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STUDIES ON THE FAUNA OF CURAÇAO AND OTHER CARIBBEAN ISLANDS: No. 214

MARINE GASTROPODS FROM CURAÇAO, ARUBA AND BONAIRE

by

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In co-operation with F. Verberne

CONTENTS

INTRODUCTION

The present study is based on the well-known publication "Caribbean Seashells" by WARMKE & ABBOTT (1961); its data are not repeated here, but a large number of mainly small species were added. Most data from "Gegevens over Mariene Gastropoden van Curaçao" by DE JONG & KRISTENSEN (1965) have been included.

Furthermore most of the photos of species in "A survey of the littoral Gastropoda of the Netherlands Antilles and other Caribbean Islands" by COOMANS (1958) are reproduced. The figures of species treated by us and occurring in "Caribbean Seashells", in "The Western Atlantic Marine

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Mollusks, described by C. B. Adams" by CLENCH & TURNER (1950) or in "American Seashells" by ABBOTT (1974) are referred to.

When an illustration represents a shell collected outside Aruba, Bonaire or Curaçao (the ABC islands), the name of the locality has been added.

Localities without an island name are situated in Curaçao, whereas for localities on Aruba and Bonaire the name of the island is mentioned.

Opisthobranchs without a shell are not discussed in this publication; we may refer to MARCUS & MARCUS (1963).

The species mentioned in literature from the ABC islands have been checked; a number of them proved to be synonyms, some were misidentifications.

The illustrations consist of 4 groups:
Drawings made by J. ZAAGMAN, plates 1-7.
SEM photographs made by M. J. FABER, plates 8-21.
Derived from literature, plates 22-28.
Photographs made by J. A. BUIJSE and P. WAGENAAR HUMMELINCK, plates 29-47.

The marine fauna of Aruba is to a certain degree distinct from that of Curaçao and Bonaire, because of the situation with regard to the mainland of South America and because part of the windward shore consists of non-calcareous rock. The sea around Curaçao and Bonaire soon extends to a 1000 m depth, however, the sea between Aruba and Venezuela does not reach a depth exceeding 135 m. The distance between Aruba and the Península of Paraguaná is only 30 km.

In the present publication 723 species known from the ABC islands are treated, and 24 species not yet known from these islands.

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Mr. and Mrs. A. N. DE MAN from Aruba supplied many data. C. DE JONG and his family, R. G. MOOLENBEEK and D. L. N. VINK collected shells up to a depth of 30 m or more.

M.J. FABER assisted in the identification of the smallest species. Dr. P. WAGENAAR HUMMELINCK arranged the figures on plates and he assisted in many other ways.

The second author wishes to express his thanks to the STICUSA (director drs. H. P. J. VAN BUEREN) for financing his trip to Curaçao and Aruba in December 1986, to study some mollusk collections; and to the "Cultureel Centrum Curaçao" (treasurer Mr. W. ROYER) for taking care of the hotel expenses in Aruba.

ABBREVIATIONS

Illustrations are referred to as follows:
A after the species name means: in Abbott, R. Tucker, 1974. American Seashells.
C means: in Clench, W.J. & R.D. Turner, 1950. The Western Atlantic Marine Mollusks described by C. B. Adams.
W means: in Warmke, G. & R. T. Abbott, 1961. Caribbean Seashells.
Pl. means: plate number in the present publication.

Authors' names

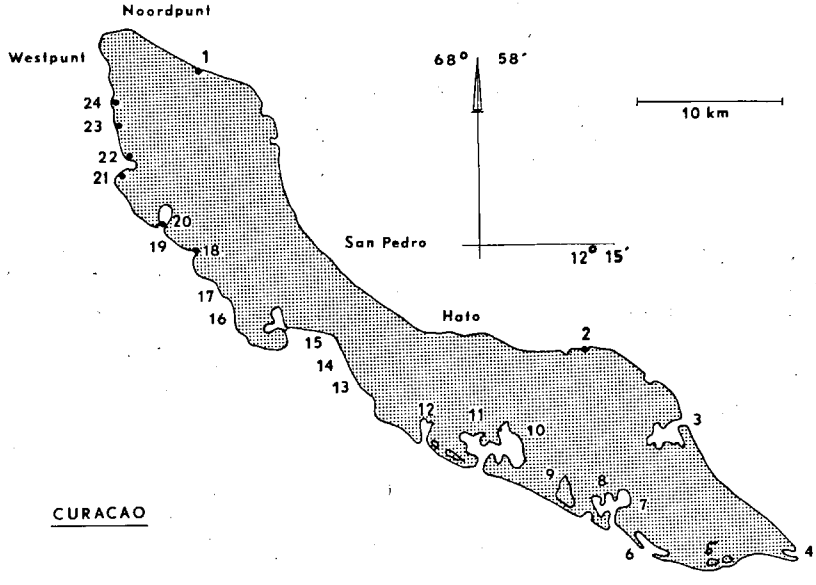
Ag.	: Aguayo	L.	: Linné
Brug..	: Bruguière	Lam.	: Lamarck
C. B. Ads	: C. B. Adams	McG.	: McGinty
Cl. & T.	: Clench & Turner	Pils.	: Pilsbry
d'Att.	: d'Attilio	Sow.	: Sowerby
d'Orb.	: d'Orbigny	W. & A.	: Warmke & Abbott
Gm.	: Gmelin		

Collector's names

(Arn)	: Fr. Arnoldo N. Broeders	(Fr)	: Fr. Fredericus Verberne
(CdJ)	: C. de Jong	(Hum)	: P. Wagenaar Hummelinck
(dM)	: Mr. & Mrs. A. N. de Man	(IK)	: I. Kristensen
(KdJ)	: K. M. de Jong	(RM)	: R. G. Moolenbeek
(MF)	: M. J. Faber	(TdB)	: Th. de Boer

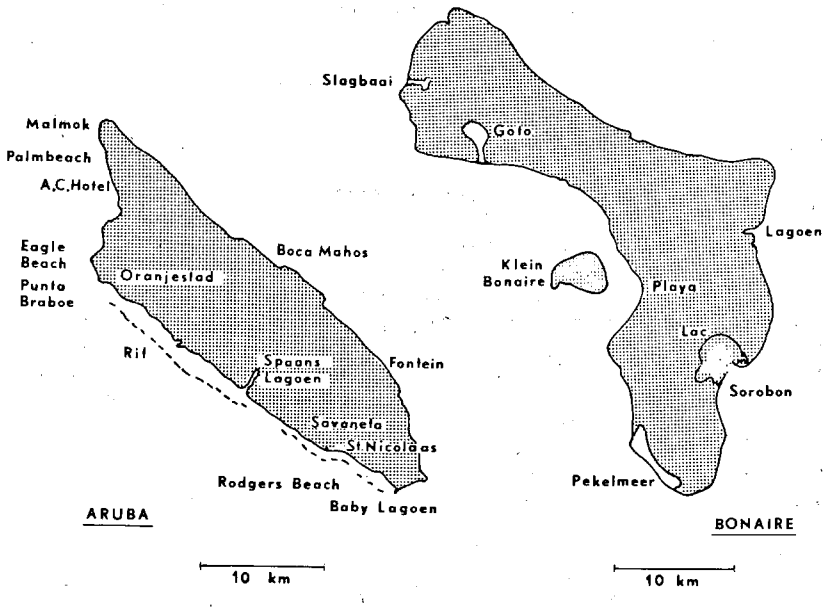
Text

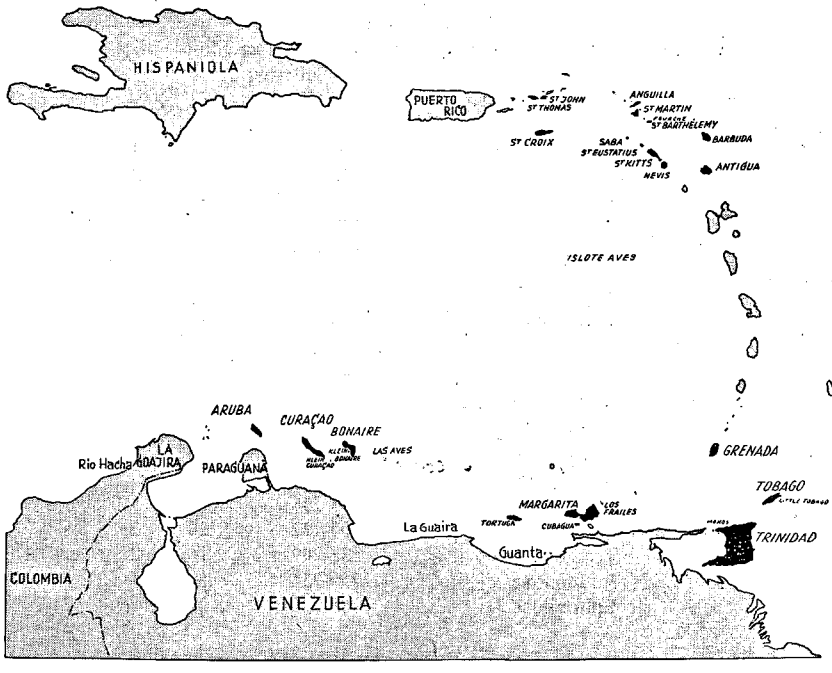
Acc. to	: According to; if followed by author's name only the first letter of that name is mentioned.
n.w.	: nuclear whorl(s)
p.n.w.	: post nuclear whorl(s)
n. + 5 w.	: nucleus + 5 p.n.w.
2 + 5 w.	: 2 n.w. + 5 p.n.w.
5 × 7 mm	: length 5 mm, width 7 mm
a = 0.4 l	: height of (a)perture = 0.4 of l(ength) of shell
l:w:a	: length of shell : width of shell : length of aperture
ZMA	: Zoologisch Museum Amsterdam
ABC islands	: Aruba, Bonaire and Curaçao
SEM	: Scanning Electronic Microscope photograph
a, b	: after a number means distinct species
A, B	: after a number means forms



Localities in CURAÇAO

Ansinghplas	10	Hoendoe	19	San Juan	18
Awa Blancoe	5	Knipbaai	24	Schottegat	11
Awa di Oostpunt	4	Koraal Specht	9	Spaanse Water	8
Boca Grandi	1	Lagoen	22	Sta. Barbara	7
Boca Playa Canoa	2	Piscaderabaai	12	Sta. Marthabaai	20
Bullenbaai	15	Playa Chikitoe	21	St. Jorisbaai	3
Daaibooi Baai	16	Playa Djeremi	23	St. Michielsbaai	13
Fuikbaai	6	Porto Marie	17	Vaersenbaai	14


Malmok
Palmbeach
A.C.Hotel
Eagle Beach
Punto Braboe
Oranjestad
Boca Mahos
Rif
Spaans Lagoen
Fontein
Savaneta
St Nicolaas
Rodgers Beach
Baby Lagoen
ARUBA
10 km
Slagbaai
Goto
Lagoen
Klein Bonaire
Playa
Lac
Sorobon
Pekelmeer
BONAIRE
10 km


HISPANIOLA
PUERTO RICO
ST JOHN
ST THOMAS
ANGUILLA
ST MARTIN
ST BARTHÉLEMY
ST CROIX
SABA
ST EUSTATIUS
ST KITTS
NEVIS
BARBUDA
ANTIGUA
ISLOTE AVES
ARUBA
CURAÇAO
BONAIRE
LAS AVES
Rio Hacha
LA GUAJIRA
PARAGUANA
GRENADA
TOBAGO
MARGARITA
LOS FRAILES
TORTUGA
CUBAGUA
La Guaira
Guanta
TRINIDAD
COLOMBIA
VENEZUELA

SYSTEMATIC INDEX

Class GASTROPODA

Head fused to a flattish muscular ventral foot.

Subclass PROSOBRANCHIA

The gills are situated in front of the heart.

Order ARCHAEOGASTROPODA

The animal has no proboscis, no siphon and no penis; internal layer of shell nacreous.

Superfamily	*Familiy*	*Numbers of species*	*Total*	*new spec.*	*unid. sp.*
Pleurotomariacea	Scissurellidae	1	1		
	Fissurellidae	2-26	25		
Patellacea	Acmaeidae	27-29	3		
Trochacea	Trochidae	30-45	16		
	Cyclostrematidae	46-53a	9	1	
	Turbinidae	54-59	6		
	Phasianellidae	60-64	5		
Neritacea	Neritidae	65-73	9		
	Phenacolepadidae	74	1		

Order MESOGASTROPODA

Generally with a siphonal canal, a penis and a non-calcified operculum.

Littorinacea	Littorinidae	75-86	12		
Rissoacea	Rissoidae	87-99	13	5	
	Rissoinidae	100-121a	23	4	
	Assimineidae	122-124	3	2	
	Truncatellidae	125-127	3		
	Rissoellidae	128	1		
	Vitrinellidae	129-155	27	3	1
Tornacea	Tornidae	156	1		
	Caecidae	157-178	21	3	
Cerithiacea	Turritellidae	179-182	4		
	Siliquariidae	183	1		
	Mathildidae	184-185	2		
	Architectonicidae	186-192	7		
	Vermetidae	193-199	7		
	Planaxidae	200-201	2		
	Modulidae	202	1		
	Potamididae	203-206	4		
	Cerithiidae	207-232	26	2	
	Triphoridae	233-249	16	2	
Epitoniacea	Janthinidae	250-254	5		
	Epitoniidae	255-277	23		1

Melanellacea	Melanellidae	278-298	21	1	6
	Stiliferidae	299-300	2		
	Aclididae	302-306	5	2	
Carinariacea	Atlantidae	307-310	4		
Hipponicacea	Hipponicidae	311-312	2		
	Fossaridae	313	1		
	Vanikoroidae	314	1		
Calyptraeacea	Capulidae	315	1		
	Crepudilidae	316-321	6		
Strombacea	Xenophoridae	322	1		
	Strombidae	323-328	5		
Cypraeacea	Velutinidae	329	1		
	Triviidae	330-338	9		
	Cypraeidae	339-342	4		
	Ovulidae	343-345	3		
Naticacea	Naticidae	346-359	15		
Tonnacea	Cassididae	360-366	7		
	Cymatiidae (= Ranellidae)	367-381a	16		
	Bursidae	382-385	4		
	Tonnidae	386-387	2		
	Ficidae	388	1		

Order NEOGASTROPODA

The siphonal canal is more or less elongated.

Muricacea	Muricidae	389-409	22		
	Thaididae	410-413	4		
	Coralliophilidae	414-418	5		
Buccinacea	Columbellidae	419-446	28	3	
	Buccinidae	447-459	4		
	Colubrariidae	460-462	3		
	Melongenidae	463	1		
	Nassariidae	464-472	9	1	2
	Fasciolariidae	474-484	10		
Volutacea	Olividae	485-503	19		3
	Mitridae	504-516	13	1	
	Turbinellidae	517-518	2		
	Volutidae	519	1		
	Marginellidae	520-553	34	6	2
Conacea	Conidae	554-570	15		
	Terebridae	571-576	7	1	2
	Turridae	577-633	57	6	8

Subclass OPISTHOBRANCHIA

The gills are situated behind the heart.

Order PYRAMIDELLOIDA

Many species are known to lack a radula, being ectoparasites.

Pyramidellacea	Pyramidellidae	634-681	51	9	5

Order CEPHALASPIDAE (bubble shells)

The gills are external, plume-like.

Acteonacea	Acteonidae	682-683	2		
	Acteocinidae	684-688	5	1	1
	Aplustridae	689-690	2		
Cylichnacea	Cylichnidae	692-694	3		
	Philinidae	695-696	2		1
Bullacea	Bullidae	697-699	3		
	Haminoeidae	700-706	7		
	Retusidae	707-709	3		
	Volvatellidae	710	1		

Order THECOSOMATA (Pteropoda)

Foot reduced but the epipodia greatly expanded and used for swimming.

	Limacinidae	711-713	3
	Cavoliniidae	714-725	12

Order SACOGLOSSA

Discarded teeth accumulate in a sac at the end of a single file of teeth.

	Oxynoidae	726-727	2
	Aplysiidae	728-729	2
	Tylodinidae	730	1
	Pleurobranchidae	731	1

Subclass PULMONATA

No gills, respiration by means of a pulmonary sac.

Order BASOMMATOPHORA

Eyes on the base of one-paired tentacles.

Melampidacea	Melampidae	732-742	11
Siphonariacea	Trimusculidae	743	1
	Siphonariidae	744-745	2

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PROSOBRANCHIA

SCISSURELLIDAE

Shell minute with an anal slit at the periphery of the whorl.

1 *Scissurella cingulata* O. G. Costa, 1861. — Ill.: W; Pl. 8.
Described from the Mediterranean. Our specimens agree with shells from Madeira. Collected at Boca Ascension, in Aruba near Boca Grandi (Fr).

FISSURELLIDAE

Shell cap-shaped with a hole at the apex or a slit at the anterior slope. The genera *Emarginula* and *Rimula* were treated by Farfante (1947) in Johnsonia 2 (24).

Emarginula. Fissure in depressed zone between 2 ribs, forming a slit open in front and extending some distance up to the middle of the anterior slope.

2 *E. phrixodes* Dall, 1927. — Ill.: W, A fig. 39.
Adult specimens rare; juveniles in debris from 5 m and deeper rather common.

3 *E. pumila* (A. Ads, 1851). — Ill.: W, A fig. 41; Pl. 29.
Common.

Rimula. Fissure narrow and elongated, about in the middle of the anterior slope, and closed at both ends.

4 *R. frenulata* Dall, 1889. — Ill.: A fig. 46; Pl. 8.
Acc. to Farfante (1947): 5 × 2.5 mm. — 2 Specimens 4.5 and 3.5 mm in debris from 5 m and deeper.

The genera *Hemitoma* and *Diodora* were treated by Turner (1959) in Johnsonia 3 (39).

Hemitoma. Anterior rib with a small notch or slit at the margin.

5 *H. octoradiata* (Gm., 1791). — Ill.: W, A fig. 52; Pl. 29.
Common.

6 *H. emarginata* (Blainville, 1825). — Ill.: W; Pl. 29.
The figures in Bl. show a shell with an ovate base, the ends being higher than the middle, the ribs being less heavy than those of *H. ostheimerae.* — Several adult specimens were collected and 3 juveniles from 9-11 mm, all having 9 main ribs.

7 *H. ostheimerae* (Abbott, 1958). — Ill.: A *(emarginata)* fig. 55; Pl. 29.
Acc. to A.: *Emarginula ostheimerae,* shell 10 to 22 mm in length, coarsely sculptured, quadrate in outline and low, base slightly wider behind. Fissure very short, about 1/8 the

length of the anterior slope; 8 large primary ribs. — Later, Abbott (1974, nr. 55) regarded *ostheimerae* a syn. of *emarginata*; description and fig. 55 of *'emarginata'* are those of *ostheimerae*. — At a depth of 30 m near Sta. Martha 7 specimens collected, size 4-14 mm.

The genera *Diodora, Lucapina, Lucapinella* and *Fissurella* were treated by Farfante (1943) in Johnsonia 1 (10-11).

Diodora. The orifice is bounded by a callus which is truncated posteriorly.

8 *D. listeri* (d'Orb., 1842). — Ill.: W, A fig. 89; Pl. 29
Common.

9 *D. cayenensis* (Lam., 1822). — Ill.: W, A fig. 88; Pl. 29.
Rather common.

10 *D. sayi* (Dall, 1889). — Ill.: A fig. 92.
More regular and finer sculpture than *cayenensis* of the same size. Farfante (1943) mentioned average 15 × 9 mm. — Our largest specimen out of 6 from 12 m and deeper is 11.2 × 6.5 mm.

11 *D. dysoni* (Reeve, 1850). — Ill.: W, A fig. 91; Pl. 29.
The dark radials are black. If present in *cayenensis* they are dark brown. Rather common.

12 *D. minuta* (Lam., 1822). — Ill.: W, A fig. 90, Cl
Syn. *Fissurella elongata* C. B. Ads, 1845.
Acc. to Lamarck: length 8 mm. Acc. to Adams: length 8.5 mm; colour brown with white streaks. — Our specimens max. size 9 mm; radiating lines and bands brown on a whitish background. Common.
Sowerby (1862) described *Fissurella variegata* from St. Thomas; the figured specimens measure 12 × 6 mm and 12 × 7 mm. It is considered by Farfante (1943) a subspecies of *D. minuta*. Acc. to W. & A. (1961) and Abbott (1974) these are synonyms. *D. variegata* is not known from the ABC islands.

13 *D. viridula* (Lam., 1822). — Ill.: W, A fig. 95; Pl. 29
Rather common.

14 *D. arcuata* Sow., 1862. — Ill.: W
Rather common.

15 *D. jaumei* Aguayo & Rehder, 1936. — Ill.: A fig. 93.
Acc. to Farfante (1943): 21 × 13 mm. — In Spaanse Water 1 specimen, and in Fuikbaai, at a depth of 1 m on rock, also 1 individual.

Lucapina. Orifice large, oval, situated immediately before the apex.

16 *L. sowerbii* (Sow., 1835). — Ill.: W (*'suffusa'*); Pl. 30.
Syn. *Fissurella cancellata* Sow., 1835 (non Gray, 1825).
Sowerby (1832, p. 41, pl. 72, fig. 29) shows a shell, 30 × 17 mm, a little attenuated in front, with alternating white and dark coloured radiating rays. Loc. St. Vincent. — Our specimens size up to 30 × 17.5 mm. Rather common on rocks in the surf along the south coast.

Acc. to Reeve: *Fissurella suffusa*, orifice slightly contracted at the sides; pl. 10, fig. 70 shows a shell with an orifice that is clearly narrowed in the middle; the fig. does not show any radiating rays.

17 *L. adspersa* (Philippi, 1845). — Ill.: W (*'sowerbii'*).
Acc. to Ph., *Fissurella adspersa*: The shell has the same width on both ends. The fig. shows a shell size 15.5 × 8.5 mm; the radiating ribs have a somewhat circular profile. Loc. unknown. — Our specimens *adspersa* differ from juv. specimens of *sowerbii* by the sides of the shell being more parallel to each other, the radiating ribs being more circular in profile, producing with the concentric sculpture a more pronounced cancellated pattern; the ground colour is more whitish. Several specimens collected up to a size of 17 × 9.5 mm.

18 *L. philippiana* (Finlay, 1930). — Ill.: A fig. 118.
Syn. *Fissurella elongata* Philippi, 1845 (non M'Coy, 1844).
Boca Grandi and Malmok, Aruba, 3 specimens (ZMA, coll. Arnoldo).

Lucapinella. Orifice large, oval, situated subcentral; margin of shell thickened.

19 *L. callomarginata* (Dall, 1871). — Ill.: A fig. 122; Pl. 30.
Described from Baja California. Acc. to McLean (1961): Holotype 19 × 10 × 4.5 mm. A record from Puerto Rico given by Farfante (1945) is probably adventitious. — At the north coast near Punt Kanon, 2 specimens washed ashore, 11 × 6 mm and 10 × 5.5 mm (ZMA, coll. Faber) very much like this species.

Fissurella. The orifice is bounded inside by a callus which is not truncated or excavated.

20 *F. nodosa* (Born, 1778). — Ill.: W, A fig. 129; Pl. 30.
Common.

21 *F. barbadensis* (Gm., 1791). — Ill.: W, A fig. 130; Pl. 30.
Very common.

22 *F. rosea* (Gm., 1791). — Ill.: A fig. 132; Pl. 30.
Rather common.

23 *F. angusta* (Gm., 1791). — Ill.: W; Pl. 30.
Rather common.

24 *F. fascicularis* Lam., 1822. — Ill.: W, A fig. 136
Common, especially in Boca Playa Canoa.

25 *F. nimbosa* (L., 1758). — Ill.: W, A fig. 128; Pl. 30.
One living specimen from Boca Grandi, Curaçao; rare in Aruba too; many specimens washed ashore at Lagoen, Bonaire.

26 *F. barbouri* Farfante, 1943. — Ill.: A fig. 138.
Johnsonia 1 (10) 1943: Average 15 × 8 mm, orifice length 3 mm. — 2 specimens collected, largest 8 mm.

ACMAEIDAE

Shell cap-shaped without a hole at the apex, nor a slit on the anterior side.

27 *Acmaea antillarum* (Sow., 1831). — Ill.: W, A fig. 166; Pl. 30.
Only 1 specimen has been collected in the last 15 years, whereas former publications (see De Jong & Kristensen, 1965) mentioned several localities. The species must be considered to be very rare nowadays (compare occurrence of *Astrea tuber* and *Melongena melongena* at Curaçao).

28 *A. pustulata* (Helbling, 1779). — Ill.: W, A fig. 167; Pl. 30.
Common.

29 *A. leucopleura* (Gm., 1791). — Ill.: W, A fig. 170; Pl. 31.
Pilsbry (1891): Always much more coarsely ribbed than *A. cubensis*. Very variable in height. — Common.
A. jamaicensis (Gm., 1791) was often described as a distinct species. Abbott (1974) mentioned it as a syn. of *leucopleura*. Since the figure in Martini, on which *A. jamaicensis* was based, is unrecognizable, we consider it a nomen dubium. The species was not mentioned in the monographs by Reeve, and by Pilsbry.

TROCHIDAE

Peristome discontinuous, not lying in one plane. Operculum corneous.

30 *Euchelus guttarosea* Dall, 1889. — Ill.: W, A fig. 258; Pl. 8.
Rather common, (as yet) not found in Aruba.

31 *Synaptocochlea picta* (d'Orb., 1842). — Ill.: W; Pl. 8.
Rather common.

32 *Pseudostomatella erythrocoma* (Dall, 1889). — Ill.: W, A fig. 401
At Aruba 1 specimen in Baby Lagoon (Beerman).

33 *P. coccinea* A. Adams, 1850). — Ill.: W.
Size about 3.0 × 4.5 mm. One specimen at Boca Grandi, Aruba (Fr). At St. Martin many specimens collected.

34 *Cittarium pica* (L., 1758). — Ill.: W, A fig. 373.
Local name "Kiwa". Edible. Common between tidal zone and 2 m depth. Much preferred shell by land hermit crab *Coenobita clypeatus*.
Acc. to Abbott (1974) the genus *Cittarium* was published 9 months before *Livona*.

Tegula. Shell solid; whorls flattened; columella thickened or toothed.

35 *T. fasciata* (Born, 1778). — Ill.: W, A fig. 378.
Acc. to B.: The conical smooth shell has rounded whorls, appressed above; outer lip crenulated. — Young shells are proportionally much flatter than older ones, varying from

7 × 12 to 15 × 17 mm. In mature specimens there is a single spiral keel around the umbilicus; in juv. specimens there is a twin spiral groove with 3 "keels". The first and 2nd p.n.w. have resp. about 3 and 6 main spiral ridges with much finer ones in between. On the 3rd whorl these "main" spirals have almost disappeared and of the following whorls only utterly fine spiral lirae, close to one another, remain; the growthlines are much stronger. Colour: Next to patches of greyish black to brown there are spiral rows of alternating coloured and white dots; some have one or more bands of pink dots; some have a red colour. At the periphery of the bodywhorl there is often a pale spiral band. Rather common.

36 *T. lividomaculata* (C. B. Ads, 1845). — Ill.: Cl, W, A fig. 380.
Syn. *Trochus canaliculatus* d'Orb., 1842 (non Brocchi, 1814) + *T. scalaris* Philippi, 1844 (non Roemer, 1836).
Acc. to Adams: 16.5 × 19.0 mm; umbilicus with 2 or 3 carinae. — Above the aperture 7 to 12 spirals, rather irregularly, slightly crenulated, 1 or 2 about the middle generally being larger causing a slight carina there. A few specimens collected in Curaçao (CdJ).

37 *T. hotessieriana* (d'Orb., 1842). — Ill.: Cl; Pl. 1.
Syn. *Monodonta maculostriata* C. B. Ads, 1845.
Acc. to d'Orb.: 6 × 8 mm, the umbilicus bordered by 2 keels, the rest of the shell covered with irregular spiral striae of which 2 on the periphery are more conspicuous. Acc. to Adams: 11.2 × 12.7 mm, olive-coloured with somewhat irregular radial maculations; underneath elevated flat striae maculated black and white. — Our specimens measure up to 9.5 × 11.0 mm, above the aperture 8-12 spirals, interstices obliquely striate, surface much smoother and with more regular sculpture than *lividomaculata*; without red dots. Very common.

38 *T. substriata* (Pilsbry, 1889). — Ill.: Pl. 31.
Acc. to P.: 6 × 10 mm; surface sculptured by numerous spiraly slightly elevated lirulae, which are red, more or less articulated with white dots, periphery frequently with 2 or several more prominent lirae. Bahamas, St. Croix. Usticke (1959): 5-9 mm; very scarce. — In ZMA one specimen from Jamaica, 5.0 × 9.0 mm. Two specimens collected in Aruba, 8 and 9 mm wide (Fr).

39 *T. excavata* (Lam., 1822). — Ill.: W, A fig. 381.
Common.

40 *Calliostoma javanicum* (Gm., 1791). — Ill.: W, A fig. 310.
Rather rare. At 7 m and deeper.

41 *C. jujubinum* (Gm., 1791). — Ill.: W, A fig. 312; Pl. 31.
Acc. to Pilsbry (1889, vol. 11): Whorls concave above, swollen and projecting at the periphery, 33 × 26 mm. — The specimens before us, 1 from Curaçao, 7 from St. Martin and several from other regions, show very fine equal sized axial sculpture. Rare in Curaçao, not known from Aruba.

42 *C. tampaensis* (Conrad, 1846). — Ill.: Pl. 31.
Syn. *Trochus perspectivus* Philippi, 1843 (non L. 1758).
Acc. to C.: Conical; whorls 6½, concave; with revolving, approximate, densely beaded

lines; alternating in size; colour whitish-brown and dark purple, variegated. Loc. Tampa Bay. The figure shows a shell of 15 × 14 mm. Acc. to Ph.: straightly conical; whorls flat, suture well visible; size acc. to fig. 15 × 17 mm; loc. unknown. — Our specimens vary in regard to ratio height: width from 22 × 21 to 17 × 19 mm; at a height of the shell of about 13 mm, at the underside of the whorl a ridge starts to develop, like in *jujubinum* it occurs over the whole length of the shell. The surface is almost entirely covered with beaded spirals, more so than in *jujubinum*; the shell does not show axial sculpture. Rather common (over 30 spec. collected) in Aruba; not known from Curaçao; 4 spec. from St. Maarten. Clench & Turner (1961, pl. 21 fig. 3) figured the holotype of *C. tampaensis* (not the lectotype); they mentioned *tampaensis* and *perspectivum* as syn. of *jujubinum*.

43 *C. pulchrum* (C. B. Ads, 1850). — Ill.: A fig. 306.
Acc. to Adams: Whorls have the same form as in *jujubinum*; umbilicus wanting; 9.7 × 6.9 mm. — Acc to Cl. & T. (1960): reaching 14.5 mm in length. — In Aruba from Malmok 1 specimen 14 × 10 mm (Fr) and from dredging in harbour also 1 spec. (ZMA leg. Arn).

44 *C. sarcodum* Dall, 1927. — Ill.: A fig. 324.
Acc. to Cl. & T. (1960): Colour a uniform medium to dark brownish red, some specimens having a few small white patches on the spire. On the base 2 or more of the beaded spiral cords are marked with interrupted deep-reddish spots. Columella white. Whorls slightly convex and not keeled. Base slightly convex. Umbilical area defined by a shallow depression. Sculpture consisting of numerous finely beaded cords. 9.5 × 9.5 mm. — Rather common.

45 *C. euglyptum* (A. Ads, 1854). — Ill.: A fig. 322.
Acc. to Abbott (1974): 19 × 19 mm. — Only 1 specimen at 25 m depth in a sponge, 13 × 13 mm (P. Creutzberg jr., coll. CdJ). It differs from *sarcodum* in being larger, in having a finer sculpture (more and smaller bands), a lighter colour, lacking the alternating whitish and brown colour on some spirals, in having axial somewhat darker coloured flames, in lacking the white colour near the umbilical area. The umbilicus is a shallow slit.

CYCLOSTREMATIDAE

Shell small but strong; peristome continuous lying in one plane.

46 *Cyclostrema cancellata* Marryat, 1818. — Ill.: W, A fig. 404; Pl. 8.
Syn. *Liotia (Lippistes) acrilla* (Dall, 1889).
At Curaçao 3 specimens with operculum, in Aruba 2 spec. and in Bonaire, Lagoen, 17 empty shells. Largest 5 mm. The specimen pictured by Humfrey (1975) measured 1 cm; he stated a depth of 9 m and more.

Arene. Shell depressed turbinate, umbilicated, with spiral cords, usually beaded or with spines, low axial folds and/or axial striae; coloured.

47 *A. cruentata* (Mühlfeld, 1829). — Ill.: W, A fig. 415.
The number of spines varies from 12 to 24. Rather rare.

48 *A. tricarinata* (Stearns, 1872). — Ill.: W, A fig. 418.
Syn. *A. curacoana* Pilsbry, 1933.
Common on algae.
Acc. to P.: It is near *A. tricarinata* (Stearns), but the peristome is more developed; the sculpture between spiral carinae is stronger and the cord within the umbilicus is much larger. — These differences are within the variability of *tricarinata*.

49 *A. riisei* "Dunker" Rehder, 1943. — Ill.: A fig. 436.
Acc. to R.: 4.7 × 5.2 mm, whorls 4¾, the first 2¼ comprising the nucleus, white, smooth, the following with deep rose splotches and streaks; below the suture 4 spiral rows of beads; below this 4 raised knobbed keels, with rows of beads between the keels; below the 4th keel 6 rows of beads. Fine crowded axial threads. — Juvenile specimens 1 mm in size show that sculpture already begins after the first whorl, the uppermost one of the peripheral keels displaying about 18 widely separated spines, like in *Cyclostrema cancellata*; after approximately 2½ whorls these spines gradually convert into closely set beads (or nodules), on the last whorl about 85. In many specimens the spiny sculpture is still visible. Some specimens from grit, chiefly at a depth of 30 m, at Aruba rather common in material dredged from the harbour.

50 *Sansonia tuberculata* (Watson, 1886). — Ill.: A fig. 414a; Pl. 8.
Our specimens up to 2 × 1.3 mm; 3 + 4 w.; 3 spirals on each p.n.w. At the south coast 2 specimens at 5 m and 1 at a depth of 50 m; at Playa Lechi, Bonaire, rather common in grit washed ashore.

Parviturbo. 1 or 2 smooth n.w. passing gradually into p.n.w. with few coarse spirals and axial striae; narrowly umbilicate; radula rhipidoglossate.
The very similar *Parviturboides* is a taenioglossate Vitrinellid.

51 *P. comptus* (Woodring, 1928). — Ill.: W; Pl. 8.
Acc. to W.: *Fossarus comptus*. Outer and inner lips very thick. Face of outer and inner lips bearing minute denticles. A spiral thread extends into umbilicus from basal lip. Sculpture consisting of heavy spiral ridges (3 on penult. whorl) and of coarse axial ribs that are present only on sutural spiral of penult. whorl, but on body whorl gradually extend toward base. 2.3 × 1.9 mm; 26 specimens; Miocene, Jamaica. — Our specimens up to 2.0 × 2.0 mm; in some specimens the coarse axial ribs are well visible, in some hardly and in many specimens they seem to be lacking like in the SEM-specimen. Common.

Haplocochlias. Differs from *Parviturbo* by having many fine spirals instead of few coarse ones.

52 *H. swifti* Vanatta, 1913. — Ill.: Pl. 1.
Acc. to V.: 3.92 × 3.92 mm; whorls 5, the first whorl somewhat eroded, the 2 following whorls bicarinate, the penultimate and bodywhorl more or less tricarinate. The body whorl is sculptured with 24 spaced spiral striae with microscopic vertical striae in the interstices. The fourth, sixth and eighth striae below the suture on the body whorl are larger than the others. Hab. St. Thomas. The fig. shows prominent carinae, a thick round outer lip, and 10 spirals above the suture. — At Bonaire 3 specimens collected at a depth of 5-45 m (ZMA, leg. RM); 1 shell labelled Curaçao (ZMA).

53 *Haplocochlias moolenbeeki* sp. n. — Ill.: A fig. 457 ('*H. swifti*'); Pl. 1.
Holotype in ZMA (no. 3.87.050), 4.4 × 4.7 mm. 18 paratypes in coll. Fr. Verberne.
Type locality: Aruba, in material dredged from the harbour.
The shell has 1½ nuclear, and 4 postnuclear whorls. Aperture round, outer lip thickened, umbilicus present. The body whorl has 18 very fine spirals above the aperture, and two perceptibly more prominent spirals on the periphery (with one spiral in between); the penultimate whorl has 9 spirals.
Other material studied: one specimen in ZMA from the south coast of Curaçao (leg. Moolenbeek).
H. moolenbeeki was figured by Abbott (1974, fig. 457) as *H. swifti*, which species is not umbilicated and has less spirals, a thicker outer lip, and carinae.
This species is named after Robert G. Moolenbeek, collection keeper of molluscs at ZMA.

53a *Mareleptopoma karpatensis* Moolenbeek & Faber, 1984. — Ill.: Pl. 9.
Holotype: 1.0 × 0.9 mm, 2 + 3 w.; about 18 ribs, 2 spirals above the aperture, many fine spirals in between; peristome entire, very thick. At Bonaire at a depth of 45 m 6 specimens collected.
Mareleptopoma Moolenbeek & Faber, 1984 is a new genus, type *M. karpatensis*. As the operculum and the soft parts are not yet known, M. & F. hesitated regarding the systematic position. We think it best fits in the Cyclostrematidae.

TURBINIDAE

Peristome continuous, lying in one plane; operculum calcareous.

54 *Turbo castanea* Gm., 1791. — Ill.: W, A fig. 474.
One living specimen at Knip Bay, one dead specimen from Piscadera Bay, at Aruba's southwest coast and near Malmok several dead specimens.

55 *T. canaliculatus* Hermann, 1781. — Ill.: W, A fig. 475.
Some living specimens in a canasta on Aruba's west coast at a depth of 6 m, some 300 m from the coast (H. Keller); empty shells occasionally wash ashore between Malmok and Hadikoeri.

56 *Astrea caelata* (Gm., 1791). — Ill.: W, A fig. 483.
Common.

57 *A. tuber* (L., 1758). — Ill.: W, A fig. 484.
Only dead specimens washed ashore on Curaçao and Aruba – and even that did not happen any more during the last years.

58 *A. phoebia* Röding, 1798. — Ill.: W, A fig. 479.
Syn. *A. longispina* Lam., 1822.
One living animal at Fuik Baai; several specimens between vegetation on muddy sand along Aruba's southwest and west coast.

59 *A. tecta* (Lightfoot, 1786). — Ill.: W, A fig. 482.
Syn. *A. imbricata* (Gm., 1791).
Up to a height of 6 cm; dead shells often occupied by land hermit crab *Coenobita clypeatus*.
Common.

PHASIANELLIDAE

Shell small, ovate, coloured; usually smoothish. – This family was treated by Robertson (1958) in Johnsonia 3 (37).

Tricolia. Whorls strongly arched, outer lip and inner lip nearly connected, not lying in one plane.

60 *T. affinis cruenta* Robertson, 1958. — Ill.: W, A fig. 509.
Up to 6 mm in length. Common.

61 *T. adamsi* (Philippi, 1853). — Ill.: W, A fig. 510.
Collected at St. Maarten; not known from the ABC islands. The white triangles below the suture are conspicuous at the correct lighting. Specimens up to 3 mm.

62 *T. thalassicola* Robertson, 1958. — Ill.: W, A fig. 511.
Common.

63 *T. bella* (M. Smith, 1937). — Ill.: W, A fig. 512, Cl (*Turbo ?pulchellus*).
Syn. *T. pulchella* (C. B. Ads, 1845) (non Récluz, 1843).
A few specimens on sea-weed near Boca Playa Canoa; in Aruba on all shores.

64 *Gabrielona sulcifera* Robertson, 1973. — Ill.: A fig. 504.
Acc. to R.: Out of 14 specimens, largest 2.4 × 2.3 mm, 1.2 + 4 w.; average size 1.98 × 1.93 mm; on penultimate whorl 8-12 sulci; sulci absent at or near periphery of last whorl. Erroneously identified as *G. brevis* in Johnsonia (37) 1958; study of the holotype of *Phasianella brevis* d'Orbigny, 1842 has shown that this is a depauperate *Tricolia*. — Our specimens, size about 1.2 × 1.3 mm, are variable in colour and in colour-pattern (compare *T. thalassicola*); on the lower half of the last whorl about 14 spirals. At Aruba's west coast 8 specimens (Fr).

NERITIDAE

Shell with a flat columella bearing teeth; aperture half-moon shaped.

65 *Nerita peloronta* L., 1758. — Ill.: W, A fig. 519; Pl. 31.
Common in the super littoral zone. They survive when cut off from the sea, like at Awa Blancu, and may then reach a very large size, up to 47 mm.

66A *N. versicolor* Gm., 1791. — Ill.: W, A fig. 520; Pl. 31
Very common, in the littoral zone, rather high.

66B *N. versicolor* form *nigrocincta* Usticke, 1959 (non Röding, 1798). — Ill.: Pl. 31.
Colour pattern of 3 blackish bands; the spiral ridges generally being finer, smoother and closer together than in *versicolor* s.s. Known from Curaçao and Aruba.

67 *N. tessellata* Gm., 1791. — Ill.: W, A fig. 521; Pl. 31.
Very common in the littoral zone, closer to the low water line.

68 *N. fulgurans* Gm., 1791. — Ill.: W, A fig. 522; Pl. 31, 32.
Occurring in brackish water; found in the Spaanse Water near the Cabrietenberg; also in Santa Martha Baai.

69 *Neritina virginea* (L., 1758). — Ill.: W, A fig. 527; Pl. 32.
Common in shallow waters with variable salinity, like in the canals to the bays of San Juan, Santa Martha and Santa Cruz.

70 *N. meleagris* (Lam., 1822). — Ill.: W.
Sometimes placed in the genus *Clithon*. — A few specimens collected at the southwest coast of Aruba.

71 *Puperita pupa* (L., 1767). — Ill.: W, A fig. 526; Pl. 32.
Colour white with zebra markings and a yellow aperture. Locally in splash-pools, near Spaanse Water and Hato.

72 *P. tristis* (d'Orb., 1842). — Ill.: A fig. 526a.
Black, sometimes covered with white points; these white points may be interrupted by 3 or 4 transverse bands. Aperture not yellow. Common.
The colour form with 3 bands is called f. *vincta* Usticke, 1969. Acc. to Russell (1941) the radula of *P. tristis* is different from that of *P. pupa*.

73 *Smaragdia viridis viridemaris* Maury, 1917. — Ill.: W, A fig. 532.
Common on Thalassia.
Described from the Miocene of Santo Domingo. *S. viridis* (L., 1758) occurs in the Mediterranean.

PHENACOLEPADIDAE

74 *Phenacolepas hamillei* (Fischer, 1857). — Ill.: W, A fig. 533.
Under rocks in the sublittoral zone. Rather rare.

LITTORINIDAE

Shell small, ovately conical, usually without an umbilicus. Operculum horny, paucispiral.

75 *Littorina ziczac* (Gm., 1791). — Ill.: W, A fig. 556; Pl. 32.
Our specimens up to 20 mm. About 24 spirals above the aperture. Within the aperture 2 light bands. Lives closer to the waterline than the following 2 species. Common.

76 *L. interrupta* (C. B. Ads, in Philippi, 1847). — Ill.: Cl, A fig. 559 (*lineolata*).
Acc. to Cl. & T. (1950, pl. 38 fig. 18): 9.6 × 6 mm, Jamaica. Acc. to Bandel & Kadolsky (1982): Shell about 15 mm long, on later whorls sculpture consists of 10 incised spiral lines above the suture; interior brown but for narrow light bands, the band at the peripheral angle being the least distinct and most narrow one. Range: Jamaica, Hispaniola, Haiti, the Lesser Antilles, Costa Rica and Colombia. Formerly by authors identified as *L. lineolata* d'Orb., 1840, described from Rio de Janeiro, which species proved to be different. — Not known from the ABC islands.

77 *L. mordax* (Bandel & Kadolsky, 1982). — Ill.: Pl. 22.
Acc. to B. & K.: *L. interrupta* has very similar shell characters, but mostly a weaker sculpture and a second light coloured band in the interior; the shape of the egg capsule and the radula show that this species is not particular closely related to *L. mordax*. Holotype 11.8 × 8.9 mm, Bahamas. — Collected at Cornelisbaai, Curaçao: 22 specimens, up to 11 mm; above the aperture about 10 spirals, only one distinct white band in the aperture. B. & K. consider the 3 species mentioned before and the next one to belong to the genus *Nodolittorina* because they are anatomically closely related to *N. tuberculata*.

78 *L. angustior* (Mörch, 1876). — Ill.: A fig. 560.
Syn. *L. lineata* d'Orb., 1841 (non Gm., 1791) and *Turbo carinatus* Sow., 1819 which is a littorinid, but different from *carinata* d'Orb. 1841.
Acc. to Mörch: 16 mm, shell narrow with a high spire and flat whorls. Mörch referred to *lineata* d'Orb. — Our specimens up to 11 mm. Above the aperture about 8 spirals, in the aperture 2 light bands. Common in the more lofty surf pools on the north coast.

