



## Gastropods collected along the continental slope of the Colombian Caribbean during the *INVEMAR-Macrofauna* campaigns (1998-2001)

### Gasterópodos colectados en el talud continental del Caribe colombiano durante las campañas *INVEMAR-Macrofauna* (1998-2001)

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#### ABSTRACT

Among the biological material collected during the 1998-2001 "INVEMAR-Macrofauna" campaigns aboard the R/V *Ancón* along the upper zone of the continental slope of the Colombian Caribbean, at depths ranging from 200 to 520 m, a total of 104 gastropod species were obtained. Besides 18 not yet identified species, but including one recently described new species (*Armina juliana* Ardila and Díaz, 2002), 48 species were not previously known from Colombia, 18 of which were also unknown from the Caribbean Sea. Of the 36 families represented, Turridae was by far the richest in species (26 species). An annotated list of the taxa recorded is provided, as well as illustrations of those recorded for the first time in the area.

#### RESUMEN

Entre el material biológico colectado en 1998-2001 durante las campañas "INVEMAR-Macrofauna" a bordo del B/I *Ancón*, a profundidades entre 200 y 520 m, se obtuvo un total de 104 especies de gasterópodos. Aparte de 18 especies cuya identificación no ha sido completada, pero incluyendo una especie recientemente descrita (*Armina juliana* Ardila y Díaz, 2002), 48 especies no habían sido registradas antes en aguas colombianas y 18 de ellas tampoco en el mar Caribe. De las 36 familias representadas, Turridae fue la más numerosa en especies (26 especies). Se ofrece una relación anotada de las especies colectadas, así como ilustraciones de aquellas que se registran por primera vez para el área.

KEY WORDS: Gastropoda, shelf slope, Colombia, Caribbean Sea.

PALABRAS CLAVE: Gastropoda, talud continental, Colombia, Mar Caribe.

#### INTRODUCTION

Knowledge of the composition and distribution of the gastropod fauna in the coastal and shelf areas of northern South America has considerably increased in

the course of the past three decades, mostly based on material collected in the littoral zone and shallow shelf areas less than 100 m in depth (e.g. ALTENA, 1975;

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PETUCH, 1981, 1987; PRINCZ, 1982; COSEL, 1986; JONG AND COOMANS, 1988; DÍAZ AND GÖTTING, 1988; DÍAZ, 1985, 1989, 1990, 1994, 1995; DÍAZ AND PUYANA, 1994). By contrast, most records of gastropod species from deeper settings off the northernmost South American coasts are based on the material trawled by the R/V Pillsbury (cf. BAYER, VOSS AND ROBINS, 1970; BAYER, 1971) in certain areas off the Colombian coast and the R/V Nisshinmaru N° 201 off Surinam (cf. OKUTANI, 1982, 1983). We can thus say that the molluscan fauna from deeper shelf zones and the continental slope in this region, like that of many other areas of the Caribbean, remained so far under-explored. The fact that almost all of the about 740 gastropod species known from Curacao, Bonaire and Aruba, and 630 of the 722 species recorded from the Colombian Caribbean (cf. Díaz and Puyana, 1994) have been recorded exclusively from water depths ranging from intertidal to 100 m (cf. JONG AND COOMANS, 1988), demonstrates this situation eloquently. Thus, a significant increase of ca. 20% in the current inventory of gastropod species occurring in Colombian Caribbean waters can be expected when exhaustive collecting in deeper zones is carried out in this area (cf. DÍAZ, CANTERA AND PUYANA, 1998).

Between 1998 and 2001, a series of cruises were conducted aboard the R/V Ancón of the Instituto de Investigaciones Marinas y Costeras, INVEMAR, along the upper shelf slope (-200 to -520 m) off the Caribbean mainland coast of Colombia, as part of an ambitious program for inventorying the benthic macrofauna of this under-explored zone. The purpose of this paper is to report the gastropod species collected during these campaigns, many of which have not been recorded from Colombian or even from Caribbean waters before.

## MATERIAL AND METHODS

During the cruises, 80 stations were sampled between the Guajira Peninsula (12°34'N-71°50'W) and the Gulf of

Urabá (09°02'N-76°02'W), ranging in depth from 200 to about 520 m (Fig. 1). A bottom area of about 25,000 m<sup>2</sup> was swept at each station using a semi-balloon trawl net (ca. 9 x 1 m mouth opening, 20 min. trawling at a speed of about 3 knots). The material collected was preliminarily sorted by groups and preserved in 70% ethanol on board.

Taxonomic identification was carried out at INVEMAR, Santa Marta, and the U.S. National Museum of Natural History, Washington D.C. Voucher specimens of the collected material were deposited in the Museo de Historia Natural Marina de Colombia, at Santa Marta, Colombia. The taxonomic arrangement follows VAUGHT (1989). Taxa recorded for the first time for Caribbean or Colombian waters are illustrated. Shell measurements of the largest specimen of each taxa are given.

### Abbreviations:

MHNMC: Museo de Historia Natural Marina de Colombia (INV), Santa Marta

LACM: Los Angeles County Museum

NMNH: National Museum of Natural History, U. S. National Museum Collection (USNM), Smithsonian Institution, Washington, D.C.

L.: Length

W.: Width

H.: Height

Al.: Aperture length

St.: Station

## RESULTS

### Family FISSURELLIDAE Flemming, 1822 *Cornisepta acuminata* (Watson, 1883) (Fig. 2)

#### References:

*Puncturella* (*Fissurisepta*) *triangulata*: DALL, 1889: 404.

*Puncturella* (*F.*) *acuminata*: PÉREZ-FARFANTE, 1947: 145, pl. 64, figs. 1-3.

*Material*: One living specimen, INV MOL2385 (L. 7.24, W. 5.45, H. 5.07 mm), St. 03; 450 m.

*Previous Colombian records*: None



Figure 1. Location of the stations where material was collected along the continental shelf slope of the Colombian Caribbean.

Figura 1. Localización de las estaciones de colecta de material a lo largo del talud de la plataforma continental del Caribe colombiano.

*Distribution:* South Carolina, Georgia, Louisiana, Mexico, Puerto Rico: Culebra Island (DALL, 1889; PÉREZ-FARFANTE, 1947; ODÉ, 1988) and northernmost Colombian coast; depth range 291-713 m.

*Remarks:* This record extends the distribution range of the species to the southern Caribbean. The shell features of the Colombian specimen are consistent with those of the holotype (USNM 61236) of *P. triangulata* Dall, 1889.

***Cranopsis granulata* (Seguenza, 1863)  
(Fig. 3)**

*References:*

*Puncturella (Puncturella) watsoni:* DALL, 1889: 403-404.

*Puncturella (Cranopsis) granulata:* PÉREZ-FARFANTE, 1947: 124-126, pl. 54, figs. 4-7. *Puncturella granulata:* RIOS, 1994: 24, fig. 47.

*Material:* One living specimen, INV MOL1649 (L. 4.36, W. 2.95, H. 2.65 mm), St. 30; 270 m.

*Previous records in Colombia:* None

*Distribution:* Florida Keys, Mexico, Cuba, Barbados, Brazil (DALL, 1889; PÉREZ-FARFANTE, 1947; RIOS, 1994), Colombia; depth range 150-1935 m.

***Diodora sayi* (Dall, 1889)**

*References:*

*Fissurella alternata* var. *sayi:* DALL, 1889: 407.

*Diodora sayi:* PÉREZ-FARFANTE, 1943: 8-9, pl. 3, figs. 1-8.

*Diodora sayi:* DÍAZ AND PUYANA, 1994: 110, fig. 330.

*Diodora sayi:* RIOS, 1994: 26, fig. 59.

*Material:* One empty shell, INV MOL1724 (L. 11.85, W. 7.13, H. 4.3 mm), St. 33; ca. 285 m.

*Previous records in Colombia:* DÍAZ AND PUYANA (1994), northernmost Colombian coast.

*Distribution:* North Carolina, Florida, Texas, Puerto Rico, Panama, Colombia, Curacao, Cuba, Barbados to extreme southern Brazil (WARMKE AND ABBOTT, 1962; ESPINOSA, 1984; DÍAZ AND PUYANA, 1994); depth range 15-1449 m.

*Remarks:* The shell features of the Colombian specimen are consistent with those of the paralectotype of *F. alternata* var. *sayi* (USNM 95158, off Havana, Cuba, 144 m).

***Diodora tanneri* (Verrill, 1882) (Fig. 4)**

*References:*

*Diodora tanneri:* PÉREZ-FARFANTE, 1943: 19-20, pl. 6, figs. 12-14.

*Diodora tanneri:* OKUTANI, 1983: 237 + fig.

*Material:* One living specimen, INV MOL1650 (L. 35.86, W. 25.32, H. 13.99 mm), St. 24; one empty shell, INV MOL1652, St. 32; 480-520 m.

*Previous records in Colombia:* None.

*Distribution:* Delaware, Virginia, North Carolina, Georgia, Mexico, Cuba, Barbados, Surinam (PÉREZ-FARFANTE, 1943; ESPINOSA, 1984; OKUTANI, 1983), Colombia; depth range 180-730 m.

*Remarks:* The shell features of the Colombian specimen are consistent with those of the type material of *Fissurella tanneri* Verrill, 1883 (USNM 43765, off Delaware Bay, 187 m).

**Family ACMAEIDAE Carpenter, 1857**

***Pectinodonta arcuata* Dall, 1882 (Fig. 5)**

*References:*

*Pectinodonta arcuata:* DALL, 1889: 411, pl. 25, figs. 3-3a, b.

*Pectinodonta arcuata:* OLSSON, 1971: 87-88.

*Pectinodonta arcuata:* ABBOTT, 1974: 34, fig. 185.

*Material:* 23 living specimens and empty shells, INV MOL1653 (L. 19.59, W. 13.99, H. 12.88 mm), 1654-1659, 2600-2602, St. 30, 32-34, 36; 260-520 m.

*Previous records in Colombia:* None.

*Distribution:* Cuba, St. Lucia, St. Thomas, Guadeloupe, Dominica, St. Vincent, Nicaragua (DALL, 1889;

OLSSON, 1971; ABBOTT, 1974), Colombia; depth range 260-1067 m.

*Remarks:* This record extends the distribution range of the species to the southern Caribbean. The shell features of the Colombian specimens were compared and are consistent with those of material from diverse localities deposited in the NMNH (USNM 801799-800, 95094 (syntype), 126810 (syntype), 888703, 811804).

**Family PSEUDOCOCCULINIDAE**

**Hickman, 1983**

***Notocrater youngi* McLean and Harasewych, 1995 (Fig. 6)**

*Reference:*

*Notocrater youngi:* MCLEAN AND HARASEWYCH, 1995: 26-27, figs. 66-69.

*Material:* One living specimen, INV MOL1660 (L. 3.14, W. 2.57, H. 1.33 mm), St. 39; 300 m.

*Previous records in Colombia:* ARDILA AND HARASEWYCH (2002).

*Distribution:* Bahamas (type locality), (MCLEAN AND HARASEWYCH, 1995), Colombia; depth range 300-518 m.

***Notocrater houbricki* McLean and Harasewych, 1995 (Fig. 7)**

*Reference:*

*Notocrater houbricki:* MCLEAN AND HARASEWYCH, 1995: 24-26, figs. 58-65.

*Material:* Two living specimens INV MOL2364 (L. 1.8, W. 1.3 H. 1 mm), 2603, St. 33; 270 m.

*Previous records in Colombia:* ARDILA AND HARASEWYCH (2002).

*Distribution:* Bahamas: Grand Bahama Island (MCLEAN AND HARASEWYCH, 1995), Colombia; depth range 270-412 m.

***Copulabyssia* sp. (Fig. 8)**

*Material:* Three specimens, INV MOL2366, 2367 (L. 3.6, W. 2.6 H. 1.7 mm), 2616, St. 11, 33; 270-300 m.

*Previous records in Colombia:* ARDILA AND HARASEWYCH (2002).

*Distribution:* Colombia (Southern Caribbean).

*Remarks:* *Copulabyssia* sp. differs morphologically from the other five species allocated in this genus and reviewed by

LEAL AND SIMONE (2000). This apparently unnamed species is the first member of the genus known for the Caribbean. Its description is in process.

**Family COCCULINIDAE Dall, 1882**  
***Coccocrater portoricensis* (Dall and Simpson, 1901) (Fig. 9)**

*References:*

*Cocculina portoricensis*: DALL AND SIMPSON, 1901: 440-441, pl. 53, figs. 18-19.

*Cocculina portoricensis*: DÍAZ AND PUYANA, 1994: 113, fig. 344.

*Coccocrater portoricensis*: MCLEAN AND HARASEWYCH, 1995: 17, fig. 50.

*Material*: Six specimens, INV MOL1686 (L. 11.62, W. 8.59, H. 3.71 mm), 1685, 1687, 1689; St. 35, 33; 286-321 m.

*Previous records in Colombia*: ARDILA AND HARASEWYCH (2002).

*Distribution*: Puerto Rico (DALL AND SIMPSON, 1901), Colombia (DÍAZ AND PUYANA, 1994); depth range 286-558 m.

*Remarks*: The morphological features of the Colombian specimens are consistent with those of the holotype (USNM 160496, Puerto Rico). However, the periostracum in the rediscovered material differs from the eroded holotype. Its redescription and a new nomenclatural combination is in process.

***Cocculina emsoni* McLean and Harasewych, 1995 (Fig. 10)**

*Reference:*

*Cocculina emsoni*: MCLEAN AND HARASEWYCH, 1995: 13, figs. 25-35.

*Material*: 34 living specimens, INV MOL2320 (L. 3.88, W. 2.27, H. 1.53 mm), INV MOL2604, St. 15, 33; 270-302 m.

*Previous records in Colombia*: ARDILA AND HARASEWYCH (2002).

*Distribution*: Off New Providence Island, Bahamas (type locality), (MCLEAN AND HARASEWYCH, 1995), Colombia; depth range 270-518 m.

*Remarks*: This record extends the geographic range of the species considerably to the southernmost Caribbean. The morphological features of the Colombian specimens are consistent with those of the holotype (USNM 860355).

***Cocculina messingi* McLean and Harasewych, 1995 (Fig. 11)**

*Reference:*

*Cocculina messingi*: MCLEAN AND HARASEWYCH, 1995: 11-13, figs. 12-14.

*Material*: +40 specimens, INV MOL1661-1663, 1664 (L. 5.45, W. 4.05, H. 1.78 mm), 1665, 2321-2327, 2605, 2606, St. 09, 11, 14, 15, 16, 21, 39, 30, 29; 260-504 m.

*Previous records in Colombia*: ARDILA AND HARASEWYCH (2002).

*Distribution*: Bahamas (type locality) (MCLEAN AND HARASEWYCH, 1995), Colombia; depth range 260-504 m.

***Cocculina rathbuni* Dall, 1882**

*References:*

*Cocculina rathbuni*: DALL, 1889: 347, pl. 25, figs. 5, 7, 7a.

*Cocculina rathbuni*: DÍAZ AND PUYANA, 1994: 113, fig. 345.

*Cocculina rathbuni*: MCLEAN AND HARASEWYCH, 1995: 8-10, figs. 2-5.

*Material*: +30 specimens, INV MOL1673 (L. 6.55, W. 4.85, H. 1.79 mm), 1666-1674, 2611, 2612, 3243, 3324, 3431, 3432, 3467, 3510, St. 11-16, 28, 29, 31, 34, 35, 39; 290-519 m.

*Previous records in Colombia*: DALL (1889); ARDILA AND HARASEWYCH (2002).

*Distribution*: Massachusetts, Bahamas, Martinique, St. Vincent, Barbados, Colombia (DALL, 1889; DÍAZ AND PUYANA, 1994; MCLEAN AND HARASEWYCH, 1995); depth range 124-1127 m.

*Remarks*: The morphological features of the Colombian specimens are consistent with those of the lectotype (USNM 126807, Martinique) and the paralectotype (USNM 333750, Barbados).

***Cocculina* sp. 1 (Fig. 12)**

*Material*: +70 specimens, INV MOL1677-1679 (L. 10.9, W. 8.9, H. 3.3 mm), 2607-2610, 2891, 3124, 3168, 3260, 3339, 3379, 3433, 3480, 3497, St. 07, 09, 11, 13, 14, 15, 16, 19, 26, 33, 35, 39.

*Previous records in Colombia*: ARDILA AND HARASEWYCH (2002).

*Distribution*: Colombia (Southern Caribbean); depth range 200-488 m.

*Remarks:* This, apparently unnamed species, differs from *C. rathbuni* and *C. messingi* in its shell sculpture and the radular features. Its description is in process.

**Cocculina sp. 2 (Fig. 13)**

*Material:* Eight specimens, INV MOL2370, 2371 (L. 3.2, W. 2.2, H. 1.2 mm), 2613, 2614, St. 52; 504 m; INV MOL2613, 2614, St. 32, in 500 m.

*Previous records in Colombia:* ARDILA AND HARASEWYCH (2002).

*Distribution:* Colombia (Southern Caribbean).

*Remarks:* This, apparently unnamed species, differs from another congeneric species occurring in the Western Atlantic in its sculpture of raised radial ribs and the radular features. Its description is in process.

**Fedikovella beanii (Dall, 1882) (Fig. 14)**

*References:*

*Cocculina beanii:* DALL, 1889: 347-348, pl. 25, figs. 2, 4, 8.

*Fedikovella beanii:* MCLEAN AND HARASEWYCH, 1995: 19-21, figs. 51-57.

*Material:* Three living specimens and three shells, INV MOL2372 (L. 4.2, W. 2.5, H. 2.2 mm), 2615, St. 32; 500-516 m.

*Previous records in Colombia:* ARDILA AND HARASEWYCH (2002).

