures 27-32** (*opposite page*).

- 27.** Radula of *Poirieria (Actinotrophon) fragilis* n.sp., holotype MNHN, scale bar 50  $\mu$ m.  
**28.** Operculum of *P. (A.) fragilis* n.sp., holotype MNHN, X 24. **29.** Detail of intritacalx of *Dermomurex (Takia) gofasi* n.sp., holotype MNHN. **30.** Detail of spiral sculpture of *D. (T.) gofasi* n.sp., paratype MNHN. **31-32.** *Attiliosa ruthae* n.sp. Holotype MNHN, Cebu, Philippine Islands, 27.5 mm.





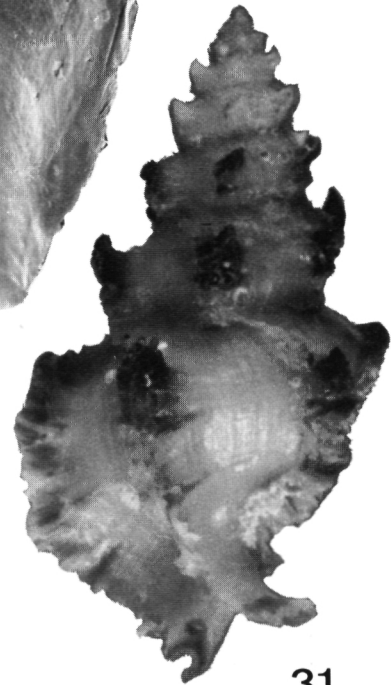
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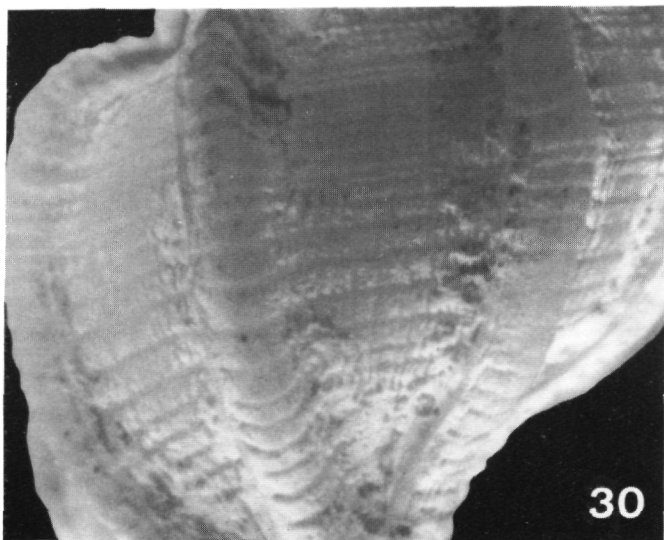
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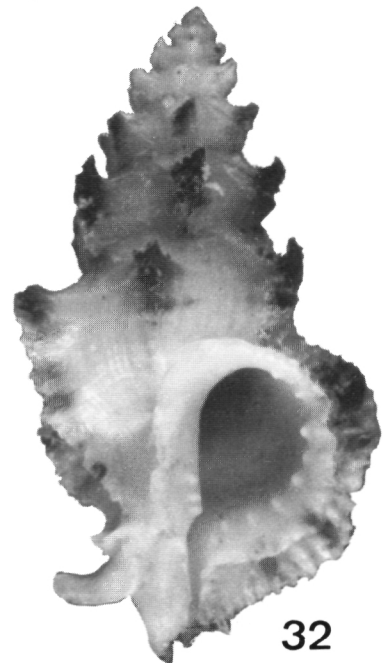
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