79 *L. flava* King & Broderip, 1832. — Ill.: Pl. 32.
Syn. *L. nebulosa*, De Jong & Kristensen (1965).
This species has a reddish brown columella; in *L. nebulosa* (Lam., 1822) it is whitish. Acc. to Flores (1973 a, b) both species differ in salt tolerance. Acc. to Altena (1975, p. 12) *L. nebulosa* can be distinguished from *L. flava* by being somewhat narrower in relation to its height, having the suture more impressed, the sculpture finer, and above all in having quite another shape of the penis. — Some specimens collected at Boca Grandi, Boca Ascencion and St. Jorisbaai; at Aruba 1 specimen on the north coast, at Bonaire common near Sorobon and Lagoen on mangroves from the shore up to a height of 1½ m.

80 *L. tessellata* Philippi, 1847. — Ill.: Pl. 32.
This species differs from *L. flava* in lacking the colour on the columella and in having the body whorl more bulbous and shouldered; there are brownish red spots on a grayish white background in a fairly regular checker pattern. One specimen, 12 × 8.5 mm, on a stone at Sta. Martha Baai (ZMA, coll. Arn.) and another, 7.2 × 5.5, from Curaçao also (ZMA). Bequart (1943) considers *flava* and *tessellata* as forms of *nebulosa*.

81 *L. scabra angulifera* (Lam., 1822). — Ill.: W, A fig. 563; Pl. 32.
Regarding the nomenclature see Rosewater (1980). — Almost confined to mangroves above water, but small specimens also occur on rocks. Adult animals remain higher than juveniles.

82 *L. meleagris* (Potiez & Michaud, 1838). — Ill.: W, A fig. 558, Pl. 32.
Rather common along the entire coast.

83 *L. mespillum* (Mühlfeld, 1824), forma *minima* (Wood, 1828). — Ill.: W, A fig. 557; Pl. 32.
Size 6 to 7 mm; white with dark spots. Very common in the spray zone along the north coast.
The typical dark spotless form is known from Los Roques and reaches a size of 1 cm.

84 *Nodilittorina tuberculata* (Menke, 1828). — Ill.: W, A fig. 570; Pl. 32.
When the snail is in the spray-zone the growth of algae colours the yellowish shell to brown-black, while above this zone the shell is bleached. Common from the waterline to the highest surf zone.

85 *Echininus nodulosus* (Pfeiffer, 1839). — Ill.: W, A fig. 572.
Present in the upper spray zone. Very common on the north coast of Klein Curaçao.

86 *Tectarius muricatus* (L., 1758). — Ill.: W, A fig. 571; Pl. 32.
The zone of *Tectarius* begins where that of *Echininus* ends. The species is found on dry rock, as well as on driftwood; almost never on living mangroves. Young specimens are found closer to the sea in moist crevices.

RISSOIDAE

Alvania. Shell 4 mm or less, thick; spire short; peristome continuous; outer lip often thickened, with a sharp rim.

KEY

(Species between parentheses not occurring on the ABC-islands.)

1	Sharp lip flaring in front	2
	Lip not flaring	3
2	No secondary spirals visible	*meridioamericana*
	About 5 secondary spirals between 2 spiral ridges	*deboeri* sp.n.
3	Axial ribs (the ends noduled), spiral striae	*(gradata)*
	Spiral ridges and axial striae, size 0.9 × 0.5 mm	*moolenbeeki* sp.n.
	Reticulated sculpture	4
4	Last whorl above outer lip 2 spirals	*arubensis* sp.n.
	Last whorl above outer lip 3 spirals	5
5	Uppermost spiral some distance from suture	6
	Uppermost spiral close to suture	7
6	Protoconch pointed, with about 2½ whorls	*auberiana*
	Protoconch blunt, slightly over 1 whorl	*faberi* sp.n.
7	Teeth inside outer lip; Bermuda only	*(bermudensis)*
	Without teeth	8

8 Last whorl axial sculpture on upper half only; St. Martin . . *(didyma)*
Axial sculpture continues on base 9

9 Whorls rather straight, size up to 2 mm . . . . . *caribaea*
Whorls very globose, size up to 1.2 mm . . . . . *curacaoensis* sp.n.

87 *A. meridioamericana* Weisbord, 1962. — Ill.: Pl. 8.
Acc. to W. (p. 126-127, pl. 8 fig. 18-19): shell hyaline, ovate conical, 3 × 1.3 mm; p.n.w. a little over 4; the first 2 or so with concave sides angulate at the summit and at the base, the sutures channeled and a little gaping. The penultimate whorl has 5 spiral riblets (including the beaded one at the summit) and 17 axial folds, the intersections with subdued nodulations. On the body whorl the ax. folds terminate against the last spiral riblet. The number of spirals increases from 2 to 6. The base is marked with about 5 faint, slightly raised spiral ridges. Outer lip not thickened. One specimen (the holotype); Mare formation of Quebrade Mare Abajo (which may be regarded Pliocene). — Our specimens average in size 2.1 × 1.0 mm, 1½ + 4 w.; 15 ribs, the number of spirals increases from (2 or) 3 to 5 (or 6); large specimens up to 3 × 1.4 mm have 6 spirals above the outer lip. Colour light orange, dead specimens mostly bleached to white. The micro sculpture consists of numerous spiral cords, about 20 between two spiral ridges. N.w. tabulated, with spiral ridges, but in adult specimens the outer shell layer is often eroded leaving a smooth, glossy bulbous nucleus. Common.
Related species are: *A. chiriquiensis* Olsson & McGinty, 1958 from the Caribbean coast of Panamá and *Bittium (Bittiolum) podagrinum* Dall, 1892 from the Pliocene of Florida, its size 4.75 × 2.75 mm, see Olsson & Harbison 1953, pl. 18 fig. 10.

88 *Alvania deboeri* sp.n. — Ill.: Pl. 9.
Holotype in ZMA (no. 3.87.051), 3.9 × 1.4 mm.
Type locality: Curaçao/Aruba.
The shell has 1½ nuclear, and 5 postnuclear whorls, on which 19 axial ribs are present. The last whorl has 5 main spiral ridges above the aperture, the penultimate whorl three, and the first p.n.w. has two spirals. Between two spirals are about 5 secondary spirals present. The aperture is continuous, with a flaring lip. Colour of the shell yellow orange.
A. deboeri differs from *A. meridioamericana* in being larger and having secondary spirals.
The species is named after Thijs W. de Boer, teacher and amateur malacologist.

89 *A. gradata* (d'Orb., 1842). — Ill.: W; Pl. 9.
d'Orbigny, 1841-1853, vol. 2, p. 23 (*Rissoa g.*); Atlas, pl. 11 fig. 37-39, 1842.
Acc. to d'Orbigny's fig. 2.3 × 1.3 mm. — Our specimens up to 2.4 × 1.1 mm, 1½ + 3½ w.; sculptured by very strong axial ribs, beaded above and below, giving the very deep sutures a crenulated appearance. Spiral sculpture consists of very fine striae. White. Not known from the ABC Islands. The specimens described and figured are from Marie-Galante (Hum, sta. 774).

90 *Alvania moolenbeeki* sp. n. — Ill.: Pl. 9.
Holotype in ZMA (no. 3.87.052), 0.8 × 0.6 mm.
Type locality: Bonaire, Punt Vierkant, depth 35 m.
The shell has 1½ nuclear and two postnuclear whorls. The body whorl bears 6 spiral ridges, of which 3 are situated above the outer lip, and 3 at the base. Between the uppermost spiral and the suture is a faint axial sculpture. Umbilicus present. The protoconch is relatively

large and globose, covered with microscopic pustules, arranged in a spiral design. Next to the holotype we have studied a specimen from Boca Grandi, Aruba (coll. Fr).
Fig. 90 illustrates the complete shell, the protoconch and its finer structure.
The species is named after R. G. Moolenbeek (ZMA), who has collected the type specimen.

91 *Alvania arubensis* sp. n. — Ill.: Pl. 9.
Holotype in ZMA (no. 3.87.053), 1.6 × 0.9 mm; the paratype measures 1.4 × 0.8 mm (ZMA, no. 3.87.053a). Type locality: Aruba.
The shell has 1½ nuclear and 2½ postnuclear whorls. Colour white. Protoconch with a sharp keel. The whorls have two spirals between the sutures, at the base of the last whorl three spirals. About 12 axial ribs cross the two uppermost spirals, and form nodules at the intersections. Fig. 91A shows the holotype from apertural side, the protoconch, and a close-up of the structure of the protoconch. Fig. 91B shows the paratype from dorsal.
Other material studied: from Aruba in material dredged from the harbour and from the north coast; from Curaçao north coast.
For characters distinguishing other species of *Alvania*, see Key.

92 *A. auberiana* (d'Orb., 1842). — Ill.: W; Pl. 10.
d'Orbigny, 1841-1853, vol. 2, p. 22-23: *Rissoa a.*; Atlas: pl. 11 fig. 34-36, 1842. Verrill & Bush, 1900: 539, pl. 65 fig. 17 *Rissoa (Manzonia) a.*
Acc. to d'Orbigny's fig. 1.5 × 1.0 mm; 5 w.; retiform non-beaded sculpture with 3 spirals on the p.n.w., the uppermost spiral forming a shoulder, its distance to the suture being about 1½ times the distance between two spirals; aperture rounder than in *caribaea*. — Our specimens average in size 1.3 × 0.8 mm, largest specimen 1.6 mm, 2½ + 3 w.; protoconch pointed, smooth except for 2 or 3 zig-zag spiral lines. A few of our specimens show some faint orange colouring. Common.
The shell figured in Abbott (1974, fig. 586) is not this species.

93 *Alvania faberi* sp. n. — Ill.: Pl. 10.
Holotype in ZMA (no. 3.87.054), 1.3 × 0.8 mm.
Type locality: Aruba, Boca Grandi.
Shell with 1¼ nuclear and 3 postnuclear whorls. The protoconch is bulbous and sculptured with microscopic postules and spiral threads. The whorls have 3 spirals crossed by 17 axial ribs on the last whorl. Colour white, occasionally stained with orange.
A. faberi is rather common, and very similar to *A. auberiana*, but the sculpture is rougher, and the protoconch completely different (cf. figs. 92 en 93).
The species is named after Marien Faber, who has made several contributions to malacology of the Caribbean.

94 *A. bermudensis* Faber & Moolenbeek, 1987. — Ill.: A as '*auberiana*' fig. 586; Pl. 10.
Verrill & Bush, 1900: 539, pl. 65 fig. 24 *Alvania (Alvinia) platycephala*, (non Dautzenberg & Fischer, 1896). Waller, 1973: 49, fig. 20 (p. 39) *Alvania didyma* (non Watson, 1885). Waller, 1973: 49, fig. 21 (p. 39) *Alvania platycephala* (non Dautzenberg & Fischer, 1896).
Size 2.2 × 1.2 mm; 1½ + 3½ w.; 3 beaded spirals above the outer lip and 4 beaded spirals on the base; about 15 axial ribs, which continue on the base. Teeth within the outer lip. Protoconch with about 5 oblique spiral threads. Apparently confined to Bermuda.
A. platycephala is described from the Azores.

95 *A. didyma* (Watson, 1885). — Ill.: Pl. 10.
Acc. to Watson, p. 594-595, pl. 44 fig. 1a, b: *Rissoa (Alvania) d.*, 2.2 × 1.0 mm, $1\frac{1}{2} + 3\frac{1}{2}$ w.; about 12 axial ribs, dying out at the base. On each p.n.w. 3 beaded spirals, on the base 4 more spirals. Off Culebra and St. Thomas, 700 m. — Our specimens measure up to 1.9 × 0.9 mm; white. Common in shallow water at St. Martin. Not known from the ABC islands.

Rissoa epima Dall & Simpson, 1901, 2 × 1.1 mm, from Puerto Rico, −40 m, is closely related, if not identical.
The shell figured by Waller (1973) as '*A. didyma*' is not this species.

96 *A. caribaea* (d'Orb., 1842). — Ill.: Pl. 10.
Acc. to d'Orbigny's figure, Atlas, pl. 15 fig. 31-33, *Rissoa c.* measures 2 × 1 mm, and has 5 convex whorls, 3 evenly spaced beaded spirals, the upper spiral being, especially in the first 2 whorls much weaker than the other two. — Our specimens size up to 2.2 mm, $1\frac{1}{2} + 3\frac{1}{2}$ w.; n.w. smooth, except for a sharp keel, just above the periphery. The spiral under the suture is orange coloured. Common. The species is also known from Puerto Rico.

97 *Alvania curacaoensis* sp. n. — Ill.: Pl. 10.
Holotype in ZMA (no. 3.87.055), 1.3 × 0.9 mm
Type locality: Curaçao.
The shell has $1\frac{1}{2}$ nuclear and $2\frac{1}{2}$ postnuclear whorls. The protoconch has 7 spiral lines. The whorls are spherical; there are 3 beaded spirals above the outer lip, also beaded spirals on the base, and about 18 axial ribs which continue all over the base. Colour orange brown. We have seen seven more specimens from Curaçao, and one from Bonaire, Karpata, from a depth of 45 m.
For distinctive characters see Key.

Rissoa aberrans C. B. Ads, 1850, often considered an *Alvania*, is here asigned to the genus *Rissoina*. *Rissoa? toroensis* Olsson & McGinty, 1958, is here placed in the genus *Chryssallida* (Pyramidellidae).

98 *Microdochus floridanus* Rehder, 1943. — Ill.: W, A fig. 654.
Size about 2.0 × 1.3 mm, spirally lirate. Several specimens west from Oranjestad and on Aruba's west coast.

Amphitalamus. Shell less than 2 mm; a thin bridge separating the inner lip from the open umbilicus; nucleus finely pitted.

99 *A. vallei* Aguayo & Jaume, 1947. — Ill.: Pl. 10, 11.
Acc. to A. & J.: 54-55, fig. 1: Size 1.14 × 0.78 mm, error for 1.14 × 0.68 mm in accordance with figure. Cuba. — The species is very variable regarding the ratio length/width from 100: 55 to 100: 75. A wide specimen was figured by Carnes (1975: 40, pl. 1 fig. 1, p. 36) from Yucatán, 1.06 × 0.76 mm as *A.* cf. *vallei*. Collected at the north coast; at Aruba from material dredged from the harbour.

RISSOINIDAE

Rissoina. Whorls with axial ribs; aperture semicircular, on top sharply angled, at the bottom somewhat bill-shaped.

KEY

The number before the species name refers to the length of the shell in mm

No visible spiral threads: subgenus *Schwartziella*

- 2½ n.w.
  - apex blunt, about 16 ribs 5.8 *bryerea*
  - apex sharp, about 14 ribs 3.5 *catesbyana*
- 1 à 1½ n.w.
  - no depression on base
    - contour of base smooth 3.5 *minor*
    - contour of base shows 1 or 2 ribs 3.5 *fischeri*
  - depression on base
    - whorls shouldered, contour shows ribs 3.5 *vanpeli* sp.n.
    - whorls evenly rounded 3.0 *vanderspoeli* sp.n.

Visible spiral threads, sculpture not strongly cancellated: subgenus *Zebinella*

- wide, curvilinear, glossy, 2½ n.w. 8 *decussata*
- wide, straight 15 *princeps*
- slender, straight, dull 2½ n.w. 6 *striatocostata*
- curvilinear 1½ n.w. 4.6 *multicostata*
- whorls rather convex, last whorl sculpture much weakened 3 n.w. 6 *striosa*
- about 12 ribs (before-mentioned species far more ribs) 5.3 *subangulata*
- on last whorl ribs disappear, 2 n.w. 2.6 *hummelincki* sp.n.

Sculpture strongly cancellated: subgenus *Phosinella*

- only last whorl cancellated 12 *labrosa*
- 3 spirals on first 3 p.n.w. 8 *cancellata*
- 2 spirals on first 3 p.n.w. 5 *sagraiana*
- lip deeply notched in front 6 *aberrans*
- whorls strongly shouldered 4.5 *fenestrata*

100 *R. bryerea* (Montagu, 1803). — Ill.: W, A fig. 673; Pl. 11.
First p.n.w. shouldered, ribs somewhat oblique. Common

101 *R. catesbyana* d'Orb., 1842. — Ill.: Cl (*scalarella*); Pl. 11
Syn. *Rissoa scalarella* C.B. Ads, 1845
In water with changing salinity near the Kabrietenberg in Spaanse Water this species occurs in great numbers next to *Zebina browniana* and *Nerita fulgurans*.
Acc. to Moore (1969) the somewhat larger resembling species *R. chesneli* Michaud, 1830, only occurs in Jamaica.

102 *R. minor* (C. B. Ads, 1850). — Ill.: Cl.
Acc. to Adams: 3.8 mm. — Our specimens average size 3.2 × 1.2 mm, 1½ + 5 w.; 18 ribs, rather oblique, not shouldered. Rather common.

103 *R. fischeri* Desjardin, 1949. — Ill.: W; Pl. 22.
Acc. to D.: 3.7 × 1.4 mm, 2 + 6 w., whorls distinctly convex, 15 ribs; at the underside of the last whorl the ribs turn inwards as to form a row of cables. On pl. 9, fig. 6 at the contour of the base of the shell 2 ribs are visible. — Rather common.

104 *Rissoina vanpeli* sp.n. — Ill.: Pl. 1.
Holotype in ZMA (no. 3.87.056), 3.8 × 1.6 mm.
Type locality: the type specimen was selected from a lot containing mollusks from Curaçao and Aruba.
The shell has 1½ nuclear and 6 postnuclear whorls. The whorls have about 12 axial ribs which are quite straight and squarely shouldered. The last whorl with a depression at the base. There are no visible spiral threads, therefore the species is placed in the subgenus *Schwartziella*.
R. vanpeli differs mainly from *R. fischeri* by having a depression at the base.
The species is named after Peter van Pel, honorary associate of the Zoological Museum Amsterdam.

105 *Rissoina vanderspoeli* sp.n. — Ill.: Pl. 1.
Holotype in ZMA (no. 3.87.057), 3.0 × 1.3 mm
Type locality: the type specimen was selected from a lot containing shells from Aruba and Curaçao.
Shell small with 1½ nuclear and 4½ postnuclear whorls.
The convex whorls have about 16 ribs, those of the last whorl are thickened at the base, causing a small depression. The shell surface is dull, caused by numerous (over 100) spiral striae. In juveniles the nuclear whorls are covered by a layer which shows 2-4 spirals; in mature specimens this layer has mostly disappeared, showing smooth nuclear whorls.
R. vanderspoeli is common at a depth of 30 m, in shallow water far less common.
The species is named after Prof. Dr. S. van der Spoel of ZMA, well-known for his research on Pteropoda.

106 *R. decussata* (Montagu, 1803). — Ill.: W, Cl. (*albida*, and as "*striosa*" pl. 34 fig. 8).
Syn. *Rissoa albida* C. B. Ads, 1845.
Acc. to Adams: 7.9 × 2.8 mm. — Our specimens with fully grown aperture vary in size from 4.5 to 8 mm; 2½ n.w.; the outlines of the last whorl are not in a line with the outlines of the spire. Rather common.

107 *R. princeps* (C. B. Ads, 1850) — Ill.: Cl; Pl. 33.
Acc. to Adams: 9.4 × 3.6 mm; shell with very numerous crowded slender ribs and strong crowded spiral striae; spire with rectilinear outlines; whorls 10, nearly planulate. This species resembles *R. albida*, but the latter is much smaller and the outlines of its spire are curvilinear. — Several specimens collected up to 15 mm.

108 *R. striatocostata* d'Orb., 1842. — Ill.: Cl; Pl. 22.
Syn. *Rissoa affinis* C. B. Ads, 1845.
Acc. to d'Orb.: 6 × 2.25 mm. Adams likewise mentions a size of 6 mm. — There are 2½ n.w.; the first p.n.w. has an extra heavy spiral in the middle and is angular; in the next whorls this disappears gradually. One of our specimens, size 6.7 mm, has an additional varix on the penultimate whorl. Rather common.

109 *R. multicostata* (C. B. Ads, 1850). — Ill.: Cl.
Acc. to Adams: 4.6 mm; on each whorl about 28 ribs. — Our specimens up to 5.2 mm; 1½ n.w.; on the base the spirals dominate. W. & A. (1961) stated 6 to 7 mm. Some 20 specimens from material dredged from the harbour, Aruba (Fr).

110 *R. striosa* (C. B. Ads, 1850). — Ill.: W.
Acc. to Adams: 5.1 × 2.0 mm; dingy white or corneous; 25-28 transverse folds which are obsolete on most of the last whorls, with very numerous spiral striae, with an infrasutural impressed line constricting the whorls, whorls 9 rather convex, aperture large.
Acc. to Desjardin (1949) 6 mm. — Our specimens up to 5.8 mm; 3 n.w.; the whorls are more convex than in *striatocostata*, the apex is sharper. Rather rare.
The single described specimen (and thus the holotype) of *R. striosa* is not present in MCZ; from the type lot Cl. & T. (1950, pl. 34 fig. 8) have designated and figured a "lectotype", however, this specimen is not conspecific with the species described by Adams; their figure (pl. 34 fig. 8) shows a shell, size 6.5 × 2.9 mm, with rather flat whorls, the sculpture on the last whorl not being visibly diminished. This may represent specimen of *R. decussata* (syn. *R. albida*).

111 *R. subangulata* C. B. Ads, 1850. — Ill.: Cl.
Acc. to Adams: 5.3 × 2.4 mm; 11 or 12 rather acute but stout ribs, sometimes with very lightly impressed microscopic spiral striae; whorls 7½; labrum rather thick. See also figure in Schwartz von Mohrenstern (1860). — The lip is spirally grooved on its inner border. On St. Martin rather common. From the ABC islands not known.

112 *Rissoina hummelincki* sp.n. — Ill.: Pl. 11.
Holotype in ZMA (no. 3.87.058), 2.0 × 0.8 mm
Type locality: Aruba, Pova Beach.
The shell has 2 nuclear and 4 postnuclear whorls. The first p.n.w. has about 16 ribs and fine spirals; on the later whorls the ribs become hardly visible, whereas there are ten clear fine spirals; on the last whorl the ribs have disappeared. The species is assigned to the subgenus *Zebinella*, with visible spiral threads. For distinctive characters see Key.
Other material studied: 8 specimens from the west coast of Aruba and from material dredged from the harbour.
R. hummelincki is named after Dr. Pieter Wagenaar Hummelinck, a well-known expert on the Westindian fauna.

113 *R. labrosa* Schwartz, 1860. — Ill.: Pl. 22, 33
Syn. *R. sheaferi* McGinty, 1962.
Acc. to S. 9.5 × 3.7 mm, 9-10 whorls, last whorl 24-26 ribs, 8-9 spiral striae; outer lip on the outside markedly thickened. Loc. Cuba. — Acc. to McG.: 9.3 × 3.8 mm, 2 + 9 w.; n.w. rounded; sculpture weakly beaded. — Our specimens 8½-12 mm; the first p.n.w. are rather convex, on the first 4 p.n.w. the spiral striae are hardly visible, however, giving rise to a retiform beaded sculpture on later whorls although the ribbed pattern remains dominating. Rather common.

114 *R. cancellata* Philippi, 1847. — Ill. W; Pl. 11.
Acc. to Ph.: Size 7 mm; no picture. — Our largest specimen: 8.3 × 3.2 mm, 2 + 8 w.; above the aperture 5 spirals. All of our 22 specimens have 3 spirals on the first 3 p.n.w. Rather common.

115 *R. sagraiana* d'Orb., 1842. — Ill.: Cl; Pl. 11
Syn. *Rissoa pulchra* C. B. Ads, 1850.
Acc. to d'Orb.: 5 × 1.75 mm; in his 2 figures the first, respectively the first and the second p.n.w. show 2 spirals, increasing to 5 above the aperture. Acc. to Adams: 5.7 mm, spirals

increasing from 2 on the upper whorls to 4 or 5 on the penult whorl. — Our largest specimens: 5.1 × 1.8 mm, 3 + 6 w.; 2 spirals on the first 3 p.n.w. increasing to 5 above the aperture. Rather common.
Cl. & T. (1950) p. 322 stated: *R. pulchra* is *R. cancellata* Philippi, referring to Desjardin (1949). Olsson & Harbison (1953) p. 324 made the same error.

116 *R. aberrans* (C. B. Ads, 1850). — Ill.: W, Cl; Pl. 11.
According to Adams: 4.2 × 2.0 mm, strongly sculptured with 3 or 4 spiral ridges, which are decussated, with nodulous intersections, by transverse ridges, of which there are about 16 on each whorl. Spire with the right side nearly rectilinear, and the left quite curvilinear, apex acute. Whorls 7 nearly planulate. Aperture deeply notched anteriorly, labrum rather thick. This species connects the genus with those Cerithiums in which the canal is reduced to a notch. — Our specimens measure about 6.0 × 2.7 mm, 2 + 6 w., largest specimen 6.5 mm. Sculpture cancellate. The first 2 p.n.w. have 2 spirals bordering the sutures. At the last half of the 2nd p.n.w. or at the beginning of the 3rd arises a third spiral between them. The last whorl usually has 4 spirals above the aperture, sometimes 5. On the inside of the outer lip there are 2 teeth (compare *Zebina browniana*) and a swelling located at the right border of the notch. A few specimens from Curaçao, rather common in Aruba.
W. & A. (1961) mentioned the species in the genus *Alvania*. In the growing stage the aperture is more like that of a *Rissoina*, one of the reasons we prefer that genus. The species differs from a *Cerithium* in having the notch directed forward and in lacking spiral lirae between the spiral ridges.

117 *R. fenestrata* Schwartz, 1860. — Ill.: Pl. 11, 22.
Acc. to S.: 4.3 × 1.7 mm, 12-14 ribs form with 2 to 3 spirals of the same strength large squares, and beads. — Our specimens about 4.5 × 1.7 mm, 1½ + 6 w., prominent ribs, on the first p.n.w. 1 spiral, on the following whorl appears under this spiral a second one, later followed below by a third one. On the penultimate whorl 3 spirals, demonstrating themselves mainly by the small nodules they form with the ribs, the nodules being placed in large squares. The flat whorls are shouldered above, which distinguishes this species at first sight from *sagraiana*, which is far more finely cancellated. In Curaçao a few specimens, in Aruba near Boca Grandi, and in material dredged from the harbour some 50 specimens (Fr).
R. fenestrata is figured by Desjardin (1949, pl. 10 fig. 2) as *R. sagraiana*.

Zebina. Whorls slightly convex, smooth.

118 *Z. browniana* (d'Orb, 1842). — Ill.: W, A fig. 687, Cl
Syn. *Rissoa laevissima* C. B. Ads, 1850.
Acc. to Adams: Colour dingy white with a very pale reddish brown spiral band on the upper part of the whorls. 5.1 × 2.3 mm. — Adult specimens have 2 teeth inside the outer lip and prominent striae on its margin. Very common.

119 *Z. laevigata* (C. B. Ads, 1850). Ill.: Cl.
Acc. to Adams: *Rissoa laevigata*, spire with the outlines slightly convex, whorls nearly 7, scarcely convex, white, translucent; 3.0 × 1.1 mm. Acc. to pl. 34 fig. 7 in Cl. & T. (1950), showing the holotype, 3 × 1.3 mm — The shell has about the shape of *browniana* but is somewhat slenderer, much smaller and colourless. Common.

120 *Zebina cordorae* sp.n. — Ill.: Pl. 1.
Holotype in ZMA (no. 3.87.059), 5.4 × 2.0 mm.
Type locality: Curaçao.
The shell is white and has 8½ flat whorls. The outlines of the last whorl are in line with the previous whorls. No teeth on the outer lip, spirals in its inner margin hardly visible.
The species is rather common, and more slender than *Z. browniana*.
Z. cordorae is named after Cor and Dora de Jong, a shell-collecting couple, who supplied ZMA with material from Curaçao.

121 *Z. vitrinella* (Mörch, 1876). — Ill.: Pl. 1.
Acc. to M.: 5 × 2 mm. — The max. size of our specimens is identical. They have 7 smooth somewhat convex whorls. In Aruba about 20 specimens from material dredged near harbour; at St. Maarten 1 specimen.
The species is figured by Desjardin (1949, pl. 10 fig. 69, "enlarged 6 ×", error for 10 ×).

121a *Z. vitrea* (C. B. Ads, 1850). — Ill.: Cl.
Acc. to Adams: *Rissoa vitraea*, 7.4 × 2.7 mm, whorls nearly 10, slightly convex; Jamaica.
Acc. to the fig. in Cl. & T. (1950, pl. 33 fig. 1) "enlarged 15 ×", error for 10 ×; the whorls are more rounded than in *cordorae*. Schwartz von Mohrenstern (1860) mentioned 1 specimen, 4.5 × 1.7 mm, 9-10 somewhat convex whorls — Not known from the ABC islands.

ASSIMINEIDAE

Shell small, ovate, smoothish; whorls moderately convex; outer lip simple; peritreme completed by the parietal callus; aperture roundly-ovate; with or without an umbilicus.

122 *Assiminea succinea* (Pfeiffer, 1840). — Ill.: A fig. 714, Cl.
Syn. *Phasianella concolor* C. B. Ads, 1850 + *Cingula* (?) *concinna* C. B. Ads, 1850.
Acc. to Adams: "at the summit of the whorls with a narrow ridge scarcely elevated but separated by an impressed line; umbilical region slightly indented". In the description of *P. concolor* Adams does not mention a spiral below the suture. — In some of our specimens the spiral is present in one or more whorls, in most of them it is not visible. Size 2.5 × 1.5 mm, 5 whorls, transparant light-brown. At Aruba rather common at Baby Lagoon and west of Oranjestad.

123 *Assiminea creutzbergi* sp.n. — Ill.: Pl. 1.
Holotype in ZMA (no. 3.87.060), 1.75 × 1.0 mm.
Type locality: Curaçao, Boca Playa Canoa.
The shell has 4½ whorls, smooth, aperture round. The colour is yellowish with a brown band about the middle of the whorl, and another joining the upper margin of the aperture, easily bleaching to white. The species lives on algae.
Next to the holotype we have seen specimens from Aruba, Baby Lagoon.
ZMA has two specimens from Cuba, Havana, size 2 mm, which have on the last whorl above the base a spiral ridge, also visible on the penultimate whorl just above the suture. In our largest specimen this ridge is also fainly present.
The species is named after Drs. Peter Creutzberg, cineast and biologist.

124 *Assiminea gerhardtae* sp.n. — Ill.: Pl. 1.
Holotype in ZMA (no. 3.87.061), 2.9 × 1.6 mm.
Type locality: Aruba, harbour.
The shell has one nuclear and 4 postnuclear whorls; conical, rather sturdy; whorls slightly convex. Colour yellowish. The apical tip is rounded, the last whorl subangular, the outer lip somewhat thickened. Umbical slit indented.
More material is known to us from the type locality. The species was mentioned by Carnes (1975, pl. 1 fig. 2) as *Barleeia* spec., size 2.9 × 1.5 mm.
A. gerhardtae is named after Prof. Dr. Mia Gerhardt, linguist and shell collector, who has often donated material to ZMA.

TRUNCATELLIDAE

Elongate-cylindrical shells: in the adults the apical whorls are broken off and replaced by a round cover of $1\frac{1}{2}$ whorls.

125 *Truncatella pulchella* Pfeiffer, 1839, — Ill.: W; Pl. 12.
Size 3-6 mm. Acc. tot De la Torre (1960): Very variable, going from a smoothish form with the duplex condition of the outer lip in a very reduced or obsolete condition, to a form presenting strong axial ribs and with the duplex condition of the outer lip very prominent (form *bilabiata* Pfr.). — Ribs 17-40. A SEM foto reveals that the space between the ribs bears utterly fine spiral threads; the protoconch has weak axial ribs. Colour white to light-amber (horn colour). Very common.

126 *T. scalaris* (Michaud, 1830). — Ill.: W, A fig. 722, Cl; Pl. 12.
Syn. *T. cumingii* C. B. Ads, 1845.
Size 4-5 mm, the outer lip has 2 adjoining varices, ribs 8-16. Between the ribs are close-set spiral threads, protoconch smooth. Colour gray to orange. Common.

127 *T. caribaeensis* Reeve, 1842. — Ill.: W, Cl (*succinea*) (*gouldi*); Pl. 12.
Syn. *T. succinea* C. B. Ads, 1845.
Size 6-9 mm, outer lip simple, thin, ribs up to 40, usually well-marked but may be obsolete. A SEM phot. shows that the space between the ribs is smooth; the protoconch is smooth and is larger than in *pulchella*. Colour a light orange. Rather common.

RISSOELLIDAE

Rissoella syn. *Jeffreysia*. Small shells, whitish, semitranslucent, ovate, umbilicate or not; whorls inflated; peritreme thin and entire, or completed by the parietal callus; operculum corneous with a short rib on the underside, which proceeds from the nucleus towards the columellar side.

128 *R. caribaea* Rehder, 1943. — Ill.: A fig. 725.
Acc. to R.: 1.5 × 1 mm, shell transparantly glassy, whorls $4\frac{1}{8}$, convex, smooth except for very fine growthlines. Umbilicus narrow, surrounded by a sharp keel. Aperture ovate-semicircular. — A few specimens found, up to 1.5 × 1.0 mm.

VITRINELLIDAE

Very small porcellaneous shells, wider than high; operculum multispiral.

KEY to genera and species
the number preceding the species name indicates diameter in mm.

Umbilicus closed by callus *Teinostoma*
Whorls smoothish with a serrated keel 3 *Episcynia inornata*
Shell flat, 2 peripheral nodulose keels, strong widely spaced radial riblets 1.8 *Pleuromalaxis balesi*
Whorls rounded or angular, usually with some sp. striae, the grooves often punctate, apical whorls level, lip thin, umbilical ridge ending at columellar margin, *Solariorbis*
Axial sculpture; protoconch protruding 4 *Macromphalina oxygone*
Whorls without keels *Vitrinella*
Whorls with keels
- Shell globose 1.2 *Parviturboides interruptus*
- Shell depressed, no axial sculpture *Circulus*
- Shell depressed, with axial sculpture *Cyclostremiscus*

Teinostoma
- with spiral striae
  - no sp. cords, last whorl angular 1.7 *proboscoidea*
  - no sp. cords, last whorl not angular 2.3 *clavium*
  - last whorl with 7 sp. cords 2.2 *chumoi*
- punctate 2.6 *millepunctata*
- smooth
  - 1.0 *lerema*
  - 2.0 *obtectum*
  - 3 whorls 1.3 *megastoma*
  - 4 whorls 1.6 *parvicallum*

Solariorbis
- Without carinae, under side flattened, $2\frac{1}{2}$ n.w. 1.2 *guianensis*
- Without carinae, under side not flattened, $1\frac{1}{4}$ n.w. 1.6 *antillensis* sp.n.
- 2 small carinae on periphery, spirally striated 1.5 *tinctus*
- 1 carina on periphery and 4 below 2.0 *bartschi*

Vitrinella
- Whorls smooth, peristome not entire 3.0 *helicoidea*
- Whorls smooth, peristome entire 1.9 *anomala*
- Close-set spiral threads above and below 1.7 *anneliesae* sp.n.

Circulus
- On dorsal side 5 or more spiral grooves, smooth below 2.5 *semisculptus*
- On periphery 3 keels, outlines of whorl oblique to the axis 1.2 *cubanus*
- About 14 spiral ridges, 4 of which below the periphery 4.7 *beaui*

Cyclostremiscus

- 4 keels, in between prominent axials 2.0 *caraboboensis*
- On periphery 3 keels, outlines of whorl parallel to axis
  - $3\frac{1}{2}$ w.; low axials and sp. threads 1.5 *vanbruggeni* sp.n
  - 2 w.; sp. ridges and sp. threads 0,8 *ornatus*
  - 2 w.; sp. ridges and ax. threads 0.9 spec.
  - 2 w.; no sp. ridges, ax. threads 0.9 *pulchellum*

129 *Vitrinella helicoidea* C. B. Ads, 1850. — Ill.: Cl; Pl. 12.
Acc. to Adams: 0.8 × 1.9 mm, 4 smooth whorls. — Our largest specimen: width 3.0 (2.3) mm. The number between parenthesis indicates the smallest width of the same specimen. Rather common.

130 *V. anomala* (d'Orb, 1842).— Ill.: Pl. 1.
Acc. to d'Orbigny's text: *Rotila a.*, 1 × 2 mm, smooth, slightly angulated at the periphery. Atlas pl. XVIII, fig. 32-34 shows a shell 0.85 × 2 mm, 3 whorls, peristome entire, not visibly angulated at the periphery. — 2 specimens collected, both 0.55 × 1.15 mm from material dredged from Schottegat, west of countryhouse Koningsplein (TdB). Identification questionable.

131 *Vitrinella anneliesae* sp.n. — Ill.: Pl. 2.
Holotype in ZMA (no. 3.87.062), 0.9 × 1.7 mm
Type locality: Curaçao.
Shell wider than high. Whorls without a keel. Except for the nucleus sculptured with fine spiral threads, which in larger specimens become hardly visible, or absent at the periphery of the last whorl. Umbilicus present. On Fig. 131 the shell is figured from aperture and dorsal sides, and from the top and base. Rather common at 10 tot 30 m. For distinctive characters see Key.
V. anneliesae is named after Annelies de Boer-van der Bonk.

132 *Circulus cubanus* (Pilsbry & Aguayo 1933). — Ill.: Pl. 2, 12.
Acc. to P. & Ag.: one specimen 0.45 × 1 mm. whorls 4; last whorl with 6 spiral threads; 3 strong keels on the periphery, in profile situated in an oblique straight line, the lowest keel being the outer; above the peripheric keels, midway between the upper one and the suture there is a spiral cord; below the keels, on the basal area, there are 2 cords, one around the umbilical area, the other midway between it and the lower peripheric keel. There is also a faint spiral striation between the keels. — Our specimens up to 1.2 mm. Rather rare.

133 *C. semisculptus* (Olsson & McGinty, 1958). — Ill.: Pl. 22.
Acc. to O & McG.: *Vitrinella s.* 1.4 × 2.5 (2.2) mm; $1\frac{1}{2} + 2\frac{1}{2}$ w.; the upper surface engraved with 5 or more strong spiral grooves, the lower surface smooth. — Between the grooves there are radial threads. Four specimens from Aruba, dredgings near harbour, and near Arashi (Fr.).

134 *C. beaui* (Fischer, 1857). — Ill.: W., A fig. 786.
Only 2 specimens collected, the largest 2.0 × 4.7 (3.7) mm. $1 + 2\frac{1}{2}$ w.; on the periphery of the last whorl 2 major keels; above at the end of the whorl, 7 ridges, in between spiral threads; below 4 weak ridges. From material dredged from the harbour, Aruba (Fr.).

135 *Cyclostremiscus caraboboensis* Woodring, 1962. — Ill.: Pl. 12.
Described from the Pliocene of Venezuela. Altena (1975, p. 22) figured a specimen from Suriname. — Collected in Schottegat, 2 specimens, about 1.0 × 1.7 mm (TdB) and Spaanse Water, 1 sp. 1.5 × 2.0 mm (ZMA, coll. Arn.).

136 *Cyclostremiscus vanbruggeni* sp.n. — Ill.: Pl. 2.
Holotype in ZMA (no. 3.87.063), 0.7 × 1.6 mm
Type locality: the type specimen was selected from a mixed lot of shells collected in Curaçao and Aruba.
Shell wider than high. The sculpture consists of fine spiral striae and low radial ribs which on the upper side of the last whorl are weak or nearly absent. On the periphery at the beginning of the last whorl there are 3 smooth keels of which the middle one soon disappears and gradually also the upper one, so that near the aperture (practically) only the lower keel remains. On the upper side there is a ridge which gradually fades away; The very wide umbilicus is bordered by a ridge.
The species is known to us from Curaçao, and Aruba (Boca Grandi, west coast, and harbour). For distinctive characters see Key.
C. vanbruggeni is named after Dr. A. C. van Bruggen, malacologist at the State University, Leiden.

137 *C. ornatus* Olsson & McGinty, 1958, — Ill.: Pl. 22.
Acc. to O. & McG.: 0.28 × 0.76 (0.60) mm, 1 + 1 w.; planorbid, three-keeled; the lower and upper surfaces sculptured almost alike; the peripheral keel is narrowly flattened and finely cross-threaded on the sides; a similarly ornate cord spirals around the dorsal mid-zone bordered on each side by a wide band, the outer band with a central row of large beadlike nodes and much finer spiral threads, the inner band with 2 rows of small beads and spiral lines. Bocas Island (Panamá). — Several specimens collected, up to 0.7 mm.

138 *Cyclostremiscus* spec.
Size up to 0.9 mm. Differs from *ornatus* by having between the ridges axial threads instead of spirals and by having the peripheral cord and the cord at the dorsal mid-zone not narrowly flattened (and not finely cross threaded). Several specimens collected at Noordpunt and other localities.

139 *C. pulchellum* Olsson & McGinty, 1958. — Ill.: Pl. 22.
Acc. to O. & McG.: 0.47 × 0.98 (0.76) mm; 1 + 1 w.; the shell is coiled like a small ammonite, the lower and upper surfaces are almost equally depressed, on the periphery 3 sharp keels. The sculpture is closely similar on both the upper and lower surfaces and is formed by rather coarse axial threads, which do not serrate the summits of the keels. Umbilicus ornamented by a circle of small beads. Bocas Island. — Collected at Noordpunt (RM, MF).

140 *Episcynia inornata* (d'Orb, 1842). — Ill.: W, A fig. 806.
Largest out of 5 specimens 3 mm; Schottegat (TdB) and Aruba (Fr).

141 *Parviturboides interruptus* (C. B. Ads, 1850). — Ill.: Cl, A fig. 809; Pl. 12.
Acc. to Cl. & T. (1950): One of Adams' shells measures 1 × 1.2 mm, 3½ w., on the last whorl there are about 9 spirals; the last spirals, around the umbilicus, are quite weak, so that the count of the ribs may be a little indefinite, 8 to 10. — The figures show 2 smooth top whorls.

One shell found at Aruba's west coast.
In the resembling species *Parviturbo comptus* (fam. Cyclostrematidae) only the first whorl is smooth.

142 *Solariorbis guianensis* Altena, 1966. — Ill.: Pl. 12, 13.
Acc. to A.: Only one specimen from the Holocene of Suriname, size 0.4 × 0.9 mm, 3 w.; sculpture of the last whorl consisting of little pronounced and irregular fine radiating striae starting from the suture and the umbilicus, but not reaching the periphery and a few indistinct spirals, near the suture on the upper side and near the periphery on the under side. — Our specimens up to 1.2 mm, $2\frac{1}{2} + 1\frac{1}{4}$ w. Found in considerable numbers near the Cabrietenberg in Spaanse Water, together with *Teinostoma lerema.*

143 *Solariorbis antillensis* sp.n. — Ill.: Pl. 13.
Holotype in ZMA (no. 3.87.064), width 1.6 mm.
Type locality: The type specimen was selected from a mixed lot with mollusks from Curaçao and Aruba.
Shell disc-shaped, wider than high. $1\frac{1}{2}$ nuclear and two postnuclear whorls. The whorls are rounded, without carinae, and covered by spiral striae with punctated grooves. *S. antillensis* differs from *S. guianensus* by a quite different protoconch, the under side being less flattened, the umbilicus less closed, the axial wrinkles less manifest, the spirals more prominent and their punctation more clear.
On Fig. 143 the shell is figured from three sides, in addition to a figure of the nuclear whorls.

144 *S. tinctus* (C. B. Ads, 1850). — Ill.: Cl.
Acc. to Adams: 0.9 × 1.4 (1.1) mm; whorls 3, white with stains of reddish purple on the last whorl, with numerous spiral striae, and 2 small distant revolving carinae on either side of the periphery of the last whorl; spire convex but little elevated. — Two specimens from Slangenbaai, the largest 1.5 mm wide; two from Aruba's west coast and harbour.

145 *S. bartschi* (Vanatta, 1913). — Ill.: A fig. 816; Pl. 2.
Acc. to V.: 0.7 × 1.5 mm; $3\frac{1}{2}$ w.; spire very low and evenly arched, smooth except for a few indistinct radial costae on part of the penultimate whorl and a few indistinct spiral lines near the periphery. The peripheral carina is very large. In basal view showing 4 spiral costae. The umbilicus is wide, angular at the edge and separated from the spiral costae by a broad smooth area. — 4 specimens collected, the largest 2 mm wide, 3 of them from Schottegat.

146 *Pleuromalaxis balesi* Pilsbry & McGinty, 1945. — Ill.: Pl. 13.
Acc. to P. & McG.: Size 0.6 × 1.8 mm, $3\frac{1}{2}$ w.; sculpture of fine spiral striae and low radial ribs; there are 2 nodulose keels, peristome rather thick. — In large shells the keels gradually become smooth. Common.

147 *Teinostoma proboscoidea* Aguayo, 1949. — Ill.: Pl. 13.
Acc. to A.: 1 × 1.7 (1.17) mm; outer lip flaring. — 3 specimens washed ashore collected at Noordpunt (ZMA); 5 specimens at Aruba's west coast (Fr.).