*Distribution:* New Jersey Guadeloupe, Martinique, St. Vincent, Barbados

(DALL, 1889; MCLEAN AND HARASEWYCH, 1995), Colombia; depth range 210-1049 m.

**Family TROCHIDAE Rafinesque, 1815**  
***Calliotropis lissocona* (Dall, 1881) (Fig. 15)**

*References:*

*Margarita lissocona:* DALL, 1881: 41-42.

*Solariella lissocona:* DALL, 1889: 381, pl. 21, figs. 8-8a.

*Material:* Nine living specimens and empty shells, INV MOL1690 (L. 4.81, W. 4.03, AL. 2.25 mm), 2328-2333, 2618, St. 03, 07, 11, 12, 16, 27, 67; 274-500 m.

*Previous records for Colombia:* QUINN (1979), off the Guajira Peninsula.

*Distribution:* Louisiana, Florida, Gulf of Mexico, Colombia (DALL, 1881; QUINN, 1979); at depths ranging from 250 to 600 m.

*Remarks:* The shell features of the Colombian specimens are consistent with those of the holotype (USNM 214282, Louisiana, 596 m) of *M. lissocona* Dall, 1881. This record extends the geographic range of the species to the southernmost Caribbean.

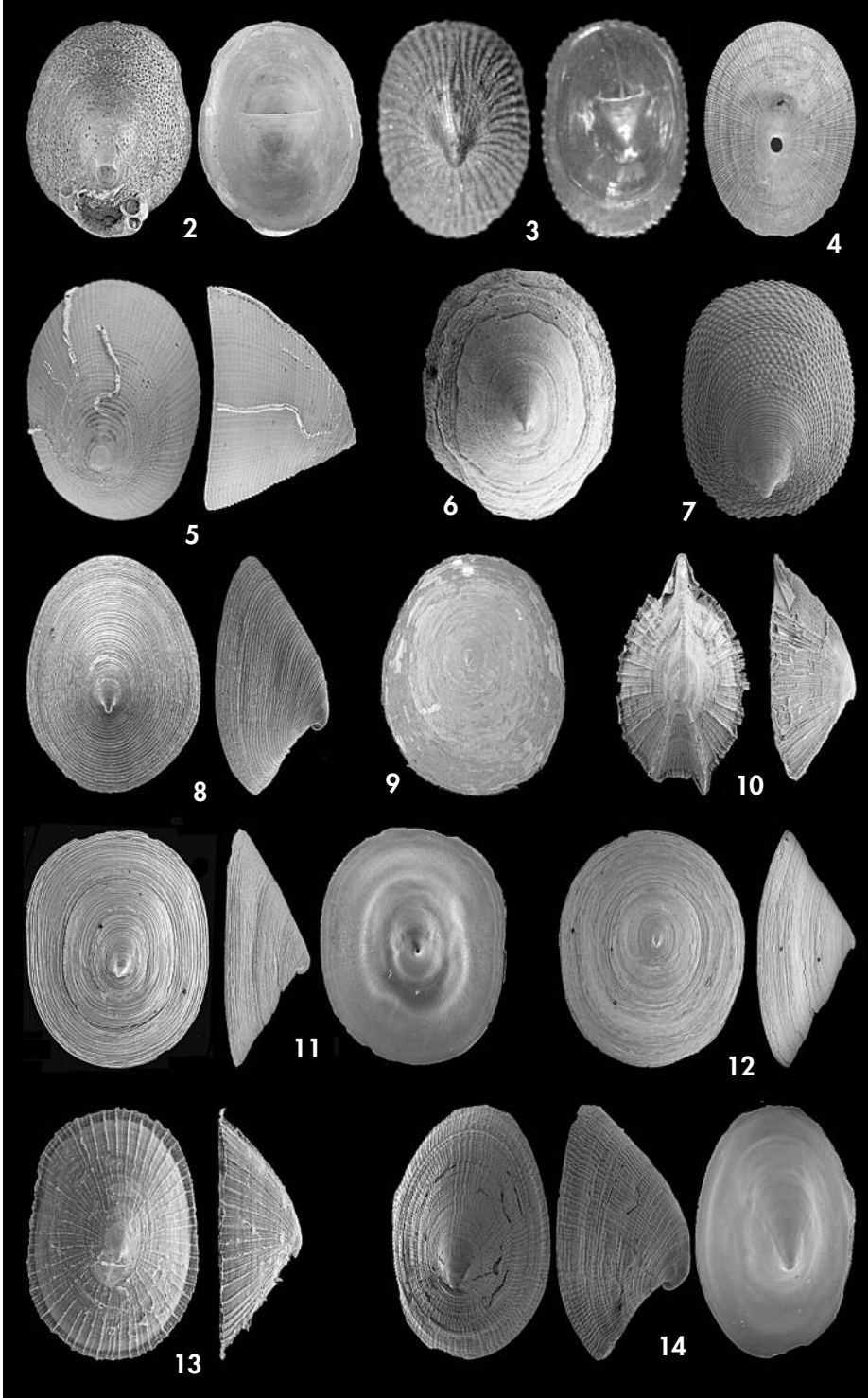
***Cataegis toreuta* McLean and Quinn, 1987**

*References:*

*Cataegis toreuta:* MCLEAN AND QUINN, 1987: 113-115, figs. 1-2.

(Right page) Figure 2. *Cornisepta acuminata*, dorsal and ventral views, L. 7.24 mm. Figure 3. *Cranopsis granulata*, dorsal and ventral views, L. 4.36 mm. Figure 4. *Diodora tanneri*, dorsal view, L. 35.86 mm. Figure 5. *Pectinodonta arcuata*, dorsal and lateral views, L. 13.17 mm. Figure 6. *Notocrater youngi*, L. 3.14 mm. Figure 7. *Notocrater houbricki*, L. 1.80 mm. Figure 8. *Copulabyssia* sp., dorsal and lateral views, L. 3.6 mm. Figure 9. *Cococrater portoricensis*, dorsal view, L. 11.62 mm. Figure 10. *Cocculina emsoni*, dorsal and lateral views, L. 3.88 mm. Figure 11. *Cocculina messingi*, dorsal, lateral and ventral views, L. 5.45 mm. Figure 12. *Cocculina* sp. 1, dorsal and lateral views, L. 10.9 mm. Figure 13. *Cocculina* sp. 2, dorsal and lateral views, L. 3.2 mm. Figure 14. *Fedikovella beanii*, dorsal, lateral and ventral views, L. 4.2 mm.

(Página derecha) Figura 2. *Cornisepta acuminata*, vista dorsal y ventral, L. 7,24 mm. Figura 3. *Cranopsis granulata*, vista dorsal y ventral, L. 4,36 mm. Figura 4. *Diodora tanneri*, vista dorsal, L. 35,86 mm. Figura 5. *Pectinodonta arcuata*, vista dorsal y lateral, L. 13,17 mm. Figura 6. *Notocrater youngi*, L. 3,14 mm. Figura 7. *Notocrater houbricki*, L. 1,80 mm. Figura 8. *Copulabyssia* sp., vista dorsal y lateral, L. 3,6 mm. Figura 9. *Cococrater portoricensis*, vista dorsal, L. 11,62 mm. Figura 10. *Cocculina emsoni*, vista dorsal y lateral, L. 3,88 mm. Figura 11. *Cocculina messingi*, vista dorsal, lateral y ventral, L. 5,45 mm. Figura 12. *Cocculina* sp. 1, vista dorsal y lateral, L. 10,9 mm. Figura 13. *Cocculina* sp. 2, vista dorsal y lateral, L. 3,2 mm. Figura 14. *Fedikovella beanii*, vista dorsal, lateral y ventral, L. 4,2 mm.



*Homalopoma finkli*: PETUCH, 1987: 92, pl. 26, figs. 13-14.

*Cataegis toreuta*: DÍAZ AND PUYANA, 1994: 118, fig. 368.

*Material*: 11 living specimens and empty shells, INV MOL1695 (L. 21.46, W. 20.54, AL. 14.68 mm), 1691-1694, 2619, 3084, St. 05, 25, 36, 34, 28, 32; 461-516 m.

*Previous records for Colombia*: MCLEAN AND QUINN (1987), west of Punta Piedras.

*Distribution*: Mississippi, Florida, Texas, Mexico, Panama, Colombia and Venezuela (MCLEAN AND QUINN, 1987; PETUCH, 1987); depth range 337-1283 m.

*Remarks*: The morphological features of the Colombian specimen are consistent with those of the holotype (USNM 784755, Colombia) and the paratype (USNM 801816, Mississippi).

#### ***Calliostoma rosewateri* Clench and Turner, 1960**

*References*:

*Calliostoma (Kombologion) rosewateri*: CLENCH AND TURNER, 1960: 41-42, pl. 26, figs. 1-3.

*Calliostoma rosewateri*: DÍAZ AND PUYANA, 1994: 115, fig. 357.

*Material*: 13 living specimens and empty shells, INV MOL1697 (L. 33.04, W. 38.25, AL. 13.98 mm), 1698-1702, 3428, 3435, 3448, St. 14, 27, 26, 35, 30; 260-326 m.

*Previous records for Colombia*: BAYER (1971), W of Cartagena.

*Distribution*: Lesser Antilles, Trinidad, Colombia, Surinam (BAYER, 1971; OKUTANI, 1983; DÍAZ AND PUYANA, 1994); depth range 270-641 m.

*Remarks*: The morphological features of the Colombian specimens are consistent with those of the holotype (USNM 612704, Lesser Antilles, 270 m).

#### ***Gaza olivacea* Quinn, 1991**

*References*:

*Gaza olivacea*: QUINN, 1991: 166-168, figs. 1-3.

*Gaza olivacea*: DÍAZ AND PUYANA 1994: 117, fig. 366.

*Material*: +650 living specimens and shells, INV MOL1703 (L. 37.83, W. 42.6 mm), 1704-1714, 2620, 2838, 2843, 2866, 2881, 2934, 2980, 3092, 3127, 3194, 3326,

3361, 3377, 3386, 3504, 3513, 3527; St. 02, 03, 05, 07, 10, 12, 13, 16-18, 20, 22-25, 28, 31, 32, 68; 402-520 m.

*Previous records for Colombia*: QUINN (1991): N of Cabo de la Vela, off Guajira Peninsula.

*Distribution*: Panama, Colombia, Venezuela, French Guyana (QUINN, 1991; DÍAZ AND PUYANA, 1994); depth range 204-808 m.

*Remarks*: The morphological features of the Colombian specimens are consistent with those of the holotype (USNM 752369, Colombia, 470 m).

#### ***Gaza watsoni* (Dall, 1881) (Fig. 16)**

*References*:

*Callogaza watsoni*: DALL, 1881: 50.

*Callogaza watsoni*: DALL, 1889: 356-357, pl. 22, figs. 7-7a; pl. 23, figs. 1-1a; pl. 24, figs. 2-2a. *Gaza (Callogaza) watsoni*: CLENCH AND ABBOTT: 1943a: 5-6, pl. 2, fig. 3-4.

*Material*: Two living specimens, INV MOL1715 (L. 10.36, W. 14.27, AL. 6.86 mm), 1716; St. 33; 269-321 m.

*Previous records for Colombia*: None.

*Distribution*: Cuba, Virgin Islands, Lesser Antilles, North Brazil (DALL, 1881; CLENCH AND ABBOTT, 1943a; RIOS, 1994), Colombia; depth range 66-1170 m.

*Remarks*: The shell features of the Colombian specimens were compared and are consistent with those of material from various localities deposited in the NMNH (USNM 431008, 431009, 94989). This record extends the range of the species to the southernmost Caribbean.

#### ***Solariella lubrica* (Dall, 1881) (Fig. 17)**

*References*:

*Margarita lubrica*: DALL, 1881: 44.

*Margarita (Solariella) lubrica var. iridea*: DALL, 1889: 382, pl. 21, figs. 9-9a.

*Solariella lubrica*: RIOS, 1994: 36, fig. 109.

*Material*: 28 living specimens and empty shells, INV MOL1717, 1718 (L. 5.03, W. 4.08, AL. 3.2 mm), 1719-1723, 2334-2337; St. 18, 09, 11, 21, 27, 26, 36, 35, 33; 269-500 m.

*Previous records for Colombia*: None.

*Distribution*: Florida, Texas, Cuba, St. Lucia, South Brazil (DALL, 1881; RIOS,



1994; BULLIS, 1956a; QUINN, 1979), Colombia; depth range 73-1450 m.

*Remarks:* The shell features of the Colombian specimens are consistent with those of the lectotype (USNM 95061, Cuba, 1450 m). This is the first record for the species in the southern Caribbean.

**Family SKENEIDAE Thiele, 1929**

***Parviturbo* sp. (Fig. 18)**

*Material:* One living specimen, INV MOL1726 (L. 3.28, W. 3.63, AL. 2.69 mm.), St. 35.

*Previous records for Colombia:* None.

*Distribution:* Colombia; depth range 286-310 m.

*Remarks:* According to the shell features of the specimen collected, we didn't hesitate to place it in the genus *Parviturbo*, but they are not at all consistent with those of other known Caribbean species. Further material and an exhaustive revision of literature would be necessary for accurate identification of this species.

**Family TURBINIDAE Rafinesque, 1815**

***Cantrainea macleani* WARÉN and BOUCHET 1993**

*Reference:*

*Cantrainea macleani:* WARÉN AND BOUCHET, 1993: 8-10, figs. 4a-c, 5b, 5f-g, 6a.

*Material:* One empty shell, INV MOL1696 (L. 13.45, W. 13.79, AL. 8.76 mm), St. 32; ca. 520 m.

*Previous records for Colombia:* WARÉN AND BOUCHET (1993), Pillsbury sta. P394.

*Distribution:* Louisiana, Colombia (WARÉN AND BOUCHET, 1993); depth range 421-1033 m.

**Family VITRINELLIDAE Bush, 1897**

***Cyclostremiscus* sp. (Fig. 19)**

*Material:* Four living specimens, INV MOL1725, (L. 4.38, W. 6.28, AL. 3.19 mm; L. 4.03, W. 6.28, AL. 3.19 mm; L. 3.73, W. 5.62, AL. 3.36 mm and L. 3.26, W. 4.86, AL. 3.04 mm), St. 36.

*Previous records for Colombia:* None.

*Distribution:* Colombia; depth range, 490-500 m.

*Remarks:* The shell of this species exhibits a much stronger spiral sculp-

ture than any other species of *Cyclostremiscus* previously recorded in Colombian waters. We have been unable to identify this species with the available literature.

***Pseudorotella* cf. *cocolitoris* (Pilsbry and McGinty, 1945)**

*References:*

*Teinostoma* (*Ellipetylus*) *cocolitoris:* PILSBRY AND MCGINTY, 1945: 8, pl. 1, fig. 3.

*Teinostoma cocolitoris:* DÍAZ AND PUYANA, 1994: 133, fig. 443.

*Material:* Five empty shells, INV MOL1727 (L. 3.42, W. 3.75 mm, AL. 2.81 mm) 2621, 3100, 3275, St. 07, 11, 36, 032; 308-514 m.

*Previous records for Colombia:* DÍAZ AND PUYANA (1994), empty shell picked from beach sand near Punta Espada, Guajira Peninsula.

*Distribution:* North Carolina, Florida, Colombia, to central coast of Brazil (PILSBRY AND MCGINTY, 1945; RIOS, 1994); depth range 18-122 m.

*Remarks:* Since the shell material collected is broken and rather eroded, most of the characteristic shell sculpture of the species could not be observed.

**Family RISSOIDAE Gray, 1847**

***Microstelma gabbi* (Dall, 1889) (Fig. 20)**

*References:*

*Dolophanes* (*Melanoides* var?) *gabbi:* DALL, 1889: 270-271, pl. 29, fig. 7.

*Crepitacella gabbi:* ABBOTT, 1974: 77-78, fig. 702.

*Material:* One empty shell, INV MOL1728 (L. 7.35, W. 3.65, AL. 3.67 mm), St. 26; ca. 320 m.

*Previous records for Colombia:* None.

*Distribution:* St. Vincent (DALL, 1889), Colombia; depth range 320-1436 m.

*Remarks:* The features of the single shell collected are consistent with those of the holotype (USNM 508719, St. Vincent).

**Family CERITHIIDAE Fleming, 1828**

***Varicopeza crystallina* (Dall, 1881) (Fig. 21)**

*References:*

*Cerithiopsis* (?) *crystallina:* DALL, 1881: 89-90.

*Cerithiopsis crystallina*: DALL, 1889: 254, pl. 20, fig. 3.

*Cerithiopsis crystallina*: DALL AND SIMPSON, 1901: 424.

*Previous records for Colombia*: None.

*Material*: +50 shells and living specimens, INV MOL1729-1736, 1737 (L. 16.52, W. 3.61, AL. 2.62 mm) 1738, 2625; St. 29, 30, 33-35, 37, 39; 260-498 m.

*Distribution*: Florida, Mexico, Bahamas, Cuba, Puerto Rico, Martinique, Dominica, Guadeloupe, St. Croix, Barbados (DALL, 1881; HOUBRICK, 1987), Colombia; depth range 11-1605 m.

#### **Family CAPULIDAE Fleming, 1822**

##### ***Hyalorisia galea* (Dall, 1889) (Fig. 22)**

*Reference*:

*Capulus* (*Hyalorisia*) *galea*: DALL, 1889: 288-298, pl. 14, fig. 3.

*Material*: Nine living specimens and empty shells, INV MOL1739-1742, 1743 (L. 22.74, W. 18.47, H. 6.92 mm), 1744, 2626; St. 28, 32, 34, 36; 461-520 m.

*Previous records for Colombia*: None.