148 *T. clavium* Pilsbry & McGinty, 1945. — Ill.: Pl. 2, 13.
Strongly spirally striate throughout. 8 shells, up to 2.3 mm, collected at Aruba's west coast (Fr.).

149 *T. chumoi* Vanatta, 1913. — Ill.: Pl. 2.
Acc. to V.: 1.5 × 2.2 mm. The face view shows 7 widely spaced spiral cords. The base shows two of the spiral cords and a series of radial indentations bounded on the lower side by an engraved line. For a fig. see also Altena (1975). — At Aruba one specimen of 2 mm (Fr).

150 *T. millepunctata* Usticke, 1969. — Ill.: Pl. 2.
Acc. to U.: Holotype 1.1 × 2.0 mm, 5 whorls; appears smooth but strong magnification shows that the whorls are covered with innumerable tiny punctations arranged in close wavy diagonal strings. Loc. Antigua. — We suppose that "5 whorls" is a misprinting for "3 whorls". Our specimens measure about 2.0 × 2.6 mm, 3½ w.; umbilical callus with a heavy ridge which makes the columella look somewhat protuding at the border of the aperture. Collected 1 specimen in the Spaanse Water and 3 specimens at Aruba.

151 *T. lerema* Pilsbry & McGinty, 1945. — Ill.: Pl. 2, 13.
Size about 0.45 × 1.0 (0.7) mm. Near Cabrietenberg in Spaanse Water, numerous. Common.

152 *T. obtectum* Pilsbry & McGinty, 1945. — Ill.: W; Pl. 13
Size about 1 × 2 mm. Rather common.

153 *T. megastoma* (C. B. Ads, 1850). — Ill.: A fig. 847, Cl.; Pl. 13.
Acc. to Adams: 0.8 × 1.5 mm, whorls a little more than three. The figures in Cl. & T. (1950) are reproduced in Abbott (1974, nr. 847). — Numerous in Spaanse Water; also collected in Baby Lagoon, Aruba and on Playa Lechi, Bonaire.

154 *T. parvicallum* Pilsbry & McGinty, 1945. — Ill.: Pl. 3.
Acc. to P. & McG.: 1.5 × 2 mm, 4 w.; sculpture of faint lines of growth only; periphery broadly rounded, umbilical callus small, but closing the umbilicus at all stages of growth, a low convexity running down its middle to the basal lip. Florida. — 4 specimens collected, about 1.0 × 1.6 mm, from material dredged from Schottegat, west of countryhouse Koningsplein (TdB).

155 *Macromphalina oxygone* (Mörch, 1877). — Ill.: Pl. 13, 22
Syn. *M. pilsbryi* Olsson & McGinty, 1958.
Acc. to M.: *Vanikoro o.*, size 2½ × 4 mm. Acc. to O. & McG.: 2.7 × 2.8 mm., protoconch about 2 whorls, the initial turn smooth, the last sculptured with 3 or more strong spirals; p.n.w. about 2, the sutural zone widely flattened so that the profile appears as if slightly shouldered. The umbilicus has the shape of a deep funnel, its outer margin more or less angled, which overhangs the flat or excavated wall, marked with coarse growth wrinkles. The axial cords are in the form of lamellae as the figure shows; inbetween microscopically cross-striated. — Our largest specimen: 3.5 × 6.8 mm, 1½ + 3½ w.; the axial laminae pass over the border into the large and deep umbilicus. Several specimens collected.
We were informed by the Zool. Mus. Univ. Copenhagen that the type of *M. oxygone* is lost. The figures of *V. oxygone* in Verrill & Bush (1900) agree with those of *M. pilsbryi* in O. & McG. (1958).
Acc. to Tryon 8 (1886) *V. oxygone* is synonymous with *V. lamellosa* (d'Orb, 1842), size 2 × 2 mm. As d'Orbigny's figure does not show an umbilical keel, we are not convinced of this synonymy. Abbott (1974, fig. 1507) described and figured *V. sulcatus* erroneously as "*V. oxygone*".

TORNIDAE

Shell resembling Vitrinellidae, however the operculum is paucispiral.

156 *Cochliolepis parasitica* Stimpson, 1858. — Ill.: W, A fig. 863. The shell looks like *Vitrinella helicoidea*, but the last whorl is proportionally larger and less smooth because of the growthlines. Umbilicus without keel. Near the apex and in the umbilical area are microscopical fine spiral striations. — Our specimens are up to 4 mm; they agree with the figure in Andrews (1971).

CAECIDAE

The genus *Caecum* is divided by us into 3 groups:
A) Shell has ribs and rings (nrs 157-166);
B) Shell has only rings, sometimes as striae at the anterior part (nrs 167-173);
C) Shell smooth, without sculpture (nrs. 174-178).

A. *Shell has ribs and rings* [A number indicates our largest specimen in mm]

- Rings near aperture large 4 *irregulare*
- About 14 ribs, varix around aperture 3 *imbricatum*
  - similar, but rings narrower 1.8 *zaagmani* sp.n.
- Ribs weak, hardly visible; no varix 3 *(insularum)*
- About 40 low rings, longitudinal striae in between 2 *textile*
- Collar near aperture, shell ribbed, mucro pointed 4 *cycloferum*
- Rings only anteriorly
  - about 12 ribs 4 *plicatum*
  - riblets delicate, rings strong, plug pointed 3 *(delicatulum)*
  - riblets delicate, rings delic., plug hemispherical 2.5 cf *debile*
- Shell bulbous anteriorly 2.8 *clava*

157 *Caecum irregulare* de Folin, 1867. — Ill.: W as *floridanum*.
Acc. to de F.: 4 × 1.4 (1) mm; the shape of the rings changes abruptly when nearing the aperture, and they become extremely protuding and large. The striae cross the rings and intervals longitudinally. The septum is pointed. — Common.
In Dall (1892), W. & A. (1961) and in Abbott (1974) the species is called '*C. floridanum* Stimpson, 1851'. However acc. to Stimpson, *floridana* measures 1.9 × 0.5 mm, features about 32 rings, and no indication is made about longitudinal sculpture.

158 *C. imbricatum* Carpenter, 1858. — Ill.: W, A fig. 875; Pl. 14.
Acc. to C.: 2.8 × 0.7 (0.4) mm. — Colour light yellowish brown. Common in inner bays and in the sea near the inner bays, like Piscadera outerbay.

159 *Caecum zaagmani* sp. n. — Ill.: Pl. 14.
Holotype in ZMA (no. 3.87.065), length 1.8 mm.
Type locality: Bonaire, Playa Lechi.

The shell is covered by ribs and rings, the ribs are more prominent, and the rings are very narrow. Colour light yellowish brown.
C. zaagmani is similar to *C. imbricatum*, but smaller, the rings are narrower and the sculpture on these rings differs as is shown on the SEM photographs.
Common at a depth of 3-50 m. Fig. 159B shows a specimen from Aruba.
C. zaagmani is named after our colleague Jurrien Zaagman, the artist who made the drawings of this publication.

160 *C. insularum* Moore, 1970. — Ill.: W as *insigne*, A fig. 876; Pl. 14.
Acc. to M.: 3.36 × 0.76 (0.54) mm. It differs from *imbricatum* by being less curved, having weaker longitudinal ribs and by lacking a varix around the aperture. The species is described and figured by W. & A. (1961) as *C. insigne* de Folin, 1867. The types of *C. insigne* in Paris, however, are conspecific with *C. imbricatum*. — Several specimens collected at St Martin; not known from Curaçao or Aruba.

161 *C. textile* de Folin, 1867. — Ill.: Pl. 14.
Acc. to Moore (1972): 2.1 × 0.52 mm, with about 35 to 45 low, rounded rings. Numerous fine longitudinal striae. The circular ridges are so low that most specimens appear almost smooth. Mucro varies from slightly to strongly convex, bluntly pointed. No varix. The photograph shows the striae between the rings. The species is also pictured by Mitchel-Tapping (1979). — Rather common.

162 *C. cycloferum* de Folin, 1867. — Ill.: W as *coronellum*, A fig. 881; Pl. 14.
Syn. *C. coronellum* Dall, 1892.
Shell size 4.0 × 1.0 mm; stout pointed mucro, a strong collar near the aperture. — Some specimens from material dredged from the harbour, Aruba.

163 *C. plicatum* Carpenter, 1858. — Ill.: W, A fig. 880; Pl. 14
Syn. *C. obesum* Verrill & Bush, 1900.
Acc. to V. & B.: About 12 longitudinal ribs, close to the anterior end these are decussated by several incised revolving lines. Aperture with a somewhat thickened margin. Plug with a small, prominent oblique mucro. — Rather common.

164 *C. delicatulum* Verrill & Bush, 1900. — Ill.: Pl. 22.
Acc. to V. & B.: Shell but little tapered, covered with numerous longitudinal riblets, near the margin crossed by transverse lines which form definite cingula close to the margin. Plug oblique without a definite mucro. 2 × 0.5 mm. Two young specimens have the plug just within the aperture, with a delicate spine. — Not known from the ABC islands.

165 *C. debile* Verrill & Bush, 1900. — Ill.: Pl. 2.
Acc. to V. & B.: Shell differing from *C. delicatulum* in having a prominent, nearly hemispherical plug and the surface covered by less numerous, very delicate, raised, longitudinal riblets, well-separated but unequally spaced, crossed near the margin by very delicate well-separated cingula, one of which just below the edge is more prominent than the others. Entire surface crossed by microscopic growth lines. In shell-sand. Rare. Bermudas. (No figure). — Our largest specimen out of four: 2.5 × 0.6 mm; about 40 longitudinal unequally placed raised lines; near the aperture a slight thickening and fine ring-shaped striae over 1/8 tot 1/4 l; in lateral view the plug looks like a half sphere, in ventral view it proves to have an edge (mucro) on the right side. Collected at high tide line Cornelisbaai and in Aruba.

Our specimens differ from *C. heladum* Olsson & Harbison, 1953, as figured by Abbott (1974, fig. 886) by having a much more prominent plug. Description of *C. heladum* acc. to O. & H.: Shell not noticeably tapering, with weak circular riblets; sometimes faint, longitudinal striae are perceptible towards the anterior end. At maturity a group of rings may become enlarged to form a heavy collar around the aperture. Posterior end filled with a large, rounded, caplike plug with a blunt mucro on the convex lateral side. 4.2 × 1 mm.

166 *C. clava* de Folin, 1867. — Ill.: W; Pl. 14.
Some specimens from Spaanse Water and Piscadera outerbay.

B. *Shell has only rings, sometimes as striae at the anterior end.* [A number indicates our largest specimen in mm]

- About 25 to 28 rings 2.5 *regulare*
- About 30 to 35 rings, shell smaller than *regulare* 2 *gurgulio*
- About 100 rings 3 *condylum*
- Varix with rings, shell posteriorly narrowed 2.5 *vestitum*
- Varix with rings, shell posteriorly cylindrical 2.5 *rijgersmai* sp.n.
- Shell cylindrical without a trace of varix, utterly fine annulations anteriorly 1.6 *antillarum*

167 *C. regulare* Carpenter, 1858. — Ill.: W (*pulchellum*), A (*pulchellum*) fig. 866.
In W. & A. (1961) and Abbott (1974) the species is named *C. pulchellum* Stimpson, 1851. Acc. to S.: shell in its adult state clavate and having a somewhat angular appearance at its outer or dorsal outline. — Our specimens do not agree with this description. Number of rings up to about 28. Very common.

168 *C. gurgulio* Carpenter, 1858.
Acc. to C.: 30 to 35 rings, straight ends. — The species differs from *regulare* by being smaller, having more rings and having a larger mucro. In size and shape it is much like *textile*, but that species has the rings strongly flattened and it has longitudinal striae between the rings, which, however, in many specimens are hardly or not visible. Quite a number collected at Aruba's westcoast and from material dredged from harbour (Fr).

169 *C. condylum* Moore, 1969. — Ill.: A fig. 870; Pl. 14.
Acc. to M.: 3.4 × 0.56 (.76) mm. Near the aperture there is a broad swelling or varix. The sculpture consists of approximately 100 annular ridges; they continue over the varix on the aperture. The low, somewhat pointed mucro is angled to the right. The ground colour is white with several diffused bands of light brown. — Two specimens at 30 m near Sta. Martha; one specimen from harbour and one from P. Braboe, Aruba.

170 *C. vestitum* De Folin, 1870. — Ill.: A fig. 884.
Acc. to Abbott (1974, nr. 884): About 2 to 2.5 mm in length, slender and cylindrical; shell smooth or with incipient annulations at the anterior end; a slight varix is formed around the aperture. The septum is a little convex, the mucro is only a small projection on the right side. Shell almost transparant. Common. — Our specimens agree with Abbott's figure; up to 2.5 × 0.5 mm, with rings on the anterior half of the shell, gradually diminishing to the middle, continued on the posterior half by growthlines; posterior 1/10 of shell somewhat narrowed (in *C. rijgersmai* far more straight). Rather common at 3 m and deeper.

C. subvolutum De Folin, 1874, described and figured by Moore (1972) from St. Croix, is a closely related species.

171 *Caecum rijgersmai* sp. n. — Ill.: Pl. 2.
Holotype in ZMA (no. 3.87.066), 2.5 × 0.5 mm
Type locality: Curaçao.
Shell slender, almost smooth because there are practically no rings posterior to the varix; the posterior end is nearly cylindrical. Varix well-developed. Otherwise very similar to *C. vestitum* de Folin.
The species is common at a depth of 30 m, a few were collected at-6 m. ZMA has also specimens from St. Martin, depth 100 m.
C. rijgermai is named after H. E. van Rijgersma, a physician and amateur biologist at St. Maarten in the 19th century.

172 Omitted.

173 *C. antillarum* Carpenter, 1858. — Ill.: W.
Acc. to C.: 1.4 × 0.3 mm, smooth. Acc. to Abbott (1974): Similar to *vestitum* but smaller, 1.3 to 1.7 mm, mottled in appearance, with no trace of a varix and with a somewhat weaker mucro. — Our specimens about 1.6 × 0.4 mm; edge of aperture not contracted; the first 0.1 mm has a somewhat smaller diameter as if the shell has been built around this initial part. Septum somewhat protrusive. In some specimens the anterior part shows utterly fine annulations. 3 specimens collected from St. Michielsbaai and 3 from Aruba.

C. *Shell smooth, without sculpture* [A number indicates our largest specimen in mm]

- Outer outline more curved than the inner one 2.5 *nitidum*
- Middle part of shell cylindrical, outline in the middle rather flat 2.2 *cornucopiae*
- Aperture very oblique, compressing the thickened area on the ventral side 2 *ryssotitum*
- An increasing diameter over posterior 1/5 l; edge of aperture contracted 2.2 *butoti* sp.n.
- Last 1/5 of shell is inflated 1.7 *(cubitatum)*

174 *C. nitidum* Stimpson, 1851. — Ill.: W, A fig. 895.
Acc. to S.: Aperture in diameter about 2/3 of the shell at its broadest parts, which is in the middle. The shell is contracted at its posterior extremity. The inner outline is less curved than the outer one; 1.9 × 0.6 mm. — The shape is variable, since the inner outline may be almost parallel to the outer one, or the inner outline may have an outward bend. Edge of aperture not constricted. Most of our specimens have white spots, many also brown spots and some are completely transparent. Length 1.5 to 2.5 mm. Very common.
In W. & A. (1961) text fig. 15, C and D both represent this species.

175 *C. cornucopiae* Carpenter, 1858. — Ill.: Pl. 2.
Syn. *Fartulum nebulosum* Rehder, 1943.
Acc. to C.: 2.3 × 0.5 (0.3) mm. Some forms of this species run into aberrant forms of *nitidum*. It may in general be distinguished by the small size and slight inflation and by the very sharp mucro, with concave sides. Acc. to Moore (1972): Shell slender and cylindrical, aperture slightly constricted, only moderately oblique. The second stage never resembles a cow's horn as in *nitidum*. The specimen figured by Moore measures 1.5 × .4 mm, it does

not show any contraction of the edge of the aperture. Mitchel-Tapping (1979) states: distinguishing between these two species (*cornucopiae* and *nitidum*) is rather difficult. — We agree with Mitchel-Tapping. Rather common.

176 *C. ryssotitum* de Folin, 1867. — Ill.: A fig. 889.
Acc. to Abbott (1974, fig. 889): About 1.3 to 2.0 mm in length; cylindrical, except for a tapered section at the posterior end and a thickening around the aperture. The aperture is very oblique, compressing the thickened area on the ventral side behind the aperture. The mucro is flattened, giving a low triangular outline when viewed from the side. Common; shallow water. — The border of the aperture is narrowed on the dorsal side; the shell has growth lines. At Aruba's west coast and from material dredged from harbour 10 specimens (Fr).

177 *Caecum butoti* sp. n. — Ill.: Pl. 2.
Holotype in ZMA (no. 3.87.067), 2.2 × 0.5 mm.
Type locality: Curaçao, at a depth of 30 m.
The shell is smooth, and shows a clearly increasing diameter over about 1/5 l; hardly any thickening near the aperture; edge of aperture narrowed. Nearly opaque because of white spots, no brown. Mucro small, concave or flattened. At first sight distinct from a slender *nitidum* or from *cornucopiae* by the contracted edge of the aperture.
C. butoti is rather common at a depth of -30 m. We have studied 2 specimens from -3 m. In Aruba collected from dredging material harbour, and at the west coast.
Named after Louis J. M. Butot, honorary associate at ZMA.

178 *C. cubitatum* de Folin, 1868. — Ill.: A fig. 895b.
One of our specimens, not from the Antilles, measures 1.7 × 0.35 mm; the last 1/5 of the shell is inflated. Not collected at the ABC islands.

TURRITELLIDAE

Shell elongate, many whorls, spirally grooved.

179 *Turritella variegata* (L., 1758). — Ill.: W, A fig. 903.
The early whorls have 2 smooth carinae, one at about the middle of the whorl and one bordering the lower suture; the carinae later become nodulose at the crossing of weak ribs; spiral striae in between, some later becoming more prominent, so that the middle carina becomes less conspicuous. One specimen from Knipbaai at a depth of 3 m; at Michielsbaai an empty shell; in Aruba, near Arasji, one live specimen.

180 *T. exoleta* (L., 1758). — Ill.: W, A fig. 905.
Rather common at about 50 m depth near Sta. Martha (CdJ), 3 specimens in sand at 35 m in Spaanse Baai (Vink).

181 *Vermicularia knorrii* (Deshayes, 1843). — Ill.: W, A fig. 919.
Acc. to D.: The first whorls are regularly coiled and bear 2 carinae, the later whorls are detached and bear wavy, closely placed, longitudinal ribs. The shell is thin, colour brown, sometimes yellowish. Loc. probably Martinique. W. & A. (1961) and Abbott (1974, nr. 919) identified specimens, which have the regularly coiled whorls pure white as *V. knorrii*.

— The 1½ n.w. are pointed, the n.w. and the closely coiled p.n.w. are pure white, the detached whorls are coarsely longitudinally sculptured and are brown. Many juv. specimens collected at a depth of 30 m, also found at 5 m; at Aruba one adult specimen.

182 *V. spirata* (Philippi, 1836). — Ill.: A fig. 918.
Acc. to P.: The regularly coiled spire exists of 7-9 whorls, with 2 keels, which continue on the free whorls together with more or less numerous longitudinal ridges, but at last the keels gradually disappear. Colour red-brown. Loc. Havana. — The coiled whorls are brown. Reported from Bonaire, but we were not able to verify the identification.

SILIQUARIIDAE

The shell is an unattached wormlike tube with a series of tiny holes, arranged in a longitudinal row.

183 *Siliquaria squamata* Blainville, 1827. — Ill.: W, A fig. 925.
Syn. *S. anguillae* Mörch, 1860.
Some specimens in sponge at 50 m near Sta. Martha (CdJ).

MATHILDIDAE

Mathilda. Shell brown, resembling *Bittium*, but with the nuclear whorl tilted on its axis.

184 *M. barbadensis* Dall, 1889. — Ill.: A fig. 927; Pl. 15.
Acc. to D.: 6.2 × 2.5 mm, n. + 7 w.; the anterior edge of the peristome somewhat produced. Barbados 100 fathoms. Abbott (1974, fig. 927) shows a reproduction of Dall's figure. — Not collected at the ABC islands.

185 *Mathilda vanaartseni* sp.n. — Ill.: W as *barbadensis*; Pl. 15, 33.
Holotype in ZMA (no. 3.87.068), 5.2 × 1.8 mm.
Type locality: Curaçao.
The shell has 3 nuclear and 7½ postnuclear whorls. There are 3 spiral cords, the upper one with a much smaller diameter than the other two; crossed by many ribs, forming beads, base somewhat concave, bordered by a spiral cord, with 3 to 5 spiral threads and transverse striae. Not umbilicated. From shallow water several specimens collected.
The species differs from *M. barbadensis* by being much slenderer, having the lip not produced and by having a somewhat different sculpture. From Barbados both species are present at ZMA.
M. vanaartseni is named after Dr. Ir. J. J. van Aartsen, who published on micromollusks from Europa.

ARCHITECTONICIDAE

Shell widely umbilicate, umbilicus bordered with a crenulated keel.

186 *Architectonica nobilis* Röding, 1798. — Ill.: W, A fig. 938.
On sand from 1 to 5 m deep. Porto Marie and Westpunt 3 specimens; at Aruba less rare.

187 *Heliacus cylindricus* (Gm., 1791). — Ill.: W, A fig. 940; Pl. 15, 33.
Like other species of this family the apex is turned inward. The protoconch is a flattish sinistral shell. In the teleoconch the direction of growth of the spiral shaped whorl is changed from downward to upward so that the shell becomes dextral and the top of the protoconch becomes situated at the bottom of the umbilicus. — Rather rare.

188 *H. infundibuliformis* (Gm., 1791). — Ill.: W, A (*perrieri*) fig. 942.
Acc. to Chemnitz 5 (1781, pl. 173 fig. 1706, 7): diam. 17 mm, 5 w.; sculpture somewhat irregular. Loc. unknown. — From south and north coast a few specimens; in Aruba about 40 from the north coast. Some authors call the species *H. perrieri* (Rochebrune, 1881), described from Senegal in the land-snail genus *Teretropoma*.

189 *H. bisulcatus* (d'Orb., 1842). — Ill.: W. A fig. 943.
Acc. to d'Orbigny's Atlas, pl. 19 fig. 17-20: 3.5 × 7 mm. The whorl is attached to a larger part of the diameter of the former one than it is in *infundibuliformis*, and the sculpture is more regular and more prominent. — 2 specimens, 3.5 × 7 mm, from Caracas Baai and St. Michiels Baai (ZMA); 1 specimen from Playa Chikitu (CdJ); in Aruba 2 specimens from Boca Grandi and material dredged from the harbour (Fr).

190 *Philippia krebsii* (Mörch, 1875). — Ill.: W, A fig. 952.
From Aruba 5 specimens, near Malmok and on the north coast (dM). At Curaçao's northcoast, – 40 m, from dredged sand (Creutzberg).

191 *Pseudomalaxis centrifuga* Monterosato, 1890. — Ill.: A fig. 950.
Syn. *Omalaxis exquisita* Dall & Simpson, 1901.
Described from Madeira and figured in Wenz (1938-1944, fig. 1907). Acc. to D. & S.: 1 × 3 (2) mm, whorls discontinuous in one plane, subquadrate in section, with a minutely serrate keel at each angle, whorls 3, the nepionic one sinistral and depressed, the others free, pellucid whitish, with indications of brown flammulae. Shell between the keels polished, smooth. Puerto Rico. The fig. in D. & S. is reproduced by Abbott (1974, fig. 950). — One specimen washed ashore at Plaja Lechi, Bonaire (ZMA, leg. Arn).

192 *Calodisculus retiferus* (Dall., 1892). — Ill.: Pl. 3, 15
Syn. *Heliacus crystallina* Usticke, 1969.
Acc. to Dall: 1.3 × 4.5 mm, upper surface flattened with a prominent beaded cord on each side of the slightly channeled suture, the one in front of the suture the more prominent of the pair, between them are 3 smaller simple spiral elevated threads, the whorls crossed by numerous oblique, elevated, radiating ridges. Aperture quadrate with a thin edge. Pliocene. Also mentioned and figured by Olsson & Harbison (1953) who remark that the nuclear whorl is not 'sinistral inverted' as Dall stated. Acc. to Usticke: A glassy flattish shell; holotype 1.0 × 2.75 mm, max. 4.25 mm. — On the upper surface of the last whorl 2 finely beaded spirals between the heavier outer spirals, on the last part becoming 3. Five specimens collected at a depth of 50 m; in Aruba 2 specimens from material dredged from harbour.
Abbott (1974, nr. 827) mentioned the species in the fam. Vitrinellidae as *Pleuromalaxis (Calodisculus) retiferus* refering to Rehder (1934, error for 1935). However, Rehder stated that the species is nearer to *Architectonica* than to *Pseudomalaxis* and placed it in a new genus *Calodisculus*, belonging to the fam. Architectonicidae.

VERMETIDAE

Shell tubular, always becoming irregular in the adult growth.

193 *Petaloconchus floridana* Olsson & Harbison, 1953. Ill.: W; pl. 22.
Acc. to O. & H.: Shell solitary or in clusters. The greater part of the individual conch is coiled and attached by one side along its whole length to some object. When mature the coiling relaxes, the end often becoming free and drawn-out. The external surface is covered with medium to strong, close-set, longitudinal ribs cut by raised concentrics forming a coarse reticulation. The shell has often been identified in collections as *P. varians* d'Orb., described from the coast of Brazil.
P. varians (d'Orb. 1841). Acc. to d'Orb.: Animal colour dark violet, the head having on each side two lines, the upper one very light, the lower one very dark; the mantle in front is bordered with red.
P. irregularis (d'Orb., 1842). Acc. to d'Orbigny's fig.: *irregularis* has only radial sculpture, the diam. of the aperture ranges from 1.2 to 1.8 mm. Acc. to Tryon (vol. 8, 1886) *irregularis* is a but scarcely described variety of *Vermetus annulatus* Daudin, 1800.

194 *P. nigricans* Dall, 1884. — Ill.: Pl. 22, 33.
Acc. to Dall, 1889: Young often irregularly reticulated, older nearly destitute of the longitudinal lines, aperture 2 mm. The interior is of a chestnut or blackish brown, brillantly polished. The animal is of a dark purple brown, almost black with reddish dots. — We collected 2 animals at the bottom of a tide-basin and one on a pile; each covering a surface of about 1 × 6 cm.

195 *P. mcgintyi* (Olsson & Harbison, 1953). — Ill.: W; Pl. 33.
The authors do not give any information about the animal. Their fig. agrees with pl. 12, fig. E in W. & A. — We collected a solitary specimen on the underside of a piece of coral, 3 dm deep; the shell, covering a surface of 3 × 3.5 cm, has many coarse and fine growth lines (radial sculpture) and less conspicuous, mostly fine, axial sculpture; diam. aperture 7 mm, of the operculum 4 mm. The front of the animal was violet. Another much smaller solitary specimen was fixed on a piece of coral of only 7 mm width; the shell covered a surface of 13 × 7 mm, the height was 6 mm, the tube of 10 mm had a diam. of 2 mm. On iron bars in Fuikbaai we found compact colonies the individuals of which, as for sculpture and shape, agree with the above mentioned shells. The free tubes are from 1 to 3 cm long, their diam. varies from 1 to 4 mm, depending from the room available. Diam. operculum 2/3 of that of aperture. The animal had a brown front, the middle was light yellowish brown, the posterior part black with white spiral-formed veins; in many specimens the inner curve of the animal was white-flocky.

196 *P. erectus* (Dall., 1888). Ill.: W, A fig. 955.
Acc. to Dall (1889): yellowish or grayish white, height of erect part usually 1 inch, diam. aperture 1.75 mm. The greatest diam. of the same tube would be about 2.0 mm. The animal is whitish; usually nearly solitary. Dall's fig. is reproduced by Abbott (1974, fig. 955). Acc. to Abbott *P. mcgintyi* is a form of *P. erectus*. — *P. erectus* as figured by W. & A. (1961, pl 12A) has a sculpture different from our specimens of *P. mcgintyi*.

197 *Siphonium nebulosum* (Dillwyn, 1817). — Ill.: Pl. 33.
Acc. to Dillwyn (p. 1076): Shell white, clouded with dark, thick, extremely wrinkled and

much twisted and plaited together, diam. of largest tube is said by Favanne not to exceed 3 or 4 lines (= 6.3 or 8.4 mm); it expands at the aperture, which widens at the edge. Acc. to Tryon, 8 (1886): Young shell planorbiform, corroding, chestnut-color to white, slightly spirally lirate; afterwards contorted, variegated with light brown and white, lirae rugose, with three squamiferous lirae above; finally becoming free, with rugose annulations and sulcations, and longitudinal sculpture obsolete. Tryon gives two excellent figures. — The shell has very fine lamellate radial sculpture; in the middle it has rather strong uneven axial ribs, the dorsal one often with lamellated spines. The shell is irregularly coiled in about 1½ whorls. 3 specimens collected, 5 m deep on an iron chain, by Zaneveld; now in ZMA. There are 4 more specimens in ZMA, largest diam. aperture 10 mm.

Serpulorbis. Operculum wanting or rudimentary.

198 *S. decussatus* (Gm., 1791). — Ill.: W, A fig. 966.
The axial ribs are scaly. The shell is completely brown. Common.

199 *S. riisei* (Mörch, 1862).
The shell differs from *decussatus* by being white above with fine brown markings; underneath it is brown; moreover the sculpture is more pebbly. Rare.

PLANAXIDAE

Planaxis. Shell small, thick-shelled, imperforated; columella truncated below.

200 *P. lineatus* (da Costa, 1778). — Ill.: W, A fig. 974; Pl. 15.
Common.

201 *P. nucleus* (Brug. 1789). — Ill.: W, A fig. 975.
Common.

MODULIDAE

Modulus. Shell trochoid in shape with a tooth at the base of the columella.

202 *M. modulus* (L., 1758). — Ill.: W, A fig. 976; Pl. 34.
Very variable: high to flat shell, radially ribbed to almost smooth; the whorls may have a protruding edge. Common.

POTAMIDIDAE

The genera *Cerithidea* and *Batillaria* were treated by Bequart (1942) in Johnsonia 1 (5).

Cerithidea. Elongate shells with many convex whorls; the horny operculum is paucispiral.

203 *C. costata* (da Costa, 1778). — Ill.: W, A fig. 980; Pl. 33.
Common. In the Pekelmeer at Bonaire only living near seepages of seawater.

204 *C. beattyi* Bequaert, 1942.
Acc. to W. & A. (1961) "this may be a form of *costata*". — Found together with *C. costata* at Bonaire.

205 *C. pliculosa* (Menke, 1829). — Ill.: W, A fig. 984.
Many specimens were found at the northern part of the Spaans Lagoen, Aruba in 1962; since then they have not been seen, until they proved to be present again after a very rainy period during the last months of 1969, on a muddy site in the shadows of mangroves.

Batillaria. Cerithium-like in appearance; the horny operculum is multispiral.

206 *B. minima* (Gm., 1791). — Ill.: W, A fig. 990; Pl. 33.
In shallow water, in sea but also in brackish and hypersaline water; very common along the shores of the salinas of Bonaire, at places where seawater enters the saltpans. The shell-growth is often very irregular, probably owing to changes in the salinity, since the irregularities are usually uniform in any population (observations IK).

CERITHIIDAE

Front of aperture chanelled.

Cerithium. See Houbrick (1974) in Johnsonia 5 (50).

207 *C. guinaicum* Philippi, 1849. — Ill.: W (*auricoma*), A fig. 997.
Syn. *C. auricoma* Schwengel, 1940.
One specimen, 25 mm, washed ashore at the entrance of St. Jorisbaai (TdB).

208 *C. litteratum* (Born, 1778). — Ill.: W, A fig. 994; Pl. 33.
Common in seaweed fields and muddy sands.

209 *C. lutosum* Menke, 1828. — Ill.: W (*variabile*), A fig. 998, Cl; Pl. 15, 33.
Syn. *C. variabile* C. B. Ads, 1845.
Prefers substrate of coral-pieces with tube algae and *Thalassia*. Common.

210 *C. eburneum* Brug., 1792, forma *algicola* C. B. Ads, 1845. — Ill.: W, A fig. 996, Cl.
The specimen figured by Cl. & T. (1950, pl. 37 fig. 4) measures 20 mm. — Our specimens up to 20 mm. Common.

211 *C. atratum* (Born, 1778). — Ill.: W (*algicola*), A fig. 992; Pl. 34.
Syn. *C. floridanum* Mörch, 1876.
Our specimens, up to 38 mm, vary from strongly knobby (spinose) with only small varices on the first whorls to rather smoothish with many varices. Common.
Acc. to Houbrick (1974) *C. algicola* in Coomans (1958) and in W. & A. (1961, pl. 13 fig. p) is *C. atratum*.

212 *Bittium varium* Pfeiffer, 1840. — Ill.: W, A fig. 1037, Cl; Pl. 15.
Syn. *Cerithium gibberulum* C. B. Ads, 1845.
Regarding the nomenclature see Houbrick (1977). — Common in quiet shallow water.

213 *Finella dubia* (d'Orb., 1842). — Ill.: W (*cerithioides*); Pl. 15.
Syn. *Bittium cerithioides* Dall, 1889.
Acc. to Dall: 3 × 1¼ mm; translucent with delicate brown painting; the early p.n.w. have one or two well-marked peripheral threads, the later ones have spiral threads in front of the periphery and on the base. Fine concavely arched riblets. A patulous suggestion of a notch at the anterior margin of the aperture. — 2½ + 6½ w. Common.

214 *F. adamsi* (Dall, 1889). — Ill.: Pl. 15.
Acc. to D.: Opaque white with usually a brown tint on the early whorls; an acute nucleus; subreticulate, the spirals being stronger than the transverse waves or threads. — Our specimens measure up to 4.0 × 1.5 mm; 2½ + 6 w. Common.

215 *Litiopa melanostoma* Rang, 1829. — Ill.: W, A fig. 1047; Pl. 15.
Several specimens.

216 *Alaba incerta* (d'Orb., 1842). — Ill.: W, A fig. 1121, Cl.
Syn. *Rissoa tervaricosa* C. B. Ads, 1845, and *R. melanura* C. B. Ads, 1850.
The last 3 of the 4 to 5 nuclear whorls are ribbed. — Common.

217 *Seila adamsi* (H. C. Lea, 1845). — Ill.: W, A fig. 1126, Cl
Rather common.

Cerithiopsis. Shell small, elongate, with 2 to 3 spiral rows of beads or nodules, aperture squarish.

KEY

p.n.w. at first 2, later 3 spirals.
- n.w. 4 to 5, the later ones sculptured.
  - spirals brown *fusiforme*
  - sp.wh./br., later wh./wh./br. *pulchellum*
  - sp.wh./br., later wh./br./br. *ara*
  - sp.wh., size 16 × 3 mm *crystallinum*
  - sp.br./whitish, later br./wh./wh. *bicolor*

p.n.w. all 3 spirals.
- n.w. 4 to 5, all smooth
  - sp. brown, beaded
    - base not smooth *iota*
    - base smooth *gemmulosum*
  - sp. bright yellowish brown, feebly nodulous *flavum*
  - sp. br./wh./wh.
    - shell barrel shaped *io*
      8 p.n.w., 3.5 mm *albovittatum*
    - 6 p.n.w., 5.0 mm *warmkae* sp. n.
  - sp. br./wh./wh. on the first whorl, br./br./wh. on the last whorl, shell barrel shaped *buijsei* sp.n.
  - sp. br./wh./br. *albovittatum* forma a

- n.w. 2 to $2\frac{1}{2}$, smooth
  - sp. br./wh./wh. *latum*
  - sp. brown, 2 white n.w. *iontha*
  - sp. brown, $2\frac{1}{2}$ brown n.w. *movilla*

218 *Cerithiopsis fusiforme* (C. B. Ads, 1850). — Ill.: Cl
Syn. *C. brassica* Olsson & Harbison, 1953.
Acc. to Adams: Shell ovate-fusiform, reddish black, whitish at the apex, on most of the whorls 3 spiral ridges of which the upper two are nearer together and in the upper half of the shell are confluent. Whorls 8 or 9, slightly convex with indistinct suture; 2.5 × 1.0 mm. — Rather common.

219 *C. pulchellum* (C. B. Ads, 1850). — Ill.: Pl. 22
Syn. *C. pupa* Dall & Simpson, 1901.
Acc. to Adams: Shell conic above, subcylindric in the lower threefifth, snowwhite, with a spiral band of bright brown on the inferior spiral ridge, with 2 spiral ridges of which the upper one is larger and is double on the lower whorls; often truncate with the loss of 5 whorls; well impressed suture; 4.3 × 1.1 mm. — Collected 7 specimens, without nucleus 3.0 × 1.0 mm.

220 *C. ara* Dall & Bartsch, 1911. — Ill.: Pl. 3.
Syn. C. *contrapupa* Usticke, 1958.
Acc. to D. & B.: Shell ovoid, dark brown, except the white band which extends over the posterior row of tubercles on the last 3 whorls. (Nuclear whorls decollated). 2.3 × 1.2 mm; n + 6 w.; 2 spiral cords, of which the first is almost double the width of the other; about 20 axial ribs on the penultimate whorl. Sutures small. Bermuda. — Our specimens are decolated except two, these have 4 n.w.; the last 3 axially ribbed. On the last p.n.w. the upper spiral divides into two. Largest out of 13 specimens without n.w. 3.2 × 1.3 mm; 7 p.n.w.

221 *C. crystallinum* Dall, 1881. — Ill.: A fig. 1049.
Illustrated in Dall (1889). Acc. to Dall: 16 × 3 mm. Spiral sculpture in the earlier p.n.w. of 2 rather strong subequal revolving riblets to which about the 7th whorl another thread just before the suture is added; about the 10th whorl a fine thread appears between the original pair, which always remains smaller than the others. — One of our specimens has 5 n.w.; at a width of 3 mm the whorl has 4 beaded spirals, the lowest is the largest, the first and third are the smallest. Only a few specimens collected.
Abbott's fig. is copied from Dall, which acc. to Dall himself is very poor.

222 *C. bicolor* (C.B. Ads, 1845). — Ill.: Cl.
Acc. to Cl. & T. (1950, pl. 37 fig. 15): 11 × 3 mm, 16 whorls; up to the 11th whorl 2 spirals, on the 12th whorl a third spiral appears between them. — There are 4 n.w., the 2nd axially ribbed, the 3rd and 4th also have spirals. This makes the difference with the p.n.w. indistinct, as there is no difference in colour nor a change in the contour of the shell. One specimen from the entrance of the St. Jorisbaai, some from Aruba.

223 *C. iota* (C. B. Ads, 1845). — Ill.: Cl; Pl. 23.
Syn. *C. cynthia* Bartsch, 1911.
Acc. to the fig. in Cl. & T. (1950): size without nucleus 3.3 × 1.1 mm. Acc. to Bartsch: 3.9 ×

1.1 mm, 4 + 7½ w. — The species is variable in size; our largest specimen is 5.0 × 1.7 mm, 25 ribs on penultimate whorl; one of the smallest specimens: 2.3 × 0.7 mm, 18 ribs on the penultimate whorl. In some specimens the number of ribs on the last whorl increases to 30 whilst the beads change into narrow ridges. Rather common.

224 *C. gemmulosum* (C. B. Ads, 1850). — Ill.: Cl.
Acc. to Adams: Shell conoid, reddish black, with 3 spiral ridges of which the middle one is more elevated, about 33 small transverse ridges, the interstices nodulous, with a fourth ridge which is slightly nodulous at the periphery of the last whorl, anterior to which are only incremental striae. Last whorl abruptly terminating, concave anteriorly; labrum very thin. Spire with the outlines moderately curvilinear, whorls 12, moderately convex, with a well impressed suture. 5.3 × 2.0 mm. — The species differs mainly from *iota* by being more conic and proportionally wider, and by having a smooth base. One of our specimens: 3.0 × 1.2 mm; 4½ + 6½ w.; 26 ribs on the penultimate whorl. Rare.

225 *C. flavum* (C. B. Ads, 1850). — Ill.: Cl.
Acc. to Adams: Shell conic, turreted; bright yellowish-brown, with 3 prominent spiral carinae, and about 26 less prominent transverse slender ridges, the intersections being feebly nodulous; apex acute, spire with the outlines nearly rectilinear. Whorls a little convex, with a distinct suture; 3.8 × 1.15 mm. — The 5 whitish nuclear whorls have a needle-sharp brown tip. Rather common.

226 *C. io* Dall & Bartsch, 1911. — Ill.: Pl. 3, 22.
Acc. to D. & B.: 2.3 × 1.1 mm, n + 6 w (n.w. decollated); 3 spiral cords; white with 3 bands of dark brown, the first extends over the posterior row of tubercles, the second covers the cord at the periphery while the third extends over the anterior half of the base. Anterior half of the base marked by 10 raised spiral threads. 2 specimens Bermuda. — 7 specimens in coll. KdJ.

227 *Cerithiopsis buijsei* sp. n. — Ill.: Pl. 3.
Holotype in ZMA (no. 3.87.069), 2.2 × 1.1 mm
Type locality: the specimen was selected from a mixed lot with material from Curaçao and Aruba.
The shell has 4 nuclear and 5 postnuclear whorls. There are about 16 ribs. The upper spiral is brown except for the beadheads which are mostly of a lighter colour unto white; on later whorls the brown colour gradually extends up to and including the second spiral. In some specimens the brown colour extends over (the background of) the first 2 spirals of all whorls. Out of 20 specimens only one small specimen possessed the 4 white nuclear whorls. *C. buijsei* differs mainly from *C. io* by the brown coloured band not being restricted to the first row of tubercles.
The species is named after Jan A. Buijse, shell collector.

228 *C. albovittatum* (C. B. Ads, 1850). — Ill.: Cl; Pl. 3
Syn. *C. cruzana* Usticke, 1959.
Acc. to Adams: Light yellowish brown, with a spiral white band occupying the 2 lower spiral ridges; with 3 spiral ridges and on each whorl about 16 very small transverse ridges, the intersections forming well-developed nodules. Spire with the outlines moderately curvilinear. Whorls 9, a little convex with an indistinct suture; 2.8 × 0.9 mm. — Our largest specimen: 4.0 × 1.3 mm. Rather common.
Forma a. The white colour band occupies only the middle spiral ridge. About half as common as the nominate. We have no intergrades.

229 *Cerithiopsis warmkae* sp. n. — Ill.: Pl. 3.
Holotype in ZMA (no. 3.87.070). 4.5 × 2.0 mm. Two paratypes in coll. Fredericus.
Type locality: Aruba, harbour.
The holotype has 6 postnuclear whorls, protoconch missing. There are about 20 ribs, the postnuclear whorls have 3 spirals coloured brown/white/white. The brown upper spiral is situated a little inside the outline of the shell. The knobs are angular. For distinctive characters, see Key.
C. warmkae is named after mrs. Germaine Warmke, malacologist.

230 *C. latum* (C. B. Ads, 1850). — Ill.: W; Pl. 23.
Syn. *C. vicola* Dall & Bartsch, 1911.
Acc. to Adams: Shell conic above, cylindric below; whitish, with a spiral brown band occupying the suture and the upper spiral ridge, on which however the granules are white; with 3 spiral ridges; whorls 7 of which 2 are nuclear and smooth; very large nodules and an indistinct suture. 2.3 × 1.0 mm. Jamaica. The fig. in Cl. & T. (1950) shows a broken nucleus, which makes it unacceptable that the figured specimen ever had only 2 nuclear whorls and must be another species (= *albovittatum*). The specimen figured by W. & A. (1961) agrees with the description by Adams. Acc. to D. & B.: Shell white with 2 bands of golden brown. The first extends over the posterior row of tubercles while the second covers the peripheral cord. 2.9 × 1 mm, 2½ + 7w. The unique type comes from Bermuda. — Our specimens have the beadheads of the upper spiral brown, as described by D. & B.; max. size 3.0 × 1.2 mm, about 24 ribs, beads not very large and therefore the suture distinct as described by D. & B.. The species differs from *albovittatum* mainly by the number and colour of the nuclear whorls (2 white instead of 4 light orange brown ones.) 13 specimens collected at Aruba (Fr).

231 *C. iontha* Bartsch, 1911. — Ill.: Pl. 3, 23.
Acc. to B.: 2.1 × 0.9 mm; 2 + 5 w.; shell golden brown, except the apex, which is white; 3 spiral cords; on the penultimate whorl 24 ribs. Bermuda. — The suture is more distinct than it is in *latum*. The species is variable in size like *C. iota*. Our smallest specimens measure 1.6 × 0.7 mm, 2 + 4 w.; the largest 3.2 × 1.3 mm, 2 + 6 w. About 20 specimens collected at Aruba's west coast (Fr).

232 *C. movilla* Dall & Bartsch, 1911. — Ill.: Pl. 3, 23.
Acc. to D. & B.: 3.8 × 1.6 mm, 2 + 8 w.; brown; 3 spiral cords; 24 ribs upon the penultimate whorl, forming small tubercles and squarish pits. The peripheral cord is feebly tuberculated; 2 specimens, Bermuda. — Our specimens: 3.1 × 1.1 mm to 3.4 × 1.1 mm; the last part of the shell is cylindrical; 2½ + 7 w. As our shells are much slenderer and have 2½ instead of 2 nuclear whorls the identification is uncertain. At Aruba 40 specimens collected (Fr).

TRIPHORIDAE

Triphora. Shell sinistral, small and slender, with 2 to 3 spirals.

KEY referring to the p.n.w.

2 spirals
- spirals white/brown
  - $4\frac{1}{2}$ brown n.w. *turristhomae*
  - $2\frac{1}{2}$ yellow n.w. *casta*

first 2, later 3 spirals
- all white *melanura*
- first 3 whorls white, following brown; up to 7 mm *novem*
- all brown, sometimes first whorl white; up to 3.7 mm *exiguum*
- all brown, slenderer than *exiguum*; up to 5.7 mm *modestum*
- spirals white/brown to white/white/brown; sturdy *bermudensis*
- the same; fragile *elvirae* sp. n.
- spirals brown/white to brown/white/white (or b/b/w) *intermedia*
- spirals white/brown to white/brown/brown *ellyae* sp. n.
- lower spiral white beads, other sp. white and black beads *ornata*
- whorls spotted with a dark brown *decorata*
- whorls spotted with a lighter brown, suture narrower *samanae*

233 *Triphora turristhomae* (Holten, 1802). — Ill.: W, A fig. 1132, Cl.
Syn. *Cerithium mirabile* C. B. Ads, 1850.
Our largest specimen 9 mm. Common.
The type specimen is not present in the Zoological Museum at Copenhagen, and considered to be lost (Dr. I. Knudsen in lit.).

234 *T. casta* (Hinds, 1843).
Described from St. Vincent. The shell of *T. casta* differs from *T. turristhomae* only in having $2\frac{1}{2}$ yellow n.w. instead of $4\frac{1}{2}$ brown ones. Much less common than *turristhomae* (Faber in press).

235 *T. melanura* (C. B. Ads, 1850). — Ill.: W, A fig. 1134, Cl.
All white, except for the brown n.w. Rather common.

236 *T. novem* Usticke, 1969. — Ill.: Pl. 34.
Acc. to Usticke (1971): 3 or 4 white beaded whorls, the remaining straight sided whorls are brown beaded, the upper whorls having 2 nodulous spirals, the lower whorls 3; 4.0 × 1.7 mm. — Our specimens are from 4.4 × 1.7 mm to 7.2 × 2.4 mm; on about half of the last whorl the lower spiral is lighter coloured or white. Suture indistinct; opening of siphonal canal disjunct from the aperture.

237 *T. exiguum* (C. B. Ads, 1850).
Acc. to Adams: Shell long ovate conic, wax color, on the middle whorls 2 and on the lower whorls 3 spiral ridges, spire with the outlines most curvilinear along the middle, whorls 10, planulate, canal very short; 2.3 × 0.9 mm. Cl. & T. (1950) added: type lost. — Our specimens are variable in size from 3.7 × 1.2 mm and 3.1 × 1.3 mm to 2.2 × 1.0 mm. On the last whorl the upper spiral is completely or partly white. Suture very indistinct. Except for colour differences the shell resembles a short compact form of *T. novem*.

238 *T. modestum* (C. B. Ads, 1850). — Ill.: Cl.
Acc. to Adams: Shell reddish black, on the upper whorls 2 and on the middle and lower whorls 3 spiral ridges. Spire with the outlines quite curvilinear. Whorls about 14, planulate, canal short; 5.7 × 1.8 mm. — In our specimens the 3rd spiral is appearing on the 4th, 5th or 6th p.n.w.; opening of siphonal canal connected to the aperture. Suture well visible. Rather common.

239 *T. bermudensis* Bartsch, 1911. — Ill.: Pl. 3, 23
Syn. *T. turrissimilis* Usticke, 1969.
Acc. to B.: 4.9 × 1.5 mm, 6.1 × 2 mm; the entire base is light brown, the periferal cord being of a little lighter shade of brown than the base. On his figure the spirals are white/brown respectively white/white/brown. — In our specimens the 3rd spiral appears on the 9th p.n.w. Opening of siphonal canal disjunct from the aperture. The curvature of the outer lip forms a very small opening, which is disjunct but next to the aperture. Rather rare.

240 *Triphora elvirae* sp. n. — Ill.: Pl. 34.
Holotype in ZMA (no. 3.87.071), 6.0 × 1.6 mm.
Type locality: Curaçao.
The shell is sinistral, and has 11 postnuclear whorls. The earlier whorls have 2 spirals (white/brown) the later whorls 3 spirals (white/white/brown).
The species resembles *T. bermudensis* but differs in being slenderer and much more fragile; at 5 mm length it has one more whorl; the base is white instead of brown(ish); the opening formed by the curvature of the outer lip is connected to the aperture.
We have seen 20 specimens of which the aperture was often damaged. *T. elvirae* is named after miss Elvira Coomans, daughter of the second author.

241 *T. intermedia* (C. B. Ads, 1850). — Ill.: A (*pulchella*) fig. 1135, Cl.
Acc. to Adams: Shell dark brown with a broad white spiral band on the lower part of the whorls, white near the apex, with the upper whorls 2 and the lower whorls 3 nodulous spiral ridges; spire with the outlines rectilinear above, moderately curvilinear below; whorls about 12, planulate, canal nearly closed at the origin; 5.1 × 1.6 mm. — In our specimens the 3rd spiral appears at the 4th, 5th or 6th p.n.w., mostly it is white but in few specimens it may be brownish. Rather common.
Dall (1889), Abbott (1954), Coomans (1958), de Jong & Kristensen (1965) and Abbott (1974) mentioned this species as *T. pulchella* (C. B. Ads, 1850). However, *Cerithium pulchellum* C. B. Ads is not a *Triphora* but a species of *Cerithiopsis*.

242 *Triphora ellyae* sp.n. — Ill.: Pl. 34.
Holotype in ZMA (no. 3.87.072), 3.7 × 1.3 mm.
Type locality: the type specimen was selected from a mixed lot with shells from Curaçao and Aruba.
Shell sinistral, the earlier whorls have two spirals (white/brown), the later whorls 3 spirals (white/brown/brown). The third spiral appears on the 6th or 7th post nuclear whorl. We have studied 8 specimens, most of them 3 mm in length. For distinctive characters, see Key.
T. ellyae is named after mrs. Elly de Jong-Mitsching, wife of the first author.

243 *T. ornata* (Deshayes, 1832). — Ill.: W.
The lower spiral is (almost) completely white, the upper spiral and later also the middle spiral, have dark as well as white beads. Our largest specimen 10 × 3.5 mm. Rather common.

244 *T. decorata* (C. B. Ads, 1850). — Ill.: A fig. 1133, Cl.
Acc. to Adams: White with many large rather square irregular reddish brown spots, 25-28 transverse ridges, whorls 16, planulate, canal closed except near the extremity; 7.6 × 2.2 mm. — Between the beads fine spiral threads. Common.

245 *T. samanae* Dall, 1889. — Ill.: Pl. 34.
Acc. to D.: Size 10.0 × 2.8 mm, whorls 12-14.
Sculpture of (on the last whorl) three course close-set spirals, covering the whole whorl, each with about 30 closely packed tubercles longer axially than in the other direction; base similarly tubercularly corded with 3 cords. Samana Bay, Santo Domingo, in dredgings from about 16 fms. This recalls *T. decorata* (C. B. Ads), but in that species the sculpture is not crowded, the tubercles are strictly intersectional, and the whorls do not overhang each other. — Our specimens up to 15 × 3 mm, with 18 p.n.w.; they differ from *T. decorata* in: 1) the beads of upper and lower spiral are longer in axial direction and reach almost to the beads of the next whorl; 2) there are no fine spirals between the beads; 3) the shell is lighter in colour, the brown coloration is present mainly in axially directed spots. Rather rare, 15 specimens collected.

246 omitted.

Metaxia. Shell *Cerithiopsis*-like, with 4 spirals on the later whorls; protoconch with 2-4 convex whorls with a distinct submedian angulation on later whorls, first whorls with crisp zigzag spiral threads, subsequent whorls axially ribbed.
Type species (by subsequent designation of Cossmann, 1906) *Cerithium rugulosum* 'Sow.' (= C. B. Ads, 1850), being the species in Europe (Recent) that Sowerby regarded to be identical with the Jamaican species of Adams. On account of its radula and protoconch Marshall (1977) considered *Metaxia* a dextral triforid genus. Formerly it was regarded belonging to Cerithiidae.

247 *M. exilis* (C. B. Ads, 1850). — Ill.: A (*abruptum*) fig. 1058, Cl.
Acc. to Adams: Shell very slender, brownish, whitish on the nodules, with one slightly elevated and 3 well-elevated spiral lines, about 12 ridges, the intersections being moderately developed into nodules, spire with the outlines rectilinear, whorls quite convex. Acc. to fig. in Cl. & T. (1950): 2.9 × 0.7 mm, $4\frac{1}{2}$ + 7 w. — Our largest specimen: 4.8 × 1.1 mm, $4\frac{1}{2}$ + $9\frac{1}{2}$ w.; on the last whorl the upper spiral is still much weaker than the other ones. Rather common.

248 *M. rugulosa* (C. B. Ads, 1850). — Ill.: Cl.
Acc. to Adams: Shell white with one slightly elevated and 3 much elevated spiral lines and on each whorl about 16 to 18 transverse ridges, the intersections being well-developed into nodules. Spire with the outlines nearly rectilinear. Whorls about 10, quite convex; 4.0 × 1.4 mm. — The first n.w. is about smooth, the 2nd has one and the last 2 weak spirals crossed by very fine axial threads. The first p.n.w. has 4 spirals, the posterior one being weak. One of our specimens: 2.8 × 0.8 mm, $2\frac{1}{2}$ + $5\frac{1}{2}$ w. A specimen of *exilis* long 2.8 mm has $4\frac{1}{2}$ + $6\frac{1}{2}$ w.: Rare.
Aartsen, Menkhorst & Gittenberger (1984, fig. 135) figured a specimen from the Mediterranean, 5.1 × 1.35 mm, 3 + 9 w., as *Metaxia metaxa* (Delle Chiaje, 1828). They write: several other names have been interpreted as either synonyms or different species. We use the oldest available name. Their Mediterranean specimen is very much like our specimens of *M. rugulosa*.

249 *M. vicina* (C. B. Ads, 1850). — Ill.: Cl; Pl. 23.
? Syn. *M. bermudensis* (Verrill & Bush, 1900).
Acc. to Adams: Similar to *rugulosa* but in place of the spiral lines there are spiral ridges, and in place of the transverse ridges slender transverse lines, the proportion of size being reversed. 3.0 × 1.0 mm. Acc. to V. & B.: Shell composed of 10 whorls, besides the smooth, prominent apical whorl. Delicate costulae usually give a slightly nodulose appearance to the cingula. 4.5 × 1.3 mm; colour white or pale buff. Abbott (1974) does not mention *vicina* and mentions *bermudensis* as syn. of *rugulosa*. We are not convinced about this synonymy. — Two specimens, the largest 2.3 × 0.7 mm, 2½ + 5½ w., the first n.w. with wavy spirals; colour pale brown. Collected in Aruba (Fr).
M. vicina differs from *rugulosa* by having the spirals well-developed and only feebly nodulous, giving the shell a clean smoothy look.

JANTHINIDAE

Pelagic, shell fragile.

Janthina. Shell violet, trochoid shaped.

250 *J. janthina* (L., 1758). — Ill.: W, A fig. 1178; Pl. 34.
Whorls slightly angular, about 2.3 cm wide. Sometimes washed ashore in large numbers, often with eggs.

251 *J. globosa* Swainson, 1822. — Ill.: W, A fig. 1179; Pl. 34.
Whorls rounded, base of aperture projected down. Rather rare

252 *J. pallida* Thompson, 1840. — Ill.: A fig. 1180.
Base of aperture rounded. Rather rare.

253 *J. umbilicata* d'Orb., 1840. — Ill.: A (*exigua*) fig. 1181.
Acc. to d'Orbigny's Atlas fig. 22-23: about 5 × 4.8 mm. Acc. to Laursen (1953): The height of the biggest specimen measured is 9 mm. The shell is very thin and transparent. The spire is not quite as tall as that of *J. exigua*. The surface of the shell is faintly striated. The colour is deep violet, but a narrow strip of white is often seen along the suture. The biggest shells of *J. exigua* treated here show a height of 15 mm, the surface is regularly furrowed by comparatively deep furrows. — Rather common.
Fig. 1181 in Abbott (1974) for *J. exigua* most probably represents *J. umbilicata*.

Recluzia. Shell white to brown, globose.

254 *R. rollandiana* Petit, 1853. — Ill.: A fig. 1182.
Acc. to P.: 25 × 18 mm. — Only 3 specimens collected; largest 8 × 5 mm, n. + 4 w., strongly convex; n.w. black, p.n.w. brown.

EPITONIIDAE

This family was treated by Cl. & T. (1950-1952) in Johnsonia 2 (29-31).

Cirsotrema. Shell elongate, without umbilicus; a spiral cord at the base; strongly pitted appearance.

255 *C. dalli* Rehder, 1945. — Ill.: A fig. 1188.
The animal is black. At the southcoast, 35 m deep, 4 specimens; near Vaersen Baai a shell of 27 mm length with hermit-crab.

256 *C. pilsbryi* (McGinty, 1940). — Ill.: Pl. 23.
One specimen, 29 mm, from harbour dredging material, Aruba (dM).

Opalia. Shell solid, without umbilicus; spiral sculpture usually marked with pittings; suture often crenulated.

257 *O. hotessieriana* (d'Orb, 1842). — Ill.: A fig. 1196
Rather rare.

258 *O. crenata* (L., 1758). — Ill.: W, A fig. 1197.
Rather rare.

259 *O. pumilio* (Mörch, 1874). — Ill.: A fig. 1199; Pl. 16.
Rather rare.

260 *O. p.* forma *morchiana* (Dall, 1889). Ill.: A fig. 1200.
Has extremely angular whorls. Some specimens in Aruba (Fr).

Epitonium. Shell with bladelike costae.

Without spirals:

261 *E. echinaticostum* (d'Orb, 1842). — Ill.: W, A fig. 1238.
Like many of the following species collected from sand-dredgings at the mouth of the St Joris Baai. Rather common.

262 *E. krebsii* (Mörch, 1874). — Ill.: A fig. 1225; Pl. 34.
Rare.

263 *E. occidentale* (Nyst, 1871). — Ill.: W, A fig. 1226.
Rather common.

264 *E. albidum* (d'Orb, 1842). — Ill.: W, A fig. 1227.
Rather common.

265 *E. foliaceicostum* (d'Orb, 1842). — Ill.: W, A fig. 1231.
Rather common.

266 *E. unifasciatum* (Sow, 1844). — Ill.: W, A fig. 1232.
Rather rare.

267 *E. lamellosum* (Lam, 1822). — Ill.: W, A fig. 1239; Pl. 34.
The living animal, when taken out of the water, secretes a purple dye, like *Purpura patula*.
Rather common.

268 *E. nautlae* (Mörch, 1874). — Ill.: W, A fig. 1271.
One shell from the mouth of St. Joris Baai; more specimens from dredging material of harbour Aruba.

269 *E. nitidella* (Dall, 1889). — Ill.: A fig. 1270.
Some specimens from the mouth of St. Joris Baai

With spirals:

270 *E. turritellulum* (Mörch, 1874). — Ill.: W.
Rather common.

271 *E. frielei* (Dall, 1889). — Ill.: W, A fig. 1260.
Rather rare.

272 *E. novangliae* (Couthouy, 1838). — Ill.: W, A fig. 1244.
Rather common.

273 *E. candeanum* (d'Orb, 1842). — Ill.: W, A fig. 1245.
The species practically lacks the secondary axial sculpture which occurs in *E. novangliae*.
Rather rare.

274 *E. denticulatum* (Sow, 1844). — Ill.: W, A fig. 1262.
Rather common.

275 *E. principale* Röding, 1798. — Ill.: Pl. 34.
Röding refers to Martini (1780, vol. 4, pl. 152 fig. 1428-1429); the figured specimen measures 44 mm; no loc. Mörch mentioned 1 specimen from Tortola: 36 × 16 mm. — The species is less slender than *E. albidum*. There is a spiral sculpture on the first 3 p.n.w., missing on later whorls. Our largest specimen measures 35 × 15 mm. Up to a shell-length of about 20 mm the number of costae per whorl is constant, 11 to 13, later whorls have one rib more. Rather common in Curaçao and Aruba.
In Cl. & T. (1951) *E. principale* is mentioned as syn. of *E. scalare*, which inhabits the Western Pacific.

276 *Epitonium* spec. — Ill.: Pl. 34.
Animal yellowish white. Shell 15 × 7.5 mm, 1 + 7 w., umbilicated, the whorls are somewhat separated, at the last whorl 45 thin, somewhat backward bent costae. Under strong magnification spirals are clearly visible on the middle whorls, practically missing on later whorls. Operculum paucispiral with a somewhat excentrical nucleus. From the known Epitoniidae the shell resembles *E. frielei* most, but the costae are higher, and (hence) the whorls are separated, the spirals are much lower or missing. One specimen at 2 m on sand under dead coral in the Spaanse Water, west side of Barbara Beach (Buijse, now at ZMA).

277 *E. apiculatum* (Dall, 1889). — Ill.: A fig. 1241; Pl. 15.
Acc. to Dall: 5.0 × 2.5 mm, 3 + 5 w.; the first 3 p.n.w. have 15-20 low even varices, then 2 whorls with about 10 strong high, hardly reflected varices; interspaces on the early 3 whorls strongly, afterwards less strongly spirally grooved, the interspaces on the last 2 whorls

quite smooth; shell imperforate. Sand, 17-50 fathoms, 18 miles southeast of Cape Hatteras. — One specimen collected at Vaersenbaai (Arn), 2.3 × 1.0 mm, 3 + 3½ w.; about 23 rounded costae, spiral sculpture well visible on all 3 p.n.w.
At ZMA one more specimen, about the same size, from Barbados. The identification of our specimens remains questionable.

MELANELLIDAE

Melanella. Shell white, glossy, not umbilicated, whorls numerous.

KEY (dimensions in mm)

Body whorl to a high degree rounded
- Shell wide 3.5 × 1.5 *compsa*
- Shell slender
  - apex acute 7.0 × 1.7 *hypsela*
  - apex blunt 5.5 × 1.6 *amblytera*
  - apex rather blunt 5.5 × 1.6 *amblytera* var.

Body whorl less so unto contour somewhat angular
- Outlines rectilinear
  - apex acute
    - aperture subrhombic 6.0 × 2.0 *engonia*
    - aperture ovate 3.3 × 1.1 *atypha*
    - aperture ovate, lip flaring 8.3 × 2.5 *jamaicensis*
  - apex rather acute 2.1 × 0.7 spec. 1
  - apex blunt
    - aperture subrhombic 3.0 × 1.1 spec. 2
    - aperture ovate 1.0 × 0.5 spec. 3
- Outlines curvilinear
  - whorls flat
    - axis strongly bent 4.2 × 1.0 *bermudezi*
    - axis less bent 2.6 × 1.1 *conica*
    - lip not flaring 8.3 × 2.3 spec. 4
  - whorls somewhat convex
    - aperture not small 7.4 × 2.7 spec. 5
    - lip flaring, last whorl tumid 4.0 × 1.3 spec. 6
    - last wh. extremely large, our specimens up to 2.6 × 1.2, size acc. to Adams 4.2 × 1.4 *arcuata*
    - aperture very small 5.6 × 2.4 *eulimoides*

278 *M. compsa* (Verrill & Bush, 1900). — Ill.: Pl. 4, 23.
Acc. to V.& B.: 3.5 × 1.5 mm, whorls 9, flattened, aperture regularly ovate, flaring in front. — Our first specimens we detected among *Zebina browniana*. 5 specimens collected.

279 *M. hypsela* (Verrill & Bush, 1900). — Ill.: A fig. 1359; Pl. 23.
Acc. to V. & B.: whorls very flat; body whorl evenly rounded; aperture long-ovate, somewhat flaring anteriorly. Acc. to fig. (8 not 9) l : w = 4 : 1. — Our largest specimens: 7.0 × 1.75 mm, 14 whorls. Rather common on holothurians.

Eulima gracilis C. B. Ads, 1850, 6.1 × 1.5 mm, type lost, possibly is this species, although the whorls were described as "slightly convex" instead of "very flat".

280 *M. amblytera* (Verrill & Bush, 1900). — Ill.: Pl. 23, 35.
Acc. to V. & B.: 5.5 × 1.6 mm, whorls 10, outlines of the spire nearly straight. The apical tip is more obtuse than in most of the Bermudian species (fig. 9, not 8). — In about 1/3 of our specimens (*amblytera* var.) the apical whorl is less wide than in the other 2/3 and therefore is less blunt, being as blunt as in *M.* spec. 6. Rather common.

281 *M. engonia* (Verrill & Bush, 1900). Ill.: W (*conoidea*), A (*conoidea*) fig. 1337; Pl. 23.
Acc. to. V. & B.: 4.5 × 1.5 mm; whorls 13, apex very acute, whorls completely flattened. Body whorl distinctly but obtusely angulated at the periphery, relatively short and broad. Aperture broad ovate or subrhombic. — In some specimens the apex is slightly bent. Our largest specimen: 6.0 × 2.0 mm.
M. conoidea was described by Kurz & Stimpson (1851): 9 x 2.5 mm, whorls 13, flat, last whorl subangulate, aperture rhombic. N. Carolina to Florida. *M. engonia* has 13 whorls in half the length.

282 *M. atypha* (Verrill & Bush, 1900). — Ill.: Pl. 23.
Acc. to V. & B.: 2.2 × 0.8 mm, 8 whorls, flattened or a little convex. Body whorl long. Aperture regularly ovate. 2 specimens Bermuda. Acc. to fig. body whorl subangular, apex sharp, spire straight, ratio l : w = 3 : 1. — Our specimens up to 3.3 × 1.1 mm. 9 whorls, lip somewhat flaring in front. Several specimens collected.

283 *M. jamaicensis* (C. B. Ads, 1845). — Ill.: A. (*intermedia*) fig. 1336.
Acc. to Adams: 8.3 × 2.54 mm, whorls 13, flat; aperture small, lip expanded. Jamaica. The specimen figured in Cl. & T. (1950, pl. 36, fig. 5), representing lectotype MCZ, is different and represents *M.* spec. 5, it has a ratio l : w = 60 : 17 = 8.3 : 2.35, its lip is not flaring in front.
M. jamaicensis is described and pictured by Abbott (1974, nr. 1336) under the name "*M. intermedia* Cantraine, 1835"; the ratio l : w in the figured specimen is 53 : 16 = 8.3 : 2.5; the lip is flaring in front. See also Andrews (1977, fig. on p. 117). — Our specimens up to 7.5 × 2.4 mm, outlines straight. 10 specimens collected from material dredged from harbour, Aruba (Fr).

M. intermedia is much slenderer than *jamaicensis*. Acc. to Cantraine: Shell straight, 11 × 2.7 mm (l: w = 8.3 : 2.0), Mediterranean. Acc. to Dall (1890): Abroad from Britain to the Mediterranean, in America from New England to Barbados.

284 *Melanella* spec. 1. — Ill.: Pl. 4.
Figured specimen 2.2 × 0.8 mm, 7 w.; whorls slightly convex to almost flat. Aperture oval, apex rather acute. Differs from *atypha* by having the lip not flaring and by having the top whorls far less slender, about alike slender as those of *amblytera* var, but the top is more pointed. 3 specimens collected, all about the same size, in Aruba (Fr).

285 *Melanella* spec. 2. — Ill.: Pl. 4.
Figured specimen 2.2 × 0.9 mm; size up to 3.0 × 1.1 mm, 8 whorls, nearly flat; aperture sub-rhombic, proportionally longer than in *engonia*; apex as blunt as in *amblytera*. About 10 specimens collected in Curaçao and Aruba.

286 *Melanella* spec. 3. — Ill.: Pl. 4.
Figured specimen 1.2 × 0.55 mm, 5½ w.; aperture ovate-rounded, apex as blunt as in *amblytera*. Common on the north coast of Curaçao; in Aruba 20 specimens collected.

287 *M. bermudezi* Pilsbry & Aguayo, 1933. — Ill.: Pl. 4.
Acc. to P. & Ag.: Shell transparent, wholly arcuated, the apical third much more so. Whorls 12 very slightly convex. Growth rest grooves arcuate, in a vertical series on the concave side of the shell; 4.3 × 0.9 mm, aperture 1 mm long. — Our largest specimen 4.3 × 1.0 mm. Common.
The species is very much like *Eulima curva elongata* Bucquoy, Dautzenberg & Dollfus, 1883, from the Mediterranean; see Tryon 8 (1886).

288 *M. conica* (C. B. Ads, 1850). — Ill.: Pl. 23.
Acc. to Adams: Shell conic turrited, spire with the axis moderately curved throughout, whorls about 11, planulate with an indistinct suture, last whorl subangular, quite oblique anteriorly; aperture small, ovate; 2.6 × 1.1 mm. The specimen asigned as lectotype by Cl. & T. (1950, pl. 36, fig. 7) represents a species of the genus *Zebina*. Lyons (1977) proposed a new lectotype as figured on his pl. 16, fig. 3. — Our specimens up to 2.9 × 1.2 mm. Rather rare.

289 *Melanella* spec. 4. — Ill.: W as *Balcis intermedia*, Cl as *Eulima jamaicensis*; Pl. 35.
Abbott (1974, nr. 1335) described but not figured this species as *M. jamaicensis*: 6 to 9 mm, slender, nearly straight except for the apex which is slightly bent, the last whorl sometimes faintly subangulate. — Our specimens up to 10.5 × 2.75 mm and 9.8 × 2.8 mm; outlines not straight. Rather rare. See also under *M. jamaicensis*.

290 *Melanella* spec. 5. — Ill.: Pl. 35.
Figured specimen 290A: 7.7 × 2.5 mm. The whorls are rather convex for the genus; apex rather blunt, often slightly bent; axis more or less curved. Above the aperture there is a series of varices. Rather rare. In the photographs the curvature of the last whorl looks different, brought about by the position of the shells.

291 *Melanella* spec. 6. — Ill.: Pl. 4.
Figured specimen: 3.7 × 1.3 mm, 10 w; Curaçao. Whorls a little convex, body whorl somewhat tumid, lip a little flaring in front; apex less acute than in *atypha*. On the sea urchin *Lytechimus esculentus* 6 living specimens (Stock); 4 specimens in grit.

292 *M. arcuata* (C. B. Ads, 1850). — Ill.: A fig. 1341; Pl. 4.
Acc. to Adams: 4.2 × 1.4 mm, spire with the axis curved to an extraordinary degree in the upper whorls, whorls quite convex, last whorl long and fusoid. Cl. & T. (1950) added: "type lost" and: Krebs 1866, p. 395: "We believe this is to be nothing more than a monstrosity". — Size of our largest specimen 2.6 × 1.2 mm (figured), 7 whorls, last whorl 1.7 mm. At 30 m from grit 2 specimens; in Aruba 2 from dredging material harbour.

293 *M. eulimoides* (C. B. Ads, 1850). — Ill.: A (*gibba*) fig. 1344, Cl; Pl. 23.
By Adams placed in *Rissoa*; the holotype, 5.1 × 2.3 mm, has a worn apex. Lyons (1977, pl. 16 fig. 6-9) redescribed the species as a Melanellid. — The top of the shell, comprising about the first 4 whorls is slenderer than the rest of the shell and is in most of our specimens broken. The ratio l:w varies from 5.6 × 2.8 mm (l:w = 10:5) to 6 × 2.2 mm (l:w = 10:3).

In several specimens the varices are not lying in a line and the top may turn to the left as well as to the right. Our largest specimen measures 10 mm. Rather rare.
M. gibba is a species from the Eastern Pacific.

Strombiformis. The shell has a slight umbilical depression, it is usually coloured.

294 *S. auricinctus* Abbott, 1958. – Ill.: W, A fig. 1387
The spire is narrowed at the apex. Common.

295 *S. bifasciatus* (d'Orb., 1842). — Ill.: W.
In our region the most slender shell in this family. Size up to 7.0 × 1.2 mm. Rather rare.

296 *S. fulvocinctus* (C. B. Ads, 1850). — Ill.: Pl. 4, 23.
Acc. to Adams: 5.1 × 1.6 mm, shell with a spiral band of bright brown below the middle of the whorls and another along the suture, both of which bands are much and irregularly interrupted, with a few irregular stripes of the same; apex rather obtuse. Cl. & T. (1950) added: Type lost. Lyons (1977, pl. 16 fig. 4) figured a lectotype, length 4.9 mm. — At Slangenbaai at a depth of 8 m several specimens collected from grit.
The specimen figured by Lyons (1977, pl. 16, fig. 5) represents *Strombiformis auricinctus*.

297 *Oceanida graduata* de Folin, 1871. — Ill.: A (*burryi*) fig. 1433; Pl. 16.
Syn. *Spiroclimax scalaris* Mörch, 1875 and *Athleenia burryi* Bartsch, 1946. De Folin placed *Oceanida* in the Pyramidellidae.
Acc. to M.: Shell translucent whitish, 2 3/4 × 1 mm; 8-9 whorls, angulated at the summit; St. Thomas. Placed in Pyramidellidae. Acc. to B.: 2.1 × 0.8 mm, 4½ + 3½ w.; placed in Stiliferidae. Lyons (1978) considered *Oceanida* as belonging to the Melanellidae. At ZMA specimens of *O. graduata* are present, collected at Puerto Rico at a depth of 15 m (RM); they agree with the type specimens in MNHN Paris. Not known from the ABC islands.

298 *Oceanida faberi* sp. n. — Ill.: Pl. 16.
Holotype in ZMA (no. 3.87.073), 2.0 × 0.7 mm. Paratype in ZMA (no. 3.87.074), 1.5 × 0.6 mm.
Type locality: Aruba. — The paratype is from Curaçao, Noordpunt.
The shell has 1½ nuclear and 4½ postnuclear whorls, smooth, with a well-defined shoulder below the suture. Translucent whitish.
Similar to *O. graduata* but having only 1½ instead of 3½ nuclear whorls.
The species is named after Marien Faber, who has made the SEM photographs for this publication.

STILIFERIDAE

Later whorls much more bulbous than the earlier ones.

299 *Stilifer subulatus* Broderip & Sowerby, 1832. — Ill.: W, A fig. 1425.
Syn. *Melanella bibsae* Usticke, 1959.
Apex as blunt as in *Melanella amblytera*. Juvenile animals up to 9 whorls, after which the shell widens strongly, can be differentiated from *Melanella bermudezi* by the blunter apex and a wider aperture. In a piece of coral we found several specimens of different size as well different form, from 12 × 5.5 mm to 11 × 3.3 mm. Rather common.

300 *Mucronalia nidorum* Pilsbry, 1956. — Ill.: A fig. 1429.
Acc. to P.: 3.7 × 1.7 mm, 9½ w.; the upper part (about ¼ of the length) is somewhat attenuate and slightly curved. The figure indicates that the whorls are rather convex. The generic reference is not certain. It lives in spines of the sea urchin *Eucidaris tribuloides* (Lam.). — Our largest specimen: 4.1 × 1.9 mm, 9 w.; the apex is much sharper than in *S. subulatus* and a little less than in *Melanella bermudezi*. After about 4 whorls the shell widens more regularly than occurs in *subulatus*, however, one of our specimens makes an exception, its size: 3.8 × 2.5 mm, 7 w. The larger specimens move to the under side of the sea urchin (observation CdJ). Rather common.

301 Omitted.

ACLIDIDAE

Shell very small, colourless, turriculate; lip sharp; aperture rhombic-ovate.

Bermudaclis. Axial and spiral sculpture; whorls shouldered.

302 *B. bermudensis* (Dall & Bartsch, 1911). — Ill.: A fig. 1468; Pl. 16.
Acc. to D. & B. (1947): Type 2.1 × 0.6 mm, 1 + 7 w., p.n.w. strongly shouldered on the early turns at the posterior 2/5 of the space between the sutures. Between the anterior suture and the shoulder marked by 6 threads, the space between the summit and the shoulder is smooth. Entire surface marked by exceedingly fine incremental lines. Bermuda. — In our specimens the number of threads varies from 6 to 10. Above the angle also often fine spirals visible. One specimen 2.0 × 0.6 mm, 1 + 7 w., in Fuik Baai; in Aruba 11 specimens from harbour and Boca Grandi. Largest specimen 3.8 mm.
Acc. to the description *Marchisonia spectrum* Mörch, 1875 may be this species. However, without a type-fig., and no type-specimen available (Dr. Knudsen, ZMUC, in lit.), the synonymy cannot be established.

303 *Bermudaclis gittenbergeri* sp. n. — Ill.: Pl. 4.
Holotype in ZMA (no. 3.87.075), 1.8 × 0.6 mm. Six paratypes in coll. Fr. Verberne.
Type locality: Aruba, West coast.
Shell very small, and turriculate, one nuclear and 4 postnuclear whorls. The whorls are strongly shouldered or even tabulated, with 16 low ribs and very fine spiral striae. Aperture rhombic-ovate.
Distinguished from *B. bermudensis*, which species has a well-marked shoulderline below the suture.
Named after Prof. Dr. E. Gittenberger, curator of malacology at the Rijksmuseum van Natuurlijke Historie at Leiden.

Graphis. Axial and spiral sculpture, whorls rounded.

304 *G. underwoodae* Bartsch, 1947. — Ill.: Pl. 23.
Acc. to B.: Type 2.9 × 0.8 mm, 10 whorls, 30 ribs on the last turn; 9 spiral threads of about half the thickness of the axial ribs, confined to the anterior 2/3 of the turns. Nucleus a little more than a single well-rounded smooth turn. Ribs sinuous, almost vertical. Whorls strongly rounded; base not umbilicated; aperture oval. The much stronger axial and spiral

sculpture will readily distinguish this species from the European *Graphis unica* (Montagu). — 10 specimens from Curaçao and Aruba, 2.6 × 0.6 mm to 3.0 × 0.9 mm, indicating a great variety in the ratio length/width; 1 1/2 + 8 w.
Bartsch figured both *underwoodae* and *unica*, (see Figs. 304 B and C), but these figures show hardly any difference. Acc. to Aartsen et al. (1984, fig. 143) *Graphis unicus* (Montagu, 1803) is a syn. of *G. albida* (Kanmacher, 1798).

305 *Graphis menkhorsti* sp. n. — Ill.: Pl. 4.
Holotype in ZMA (no. 3.87.076), 1.7 × 0.45 mm, fig. 305A.
Paratype in ZMA (no. 3.87.077), 1.5 × 0.55 mm, fig. 305B.
Type locality: Curaçao, Slangenbaai.
Shell very small, with 2½ nuclear and 6 postnuclear whorls. The whorls are strongly rounded, about 22 ribs on the penultimate whorl, many fine spirals in between. The species shows a great variety in the ratio length/width.
G. menkhorsti is distinct from *G. underwoodae*, the latter is larger (3 mm), has more whorls (10), with more ribs (30) on the body whorl.
The species is named after the malacologist Ir. H. P. M. G. Menkhorst.

Henrya. No spiral sculpture; axial growthlines; shell elongate pupoid.

306 *H. morrisoni* Bartsch, 1947. — Ill.: Pl. 4.
Acc. to B.: Type 1.4 × 0.35 mm, 5.4 w.; the nucleus consists of a single, strongly rounded hyaline turn; the p.n.w. are marked by rather conspicuous, retractively slanting lines of growth; no umbilical chink. — 20 specimens from harbour, Aruba (Fr.).

ATLANTIDAE

Pelagic; shell discoidal, small and fragile.

307 *Antlanta peroni* Lesueur, 1817. — Ill.: W, A fig. 1472.
Acc. to Van der Spoel (1976): Max. shell diameter 11 mm, up to 5 whorls, a high keel surrounds entire shell circumference and penetrates between the younger whorls in adults. In some specimens the base of the keel is brownish. Spire flat with sharp apex. — Dead specimens are common in grit.

308 *A. gaudichaudi* Souleyet, 1852. — Ill.: Pl. 4, 24.
Acc. to Van der Spoel (1976): Max. shell diameter 5 mm, with low blunt spire, colourless or purplishviolet, showing up to 4 whorls. The basis of the high keel is brownish. The fig. shows that the keel only starts when the shell has a diameter of about 2 mm. The apical angle of the spire is smaller than 100°. — Our largest specimen is 1.8 mm and does not show a keel, the first 3 whorls are brown. Dead specimens are rather common in grit at 30 m depth.

309 *A. inclinata* Souleyet, 1852. — Ill.: Pl. 24.
Acc. to Van der Spoel (1976): Size up to 5 mm. The transparent shell with faint purple or pale brown colour shows up to 6 1/2 whorls. The axis of the spire is strongly inclined. The keel penetrates in between bodywhorl and penultimate whorl. The distribution map of this species shows that Aruba is just within its western border. — Only one specimen collected, 2.2 mm, at high water line near Cornelis Baai (TdB).

310 *Protatlanta souleyeti* (Smith, 1888). — Ill.: Pl. 24.
Acc. to Van der Spoel (1976): The adult shell shows up to $3\frac{1}{2}$ whorls and has a diameter (keel excluded) of 1 to 1.5 mm; it shows some faint spiral striae, the keel extends over half the circumference of the shell. The suture is brownish, and the inner whorls show a much diluted buff colour. — The distribution map for this species shows that Curaçao and Aruba are well within its range; nevertheless we did not (yet) collect it, possibly on account of its small size.

HIPPONICIDAE

Hipponix. Shell cap-shaped, solid.

311 *H. antiquatus* (L., 1767). — Ill.: W, A fig. 1489; Pl. 35.
Under and against rocks, but not in sand. Common

312 *H. subrufus subrufus* (Lam., 1819). — Ill.: W; Pl. 35.
Common.

FOSSARIDAE

Fossarus. Shell umbilicate, subglobose, spirally corded; last whorl large.

313 *F. orbignyi* Fischer, 1864. — Ill.: W, A fig. 1497; Pl. 16
Rather common.

VANIKOROIDAE

Sculptured spirally and axially.

314 *Vanikoro sulcatus* (d'Orb., 1842). — Ill.: W, A (*oxygone*) fig. 1507.
Acc. to d'Orbigny: 8 × 9 mm. — On the first p.n.w. radial ridges form spines where they cross the spiral lines; on later whorls these spines become knobs. In adults the sculpture on the last whorl is so strongly reduced that one could easily mistake juveniles, adolescents and adults for three different species. Rather common.
Abbott (1974, fig. 1507) described and figured the species erroneously as *V. oxygone* Mörch, 1877. See our nr. 155.

CAPULIDAE

Shell cap-shaped, thin; apex coiled; aperture large.

315 *Capulus intortus* (Lam., 1822). — Ill.: W, A (*incurvatus*) fig. 1511; Pl. 35.
Several near Boca Grandi, Aruba.

CREPIDULIDAE (syn. Calyptraeidae)

Shell cap shaped, with an internal structure.

316 *Calyptraea centralis* (Conrad, 1841). — Ill.: W, A fig. 1534.
Some shells from material dredged from Schottegat near Salinja (TdB)

317 *Cheilea equestris* (L., 1758). — Ill.: W, A fig. 1540.
In sand against the underside of rocks. Common

318 *Crucibulum auricula* (Gm., 1791). — Ill.: W, A fig. 1541
Rather rare.

319 *Crepidula aculeata* (Gm., 1791). — Ill.: W, A fig. 1563.
Especially on *Isognomon* and mangrove roots. Common.

320 *C. convexa* Say, 1822. — Ill.: W, A fig. 1559.
Common in the Rifwater, on rocks and old iron. Most of them brown, some whitish with brown spots, all with a whitish bridgedeck and a somewhat bent to the left apex. Largest specimen 15 mm. From the mouth of the St. Joris Baai many specimens, all smaller than 10 mm and of equal shape. In Aruba some 5 strongly convex small specimens, like the figure (lateral view) of this species in Tryon, 8 (1886), who attributed the strong bending to the modus of living on crabs or gastropods.
The form *glauca* Say, 1822, is rather flat with a sharp pointed apex, lightly coloured with radiating rows of brown spots. Some specimens in dead *Strombus gigas* and on *Pinna carnea.*

321 *C. plana* Say, 1822. — Ill.: W, A fig. 1570.
Almost flat up to rather strong concave; white. A few specimens.
The form *riisei* Dunker, 1877, is white with brown radiating lines. Only 2 specimens collected (Buijse and Fr).

XENOPHORIDAE

The shell is cemented with small shells, coral or stones.

322 *Xenophora conchyliophora* (Born, 1780). — Ill.: W, A fig. 1572; Pl. 35.
Difficult to find because of mimicry. On sand substrate at the south coast 6 animals. In Aruba after a storm living and dead specimens washed ashore south of Malmok.

STROMBIDAE

Shell large with a flaring outer lip, which has a stromboid notch at the base.

323 *Strombus gigas* L., 1758. — Ill.: W, A fig. 1583.
Local name "Carcó". Although they show the ordinary way of creeping, they move over larger distances by pressing their foot with operculum against the substrate and hence push

away, so that they advance by jumping. Often a red fish (*Apogonichtys stellatus*) is found in the mantle cavity, seeking a hiding place. Locally common.

324 *S. pugilis* L. 1758. — Ill.: W, A fig. 1579.
Near Playa Chikitu at a depth of about 10 m, by the hundreds in Oct. 1973 (CdJ); in Bonaire in deepest part of Lac. Common.

325 *S. raninus* Gm., 1791. — Ill.: W, A fig. 1585.
Locally common on overgrown substrata; at Vaersenbaai at a depth of a few meters.

326 *S. raninus* forma *nanus* Bales, 1942.
Acc. to B.: Description as of *S. raninus* Gm. with the following differences: 1. It is definitely smaller; 2. Tip of lip never extends above apex of shell; 3. Average coloration darker; 4. Texture much finer and often very glossy. Bales found for females 60 mm and for males 50 mm average length of the shell from base to apex. For the normal *raninus* without regard to sex he found an average length of 79 mm. — Concurs with *raninus* s.s.

327 *S. costatus* Gm., 1791. — Ill.: W, A fig. 1584.
Especially on rather soft substrata. Common at Lac, Bonaire, but noticeably smaller than those of Curaçao.

328 *S. gallus* L., 1758. — Ill.: W, A fig. 1586.
Rather common at depths from 1 to 6 m.

VELUTINIDAE (syn. Lamellariidae)

Shell thin with a very large body-whorl.

329 *Lamellaria perspicua mopsicolor* Marcus, 1958. — Ill.: A fig. 1590.
The mantle is yellow and encompasses the shell; the foot is somewhat pink. One animal underneath a rock was 15 × 6 mm, shell 8 × 5 mm, height 3 mm. Our largest shell 13 × 9 mm. Rather rare.

TRIVIIDAE

Erato. Shell small, glossy, resembling *Marginella*, having small teeth on the outer lip and in most species also on the inner lip. Each row of the radula exists of one central tooth and 2 × 3 lateral teeth, whereas the *Marginellidae* in each row only have one large rachidean plate.

330 *E. maugeriae* Sow., 1832. — Ill.: W, A fig. 1618.
At Aruba 2 specimens collected near Alto Vista. Rare.

Trivia. Strong riblets running around the small shell.

Cate (1979) distinguished 12 genera. Like Abbott (1974) we do not follow the use of numerous genera.

331 *T. pediculus* (L., 1758). — Ill.: W, A fig. 1623; Pl. 35.
Nearly adult specimens, having already the six colour spots, do not yet have dorsal sculpture nor a dorsal groove. Rather common under rocks at ½ to 3 m.

332 *T. suffusa* (Gray, 1827). — Ill.: W, A fig. 1625; Pl. 35.
Rather common under rocks.

333 *T. quadripunctata* (Gray, 1827). — Ill.: W, A fig. 1627.
Also under rocks at ½ to 3 m; in Curaçao rather rare, but common in Aruba

334 *T. antillarum* Schilder, 1922. — Ill.: W, A fig. 1635; Pl. 35.
Seems to live in deeper water; at Vaersen Baai collected at 40 m. Dead specimens were found washed ashore near Westpunt, and in Aruba near Malmok and on the north coast.

In 1922 Schilder renamed *Cypraea pulla* Gaskoin, 1846 (non *C. pulla* Gm., 1791) in *Trivia occidentalis* and in the same publication he renamed *Cypraea subrostrata* Gray, 1827 (non *C. subrostrata* Gray, 1824) in *Trivia antillarum*. In 1932 Schilder concluded that *T. occidentalis* must be regarded a syn. of *T. antillarum*. In a catalogue, published by Schilder & Schilder in 1971, just the other way round *T. antillarum* is mentioned a syn. of *T. occidentalis*.

335 *T. nix* Schilder, 1922. — Ill.: W, A fig. 1628; Pl. 36.
Rather rare, under rocks in shallow water.