*Distribution*: Louisiana, Texas, Mexico, Cuba, Barbados (DALL, 1889; ABBOTT, 1974; WARÉN AND BOUCHET, 1993), Colombia; depth range 329-768 m.

*Remarks*: This record extends the distribution range of the species to the southernmost Caribbean. The shell features of the collected material are consistent with those of the holotype (USNM 508724, Barbados, 392 m).

##### ***Capulus* sp. (Fig. 23)**

*Material*: +60 living specimens and shells, INV MOL1745 (L. 11.64, W. 10.92, H. 5.9 mm), 1746-1750, 2916, 2998, 3018, 3027, 3064, 3150, 3153, 3264, 3288, 3380, 3481; St. 01, 03, 04, 08, 11, 13, 15, 20, 27, 26, 24, 39; 282-505 m.

*Previous records for Colombia*: None.

*Distribution*: Colombia; depth range 282-505 m.

*Remarks*: The shell features of this species are not consistent with those of *C. ungaricus* (Linné, 1767), another Atlantic deep-water species of the genus, nor with other material of *Capulus* from elsewhere in the Caribbean deposited at the NMNH. A thorough revision of literature and comparison with further mate-

rial from elsewhere in the Atlantic has to be accomplished to determine the taxonomy of this species.

#### **Family XENOPHORIDAE Troschell, 1852**

##### ***Xenophora longleyi* (Bartsch, 1931)**

*References*:

*Tugurium longleyi*: CLENCH AND AGUAYO, 1943: 5-6, pl. 1, figs. 5-6.

*Tugurium longleyi*: DÍAZ AND PUYANA, 1994: 162, fig. 594.

*Material*: +400 shells and living specimens INV MOL1751-1757, 1758 (L. 45.05, W. 107.74 mm), 1759-1765, 2867, 2877, 2900, 2915, 2921, 2928, 2965, 3000, 3073, 3094, 3105, 3160, 3179, 3193, 3259, 3323, 3357, 3417, 3441, 3515; St. 01-18, 20, 25, 28-30, 32-38; 269-520 m.

*Previous records for Colombia*: BAYER ET AL. (1970), Gulf of Darien, off Isla Fuerte.

*Distribution*: North Carolina, South Carolina, Florida, Cuba, Barbados, Colombia, Venezuela, Surinam, South Brazil (CLENCH AND AGUAYO, 1943; BULLIS, 1956a; OKUTANI, 1983; RIOS, 1994); depth range 125-823 m.

#### **Family OVULIDAE Fleming, 1822**

##### ***Pseudosimnia vanhyningi* (M. Smith, 1940) (Fig. 24)**

*References*:

*Primovula vanhyningi*: RIOS, 1994: 76, pl. 25, fig. 291.

*Primovula vanhyningi*: SUNDERLAND AND SUNDERLAND, 1994: 14 + fig.

*Material*: One living specimen, INV MOL2338 (L. 13.44, W. 7.5 mm); St. 19, 200 m.

*Previous records for Colombia*: None.

*Distribution*: Florida, Louisiana, Barbados, Brazil (SMITH, 1940; RIOS, 1994), Colombia; depth range 125-200 m.

*Remarks*: Various octocorals, on which this species presumably feeds (CATE, 1972), were found among the material collected at this station. This record extends the distribution range of the species considerably to the southern Caribbean.

#### **Family NATICIDAE Forbes, 1838**

##### ***Polinices* sp. (Fig. 25)**

*Material*: Eight living specimens and six shells, INV MOL1766 (L. 9.27, W.

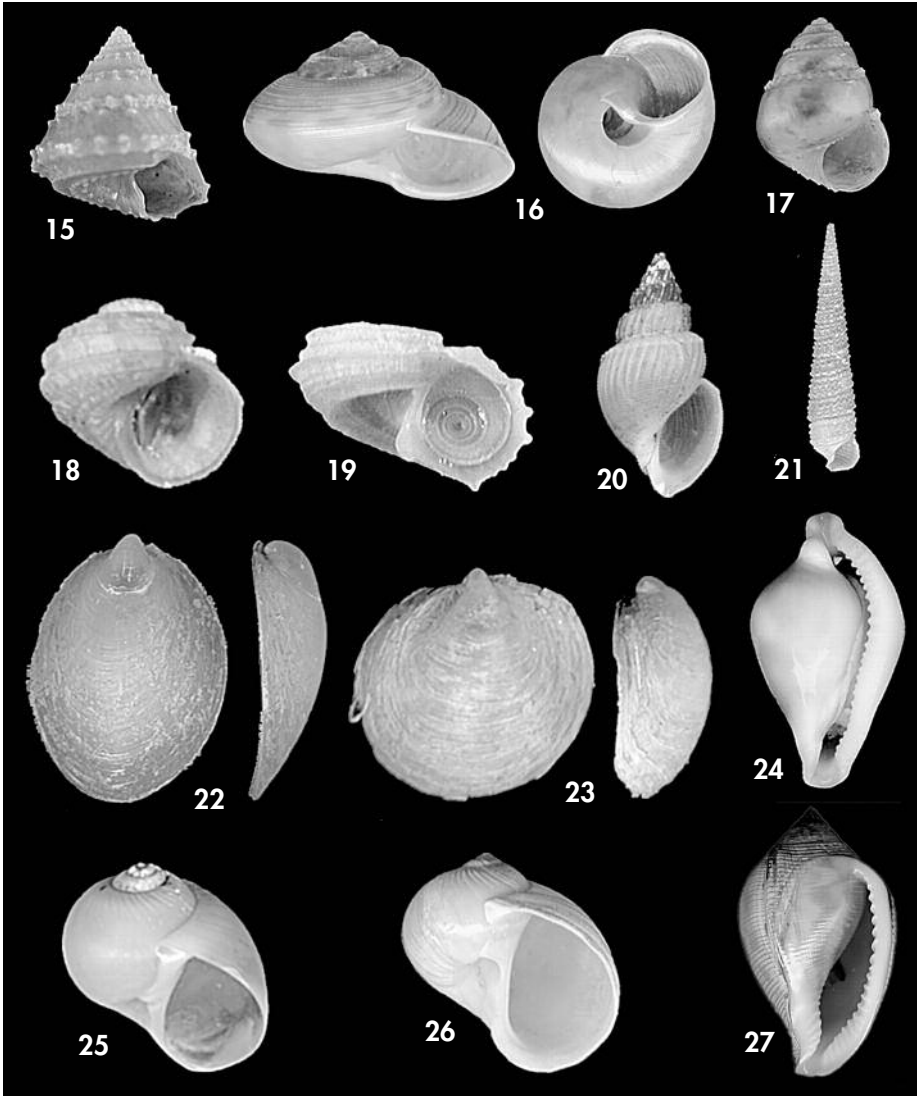


Figure 15. *Calliotropis lissocona*, L. 5.7 mm. Figure 16. *Gaza watsoni*, frontal and umbilical views, L. 9.99 mm. Figure 17. *Solariella lubrica*, L. 4.88 mm. Figure 18. *Parviturbo* sp., L. 3.28 mm. Figure 19. *Cyclostremiscus* sp., L. 3.74 mm. Figure 20. *Microstelma gabbi*, L. 7.35 mm. Figure 21. *Varicopeza crystallina*, L. 16.52 mm. Figure 22. *Hyalorisia galea*, dorsal and lateral views, L. 18.85 mm. Figure 23. *Capulus* sp., dorsal and lateral views, L. 14.0 mm. Figure 24. *Pseudosimnia vanhyningi*, L. 13.44 mm. Figure 25. *Polinices* sp., L. 11.59 mm. Figure 26. *Natica* sp., L. 9.46 mm. Figure 27. *Sconsia striata*, L. 54.58 mm.

Figura 15. *Calliotropis lissocona*, L. 5,7 mm. Figura 16. *Gaza watsoni*, vista frontal y umbilical, L. 9,99 mm. Figura 17. *Solariella lubrica*, L. 4,88 mm. Figura 18. *Parviturbo* sp., L. 3,28 mm. Figura 19. *Cyclostremiscus* sp., L. 3,74 mm. Figura 20. *Microstelma gabbi*, L. 7,35 mm. Figura 21. *Varicopeza crystallina*, L. 16,52 mm. Figura 22. *Hyalorisia galea*, vistas dorsal y lateral, L. 18,85 mm. Figura 23. *Capulus* sp., vistas dorsal y lateral, L. 14,0 mm. Figura 24. *Pseudosimnia vanhyningi*, L. 13,44 mm. Figura 25. *Polinices* sp., L. 11,59 mm. Figura 26. *Natica* sp., L. 9,46 mm. Figura 27. *Sconsia striata*, L. 54,58 mm.

7.43, AL. 6.85 mm), INV MOL1767 (L. 11.59, W. 10.48, AL. 9.3 mm), 2627, 2851, 2863, 2935, 3227, 3282, 3407, 3444; St. 02, 10, 11, 13, 14, 23, 25; 204-510 m.

*Previous records for Colombia:* None.

*Distribution:* Colombia; depth range 204-510 m.

*Remarks:* We have been unable to identify this species with the available literature.

***Natica guesti* Harasewych and Jensen, 1984**

*References:*

*Natica guesti:* HARASEWYCH AND JENSEN, 1984: 99-101, figs. 1-11.

*Natica guesti:* DÍAZ AND PUYANA, 1994: 268 + fig.

*Material:* Three living specimens and fourteen shells, INV MOL2813 (L. 11.55, W. 11.44, AL. 10.09 mm), INV MOL2914, 2933, 2987, 3039, 3068, 3107, 3181, 3200; St. 01-04, 07, 09, 10, 23; 206-500 m.

*Previous records for Colombia:* HARASEWYCH AND JENSEN (1984), NW of Riohacha.

*Distribution:* Mississippi, Bermuda, Puerto Rico, Jamaica, Virgins Islands, Cuba, Panama, Colombia (HARASEWYCH AND JENSEN, 1984); depth range 165-500 m.

*Remarks:* The shell features of the collected material are consistent with those of the holotype (USNM 765087, 201 m, St. Martin, Leeward Islands).

***Natica* sp. (Fig. 26)**

*Material:* Six empty shells, INV MOL1768-1772, 1773, (L. 21.26, W. 20.14, AL. 18.02 mm); St. 29, 30, 32-34.

*Previous records for Colombia:* None.

*Distribution:* Colombia; depth range 260-520 m.

*Remarks:* Only empty, rather eroded shells were found, so that an accurate identification of the species could not be accomplished.

***Sinum perspectivum* (Say, 1831)**

*References:*

*Sinum perspectivum:* ABBOTT: 1974: 157, fig. 1705.

*Sinum perspectivum:* DÍAZ AND PUYANA, 1994: 164, fig. 605.

*Material:* One living specimen INV MOL2814 (L. 4.72, W. 13.18 mm); St. 14; 296-304 m.

*Previous records for Colombia:* KAUFMANN AND GÖTTING (1970), Cartagena; DÍAZ AND GÖTTING (1988), Bahía Nenguange, near Santa Marta; DÍAZ (1989), Bahía Portete.

*Distribution:* New Jersey, Maryland, Virginia, North Carolina, Florida, Louisiana, Texas; Mexico, Costa Rica, Bermuda; Cuba, Cayman Islands, Jamaica, Virgins Islands, Colombia, Surinam, Brazil (ALTENA, 1975; DÍAZ AND PUYANA, 1994; RIOS, 1994); depth range 0-70 m.

*Remarks:* This record extends the depth range of the species to about 300 m.

**Family TONNIDAE Suter, 1913**

***Eudolium bairdii* (Verrill and Smith, 1881)**

*Reference:*

*Eudolium bairdii:* MARSHALL, 1992: 33-35, figs. 10-19, 22, 31-36, 38.

*Material:* 17 living specimens and empty shells, INV MOL1774-1776, 3535 (L. 54.16, W. 35.12 mm), INV MOL2848, 3081; St. 03, 05, 12, 17, 18, 20, 23, 24, 38; 206-500 m.

*Previous records for Colombia:* MARSHALL (1992): off Santa Marta.

*Distribution:* Atlantic, Mediterranean and Indo-Western Pacific (MARSHALL, 1992); depth range 17-823 m.

*Remarks:* There are several lots in the NMNH (USNM 751766, 751868 to 751882, 766104, and 878128) containing many specimens of this species collected previously in Colombian waters (Gulf of Uraba, off Santa Marta, off the Guajira Peninsula).

***Eudolium crosseanum* (Monterosato, 1869)**

*References:*

*Eudolium crosseanum:* TURNER, 1948: 178-180, pl. 75, fig. 5; pl. 81, figs. 1-2.

*Eudolium crosseanum:* OKUTANI, 1983: 264 + fig.

*Eudolium crosseanum:* MARSHALL, 1992: 25-32, figs. 1-4, 9, 20, 23-26, 37.

*Eudolium crosseanum:* DÍAZ AND PUYANA, 1994: 169, fig. 627.

*Material*: 14 empty shells and living specimens, INV MOL1777-1779, 1780 (L. 58.45, W. 37.11 mm), 1781-1783, 2868, 2889, 3010, 3028, 3130, 3138, 3364, 3462; St. 04, 08, 14, 19, 21, 26, 29, 35, 37, 39; 200-340 m.

*Previous records for Colombia*: DÍAZ AND PUYANA (1994), off Cabo de La Vela.

*Distribution*: New Jersey, North Carolina, Florida, Mississippi, Cuba, Barbados, Colombia, Surinam (OKUTANI, 1983; MARSHALL, 1992; DÍAZ AND PUYANA, 1994); depth range 17-914 m.

**Family CASSIDAE Latreille, 1825**  
***Sconsia striata* (Lamarck, 1816) (Fig. 27)**

*References*:

*Sconsia striata*: DALL AND SIMPSON, 1901: 419.

*Sconsia striata*: CLENCH AND ABBOTT, 1943b: 6-8, pl. 4, figs 1-4.

*Material*: One living specimen, INV MOL1784 (L. 54.58, W. 32.04, AL. 44.26 mm), St. 21; ca. 276 m.

*Previous records for Colombia*: None.

*Distribution*: Florida, Mississippi, Texas, Mexico, Bahamas, Cuba, Jamaica, Barbados, Venezuela, Brazil (DALL AND SIMPSON, 1901; BULLIS, 1956a; RIOS, 1994), Colombia; depth range 37-640 m.

*Remarks*: *Sconsia lindae* Petuch, 1987 is a closely related species which occurs along the Colombian Caribbean coast at depths between 20 and 80 m (PETUCH, 1987; DÍAZ AND PUYANA, 1994). Differences in shell color and sculpture between both species could be the result of ecological factors affecting shell development in shallow and deep waters respectively.

***Oocorys bartschi clericus* Quinn, 1980**

*References*:

*Oocorys bartschi clericus*: QUINN, 1980: 156, figs. 1a; 2c, d; 7.

*Oocorys bartschi clericus*: DÍAZ AND PUYANA, 1994: 169, fig. 628.

*Material*: 23 living specimens and shells INV MOL1785-1789, 1790 (L. 81.39, W. 50.29, AL. 57.71 mm) 3101, 3235, 3309, 3425, 3451, 3452, 3509; St. 07, 10, 12, 14, 16, 25, 29, 32, 34; 290-520 m.

*Previous records for Colombia*: QUINN (1980), off the Guajira Peninsula, off Cartagena.

*Distribution*: Bahamas, Panama, Colombia (QUINN, 1980; DÍAZ AND PUYANA, 1994); depth range 290-1554 m.

*Remarks*: The shell features of the collected material are consistent with those of the holotype (USNM 751953, off Santa Catarina, Brazil, 731 m).

***Echinophoria coronadoi* (Crosse, 1867)**

*References*:

*Galeodea coronadoi*: CLENCH, 1944: 4, pl. 2.

*Bathygalea coronadoi*: BAYER, 1971: 135-136, fig. 13.

*Phalium* (*Echinophoria*) *coronadoi*: DÍAZ AND PUYANA, 1994: 171, fig. 636.

*Material*: One living specimen INV MOL1791 (L. 97.86 mm, W. 62.28, AL. 74.77 mm); St. 21, 274-282 m.

*Previous records for Colombia*: BAYER (1971), off the Guajira Peninsula.

*Distribution*: North Carolina, Cuba, Jamaica, Colombia, Venezuela (DALL, 1889; BAYER, 1971; DÍAZ AND PUYANA, 1994); depth range 33-282 m.

**Family EPITONIIDAE Berry, 1910**

***Sthenorytis pernobilis* (Fischer and Bernardi, 1857) (Fig. 28)**

*References*:

*Sthenorytis pernobilis*: CLENCH AND TURNER, 1950a: 224-226, pl. 97, figs. 1-7; pl. 107, fig. 1. *Sthenorytis pernobilis*: SMITH, 1991: 11 + fig.

*Material*: Two living specimens, INV MOL2339 (L. 16.17, W. 13.94, AL. 5.57 mm); St. 19; 200 m.

*Previous records for Colombia*: None.

*Distribution*: North Carolina, Florida, Bahamas, Cuba, Jamaica, Guadeloupe, Martinique, Barbados (DALL, 1889; CLENCH AND TURNER, 1950a; SMITH, 1991), Colombia; depth range 90-1600 m.

*Remarks*: Both specimens were found among the abundant material of ahermatipic corals obtained in this station. The shell features of the Colombian specimens were compared and are consistent with those of USNM 811653, Virgin Islands, 198-234 m.

**Family EULIMIDAE H. and A. Adams, 1854**

***Melanella jamaicensis* (C. B. Adams, 1845)**

*References:*

*Melanella intermedia*: DÍAZ AND PUYANA, 1994: 150, fig. 536.

*Melanella intermedia*: RIOS, 1994: 104, pl. 34, fig. 429.