336 *T. maltbiana* Schwengel & McGinty, 1942. — Ill.: A fig. 1626.
Acc. to S. & McG.: 13 × 10 mm, height 8 mm; about 30 ribs on outer lip, of which 9 do not extend to the dorsal sulcus; ribs weakly continuous across shallow dorsal sulcus, interstices faintly granular; vinaceous pink. — This species is flatter than *T. pediculus* of the same size, the nuclear whorls are visible. One specimen was collected in the boca of Sta. Martha Baai underneath a rock at a depth of 2 m; in Aruba 5 specimens were found.

337 *T. leucosphaera* (Schilder, 1931). — Ill.: W.
Size 5-6 mm, white, about 24 ribs on the outer lip, all of them passing inside; a dorsal groove is present. Rare.
Abbott (1974) considers it a form of *T. candidula*.

338 *T. candidula* (Gaskoin, 1835).
Acc. to G.: *Cypraea candidula*, white, teeth on the lip about 22, no impressed dorsal line, length 7.9 mm; Mexico. — We have studied a specimen from Barbados, 7.0 × 5.2 × 4.0 mm; 23 ribs on the outside of the outer lip, of which on each end 2 ribs do not reach the inside of the lip, leaving 19 ribs on the inside of the outer lip. Not known from the ABC islands.

CYPRAEIDAE

The mantle envelops the shell, which is smooth and bulbous-ovate.

339 *Cypraea cinerea* Gm., 1791. — Ill.: W, A fig. 1641; Pl. 16, 36.
The nuclear shell measures 1.3 × 1.0 mm, it has 5 dark-brown whorls with a weblike

sculpture; the outer lip has 2 large curves and a small one; up to a shell size of 7 mm the nucleus is still recognizable and its sculpture is not yet covered by a shiny layer. The first p.n.w. are spirally striated; a juv. specimen of 15 mm has the spiral striation only visible at the oldest part of the body whorl. — Common in shallow water. The nuclear shell is sometimes found in great numbers between grit.
d'Orbigny (1842, pl. 23 fig. 7-9) figured the nuclear shell of *Cypraea cinerea* under the name *Sinusigera cancellata.*

340 *C. zebra* L., 1758. — Ill.: W, A fig. 1638.
Rather common in dredging material but seldom found alive.

341 *C. spurca acicularis* Gm., 1791. — Ill.: W, A fig. 1643.
Young animals have a transverse band around the shell. Rather common.
C. spurca L., 1758, is from the Meditteranean.

342 *C. surinamensis* Perry, 1811. — Ill.: A fig. 1645; Pl. 36.
At Curaçao's northcoast in sand from dredging at a depth of 45 m; from Aruba 3 specimens.

OVULIDAE

The mantle envelops the shell, which is smooth and spindle shaped.

343 *Simnia acicularis* (Lam., 1810). — Ill.: W, A fig. 1656.
Especially to be found on the base of the horn coral on which it feeds. Common.

344 *Cyphoma gibbosum* (L., 1758). — Ill.: W, A fig. 1664.
Juvenile animals have the shape of *S. acicularis.* The mantle shows numerous squarish black rings. Common, on horn coral.

345 *C. signatum* Pilsbry & McGinty, 1939. — Ill.: W, A fig. 1666.
The mantle has crowded black transverse lines. The animal makes a slit in the gorgonid in which it hides (observ. CdJ). Several specimens on *Muricea muricata* near Daaibooibaai; in Aruba one on the same gorgonid near Boca Grandi, and many on the west coast.

NATICIDAE

KEY to the genera

Shell bulbous
- smooth
  - operculum corneous, thin *Polinices*
  - operculum calcareous, thick *Natica*
- sculptured
  - all over *Stigmaulax*
  - below the suture some incised lines *Sigatica*

Shell flat
- smooth
  - aperture very large *Sinum*

346 *Polinices lacteus* (Guilding, 1834). — Ill.: W, A fig. 1673.
Acc. to G.: *Naticina lactea,* 30 × 22 mm, Caribbean Sea. — Shell smooth or with very fine growth lines; some specimens show on the last half of the body whorl rather coarse growth lines with finer ones in between. Our specimens measure up to 30 mm. Rather common.

347 *P. uberinus* (d'Orb., 1842). — Ill.: Pl. 25.
Acc. to d'Orb.: *Natica uberina*, 20 × 15 mm, many specimens from Cuba, Martinique, Guadeloupe and St. Lucia. The type figure shows a distinct radial sculpture all over; callus and shape of the umbilicus differ from those in *lacteus.*
Except for the type figure this species is unknown to us.
Acc. to Dixon (1977): *P. uberinus* may prove to be only a form of *P. lacteus.*

347a *P. nubilus* Dall, 1889. Ill.: A fig. 1683.
At Curaçao's northcoast, — 40 m, from dredged sand (Creutzberg).

348 *P. hepaticus* (Röding, 1798). — Ill.: W, A fig. 1673.
Living somewhat deeper than *P. lacteus*, being less common.

349 *Sinum perspectivum* (Say, 1831). — Ill.: W, A fig. 1705.
Rather rare.

350 *S. maculatum* (Say, 1831). — Ill.: W, A fig. 1706.
Rare.

351 *Natica livida* Pfeiffer, 1840. — Ill.: W, A fig. 1713, Cl (*jamaicensis*).
Syn. *N. jamaicensis* C. B. Ads, 1850.
In one of our specimens, size 10 mm, the orange brown callus is filling the umbilicus completely. This form was described by Usticke (1959, pl. 3 fig. 6) as *N. livida oceani*; 8-11 mm.

352 *N. menkeana* Philippi, 1852. — Ill.: W.
Only one specimen collected (CdJ).

353 *N. canrena* (L., 1758). — Ill.: W, A fig. 1715.
Common in dredged material from Schottegat and on the west coast of Aruba after groundswells; in Piscadera inner bay under sand (CdJ); otherwise rarely found.

354 *N. marochiensis* (Gm., 1791). — Ill.: W, A fig. 1714.
At Aruba one specimen from harbour dredgings (Fr.).

355 *N. floridana* (Rehder, 1943). — Ill.: A fig. 1716.
Acc. to R.: Type 14.8 × 14.7 mm; 4 bands of rather regular distantly spaced, oblong, chestnut spots surround the last whorl. Between the first and second bands and third and fourth bands there are brown bands. The ground color on the rest of the shell is yellowish white. — At Aruba some specimens, about 15 mm in length, from the westcoast and from Punta Braboe.

356 *N. cayennensis* Récluz, 1850. — Ill.: W, A fig. 1717.
Rather common.

357 *Stigmaulax sulcatus* (Born, 1778). — Ill.: W, A fig. 1727.
Weak spiral sculpture between strong ribs. Colour over all very light brown. Rather rare.

358 *S. cancellatus* (Hermann, 1781).
Acc. to H.: *Nerita cancellata*, shell cancellated. Colour white with yellow dots. — Collected at Aruba together with *S. sulcatus*. Rare.
Tryon, 8 (1886) regarded *cancellatus* a syn. of *sulcatus*; Usticke (1959, pl. 3, fig. 8) considered them distinct species, like we do.

359 *Sigatica semisulcata* (Gray, 1839). — Ill.: A fig. 1689.
Acc. to Reeve (1855): Suture channeled and minutely linearly grooved, whorls encircled beneath the suture with 5 to 6 linear grooves; columella but little callous, effused at the upper part; ivory-white. — In addition our specimens have 3 to 8 incised lines around the umbilicus. Some also have fine grooves within the umbilicus. Two specimens from Curaçao, some from the westcoast of Aruba; up to 14 mm.

CASSIDIDAE

Shell large with a broad parietal shield.

360 *Morum oniscus* (L., 1767). — Ill.: W, A fig. 1732.
Prefers to stay on rocks at a depth of 1½ to 2 m. Rather common

361 *Phalium granulatum* (Born, 1778). — Ill.: W, A fig. 1737.
At Aruba 6 specimens washed ashore.

362 *P. cicatricosum* (Gm., 1791). — Ill.: W
Rather common.
Abbott (1974, nr. 1737) mentioned *cicatricosum* as a syn. of *granulatum*. To the differences between the species as noted by W. & A. (1961) can be added that the protoconch of *cicatricosum* is a little wider than that of *granulatum*, after specimens studied in ZMA; also mentioned by Smith & Smith (1981, p. 353).

363 *Cassis tuberosa* (L., 1758). — Ill.: W, A fig. 1743.
As far as can be traced not known from Curaçao before 1964. In 1965 three specimens were found, afterwards they were regularly collected. They mostly protrude with the one lump above the sand. Rather common at the westcoast of Aruba, at the coral substrate more in the direction of Westpunt the shells are overgrown with calcareous algae, because the animals are unable to dig themselves in. Also occurring in the Lac, Bonaire.

364 *C. madagascariensis* Lam., 1822. — Ill.: W, A fig. 1744.
Bert Keller and some local fishermen found this species in 1965 and 1966 off Malmok, Aruba, at a depth of 20-30 m (coll. Beerman, dM and Fr).

365 *C. flammea* (L., 1758). — Ill.: W, A fig. 1746.
In older animals the upper part of the shell is weathered. The young body whorl has rather pointed teeth in the aperture. The pointed teeth change into broad square teeth, proportionate to the thickening of the whorl. Carnivorous; *C. flammea* even overpowers *Diadema* (in the aquarium) with a 6 cm spine-length. It slides over the animal, pushing most of the spines down, nevertheless being stung. It bores a hole in its armour, and within an hour's time the *Diadema* is eaten. Occurs everywhere along the coast on sandy substratum.

366 *Cypraecassis testiculus* (L., 1758). — Ill.: W, A fig. 1747)
Almost completely hidden under the sand. Common.

CYMATIIDAE = RANELLIDAE

This family was treated by Clench & Turner (1957) in Johnsonia 3 (36).

367 *Charonia variegata* (Lam., 1816). — Ill.: W, A fig. 1776.
Rather common. At Vaersenbaai, especially from medio August till the beginning of September, rather abundant. CdJ watched a copulation during the period. When forming a new whorl they keep themselves hidden on the same spot for weeks in a cavity of a rock. On the orange-red coral *Tubastraea* the shells also have a marked orange-red colour.

Cymatium. The shell has 3 varices per whorl.

368 *C. cingulatum* (Lam., 1822). — Ill.: W (*poulseni*), A fig. 1761.
Syn. *C. poulseni* Mörch, 1877.
Acc. to Cl. & T. (1957): 58 × 33.5 mm, max. 75 mm. Curaçao is mentioned as type locality of *poulseni*. — At Curaçao's northcoast, – 40 m, in dredged sand (Creutzberg). At Aruba 2 specimens, the largest 40 mm; the last whorl is strongly shouldered.

369 *C. labiosum* (Wood, 1828). — Ill.: W, A fig. 1763.
Acc. to Cl. & T. (1957): Up to 29.5 × 18.5 mm. — Near Piscadera 4 specimens at a depth of 2 m under rocks; in Aruba on the westcoast many after ground swells.

370 *C. moritinctum caribbaeum* Cl. & T., 1957. — Ill.: W, A fig. 1765, Cl
Rather common.

371 *C. nicobaricum* (Röding, 1798). — Ill.: W, A fig. 1760, Cl.
Syn. *C. chlorostomum* (Lam., 1822) and *Turbo* (?) *pulchellus* C. B. Ads, 1850.
Rather common in shallow water; found on *Isognomon alatus* and other oysters.

372 *C. testudinarium rehderi* Verrill, 1950. — Ill.: A fig. 1766.
Acc. to Cl. & T. (1957): 65 × 33 mm, max. 92 mm; outer lip 7 rather course denticles; inner lip consisting of a thickened parietal area with numerous fine plicae which reach to the outer edge of the thickened area. The spaces between the plicae are reddish brown. — 2 specimens of 65 mm in Sta. Martha inner bay; 4 animals, of which 2 living, at 30 m on sandy bottom at the south coast of Curaçao; 1 from dredging material, SW Aruba.

373 *C. krebsii* Mörch. — Ill.: A fig. 1757.
Acc. to Cl. & T. (1957): 73 × 37 mm; outer lip with 6 or 7 lamellae, on the columella 2 large somewhat irregular lamellae and various small ones. — At the west coast of Aruba 4 living specimens, one of which, of 65 mm, was found on sand near a *Thalassia* field at 2 m; other specimens collected had been washed ashore.

374 *C. vespaceum* (Lam., 1822). — Ill.: W.
In Cl. & T. (1957) the species was erroneously described under the name *gemmatum*. — In Curaçao rather rare; at the west coast of Aruba rather common.

375 *C. rubeculum occidentale* Cl. & T., 1947. — Ill.: A fig. 1759.
Acc. to Cl. & T.: 32 × 17.5 mm; outer lip with 8 denticles, inner lip with 14 or 15 rather coarse lamellae. — One specimen 24 × 16 mm under rocks at a depth of 2 m at Piscadera inner bay (Buijse, now in ZMA); in Aruba some dead specimens at the west coast near Punte Braboe and from material dredged from the harbour.

376 *C. muricinum* (Röding, 1798). — Ill.: W, A fig. 1764.
We distinguish 2 forms: 1. Nucleus black, conspicuous white bands, rather short sipho. 2. Nucleus whitish, almost no white bands, sipho larger. In Curaçao rather common; in Aruba rather rare.

377 *C. parthenopeum* (von Salis, 1793). — Ill.: W, A fig. 1767.
In 1968 a local fisherman found a specimen of 115 mm in Druif Baai, SW Aruba (coll. dM); furthermore some dead specimens from Aruba are known.

378 *C. femorale* (L., 1758). — Ill.: W, A fig. 1751.
In Curaçao rather rare; in Aruba in *Thalassia* fields they sometimes live in very shallow water and are often covered with calcareous algae. Very large specimens occur in Lagoen.

379 *C. pileare* (L., 1758). — Ill.: W; Pl. 36.
See table. Common.

380 *C. martinianum* d'Orb., 1845. — Ill.: Pl. 36.
Acc. to d'Orbigny: This species may well be distinguished from *Triton pileare* by its yellow-reddish aperture and the fact that it is not marked by alternating black and white spots. — See table. Common.

C. pileare L.	*C. martinianum* d'Orb.
1. Appr. 4½ n.w. in the shape of a nipple, forming no flowing line with the outline of the shell.	Appr. 5½ n.w., more or less conical, forming a flowing line with the outline of the shell. Volume n.w. appr. 2 × that of *pileare*.
2. All n.w. are smooth (after removal of the periostracum).	The second n.w. has weak vertical ribs, the following ones are smooth.
3. There is a varix at the beginning of the first p.n.w.	There is no varix at the beginning of the first p.n.w.
4. Between varices usually weak knobs.	Between varices much more marked knobs.

5. Axial sculpture usually fine and regular.	Axial sculpture usually coarser.
6. Colour usually dark brown with a whitish band underneath the periphery and white spots on the varices.	Colour usually orange-brown with a less marked or incomplete band and less prominent white spots on the varices.

Abbott (1958) made the following remark: "We can find no important or consistent differences between the adult shells of *C. martinianum* of the West-Indies and *C. pileare* of the Indo-Pacific. However, in two specimens from Mauritius we find the nuclear whorls to be onehalf the size of West-Indian specimens, darker brown, and not gradually increasing in size, so that the nucleus resembles a nipple." Usticke (1959) distinguished two varieties: *pileare* and *cruzana*.

Distorsio. Shell with a gnarled, distorted aperture.

381 *D. mcgintyi* Emerson & Puffer, 1953. — Ill.: W, A fig. 1771.
Two specimens were collected by night at a depth of 30 m on sand in Spaanse Baai (P. v.d. Broek & Mrs. R. Links).

381a *D. clathrata* (Lam. 1816). Ill.: W, A fig. 1970.
At Curaçao's northcoast, – 40 m, from dredged sand (Creutzberg).

BURSIDAE

The shell has 2 varices per whorl and a posterior siphonal canal.

382 *Bursa cubaniana* (d'Orb., 1842). — Ill.: W, A fig. 1781; Pl. 16.
The protoconch measures $2\frac{1}{2} \times 1\frac{1}{2}$ mm and has 4 whorls, its periostracum has a weblike structure with hairs on the spirals. The animal lives especially under hollow rocks on rocky substrate near the surf. Rather common.

383 *B. corrugata* (Perry, 1811). — Ill.: W.
Rather rare.

384 *B. thomae* (d'Orb., 1842). — Ill.: W, A fig. 1777.
Contrary to the preceding species the inside of the shell is clearly purple. In September, at a depth of 8 m, two specimens with spawn were observed against the concave side of a bivalve shell (Fontein). Rather rare.

385 *B. pacamoni* Matthews & Coelho, 1971. — Ill.: Pl. 36.
Acc. to M. & C.: 28 × 20 mm. — Protoconch of $3\frac{1}{2}$ whorls in adult shells usually quite corroded. Related to *B. thomae*, differing however: by the profile of its varices which present an almost straight convergent line (in *thomae* angular), by the white colour of its columellar and labial callus (In *thomae* violet shaded), by its posterior siphonal canal, which is almost closed and long (in *thomae* much shorter). Two specimens collected, length 40 and 44 mm, under and against a stone, near Sta. Martha at 5 m (CdJ) and near San Juan (Vink). The species was mentioned and figured from Curaçao by Vink (1977).

TONNIDAE

Shell large, rounded, thin-shelled.

386 *Tonna maculosa* (Dillwyn, 1817). — Ill.: W, A fig. 1784.
Small specimens found under rocks that were for the greater part buried in the sand (obs. CdJ); large specimens are seldom collected.

387 *T. galea* (L., 1758). — Ill.: A fig. 1785.
In 1967 one large specimen in sand at a depth of 2 m in Piscadera outer bay (G. J. Vermey c.s.); some small specimens up to 4½ cm after ground swells on Aruba's west coast (Beerman, dM, Fr).

FICIDAE

Shell turnip-shaped, elongate, thin shelled.

388 *Ficus communis* Röding, 1798. — Ill.: A fig. 1796.
Syn. *F. papyratia* Say, 1822.
6 specimens from Aruba's west coast.

MURICIDAE

The shell has spines and delicate frills on the varices and siphonal canal.
This family was treated by Clench & Farfante (1945) in Johnsonia 1 (17) and by Radwin & d'Attilio (1976).

Murex. Shell spindle or club-shaped, 3 varices per whorl bearing spines; siphonal canal moderate in length to very long.

389 *M. chrysostoma* Sow., 1834. — Ill.: Pl. 36.
Syn. *M. bellus* Reeve (1845).
The specimens from Awa di Oostpunt, living under sand, have a lighter colour than those from St. Joris Baai, living in a muddy substrate. The colour of the aperture of the Awa di Oostpunt specimens is a brighter orange. The Aruba specimens also show colour-variations. Common.
Acc. to Radwin & D'Attilio (1976) the Curaçao specimens generally reach only 55 mm in length. We have animals from shallow muddy substrate (St. Joris Baai) up to 70 mm, and from 30 m deep sandy substrate (Barbara Beach) up to more than 70 mm.

Siratus. The body whorl is moderately large and globose bearing 3 more or less spinose varices. The spire is moderately high and acute. The interior of the outer lip is generally weakly lirate. In many species the canal is bent to the right.

390 *S. consuela* (Verrill, 1950). — Ill.: Pl. 25.
Syn. *Murex pulcher* A. Adams, 1853, non Sow. 1813.
One living specimen in sand and 3 with hermit crabs at – 25 m on the south coast.

M. consuela Verrill was described in a mimeographed publication. Vokes (1971) placed it in *Siratus*.

Chicoreus. Generally 3 more or les foliacious varices and one or more axial ridges in each intervarical space; outer lip inside generally smooth.

391 *C. brevifrons* (Lam., 1822). — Ill.: W, A fig. 1837.
Especially common in the inner bays upon or near mangrove-oysters. Found in sand predating on *Divaricella*. At the west coast of Aruba in the *Thalassia*-fields living on *Brachidontes citrinus*. The species has almost disappeared from the Spaans Lagoen because of large scale collecting for the tourist trade.

391a *C.? pudoricolor* (Reeve, 1845).
One specimen from the Netherlands Antilles was identified by Fair (1976: 63, pl. 6 fig. 73) as *Chicoreus pudoricolor* (Reeve, 1845). *Murex p.* was described by Reeve from St. Thomas, length of type is 29 mm; the type is lost. The specimen figured in Fair was also figured by Abbott & Finlay (1979: 161 figs 10-11), said to be from Curaçao, length 29 mm, collected by H. Bielderman; it is considered by them as resembling *C. cosmani* from Jamaica.

392 *C. spectrum* (Reeve, 1846). — Ill.: Pl. 25.
Syn. *Murex argo* Clench & Farfante, 1945.
Some specimens were collected at a depth of 40 to 50 m, the largest one 16 cm. In Piscadera outer bay, in Aruba and in Bonaire also found alive at a depth of less than 10 m.

Phyllonotus. Shell generally large, solid and globose; the spire is low to moderately high. The interior of the outer lip is strongly lirate.

393 *P. pomum* (Gm., 1791). — Ill.: W, A fig. 1828; Pl. 36.
Three varices on each whorl. The subspecies *oculatus* (Reeve, 1845) occurs on the ABC islands. It is distinct from *P. pomum* s.str. by a somewhat more straight columella and a smaller spot at the upper side of the aperture. On Curaçao it has never been found in the inner bays; in the sea rarely in shallow water, mostly at a depth of about 10 m. Near San Juan about 10 specimens were found by C. de Jong under one rock, depositing their eggs in lumps against each other. Contrary to Curaçao, in Aruba (Rodgers Beach) the species occurs in colonies in water of less than 1 m deep.
Typical P. *pomum* is known from Simson Bay, St. Martin.

394 *P. margaritensis* (Abbott, 1958). — Ill.: Pl. 36.
Syn. *Murex imperialis* Swainson, 1831 (non G. Fischer, 1807).
The species has 4 to 5 varices on each whorl and is more bulbous than *oculatus*. It is often covered with a calcareous layer. In Curaçao only known from the inner bays; in Aruba from shallow waters down to 6 m, near Malmok, 300 m from the coast. In dredging material from Oranjestad harbour *P. margaritensis* outnumbers *oculatus* at about 10 to 1.

Dermomurex. The body whorl bears 3 or 4 more or less heavy ropelike varices; earlier whorls have 6 varices, 2 or 3 becoming reduced to weak costae or disappear completely; 5-8 spiral cords. A thick, white, finely axially striate or minutely reticulate intritacalx is covered by a thin, pale yellow or buff periostracum.

395 *D. paupercula* (C. B. Ads, 1850. — Ill.: W, A fig. 1949, Cl; Pl. 37.
Acc. to Adams: 18.0 × 7.6 mm, whitish, with a few distant spiral ridges, the intersections with the varices being nodulous. Acc. to Radwin & D'Attilio (1976): 1½ + 5 w; the inner surface of the outer lip bears 10 spirally elongate weak denticles; the columellar lip is smooth. Spiral sculpture consists of 5 strong cords on the body, 3 somewhat weaker ones on the upper canal and 4 threads on the lower canal. — We collected near Porto Marie, at a depth of 2 m on a stone, a specimen 13.0 × 7.0 mm. On the body whorl, up to the foremost part of the shell, in the intritacalx, 12 spirals, the upper ones being broadest. Below the intritacalx the surface has many weak spirals and looks nearly smooth. Rare.

Calotrophon. The shell has no apparent periostracum, it has a white intritacalx, thin, except on the shoulder where this chalky layer forms more or less erect lamellae. The whorls are shouldered, with strong axial ribs and moderately raised, imbricate spiral cords. The siphonal canal is of moderate length, and open. The aperture is ovate, the outer lip is dentate or lirate within. Nuclear whorls 1½.

396 *C. velero* (Vokes, 1970). — Ill.: Pl. 36.
Acc. to Radwin & d'Attilio (1976): The inner surface of the outer lip bears 6 or 7 prominent lirae; the columella lip bears plaitlike pustules, 3 anteriorly and 2 posteriorly. Spiral sculpture consists of 9 major cords. White intritacalx is deposited as inumerable microscopic axial lamellae, though these are not reflected in the underlying hard shell matter. Shell color under the intritacalx is a warm purple brown. Acc. to fig. 12 × 7 mm. Known from the area south west of Cabo de la Vela, Goajira Peninsula, Colombia. — Our specimens measure up to 12 × 7 mm, 1½ + 5 w, on the body whorl 9 spiral cords of which 3 above the aperture. Dead specimens seem to lose their colour quite easily, becoming white. In Curaçao some specimens, in Aruba about 100 collected from material dredged from the harbour. Vink collected some specimens near Santa Marta, Colombia.

Murexiella. Shell less than 40 mm; aperture small; the varices bear several short to long, open, more or less follaceous spines; the canal is long.

397 *M. macgintyi* (M. Smith, 1938). — Ill.: A fig. 1846.
Size up to 40 mm. A specimen with a length of 30 mm has 1½ + 5 w.; aperture subcircular. Outer lip inside weakly lirate or undulate; 6 or 7 spinose varices. Colour variable, mostly fleshy pink with brown spirals or spots. At Koraal Specht one specimen at 2 dm; at Aruba the species was rather common in *Thalassia* fields together with *Brachidontes citrinus* at depths from 2 to 6 dm, buried in sand; because of overcollecting now rather rare.

Favartia. Shell less than 30 mm. Spire high, aperture small and lirate within; varices prominent, flattened, perpendicular to the shell surface; spiral cords usually scabrously laminate.

398 *F. alveata* (Kiener, 1842). — Ill.: W (*intermedia*), Cl (*intermedia*), A fig. 1955.
Syn. *Murex intermedius* C. B. Ads., 1850.
Acc. to Adams: 22 × 10 mm; few dark brown spiral lines within the aperture; with 6 varices on each whorl. — Our largest specimen 19 mm. Rather rare.

399 *F. cellulosa* (Conrad, 1846). — Ill.: W, A fig. 1953.
The form *nucea* (Mörch, 1850) is somewhat more compact. Our largest specimen: 23 × 16 mm, 1½ + 4½ w.; on body whorl 5 varices. Rare.

400 *F. germainae* (Vokes & d'Attilio, 1980). — Ill.: Pl. 36.
Acc. to V. & d'Att.: Holotype 7.3 × 4.0 mm, Puerto Rico; occurrence 12-90 m; 1½ + 4 w.; 2 strong spiral cords on the spire, 7 axial varices. Intervarical areas covered with elaborately crenulated axial growth lamellae between and crossing the spiral cords. Inner lip with about 4 denticles at the anterior end and another 2 at the posterior end; outer lip with 6 denticles, corresponding to the area between the spiral cords. — We collected 7 specimens, measuring up to 12 × 7 mm. There are no secondary spirals. The linear teeth in the inner lip are corresponding with the spirals on the body whorl and base. The inside of the shell is white and reddish brown; the outside is gray, in some places brown shining through.

Muricopsis. Shell less than 45 mm. Body whorl moderately large; aperture ovate to lenticular (like a lens). The outer lip is denticulate inside, the columella is denticulate or pustulate anteriorly; 5 to 8 varices bear scalelike spines.

401 *M. oxytatus* (M. Smith, 1938). — Ill.: W, A fig. 1957
Rather common.

402 *M. praepauxillus* (Maury, 1917). — Ill.: Pl. 37.
Acc. to M.: Shell with 7 whorls, the first two smooth, nuclear, later whorls with 6 low crenate varices and 3 main crenate ridges; the uppermost spiral of each trio carinates the whorl and on crossing the varices forms short, hollow spines; canal open, somewhat reflexed; outer lip edged by the final fimbricated varix and bearing within 5 well-marked denticles. 16 × 7 mm (Acc. to fig. 16 × 8.5 mm). The species is described from the Miocene of Santo Domingo, and is named for its resemblance to *M. pauxillus* A. Ads., living on the northwest coast of México at Mazatlán. The fossil is supposed to be the ancestor of this shell. — Our specimens measure up to 21 × 11 mm, 2 smooth rounded n.w.; on the columella 1 or 2 denticles. Inside aperture porcelaneous white. Outside shell white except for brown spots on the last quarter of the main whorl between the spiral ridges and the varices. Sta. Martha inner bay and Awa di Oostpunt.
M. pauxillus (A. Adams, 1854). Acc. to Radwin & d'Attilio (1976): Up to 18 × 9 mm, 1½ strongly angulate n.w. Primary spiral sculpture consists of 4 cords. Shell color is chocolate-brown with 2 gray-white to yellow-white spiral bands. The aperture is suffused with blue gray.

403 *M. huberti* Radwin & d'Attilio, 1976. — Ill.: Pl. 37.
Acc. to R. & d'A.: Holotype 14.2 × 7.4 mm, largest out of 23 specimens 14.8 × 8.5 mm. Protoconch of undetermined nature. The body whorl bears 5 to 6 low, short-crested varices. The aperture is porcelaneous white. Known only from Grenada and St. Vincent. Differs from *praepauxillus* by its more truncate siphonal canal, proportionately lower spire and smaller aperture. — Although the authors do not mention it, their figure shows a shell which looks as being covered with chalk. In Curaçao we found one specimen, 18 × 10 mm, with 7 ribs; the spines are shorter and the whorls are less angular than in *praepauxillus*. The operculum is reddish-brown. Except for the last quarter of the body whorl the shell is covered by chalk. Vink collected in St. Vincent specimens up to 18 mm; we have seen one of these, 16 × 10 mm, with 6 ribs, covered by chalk.

Risomurex. 1 to 1½ n.w., strongly angulated or keeled around the top, 8 to 10 low rounded axial ribs; the primary spirals, 3 between the sutures, form nodes at the intersections, the

whole coarsely scabrously wrinkled by lines of growth or weak laminae. Outer lip with 5 or 6 teeth of which the 2nd and 3rd teeth often unite into a single large tooth.
R. & d'Att. (1976) synonymise this genus with *Muricopsis*.

404 *Risomurex withrowi* (Vokes & Houart, 1986). — Ill.: Pl. 37.
Described as *Muricopsis* (*Risomurex*) *w.* by V. & H. (1986, p. 78-80, pl. 3 figs. 4, 5). Holotype from Curaçao: 16.3 × 9.0 mm. Paratype from Río Hacha (Col.) 19.5 × 10.0 mm. Known from the southern Caribbean as far as Tobago. — Our material measures up to 18 × 9 mm, 1½ + 6 w.; the crests of the spirally elongated nodules are black-brown against a pink background. On the columella there are two prominent folds and 1 or more pustules. Collected at Awa di Oostpunt, Lac (Bonaire) and Malmok (Ar.). Rather rare.

405 *R. roseus* (Reeve, 1846).
Acc. to R.: *Ricinula rosea*, colour rose, zoned with brown. Acc. to fig. 11 × 6 mm (although not indicated, the fig. must have been enlarged 2 ×; the year mentioned on the plate 1856 must be 1846); the fig. shows 2 somewhat whitish knobbed spirals against a dark background. Loc. Philippines. — In ZMA 2 specimens from St. Thomas, the largest 12 mm; above the 2 spirals with whitish knobs is an almost as wide brown area with a much lower spiral (and secondary spirals). Not known from the ABC islands.
We agree with Radwin & D'Attilio (1976) that it is an Antillean species. The specimen figured by W. & A. (1961, pl. 19, fig. B) is not *roseus* but *R. deformis* (Reeve, 1846).

406 Omitted.

407 *R. caribbaeus* (Bartsch & Rehder, 1939). — Ill.: Cl.
Syn. *Fusus muricoides* C. B. Ads, 1845 (non Deshayes, 1835).
Acc. to Adams: 15 × 6.3 mm; Jamaica. Acc. to Olsson & McGinty (1958): The spiral cords are yellow, the interspaces are grey or purplish brown. Colon. — Not known from the ABC islands.
Cernohorsky (1978) regards *Ricinula rutila* Reeve, 1846, loc. unknown, conspecific, which seems questionable.

Trachypollia. Shell less than 20 mm; 3 to 3½ n.w.; nonvaricate; surface nodulose with many spiral lirae (between the nodules); outer lip denticulated within; columellar lip bears 2 or 3 elongate tubercles at its anterior end. Species of this genus were formerly placed in the genera *Drupa* or *Morula*.

408 *T. nodulosa* (C. B. Ads, 1845). — Ill.: W, A fig. 1872, Cl; Pl. 16.
Acc. to Adams: 16 × 8.1 mm. — The p.n.w. have 2 spiral rows of beads (on last whorl counted above the aperture). Common.

409 *T. didyma* (Schwengel, 1943). — Ill.: A fig. 1873; Pl. 16.
Our specimens up to 10 × 5 mm; the p.n.w. have 3 spiral rows of beads (on last whorl counted above the aperture); on the last whorl about 14 beads on each row. See also Usticke (1959, pl. 3). From Boca Grandi, Curaçao, 1 specimen, in Aruba from material dredged from harbour some specimens.

THAIDIDAE

This family was treated by Clench (1947) in Johnsonia 2 (23).

Thais. Shell solid, smoothly to strongly nodulose, with a large aperture.

410 *T. rustica* (Lam. 1822). — Ill.: W, A fig. 1896.
In juv. specimens the brown bands are visible within the aperture, and often very prominent. This species has a smaller apical angle than *T. deltoidea*, and a much shorter aperture. Common in the upper littoral zone as well as in the inner bays. In W. & A. (1961, pl. 19) the figures K and L should be changed.

411 *T. deltoidea* (Lam., 1822). — Ill.: W, A fig. 1897
Common on exposed rocks.

412 *T. haemastoma floridana* (Conrad, 1837). — Ill.: W, A fig. 1893.
Some specimens are smooth, others have solid nodules. Aperture yellowish or orange. Common in inner bays.

Purpura. Shell with a very large aperture.

413 *P. patula* (L., 1758). — Ill.: W, A fig. 1891
Common in the tidal zone.

CORALLIOPHILIDAE

Shell coarsely sculptured, spirals closely covered with axial laminae. The members of this group feed on the polyps of seafans and coral; Being parasites, they lack a radula, see Hyman (1967, p. 235).

Coralliophila. Aperture anteriorly without a real channel; no spines on the shoulder.

414 *C. caribaea* Abbott, 1958. — Ill.: W, A fig. 2029; Pl. 16.
The protoconch of about 1 mm length has 4½ whorls, above the aperture 2 spirals which form nodules with many riblets; the lip has 2 large lobes. On the first p.n.w. there are about 10 heavy ribs, which are angular on the periphery. Over these ribs the sculpture of the n.w. more or less continues but so that the riblets become lamellae, the lamellae overhanging in front; soon this sculpture consists of spirals closely covered with lamellae, running over about 10 to 15 ribs; the original fine riblets from which the lamellae resulted are no longer recognizable. Common.
At the n.w. coast of Bonaire on *Acropora cervicornis* an unusually large and aberrant specimen was collected by Buijse, 34 × 20 mm, length of aperture 22 mm, spire 12 mm, the last 2 whorls strongly rounded and rather smooth, the earlier whorls forming a rounded calcified top of 5 mm diameter.

415 *C. abbreviata* (Lam., 1816). — Ill.: W, A fig. 2028.
Acc. to Lam.: *Pyrula a.*, loc. unknown. — Common on coral.
Kiener (1836) described and figured *Purpura abbreviata*, loc. Antilles, much alike *Pyrula abbreviata*.

416 *C. aberrans* (C. B. Ads, 1850). — Ill.: W, A fig. 2030, Cl.
Shell all white with regular round axial ribs. One specimen collected near Jan Thiel, – 4 m, and 2 specimens near Malmok, Aruba, – 7 m.

Babelomurex. Aperture anteriorly with a channel; spines on the shoulder.

417 *B. mansfieldi* (McGinty, 1940). — Ill.: W as *scalariformis*, A fig. 2039.
Specimens from deeper water have a more spinose sculpture than those from shallow water. Our largest specimen is 22 mm. Rather rare.
McGinty (1940) described the species from the Pliocene of South Florida in *Muricidea*; Pilsbry & McGinty (1949) mentioned the species Recent from Lake Worth, Florida, in *Coralliophila*; Emerson & d'Attilio (1963) placed it in *Latiaxis* (*Babelomurex*) and Clover (1982) mentioned it in *Babelomurex*.
The species is figured in Abbott (1974, fig. 2039), a reproduction of pl. 1, fig. 3-3a in Pilsbry & McGinty (1949), mistakenly under the name *"Latiaxis costatus"*.
W. & A. (1961) and De Jong & Kristensen (1965) erroneously called the species *Coralliophila scalariformis* Lam., 1822, which is different; acc. to Lam.: sculpture reticulated, length 34 mm, loc. unknown.

Tarantellaxis. Extremely large spines on the shoulder.

418 *T. juliae* Clench & Aguayo, 1939. — Ill.: A fig. 2042.
Acc. to Cl. & Ag.: specimens were collected off Aruba at a depth of 135-200 m, and near Barbados.

COLUMBELLIDAE

Shell small, usually fusiform, solid; outer lip often bearing denticles, parietal wall usually smooth; without umbilicus.

419 *Columbella mercatoria* (L., 1758). — Ill.: W, A fig. 2044; Pl. 37.
On rocks, in shallow water. Very common.

420 *Minipyrene dormitor* (Sow., 1844). — Ill.: Pl. 25.
Syn. *Columbella purpurascens* C. B. Ads, 1845.
Size about 7 × 3.5 mm; colour pink to purplish; ovate-conoidal; spire conical, with 6 whorls, whorls spirally grooved, aperture elongated, inner edge of outer lip crenulated. Rather common. See Coomans (1967).

421 *Conella ovulata* (Lam., 1822). — Ill.: W, A fig. 2079.
Collected under rocks at Awa di Oostpunt and Boca St. Joris; in Aruba mainly on the north coast.
The genus *Pyrene* has an eastern Pacific distribution, the spire of the shell is unequally terraced; *Conella* is a genus from the Caribbean, the spire is equally terraced, cf. Radwin (1978).

422 *C. ovuloides* (C. B. Ads, 1850). — Ill.: A fig. 2080; Pl. 37.
Acc. to Adams: Shell yellowish brown, rarely blackish brown, irregularly mottled with

large angular spots of white, often with a band of white around the middle of the last whorl. 17.8 × 6.6 mm. — In Aruba this species is more common than the preceding species; at Punta Braboe rather common.

Some differences between

C. ovulata	*C. ovuloides*
l = 2 × w, or less	l = 2 — 2½ × w (slenderer)
spire straight	spire concave
spire has smooth appearance, although there are many fine spiral grooves.	surface not smooth, spiral grooves more clearly visible.
dark red-brown to black-brown	orange-brown

Anachis. Shell strongly ribbed, outer lip crenulated within.

423 *A. plicatula* (Dunker, 1853). — Ill.: Pl. 37.
Described as *Buccinum* (*Columbella*) *plicatulum* from Puerto Cabello (Ven.), 8.5 mm, 7-8 whorls, 16-18 ribs. — Our largest specimen: 9.5 × 3.7 mm, 2½ + 5½ w., 15 ribs, spirals only at the base, between the ribs a very fine reticulate sculpture, on the inside of the outer lip 9 strong teeth. The columella has a sharp callous border, and bears many pustules. In some specimens the sculpture may be utterly weak on the first whorls, on the last whorl or over the whole shell. Colour whitish with brown streaks. Rather common.

424 *A. pretri* (Duclos, 1846). — Ill.: W (*mangelioides*), Cl (*albella*).
Syn. *Columbella mangelioides* Reeve, 1859.
Axial ribs strong, squarely cut, spiral sculpture only on the base; suture squarely incised, whorls nearly flat. Rather rare.

425 *A. pulchella* (Blainville, 1829). — Ill.: W, Cl (*subcostulata*).
Syn. *Columbella subcostulata* C. B. Ads, 1845.
Apex regularly pointed with about 2½ n.w.; spiral striae cross the axial ribs; ribs in penultimate whorl about 16-20. Our largest specimens up to 12 mm have the sculpture on the last whorl as strong as on the earlier whorls. The colour consists of a brown pattern often enclosing rounded white spots of different sizes, generally there is an irregular white band below the periphery. In some specimens the brown spots are arranged in coloured bands. Common.

426 *A. dicomata* Dall, 1889. — Ill.: A (*pulchella*) fig. 2054.
Apex rather blunt with about 1½ n.w.; spiral striae cross the axial ribs; ribs on penultimate whorl about 20-25. On the last whorl the sculpture becomes very much weakened, the whorl often looking smooth. Colour whitish with orange coloured bands, in our specimens about 5 on the last whorl. Size up to 9 mm. Rather common.

427 *A. hotessieriana* d'Orb., 1842.
Syn. *Columbella guildingii* Sow., 1847, and *A. mcgintyi* Usticke, 1959.
Acc. to d'Orb. Atlas: *Columbella hotessieriana*; text *C. hotessieri*, 7 × 3 mm, Guadeloupe. Acc. to Sow. (text and fig.): 7.5 × 3.2 mm, colour orange-brown with a row of white dots upon the ribs just above the suture. Acc. to Usticke: 6-7.5 mm. — Our shells have on the penultimate whorl about 14 ribs, crossed by spirals; colour orange-brown with white

splotches usually with an irregular white band below the periphery. Some specimens have the white restricted to a row of dots upon the ribs. Rare; in St. Maarten rather common.

428 *Anachis demani* sp. n. — Ill.: Pl. 16.
Holotype in ZMA (no. 3.87.078), 4.5 × 1.6 mm, fig. 428A. Paratype in ZMA (no. 3.87.079), 4.5 × 1.6 mm, fig. 428B.
Type locality: Aruba, Malmok.
In addition we have studied a number of specimens from the type locality, the average size is 4.8 × 1.7 mm, the widest specimen 4.7 × 1.9 mm. The shell has 2 nuclear and 4 postnuclear whorls. Average number of ribs 14, but sometimes 22 ribs present; prominent to weak spirals over the ribs. Some specimens are practically without sculpture, most specimens have the sculpture principally restricted to the last whorl. The species differs from *hotessieriana* by having one whorl less and being accordingly smaller; some specimens are exactly coloured like *hotessieriana*, some are white.
The species is named after Ad and Gon de Man, shell collectors in Aruba.

429 *A. sparsa* (Reeve, 1859). Ill.: W; Pl. 37.
Acc. to Reeve 11, pl. 31 fig. 200: Shell longitudinally finely ribbed, interstices cancellated, yellowish, sprinkled with chestnut dots and network. Loc. unknown. Acc. to fig. 8 mm. Acc. to Kobelt (1897, p. 132): Interstices cancellated (more correct spirally grooved). — From material dredged from harbour Aruba 3 specimens were collected which might be this species; largest (fig. 429A): 7.4 mm, 2½ + 6 w., 16 ribs, the upper side of the whorls somewhat protruding over the under side of the foregoing whorl. Our specimens from St. Maarten (fig. 429B) have the spiral sculpture weaker than the Aruba specimens.

430 *A. obesa* (C. B. Ads, 1845). — Ill.: W, A fig. 2056, Cl.
Colour of shell brown with a band of lighter brown on the middle of the last whorl, or brown with darker brown spots unto light greyish with some brownish spots, or without spots. Several specimens on the south west coast of Aruba (Fr).

Nitidella. Shell smooth. Aperture rather high.

431 *N. nitida* (Lam., 1822). — Ill.: W, A fig. 2102; Pl. 37.
Common.

432 *N. laevigata* (L., 1758). — Ill.: W, A fig. 2106; Pl. 37.
Common.

Mitrella. Shell smooth. Aperture usually not quite half the length of the shell.

433 *M. ocellata* (Gm., 1791). — Ill.: W, A fig. 2110; Pl. 37.
Formerly known as *M. cribraria* (Lam., 1822).
Often with a decollated top. Very common.

434 *M. dichroa* Sow., 1844. — Ill.: W, A (*argus*) fig. 2112.
Syn. *Columbella argus* d'Orb., 1853.
Acc. to d'Orb.: Length 8 mm, 7 whorls:, outer lip thickened, with 8 interior teeth; columella marked with a small tooth. — The teeth on the outer lip are more prominent than those in the larger *ocellata*. One perfect specimen, size 6½ mm, at Slangen Baai. Rather common at St. Maarten.
In d'Orbigny's Atlas (1842) erroneously called *"ocellata"*, in the text (1853) *argus*.

435 *M. idalina* (Duclos, 1840). — Ill.: Pl. 37.
See Abbott (1958): The apex is pointed, rose in colour, with the remaining whorls translucent yellowish brown. The periphery of the last whorl bears alternating white and brownish spots. — Average size of our specimens 7 × 3 mm; 8 whorls. Largest specimen 8 × 3.8 mm. Rather common.

436 *M. lunata* (Say, 1826). — Ill.: W, A fig. 2114.
Size 3.7 × 1.7 mm; 6½ whorls. Rather rare.

437 *M. nycteis* (Duclos, 1846). — Ill.: W and Cl as *fenestrata*, A fig. 2118.
Syn. *Columbella fusiformis* d'Orb., 1842 (not Anton, 1839), and
C. fenestrata (C. B. Ads, 1850).
Rather common. One specimen 5 mm from grit from 0 to 50 m depth has the white-spot pattern arranged as about 20 narrow axial lines.

Decipifus. Narrow riblets finely beaded by spirals; aperture with an indistinct canal at the suture; lip simple.

438 *D. sixaolus* Olsson & McGinty, 1958. — Ill.: A fig. 2174, Cl (*pulchellum*).
Syn. *Buccinum pulchellum* C. B. Ads, 1851 (not Blainville, 1829).
Our specimens up to 4.0 × 1.8 mm, 1½ + 3¼ w., about 20 ribs. In several specimens part of the upper spiral is white; under the periphery the ribs weaken. Rather rare.

439 *Decipifus kristenseni* sp.n. — Ill.: Pl. 37.
Holotype in ZMA (no. 3.87.080), 4.3 × 2.0 mm
Type locality: the type specimen was selected from a mixed lot with shells from Curaçao and Aruba.
The shell has 1½ nuclear and 4 postnuclear whorls, maximum size 5 × 2.1 mm, whorls with 22 ribs, above outer lip 4 to 5 spirals; colour dark brown to orange brown, bead heads lighter coloured, a wide whitish band below the suture; a = 0.4 l. A thickening on the upper left corner causes the sipho to be more prominent than in the previous species. Rather rare.
The species has a striking resemblance with the turrid *Crassispira verberni* (a = 0.32 l), nr. 589.
D. kristenseni is named after Dr. Ingvar Kristensen, former director of the CARMABI at Curaçao.

Nassarina. Axial, noduled ribs; interior of outer lip denticulate.
N. monilifera and *N. minor* are regarded by some authors to belong to the subgenus *Steironepion*, which subgenus Radwin (1977) considered to be a full genus.

440 *N. monilifera* (Sow., 1844). — Ill.: W, A fig. 2150; Pl. 17.
Size about 4.6 × 1.6 mm, 1½ + 5 w.; nodules spirally extended; colour yellowish-white, on the ribs spiral rows of brown spots. Rather common.

441 *N. pygmaea* (C. B. Ads, 1850). — Ill.: Cl; Pl. 17.
Acc. to Adams: *Pleurotoma p.*, 3.3 × 1.4 mm, a broad irregular band of yellowish brown along the upper part of the whorls and below the middle of the last whorl, ribs about 15, large nodules, nucleus smooth and white, whorls about 6, sinus rather large and deep. The fig. in Cl. & T. (1950, pl. 29 fig. 13) shows 3 spirals above the aperture and rounded nodules.

— Our specimens about 2.9 × 1.2 mm. Rare at Curaçao, rather common at Aruba: s.w. coast and Boca Grandi.

442 *N. dubia* Olsson & McGinty, 1958. — Ill.: Pl. 17.
Acc. to O. & McG.: 6.2 × 2.3 mm (size of the fig. 5.5 × 2.3 cm); apex of the spire blunt, formed by a one-whorled smooth nucleus, p.n.w. about 4; pillar with a thin coat of callus, the spiral sculpture showing through to simulate false lirations. Bocas Island (Panamá). — Our specimens measure about 4.2 × 1.6 mm; $1\frac{1}{4} + 4\frac{1}{4}$ w.; on the last whorl 9 rounded ribs, reaching above to a more or less noduled spiral cord. Outer lip far inside the aperture bears linear teeth; posterior a shallow sinus. Colour white with brown axial spots between the ribs on the lower half of the whorl. Rather common in grit.

443 *N. minor* (C. B. Ads, 1845). — Ill.: W, A fig. 2152, Cl.
Acc. to Adams: *Pleurotoma m.* 4.0 × 1.8 mm, with slightly rounded whorls, whitish with a brown colour band below the suture. — Contrary to the species mentioned before, it has 3 n.w. Known from St. Maarten, 4.5 × 1.8 mm. Not collected on the ABC islands.

Aesopus. Shell subcylindrical, sculpture of inconspicuous axial ribs and spiral striations; aperture short.

444 *A. metcalfei* (Reeve, 1860). — Ill.: Pl. 37.
Acc. to Reeve, vol. 12: *Terebra m.* Shell cylindrically oblong, whitish, faintly tinged with pale white-dotted orange flames, red-dotted at the sutural margin. West Indies? Acc. to the figure 11 mm long. For description and figure also see Kaufmann & Götting (1970), 12 × 3 mm. — There are no teeth on the lip. Some specimens from material dredged in the harbour, Aruba. (Fr).

Cosmioconcha. Shell delicate, smoothish, with spiral striae on the base. Usually with a spiral indentation well below the suture. Outer lip may be thickened.

445 *C. nitens* (C. B. Ads, 1850). — Ill.: W, A fig. 2074.
Syn. *Columbella perpicta* Dall & Simpson, 1901.
Acc. to Adams: *Fusus nitens*, shell white with spiral series of more or less waved transversely much elongated spots of brown, with a varicoid rib a little behind the labrum, labrum sharp; apex acute, with rather coarse revolving striae anteriorly, otherwise smooth and shining; whorls 8 or 9, moderately convex; 14,5 × 6,1 mm. Acc. to fig. of holotype in Cl. & T. (1950) main whorl = 0,71 l. The species is also figured in Altena (1975): shell height 11,9 mm, 7 or 8 whorls, main whorl = 0.70 l, on the inside of the lower one third of the outer lip several lines giving the suggestion of linear teeth but being the outside striae shining through. — Not yet known from the ABC islands.

446 *Cosmioconcha humfreyi* sp.n. — Ill.: Pl. 38.
Holotype in ZMA (no. 3.87.081), 11.5 × 4.1 mm. Paratypes: 5 in collection Fredericus Verberne.
Type locality: Aruba.
The shell has 9 somewhat convex whorls, length of body whorl 0.6 l. The largest specimen is 11.7 × 4.9 mm. Outerlip thin, but one specimen of 7 mm has a thickened lip with a sharp edge, smooth within. The shell is somewhat transparent with a row of white spots above the suture; however, these spots may be missing on the last whorls. Axial sculpture (growthli-

nes) more or less present. The species differs from *nitens* by having a much shorter bodywhorl and consequently at a same length more whorls.
The species agrees with fig. 414 in Rios (1975): 12 × 5 mm, length of main whorl = 0.58 l, identified as *Cosmioconcha* "aff. *calliglypta* Dall & Simpson, 1901". This is not correct as *calliglypta* is quite different. Acc. to D. & S.: 6.5 × 3.5 mm (length of main whorl = 0.70 l), shell stout, solid, the outer and pillar lips are both thickened and lirate within. This species belongs to the same group as *Anachis obesa* C. B. Ads.
C. humfreyi is named after Michael Humfrey, malacologist in Jamaica.

BUCCINIDAE

Bailya. Shell fusiform, up to 18 mm; outer lip varix-like thickened, its inner margin denticulate; 1½ smooth nuclear whorls.

447 *B. parva* (C. B. Ads, 1850). — Ill.: A fig. 2396, Cl.
Acc. to Adams: *Triton parvus*, 12.0 × 5.3 mm; 10 to 12 narrow rounded ribs, including the varices, which are distant a little more than a semi-revolution; with numerous spiral unequal elevated lines; whorls 7, labrum crenulate within, labium a little thickened. The lectotype figured in Cl. & T. (1950, pl. 40, fig. 12) is slenderer. — Not (yet) known from the ABC islands.

448 *B. intricata* (Dall, 1884) [non 1883, publ. Jan. 1884] — Ill. W (pl. 21 A, B), A fig. 2395.
Description in W. & A. (1961) is in accordance with Dall. The species is more prickly than *B. parva*. — Our largest specimens are 18 × 6 mm; inside of outer lip in most specimens almost smooth, some have weak linear teeth; columella smooth or nearly so. Above the aperture 3 main spirals, smaller ones inbetween. On last whorl about 13 shouldered ribs (in *parva* not shouldered). Colour whitish to brownish, more or less with white or brown colour bands. Rather common.
The figures in W. & A. (1961, pl. 21 a and b) show shouldered whorls and 3 spirals above the aperture; in our opinion both represent *B. intricata*.

449 *Bailya marijkae* sp.n. — Ill.: Pl. 38.
Holotype in ZMA (no. 3.87.082), 16 × 8 mm.
Type locality: Curaçao.
The shell has 1½ nuclear and 5½ postnuclear whorls. About 10 spirals above the aperture, 9 linear teeth at the inside of the outer lip and 8 knobs at the columella. Colour brownish with a white colour band above the aperture.
We have seen specimens from Awa di Oostpunt, Schottegat and other localities in Curaçao. The species is rather rare. *B. marijkae* differs from *B. parva* mainly by having distinctly visible knobs on the inner lip, whereas the inner lip of *B. parva* is practically smooth.
The species is named after Marijke de Jong, daughter of the first author.

Engina. Shell broadly fusiform, solid, outer lip thickened, denticulate within; parietal wall denticulate.

450 *E. turbinella* (Kiener, 1835). — Ill.: W, A fig. 2399; Pl. 38.
The p.n.w. have a rather flat strip, with fine spirals, on the upper side and a row of

approximately 10 white knobs underneath. In some specimens the white is reduced to a narrow band. Rather common.

450a *Engina slootsi* sp.n. — Ill.: Pl. 4.
Holotype in ZMA (no. 3.87.083), 18 × 8 mm.
Type locality: Aruba, north coast.
The shell is spindle-shaped, with 9 ribs on the body whorl. Aperture elongate oval, above the aperture 9 spirals, all of same size, crossed by numerous axial grooves; no secondary spirals. Suture between body whorl and penultimate whorl rather deep. Ground colour brown; the but slightly elevated, spirally very much elongated, nodules on the first, 6th, 7th, 13th and 14th spirals are white, sometimes on the neighbouring spirals too.
The species is named after H. Sloots, who has collected the only specimen in Aruba.

451 *Engina demani* sp.n. — Ill.: Pl. 38.
Holotype in ZMA (no. 3.87.084), 11.0 × 5.7 mm.
Type locality: Aruba, harbour.
The shell has 2½ nuclear and 5 postnuclear whorls. The outer lip bears 6 prominent teeth, the inner lip bordered by a sharp edge, has 8 plaits, corresponding with the spirals on the base. There are 7 broad ribs, crossed by 2 main spirals and many finer ones. Colour brown. We have seen several specimens in the collections of Fredericus Verberne and De Man, the largest measured 13 × 7.2 mm, all from the type locality.
E. demani is named after Ad and Gon de Man, shell collectors in Aruba.

452 *Engina willemsae* sp.n. — Ill.: Pl. 38.
Holotype in ZMA (no. 3.87.085), 10 × 5 mm.
Type locality: Aruba, harbour.
The shell has 1½ nuclear and 4½ postnuclear whorls. There are 3 spirals on the first 3 postnuclear whorls; on the 4th there are 4 spirals but in some specimens on this whorl secondary spirals become distinct. The inside of the outer lip has 8 teeth, the inner lip has 6 knobs. Colour white, may be bleached.
Several specimens are present in the collections of Fr. Verberne and De Man, from the type locality.
E. willemsae is named after mrs. Ineke Peeters-Willems, shell collector in Aruba.

Antillophos. Beaded ribs; 2 n.w. the 2nd with a spiral carina.

453 *A. candei* (d'Orb., 1842). — Ill.: W, A fig. 2425.
Near Punta Braboe, Aruba, 1 specimen 26 × 12 mm (dM).

454 *A. beaui* (Fischer & Bernardi, 1850).
The shell has varices, which make it look like a *Colubraria.* Known from Barbados, not collected on the ABC islands.

Engoniophos. Columella posteriorly with a strong furrow; 2 n.w., the 2nd with faint axial and spiral threads.

455 *E. unicinctus* (Say, 1825). — Ill.: W, A fig. 2428; Pl. 38.
Syn. *Nassa guadeloupensis* Petit, 1852.
Often with narrow brown coloured spiral bands. Common, especially in the inner bays.

Pisania. Shell fusiform, smooth, with a tooth at the parietal side of the posterior canal.

456 *P. pusio* (L., 1758). — Ill.: W, A fig. 2409; Pl. 39
Common.

Pollia. Shell with axial ribs, and a tooth at the parietal side of the posterior canal. The Caribbean species were formerly placed in *Cantharus*, however, in that genus there is no posterior canal.

457 *P. tincta* (Conrad, 1846). — Ill.: W, A fig. 2411.
Common in shallow water. In Aruba only found on the northcoast.

458 *P. auritula* (Link, 1807). — Ill.: W, A fig. 2410; Pl. 38.
Common in shallow water.

459 *P. karinae* (Usticke, 1959). — Ill.: W as *Cantharus lautus.*
W. & A. (1961) considered *karinae* a syn. of *Cantharus lautus* (Reeve, 1846). However, the latter is somewhat different and is the twin species from the tropical eastern Pacific.

COLUBRARIIDAE

Acc. to Ponder (1968) the anatomy indicates that the Colubrariidae are a distinct family belonging to the Buccinacea.

Colubraria. Resembling a miniature *Charonia*; 2 smooth n.w.; p.n.w. axially and spirally ribbed.

460 *C. lanceolata* (Menke, 1828). — Ill.: W, A fig. 2404.
In Vaersen Baai at a depth of 3 m; rare.

461 *C. obscura* (Reeve, 1844). — Ill.: W, A fig. 2405.
Rather rare.

462 *C. swifti* (Tryon, 1881). — Ill.: W, A fig. 2406.
One specimen in Aruba in Baby Lagoon (Beerman).

MELONGENIDAE

463 *Melongena melongena* (L., 1758). — Ill.: A fig. 2437.
Numerous specimens were found in sub-recent lagoon deposits and in kitchen middens near Indian settlements on all three islands. At Curaçao the species has not been found alive since 1961, when 6 small animals were collected in the inlet of St. Jorisbaai.
Rather commonly occurring along the southwest coast of Aruba, especially at Spaans Lagoen.
On Bonaire collected only once alive near Paloe Lechi (Arnoldo). At Lac a noteworthy population of small individuals (forma *nana* Brugg. & Hum.) still survives in shallow mangrove pools, while another small form (fo. *salinarum*) has been found in deposits of the

former Pekelmeer and, less distinctly, in the Lac also. See: Bruggeman & Wagenaar Hummelinck, 1986.

NASSARIIDAE

Shell small, solid, ovate with a thickened parietal shield.

KEY

Nassarius

- Shell with a very large parietal shield *polygonatus*
- About 6 spirals above lip
  - Size up to 12 mm; no secondary spirals *scissuratus*
  - Size up to 5 mm *hotessieri*
- 6 main sp. above lip, secondary spirals in between
  - 11 ribs, lined up on last 2 whorls; whorls rounded, rather flat cf. *consensus*
- About 9-12 sp. above lip
  - w = ± 0.65 l, size up to 12 mm *antillarum*
  - w = ± 0.52 l, size up to 9 mm spec. 1
- sp. weakened or absent on periphery of last whorl *candidissimus*
- Brown, aperture and base white, protoconch large (2× *antillarum*) *kaicherae*
- Light orange, brown around suture, whorls angulated above and below, up to 10 mm spec. 2

464 *N. polygonatus* (Lam., 1822). — Ill.: W (*vibex*), A (*vibex*) fig. 2453.
Syn. *Buccinum antillarum* Philippi, 1848 (non d'Orb., 1842) and *Nassa cinisculus* Reeve, 1853.
Acc. to Lamarck: 16 mm, 7 convex whorls; colour blackish-brown or reddish, with a lighter coloured band at the periphery; aperture white. Acc. to Reeve: 15 × 10 mm, St. Thomas. — Our specimens 15 × 10 mm, 1½ + 6 w., 10 ribs; the space between 2 ribs is about 4 × the space between 2 spirals, the sculpture does not make the impression of being cancellate; outer lip with about 6 teeth on its lower half and 1 on its upper half; on the inner lip several plicae. Between the main spirals 1 or 2 very much weaker ones; many axial striae. Common in muddy substrate (Piscadera inner bay at 3 m).
In W. & A. (1961) this species is called *N. vibex* (Say, 1822). Acc. to Say: 15 mm, cancellate, ventricose; cinerious or pale reddish brown with 2 or 3 irregular, sometimes obsolete darker fascia; body whorl with 12 thick prominent costae, and about as many revolving filiform lines. Labrum with about 2 prominent teeth within.

465 *N. scissuratus* (Dall, 1889). — Ill.: A fig. 2466.
Acc. to Dall: 12 × 7.5 mm; 2 + 5 or 6 w.; shell white, clouded with light brown or buff; whorls well rounded; on the last whorl about 14 ribs with wider interspaces, fine incremental striae; 10 revolving ridges, strongly ovally noduled on the ribs, 3 rows showing on the upper whorls. Barbados, Martinique. Figured in Dall (1890) and reproduced in Abbott (1974, fig. 2466). — Our largest specimen: 10 × 6 mm, 2½ + 5½ w., prominent sculpture of about 12 ribs and 6 spirals above the outer lip. Rare.

466 *N. hotessieri* (d'Orb., 1842). — Ill.: Pl. 38.
Acc. to d'Orb.: 5 mm, white; acc. to fig. 1: w = 5.5:3.5. — Our specimens up to 5.5 ×

3.5 mm, 2 ½ + 4 ½ w.; whorls not shouldered, they have resp. 3, 4, 5 and 6 spirals (above lip). The n.w. are smaller than those in *candidissimus*. Colour white, a few specimens are pale orange. Several specimens from material dredged from Schottegat, west of country house Koningsplein and in Aruba west of Oranjestad.

467 *Nassarius* cf. *consensus* Ravenel, 1861. — Ill.: Pl. 38.
Acc. to R.: Whorls rounded with 11 strong ribs. Colour yellowish brown with a narrow deep brown band immediately next to the white projection at the canal.
Only one specimen collected, in Curaçao, figured, 10 × 6 mm, 2½ + 5 w.; above outer lip 6 main spirals, between 2 main spirals about 4 minor ones and on te shoulder even more; 11 ribs which are lined up on the last 2 whorls. Colour a uniform yellowish brown without the brown band mentioned by Ravenel. Our specimen is very much like the specimen figured by Vokes & Vokes (1983, pl. 16 fig. 5) as *N. consensus*.

468 *N. antillarum* (d'Orb., 1842). — Ill.: W (*albus*), A (*albus*) fig. 2458; Pl. 4, 5.
Acc. to d'Orb. (Atlas pl. 23 fig. 1-3): size about 11.5 × 7.3 mm (text: length 10 mm), whorls angulated, 6 spirals between lip and shoulder, parietal shield small. — Most of our specimens have angulated whorls, some, however, have the whorls rounded with intermediates to the angulated form. Between the spirals there are distinctly visible axial striae. Colour yellowish brown, somewhat banded. Common.
Cernohorsky (1975, fig. 55) figured one of the 9 syntypes present in BMNH. This shell, length 15.8 mm, with a large parietal shield is not the species described and figured by d'Orbigny. The specimen figured by d'Orbigny is herewith designated as lectotype of *Nassa antillarum* d'Orbigny.
N. ambiguus is often mentioned in literature as a North-American species. However, *Buccinum ambiguus* Pultenay, 1799 (= *B. ambiguus* Montagu, non Solander, 1766) was described originally from Great Britain (Cat. Birds, Shells ...of Dorsetshire, p. 42, London, 1799).
N. albus (Say, 1826), a white shell with rounded whorls, 11.5 × 7.6 mm, is figured by Vokes & Vokes (1983).

469 *Nassarius* spec. 1
The species was described by Olsson & Harbison (1953) as "*N. consensus* (Ravenel, 1861)". Acc. to O. & H.: Generally similar to *antillarum*, but with a more lengthened spire, ribs fewer in number, the spirals much finer. Often the cord on the shoulder is more strongly emphasized than the bordering ones. The colour pattern consists of a brown band around the superior side of the basal sulcus, another along the suture, the intervening surface obscurely flecked with light brown. Some uncertainty exists as to the exact identification of this species. Acc. to fig. 11.5 × 6.0 mm. — Our largest specimen measures 9.0 × 4.7 mm.

470 *N. candidissimus* (C. B. Ads, 1845). — Ill.: Pl. 17, 39.
Acc. to Adams: 11.5 × 5.7 mm, white. Holotype photographed in Turner (1956). — Our largest specimens: 11.5 × 6.0 mm, whorls shouldered; spiral threads of unequal size, about 15 above the outer lip. The spirals on the periphery of the last whorl have become much weakened or even disappeared, giving the whorl a smooth look, in some specimens the spirals appear again on the last part of the whorl. The spirals just below the suture are always unweakened present. Most specimens are pure white; a few however are, on a white background, slightly brownbanded. Rather common.

471 *Nassarius kaicherae* sp. n. — Ill.: Pl. 38.
Holotype in ZMA (no. 3.87.086), 8.4 × 4.5 mm.
Type locality: Aruba.
The shell has 2 ½ nuclear and 4 postnuclear whorls. The whorls are angulated above and below by rows of slight nodules on the ribs; there are 15 to 25 spiral threads above the outer lip; colour brown with a white aperture.
We have seen about 40 specimens from Aruba, and one from Curaçao, the largest specimen is 12.2 × 7.0 mm, average size about 10 × 5.6 mm, most specimens were bleached. The protoconch of *N. kaicherae* is nearly 2 × as voluminous as the one in *N. antillarum*, which has 5 postnuclear whorls at a length of 10 mm.
The species is named after the American malacologist Sally D. Kaicher.

472 *Nassarius* spec. 2. Ill.: Pl. 38.
Largest specimen: 10 × 5.0 mm, 2½ + 5 w.; whorls angulated above and below, above lip about 6 unequal spirals with about 4 unequal minor ones in between; colour very light orange with a brown band around the suture, most of our specimens are bleached to white. No axial striae. Rather rare.

473 Omitted.

FASCIOLARIIDAE

Siphonal canal well-developed; columella has plaits, except in the genus *Fusinus*.

474 *Fasciolaria tulipa* (L., 1758). — Ill.: W, A fig. 2500.
Rather common in St. Joris Baai but not found elswhere in Curaçao. Because of the opacity of the water the inner bays have been scarcely examined, except at the outlets. In Aruba rather common on the west coast, the s.w. coast and in Spaans Lagoen. There are two colour varieties: mahogany-brown with black lines, and light brownish yellow with dark lines and spots (dM and Fr).

475 *Fusinus closter* (Philippi, 1850). — Ill.: Pl. 39.
Acc. to Ph.: about 12 whorls, 7 larger spirals, mouth white. Acc. to the figure: 155 × 50 mm, mouth with siphon 90 mm, while the whorls do not show angularity. See also Rios (1970, pl. 29) and Altena (1975, pl. 4 fig. 3-5). — In Aruba near Punta Braboe 5 specimens, the largest 135 × 38 mm, 12 ribs on the penultimate whorl, and 10 more or less prominent spirals with finer spirals in between (dM and Fr).

476 *Latirus infundibulum* (Gm., 1791). — Ill.: W, A fig. 2491; Pl. 39.
Living in sandy environment, usually under rocks. Rather common.

477 *L. angulatus* (Röding, 1798). — Ill.: W (*brevicaudatus*), A fig. 2492; Pl. 39.
Syn. *L. brevicaudatus* (Reeve, 1847).
In same places as *L. infundibulum*. Rather common in Curaçao; rather rare in Aruba. Bullock (1974) designated Curaçao as type locality.
The type figure of *Fusus angulatus* in pictured in Martini (1780, Conch. Cab. 4 tab. 141 fig. 1314/16, locality "East Indies", which loc. is not correct).

478 *L. cariniferus* (Lam., 1822). — Ill.: A fig. 2489
Syn. *L. macgintyi* Pilsbry, 1939.
This species is more coarsely sculptured than *L. angulatus*. On the periphery of the whorls our specimens have a double row of somewhat keeled nodules, the outside of the siphonal canal bears much coarser spirals than occur in *angulatus*. At Awa di Oostpunt against rocks of the debris wall. Not yet known from Aruba.
Turbinella carinifera was pictured in Kiener (1840, pl. 13 fig. 1). Our specimens are brown and agree with the type figure in Kiener. Bullock (1974) designated as type loc. Cienfuegos, Cuba. The type loc. of *L. macgintyi* is Lake Worth, Florida. Bullock (1974) included *L. distinctus* A. Adams, 1855 in the synonymy of *L. angulatus* and designated as type loc. of *distinctus* Key West, Florida. Acc. to Adams: A white shell with the interstices between the longitudinal plicae stained with a dark purple colour. *L. distinctus* is figured in Abbott (1974, pl. 11 fig. 2489) as *L. cariniferus*.

479 *L. eppi* Melvill & Schepman, 1891. — Ill.: Pl. 25.
Acc. to Melvill (1891): Size 24 × 10 mm, loc. island Curaçao; type specimen in the Leiden Museum. — The species has 9 ribs, turned to the right. At the south coast 3 specimens, washed ashore (TdB); in ZMA 2 specimens resp. from Neth. Antilles and Curaçao; in first author's coll. 1 specimen from Curaçao.

Teralatirus. Shell not larger than 15 mm; anterior canal shorter than aperture, bent to the left; 2 columellar folds; spiral sculpture dominates.

480 *T. ernesti* (Melvill, 1910). — Ill.: Pl. 39
Syn. *Latirus festivus* Haas, 1941.
See Coomans (1965). Size 11 × 4.5 mm, $1\frac{1}{2}$ + 8 w.; length of aperture about 3 mm, of canal about $1\frac{1}{2}$ mm; the outer lip bears 6 linear teeth. The first p.n.w. has 2 spiral cords with knobs connected by axial ridges; on the third p.n.w. these knobs and axials are hardly visible anymore. On the penultimate whorl there may be 3 whitish spirals and a much larger yellow one on a blackish background. Found under rocks in shallow waters. Rather common.

481 *T. cayohuesonicus* (Sow., 1878). — Ill.: A fig. 2498; Pl. 39
Syn. *T. funebris* (Preston, 1907).
Acc. to Sow.: 16 × 5.5 mm, almost black, within and without; 9 whorls, 2 plaits on the columella. Key West. The fig. shows on the last whorl 5 spirals and 5 ribs (visible above aperture), forming somewhat spirally elongated nodules; aperture 3 × 1.5 mm, canal 2.5 mm. Acc. to P.: 15 × 5 mm, aperture 4 × 2.25 mm; p.n.w. sculptured with closely set transverse ribs, intersected by spiral grooves, giving the shell a cancellate appearance. West Indies. — Our specimens up to 15 × 5 mm, 2 + 7 w., aperture long 3 mm, canal 2 mm, outer lip has 5 linear teeth; the number of ribs may amount up to 15 or more. Rather common.

482 *Leucozonia nassa* (Gm., 1791). — Ill.: W, A fig. 2485
Common on coral substrate.

483 *L. nassa* forma *leucozonalis* (Lam., 1822).
A form without knobs. It was found on Bonaire (Krumperman) and Aruba.

484 *L. ocellata* (Gm., 1791). — Ill.: W, A fig. 2487.
Sometimes occurring in great numbers under rocks at 1 m.

OLIVIDAE

Shell elongate, very glossy.

485 *Oliva reticularis* Lam., 1810. — Ill.: W, A fig. 2538.
Large 55 × 26 mm, medium size 40 × 19 mm. The species preys on bivalves, which they capture in sand (observation Kristensen near Sorobon, Bonaire). In Aruba, where there are large colonies near Casa Cuna, Punta Braboe and Hadikoerari, they are attracted by the fish-offal of local fishermen in the last mentioned locality. The largest specimens, up to 60 mm, are living close to the coastline in muddy sand; these are coloured darkest. It is possible to compose colour-series from different localities (dM & Fr).

486 *Ancilla glabrata* (L., 1758). — Ill.: A fig. 2548a.
In Aruba rather rare, up to a size of 75 mm. Not known from Curaçao. Specimens mentioned in literature from "Curaçao" probably come from Aruba, as Aruba was part of the former Government "Curaçao".

487 *A. balteata* (Sow., 1823). — Ill.: Pl. 39.
Figured in Reeve 15 (1864). The species differs from *glabrata* by having a shoulder; the upper incised line on the base is much farther from the middle one than it is in *glabrata*; this line tends to approach the middle one going from aperture to outer lip, whereas the distance between the lower one and the middle one is rather constant. The colour band on the penultimate whorl is situated more upwards than it is in *glabrata*. The white specimens were described as *Ancillaria nivea* Swainson, 1825. In Aruba both forms are common, up to a size of 58 mm; not know from Curaçao.

488 *A. lienardi* (Bernardi, 1858). — Ill.: A fig. 2548b.
Acc. to B.: 30 × 15 × 16 mm. Pernambuco, Brasil. — Two dark orange specimens, the largest 30.2 × 15.8 mm, were found alive at the west coast of Aruba (dM, Dec. 1956).

489 *A. tankervilli* (Swainson, 1825). — Ill.: A fig. 2548c.
This species has no umbilicus. Known from Margarita, Venezuela. Not collected at the ABC islands.

490 *Jaspidella jaspidea* (Gm., 1791). — Ill.: W, A fig. 2549.
Common in sand.

Olivella. Length of shell generally less than 20 mm.
Within a species the length of the spire is proportionally more variable than the width. The rate width to length sometimes differs considerably; in those cases the colour pattern or another character is decisive for the identification. As a result of measuring a restricted number of specimens the following averages were found.

	relative length	: width	: spire length		shell size in mm
adelae	10	3.6	4.6	slender with long spire	11
nivea	10	3.8	4.4	base white	18
dealbata	10	4.0	4.3	brown stripes on base	11
do. forma a	10	4.1	4.3	base white, area between suture and lower coloured zone wider than in *nivea*	12
spec. 1	10	4.2	4.2	brown band on base	12
spec. 2	10	4.2	4.2	base white, area between suture and lower coloured zone narrower than in *dealbata*	10
cf. *esther*	10	4.4	3.6	wide with short spire, base banded	18
spec. 3	10	4.5	4.0	wide with short spire, base white	10
macgintyi	10	4.4	3.4	short spire	11
watermani	10	4.6	2.5	very short spire	13
acteocina	10	4.0	4.7		4
minuta	10	5.1	4.7	columella bends to the left	11
verreauxii	10	4.2	3.9	columella bends to the left	8½

491 *O. adelae* Olsson, 1956. Ill.: Pl. 25.

Acc. to O.: Length about 12 mm, subovate, the edge of the whorl in front of the suture forming a narrow, slightly overhanging collar. Parietal callous, extending weakly beyond the end of the aperture about halfway to the suture. Color is a leaden white except for a band of broken brown spots below the suture and another arranged at the edge of the white fasciole. Holotype 12.4 × 4.5 mm (10:3.6). Acc. to fig. pl. 16: l:w:spire = 10:3.7:4.6; tip of spire contracted, conic. In the specimen pictured on pl. 10 fig. 8 the top of the spire has more regular outlines. Unstained near the suture. — Our specimens up to 10.7 mm. South coast Curaçao 1 specimen; in Aruba in Baby Lagoon and from material dredged from the harbour 8 specimens.

The species is described and figured in Reeve, vol. 6 (1850) as *O. pulchella* Duclos. However, Duclos' figure in Chenu for that species shows commas up to the suture and a brown coloured base, its size 16 mm. — *O. floralia* (Duclos, 1853) is slenderer (l:w = 10:3.2) and the spire has more straight outlines; orange commas beneath and against the suture.

492 *O. nivea* (Gm., 1791). — Ill.: W, A fig. 2552.

Based on Martini (1773, vol. 2, pl. 50 fig. 557, 558). Acc. to text and figures up to about 22 mm. — Colour-pattern: Below the suture and above the base a band of orange splotches, below the upper band a narrow white one, together about one third of the width between suture and base, then a broad, weakly coloured zone up to the lower band; base somewhat yellowish white. In Aruba several specimens collected, most of them all white (bleached?), size up to 18 × 6.8 mm (10:3.8).

493A *O. dealbata* (Reeve, 1850). – Ill.: Pl. 25.

Acc. to R.: Shell acuminately oblong, spire exerted, sharp at the apex; ivory white, marked

beneath the suture with arrow headed brown dots, base sparingly stained with brown. Acc. to the fig. 11.5 mm (l:w = 10:3,9); on the base brown stripes starting on the line along the siphonal cavity. — Our specimens have additional colouring; bordering the suture are commas converting into fine lines, rarely merging into spots, together over more than a quarter of the width between suture and base, after that a predominantly white area over somewhat less than a quarter of the width, followed by a zone of stripes and spots up to the base; in the larger specimens brown stripes on the base, in the smaller ones some spots. The area between suture and broad coloured zone is proportionally wider than in *nivea*. In some specimens this broad coloured zone is hardly visible whereas there are many orangebrown coloured lines on the base. 14 specimens collected, largest: 10.7 × 4.3 mm (10:4.0).

493B Colour form *monilifera* (Reeve, 1850). Ill.: Pl. 25.
Acc. to Reeve's fig. 10 × 3.8 mm. — This colour form is much stronger coloured than *dealbata* s.s. At Curaçao 2 specimens collected at a depth of 8 m, at Aruba 3; up to 9.8 × 4.1 mm (l:w = 10:4.2).

494 Forma a. Differs from *dealbata s.s.* in the base being all white. This form is much more common. Size up to 11.8 × 4.9 mm (10:4.2).

Tryon (vol. 5, 1883) mentioned *dealbata* and *monilifera* under the synonymy of *nivea*. Olsson (1956) and Abbott (1974) mentioned *monilifera* a syn. of *nivea*. W. & A. (1961) and Abbott (1974) mentioned a different shell as "*O. dealbata*"; see under *O.* spec. 2.

495 *Olivella* spec. 1. — Ill.: Pl. 39.
Figured specimen 12.5 × 5.3 mm; l:w = 10:4.2; below the suture there are commas or brown spots on a white background, followed by a greyish area reaching to the base; this area is more or less covered by brown spots of different sizes, making a variable colour pattern. The upper rim of the whorls is often very narrowly brown coloured. On the white base there is a brown band. Rather common.
O. spec. 1 differs from *O. dealbata* mainly by having a brown band on the base instead of brown lines and by the lower (broad) coloured zone being proportionally wider.

496 *Olivella* spec. 2. — Ill.: Pl. 39.
Figured specimen 9.2 × 3.8 mm; l:w = 10:4.2, base white. This species differs from spec. 1 in lacking the brown band on the base and the brown rim at the suture. The proportions of our extremes are 10:4.0 respectively 10:4.3. At Curaçao several life specimens collected which were sparingly coloured and had a thin chitinous operculum. Rather common.
O. spec. 2 mainly differs from *dealbata* forma a by the lower (broad) zone being proportionally wider.

497 *O.* cf. *esther* (Duclos, 1835). — Ill.: W (*petiolata*); Pl. 39.
Acc. to Chenu: Length 18 mm, basis colour white, with varied maculations, with white triangles, aperture white. Pacific Ocean. Acc. to fig.: l:w:spire = 10:5.3:3.5; small stripes below the suture continuing in irregular lines unto the base, on the base a brown line unto the siphonal cavity, upper edge of base white. Acc. to Reeve (vol 6, 1850): Loc. unknown, his Pl. 23 fig. 65 a, b: length about 18 mm, l:w:spire = 10:5.0:3.2; on the base a brown band unto the siphonal cavity and one on the upper edge of the base. Dall & Simpson reported the species from Puerto Rico, 16 × 7 mm (10:4.4). — Our specimens up to 18 ×

8 mm (10 : 4.4). A few specimens in Curaçao, some 40 in Aruba. The Caribbean specimens are much slenderer than those of the Pacific.
The species is pictured in Olsson (1956) Pl. 8 fig. 8 (l : w = 10 : 4.4) and in W. & A. (1961) Pl 23 fig. P (10 : 4.33), erroneously as *O. petiolita*.
O. petiolita (Duclos, 1830). Acc. to D. in Chenu: I have seen many specimens of the species, none larger than 6 mm. Mexico. — ZMA has a specimen labeled "*O. esther* Duclos; From Mazatlan", agreeing with Duclos' figure except for a very weak brown band on the upper edge of the base.

498 *Olivella* spec. 3. — Ill.: Pl. 39.
Figured specimen 9.8 × 4.4 mm; up to 10.2 × 4.6 mm (10 : 4.5) groundcolour yellowish-white, below the suture brown stripes and small spots, followed by an equally wide area in the groundcolour, together about 1 mm in width; after that a 3½ mm wide zone up to the base consisting of small spots or stripes or almost plain; in some specimens the small stripes are passing the base line over some distance; base groundcolour. 24 specimens collected.
O. spec. 3 differs from *O.* cf. *esther* mainly by lacking the brown band on the base and by being smaller.

499 *O. macgintyi* Olsson, 1956. — Ill.: Pl. 39.
Acc. to O.: Spire about one-third the total length; a few faint brown flecks below the suture. Parietal callus rather strong; 10 × 4.3 mm; acc. to fig. proportions 10 : 4.4 : 3.6. Based on a single specimen. — One of our specimens measures 11.0 × 5.0 × 4.0 mm (10 : 4.5 : 3.6); as our specimens are colourless the identification is not sure.

500 *O. watermani* McGinty, 1940. — Ill.: A fig. 2566.
Acc. to McG.: Whorls about 4 with a short conic spire, lip about 4/5 the length of the shell, with upper third of aperture closed of by the heavy callus. Colour white, with 3 rather obscure bands of pink, orange or yellow spots on the last whorl. 10.5 × 4.6 mm; 9.6 × 4.5 mm. Abbott (1974) mentions a depth of 50 to 180 m. — Thin chitinous operculum present; columella strongly excavated; some distance from its edge the outer lip has linear teeth. The upper band of orange flecks is situated quite a distance below the suture, leaving the area below the suture white. The length of the spire is rather variable as show the sizes of the following specimens: 5.7 × 2.5 × 1.1 mm (10 : 4.4 : 1.9); 12.6 × 5.9 × 3.0 mm (10 : 4.7 : 2.4); 12.6 × 5.8 × 4.0 mm (10 : 4.6 : 3.1). At Curaçao 6 specimens collected.
O. rotunda Dall, 1889 differs in lacking the linear teeth on the outer lip, the colour is a pale yellow with irregular, broken zigzag, orange markings from suture to base; base orange banded. Known from Barbados, at a depth of 150 m. Not yet collected in the ABC islands. See fig. 2577 in Abbott (1974) as *O. 'fuscocincta'*.
O. fuscocincta Dall, 1889 is much smaller and proportionally wider; it futhermore differs from *watermani* by having an orange band at the base. A specimen from Barbados, depth 150 m, measures 7.4 × 3.7 × 2.1 mm (10 : 5.0 : 2.7). Olsson (1956) mentioned 9.5 × 5 mm. Not yet collected at the ABC islands.

501 *O. acteocina* Olsson, 1956. — Ill.: W.
Acc. to O.: 3.8 × 1.4 mm. Whorls seated together like the collapsing sides of a telescope. Parietal wall with a thin wash of callous. Acc. to fig.: contour of projection anteriorly is a nearly straight line, which means an undeep siphonal cavity. — Our specimens show a great variety in l : w; at a length of 3½ mm the width varies between 1.2 and 1.6 mm. Common.

Some authors mentioned the species as *O. miriadina*, which species is different: *O. miriadina* (Duclos, 1835). Acc. to D. in Chenu: Whorls convex, average length 5 mm; Antilles. Acc. to fig. 1: w = 10 : 4.2; contour of projection anteriorly shows a deep notch, which means a deep siphonal cavity. — Known from St. Martin, where it is rather common.

502 *O. minuta* (Link, 1807). — Ill.: W, A fig. 2560.
Syn. *Voluta nitidula* Dillwyn, 1817, and *Oliva mutica* Say, Reeve, 1850.
At the lower part the columella bends left, the centre part is well bordered from the upper part and bears about 8 folds. Some distance from its edge the inside of the outer lip bears linear teeth. Mainly due to the formation of callous mature specimens are proportionally wider than juveniles. Colour light brownish, at the base a dark-brown band exactly extending to the siphonal notch. Rif Curaçao; in Aruba from the west and south-west coast.
White colour form. Colour white, often with a yellow tinge and sometimes with a yellowish band at the base, sometimes the spire is purple coloured; the nucleus is black-brown. About 60 specimens from the west and south-west coast of Aruba (Fr).

503 *O. verreauxii* Ducros, 1857. — Ill.: Pl. 25.
Acc. to D.: 8 × 3.4 mm; colour yellowish with flexuous brown lines. Differs from *minuta* by its more oblong shape, the more developed posterior parietal callous and its more convex whorls. — The penult. whorl is more convex than in *minuta* because of the location of the callous; the body whorl is more cylindrical. Several specimens up to 8.5 mm from the southwest coast of Aruba.

MITRIDAE

Shell fusiform with 3-5 plications on the columella.

Mitra. The Caribbean species are about 20-40 mm; they have 4 n.w.

504 *M. nodulosa* (Gm., 1791). — Ill.: W, A fig. 2598, Cl (*monilifera*); Pl. 40.
Common.
M. nodulosa forma *pallida* Usticke, 1959 (non A. Ads, 1851). Acc. to U.: Colour pale light orange, shells hardly shouldered and beading very even and regular; they appear a little slenderer on the average; scarce. — Some specimens from the s.w. coast of Aruba.

505 *M. barbadensis* (Gm., 1791). — Ill.: W, A fig. 2593.
Common.

Pusia. Shell about 10-20 mm; last whorl often 1 or 2 light bands.
Acc. to Rehder (1943): nucleus about 4 whorls.

506 *P. pulchella* (Reeve, 1844). — Ill.: Pl. 40.
Acc. to R.: Shell longitudinally ribbed, ribs narrow, flat, rather close-set, transversally impressly striated, orange yellow, ornamented with a purple band in the intercostices between the ribs; columella 5-plaited; size 18 × 8.5 mm. — On the south-coast at a depth of 30 m 2 specimens, the largest 21 × 9.5 mm; 7 specimens from material dredged from the harbour, Aruba.
P. pulchella in W. & A. (1961) is *P. dermestina.*

507 *P. dermestina* (Lam., 1811). — Ill.: W (*pulchella*), A fig. 2632, Cl (*albicostata*).
Syn. *Mitra albicostata* C. B. Ads, 1850.
Acc. to Adams: 15 × 7.9 mm; somewhat irregular spots and figuration; prominent spirals. — Rather common.

508 *P. monilifera* (C. B. Ads, 1845). — Ill.: W (*albocincta*), A (*albocincta*) fig. 2623, Cl.
Acc. to Adams: 19 × 9 mm; a white spiral band on the upper whorls and which is delated into spots on the ribs, with rather acute longitudinal ribs, about 14 on each whorl and numerous minute unequal raised spiral lines. Jamaica. In Cl. & T. (1950) the number of the fig. in the text should be changed from 9 in 10. This fig. shows that the ribs are rather sharp and that there is no light coloured or white band on the base. — Our largest specimen measures 18 × 9 mm. Rare.
W. & A. (1961) and Abbott (1974, fig. 2623) mentioned the species *"albocincta"*, in accordance with pl. 36 in Cl. & T.; on this plate, however, the numbers 9 and 10 disagree with the text next to the plate. This text might read:
Fig. 9 *Mitra nodulosa* / Fig. 10 *Mitra monilifera.*
Mitra albocincta is not figured; it measures 5.1 × 2.5 mm.

509 *P. histrio* (Reeve, 1844). — Ill.: W, A fig. 2623a.
Acc. to R.: Whorls encircled with a narrow black and white belt; ribs rather obtuse, interstices transversally striated. Acc. to the fig. 16 × 8 mm, a light orange band on the base. — The light orange band is easily bleached to white. Our largest specimen: 15 × 7 mm. Not as rare as *monilifera.*

510 *P. variata* (Reeve, 1845). — Ill.: A fig. 2633; Pl. 40
Syn. *P. splendidula* Sarasua, 1975.
Acc. to R.: Whorls angulated at the upper part, longitudinally ribbed, ribs rather broad, interstices transversally impressly striated: yellow, variously banded and lineated with burnt brown. Acc. to the fig. 19 × 9 mm, 6 ribs visible; under the suture the white band comes first. — In *histrio* the brown band comes first. Some specimens on the south coast at 10 to 30 m and from material dredged from the harbour, Aruba. Rare.

511 *P. laterculatum* (Sow., 1874). — Ill.: A fig. 2626.
Syn. *Mitra oriflavens* Melvill, 1925, and *M. olssoni* McGinty, 1955.
Acc. to Sowerby: Shell fusiform, cancellated, spire as long as the aperture, whorls angular, ornamented in the middle with a broad band. Aperture ridged within. Acc. to the fig. 16 × 7.5 mm. The holotype photographed by Cernohorsky (1978) has rounded whorls and measures 14,0 × 6,1 mm. McGinty states: 12,6 × 4,6 mm; whorls rounded; colour white with sparse scattered lightbrown smears and a few darker brown spots. — In our largest specimen, 17 × 6.2 mm, the last whorl has a somewhat angulated shoulder, the earlier whorls are rounded. Rather rare.

512 *P. bibsae* (Usticke, 1969). — Ill.: Pl. 40.
See Usticke (1971): 15 × 5.0 mm, colour white with small orange patches. Aruba. — At a shell-length of 15 mm: 4 + 7 w.; whorl moderately convex, a beaded spiral underneath the suture, about 22 ribs with spirals inbetween; columella 4 plaited, outer lip with about 10 linear teeth. We know 2 colour forms: *a.* as mentioned by Usticke; *b.* orange, with a white band on the base from aperture to the middle of the outer lip; inside of aperture white. (Colour form a has a white band on the base as well). Rather rare.