*Material*: One shell INV MOL1792 (L. 8.57, W. 2.33, AL. 2.54 mm), one living specimen INV MOL1793 (L. 8.54, W. 2.36, AL. 2.16 mm); St. 25, 26; 314-490 m.

*Previous records for Colombia*: DÍAZ AND GÖTTING (1988), near Santa Marta

*Distribution*: From New Jersey to Texas, Bermuda, Colombia, Brazil, Argentina and Europe (DÍAZ AND PUYANA, 1994; RIOS, 1994); depth range 5-490 m.

*Remarks*: This is a parasitic species which is usually found attached to holothurians such as *Astichopus* sp. in the Santa Marta area (DÍAZ, 1985).

***Niso aeglees* Bush, 1885**

*References:*

*Niso aeglees*: ABBOTT, 1974: 129, fig. 1411.

*Niso aeglees*: DÍAZ AND PUYANA, 1994: 151, fig. 540.

*Material*: Three living specimens INV MOL1794, 3276 (L. 8.46, W. 3.48 mm, AL. 2.71 mm; L. 6.96, W. 2.88, AL. 2.48 mm); St. 11, 26; 308-318 m.

*Previous records for Colombia*: DÍAZ AND GÖTTING (1988), nearby Santa Marta; DÍAZ (1989), Bahía Portete.

*Distribution*: North Carolina, Florida, Texas, Mexico, Colombia, Surinam, Brazil (DÍAZ AND PUYANA, 1994; RIOS, 1994); depth range 13-318 m.

*Remarks*: The shell features of the collected material are consistent with those of the syntype (USNM 35862, off Cape Hatteras, 27 m).

**Family MURICIDAE da Costa, 1776**

***Paziella oregonia* (Bullis, 1964)**

*References:*

*Poirieria (Paziella) oregonia*: VOKES, 1970: 26, pl. 5 fig. 3.

*Paziella oregonia*: DÍAZ AND PUYANA, 1994: 177, fig. 666.

*Poirieria oregonia*: RIOS, 1994: 110-111, fig. 463.

*Material*: +50 shells and living specimens INV MOL2847 (L. 67.8, W. 30.6, AL. 39.2 mm), 1811, 1812, 2925, 3036, 3051, 3071, 3083, 3158, 3161, 3216, 3290, 3385, 3442, 3491; St. 01, 04-06, 09-11, 13-15, 21, 22, 24; 286-505 m.

*Previous records for Colombia*: DÍAZ AND PUYANA (1994), off the Guajira Peninsula.

*Distribution*: Colombia, Venezuela, Trinidad, French Guiana, Surinam, Brazil (VOKES, 1970; FAIR, 1976; DÍAZ AND PUYANA, 1994; RIOS, 1994); depth range 30-550 m.

***Poirieria actinophora* (Dall, 1889)**

*References:*

*Trophon (Boreotrophon?) actinophorus*: DALL, 1889: 206, pl. 15, fig. 2.

*Murex (Paziella) actinophorus*: BAYER, 1971: 157-161, figs. 30, 35 d.

*Actinotrophon actinophorus*: DÍAZ AND PUYANA, 1994: 182, fig. 685.

*Material*: 23 shells and living specimens INV MOL1802-1808, 1809 (L. 13.01, W. 5.22, AL. 8.2 mm), 1810, 2629, 3280, 3429; St. 11, 14, 27, 29, 30, 33, 35, 37; 260-321 m.

*Previous records for Colombia*: BAYER (1971), off Gulf of Morrosquillo.

*Distribution*: Bahamas, St. Croix, Martinique, Barbados, Panama, Colombia, Brazil, and northeast Atlantic (BAYER, 1971; RIOS, 1994; HOUART, 1996); depth range 100-774 m.

*Remarks*: The shell features of the collected material are consistent with those of the paralectotype (USNM 87089, Saint Croix, 446 m).

***Siratus beauii* (Fischer and Bernardi, 1857)**

*References:*

*Murex (Murex) beauii*: CLENCH AND PÉREZ-FARFANTE, 1945: 14-15, pl. 7, figs 1-2.

*Siratus beauii*: DÍAZ AND PUYANA, 1994: 177, fig. 664.

*Chicoreus (Siratus) beauii*: RIOS, 1994: 108, fig. 450.

*Material*: 44 living specimens and empty shells INV MOL1795-1798, 1799 (L. 143.31, W. 66.04, AL. 29.41 mm),

1800, 1801, 2628, 2921, 3049, 3050, 3080, 3137, 3155, 3159, 3301, 3376, 3440, 3490; St. 01, 04, 06, 08, 09, 11, 13-15, 26, 27, 29, 30, 33, 35; 260-505 m.

*Previous records for Colombia:* DÍAZ AND PUYANA (1994), off the Guajira Peninsula.

*Distribution:* Louisiana, Florida, Jamaica, Cuba, Lesser Antilles, Colombia, Venezuela, French Guyana Surinam, Brazil, Uruguay (CLENCH AND PÉREZ-FARFANTE, 1945; FAIR, 1976; DÍAZ AND PUYANA, 1994; RIOS, 1994); depth range 24-505 m.

***Laevityphis* sp. (Fig. 29)**

*Material:* One living specimen, INV MOL1813 (L. 8.36, W. 5.22, AL. 2.08 mm), St. 28, 510-519 m.

*Previous records for Colombia:* None.

*Distribution:* Colombia.

*Remarks:* The single specimen collected is in very good condition and, besides an exhaustive revision of the literature, was compared with other material of *Laevityphis* from Colombia and elsewhere in the Caribbean (at the NMNH and MHNMC). We have been unable to identify it to the species level. This may be an unnamed species, but more specimens must become available to make a description.

***Siphonochelus tityrus* (Bayer, 1971)  
(Fig. 30)**

*Reference:*

*Typhis* (*Siphonochelus*) *tityrus*: BAYER, 1971: 164-166, figs. 33-34.

*Material:* 20 living specimens and numerous shells INV MOL1814, 1815, 1816 (L. 10.93, W. 5.57, AL. 2.8 mm), 2340-2341, 2630; St. 08, 09, 21, 26, 67; 274-326 m.

*Previous records for Colombia:* None.

*Distribution:* Venezuela, Trinidad and Tobago (BAYER, 1971), Colombia; depth range 60-326 m.

*Remarks:* The shell features of the collected material are consistent with those of the holotype (USNM 700005, Margarita Island, 60 m). This record extends the distribution range of the species westward along the northern South American coast.

***Siphonochelus riosi* (Bertsch and D'Attilio, 1980) (Fig. 31)**

*References:*

*Thyphina riosi*: BERTSCH AND D'ATTILIO, 1980: 135-137, figs. 6-7.

*Thyphina riosi*: D'ATTILIO AND HERTZ: 1988: 67, figs. 96, a-c.

*Siphonochelus* (*Siphonochelus*) *rosi*: HOUART: 1994: 85, fig. 199.

*Typhis riosi*: RIOS, 1994: 116, fig. 490.

*Material:* Two empty shells, INV MOL2631 (L. 12.49, W. 5.76, AL. 2.72 mm), St. 68; 463-510 m.

*Previous records for Colombia:* None.

*Distribution:* Brazil (BERTSCH AND D'ATTILIO, 1980), Colombia; depth range 100-610 m.

*Remarks:* This record extends the geographical range of the species to the Caribbean.

***Trophon lacunellus* Dall, 1889 (Fig. 32)**

*Reference:*

*Trophon* (*Boreotrophon*) (*aculeatus* var.?) *lacunellus*: DALL, 1889: 205-206, pl. 15, fig. 4.

*Material:* One living specimen and five shells, INV MOL1817 (L. 15.67, W. 5.77, AL. 8.41 mm), 2342-2345; St. 12, 13, 17, 36; 488-510 m.

*Previous records for Colombia:* None.

*Distribution:* South Carolina, Florida, Guadeloupe, Barbados (DALL, 1889; SUNDERLAND AND SUNDERLAND, 1992), Colombia; depth range 366-1406 m.

*Remarks:* The shell features of the Colombian specimens are consistent with those of the syntype (USNM 86982, North Carolina, 846 m). This is the first record of the species for the southern Caribbean.

**Family CORALLIOPHILIDAE Chenu, 1859  
*Babelomurex dalli* (Emerson and D'Attilio, 1963) (Fig. 33)**

*References:*

*Latiaxis* (*Babelomurex*) *dalli*: EMERSON AND D'ATTILIO, 1963: 4-8, figs. 1-2.

*Coralliophila dalli*: BAYER, 1971: 184-187, fig. 46.

*Latiaxis* (*Babelomurex*) *dalli*: RIOS, 1994: 119, pl. 38, fig. 502.

*Material:* Two living specimens, INV MOL1823 (L. 24.11, W. 14.72, AL. 14.62 mm), 2346; St. 19, 27; 200-290 m.

*Previous records for Colombia:* None.

*Distribution:* North Carolina to Florida, Gulf of Mexico, Bahamas, St. Lucia, Guadeloupe, Barbados, Brazil (EMERSON AND D'ATTILIO, 1963; BAYER, 1971; SUNDERLAND, 1989; RIOS, 1994), Colombia; depth range 50-1606 m.

*Remarks:* The shell features of the specimens collected are consistent with those of the type material (holotype USNM 87215, Guadeloupe Island, 1580 m; USNM 876791, 198 m; USNM 876792, 227 m; USNM 87213, 270 m). This record extends the range of the species to the southern Caribbean.

***Coralliophila squamosa* (Bivona, 1838)  
(Fig. 34)**

*References:*

*Coralliophila lamellosa:* BAYER, 1971: 192-193, fig. 51.

*Coralliophila squamosa:* BOUCHET AND WARÉN, 1985: 153, figs. 357-361.

*Material:* Two living specimens and one empty shell, INV MOL1822 (L. 6.64, W. 3.62, AL. 3.87 mm, juvenal), 2347 (L. 19.6, W. 12.20, AL. 13.11 mm), 2347; St. 19, 21; 200-276 m.

*Previous records for Colombia:* None.

*Distribution:* In the eastern Atlantic, from the Bay of Biscay, along the Iberian Peninsula into the Mediterranean, northwest Africa, Canary Islands and Azores; in the western Atlantic, off Florida, the Peninsula of Yucatan (BAYER, 1971; BOUCHET AND WARÉN, 1985) and Colombia; depth range 60-1550 m.

*Remarks:* *C. lamellosa* (Philippi, 1836), *Hirtomurex squamulosus* (Philippi, 1836), and *H. longicauda* (Settepassi, 1971) are this species. This record extends the distribution range of the species to the southern Caribbean.

**Family BUCCINIDAE Rafinesque, 1815  
*Eosipho canetae* (Clench and Aguayo,  
1944) (Fig. 35)**

*References:*

*Plicifusus jamarci:* OKUTANI, 1982: 111-113, pl. 1, figs. 4-6.

*Plicifusus jamarci:* OKUTANI, 1983: 279 + fig.

*"Buccinum" canetae:* WARÉN AND BOUCHET, 1993: 76-77, fig. 59 d.

*Material:* Five living specimens and several shells, INV MOL1824, 1825, 1826 (L. 76.11, W. 29.07, AL. 41.94 mm), 1827-1829, 2348, 2632, St. 05, 24, 26, 37, 68; 288-487 m.

*Previous records for Colombia:* None.

*Distribution:* Louisiana, Texas, Mexico, Cuba, Barbados, Surinam (OKUTANI, 1983; WARÉN AND BOUCHET, 1993), Colombia; depth range 288-850 m.

*Remarks:* This record extends the known geographic range of the species considerably westward along the northern South American coast.

***Manaria fusiformis* (Clench and  
Aguayo, 1941)**

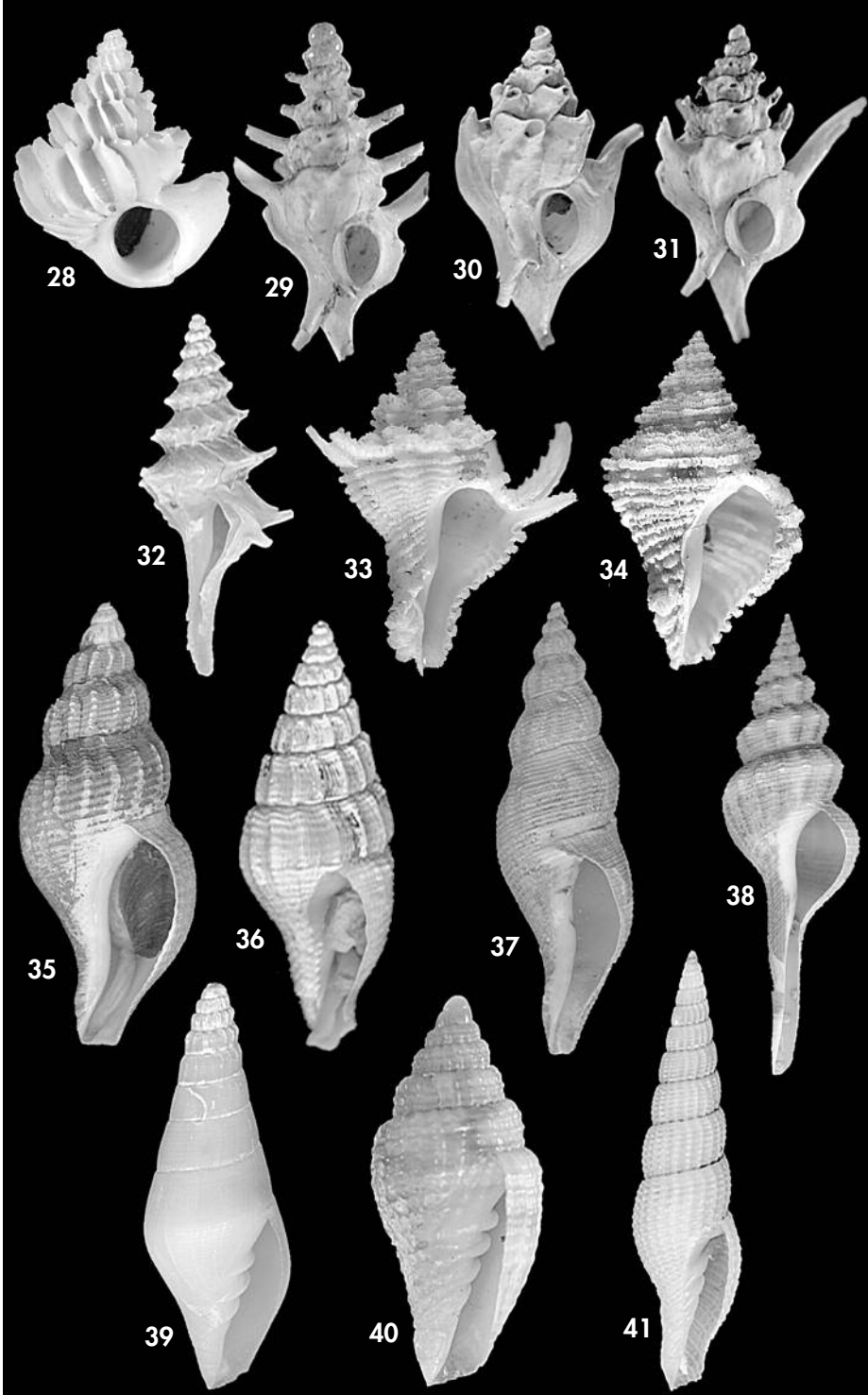
*References:*

*Metula fusiformis:* HARASEWYCH, 1990: 121-129, figs. 1-5.

(Right page) Figure 28. *Sthenorytis pernobilis*, L. 16,17 mm. Figure 29. *Laevityphis* sp., L. 8,36 mm. Figure 30. *Siphonochelus tityrus*, L. 10,93 mm. Figure 31. *Siphonochelus riosi*, L. 12,49 mm. Figure 32. *Trophon lacunellus*, L. 15,67 mm. Figure 33. *Babelomurex dalli*, L. 24,11 mm. Figure 34. *Coralliophila squamosa*, L. 19,6 mm. Figure 35. *Eosipho canetae*, L. 69,0 mm. Figure 36. *Mohnia* sp., L. 21,58 mm. 1. Figure 37. *Buccinofusus surinamensis*, L. 63,29 mm. Figure 38. *Fusinus lighbourni*, L. 79,53 mm. Figure 39. *Latiromitra* sp., L. 26,18 mm. Figure 40. *Conomitra leonardhilli*, L. 13,57 mm. Figure 41. *Vexillum styria*, L. 23,73 mm.

(Página derecha) Figura 28. *Sthenorytis pernobilis*, L. 16,17 mm. Figura 29. *Laevityphis* sp., L. 8,36 mm. Figura 30. *Siphonochelus tityrus*, L. 10,93 mm. Figura 31. *Siphonochelus riosi*, L. 12,49 mm. Figura 32. *Trophon lacunellus*, L. 15,67 mm. Figura 33. *Babelomurex dalli*, L. 24,11 mm. Figura 34. *Coralliophila squamosa*, L. 19,6 mm. Figura 35. *Eosipho canetae*, L. 69,0 mm. Figura 36. *Mohnia* sp., L. 21,58 mm. 1. Figura 37. *Buccinofusus surinamensis*, L. 63,29 mm. Figura 38. *Fusinus lighbourni*, L. 79,53 mm. Figura 39. *Latiromitra* sp., L. 26,18 mm. Figura 40. *Conomitra leonardhilli*, L. 13,57 mm. Figura 41. *Vexillum styria*, L. 23,73 mm.





*Mohnia kaicherae*: PETUCH, 1987: 103, pl. 21, figs. 8, 9.

*Mohnia kaicherae*: DÍAZ AND PUYANA, 1994: 187-188, fig. 712.

*Manaria fusiformis*: RIOS, 1994: 120, fig. 505.