513 *P. sykesi* (Melvill, 1925). — Ill.: A (*moisei*) fig. 2630.
Syn. *P. moisei* McGinty, 1955.
Acc. to Melvill: Shell pyramidal or rounded; whorls six, inclusive the two vitrious brown nuclear, in all our specimens slightly worn, the remaining four being uniformly spirally ornamented with conspicuous rows of shining white tubercles, very crowded on the two superior whorls, on the penultimate about 12, just above the suture, the rest of the space being spirally lirate in 2 or 3 rows, closely minutely beaded. Columella 4 plaited, outer lip with spiral lirae. Sp. min. 10 × 4 mm, sp. maj. 13 × 6 mm; West Indies. — Acc. to McGinty: 10,2 × 4,3 mm; nucleus with 4 smooth lightbrown whorls, 6 sculptured whorls, sculpture of axial ribs strongly produced on lower two-thirds of each whorl; there is a sub peripheral band of white. Obscure spiral threads that are often weakly nodulose cover the entire surface of the whorls. — The Melvill specimens must be worn, the 2 first p.n.w. making the impression of being nuclear ones. Rather common.

514 *P. puella* (Reeve, 1845). — Ill.: W, A fig. 2625.
Syn. *Mitra albomaculata* Sow., 1874.
Our specimens up to 8 mm. Rather common.

Pusiolina. Acc. to Rehder (1943): Bulbous nucleus of 1 to 1½ whorls; size less than 10 mm.

515 *P. exigua* (C. B. Ads, 1845). — Ill.: W (*hanleyi*), A (*hanleyi*) fig. 2621.
Syn. *Mitra hanleyi* Dohrn, 1861, and *Mitra roseocaudata* Sow., 1874.
Acc. to Adams: 3.3 × 1.5 mm, spire 1.9 mm; 6 whorls, above costae numerous, below costae wide; above dark purple, below maculated with brown. Jamaica. In the photograph of the lectotype, designated by Turner (1956, pl. 21, fig. 1), C. B. Adams' description of this shell is not recognizable. Acc. to Dohrn: 5½ × 2 mm. — No spiral sculpture. Rather common.

516 *Pusiolina veldhoveni* sp.n. — Ill.: Pl. 17, 40.
Holotype in ZMA (no. 3.87.087), 9.0 × 4.0 mm, fig. 516A. Paratype in ZMA (no. 3.87.088), 6.5 × 3.7 mm, fig. 516B.
Type locality: Curaçao.
The type specimen has 1½ nuclear and 5 postnuclear whorls. Fine retiform sculpture, whorls rather flat, protuding over the previous whorl; contour of spire somewhat convex; outer lip smooth within, columella with 4 plaits. Colour orange- brown with white spots or bands, especially below the suture. This species is figured by De Jong & Kristensen (1965 40-41) as *Mitra* aff. *marquesana* A. Adams.
We have seen specimens from Curaçao, where the species is rather common, in Aruba rather rare.
P. veldhoveni is named after the physician and shell collector Michel van Veldhoven.

VASIDAE

517 *Vasum muricatum* (Born, 1778). — Ill.: W, A fig. 2646; pl. 40.
In Curaçao probably extinct; at Aruba's southwest coast common.

518 *V. capitellum* (L., 1758). — Ill.: W, A fig. 2648; pl. 40.
In Curaçao common from the waterline down to a depth of 5 to 8 m; at Aruba's southwest coast a few empty shells have been collected.

VOLUTIDAE

519 *Voluta musica* L., 1758. — Ill.: W, A fig. 2658; pl. 40.
Rather common.

MARGINELLIDAE

Small, colourful, polished shells with short spire. For characteristics of genera see Pl. 24, figures 520, copied from Coomans (1976).

520 *Eratoidea haematita* (Kiener, 1834). — Ill.: W, A fig. 2719.
2 specimens from dredging material harbour Aruba and Malmok (dM, Fr).

521 *E. margarita* (Kiener, 1834). — Ill.: Pl. 40.
See Reeve, (vol. 15, 1866): 7 × 4 mm, shell transparent white, whorls rather gibbous round the upper part, lip thickened, denticulated within. — Our specimens up to 7 × 4 mm, spire 1 mm, 11 teeth on the outer lip. Rather rare.

522 *Dentimargo sulcata* (d'Orb., 1842). — Ill.: Pl. 5, 17.
Acc. to d'Orb.: 3 × 1.5 mm; the fig. shows on the outer lip 6 equally sized denticles; shell strongly ribbed, whorls rather convex, on body whorl 2 colour bands. — Common.

523 *D. reducta* (Bavay, 1922). — Ill.: Pl. 5.
Acc. to B.: *Marginella* (*Glabella*) *r.* 3 × 1.6 mm, white, 5 whorls; outer lip has 5 teeth which become smaller towards the base; columella has 4 plaits. Cuba. — Several specimens from material dredged from harbour, Aruba.

524 *Marginellopsis serrei* Bavay, 1911. — Ill.: A fig. 2778; Pl. 17,25.
Type specimen: 1 × ¾ mm, Cuba. — Our specimens same size. (Abbott mentions 1.5-2 mm). Outer lip thick, inside numerous denticles; base of columella with 4 plications. 2 specimens from Awa di Oostpunt, 3 from Aruba's west coast and 1 from Playa Lechi, Bonaire.

525 *Cypraeolina ovuliformis* (d'Orb., 1841). — Ill.: W, A fig. 2774.
Acc. to d'Orb.: 1½ × 1 mm. — Our specimens up to 1.7 × 1.2 mm. Rather common.

526 *Cypraeolina antillensis* sp.n. — Ill.: Pl. 5.
Holotype in ZMA (no. 3.87.089), 1.7 × 1.1 mm
Type locality: Curaçao.
Shell very small and convolute. The thickened outer lip encompasses the apex, spire concave where the callous ends. Inside of the outer lip with about 16 crenulations, the base of the columella with 4 folds.
3 specimens were found in between some 60 specimens of *C. ovuliformis*, in the latter species the outline of the spire runs rather smooth. More specimens are known to us from a depth of 50 m near Sta. Martha.
Marginella (*Granula*) *agger* Watson, 1886, was described as: 2.1 × 1.4 mm, outer lip in the middle blunt but above and below is bevelled outward to a sharp edge. It is thickened externally by a labial varix, which is continued round the outside of the posterior canal,

which is deep and rounded, and truncates the tip of the shell. Loc. off Culebra island, W.I., 390 fms.
C. antillensis differs from *agger* by its less rounded outlines and by the outer lip not being bevelled outward to a sharp edge.

KEY to the species of *Volvarina (measurements in mm)*

Size 7 mm or less
- Outlines somewhat parallel
  - Orange banded 7 × 3 *albolineata*
  - An orange band at the place of the middle white band in *albolineata* 5 × 2.3 *heterozona*
- Outlines somewhat club-shaped
  - Shining white, 4 columellar folds 5.5 × 2.3 *pauli* sp.n.
  - Shining white, 8 columellar folds 4.0 × 2.0 *abbotti* sp.n.
  - Orange banded, 4 strong columellar folds 5 × 2.2 *vokesi* sp.n.
- Slenderer than former species, spire about 2 mm, orange banded 6.6 × 2.3 *gracilis*

Size 8 mm or more
- Spire short, up to 0.5 mm; orange banded 9 × 4.3 to 12 × 5.3 *rubella*
- Spire rather short, about 1 mm; milky white 9 × 3.4 *lactea*
- Spire rather long, about 2 mm; orange banded 12 × 5 *avena*

527 *Volvarina albolineata* (d'Orb., 1842). — Ill.: W, A fig. 2761; Pl. 25.
Our specimens have a rather short spire like the specimen figured by W. & A.; the specimen figured by Abbott has a rather high spire as shown in d'Orbigny's figures. Our largest specimens measure 7.8 × 3.3 mm. On the body whorl are usually 2 coloured bands coming from the aperture above the folded part of the columella. However, we have several specimens from Aruba's south-west coast with 4 narrow orange coloured bands, hence resembling *V. taeniolata* Mörch, 1860 from California and Mexico; see Abbott (1968). Rather common.

528 *V. heterozona* (Jousseaume, 1857). — Ill.: Pl. 40.
Acc. to Weinkauff (1879): 5 × 2 mm, shell thin, transparent, faintly amber coloured, with a wide yellow band on the middle of the whorl, around the suture there is a similar coloured line. The spire is small and blunt. Locality unknown. — Our specimens 5 × 2.2 mm, shape like *albolineata*, colour whitish with one yellow band 1 mm wide, at the same position as the white band in *albolineata*. Above this band an extremely weak narrow coloured band shows up. Several specimens at Aruba's west coast (Fr).

529 *Volvarina pauli* sp.n. — Ill.: Pl. 5.
Holotype in ZMA (no. 3.87.090), 5.5 × 2.5 mm. Type locality: the type specimen was selected from a mixed lot with material from Aruba and Curaçao.
Shell small and elongate with 4 whorls. Apex rounded, spire rather short, apical angel 90°. Outer lip thickened and smooth, there are 4 columellar folds which are not prominent. Colour white and shiny. Rather common.
V. pauli is distinct from *V. vokesi* in which the columellar folds are more prominent. *V. abbreviata* (C. B. Adams, 1850) is also white shining, but with a wider shape.
V. pauli is named after Paul de Jong, son of the first author.

530 *Volvarina abbotti* sp.n. — Ill.: Pl. 5.
Holotype in ZMA (no. 3.87.091), 4.0 × 2.0 mm.
Type locality: Aruba.
Shell small, somewhat club-shaped. Spire very short, apical angel 120°. The species is characterized by 8 columellar folds. Colour white shining.
We have studied several specimens from Aruba. Distinct from congeneric species by the number of columellar folds. Named after Dr. R. Tucker Abbott, well-known American malacologist.

531 *Volvarina vokesi* sp.n. — Ill.: Pl. 41.
Holotype in ZMA (no. 3.87.092), 5.0 × 2.2 mm, fig. 531A. Ten paratypes in the collection of Fredericus Verberne, Aruba.
Type locality: Aruba, west coast.
The shell is small and club shaped, Apical angel 90°. There are 4 strong columellar folds. Colour white, with orange brown bands: one on the body whorl, which divides near the aperture into two bands, just beneath the suture another band. For distinctive characters, see Key.
V. vokesi is named after the American malacologist H. E. Vokes.
We have studied about 20 specimens from Curaçao, which may belong to another forma in which the spire is higher (fig. 531B), apical angle about 80°.

532 *V. gracilis* (C. B. Ads, 1851). — Ill.: Cl, W.
Acc. to Adams: 6.6 × 2.3 mm, aperture 4.4 mm. White with 3 spiral bands of orange brown. — Rather common.

533 *V. rubella* (C. B. Ads, 1845). — Ill.: Cl.
Acc. to Adams: 8.9 × 4.3 mm; spire 0.6 mm, 3 rosa bands. Tryon (vol. 5, 1883) stated: 8 to 11 mm, rosy-white with 3 faint rosa coloured bands, acc. to the fig. 11 × 5 mm. — We have 8 specimens in agreement with this description, sizes from 8.5 × 4.0 mm to 9.8 × 4.7 mm, spire from 0.2 to 0.5 mm. Another 6 specimens have yellowish-orange coloured bands, largest specimen 12.5 × 5.6 mm, spire 0.5 mm. In still another 5 specimens from the Spaans Lagoen, Aruba, the colour is reddish-brown; in two of these specimens no separate colour bands can be distinguished, their size is about 9 mm.

534 *V. lactea* (Kiener, 1841). — Ill.: A fig. 2766.
Acc. to the fig. in Kiener 9½ mm; the spire is much shorter than in *avena*; milky white. Acc. to Weinkauff (1879): 9 × 3.4 mm, aperture 8 mm. — *V. lactea* has (approximately) the same size and shape as *rubella*. Rather rare.

535 *V. avena* (Kiener, 1834). — Ill.: W, A fig. 2757.
Acc. to the fig. in Kiener 11½ mm, slender, with the spire about 1/5th the shell's length; orange brown banded. — Rare in Curaçao, rather common at Aruba's north- and west coasts.
The form *beyerleana* (Bernardi, 1853) has rosa colour bands.

536 *Hyalina pallida* (L., 1758). — Ill.: W (*tenuilabra*).
Syn. *H. tenuilabra* (Tomlin, 1917).
Common at the north- and west-coasts of Aruba.

Persicula. Spire very low to flat; aperture reaching the apex.

537 *P. pulcherrima* (Gaskoin, 1849). — Ill.: W, A fig. 2750; Pl. 41.
The shell usually has 4 spiral bands. In first author's collection 2 specimens with only 3 bands (figured), collected in Curaçao. The species is rather common in Curaçao but rare in Aruba.

538 *P. catenata* (Montague, 1803). — Ill.: A fig. 2748.
Rather rare in Curaçao, more common in Aruba

539 *P. chrysomelina* (Redfield, 1848). — Ill.: Pl. 41.
Acc. to Weinkauff (1879): 6 × 3.5 mm, white with 6 spirals built up from nearly square yellow spots standing side by side. The intervals between squares contrast as snow-white bands. — In our specimens the number of bands varies from 6 to 8, also the coloration is very variable. Next to specimens completely in accordance with the above description we have specimens with a continuous dark-grey band on which the yellow squares start to show up at the last part of the shell. In one specimen there are additional dark axial bands, giving the shell a pattern of white squares on a grey background. In 3 specimens the bands are wholly orange, the width varying strongly, with approximately 2 to 3 irregular white interstices on each band. We have no intermediates between these last 3 specimens and the ones mentioned earlier. Rather common, especially in somewhat deeper water.

540 *P. interruptolineata* (Mühlfeldt, 1816). — Ill.: A fig. 2751.
See Weinkauff (1879) under *Marginella interrupta* Lam.: 14 × 8 mm, whitish with closely set, interrupted, purple-coloured, black or red spiral bands. — Rather rare.

541 *P. maculosa* (Kiener, 1834). — Ill.: Pl. 41.
Acc. to K.: 10 × 6 mm. — The species is rather wide. 2 specimens measure 12 × 7.8 and 10 × 6.6 mm respectively. Spots rounded. Occurring in Aruba together with the next species in a ratio of approximately 1 to 8.

542 *P. muralis* (Hinds, 1844). — Ill.: Pl. 41.
See Reeve, vol. 15 (1866): 12 × 5.8 mm. — The species is rather slender. 2 specimens measure 12 × 5.8 and 10 × 4.9 mm respectively. Spots square. Otherwise similar to the previous species. Common in Aruba (Malmok), rather rare in Curaçao.

543 *Persicula cordorae* sp.n. — Ill.: Pl. 41.
Holotype in ZMA (no. 3.87.093), 6.5 × 3.7 mm.
Type locality: Curaçao, Sta. Martha, at a depth of 30 m.
Shell small with a flat apex. Outer lip thickened and serrated on the inside. Last whorl smooth and shiny. The colour pattern consists of alternately 2 prominent and 3 much less prominent pattern-rows in spiral form. The 2 prominent rows each consists of 5 to 6 well separated figures. Each figure is built up of a brown rectangle and next to this on both sides a much narrower brown rectangle. The figures in the three less prominent rows each count about 10 white squares and many brown squares, giving a pattern different from that of the prominent rows. The back-ground is greyish.
We studied 19 specimens from grit at a depth of 30 m near Santa Martha, Curaçao.
The complex colour pattern distincts this species from other *Persicula* species.
P. cordorae is named after Cor and Dora de Jong who have collected this species.

Gibberula. Shell rather thin, spire low, outer lip denticulated within.

544 *G. lavalleeana* (d'Orb., 1842). — Ill.: W, A fig. 2747.
Acc. to d'Orb.: $2\frac{1}{2} \times 1\frac{1}{2}$ mm, white, smooth, somewhat conical. Outer lip thickened, very smooth; columella with 4 folds. The figured specimen measures 2.1 × 1.1 mm, spire 0.25 mm, the outer lip has on its inside 7 weak ribs. — Our specimens are up to 3.0 × 1.7 mm, there are 3 or 4 columellar folds; weak axial striae (growth lines). Common.

545 *G. evadne* (Dall & Simpson, 1901). — Ill.: Pl. 5, 17.
Acc. to D. & S.: Shell sculptured by fine even axial close-set striae, obsolete anteriorly, outer lip not marginate, in fully adult specimens crenulate within, the pillar lip with 6 or 7 plaits, enlarging anteriorly, 2.5 × 1.5 mm. The figured specimen is not mature, showing more of the columellar folds than in specimens with a full grown outer lip. — Our specimens: spire 0.25 mm, columellar folds 4 or 5 visible. The species differs from *lavalleeana* by having teeth on the outer lip and by having more prominent axial striae. Common.

546 *Gibberula* spec. — Ill.: Pl. 5.
Size up to 2.7 × 1.7 mm, spire 0.15 mm, outer lip with teeth, no axial striae, columella has 4 folds. The species is very much like *G. vignali* (Dautzenberg & Fischer, 1896), size 2.3 × 1.7 mm, described from the Azores. *G.* spec. differs from *evadne* by having a shorter spire and by having practically no axial striae. About half of our shells is much smaller, their size about 1.7 × 1.1 mm; having a thickened outer lip with teeth they may be regarded mature. Except the size we can find no differences with the larger ones. Rather common.

Cystiscus. Like *Volvarina* but much smaller.

547 *Cystiscus jansseni* sp.n. — Ill.: Pl. 5.
Holotype in ZMA (no. 3.87.094), 2.0 × 1.2 mm.
Type locality: Curaçao, Sta. Martha, depth 30 m
Shell very small, spire flat; outer lip hardly thickened and without teeth. Base of the columella with approximately four folds. In dorsal view the outline of the anterior part of the shell is convex.
The species seems rather common at a depth of 30 m near Sta. Martha; from Aruba it is known from material dredged from the harbour. The specimens from Aruba differ slightly from those from Curaçao in showing an utterly small spire of about 0.1 mm.
The species is named after Wil and Aat Janssen, shell collectors.

Related species: *Marginella* (*Volvaria*) *larva* Bavay, 1922, described from the Atlantic side of Panamá, syn. *Gibberula bocasensis* Olsson & McGinty, 1985, Bocas island. Acc. to B.: 4 × 1.6 mm and minor 2 × 1 mm, columella 8 plaits. Acc. to O. & McG.: 3.8 × 1.9 mm, col. 7 or 8 small plaits, diminishing in size upward. O. & McG. compare *bocasensis* with the much smaller *G. minuta* (Pfeiffer, 1840) non Gray, 1826, but acc. to Weinkauff (1879) that species has teeth on the outer lip. Acc. to Tryon (1883) *minuta* and *lavalleeana* are the same.

Pachybathron. See Gaskoin (1853): Shell longitudinally striated; spire flat, more or less acuminate, volutions perceptible; strong distant denticulations extend over the base and columellar groove; lip thick and denticulate. This genus possesses characters of Marginella, of Cassis and of Cypraea, but differs so essentially from each, that I can not associate it with any of them.

548 *P. cypraeoides* (C. B. Ads, 1845). — Ill.: Cl; Pl. 5, 41.
Syn. *P. marginelloidum*, Gaskoin, 1853.
Acc. to Adams: 8.1 × 5.1 mm, shell white, on the suture a brown line. Acc. to Gaskoin: 7.1

× 4.1 mm, a brown marking encircles the spire, and 3 (4?) reddish brown interrupted arrow-shaped bands traverse the shell; dorsum finely striated longitudinally, impressed with rather deep and distant parallel furrows. — In Coomans (1972, fig. 3-4) specimens are figured with 4 arrow-shaped bands, which are connected to one another. — The species has in longitudinal direction closely placed zigzag lines, partly thickened and partly broken up, causing the banded effect. The number of these bands varies (increases) from 4 to 5. Dead specimens, if not bleached completely white, may look: colour darkgrey with 4 narrow, sharply cut, somewhat lighter bands, about 1/3 to 1/4 as wide as the darker parts; these bands are bordered by orange spots or very short lines, placed in approximate squares. Some living specimens at the west coast of Aruba (Mrs dM), several dead specimens in Curaçao and Aruba.

549 *P. cassidiforme* Gaskoin, 1853.
Acc. to G.: 6.3 × 3.8 mm; shell opaque-white, 3 continuous bands a few shades darker than the shell transverse the dorsum, dorsum coarsely striated longitudinally; about 12 or 14 distant linear teeth traverse the entire base. St. Vincent. In the figures the bands are not sharply cut and the lighter and darker parts are about equally wide. — Only known from some islands of the Lesser Antilles; not collected at the ABC islands.

550 *Prunum marginatum* (Born, 1778). — Ill.: Pl. 41.
Acc. to Weinkauff (1879): 26 × 16 mm, glossy-white, yellowish or greyish with or without 2 blurred dark bands. — Awa Blancu and Boca Grandi; in Aruba common at the southwest coast and near Malmok.

551 *P. prunum* (Gm., 1791). — Ill.: Pl. 41.
Acc. to Weinkauff (1879): 34 × 18 mm; shell whitish or brown-yellow, tinted bluish, sometimes with lighter spiral zones. — One specimen from Bonaire (Janssen).

552 *P. apicinum* (Menke, 1828). — Ill.: A fig. 2730.
One specimen, 9 × 6 mm near Malmok, Aruba (dM).

553 *P.* spec. 1. — Ill.: Pl. 41.
Size 6.1 × 3.3 mm, 4 whorls, spire 2 mm, lip thickened, 4 columellar plaits, colour porcelaneous grey. One specimen at Vaersen Bay (Fr).

CONIDAE

See Clench (1942) in Johnsonia 1 (6) and Clench & Bullock in Johnsonia 4 (48).

554 *Conus mus* Hwass, 1792. — Ill.: W, A fig. 2790; Pl. 42.
A number of specimens from Aruba are pinkish, also the inside of the shell is pink and not purple. Very common.

555 *C. jaspideus* Gm., 1791. — Ill.: W, A fig. 2792.
Our specimens have spiral grooves from the shoulder of the body whorl to the base. The top has nearly straight sides, whereas in our specimens of *puncticulatus* they are mostly strongly concave. Rare.

556 *C. jaspideus* forma *verrucosus* Hwass, 1792. — Ill.: Pl. 42.
This form has spiral rows of pustules. Rare.

557 *C. puncticulatus* Hwass, 1792. — Ill.: Pl. 42
Syn. *C. pygmaeus* Reeve, 1844.
Acc. to Reeve: Shell pale violet-tinged white, ornamented with broad waved longitudinal brown streaks, and transverse rows of rather distant irregular dots; interior of the aperture stained with reddish violet. Length 14 mm. — Some specimens from Aruba have a white aperture. The species may reach a length of 23 mm. Our specimens are spirally grooved at the lower part of the body whorl only. The granulated form is named *pustulatus* Kiener, 1845. See Coomans (1973). The species is rare in Curaçao, rather common in Aruba.

558 *C. puncticulatus* forma *columba* Hwass, 1792. — Ill.: Pl. 42.
A colour form with white background is known as *C. columba* Hwass, it is common in Awa Blancu, and on Aruba's west and southwest coasts.

559 *C. mindanus* Hwass, 1792. — Ill.: A (*bermudensis*) fig. 2791
Syn. *C. lymani* Clench, 1942.
Acc. to Hwass: 31.5 × 17 mm. Acc. to Clench: 34 × 17.2 mm, Florida. — The foot of the animal is grey with white spots at the upper side, the under side is yellow (obs. by Vink). Rare. Near Piscadera outer bay 3 specimens up to 35 mm; at Malmok, Aruba, after a hurricane in 1954 6 specimens.
The subspecies *C. mindanus bermudensis* Clench, 1942 from Bermuda is larger, up to 50 mm.

560 *C. spurius* Gm., 1791, forma *atlanticus* Clench, 1942. — Ill.: W, A fig. 2779; Pl. 42.
A colourform. Rare in Curaçao, rather common in Aruba, not known from Bonaire.

561 *C. centurio* Born, 1778. — Ill.: W; Pl. 43.
One living specimen was collected by night at a depth of 30 m on sand near Barbara Beach (J. Nagel), and a somewhat bleached shell at 50 m near Sta. Martha (CdJ). At Aruba's west coast, at a depth of 6 m, 1 live specimen of 8 cm (Mrs. Peeters-Willems).

562 *C. daucus* Hwass, 1792. — Ill.: W, A fig. 2781; Pl. 42.
Mostly collected in rather deep water, however, in Piscadera outer bay in shallow water Rather rare.

563 *C. ermineus* Born, 1778. — Ill.: W (*ranunculus*), A fig. 2802; Pl. 42.
This species was known for a long time as *C. ranunculus* Hwass, 1792. Very common near Klein Curaçao, in Curaçao rather common; in Aruba rather rare.

564 *C. granulatus* L., 1758. — Ill.: W, A fig. 2799; Pl. 42.
Empty shells rather common, but live specimens rarely collected; 4 live specimens were once found on sand in 1 1/2 m deep water under coral rocks (dM).

565 *C. hieroglyphus* Duclos, 1833. — Ill.: Pl. 42.
Figured in Coomans (1958) as *C. perryae*. Rather common in Aruba, rare in Curaçao. Its range seems limited to these two islands. Specimens from the west coast of Aruba are spotted a reddish brown and grow larger, up to 21 mm, than specimens from the north coast, which are spotted a darker brown.

566 *C. regius* Gm., 1791. — Ill.: W, A fig. 2788, Pl. 42.
The small juvenile specimens are white. The yellow colour form is called *citrinus* Gm., 1791; all intermediates to *regius* s.s. are known. Specimens from rough water (north coast) are in general heavier than those from the south coast.

567 Omitted.

568 *C. cedonulli* L., 1767. — Ill.: Pl. 42.
Syn. *C. mappa* Lightfoot, 1786, *C. insularis* Gm., 1791 and *C. dominicanus* Hwass, 1792. See Holeman & Kohn (1970).
The species is rare in the southern Caribbean; 1 specimen known from Playa Chikitu and 1 from Klein Bonaire (Buijse); in Aruba rather rare. The colour pattern of the Aruba specimens agrees with the colour of the holotype of *insularis*, which however, like the specimens from all other localities, has straighter outlines than the Aruba specimens. See also Martini (1773) pl. 62 fig. 683.

569 *C. aurantius* Hwass, 1792. — Ill.: Pl. 17, 42. See Coomans (1973) and Kohn (1976).

Adult specimens can be distinguished from *C. cedonulli* as follows:

C. cedonulli	*C. aurantius*
last whorl smooth	last whorl pustulated
shoulder of last whorl smooth	shoulder with nodules
whorls of spire with fine grooves	without grooves
shell wider	shell slenderer

Acc. to Fr. Verberne and De Man (in litt.) the juvenile shells of both *cedonulli* and *aurantius* have nodules on the shoulder of the main whorl and pustules on the spiral lines; in adult specimens these nodules and pustules have disappeared in *cedonulli*, but they remain in *aurantius*. *C. aurantius* is rather common in Curaçao and Bonaire, but rare in Aruba. Its range is limited to the sea around these islands.

570 *C. attenuatus* Reeve, 1844. — Ill.: pl. 43.
Syn. *C. ustickei* Miller in Usticke, 1959: Pl. 2, fig. 14.
Acc. to R.: Shell attenuated towards the base, spire depressed, sharply angled, apex raised, very sharply pointed. Acc. to fig. 263: 19 × 8 mm. Loc. unknown. Acc. to Usticke: 28 × 13 mm. — The spire whorls bear very fine spiral threads crossed by fine growth lines. The last whorl has very delicate spirals, less than 1 mm apart; these lines are quickly worn away. There are about 10 basal spirals. Acc. to Vink the periostracum is light brown and has no bands with hairs, as is found in *C. daucus*. Ten specimens were collected on the south coast, 9 at about 30 m deep and one at 10 m.

TEREBRIDAE

Shell long, narrow, many whorled, coloured; axial sculpture usually dominates.

571 *Terebra taurina* (Lightfoot, 1786). — Ill.: W, A fig. 2835.
Near Sta. Martha, in sand at about 3 m deep, in alternatingly clear and turbid water, quite a colony, together with *Strombus pugilis* (obs. CdJ). Two living and several dead specimens at the west and southwest coasts of Aruba.

572 *T. glossema* Schwengel, 1942. — Ill.: A fig. 2841.
Our specimens, up to 26 × 5.8 mm (l = 4.5 w), agree with fig. 2841 in Abbott (1974), which is in good accordance with the figure in Schwengel (1940). Only a few specimens in

Curaçao, in Aruba several specimens from material dredged from the harbour and from the west coast.

T. protexta Conrad, 1845. Acc. to Conrad: Subulate elongated, with longitudinal curved acute costae, and fine revolving lines; whorls 15, slightly convex; ribs divided and somewhat dislocated by an impressed line below the suture; colour purplish black, within the same. The specimen described is more than three fourths of an inch long, but the usual size is less than half an inch. No figure. — Acc. to Dall (1889): Very flexuous waves, spirals do not cut the crests of the waves. Ashy to dark-purple; band distinct, whorls 15; 21.2 × 4.7 mm (l = 4.5 w). Hatteras. No figure. Acc. to Abbott (1974): Dull-white in colour, whorls in spire sligtly concave, occurs in deeper water. No figure. Acc. to Matthews c.s. (1975, Fig. 20): length 18.5 mm; Brasil. Acc. to Sally D. Kaicher (1975), card no. 662: Shell up to 25 mm (misprinted 15 mm), l = 4.5 w, colour medium brown to almost black; shallow water, southeastern U.S. (Brasil?).

T. limatula Dall, 1889. Acc. to Dall: Strongly cancellated, nodulous at the intersections, costae about 18-20, straight. One faint anterior and 3 strong spirals between the sutural band and the suture in front; band obscure; white to pale-buff, 18 × 3.5 mm (l = 5.1 w). Barbados 100 fms, Gulf of Mexico 84 fms., Cape Lookout on the Caroline coast in 22 fms. No figure. The figure in Dall & Simpson (1901), reproduced in W. & A. (1961), pl. 29, fig. N shows below the band 4 spiral ridges, surmounting the ribs and on the columella a strong double fold.

573 *Terebra curacaoensis* sp. n. — Ill.: Pl. 43.
Holotype in ZMA (no. 3.87.095), 13.4 × 3.3 mm.
Type locality: Curaçao.
The shell has 1½ nuclear and 9½ postnuclear whorls. About 26 waving ribs, the first quarter of the whorls consists of a row of smooth nodules, which often are not in a line with the ribs, one nodule sometimes encompasses 2 ribs. On the penultimate whorl between the ribs about 9 to 11 spiral grooves and between the nodules about 3 to 4. Columella smooth. Colour whitish with a brown hue to orange-brown, on the row of nodules sometimes brown spots. Common at Curaçao and Aruba.

574 *Terebra* spec. 1. — Ill.: Pl. 43.
Figured specimen 15.0 × 4.2 mm. Ribs weak and numerous, continuing unto the suture, hardly interrupted by a weak groove at about ¼ the width of the whorl. The row of nodules, so manifest in *curacaoensis* is lacking. The spiral sculpture is utterly fine and weak, the shell looks smooth. Columella smooth. Colour white (bleached). Several specimens washed ashore at Aruba's north coast (Fr).

574a *Terebra* spec. 2. — Ill.: Pl. 5.
Figured specimen 25 × 5.8 mm, 15 whorls; below the suture a spiral row of 12 strong, rounded tubercles, anteriorly bordered by a groove; there is no further spiral sculpture. On the early whorls many weak ribs, on later whorls converting into growth lines. Colour ivory white. Only one specimen collected in 1983 at Aruba's north coast (Sloots).

575 *T. hastata* (Gm., 1791). — Ill.: W, A fig. 2846.
Common.

576 *T. cinerea* (Born, 1778). — Ill.: W, A fig. 2847.
Three specimens collected, largest 32 × 6.3 mm, in sand at a depth of 2 m near Basiruti, Aruba (S. Josepha).

TURRIDAE

Shell fusiform, usually with a slit or sinus posterior on the outer lip.

CLASSIFICATION

SUBFAMILY	GENUS	PAGE in Powell	our species NUMBER
TURRICULINAE	*Cochlespira*	42	577
BORSONIINAE	*Mitrolumna*	67	578
CLAVINAE: a tall spire and a truncated anterior canal			
	Crassispira	75	579-589
	Neodrillia	73	590
	Cerodrillia	73	591-595
	Microdrillia	81	596
	Inodrillia	82	597
	Splendrillia	83	598
	Fenimorea	90	599
	Compsodrillia	91	600-601
	Leptadrillia	91	602
MANGELIINAE: a short or relatively short anterior canal			
	Agathotoma	99	604-605
	Glyphoturris	101	606
	Tenaturris	101	607-612
	Acmaturris	101	613
	Cryoturris	101	614-615
	Kurtzia	103	616
	Kurtziella	103	617
	Ithycythara	108	618-620
	Miraclathurella	109	621
	Maesiella	—	622
	Nannodiella	115	623
	Glyphostoma	115	624
	Brachycythara	117	625-626
	Pyrgocythara	117	627
	Thelecythara	118	628
DAPHNELLINAE: n.w. diagon. cancellated			
	Daphnella	123	629-631
	Philbertia	134	632

In the description of the genera we followed Powell (1966); regarding the protoconch (*Crassispira, Agathotoma*) we made an exception.

KEY

Characters mentioned in the key are not (always) repeated in the description of the species. Measurements are in mm. Behind the name the species number is added.

- Spiny carina on upper part of whorl, siph. canal narrow and long. *Cochlespira.*
  - Keel with one row of spines; 12 × 6.0 *radiata* 577
- No sinus, columella with 2 plaits, shell biconic. *Mitrolumna*; 5.5 × 3.0 *haycocki* 578
- Truncated body wh.; subsutural keel followed by a rather smooth sinus area; ribs overridden to some extent by spiral cords; outer lip thickened behind *Crassispira.*
  - Shell all brown, n.w. not keeled
    - above aperture 4 spirals, beaded; 7 × 2.7 *nigrescens* 579
    - above aperture 3 spirals, noduled; 7.5 × 3 *candace* 580
    - ribs abruptly commencing, outlines near top concave; 11 × 4.8 *paxillus* 581
    - ribs abruptly commencing, outlines near top straight 18 × 7 *fuscescens* 582
    - ribs gradually commencing; 12 × 4.3 *apicata* 583
  - Shell white, yellow brown spirals; 6.5 × 2.5 *flavocincta* 584
  - Keel white
    - Crests of ribs white or brown; 4.3 × 1.7 *mennoi* sp.n. 585
  - White nodules
    - Double row white nodules; 11 × 4.0 *leucocyma* 586
    - Single row white nodules, on base 2 white hands; 12 × 5.3 *albocincta* 587
  - n.w. keeled
    - Sculpture cancellated; 8.5 × 3.5 *pellisphocae* 588
    - Only base cancellated, posterior half of whorl white, some specimens all brown; 4.5 × 2.0 *verbernei* sp.n. 589
  - n.w. ribbed
    - Sculpture cancellated, a brown band along suture; 5 × 2 *adamsi* nom.n. 589a
- Ribs strong, bluntly rounded; strong spiral threads; 2½ n.w., last one sculptured. *Neodrillia*
  - 12 × 5.0 *cydia* 590
- Strong ribs from suture to suture; scarcely perceptible threads all over or only on base; 2 smooth n.w. *Cerodrillia*
  - Shell smooth
    - Shell golden brown; 15 × 5.0 *thea* 591
    - Shell pinkish stained, whorls strongly convex; 15 × 5.5 *coccinata* 592
    - Shell pale-yellow with a sutural line of brown; 10 × 4.5 *fuscocincta* 593
  - Shell spiraly striated
    - Body whorl with orange-brown band; 8 ribs; 13 × 5.4 *perryae* 594
    - Body whorl with orange-brown band, continued on earlier whorls; also band below suture; 12 ribs; 6.5 × 2.3 *hannyae* sp.n. 595
- Shell 3-14 mm, 5 n.w. axially costate, sculpture of strong spiral keels. *Microdrillia*;
  - 9.0 × 4.0 spec. 596
- Bold axial folds, stopped or only weakly developed over the shoulder slope; weak spiral striae all over; outer lip varying from thin to weakly varied; 2-3 n.w., the first smooth then developing axial riblets. *Inodrillia*
  - Shell orange-brown, the crests of the ribs white; ribs start at about 2/3 height of the whorl; 12 × 4.0 *vinki* sp.n. 597

- Prominent axials, stopped at the shoulder sulcus, surface smooth and glossy, sometimes striate; lip thin, slightly thickened behind; protoconch smooth. *Splendrillia*;
  – 8.0 × 3.0 spec. 598
- Shell drilloid, of moderate to large size; except for the anal fasciole incised by sp. striae; outer lip thin, nearest rib tends to form a humped rounded varix; 1-2 blunt n.w. *Fenimorea.*
  – Shell white banded, maculated with yellowish or orange brown; 22 × 9 *fucata* 599
- Heavy rounded ribs overridden by sp. cords and numerous threads; the cords are thickened where they cross the ribs; a = about 0.35 l; outer lip thin, a varix behind; 2 smooth n.w. *Compsodrillia.*
  – Varix indicated only by slightly greater inflation of last rib; 3 to 4 major spirals; 11 × 4.4 *gonae* sp.n. 600
  – 5 major spirals; 7 × 3 spec. 601
- Shell narrowly fusiform, axial ribs bent and subdued on the anal fasciole, spiral sculpture obsolete except for a few threads on the anterior end, 2 n.w., the latter part slightly bulging at the periphery. *Leptadrillia.*
  – 8.0 × 2.3 *cookei* 602
- Shell with a long body whorl; strong slightly oblique axials, usually in line whorl to whorl and continuous over the whole of the body whorl and base. Numerous sp. threads. Outer lip varied, sinus deep, 2 or 2½ n.w., the last smooth or ribbed. *Agathotoma.*
  – White; 10 × 3.2 *candidissima* 604
  – Brown or with brown lines; 7 × 2.3 do. forma *badia* 605
- Prominent ribs, overridden by sp. cords and frosted threads; outer lip varicose, a denticle below the sinus; the last n.w. ribbed. *Glyphoturris.*
  – Ribs spinose at the crossing of sp. cords; 7.0 × 3.1 *diminuta* 606
- Broadly rounded ribs crossed by sp. threads, outer lip varicose, a denticle below the sinus; 2½ n.w., the last with riblets. *Tenaturris.*
  – On pen. whorl: 18 ribs + spiral threads
    · a = 0.58 l; pale yellow; 10 × 4.5 *bartletti* 607
  – 12 r. + 5 sp.thr
    · a = 0.53 l; 6.0 × 2.5 spec. 1 608
  – 17 r. + sp.thr.
    · a = 0.44 l; white with 3 brown sp. lines; 6.5 × 2.2 *trilineata* 609
  – 10 r. + sp.thr.
    · a = 0.38 l; brown; 5.0 × 2.3 *fusca* 610
  – 10 r. + 2 sp.thr.
    · a = 0.42 l; brown with white band at periphery; 4.0 × 2.0 spec. 2 611
  – 9 r. + 2 sp.thr.
    · a = 0.35 l; white with orange band along suture; 5.0 × 2.1 spec. 3 612
- Adult sculpture clathrate, outer lip varicose, its outer edge crenulated; 2½ n.w., the last one obscurely keeled and with axial riblets. *Acmaturris.*
  – 5.5 × 2.1 cf. *brisis* 613
- Whorls angulated to moderately rounded at the periphery; low ribs crossed by granulose sp. threads; lip simple, thin; a = 0.38 l; tip immersed, last n.w. ribbed. *Cryoturris.*
  – Last wh. has 4 brown sp. lines and weaker coloured ones; 10 × 3.0 *quadrilineata* 614
  – Whorls more angular, smoother; 10 × 3.4 *serta* 615
- Whorls angulated, strong ribs crossed by 3 or 4 noduled spirals, frosted sec. sp. inbetween; lip thin: a = about 0.45 l: quadrate: last n.w. 2 or 3 sp. + curved ribs. *Kurtzia.*
  – About 11 ribs, strongly noduled; on suture a brown band; 5.0 × 2.0 spec. 616
- Shell elongate-biconic; prominent ribs overridden by dense sp. lirae; a = about 0.35 l, ovate quadrate; lip thin; last n.w. reticulated by 3 or 4 sp. + ribs; *Kurtziella.*

– About 16 slanting ribs; below suture flattened space; on last whorl often a brown band; 6.0 × 2.0 *vincula* 617

- Elongate shells with proment ribs aligned from whorl to whorl; last n.w. ribbed. *Ithycythara.*
  – interstices smooth; 11 × 3.5 *lanceolata* 618
  – spirally striated, 6-7 r. brownish; 6 × 2 *rubricata* 619
  – spirally striated, 5 ribs white; 6 × 2 *parkeri* 620
- Narrow ribs overridden by strong sp. cords; subsutural cord; outer lip thickened behind, sinus deep, constricted at the entrance, stromboid notch rather deep; last half n.w. bears riblets. *Miraclathurella.*
  – Beaded sculpture; whitish, maculated with pink; 8.5 × 2.8 *kleinrosa* 621
- Like *Miraclathurella* but shoulder somewhat concave, ribs on final whorl may be obsolete. *Maesiella.*
  – 9.0 × 3.0 cf. *maesae* 622
- Whorls angulate with clathrate sculpture; aperture with a conspicuous laterally projecting sinus; 4 n.w., the last one or two with an angular keel. *Nannodiella.*
  – 4.7 × 1.8 *vespuciana* 623
- Strong ribs crossed by sp. cords and threads; outer lip strongly variced and dentate; col. lip plicated; on the second n.w. develops a strong keel; *Glyphostoma.*
  – Upper 2/5 of whorl sculpture indistinct; a = 0.4 l; 6 × 2.5 cf. *johnsoni* 624
- Shell biconic with long narrow aperture; stout ribs, spiral threads; sinus shallow; outer lip thickened: 1 3/4 to 3 n.w., the last with riblets. *Brachycythara.*
  – 1 3/4 n.w., sp. obsolete on summits of ribs, 4.6 × 2.3 *biconica* 625
  – 2½ n.w., sp. crossing ribs; 4.0 × 2.0 spec. 626
- Long body whorl, narrow ribs, strong sp. threads; outer lip variced; 2 or 3 n.w., the last with riblets. *Pyrgocythara.*
  – Sculpture cancellate, white; 7.5 × 2.2 *metria* 627
- Shell ovate, subpupoid; closely beaded; aperture long and narrow; outer lip thickened; sutural cord; *Thelecythara.*
  – 7.4 × 2.8 *floridana* 628
- Shell elongate-ovate with a long body whorl; on body whorl reticulating threadings; outer lip thin; n.w. diagonally cancellate. *Daphnella.*
  – Early whorls strongly ribbed; 14 × 5.2 *lymneiformis* 629
  – The whole shell has an evenly reticulated sculpture with minute beads; 14 × 5.5 *margaretae* 630
  – Whorls strongly convex; 4 spirals; 6 × 2.5 *morra* 631
  – Whorls strongly convex, 8 spirals; 7 × 2.3 *louisae* sp.n. 631a
- Ribs overridden by less prominent sp. cords, giving a reticulated sculpture; lip denticulate within; a = about 0.46 l; 2 n.w. papilate, the 1st spirally lirate, the remainder faintly diagonally cancellated. *Philbertia.*
  – Nuclear whorls orange-brown; shell banded with orange brown; 6.5 × 3.0 *permiscere* 632

577 *Cochlespira radiata* (Dall, 1889). — Ill.: W, A fig. 2924.
Only one specimen collected (CdJ).

578 *Mitrolumna haycocki* (Dall & Bartsch, 1911). — Ill.: Pl. 26, 43.
Acc. to D. & B.: *Mitra h.*, shell white, flecked with pale yellow-brown; size 4.7 × 2.5 mm; whorls about 5, nucleus white, blunt; between the sutures 4 spiral cords, the cord in front of

the suture more prominent than the others; on the last whorl about 15 spiral cords and 20 incised axial lines; towards the aperture the axial lines become feebler or obsolete. About 6 spiral lirations inside the outer lip, on the pillar 2 strong plaits, rather deep within the aperture. Bermuda. The figure shows 5 spiral cords between the aperture and the suture, lip thin. — Our 17 specimens up to 5.5 × 3.0 mm, 1½ + 4½ w.; inside the thickened outer lip spiral lirations, 1 or 2 at about 2/3 its height by far the strongest, forming teeth. A not fully mature specimen with a thin lip shows the lirations as mentined by D. & B. — Acc. to Abbott (1974) *haycocki* is a syn. of *M. biplicata* (Dall. 1889). Acc. to Dall: 7 × 3.0 mm, 1½ + 5 or 6 whorls; Barbados in 100 fms. Acc. to Dall's figure, reproduced by Abbott, no. 2992, the cord in front of the suture is not more prominent than the others. This is in agreement with specimens from a depth of 100 m near Barbados, present at ZMA.

579 *Crassispira nigrescens* (C. B. Ads, 1845). — Ill.: W, Cl
Beaded sculpture. Rather common.