*Material*: Four living specimens and two shells, INV MOL1830, 1831 (L. 15.78, W. 7.37, AL. 10.18 mm), 3228, 3454, St. 10, 14, 28, 36; 296-500 m.

*Previous records for Colombia*: PETUCH (1987, as *Mohnia kaicherae*), off Cabo de La Vela.

*Distribution*: Cuba, Colombia, Gulf of Venezuela, North Brazil (HARASEWYCH, 1990; DÍAZ AND PUYANA 1994, RIOS 1994); depth range 183-578 m.

*Remarks*: The shell features of the specimens collected are consistent with the type material of *Mohnia kaicherae* Petuch, 1987 (USNM 859855, Los Monjes Islands, Venezuela, 200 m).

#### ***Mohnia* sp. (Fig. 36)**

*Material*: +80 shells and living specimens, INV MOL1832 (L. 21.58, W. 7.71, AL. 11.25 mm), 2633-2635, 2953, 2954, 2999, 3102, 3177, 3212, 3234, 3317, 3354, 3494, 3533; St. 02, 03, 07, 09, 10, 12, 15, 16, 20, 68; 292-510 m.

*Previous records for Colombia*: None.

*Distribution*: Colombia.

*Remarks*: This seems to be an unnamed species, but a thorough revision of literature and comparison with further material is needed to make a description.

#### ***Antillophos chazaliei* (Dautzenberg, 1900)**

*References*:

*Phos chazaliei*: DAUTZENBERG, 1900: 181-182, pl. 9, fig. 7.

*Antillophos chazaliei*: DÍAZ AND PUYANA, 1994: 188, fig. 715.

*Material*: One specimen INV MOL2815 (L. 16.7 mm); St. 23; 206-208 m.

*Previous records for Colombia*: DAUTZENBERG (1900): off Santa Marta.

*Distribution*: North coast of South America, from off the mouth of the Magdalena river, Colombia, to the Leeward Islands off Venezuela (DAUTZENBERG, 1900; DÍAZ AND PUYANA, 1994); depth range 20-208 m.

#### ***Metula guppyi* Olsson and Bayer, 1972**

*Reference*:

*Metula guppyi*: OLSSON AND BAYER, 1972: 919-921, figs. 12 a-f.

*Material*: Seven empty shells, INV MOL 3563 (L. 53.76, W. 18.97, AL. 27.88 mm), 3564; St. 08, 15; 274-304 m.

*Previous records for Colombia*: OLSSON AND BAYER (1972), S of Gulf of Morrosquillo.

*Distribution*: Colombia, Trinidad (OLSSON AND BAYER, 1972); depth range 129-304 m.

*Remarks*: The shell features of the Colombian specimens are consistent with those of the type material (holotype USNM 706729; paratype USNM 706730, off Bocas de Drago, Trinidad).

#### **Family NASSARIIDAE Iredale, 1916**

##### ***Nassarius scissuratus* (Dall, 1889)**

*References*:

*Nassa scissurata*: DALL, 1889: 185-186.

*Nassarius scissuratus*: DÍAZ AND PUYANA, 1994: 195, fig. 750.

*Nassarius scissuratus*: RIOS, 1994: 129, pl. 41, fig. 555.

*Material*: 25 shells and living specimens INV MOL1842-1846, 1847 (L. 7.67, W. 4.36, AL. 3.98 mm), 2854, 2892, 3188, 3295, 3455; St. 09, 11, 14, 19, 21, 23, 29, 30, 37; 200-315 m.

*Previous records for Colombia*: DÍAZ (1989), Bahía Portete.

*Distribution*: Florida, Gulf of Mexico to Uruguay (DÍAZ AND PUYANA, 1994); depth range 30-315 m.

*Remarks*: The shell features of the specimens collected are consistent with those of the type material (USNM 86987, *Nassa scissurata*, Santa Lucia, 209 m).

#### **Family FASCIOLARIIDAE Gray, 1853**

##### ***Harasewychia harasewychi* Petuch, 1987**

*References*:

*Harasewychia harasewychi*: PETUCH, 1987: 101-102, pl. 13, figs. 9-10.

*Harasewychia harasewychi*: DÍAZ AND PUYANA, 1994: 198, fig. 766.

*Material*: Four living specimens, INV MOL1848 (L. 14.39, W. 6.75, AL. 9.08 mm), 1849, 2639, 3362; St. 12, 28, 32, 34; 488-519 m.

*Previous records for Colombia:* PETUCH (1987): off the Guajira Peninsula.

*Distribution:* Northernmost coasts of South America around the Guajira Peninsula (PETUCH, 1987; DÍAZ AND PUYANA, 1994); depth range 200-519 m.

*Remarks:* The shell features of the specimens collected are consistent with those of the holotype (USNM 859852, Los Monjes, Venezuela), 200 m.

***Buccinofusus surinamensis* Okutani, 1982 (Fig. 37)**

*References:*

*Buccinofusus surinamensis:* OKUTANI, 1982: 113-114, pl. 2, figs. 1-2.

*Buccinofusus surinamensis:* OKUTANI, 1983: 285+fig.

*Material:* One empty shell, INV MOL1850 (L. 63.29, W. 19.01, AL. 31.44 mm), St. 26; 308-322 m.

*Previous records for Colombia:* None.

*Distribution:* Surinam (OKUTANI, 1983), Colombia; depth range 308-322 m.

*Remarks:* This species was synonymized with *Manaria fusiformis* by BOUCHET AND WARÉN (1986) but removed and regarded as valid by HARASEWYCH (1990). This record extends the known geographic range of the species to the west along the northern South American coast.

***Fusinus lightbourni* Snyder, 1984 (Fig. 38)**

*Reference:*

*Fusinus lightbourni:* SNYDER, 1984: 28-29, figs. 1-3.

*Material:* One living specimen and seven shells, INV MOL2349 (L. 79.53, W. 22.39, AL. 46.49 mm), 2350, 2910; St. 01, 04, 19; 200-314 m.

*Previous records for Colombia:* None.

*Distribution:* Bermuda (SNYDER, 1984), Colombia; depth range 183-366 m.

*Remarks:* The shell features of the Colombian specimens are consistent with those of the paratype (USNM 819199, Bermuda). This is the first Caribbean record of the species, which appears to be widely distributed in the western Atlantic.

**Family TURBINELLIDAE Swainson, 1840  
*Latiromitra* sp. (Fig. 39)**

*Material:* One living specimen and two empty shells, INV MOL1852 (L. 26.18, W. 8.66, AL. 12.96 mm), 1853, 2640, St. 31, 32, 36; 484-516 m.

*Previous records for Colombia:* None.

*Distribution:* Colombia; depth range 484-516 m.

*Remarks:* We have been unable to identify the material with the available literature. It resembles *L. meekiana* (Dall, 1889), but differs in having a higher spire and a more angulated last whorl.

***Fulgurofusus brayi* (Clench, 1959)**

*References:*

*Columbarium (Fulgurofusus) brayi:* BAYER, 1971: 173-176, fig. 39 c; figs. 40 a-d.

*Fulgurofusus brayi:* HARASEWYCH, 1983: 6, figs. 1-2, 4-9.

*Fulgurofusus brayi:* DÍAZ AND PUYANA, 1994: 185, fig. 699.

*Material:* +90 shells and living specimens, INV MOL1854, 1855 (L. 41.91, W. 21.85 mm), 1856-1863, 2641-2644, 2883, 2919, 2926, 2952, 3004, 3025, 3079, 3114, 3156, 3287, 3332, 3399, 3439, 3474, 3498, 3518; St. 01-04, 06, 07, 09, 11-18, 20, 24-26, 28, 29, 31-34, 36, 68; 270-519 m.

*Previous records for Colombia:* BAYER (1971), NW of Gulf of Morrosquillo, off Cartagena; DÍAZ AND PUYANA (1994), off the Guajira Peninsula.

*Distribution:* Lesser Antilles and from Panama to eastern Venezuela (BAYER, 1971); depth range 270-800 m.

**Family OLIVIDAE Latreille, 1825  
*Olivella myrmecoön* Dall, 1912**

*References:*

*Olivella (Minioliva) myrmecoön:* OLSSON: 1956: 211, pl. 12, figs. 10, 10 a.

*Olivella myrmecoön:* DÍAZ AND PUYANA, 1994: 205, fig. 796.

*Material:* 30 empty shells INV MOL2816, 2817 (L. 6.85, W. 3.26, AL. 4.47 mm), 2645, 3387, 3393; St. 02, 10, 12, 13, 67; 309-510 m.

*Previous records for Colombia:* DÍAZ (1985), DÍAZ AND GÖTTING (1988), Santa Marta; DÍAZ (1989), Bahía Portete; DÍAZ AND PUYANA (1994), Cartagena.

*Distribution:* Costa Rica, Panama, Colombia (DÍAZ AND PUYANA, 1994); depth range 20-510 m.

**Family MARGINELLIDAE Fleming, 1828**

***Volvarina hennequini* Boyer, 2001**

*Reference:*

*Volvarina hennequini:* BOYER, 2001: 3-8, figs. 9-16.

*Material:* 22 shells and living specimens, INV MOL1864-1869, 2312 (L. 23.35, W. 10.9 mm), 2313-2318, 2363, 2386; 446-510 m.

*Previous records for Colombia:* None.

*Distribution:* Honduras, Panama (BOYER, 2001), Colombia.

**Family VOLUTOMITRIDAE Gray, 1854**

***Conomitra leonardhilli* Petuch 1987**

(Fig. 40)

*Reference:*

*Conomitra leonardhilli:* PETUCH, 1987: 109, pl. 23, fig. 6, pl. 26, fig. 12.

*Material:* 21 empty shells, INV MOL 1870-1876, 1877 (L. 15.28, W. 6.33, AL. 9.52 mm), 1878, 2351, 2352, 2647, 2648; St. 14, 15, 21, 26, 27, 30, 35, 37, 67; 260-326 m.

*Previous records for Colombia:* None.

*Distribution:* Venezuela (PETUCH, 1987), Colombia; depth range 35-326 m

*Remarks:* The shell features of the Colombian specimens are consistent with those of the holotype (USNM 784576, off Puerto Cabello, Venezuela, 35 m).

***Volutomitra erebus* Bayer, 1971**

*References:*

*Volutomitra erebus:* BAYER, 1971: 218-221, figs. 66, 67 d-j.

*Volutomitra erebus:* DÍAZ AND PUYANA, 1994: 199, fig. 722.

*Material:* 40 living specimens and shells, INV MOL1879, 1880 (L. 24.6, W. 10.45, AL. 15.9 mm), 2649, 2912, 2942, 3003, 3098, 3176, 3197, 3231, 3318, 3343, 3495, 3532; St. 01-03, 07-10, 12, 15, 16, 20, 25, 68; 292-510 m.

*Previous records for Colombia:* BAYER (1971), off the Guajira Peninsula.

*Distribution:* Lesser Antilles (Granada), Colombia, Trinidad (BAYER, 1971); depth range 292-597.

*Remarks:* The shell features of the Colombian specimens are consistent with those of the holotype (USNM 701219, Colombia, 408-576 m).

**Family COSTELLARIIDAE MacDonald, 1860**

***Vexillum styria* (Dall, 1889) (Fig. 41)**

*Reference:*

*Mitra (Costellaria?) styria:* DALL, 1889: 159-160, pl. 15, fig. 6.

*Material:* Seven living specimens and empty shells, INV MOL1881-1883 (L. 23.73, W. 5.46, AL. 9.44 mm), 2650; St. 30, 33, 35; 260-315 m.

*Previous records for Colombia:* None.

*Distribution:* Florida, Mexico, Cuba, Dominica, Barbados (DALL, 1889), Colombia; depth range 46-609 m.

*Remarks:* The shell features of the lectotype (USNM 86948, Dominica, 599 m) are consistent with those of the collected material. This record extends the distribution range of the species to the southern Caribbean.

**Family CONIDAE Rafinesque, 1815**

***Conus mazei* Deshayes, 1874**

*References:*

*Conus (Conasprella) mazei:* OKUTANI, 1983: 295 + fig.

*Conus mazei:* DÍAZ AND PUYANA, 1994: 215, fig. 846.

*Conus mazei:* RIOS, 1994: 157, fig. 695.

*Material:* 40 living specimens and shells, INV MOL1884 (L. 42.99, W. 14.64, AL. 33.36 mm), 1885-1887, 2855, 2860, 2894, 2909, 3040, 3045, 3069, 3277, 3426, 3457; St. 01, 04, 06, 11, 14, 21, 23, 30, 33; 204-314 m.

*Previous records for Colombia:* BAYER ET AL. (1970), off Gulf of Urabá.

*Distribution:* Florida, Texas, Yucatan, Cuba, Jamaica, Martinique, Barbados to Surinam, south Brazil (OKUTANI, 1983; DÍAZ AND PUYANA, 1994; RIOS, 1994); depth range 84-549 m.

***Conus villepini* Fischer and Bernardi, 1857 (Fig. 42)**

*References:*

*Conus villepini:* CLENCH, 1942: 25-26, pl. 12, fig. 3; pl. 13, fig. 5.

*Conus (Endemnoconus) villepini:* OKUTANI, 1983: 297 + fig.

*Conus villepini*: VINK, 1988: 11-14, fig. 4.

*Conus villepini*: RIOS, 1994: 158, pl. 52, fig. 704.

*Material*: One living specimen and one shell, INV MOL1888 (L. 49.45, W. 21.31, AL. 40.33 mm), 2353; St. 11, 21; 274-308 m.

*Previous records for Colombia*: None.

*Distribution*: North Carolina, Florida, Bermuda, Mexico, Virgin Islands, Venezuela, Surinam, Brazil (CLENCH, 1942; OKUTANI, 1983; RIOS, 1994), Colombia; depth range 25-608 m.

**Family TURRIDAE Swainson, 1840**

***Clathrodrillia albicoma* (Dall, 1889)**

(Fig. 43)

*References*:

*Drillia albicoma*: DALL, 1889: 83-84, pl. 10, fig. 8.

*Drillia albicoma*: DALL AND SIMPSON, 1901: 385.

*Material*: Two shells, INV MOL1898 (L. 29.65, W. 9.02, AL. 11.65 mm), 2356; St. 09, 29; 290-312 m.

*Previous records for Colombia*: None.

*Distribution*: Florida, Gulf of Mexico, Barbados, Brazil (DALL, 1889; SUNDERLAND AND SUNDERLAND, 1993; RIOS, 1994), Colombia; depth range 151-1470 m.

*Remarks*: The shell morphology and sculpture of the Colombian material are consistent with those of the syntypes (USNM 87461, Yucatan, 151 m, and USNM 87462, Barbados, 180 m).

***Agladrillia* sp. (Fig. 44)**

*Material*: Seven specimens, INV MOL1893, 1894 (L. 12.32, W. 4.06, AL. 3.5 mm), 1895, 2653; St. 26, 67; 308-322 m.

*Previous records for Colombia*: None.

*Distribution*: Colombia; depth range 308-322 m.

*Remarks*: According to shell features, the specimens collected belong undoubtedly to this poorly known genus, although to an apparently yet unnamed species.

***Drilliola loprestiana* (Calcara, 1841)**

(Fig. 45)

*References*:

*Pleurotoma* (*Mangilia*) *comatotropis*: DALL, 1881: 58.

*Pleurotoma* (*Mangilia*) *comatotropis*: DALL, 1889: 116, pl. 11, fig. 82.

*Drilliola loprestiana*: BOUCHET AND WARÉN (1980): 32, fig. 82.

*Material*: Four specimens, INV MOL1896 (L. 6.33, W. 2.47, AL. 2.93 mm), 1897, 2354; St. 11, 21, 26; 274-318 m.

*Previous records for Colombia*: None.

*Distribution*: NE Atlantic, Bay of Biscay and the Mediterranean. Western Atlantic, New England, Georgia, Florida, Texas, Gulf of Mexico, Yucatan, Barbados, Cuba, Bermuda, Brazil (BOUCHET AND WARÉN, 1980), Colombia; depth range 45-1935 m.

*Remarks*: The shell features of the Colombian specimens are consistent with those of the type material of *Microdrillia comatotropis* (USNM 902870, USNM 902869, Gulf of Mexico, Florida Keys, 198 m).

***Drilliola* sp.**

*Material*: Four living specimens and four shells, INV MOL2818 (L. 10.95, W. 4.56, AL. 4.6 mm), 3394, 3395, 3450; St. 07, 12, 14; 296-494 m.

*Previous records for Colombia*: None.

*Distribution*: Colombia; depth range 296-494 m.

*Remarks*: This seems to be an unnamed species of this poorly known genus. A thorough revision is currently being done.

***Globidrillia smirna* (Dall, 1881) (Fig.**

**46)**

*References*:

*Pleurotoma* (*Drillia*) *smirna*: DALL, 1881: 66.

*Drillia smirna*: DALL, 1889: 94, pl. 11, fig. 7.

*Material*: Two living specimens and six shells, INV MOL1889, 1890 (L. 23.47, W. 5.48, AL. 7.5 mm), 1891, 1892, 2652; St. 28, 32, 34; 510-519 m.

*Previous records for Colombia*: DALL (1889): Old Providence Island (Isla Providencia), an oceanic island in the southwestern Caribbean.

*Distribution*: Gulf of Mexico, Cuba, Old Providence Island (DALL, 1881, 1889), off Colombian mainland; depth range 510-743 m.

***Splendrillia lissotropis* (Dall, 1881)  
(Fig. 47)**

References:

*Pleurotoma* (*Mangilia*) *lissotropis*: DALL, 1881: 58-59.

*Splendrillia lissotropis*: RIOS, 1994: 163, pl. 54, fig. 737.

**Material:** Three living specimens and two empty shells, INV MOL1899 (L. 7.76, W. 2.46, AL. 3.17 mm), 1900, 1901, 2357; St. 14, 26; 296-326 m.

**Previous records for Colombia:** None.

**Distribution:** Florida, Panama, Cuba, Brazil (DALL, 1881; RIOS, 1994), Colombia; depth range 30-396 m.

***Cryptogemma* sp. (Fig. 48)**

**Material:** 55 living specimens and numerous shells, INV MOL1902-1905, 1907, 2654, 3020, 3110, 3165, 3205, 3241, 3335, 3342, 3356, 3401, 3475, 3520, 3525; St. 03, 07, 09, 10, 12, 13, 15, 17, 25, 28, 32, 39, 68; 292-520 m.

**Previous records for Colombia:** None.

**Distribution:** Colombia; depth range 292-520 m.

**Remarks:** This apparently unnamed species, is the first member of this turrid genus known for the Atlantic. Its description is in process.

***Gemmula periscelida* (Dall, 1889)**

References:

*Pleurotoma* (*Pleurotoma*) *periscelida*: DALL, 1889, 74-75, pl. 32, fig. 2.

*Gemmula periscelida*: OKUTANI, 1983: 300 + fig.

*Gemmula periscelida*: DÍAZ AND PUYANA, 1994: 219-220, fig. 867.

**Material:** 33 empty shells and living specimens, INV MOL1909 (L. 33.38, W. 11.51, AL. 17.79 mm) 2841, 2845, 2870, 2885, 2905, 2948, 2988, 3046, 3054, 3157, 3173, 3189, 3306, 3409, 3418, St. 01-04, 09, 11, 13, 14, 15, 18, 21, 22, 32; 274-520 m.

**Previous records for Colombia:** DALL (1889), off Gulf of Morrosquillo; DÍAZ AND PUYANA (1994), off the Guajira Peninsula.

**Distribution:** North Carolina, Florida, Alabama, Colombia, Surinam (DALL, 1889; OKUTANI, 1983; DÍAZ AND PUYANA, 1994; SUNDERLAND AND SUNDERLAND, 1993); depth range 150-600 m.

***Polystira tellea* (Dall, 1889) (Fig. 49)**

References:

*Pleurotoma* (*Pleurotoma*) *albida* var. *tellea*: DALL, 1889: 73.

*Polystira tellea*: OKUTANI 1983: 302 + fig.

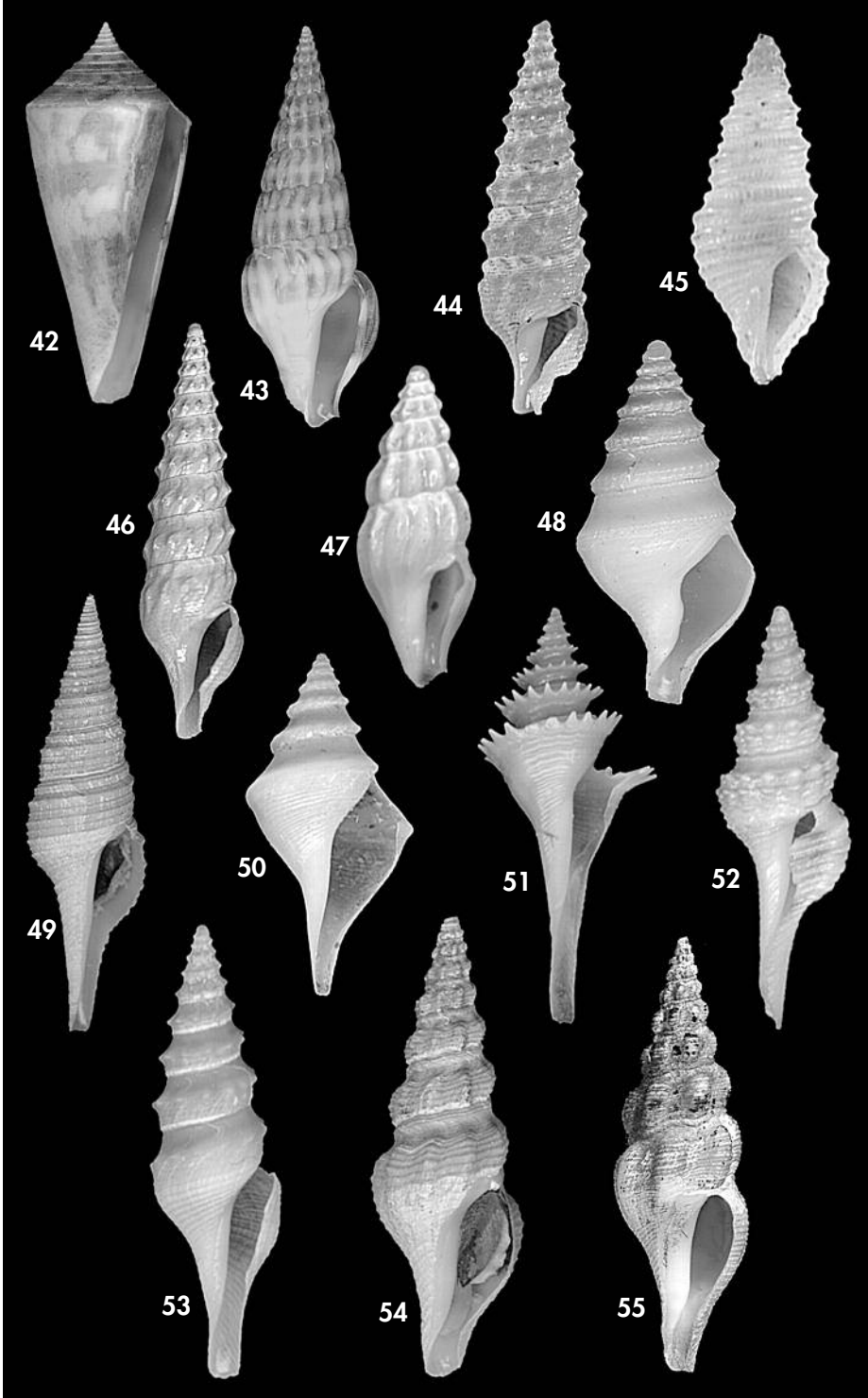
**Material:** +300 living specimens and empty shells INV MOL1910 (L. 63.66, W. 18.11, AL. 34.33 mm), 1912-1923, 2655, 2656, 2849, 2901, 2984, 3024, 3041, 3053, 3055, 3074, 3133, 3154, 3191, 3244, 3258, 3291, 3305, 3384, 3418, 3449, 3463, 3488; St. 01, 03, 04, 06, 08, 10, 11, 13-15, 16, 21, 18, 23, 24, 26, 29, 30, 33, 35, 39, 67; 204-505 m.

**Previous records for Colombia:** None.

**Distribution:** Florida to Louisiana, Texas, Surinam (BULLIS, 1956a; OKUTANI, 1983; SUNDERLAND AND SUNDERLAND, 1993), Colombia; depth range 53-505 m.

(Right page) Figure 42. *Conus villepinii*, L. 49.45 mm. Figure 43. *Clathrodrillia albicoma*, L. 29.65 mm. Figure 44. *Agladrillia* sp., L. 12.32 mm. Figure 45. *Drilliola loprestiana*, L. 5.05 mm. Figure 46. *Globidrillia smirna*, L. 18.68 mm. Figure 47. *Splendrillia lissotropis*, L. 7.76 mm. Figure 48. *Cryptogemma* sp., L. 18.61 mm. Figure 49. *Polystira tellea*, L. 56.0 mm. Figure 50. *Thatcherina* sp., L. 15.2 mm. Figure 51. *Cochlespira radiata*, L. 17.36 mm. Figure 52. *Fusiturricula enae*, L. 15.24 mm. Figure 53. *Leucosyrinx verrillii*, L. 20.56 mm. Figure 54. *Stenodrillia gundlachi*, L. 36.38 mm. Figure 55. *Stenodrillia horrenda*, L. 51.63 mm.

(Página derecha) Figura 42. *Conus villepinii*, L. 49,45 mm. Figura 43. *Clathrodrillia albicoma*, L. 29,65 mm. Figura 44. *Agladrillia* sp., L. 12,32 mm. Figura 45. *Drilliola loprestiana*, L. 5,05 mm. Figura 46. *Globidrillia smirna*, L. 18,68 mm. Figura 47. *Splendrillia lissotropis*, L. 7,76 mm. Figura 48. *Cryptogemma* sp., L. 18,61 mm. Figura 49. *Polystira tellea*, L. 56,0 mm. Figura 50. *Thatcherina* sp., L. 15,2 mm. Figura 51. *Cochlespira radiata*, L. 17,36 mm. Figura 52. *Fusiturricula enae*, L. 15,24 mm. Figura 53. *Leucosyrinx verrillii*, L. 20,56 mm. Figura 54. *Stenodrillia gundlachi*, L. 36,38 mm. Figura 55. *Stenodrillia horrenda*, L. 51,63 mm.



*Remarks:* The shell features of the material collected are consistent with those of the syntypes of *Pleurotoma albida tellea* (USNM 93912, Florida, 200 m and USNM 93606, Florida, 108 m). Previous deep water records in the area of *P. albida* (Perry, 1811), a species with larger and somewhat different sculptured shell living in shallower depths (cf. ABBOTT, 1974; RIOS, 1994) might probably include material of this species.

***Thatcherina* sp. (Fig. 50)**

*Material:* One specimen, INV MOL2319 (L. 15.2, W. 7.56 mm); St. 10; 492-502 m.

*Previous records for Colombia:* None.

*Distribution:* Colombia; depth range 492-502 m.

*Remarks:* Although a single specimen was collected, morphological features of the protoconch and the body whorl are consistent with those of the genus *Thatcherina* Vera-Peláez, 1998 (J. L. Vera-Peláez *in litt* and D. L. Tippet *com. pers.*).

***Cochlespira elegans* (Dall, 1881)**

*References:*

*Pleurotoma* (*Ancistrosyrinx*) *elegans*: DALL, 1881: 54.

*Pleurotoma* (*A.*) *elegans*: DALL, 1889: 78, pl. 38, fig. 3.

*Cochlespira elegans*: DÍAZ AND PUYANA, 1994: 219, fig. 864.

*Material:* Five living specimens and five shells, INV MOL3516 (L. 45.17, W. 15.76, AL. 28.40 mm), 2819, 2820, 2893, 3213; St. 03, 05, 07, 10, 17; 434-500 m.

*Previous records for Colombia:* DÍAZ AND PUYANA (1994), off the Guajira Peninsula.

*Distribution:* Florida, Cuba, Jamaica, Colombia (DALL, 1881; SUDERLAND, 1991; DÍAZ AND PUYANA, 1994); depth range 100-1449 m.

***Cochlespira radiata* (Dall, 1889) (Fig. 51)**

*References:*

*Pleurotoma* (*Ancistrosyrinx*) *radiata*: DALL, 1889: 78-79, pl. 12, fig. 12.

*Pleurotoma radiata*: DALL AND SIMPSON, 1901: 384.

*Cochlespira radiata*: RIOS, 1994: 164, pl. 54, fig. 743.

*Material:* Nine living specimens and shells, INV MOL1924 (L. 17.36, W. 6.62, AL. 11.24 mm), 2358-2362; St. 01, 04, 08, 14, 23, 33; 269-314 m.

*Previous records for Colombia:* None.

*Distribution:* North Carolina to Florida, Louisiana, Texas, Gulf of Mexico, Puerto Rico, Jamaica, St. Croix, Martinique, St. Lucia, Barbados, Brazil (DALL, 1889; DALL AND SIMPSON, 1901; SUNDERLAND, 1991; RIOS, 1994), Colombia; depth range: 45-1152 m.

*Remarks:* The shell morphology and sculpture of the syntypes of *Pleurotoma radiata* (USNM 87398, Santa Lucia, 209 m; USNM 87399, Martinique, 306 m; USNM 87400, Barbados, 151 m) are consistent with those of the material reported here.

***Fusiturricula enae* Bartsch, 1934 (Fig. 52)**

*Reference:*

*Fusiturricula enae*: BARTSCH, 1934: 13, pl. 3, figs. 1-2, 10.

*Material:* 17 living specimens and shells, INV MOL1925, 1926, 1927 (L. 16.49, W. 5.02, AL. 8.37 mm), 1928, 1929, 2365, 2657; St. 14, 21, 26, 30, 32, 33, 67; 260-520 m.

*Previous records for Colombia:* None.

*Distribution:* Puerto Rico (BARTSCH, 1934), Colombia; known depth range 260-648 m.

*Remarks:* The shell features of the collected specimens are consistent with those of the type material from off Puerto Rico (USNM 430619 and 430394). This is the second record of the species.

***Leucosyrinx verrillii* (Dall, 1881) (Fig. 53)**

*References:*

*Pleurotoma* (*Pleurotomella*) *verrillii*: DALL, 1881: 57.

*Pleurotoma* (*Leucosyrinx*) *verrillii*: DALL, 1889: 75, pl. 10, fig. 5.

*Leucosyrinx verrilli*: BOUCHET AND WARÉN, 1980: 23-25, figs. 68-69.

*Leucosyrinx verrillii*: RIOS, 1994: 166, pl. 55, fig. 754.

*Material:* +70 living specimens and shells, INV MOL1930-1933, 1934 (L.



24.05, W. 5.84, AL. 10.94 mm), 1935-1938, 2659-2661, 2940, 2996, 3086, 3120, 3178, 3214, 3303, 3316, 3405, 3492; St. 02, 03, 05, 07, 09-13, 15, 20, 25, 32, 34, 36, 67, 68; 292-520 m.

*Previous records for Colombia:* None.

*Distribution:* Eastern and western Atlantic, Azores, Spain, North Carolina, Florida, Gulf of Mexico, Yucatan, Cuba, Brazil (DALL, 1881; BOUCHET AND WARÉN, 1980; SUNDERLAND, 1991; RIOS, 1994), Colombia; depth range 274-3000 m.

***Stenodrillia gundlachi* (Dall and Simpson, 1901) (Fig. 54)**

*References:*

*Drillia gundlachi:* DALL AND SIMPSON, 1901: 386, pl. 57, fig. 17.

*Compsodrillia gundlachi:* RIOS, 1994: 169, pl. 56, fig. 771.

*Material:* +130 living specimens and many shells, INV MOL1941 (L. 57.68 mm, W. 16.7, AL. 27.07 mm), 1942-1946, 2665-2667, 2913, 2971, 2985, 3048, 3085, 3108, 3196, 3302, 3346, 3396, 3496, 3557; St. 01-05, 07, 10, 11-13, 15, 22, 24, 25, 68; 292-510 m.

*Previous records for Colombia:* None.

*Distribution:* Puerto Rico, Brazil (DALL AND SIMPSON, 1901; RIOS, 1994), Colombia; depth range 50-510 m.

*Remarks:* The shell features of the Colombian specimens are consistent with those of the type material (USNM 159686, Mayagüez, Puerto Rico). This record extends the distribution range of the species to the southern Caribbean.

***Stenodrillia horrenda* (Watson, 1886) (Fig. 55)**

*References:*

*Pleurotoma (Drillia) horrenda:* WATSON, 1886: 308-309, pl. 26, fig. 4.

*Stenodrillia horrenda:* SUNDERLAND AND SUNDERLAND, 1993: 14.

*Material:* One specimen, INV MOL2669 (L. 51.63, W. 17.2, AL. 22.97 mm), St. 68; ca. 487 m.

*Previous records in Colombia:* None.

*Distribution:* Florida, Brazil, Cuba (WATSON, 1886; SUNDERLAND AND SUNDERLAND, 1993), Colombia; depth range 396-640 m.

*Remarks:* The shell features of the Colombian specimens are consistent with material dredged off Bahía de Cochinos, Cuba, 600 m (USNM 902172).

***Hindsiclava alesidota* (Dall, 1889) (Fig. 56)**

*Reference:*

*Drillia alesidota:* DALL, 1889: 84-85.

*Material:* Four living specimens and seven empty shell, INV MOL2662 (L. 38.88, W. 9.68, AL. 17.88 mm), 2663, 2664, St. 67; 309 m.

*Previous records in Colombia:* None.

*Distribution:* North Carolina, Florida, Texas, Louisiana (DALL, 1889; SUNDERLAND, 1991).

*Remarks:* The morphology and sculpture of the collected material are consistent with those of the syntypes (USNM 93607, North Carolina, 113 m, and USNM 93608, North Carolina, 193 m). This record extends the geographical range of the species considerably to the southern Caribbean.

***Compsodrillia polytorta* (Dall, 1881) (Fig. 57)**

*References:*

*Pleurotoma (Drillia) polytorta:* DALL, 1881: 61-62.

*Drillia polytorta:* DALL, 1889: 85, pl. 10, fig. 6.

*Crassispira polytorta:* OKUTANI, 1983: 304 + fig.

*Material:* 13 living specimens and shells, INV MOL1939, 1940 (L. 37.78, W. 8.65, AL. 14.42 mm), 2936, 2995, 3011; St. 02, 03, 26, 34; 308-500 m.

*Previous records for Colombia:* None.

*Distribution:* Gulf of Mexico, Cuba, Surinam (OKUTANI, 1983), Colombia; depth range 308-755 m.

*Remarks:* The morphology and sculpture of the collected material are consistent with those of the holotype (USNM 412171, Cape San Antonio, Cuba, 743 m).

***Compsodrillia tristicha* (Dall, 1889) (Fig. 58)**

*References:*

*Drillia tristicha:* DALL, 1889: 88-89.

*Drillia tristicha:* RIOS, 1994: 169, pl. 56, fig. 773.

*Material:* Three living specimens and several empty shells, INV MOL1947 (L. 29.1, W. 6.98, AL. 11.65 mm), 2368, 2369, 2668; St. 08, 09, 33, 67; 269-312 m.

*Previous records for Colombia:* None.

*Distribution:* Alabama, Mississippi, Florida, Gulf of Mexico, south Brazil (DALL, 1889; RIOS, 1994), Colombia; depth range 164-378 m.

*Remarks:* The shell form and sculpture of the Colombian material are consistent with those of the syntypes (USNM 93852, Florida, 353 m; USNM 93969, Florida, 200 m). This is the first Caribbean record for the species, which seemingly has a wide distribution in the western Atlantic.

***Glyphostoma epicasta* Bartsch, 1934  
(Fig. 59)**

*References:*

*Glyphostoma epicasta:* BARTSCH, 1934: 14-15, pl. 4, figs. 4, 7, 9.

*Glyphostoma epicasta:* RIOS, 1994: 171, pl. 56, fig. 780.

*Material:* One living specimen and two empty shells, INV MOL1948 (L. 33.44, W. 8.8, AL. 15.71 mm), 1949, 2373; St. 16, 28, 34; 461-500 m.

*Previous records for Colombia:* None.

*Distribution:* Puerto Rico, south Brazil (BARTSCH, 1934; RIOS, 1994), Colombia; depth range 150-648 m.

*Remarks:* The shell features of the Colombian specimens are consistent with those of the holotype (USNM 430507). This record extends the distribution range of the species to the southern Caribbean.

***Glyphostoma gabbii* (Dall, 1889) (Fig. 60)**

*References:*

*Mangilia (Glyphostoma) gabbii:* DALL, 1889: 108-109, pl. 13, figs. 4-5, 7-8.

*Glyphostoma gabbii:* RIOS, 1994: 171, pl. 57, fig. 781.

*Material:* Nine empty shells, INV MOL1950-1953, 1954 (L. 16.31, W. 5.51, AL. 9.1 mm); St. 27, 29, 33, 35; 269-315 m

*Previous records for Colombia:* None.

*Distribution:* Florida, Gulf of Mexico, Cuba, Lesser Antilles, Brazil (DALL, 1889; RIOS, 1994), Colombia; depth range 55-795 m.

*Remarks:* The morphology and sculpture of the Colombian material agree with those of the syntype (USNM 87410, Barbados, 484 m).

***Mangelia subsida* (Dall, 1881) (Fig. 61)**

*References:*

*Pleurotoma (Drillia) subsida:* DALL, 1881: 62.

*Pleurotoma (Mangilia?) subsida:* DALL, 1889: 118, pl. 12, fig. 3.

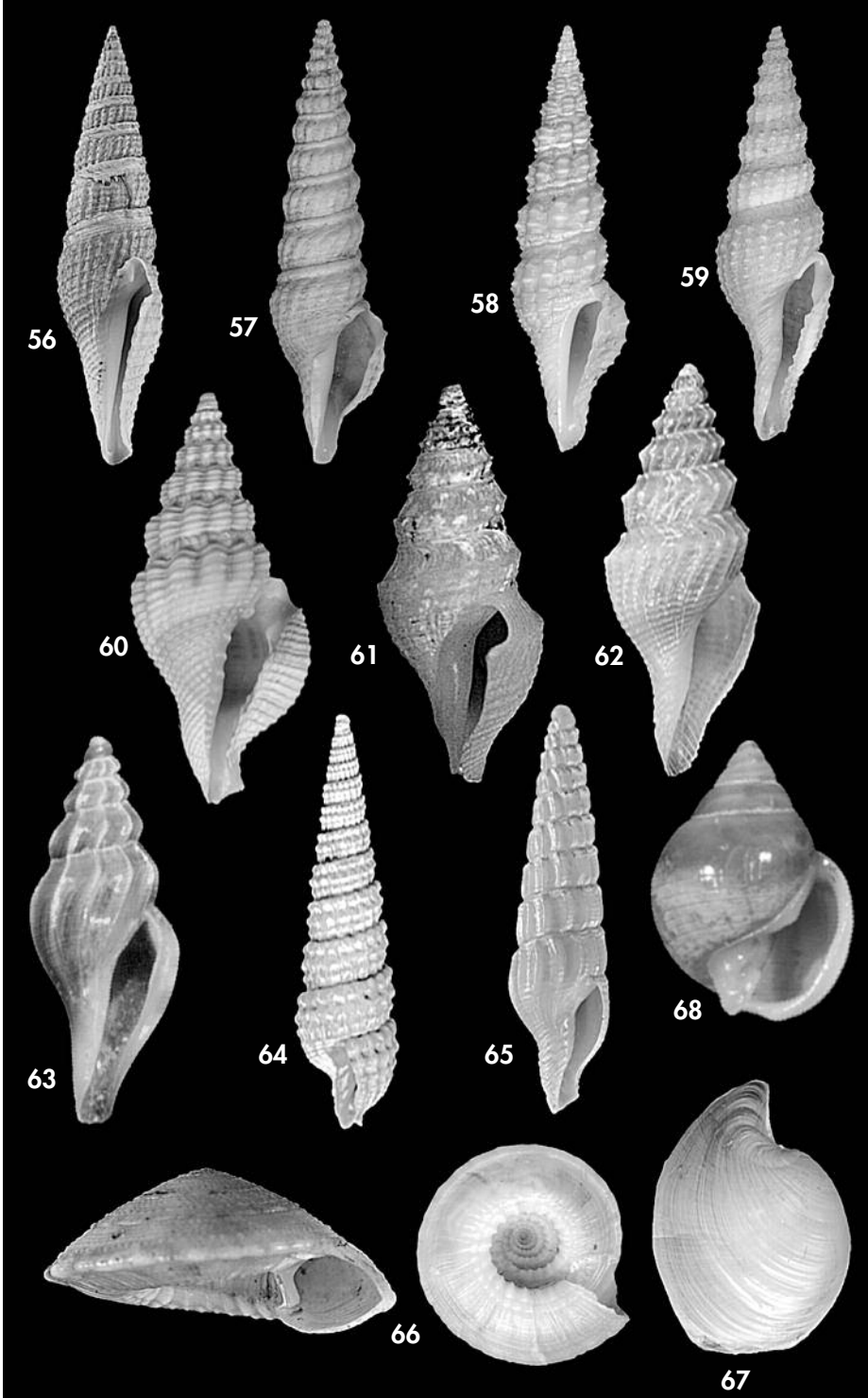
*Material:* One living specimen and one empty shell, INV MOL2355 (L. 11.54, W. 4.98, AL. 5.63 mm), 2651; St. 02, 67; 309-452 m.

*Previous records for Colombia:* None.

*Distribution:* Florida (DALL, 1881) and off the Guajira Peninsula, Colombia; depth range 309-610 m.

*Remarks:* Shell morphology and sculpture of the specimen collected are consistent with the type material (USNM 410655, off Florida, 610 m). This

(Right page) Figure 56. *Hindsiclava alesidota*, L. 38.88 mm. Figure 57. *Compsodrillia polytorta*, L. 37.78 mm. Figure 58. *Compsodrillia tristicha*, L. 29.1 mm. Figure 59. *Glyphostoma epicasta*, L. 28.49 mm. Figure 60. *Glyphostoma gabbii*, L. 14.18 mm. Figure 61. *Mangelia subsida*, L. 11.54 mm. Figure 62. *Benthomangelia* sp., L. 13.0 mm. Figure 63. *Ithycythara cymella*, L. 7.74 mm. Figure 64. *Terebra* sp. 1., L. 23.0 mm. Figure 65. "*Terebra*" sp. 2., L. 16.13 mm. Figure 66. *Discotectonica discus*, frontal and umbilical views, L. 7.96 mm. Figure 67. *Philine alba*, L. 36.0 mm. Figure 68. *Ringicula nitida*, L. 4.8 mm.  
(Página derecha) Figura 56. *Hindsiclava alesidota*, L. 38.88 mm. Figura 57. *Compsodrillia polytorta*, L. 37.78 mm. Figura 58. *Compsodrillia tristicha*, L. 29.1 mm. Figura 59. *Glyphostoma epicasta*, L. 28.49 mm. Figura 60. *Glyphostoma gabbii*, L. 14.18 mm. Figura 61. *Mangelia subsida*, L. 11.54 mm. Figura 62. *Benthomangelia* sp., L. 13.0 mm. Figura 63. *Ithycythara cymella*, L. 7.74 mm. Figura 64. *Terebra* sp. 1., L. 23.0 mm. Figura 65. "*Terebra*" sp. 2., L. 16.13 mm. Figura 66. *Discotectonica discus*, vista frontal y umbilical, L. 7.96 mm. Figura 67. *Philine alba*, L. 36.0 mm. Figura 68. *Ringicula nitida*, L. 4.8 mm.



is the second record of the species, and the first one for the Caribbean Sea.

***Benthomangelia* sp. (Fig. 62)**

*Material:* 48 living specimens and empty shells, INV MOL1956, 1957 (L. 9.11, W. 3.87, AL. 5.2 mm); St. 02, 03, 07, 09-15, 21, 24; 274-510 m.

*Previous records for Colombia:* None.

*Distribution:* Colombia; depth range 274-510 m.

*Remarks:* We have been unable to identify this species. A thorough revision of literature and comparison with other material are necessary.

***Cryoturris quadrilineata* (C. B. Adams, 1850)**

*References:*

*Pleurotoma quadrilineata:* CLENCH AND TURNER, 1950b: 336, pl. 29, fig. 12.

*Cryoturris quadrilineata:* DÍAZ AND PUYANA, 1994: 229, fig. 910.

*Material:* One empty shell INV MOL1959 (L. 6.65, W. 2.44, AL. 4.01 mm), St. 29; 290-296 m.

*Previous records for Colombia:* DÍAZ (1985), Bahía de Nenguanje, near Santa Marta.

*Distribution:* Mexico, Costa Rica, Panama, Colombia, Jamaica, St. Croix (USTICKE, 1959; DÍAZ AND PUYANA, 1994); depth range 15-296 m.

***Ithythythara cymella* (Dall, 1889) (Fig. 63)**

*Reference:*

*Mangilia (Cythara) cymella:* DALL, 1889: 101-102, pl. 12, fig. 4.

*Material:* One living specimen, INV MOL1958 (L. 7.74, W. 2.97, AL. 4.54 mm); St. 21; 274-276 m.

*Previous records for Colombia:* None.

*Distribution:* Florida, Gulf of Mexico, Cuba, St. Vincent, Barbados, Grenada (DALL, 1889; SUNDERLAND AND SUNDERLAND, 1993), Colombia; depth range 117-276 m.

***Kurtziella serga* (Dall, 1881)**

*References:*

*Pleurotoma (Drillia) serga:* DALL, 1881: 65-66.

*Mangilia serga:* BOUCHET AND WARÉN: 1980: 30, figs. 42, 80, 214.

*Cryoturris serga:* DÍAZ AND PUYANA, 1994: 230, fig. 911.

*Cryoturris serga:* RIOS, 1994: 173, pl. 57, fig. 796.

*Material:* One living specimen INV MOL1955, (L. 6.5, W. 2.72 mm, AL. 3.05), St. 26; 314-318 m.

*Previous records for Colombia:* DÍAZ (1985), Bahía de Nenguanje, near Santa Marta. DÍAZ AND PUYANA (1994), off Gulf of Salamanca, off Santa Marta.

*Distribution:* Northern mid-Atlantic, including the Mediterranean (BOUCHET AND WARÉN, 1980); west Atlantic, Bermudas, Texas, Gulf of Mexico, Costa Rica, Colombia, Brazil (DÍAZ AND PUYANA, 1994; RIOS, 1994); depth range 6-1980 m.

**Family TEREBRIDAE Morch, 1852**

***Terebra* sp. 1 (Fig. 64)**

*Material:* +40 empty shells, INV MOL1961 (L. 16.4, W. 3.84, AL. 4.03 mm), St. 08, 09, 11, 14, 15, 21, 26.

*Previous records for Colombia:* None.

*Distribution:* Colombia; depth range, 274-326 m.

**Uncertain placement**

**"*Terebra*" sp. 2 (Fig. 65)**

*Material:* Six empty shells, INV MOL1978 (L. 12.69, W. 3.63, AL. 4.72 mm), 2387, 2672, St. 32; 514-520 m.

*Previous records for Colombia:* None.

*Distribution:* Colombia.

**Family ARCHITECTONICIDAE Gray, 1850**

***Discotectonica discus* (Phillipi, 1844) (Fig. 66)**

*Reference:*

*Solarium peracutum:* DALL, 1889: 275, pl. 33, figs. 2, 5.

*Material:* One specimen, INV MOL2374 (L. 7.96, W. 16.17, AL. 4.21 mm); St. 19; 200 m.

*Previous records for Colombia:* None.

*Distribution:* Eastern and western Atlantic, in the latter known from North Carolina, Florida, off Mississippi, St. Croix, and Barbados (DALL, 1889; BULLIS, 1956a; PORTER, 1974; REED AND MIKKELSEN, 1987), Colombia; depth range 82-329 m.

*Remarks:* The shell form and sculpture of the Colombian specimen are con-

sistent with those of the lectotype of *Solarium peracutum* Dall, 1889 from Barbados (USNM 83694).

**Family PHILINIDAE Gray, 1850**

***Philine alba* Mattox, 1958 (Fig. 67)**

*Reference:*

*Philine alba*: MARCUS AND MARCUS, 1967: 607-609, figs. 23-28.

*Material*: Five specimens, INV MOL2375, 2376 (L. 12.2, W. 8.9 mm), 2378; St. 23; 204-206 m.

*Previous records for Colombia*: None.

*Distribution*: Amphiamerican, in the western Atlantic known from Panama and Brazil (MARCUS AND MARCUS, 1967; MARCUS, 1977; RIOS, 1994), Colombia; depth range 46-206 m.

***Philine infundibulum* Dall, 1889**

*References:*

*Philine infundibulum*: DALL, 1889: 57-58.

*Philine infundibulum*: DÍAZ AND PUYANA, 1994: 245.

*Philine infundibulum*: RIOS, 1994: 196, pl. 64, fig. 920.

*Material*: 21 living specimens INV MOL1977, (L. 8.30 mm), 2699, 2700, St. 21, 67; 274-309 m.

*Previous records for Colombia*: BAYER ET AL. (1970), off Gulf of Morrosquillo.

*Distribution*: Bermuda, Florida, Cuba, Guadeloupe, Dominica, Barbados, Colombia to Brazil (DALL, 1889; MARCUS, 1977; DÍAZ AND PUYANA, 1994; RIOS, 1994); depth range, 68-724 m.

**Family RINGICULIDAE Philippi, 1853**

***Ringicula nitida* Verrill, 1872 (Fig. 68)**

*References:*

*Ringicula nitida*: DALL, 1881: 97.

*Ringicula nitida*: RIOS, 1994: 193, pl. 63, fig. 903.

*Material*: One living specimens and eight shells, INV MOL1964 (L. 5.63, W. 3.86, AL. 3.3 mm), 2380-2383; St. 07, 10, 12, 39; 292-500 m.

*Previous records for Colombia*: None.

*Distribution*: Mediterranean and Pliocene from Italy; New England, Bermuda, Gulf of Maine, Florida, Gulf of Mexico, Yucatan Strait, Lesser Antilles, Brazil (DALL, 1889; MARCUS, 1977;

RIOS, 1994), Colombia; depth range 180-1935 m.

**Family CYLICHNIDAE H. and A. Adams, 1854**

***Scaphander watsoni rehderi* Bullis, 1956**

*References:*

*Scaphander watsoni rehderi*: BULLIS, 1956b: 13-14, figs. 3 a-d.

*Scaphander watsoni rehderi*: MARCUS AND MARCUS, 1967: 602-603, figs. 5-9.

*Scaphander watsoni rehderi*: DÍAZ AND PUYANA, 1994: 241, fig. 970.

*Material*: +70 living specimens and shells, INV MOL1965-1969, 1970 (L. 38.86, W. 21.37 mm), 1971-1976, 2673, 2674, 2853, 2896, 3033, 3067, 3149, 3169, 3203, 3300, 3453, 3486, 3500, 3526, 3555; St. 01, 04, 06, 08-11, 14-17, 21-23, 25-27, 29, 34, 35, 37, 67, 68; 206-510 m.

*Previous records for Colombia*: MARCUS AND MARCUS (1967), Gulf of Darien, off the Guajira Peninsula; BAYER ET AL. (1970), off Gulf of Morrosquillo.

*Distribution*: Mississippi, Louisiana, Gulf of Mexico, Panama, Colombia (BULLIS, 1956b; MARCUS AND MARCUS, 1967; DÍAZ AND PUYANA, 1994); depth range 134-549 m.

**Family ARMINIDAE Rafinesque, 1814**

***Armina juliana* Ardila and Díaz, 2002**

*Reference:*

*Armina juliana*: ARDILA AND DÍAZ, 2002: 25-31.

*Material*: Two specimens, Holotype INV MOL1598 (L. 41 mm alive), Paratype LACM-2908 (L. 14 mm alive), St. 05, 09; 306-460 m.

*Previous records for Colombia*: ARDILA AND DÍAZ (2002): known only from the type locality off Cabo de La Vela and Palomino.

*Distribution*: Colombia; at 306-460 m in depth.

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## BIBLIOGRAPHY

- ABBOTT, R. T., 1974. *American Seashells. The marine Mollusca of the Atlantic and Pacific Coast of North America*. 2nd. Ed. Van Nostrand Reinhold Co., New York, 663 pp.
- ALTENA, C. O. VAN R., 1975. The Marine Mollusca of Surinam (Dutch Guiana) Holocene and recent. Part III. Gastropoda and Cephalopoda. *Zoologische Verhandelingen*, 139: 104 pp., 11 pls.
- ARDILA, N. E. AND DÍAZ, J. M., 2002. *Armina juliana* (Nudibranchia: Arminoidea: Arminiidae) a new species from the southern Caribbean. *Boletín de Investigaciones Marinas y Costeras*, 31: 25-31.
- ARDILA, N. E. AND HARASEWYCH, M., 2002. Cocculinid and Pseudococculinid limpets collected by the expeditions Invenar-Macrofauna I and II from the Colombian Caribbean (20-500 m), with one rediscovered species. *Memorias V Congreso Latinoamericano de Malacología*, Sao Paulo, Brasil, Resumen 137a, 283-284.
- BAYER, F. M., 1971. Biological results of the University of Miami Deep-Sea Expeditions. New and unusual mollusks collected by R/V John Elliott Pillsbury and R/V Gerda in the tropical western Atlantic. *Bulletin of Marine Science*, 21 (1): 111-236.
- BAYER, F. M., VOSS, G. AND ROBINS, R., 1970. *Bio-environmental and radiological safety feasibility studies Atlantic-Pacific Interoceanic Canal. Report on the marine fauna and benthic shelf slope communities of the Isthmian Region*. University of Miami, Florida, 99 pp., 11 pl., 70 figs.
- BARTSCH, P., 1934. New Mollusks of the family Turridae. *Smithsonian Miscellaneous Collection*, 91 (2): 1-29, pls 1-8.
- BERTSCH, H. AND D'ATTILIO, A., 1980. New species of Muricidae (Gastropoda) from the Indian Ocean, the Philippines and Brazil. *Venus*, 39 (3): 131-138.
- BOUCHET, PH. AND WARÉN, A., 1980. Revision of the Northeast Atlantic bathyal and abyssal Turridae (Mollusca, Gastropoda). *Journal of Molluscan Studies*, suppl. 8: 1-119.
- BOUCHET, PH. AND WARÉN, A., 1985. Revision of the Northeast Atlantic bathyal and abyssal Neogastropoda excluding Turridae (Mollusca, Gastropoda). *Bolletino Malacologico*, suppl., 1: 121- 296.
- BOUCHET, PH. AND WARÉN, A., 1986. Mollusca Gastropoda: taxonomical notes on tropical deep water Buccinidae with descriptions of new taxa. *Memoires du Muséum national d'Histoire naturelle*, Paris (A) 133: 457-499, pls. 1-18.
- BOYER, F., 2001. Two *Volvarina* (Marginellidae) from deep waters off Northern Honduras. *Novapex*, 2 (1): 3-8.
- BULLIS, H. R., 1956a. *Collections by the Oregon in the Gulf of Mexico*. Special Scientific Report. Fisheries 196, 134 pp.
- BULLIS, H. R., 1956b. The genus *Scaphander* in the Gulf of Mexico and notes on the western Atlantic species. *Bulletin of Marine Science of the Gulf of Mexico and the Caribbean*, 6 (2): 1- 17.
- CATE, C. N. 1972. A systematic revision of the recent Cypraeid family Ovulidae (Mollusca, Gastropoda). *The Veliger*, suppl. 15: 1-116.
- CLENCH, W. J., 1942. The genus *Conus* in the western Atlantic. *Johnsonia*, 1 (6): 1-40.
- CLENCH, W. J., 1944. The genera *Carmaria*, *Galeodea*, *Phalium* and *Cassis* in the western Atlantic. *Johnsonia*, 1 (16): 1-16.
- CLENCH, W. J. AND ABBOTT, R. T., 1943a. The genera *Gaza* and *Livona* in the western Atlantic. *Johnsonia*, 1 (12): 1-12.
- CLENCH, W. J. AND ABBOTT, R. T., 1943b. The genera *Cypraecassis*, *Morum*, *Sconsia* and *Dalium* in the western Atlantic. *Johnsonia*, 1 (9): 1-8.
- CLENCH, W. J. AND AGUAYO, C. G., 1943. The genera *Xenophora* and *Tugurium* in the western Atlantic. *Johnsonia*, 1 (8): 1-8.
- CLENCH, W. J. AND PÉREZ-FARFANTE, I., 1945. The genus *Murex* in the western Atlantic. *Johnsonia*, 1 (17): 1-58.

- CLENCH, W. J. AND TURNER, R. D., 1950a. The genera *Sthenorytis*, *Cirsotrema*, *Acirsa*, *Opalia* and *Amaea* in the western Atlantic. *Johnsonia*, 2 (29): 221-248.
- CLENCH, W. J. AND TURNER, R. D., 1950b. The western Atlantic marine mollusks described by C. B. Adams. *Occasional Papers on Mollusks*, 1 (15): 233-361, 21 pl.
- CLENCH, W. J. AND TURNER, R. D., 1960. The Genus *Calliostoma* in the western Atlantic. *Johnsonia*, 4 (40): 1-80.
- COSEL, R., 1986. Moluscos de la región de la Ciénaga Grande de Santa Marta (costa del Caribe colombiano). *Anales del Instituto de Investigaciones Marinas de Punta Betín*, 15-16: 79-370.
- DALL, W. H., 1881. Report on the results of dredging by the U. S. Coast survey steamer "Blake". XV. Preliminary Report on the Mollusca. *Bulletin of the Museum of Comparative Zoology*, 9 (2): 1-144.
- DALL, W. H., 1889. Report on the results of dredging by the U. S. Coast survey steamer "Blake". XXIX. Report on the Mollusca, part II. Gastropoda and Scaphopoda. *Bulletin of the Museum of Comparative Zoology*, 18: 1-491, pls. 10-40.
- DALL, W. AND SIMPSON, C. T., 1901. The Mollusca of Porto Rico. *Extracted from U. S. Fish Commission Bulletin for 1900*, 1: 351-524, pls. 53-58.
- D'ATILLIO, A. AND HERTZ, C., 1988. An illustrated catalogue of the family Typhidae Cossmann, 1903. *The Festivus*, suppl. 20: 1-73.
- DAUTZENBERG, PH., 1900. Croisières du yacht Chazalie dans l'Atlantique. Mollusques. *Mémoires de la Société Zoologique de France*, 12: 145-265. pls. 9-10.
- DÍAZ, J. M., 1985. *Mollusken und ihre Gemeinschaften in der Bahía de Nenguange (Karibik, Kolumbien)*. Ph.D. dissertation, Justus Liebig Universität, Giessen, Germany, 305 pp.
- DÍAZ, J. M., 1989. Malacofauna subfósil y reciente de la Bahía de Portete, Caribe colombiano, con notas sobre algunos fósiles del Terciario. *Boletín Ecológico*, 23: 1-22.
- DÍAZ, J. M., 1990. Las especies de *Conus* (Mollusca: Gastropoda, Conidae) en la región de Santa Marta, Caribe colombiano, con notas sobre su distribución y ecología. *Anales del Instituto de Investigaciones Marinas de Punta Betín*, 19-20: 35-58.
- DÍAZ, J. M., 1994. La malacofauna de la zona costera de Santa Marta y Parque Nacional Natural Tayrona, Caribe colombiano. *Anales del Instituto de Investigaciones Marinas de Punta Betín*, 23: 15-43.
- DÍAZ, J. M., 1995. Zoogeography of marine gastropods in the southern Caribbean: a new look at provinciality. *Caribbean Journal of Science*, 31 (1-2): 104-121.
- DÍAZ, J. M. AND GÖTTING, K. J., 1988. Die Mollusken der Bahía de Nenguange (Karibik, Kolumbien) und ihre zoogeographischen Beziehungen. *Zoologische Jahrbücher in Systematik*, 115: 145-170.
- DÍAZ, J. M., CANTERA, J. AND PUYANA, M., 1998. Estado actual del conocimiento en sistemática de moluscos marinos recientes de Colombia. *Boletín Ecológico*, 33: 15-37.
- DÍAZ, J. M. AND PUYANA, M., 1994. *Moluscos del Caribe Colombiano*. Un catálogo ilustrado. Colciencias - Fundación Natura - Invemar, Bogotá, 291 pp., 76 pls.
- EMERSON, W. K. AND D'ATILLIO, A., 1963. A new species of *Latiaxis* from the western Atlantic (Mollusca, Gastropoda). *American Museum Novitates*, 2148: 1-9.
- ESPINOSA, J., 1984. Adiciones al género *Diodora* (Mollusca: Archaeogastropoda) en Cuba. *Poyana*, 270: 1-22.
- FAIR, R. H., 1976. *The Murex Book: An illustrated catalogue of recent Muricidae (Muricinae, Muricopsinae, Ocenebrinae)*. Ruth H. Fair, Honolulu, 138 pp., 23 pls.
- HARASEWYCH, M. G., 1983. A review of the Columbariinae (Gastropoda: Turbinellidae) of the western Atlantic with notes on the anatomy and systematic relationships of the subfamily. *Occasional Papers of the Delaware Museum of Natural History*, 27: 1-42.
- HARASEWYCH, M. G., 1990. Studies on bathyal and abyssal Buccinidae (Gastropoda: Neogastropoda): 1. *Metula fusiformis* Clench and Aguayo, 1941. *The Nautilus*, 104 (4): 120-129.
- HARASEWYCH, M. G. AND JENSEN, R., 1984. *Natica guesti*, a new naticid gastropod from the western Atlantic. *The Nautilus*, 98 (3): 99-101.
- HOUART, R., 1994. *Illustrated catalogue of recent species of Muricidae named since 1971*. Christa Hemmen Verlag, Wiesbaden, Germany. 119 pp., 28 pls.
- HOUART, R., 1996. Description of new species of Muricidae (Gastropoda) from New Caledonia, the Philippine Islands, the Northeast Atlantic, and West Africa. *Apex*, 11 (2): 59-75.
- HOUBRICK, R. S., 1987. Transfer of *Cerithiopsis crystallina* Dall to the genus *Varicopeza* Grun-dell, family Cerithiidae (Prosobranchia: Gastropoda). *The Nautilus*, 101: 80-85.
- JONG, K. M. DE AND COOMANS, H. E., 1988. *Marine gastropods from Curacao, Aruba and Bonaire*. J. Brill, Leiden, 261 pp., 47 pls.
- KAUFMANN, R. AND GÖTTING, K. J., 1970. Prosobranchia aus dem Litoral der karibischen Küste Kolumbiens. *Helgoländer wissenschaftliche Meeresuntersuchungen*, 21: 333-398.

- LEAL, J. M. AND SIMONE, L. R., 2000. *Copulabyssia riosi*, a new deep-sea limpet (Gastropoda: Pseudococculinidae) from the continental slope off Brazil with comments on the systematics of the genus. *The Nautilus*, 114 (2): 59-68.
- MARCUS, E., 1977. An annotated checklist of the western Atlantic warm water opisthobranchs. *The Journal of Molluscan Studies*, suppl. 4: 1-22.
- MARCUS, E. AND MARCUS, E., 1967. Opisthobranchs from the southwestern Caribbean Sea. *Bulletin of Marine Science*, 17: 597-628.
- MARSHALL, B. A., 1992. A revision of the recent species of *Eudolium* Dall, 1889 (Gastropoda: Tonnoidea). *The Nautilus*, 106 (1): 24-38.
- MCLEAN, J. H. AND HARASEWYCH, M. G., 1995. Review of western Atlantic species of cocculinid and pseudococculinid limpets, with descriptions of new species (Gastropoda: Cocculiniformia). *Natural History Museum of Los Angeles County Contributions in Science*, 453: 1-33.
- MCLEAN, J. H. AND QUINN, J. F. JR., 1987. *Cataegis*, new genus of three new species from the continental slope (Trochidae: Cataeginae new subfamily). *The Nautilus*, 101 (3): 111-116.
- ODÉ, H., 1988. Distribution and records of the marine Mollusca in the northwest Gulf of Mexico (a continuing monograph), superfamily Fisurellacea. *Texas Conchologist*, 25: 33-44.
- OKUTANI, T., 1982. A new genus and five new species of Gastropods trawled from off Surinam. *Venus*, 41 (2): 109-120.
- OKUTANI, T., 1983. *Mollusks trawled off Suriname and French Guiana*. Japan Marine Fishery Resource Research Center, Tokyo, 354 pp.
- OLSSON, A. A., 1956. Studies on the genus *Olivella*. *Proceeding of the Academy of Natural Sciences of Philadelphia*, 108: 155-225.
- OLSSON, A. A., 1971. Biological result of the University of Miami Deep-Sea Expeditions. Mollusks from the Gulf of Panama collected by R/V John Elliott Pillsbury, 1967. *Bulletin of Marine Science*, 21 (1): 35-92.
- OLSSON, A. A. AND BAYER, F. M., 1972. American Metulas (Gastropoda: Buccinidae). *Bulletin of Marine Science*, 22: 900-925.
- PÉREZ-FARFANTE, L., 1943. The genus *Diodora* in the western Atlantic. *Johnsonia*, 1 (11): 1-20.
- PÉREZ-FARFANTE, L., 1947. The genera *Zeidora*, *Nesta*, *Emarginula*, *Rimula* and *Puncturella* in the western Atlantic. *Johnsonia*, 2 (24): 93-148.
- PETUCH, E. J., 1981. A relict neogene coenogastropod fauna from northern South America. *Malacologia*, 20 (1): 307-347.
- PETUCH, E. J., 1987. *New Caribbean Molluscan Faunas*. The Coastal Education and Research Foundation (CERF), Charlottesville, Virginia, 154 pp.
- PILSBRY, H. A. AND MCGINTY, T., 1945. Cyclostrematidae and Vitrinellidae of Florida I-V. *The Nautilus*, 59 (1): 1-87, 5 pls.
- PORTER, H. J., 1974. *The North Carolina marine and estuarine Mollusca. An atlas of occurrence*. University of North Carolina, Institute of Marine Sciences, Morehead City, 351 pp.
- PRINCZ, D., 1982. Lista y bibliografía de los gastrópodos marinos vivos de los mares de Venezuela, Trinidad e Islas de Sotavento. *Boletín de la Sociedad Venezolana de Ciencias Naturales*, 37: 103-147.
- QUINN, J. F. JR., 1979. Biological results of the University of Miami deep-sea expedition. 130. The systematics and zoogeography of the gastropod family Trochidae collected in the straits of Florida and its approaches. *Malacologia*, 19: 1-62.
- QUINN, J. F. JR., 1980. A new genus, species and subspecies of Oocorythidae (Gastropoda: Tonnoidea) from the western Atlantic. *The Nautilus*, 94 (4): 149-158.
- QUINN, J. F. JR., 1991. New species of *Gaza*, *Mirachelus*, *Calliotropis* and *Echinogurges* (Gastropoda: Trochidae) from the Northwestern Atlantic Ocean. *The Nautilus*, 105 (4): 166-172.
- REED, J. K. AND MIKKELSEN, P.M., 1987. The molluscan community associated with the scleractinian coral *Oculina varicosa*. *Bulletin of Marine Science*, 40: 99-131.
- RIOS, E. C., 1994. *Seashells of Brazil*. 2nd Edition. Rio Grande, Brazil. 368 pp., 113 pls.
- SMITH, M., 1940. New recent and fossil mollusks from Florida. *The Nautilus*, 54: 44-46, 2 pls.
- SMITH, V. B., 1991. Another look at *Sthenorytis turbinus* (Dall, 1908), comparing it with *Sthenorytis pernobilis* (Fisher and Bernardi, 1857). *American Malacologist*, 19 (1): 11.
- SNYDER, M. A., 1984. *Fusinus lightbourni* (Gastropoda: Fasciolaridae), a new species from Bermuda. *The Nautilus*, 98: 28-30.
- SUNDERLAND, K., 1989. Caribbean Coralliophiidae and Typhidae. *American Conchologist*, 17 (3): 12-13.
- SUNDERLAND, K., 1991. Atlantic and Caribbean Turridae. *American Conchologist*, 19 (1): 14-15.
- SUNDERLAND, K. AND SUNDERLAND, L., 1992. Caribbean Muricidae, part II. *American Conchologist*, 20 (3): 14-15.
- SUNDERLAND, K. AND SUNDERLAND, L., 1993. Atlantic and Caribbean Turridae. *American Conchologist*, 21 (2): 14-16.
- SUNDERLAND, K. AND SUNDERLAND, L., 1994. Selected Florida and Caribbean shells in the Florida Museum of Natural History, Gainesville. *American Conchologist*, 22 (1): 14-15.
- TURNER, R. D., 1948. The family Tonnoidea in the western Atlantic. *Johnsonia*, 2 (26): 165-192.



- USTICKE, G. W., 1959. *A check list of the marine shells of St. Croix, U. S. Virgin Islands, with random annotations*. Vermont, 90 pp.
- VAUGHT, K. C., 1989. *A classification of the living Mollusca*. American Malacologist, Inc., Melbourne, Florida, 195 pp.
- VINK, D., 1988. The Conidae of the Western Atlantic, Part XI. *La Conchiglia*, 20 (236-237): 6-15.
- VOKES, E., 1970. Cenozoic Muricidae of the Western Atlantic region. Part V. *Pterynotus* and *Poirieria*. *Tulane Studies in Geology and Paleontology*: 8 (1): 1-50.
- WARMKE G. L. AND ABBOTT, R. T., 1962. *Caribbean Seashells. A guide to the Marine Mollusks of Puerto Rico and other West Indian Islands, Bermuda and the Lower Florida Keys*. Livingston Publishing Co., Pennsylvania, 348 pp.
- WARÉN, A. AND BOUCHET, PH., 1993. New records, species, genera, and a new family of gastropods from hydrothermal vents and hydrocarbon seeps. *Zoologica Scripta*, 22 (1): 1-90.
- WATSON, R. B., 1886. Report on the scientific results of the voyage of H.M.S. Challenger. *Zoology*, 15 (2): 1-680, 692-756, 50 pls. Her Majesty's Government, London.