580 *C. candace* Dall, 1919. — Ill.: Pl. 26.
Acc. to Dall: Colour pale purple with touches of brown, suture obscure behind a moderately impressed anal fasciole with a fine thread between them. On the penultimate whorl 2 peripheral threads overriding 10 or more short ribs. Aperture wide and short; outer lip thin-edged, with a large rounded varix behind it, within dark brown. Size acc. to text 7 × 2 mm, acc. to Pl. 7, fig. 6 however 7.3 × 3 mm. Dall mentioned as locality Gulf of California, which was corrected by McLean in Keen (1971: 907) in Caribbean. — Acc. to Maes (1983, fig. 1, 12): *Pyrgospira c.*, colour pale gray brown. The protoconch consists of a little over one whorl. Of 5 specimens from Guana Island the length was 5.7-10.4 mm, the number of whorls 7-9, the number of major axials 12-17, of major spirals 7-9; figured specimen 10 × 4 mm. Uncommon; range Eastern Caribbean. — One specimen collected at Playa Lechi, Bonaire (Arn.), size 7.5 × 3 mm, above the aperture 3 main spirals with spirally elongated nodules.

581 *C. paxillus* (Reeve, 1845). — Ill.: Pl. 43.
Acc. to R. (fig. 285): Shell acuminated at the apex, whorls concave round the top, with a small keel, closely plicated in the middle, interstices between the folds finely striated, ridged round the bottom; sinus large; very dark brown. Loc. unknown. The fig. shows a shell with the outlines near the top concave, with a flat sinus scar; size 9 × 4 mm. — Acc. to Maes (1983, fig. 10): *Strictispira p.* The protoconch is large, paucispiral, brown; it consists of a little over 1 whorl. The axial ribs (19-23) reflect slightly at the anal scar. Of 8 specimens from Guana island the length was 9.1-13.6 mm, the number of whorls 7.5-8, the number of major spirals 12-16; the figured specimen measures 11.2 × 4.9 mm. Cuba and the Eastern Caribbean to Brasil. — Our specimens up to 15 mm. Rather rare.

582 *C. fuscescens* (Reeve, 1845). — Ill.: W; Pl. 43.
Acc. to R. (species 125): Keel sometimes granulous, sometimes split as it were into 2 keels, ribs granulated at the last whorl, lip thickened, edge sharp, sinus broad. The *P. fuscescens* is a short, stout, rudely formed shell. Loc. unknown. Fig. 125 shows a shell without a keel and can not be the described species. — Our specimens up to 24 mm. The protoconch consists of a little over 2 whorls, in a line with the outlines of the shell. At a length of 15 mm *fuscescens* has about 1½ p.n.w. more than *paxillus*, the bodywhorl being visibly shorter. Rather common.

583 *Crassispira apicata* (Reeve, 1845). — Ill.: Pl. 43.
Acc. to R. (pl. 33, fig. 305): Figured specimen 7.3 × 3.3 mm; Loc. unknown. Acc. to Maes (1983, fig. 15): One of the commonest crassispirines in the Caribbean. Of 9 specimens from Guana Island, all uniformly dark brown, the length was 14.5-18.1 mm, the number of whorls 8.5-9.3, of axials 18-25, of major spirals 11-14. Figured specimen 16 × 5.6 mm. Puerto Rico and the eastern Caribbean to Venezuela and Brasil. — Size of one of our specimens 6.8 × 2.5 mm, 2 + 5½ w.; ribs slanting, above strongly bent, usually ending below the suture in a more or less knobby cord. On the inside of the outer lip there are 3 teeth or rugosities, the upper and most prominent one just below the sinus. Many of our specimens are much larger, up to 11.5 × 4.1 mm, 2 + 7 w., some with the lip without any thickening, which means that the species may grow larger. Rather common.

584 *C. flavocincta* (C. B. Ads, 1850). — Ill.: Cl.
Acc. to Cl. & T. (1950, pl. 29 fig. 1): Shell white, with a spiral band of yellowish brown on the upper and on the lower parts of the whorls; plicately and transversely ribbed on the middle of the whorls; 4.8 × 1.8 mm, whorls about 7, with an indistinct suture. — Our specimens up to 6.6 × 2.6 mm; 1 specimen from Curaçao, in Aruba rather common.

585 *Crassispira mennoi* sp.n. — Ill.: Pl. 17, 43.
Holotype in ZMA (no. 3.87.098), 4.4 × 1.7 mm.
Type locality: Curaçao.
The shell has 1½ nuclear and 5 postnuclear whorls. The nuclear whorls are smooth. Truncated body whorl. On the last whorl 16 ribs, above aperture 4 very fine spiral grooves; colour orange-brown or dark-brown, with a white spiral band covering the keel and continuing on the body whorl unto the outer lip; in the orange-brown specimens also the crests of the ribs are white. Rather common.
For distinctive characters is referred to the key.
The species resembles *Pleurotoma quadrifasciata* Reeve, 1845, but that species is much larger (11 × 4 mm) and has accordingly more whorls (about 10); locality unknown.
C. mennoi is named after Menno de Jong, son of the first author.

586 *C. (Monilifera) leucocyma* Dall, 1883. — Ill.: W
Rather rare.

587 *C. (Monilifera) albocincta* (C. B. Ads, 1845). — Ill.: Cl.
Syn. *Pleurotoma ornata* d'Orb., 1842 (non De France, 1826).
Acc. to Adams: 7.1 × 3.3 mm. The fig. in Cl. & T. (1950) shows on each whorl a row of about 12 large white nodules and on the base a white noduled cord and below a white band. — Our largest specimen 12.5 × 5.5 mm. Rather rare. — Dall & Simpson (1901) give under *albocincta* a description that does not fit this species.
Abbott (1974) mentions *albocincta* as a syn. of *albomaculata* d'Orb.; Acc. to d'Orbigny's Atlas *albomaculata* has no white band on its base.

588 *C. pellisphocae* (Reeve, 1845). — Ill.: Pl. 17, 43.
Syn. *Pleurotoma cancellata* Reeve, 1846, non Eichwald, 1833.
P. cancellata. Acc. to R. (nr. 317): Whorls keeled at the upper part, transversally very finely ridged, ridges cancellated with longitudinal striae, aperture small; jet black, ridges dirty white. St. Vincent, W.I.. Acc. to fig. 9 × 3.5 mm. — Acc. to Maes (1983, fig. 16): *Crassispira* (*Monilispira*) *p.*, described without locality and with a misleading fig., is

synonymous with *cancellata*. Of 8 specimens from Guana island the size was 6.9-8.1 mm, the number of whorls 6-8.3, the number of major axials 18-30, of major spirals 9-14. Virgin Islands, Eastern Caribbean to Tobago and the Netherlands Antilles. — Our specimens measure up to 8.8 × 3.5 mm, 1½ + 7 w., 22 ribs. The n.w. have 2 smooth keels, as pictured by Olsson & McGinty (1958, pl. 2, fig. 1) for *Rissomurex muricoides* C. B. Ads. The first p.n.w. has 2 finely beaded spirals; on the penultimate whorl there are 4 spirals, the upper one (keel) may become weak on the last whorls and is followed by a wider space than occurs between the following spirals; evenly spaced spiral threads; axial threads (growthlines) uneven and less numerous; a = 0.3 l; sinus moderately deep. Several specimens collected on algae at Boca Canoa.

589 *Crassispira verbernei* sp.n. — Ill.: Pl. 17, 43.
Holotype in ZMA (no. 3.87.097), 4.8 × 2.2 mm.
Type locality: Aruba, west coast.
The shell has 1½ nuclear and 5 postnuclear whorls. Outlines of the shell moderately convex; a = 0.32 l; lip sharp, thickened behind, continued round the top of the aperture as a thick callous pad. Colour greyish- or orange-brown, with a broad white (anal) band below the suture; the lower half of the base is also white. On the lower halves of the whorls there are dark brown lines (on the body whorl 6), coinciding with spiral grooves. The protoconch shows 3 weak spirals. At first sight the species resembles *Decipifus kristenseni*, nr. 439.
For distinctive characters, see Key.
A colour form differs in being all brown; a few of these specimens show below the suture a band of a slightly lighter colour.
Several specimens collected at Aruba's west coast.
The species is named after frère Fredericus Verberne, a shell collector at Aruba, who has worked together with the authors on this book, mostly by supplying shells from Aruba.

589a *C. adamsi* nom. n. — Ill.: Cl (as *elatior*).
Syn. *Pleurotoma elatior* C. B. Ads, 1845, non d'Orbigny 1842.
Acc. to Adams 4.8 × 1.9 mm, 6 convex whorls, 12 ribs + spirals. — Our specimens up to 5.0 × 2.0 mm, 2 + 4 w., the n.w. dome shaped and ribbed; on the penultimate whorl about 19 ribs and 3 or 4 spirals, forming slight beads, on the outer lip about 7 spirals visible; a = 0.38 l; behind the outer lip a slight varix, sinus deep. Colour whitish with an orange brown colour band around the suture, starting on the n.w. and ending on the middle of the outer lip; base orange coloured; in agreement with the photograph of the holotype in Cl. & T. (1950). Several specimens were collected at St. Martin; not known from the ABC islands.

590 *Neodrillia cydia* Bartsch, 1943. — Ill.: W, A fig. 3020.
The spiral threads are frosted by much weaker axial threads. Rather rare.

591 *Cerodrillia thea* (Dall, 1883). — Ill.: W, A fig. 3023.
Acc. to D.: Shell coloured olivacious; about 11 slightly curved ribs, aperture internally claret brown; 15 × 5.2 mm, length of aperture 5.5 mm. Acc. to Dall & Simpson (1901): 15 × 4.5 mm, about 7 or 8 ribs. — Our specimens have 7 to 9 ribs. Rare.

592 *C. coccinata* (Reeve, 1845). — Ill.: W.
Acc. to R.: Whorls smooth, concave round the upper part, plicately nodose beneath, base truncated. White, stained with rose-scarlet on the back and between the nodules. On the figured specimen 6 ribs are visible, size 8.3 × 3.7 mm. Acc. to Tryon, 6 (1884): 12-15 mm.

W.I. Occasionally the colour varies to a pinkish brown. — Our largest specimen: 16.3 × 5.7 mm, 2 + 7 w., 9 ribs, only spiral sculpture on the base; a = 0.36 l, lip thin with a varix behind. Other sizes: 11.6 × 4.3 and 7.4 × 3.0 mm. This species has the ribs in the earlier whorls far more knobby than in *C. perryae*. Rather common in Curaçao; in Aruba rather rare.

We regard *Pleurotoma interpunctata* E. A. Smith, 1882, a syn.. Acc. to S.: 16 × 5 1/3 mm, 9 whorls, costae nodulous about the middle. This species is remarkable for the pretty coloration. St. Thomas, W.I.

593 *C. fuscocincta* (C. B. Ads, 1850). — Ill.: Cl.

Acc. to Adams: Shell pale yellowish white with a sutural line of brown, anteriorly wax yellow with revolving lines of yellowish white, with a spiral series of large smooth well-rounded nodules on slightly elevated wide ridges on the lower half of the whorls; anteriorly with a few spiral raised lines; 6.8 × 3.3 mm. — Only one specimen collected: 10.5 × 4.8 mm, with 6 ribs. Curaçao (Fontein, coll. KdJ).

594 *C. perryae* Bartsch & Rehder, 1939. — Ill.: A fig. 3022.

Acc. to B. & R.: Shell flesh-colored, with a broad golden-brown band which extends from the middle of the turns to a little beyond the periphery. Postnuclear whorls moderately rounded. On the early whorls the ribs attain their greatest development at the periphery, in the later whorls the hump is a little anterior to the middle; on the fourth and fifth turns there are 8 ribs. The spaces separating these ribs are marked by microscopic incremental lines and equally faint spiral striations. Size 12.9 × 5.3 mm with 8.2 whorls. Sanibel Island. — Some live specimens, one of them 13.0 × 5.4 mm, were collected by night at a depth of 27 m near Barbara-beach (Vink).

595 *Cerodrillia hannyae* sp.n. — Ill.: Pl. 5.

Holotype in ZMA (no. 3.87.098) 6.5 × 2.4 mm.

Type locality: Curaçao, south coast.

The shell has 2 nuclear and 4½ postnuclear whorls. The whorls have 13 ribs; in addition there are evenly spaced spiral threads of which about 20 are visible above the aperture. Colour white with a broad golden-brown band on the body whorl, half visible on earlier whorls; below and adjoining the suture is a same coloured band, which in some specimens, however, is hardly visible.

For distinctive characters, see Key.

C. hannyae is named after Hanny Kemper-de Jong, daughter of the first author.

596 *Microdrillia* spec. — Ill.: Pl. 43.

Figured specimen 9.0 × 4.0 mm (n.w. missing). Outlines of spire rectilinear. On the whorls 2 many ribbed bands, one above and one below, the upper one about half the width of the lower one; inbetween a somewhat concave smooth space, a little wider than the lower band. Suture distinct. Base weakly cancellated by ribs and 6 spirals. Colour white, may be bleached. Only one specimen collected from material dredged from the harbour, Aruba (TdB). Because the shell has lost its n.w. the identification as a *Microdrillia* is not quite sure.

597 *Inodrillia vinki* sp.n. — Ill.: Pl. 43.

Holotype in ZMA (no. 3.87.099), 12 × 4.0 mm.

Type locality: Aruba, Malmok.

The shell has 2 nuclear and 6 postnuclear whorls. The first 1½ nuclear whorls are smooth,

the riblets on the following half n.w. are weak and closely spaced. The slender shell is fusiform, with 12 slanting ribs on the body whorl, the ribs start at about 2/3 height of the body whorl. Colour orange-brown, the crests of the ribs are white, and there is a narrow darker band below the middle of each whorl.
The species differs from *Cerodrillia clappi* Bartsch & Rehder, 1939, by its nucleus not being entirely smooth, the ribs not extending from suture to suture and the whorls (ribs) being somewhat more convex.
I. vinki is named after D. L. N. Vink, a shell collector who has published on the Caribbean mollusks.

598 *Splendrillia* spec. — Ill.: Pl. 43.
Figured specimen: 8.0 × 3.0 mm, 2 + 5½ w., 6 or 7 ribs crossed by spiral threads; a = 0,371, moderately wide. Lip thin, colour white. The species may be distinguished from *Leptodrillia cookei* by having a distinct spiral sculpture and in being proportionally wider. Rather rare.

599 *Fenimorea fucata* (Reeve, 1845). — Ill.: A fig. 3109.
Acc. to R.: The last whorl has a swollen callosity at the back. Acc. to fig. 23 × 9 mm. Acc. to Tryon 6 (1884): length 21 mm; W.I. — In Curaçao one specimen under a stone, in Aruba 4 specimens, size up to 22 × 9 mm with 9 ribs.

600 *Compsodrillia gonae* sp.n. — Ill.: Pl. 44.
Holotype in ZMA (no. 3.87.100), 11.3 × 4.5 mm. One paratype in the collection of Fredericus Verberne.
Type locality: Aruba.
The shell has 2 nuclear and 5½ postnuclear whorls. The whorls have 8 heavy rounded ribs, crossed by spiral cords and spiral threads in between; the shoulder bears many fine spiral threads. The outer lip is thin, a varix is indicated only by a slightly greater inflation of the last axial rib. Colour white.
C. urceole Woodring, 1928: 13.3 × 4.2 mm, one of the most abundant 'Drillias' from the Miocene of Bowden, Jamaica, differs in being slenderer.
C. gonae is named after mrs. Gon de Man-stoit, shell collector at Aruba.

601 *Compsodrillia* spec. — Ill.: Pl. 44.
Size 7.0 × 3.0 mm, 2 + 5 w., 6 ribs, on the last whorl below the shoulder 5 main spiral cords, the lower one forming an angle with the base. One shell, containing a hermitcrab at Curaçao.

602 *Leptodrillia cookei* (E. A. Smith, 1888). — Ill.: W (*splendida*); Pl. 44.
Syn. *L. splendida* Bartsch, 1934.
Acc. to Smith: 6½ × 2 mm, 7 whorls, on the last whorl 10 ribs. Colour reddish with an indistinct whitish band on the middle of the whorl. Jamaica. Acc. to Bartsch: 9.5 × 3.1 mm; 1½ n.w., well rounded smooth; spiral sculpture absent on all but the columella; callus forms a decided knob over the posterior angle. Dom. Rep. W. & A. (1961) stated: *L. splendida*, unicoloured white to salmon pink, about 12 ribs. Reasonably common. — Our specimens up to 8.0 × 2.3 mm, 2 + 5½ w., 8 to 9 ribs, lip thin, no varix, sinus deep; growth lines on the upper part of the whorl strongly curved. Colour white. In some specimens the last ½ n.w. may show weak axial grooves or threads. Several specimens collected from dredging material harbour Aruba (Fr).

603 Omitted.

604 *Agathotoma candidissima* (C. B. Ads, 1845). — Ill.: W (*coxi*), Cl; Pl. 17, 18, 44.
Syn. *Pleurotoma badia* Reeve, 1846, *P. millestriata* E. A. Smith, 1882, and *Pyrgocythara coxi* Fargo, 1953.
Acc. to Adams: 4.8 × 2.1 mm, 5 whorls, subangulated above, 8 or 9 ribs. The fig. of the holotype in Cl. & T. (1950) shows 1 + 5 w.; A note states: *Mangelia candidissima* is a white variety of *Pleurotoma badia* Reeve, 1846. Krebs (1866). Acc. to Reeve: Chestnut brown; acc. to fig. 5 × 2 mm. — Our white specimens measure up to 10.8 × 3.5 mm, ribs 8-11; in the larger specimens the number of ribs on the last whorl often decreases and one or two ribs become very wide. The ratio length/width is variable, the ribs may rise above the suture, especially in the earlier whorls or they may not, the angle on the ribs may be a right angle with straight sides or it may be somewhat rounded. Quite a number collected from material dredged from the harbour, Aruba, a few from Curaçao.

605 Forma *badia* Reeve, 1846. — Ill.: Pl. 44.
Our coloured specimens measure up to 7.2 × 2.6 mm, 9-10 ribs; somewhat worn and bleached specimens are yellowish white with 3 (or more) orange coloured lines, the best visible one ending at the middle of the outer lip. Rather rare.

606 *Glyphoturris diminuta* (C. B. Ads, 1850). — Ill.: W (*quadrata*), A (*quadrata*) fig. 3183, Cl.; Pl. 18.
Rather common.
The fig. of *Pleurotoma quadrata* Reeve, 1845 in Reeve's Conch. Icon. shows a shell much like *diminuta*, but its size is about 3 × as large, there being no indication that it is magnified; loc. unknown.

607 *Tenaturris bartletti* (Dall, 1889). — Ill.: W, A fig. 3159.
Rather common.

608 *T.* spec. 1. — Ill.: Pl. 44.
Figured specimen 7.2 mm; average size 6.0 × 2.5 mm, a = 0.53 l; on penult. whorl 12 ribs, 5 spirals, on outer lip below sinus 13 spirals; inbetween spiral striae crossed by axial threads; sinus deep. Colour whitish, on the last whorl 3 vague orange bands, one around the suture, one ending in a dark-orange spot on the middle of the outer lip and one ending in such a spot below on the lip. 10 specimens collected, some on Aruba's westcoast.

609 *T. trilineata* (C. B. Ads, 1845). — Ill.: W, A fig. 3238, Cl; Pl. 18.
The whorl is angular above the middle; the diameter remains about the same below the middle except on the first 2 p.n.w. Our largest specimens: 6.5 × 2.2 mm, $2\frac{1}{2}$ + $4\frac{1}{2}$ w.. The following colour variations occur: 3 colour bands; the same + a colour patch on the last whorl; only a colour patch on the last whorl; the first 4 whorls white and the following partly orange-brown; completely white, called *decora* by E. A. Smith (1882). Rather rare.

610 *T. fusca* (C. B. Ads, 1845). — Ill.: W, Cl; Pl. 18.
Acc. to Adams: 5.6 × 2.5 mm, brown, whorls 5, ribs 8 to 9, many irregularly spaced spiral striae. Acc. to fig. in Cl. & T. (1950): a = 0.38 l, whorls moderately convex, a little shouldered. — Above aperture about 3 weak main spiral threads, best visible on the ribs, where they give rise to weak nodules; in between finer threads, often hardly or not visible by microscope. One of our specimens 4.6 × 1.9 mm. Rather rare.

611 *Tenaturris* spec. 2. — Ill.: Pl. 6.
Figured specimen 4.0 × 1.9 mm, 2½ + 4 w., 10 ribs, above the aperture 2 weak spiral threads, best visible on the ribs where they form slight nodules. Colour brown with a white band on the periphery; base brown. 25 specimens collected.

612 *Tenaturris* spec. 3. — Ill.: Pl. 44.
Figured specimen 4.3 × 1.8 mm; average size 5.0 × 2.0 mm, 2 + 4½ w., a = 0.39 l; on the penult whorl 9 ribs and 2 fine spirals which form slight nodules, on the outer lip 6 of these nodules. The whole surface is covered with utterly fine spiral and axial threads. Aperture rather narrow. Colour white with an orange brown band along the suture continuing unto and on the middle of the outer lip. Tip of base orange brown. The species differs from *Pleurotoma albovittata* C. B. Ads, 1850 in being broadly instead of narrowly shouldered (Cl. & T. 1950, pl. 30 fig. 3). Rather rare.

613 *Acmaturris* cf. *brisis* Woodring, 1928. — Ill.: 26, 44.
Our specimens up to 5.8 × 2.2 mm, 2½ + 4 w., a = 0.46 l, on the penult. whorl 10 ribs and 3 spirals which form nodules on the ribs and produce a cancellated sculpture; on the outer lip there are 8 or 9 of these nodules. Colour white with an orange-brown band along the suture. Rather common.

614 *Cryoturris quadrilineatus* (C. B. Ads, 1850). — Ill.: W, Cl; Pl. 18.
Acc. to Adams: 5.3 × 2.0 mm, white with one or two fine spiral lines of brown along the suture, and 4 similar lines just below the periphery of the last whorl and with similar but paler lines at the upper part of the whorls and anteriorly. Ribs about 11 with many excessively minute finely granose spiral elevated lines. Whorls 7, subangular. — The whorl is subangular at the middle. In larger specimens the ratio length/width changes somewhat and the later whorls are less or not angular. Our largest specimen: 10 × 3.0 mm, 2½ + 6½ w., a smaller specimen: 8 × 2.6 mm. Rather common.

615 *C. serta* Fargo, 1953. — Ill.: Pl. 44.
Described from the Pliocene of Florida. Acc. to F.: Protoconch of about 2½ volutions, towards the end of the second turn riblets begin and a weak median keel tends to develop; 9-15 ribs, fine spirals, on the shoulder commonly uniform, or developing a feeble primary and secondary pattern. On the periphery is a strong cord nodulous over the ribs, a lesser cord or two anterior to the periphery, with 6 or more fine spiral threads between, all overriding the axials. Fine incrementals give a frosted appearance. Holotype: 7.5 × 2.5 mm, a = 0.37 l, 6 p.n.w. + 2 n.w. remaining. — 10 specimens collected, the largest: 11 × 3.8 mm, n. + 7 w., 12 ribs; another specimen: 8.0 × 3.0 mm, 2½ + 5½ w., tip immersed. Our specimens differ from *quadrilineata* in having the last n.w. (more) keeled; the p.n.w. are more angular; the spirals on the shoulder of the whorl are more uniform; only one specimen has some brown in a band around the suture ending at the middle of the outer lip, it is solid instead of consisting of separate lines as in *quadrilineata*.

616 *Kurzia* spec. — Ill.: Pl. 44.
Only one specimen collected, size 4.9 × 1.9 mm, 3 + 4 w.; a = 0.45 l; 11 ribs. On the last n.w. slanting riblets passing into a sculpture consisting of a slight keel with a ridge above and below it, crossed by slanting riblets. The 3rd p.n.w. has a keel a little above the middle with strong nodules, a primary ridge above and 2 below the keel with less strong nodules, in between secondary, frosted spiral threads. There is a band of solid orange-brown colour around (above) the suture.

Kurzia spec. resembles *Kurziella serga* (Dall, 1881), see Abbott (1974, fig. 3247). Acc. to Dall (1881): 9.0 × 3.25 mm, 2½ + 5 w.; yellowish white. Acc. to Dall (1889): *serga* as far as known is pure white; Antilles and Straits of Florida.

617 *Kurziella vincula* Usticke, 1971. — Ill.: Pl. 44.
Acc. to Usticke (1971): 6.0 × 2.0 mm, 2½ n.w., the last with diagonal striae; just below the suture there is a rather wide flat band of very fine spiral cords, knobbed at the periphery. Ornamented with a rather wide, often indistinct, central brown band and a brown sutural band, which frequently fades away. — Our specimens up to 6.7 × 2.2 mm, 2½ + 5½ w., a = 0.33 l. Colour white with a brown band on the last whorl, which on the penultimate whorl may be visible just above the suture. Rather rare.
Pleurotoma dorvilliae Reeve, 1845 is different. Acc. to R.: 9.6 × 3.2 mm, whorls slightly angulated round the upper part (also indicated in the fig.) encircled with a pale brown three line zone. St. Vincent, W.I.

618 *Ithycythara lanceolata* (C. B. Ads, 1850). — Ill.: W, A fig. 3257, Cl.
Syn. *Mangelia balteata* Reeve, 1846.
Acc. to Adams: 11.2 × 3.6 mm, 6 ribs, whorls 8, labrum finely denticulate within. Colour brownish with a dark brown line along the suture. Jamaica. Acc. to Reeve's fig. 12 × 4 mm. — Rare.

619 *I. rubricata* (Reeve, 1846). — Ill.: Pl. 45.
Acc. to R.: Whorls prominently angled in the middle, at the angle slightly produced into a slight nodule; interstices striated, dull red. On the figured specimen 4 ribs are visible. Acc. to Tryon 6 (1884): Yellowish white to chestnut coloured, 6 mm, W.I.; I think *auberiana* d'Orb. is a syn. — Our specimens have 6 or 7 ribs, some have on the last whorl a more or less complete brown band. Rather rare.
In d'Orbigny's Atlas the names *auberiana* and *lavalleana* do not coincide with the descriptions of these species; acc. to the text *lavalleana* should be the syn of *rubricata*, acc. to the fig. *auberiana*.

620 *I. parkeri* Abbott, 1958. — Ill.: W.
Acc. to A.: 5.7 × 1.9 mm; 7 whorls (n. eroded), 5 ribs, about 26 spiral raised threads, fine growthlines cut across these spiral threads. Colour chalk white, with a faint orange brown splotch near the centre of the whorl between each rib. Grand Cayman Island. — The species differs from *rubricata* by the groundcolour being white and by having only 5 ribs. Rare. — *I. pentagonalis* (Reeve, 1845), 6 mm, St. Vincent, also has 5 ribs but lacks spiral sculpture.

621 *Miraclathurella kleinrosa* (Usticke, 1969). — Ill.: Pl. 18, 45.
Acc. to Usticke (1971): 6.5 × 2.1 mm. 1½ + 5 w., suffused with delicate pink. Sculpture consists of fine ribs, made knobby by the intersections of fine spirals, forming square depressions, with a fine raised sutural band. — The last ½ n.w. bears riblets. Our largest specimen: 8.5 × 2.8 mm, about 20 ribs, above the aperture 6 narrow spirals, in between many fine spiral threads. a = 0.37 l. Rather rare.

622 *Maesiella* cf *maesae* McLean & Poorman, 1971. — Ill.: Pl. 26, 45.
Acc. to McL. & P.: 9.2 × 3.3 mm, 3 + 6 w., whorls weakly rounded, subsutural area slightly concave, bearing a narrow raised subsutural thread; 6 strong diagonal ribs arise on

the last ½ of the third n.w. and cease abruptly, replaced by 5 spiral cords and only faint axial ribs. On penultimate whorl 16 weak ribs, nearly obsolete on final whorl, crossed by evenly spaced major spiral cords; entire shell with fine spiral striae throughout. The spiral cording continuous to the narrow lip edge. — Our specimens average 9.0 × 3.0 mm, 2 + 5½ w.; on the penultimate whorl 8 spiral cords, on the outer lip below the sinus 14; a = 0.43 l; largest specimen 11.0 × 3.3 mm. Photographed specimen 7.5 mm. The riblets on the last ½ n.w. are rather weak than strong. Rather common.

623 *Nannodiella vespuciana* (d'Orb., 1842). — Ill.: W (*melanitica*), A fig. 2367; Pl. 18.
Syn. *Mangelia melanitica* Dall, 1901 and *Clathurella amicta* Guppy, 1896 from the Miocene of Jamaica.
M. melanitica was mentioned (as nomen nudum) in Bush (1885) and in Dall (1889). A valid description and figure was supplied by Dall in Dall & Simpson (1901). This figure was copied by Abbott. — Our largest specimen: 4.7 × 1.9 mm. The last 1½ n.w. have an angular keel, which continues on the p.n.w. as the middle spiral, its prominence gradually diminishing; at the same time the whorls become less angular. In our specimens the last whorl shows little or no angularity anymore. Rather rare.

624 *Glyphostoma* cf. *johnsoni* Dall, 1892. — Ill.: Pl. 26, 45.
Acc. to Dall: 10 × 5 mm, spiral sculpture in later whorls consisting of 5 rounded primary threads between the anal fasciole and the suture in front of it, shoulder covered with about 6 or 8 uniform secondary threads; about 15 riblets; anal notch wide and deep. — Our specimens are smaller and slenderer, size up to 6.0 × 2.6 mm, 2 + 4½ w., a = 0.4 l, about 10 rounded ribs. On the 2nd n.w. a strong keel develops. The first p.n.w. is also strongly keeled, later whorls less when more spiral cords develop. On the last 3/5 of the penultimate whorl there are about 4 spiral cords, on the outer lip about 13. The outer lip has inside about 7 linear teeth, on the columella 3 or 4 denticles. Colour white with some brown, probably bleached. One specimen from St. Michiels Baai, several from Malmok and harbour, Aruba.

625 *Brachycythara biconica* (C. B. Ads, 1850). — Ill.: Cl (lectotype); Pl. 18, 45.
Acc. to Adams: 4.6 × 2.3 mm, whorls 6, subangular, labrum often much thickened by the last rib, about 9 rounded ribs on each whorl, and excessively fine spiral rather distant raised lines, which are obsolete on the summits of the ribs, apex acute. Colour whitish with a narrow spiral band of brown at the summits of the whorls, which is darker between ribs, and a similar wider band a little anterior to the periphery of the last whorl. Jamaica. — Our specimens measure up to 5.8 mm; figured specimen 4.6 × 2.3 mm, 1¾ + 4 w., 13 ribs, a = about ½ l. Several specimens collected from material dredged from harbour, Aruba.
The shell figured by W. & A. (Pl. 25 fig. k) has the outlines of the body whorl less conic, it may represent *B.* spec. Lyons (1972) stated: *B. biconica* (C. B. Ads), the only other Recent western Atlantic species near *B. barbarae* has distinctly beaded spiral cords, 10-12 ribs on body whorl, a = about 0.5 l; depth 1-37 m. In our opinion this is *B.* spec. In *B. barbarae* Lyons: a = about 0.4 l; depth 55-75 m.

626 *B.* spec. — Ill.: Pl. 18.
Figured specimen: 3.9 × 2.0 mm, 2½ + 3½ w.; last half n.w. with riblets; spirals crossing the ribs; outlines of body whorl less conic than in *biconica*. Colour pattern (like *biconica*): light brownish with a darker colour band at the summits of the whorls and a broader coloured band at the body whorl starting as high as the top of the outer lip. Largest specimen 4.8 mm. Rather common.

627 *Pyrgocythara metria* (Dall, 1903). — Ill.: W; Pl. 18.
Described from the Pliocene of Florida. Our specimens up to 7.5 × 2.2 mm, 2½ + 5 w., on the penultimate whorl 13 ribs and 4 spiral threads, inbetween utterly fine spiral and axial striae. Rather common.

628 *Thelecythara floridana* Fargo, 1953 (Pliocene). — Ill.: Pl. 46.
Syn. *T. cruzensis* Usticke, 1969 (Recent) and *T. borroi* Sarasua, 1975 (Recent).
Acc. to Fargo: 3½ smooth n.w., a few obscure riblets precede the beginning of the pattern of the conch, which otherwise is abrupt. About 19 ribs on the penult. and 21 on the body whorl. 6.5 × 2.6 mm. Acc. to fig.: l : w : a = 5.3 : 2.0 : 2.2. Acc. to Usticke: 7.1 × 2.8 mm (n. lost). Acc. to Sarasua: 8 × 3 mm; 20-25 m; Habana. — Our largest specimen: 7.4 × 2.8 mm; a = 0.40 l; p.n.w. 4; about 20 ribs and 8 spirals on the penultimate whorl. 1 specimen from Curaçao and several from material dredged from harbour, Aruba, and the adjoining south west coast.

629 *Daphnella lymneiformis* (Kiener, 1840). — Ill.: W, A fig. 3397, Cl (*decorata*); Pl. 19.
Syn. *Pleurotoma decorata* C. B. Ads, 1850.
Our largest specimen 15 × 5.6 mm, 3½ + 6 w. Rather rare.

630 *D. margaretae* Lyons, 1972. — Ill.: A fig. 3408a.
Acc. to L.: 10.7 × 3.8 mm, about 8 whorls, p.n.w. sculptured with fairly strong spiral lines crossed by weaker axial threads, strongly beaded at intersections; spiral threads within interspaces nearly obsolete. S. Florida. — In Aruba 2 specimens collected (Fr, TdB), the largest 14 × 5.5 mm, n. + 5½ w.; on the penultimate whorl about 14 spiral threads, beads small but clear. Colour like *lymneiformis*.

631 *D. morra* (Dall, 1881). — Ill.: A fig. 3399; Pl. 26.
Acc. to Dall: The p.n.w. are rounded, reticulated, in the 4th whorl 4 spiral threads. The species was figured in Dall (1889), size 5.75 × 2.44 mm (l : w = 10 : 4.2), 450 fms., off Havàna. Dall & Simpson (1901) mentioned a specimen size 3 × 1.25 mm (l : w = 10 : 4.2). The specimen figured by Abbott has l : w = 10 : 3.8, its length about 6 mm. — Not known from the ABC islands.

631a *Daphnella louisae* sp.n. — Ill.: Pl. 6.
Holotype in ZMA (no. 3.87.101), 7.0 × 2.3 mm.
Type locality: Aruba.
The shell has 3½ nuclear and 5¼ postnuclear whorls, the shape is elongate-ovate with a long body whorl, the whorls are rounded. (l : w = 10 : 3.3). On the penultimate whorl 17 ribs and 8 spiral threads; outer lip thin, colour yellowish.
D. louisae differs from *D. morra* by having on the penultimate whorl twice as many spirals and being slenderer.
The species is named after Drs. Louise J. Westermann-van der Steen.

632 *Philbertia permiscere* (Usticke, 1969). — Ill.: Pl. 19, 45.
Acc. to U.: 6.4 × 3.1 mm, 7 whorls including 2 or 3 brownish n.w., the lower one diagonally cancellated. The shell strongly resembles a *Glyphostoma*. Sculpture very rugose, 10 strong ribs with knobs at their junction with finer spirals, in the oblong spaces thus formed are extremely fine verticals. The outer lip thickened with teeth on the inside, and also small teeth on the columella, anal sinus deep. Colour cream, between the second and third spiral

below the shoulder and just above the base a brown band. — The species has 3 to 4 spiral cords on the penultimate whorl, without secondary spirals. The sculpture enters somewhat the aperture, the most inside situated knobs on the ribs giving the inner lip a denticulated appearance. On the outer lip, which is thickened within, the denticles do not coincide with the spiral cords. Our specimens vary from 6.7 × 3.0 mm unto 7.8 × 4.0 mm, the number of ribs from 8 to 14. In specimens with few ribs, the ribs and the nodules are larger and the shell looks rougher than in specimens with more and therefore finer ribs. Rather common. Acc. to Powell (1966) *Philbertia* occurs in West Africa and in Europe. He does not mention representatives in American waters. McLean & Poorman (1971) mention *Philbertia shaskyi*, 5.5 × 2.5 mm, from the tropical Eastern Pacific.

633 *Drillia* ? *actinocycla* Dall & Simpson, 1901. — Ill.: Pl. 26.

Acc. to D. & S.: About 7 convex whorls, the first 4 whorls are smooth and polished, these following with numerous axial ribs, crossed by numerous spiral grooves. The later whorls are white with 3 pale yellow-brown spiral bands; pillar straight, white. 3.5 × 1.5 mm. — Our largest specimen: 5.0 × 2.3 mm, 4 + 3¼ w., a = 0.54 l; on the penultimate whorl about 18 ribs and many spirals. Nuclear specimens, 1.5 × 1.0 mm were collected at the south coast at a depth of about 5 m, together with specimens with ½ or more p.n.w. Our largest specimen comes from Aruba, it is like the specimen described by D. & S. proportionally less wide than the small ones from Curaçao.

Like D. & S. we do not know where to place this species.

OPISTHOBRANCHIA

PYRAMIDELLIDAE

N.w. tilted on axis, often partly enclosed by p.n.w. Many species are known to be ectoparasites, without a radula.

Pyramidella. Shell solid, glossy, elongate-conic; columella with 1 to 3 folds.

634 *P. dolabrata* (L., 1758). — Ill.: W, A fig. 3459; Pl. 45.
In shallow water, burrowed in sand. Rather common.

635 *P. candida* (Mörch, 1875). — Ill.: W, A fig. 3461.
Only 1 specimen from southwest coast of Aruba (Fr.).

636 *Triptychus niveus* Mörch, 1875. — Ill.: W, A fig. 3653; Pl. 19.
Syn. *Pyramidella vincta* Dall, 1884.
The columella has 2 folds. The p.n.w. have 1 to 3 tuberculated spirals with a smooth one below; a new spiral is formed below the upper spiral. Rather common in Curaçao; rather rare in Aruba.

637 *Cingulina babylonia* (C. B. Ads, 1845). — Ill.: Pl. 19.
Syn. *Pyramidelloides judithae* Usticke, 1959.
Acc. to Adams: 2.0 × 0.8 mm. — The shell has n. + 4 w., with 2 smooth spiral cords; between the cords there are fine axial striae. Rather common.

637a *Rissopsetia hummelincki* Faber, 1984. — Ill.: Pl. 19.
Acc. to F.: 1.8 × 0.7 mm, n. + 4 w.; many ribs and microscopic spirals; peristome entire, thin; colour dull yellowish white. — Grand Cayman, 1 specimen; Pova Beach on Aruba, 1 spec.
The genus *Rissopsetia* was, until now, only recorded from Australia and New Zealand. See Ponder (1974).

KEY of *Odostomia s.l.*

Species with 1 small fold at the upper part of the columella (sometimes absent or nearly so), formerly placed in the genus *Odostomia*, now in several genera.
Odostomia. Smooth, (usually) with very fine spiral striae.
- Outlines slightly curvilinear *laevigata*
- Outlines ovate *ovuloides*
- Outlines rectilinear, strong columellar fold *canaliculata*
- Above and below the suture a somewhat raised cingula *didyma*
- Above suture a groove, outlines rectilinear, no col. fold *teres*
- Outlines rectilinear, no col. fold or nearly so, aperture squarish spec.

Chrysallida. Strong axial ribs, and (about equally strong) spirals.
- All p.n.w. with 4 spirals *nioba*

- On the last 3 whorls resp. 3, 4, and 5 spirals *gemmulosa*
- Ribs strongly declined to the right *cancellata*
- First 2, later 3 beaded spirals, a smooth spiral below *buijsei* sp.n.
- Whorls narrowly shouldered, sculpture net-like pattern *terryi*
- Whorls narrowly shouldered, strong axials, weak spirals *toroensis*
- 2 weak spiral ridges, base looking smooth *virginiae*

Miralda. Strong spiral keels, and axial sculpture.
- The upper keel much larger than the lower one *abbotti*
- 2 tuberculated spiral keels *havanensis*

Menestho. Low spiral cords, axial sculpture reduced.
- 3 broad, rounded cingulae *somersi*
- 5 spiral grooves between aperture and shoulder *beermanae* sp.n
- 7 cingulae on penultimate whorl, axial striae, size 6 mm *spec.*

Evalea. Shell smooth, except for microscopic, spiral incised lines.
- Whorls rounded, umbilicated, size 2.0 × 1.0 mm *stocki* sp.n.

638 *Odostomia laevigata* (d'Orb., 1842). — Ill.: W, Cl (*solidula*), A fig. 3473.
Syn. *O. solidula* C. B. Ads, 1850.
Acc. to d'Orbigny's figures Pl. 16 fig. 7-9: spire with the outlines slightly curvilinear, size 3.5 mm, 6 w.; l:w = 3.5:1.4; locality St. Thomas. Acc. to Adams, text (see Cl. & T. 1950, Pl. 40 fig. 2): spire with the outlines moderately curvilinear, size 2.8 mm; 6 w.; l:w = 3.5:1.3; columellar plait stout, obtuse, quite oblique. Loc. Jamaica. — In first author's collection about 50 specimens, spire with the outlines slightly to moderately curvilinear, size up to 3.5 × 1.3 mm, n. + 6 1/2 w.; close-set microscopic spiral striae. In juv. specimens there is no columellar fold, if not quite mature the fold may be weak. Common.
In comparing dimensions it must be kept in mind that in shells with curvilinear outlines l:w will increase when the shell grows larger.

639 *O. ovuloides* C. B. Ads, 1850. — Ill.: Cl; Pl. 19.
Acc. to Adams, text (See Cl. & T., 1950, pl. 40 fig. 4): Shell rather longovate, size 2.9 mm, 5½ w.; l:w = 3.5:1.7; columellar plait quite oblique; Loc. Jamaica. — We collected 3 specimens, size about 3.2 × 1.45 mm = 3.5:1.6; n. + 5½ w.; close-set microscopic spiral striae. As we have only 3 specimens we are not sure whether *ovuloides* is to be regarded a distinct species.
Abbott (1958 p. 103) remarked: From several dozen specimens from 8 stations at Grand Cayman Island, it is obvious that this species (*O. laevigata*) is quite variable in size, shape, sculpture and degree of development in the parietal wall, columellar tooth and umbilicus. It is probably that *O. canaliculata* C. B. Adams, 1850, is also a synonym.

640 *O. canaliculata* C. B. Ads, 1850. — Ill.: W, Cl.
Acc. to Adams: Spire with rectilinear outlines, whorls planulate, suture in a small spiral channel, columellar plait nearly transverse. Size 3.0 × 1.1 mm, whorls 6. Acc. to Cl. & T. (1950, pl. 40 fig. 3) lectotype 3.2 × 1.35 mm (l:w = 10:4.2). — In our 8 specimens from the ABC islands spiral striae are very weak or lacking, the columellar fold is rather strong, the nucleus + first p.n.w. are smaller than in the species mentioned before and therefore the shell looks more pointed. Our largest specimen: 2.7 × 1.2 mm (l:w = 10:4.4), whorls 6.

641 *O. didyma* Verrill & Bush, 1900. — Ill.: Pl. 19.
Acc. to V. & B.: The whorls of the spire are strongly flattened and somewhat concave in the middle with a somewhat raised, thick rounded cingula just above and one just below the suture, which is deeply impressed and somewhat canaliculate. On the body-whorl there is a deep groove just below the peripheral cingulum, bordered anteriorly by another similar cingulum. One specimen 1.3 × 0.7 mm; n. + 5 w. — Our specimens: about 2.4 × 1.1 mm; n. + 5 w.; base spirally striated, more so than other parts of the shell and much stronger than in *laevigata*. Columellar fold and nucleus + first p.n.w. as in *canaliculata*. In our collection about 50 specimens.
Forma A. In 5 of our specimens the cingulae and the groove on the base are weak or nearly lacking, so they look like *canaliculata* but are easily separated by the rather strong striae on the base.
Forma B. In 3 of our specimens the groove on the base is completely or for the most part lacking, but the cingulae are well-developed; the most striking feature, however, is the flat base making a right angle with the flat body whorl. As the lower cingula continues to the lip, at the meeting point the lip makes a right angle as well; in *didyma* s.s. and in forma A the lip is rounded.

641a *O. teres* Bush, 1885. — Ill.: pl. 6, 26.
Acc. to B.: *O. engonia* var. *teres*, 4.5 × 1.5 mm; the whorls have a distinct impressed spiral line just above the angle. The figured specimen is 5 mm. Cape Hatteras – 28 m. — One specimen collected from material dredged at Aruba's south-west coast (TdB), its size 2.9 × 1.0 mm, n. + 5 w.; umbilicated, no columellar fold visible, shining white.
Eulimastoma engonium surinamense Altena, 1975, holotype 3.2 × 1.1 mm, slightly differs from *O. teres* by having the whorl below the angle (more strongly) bending inward so that the flat parts of the whorls are not lying in a line.

642 *Odostomia* spec. — Ill.: Pl. 6.
Figured specimen 2.6 × 1.3 mm, n. + 5 w.; outlines straight, whorls little rounded, last whorl more or less subangular, aperture squarish, columellar fold absent or nearly so; no spiral striae; nucleus plus first p.n.w. of same size as in *laevigata*. In our collection 20 specimens from Curaçao and Aruba.

643 *Chrysallida nioba* (Dall & Bartsch, 1911). — Ill.: Pl. 6.
Acc. to D. & B.: 2.6 × 1.3 mm; n. + 5 w.; the visible half of the last n.w. is marked with 3 strong spiral threads. The p.n.w. have 4 spiral cords and on the penultimate whorl about 22 ribs. On the base are 4 cords. No fig. Loc. Bermuda. — Our largest out of 10 specimens: 3.5 × 1.5 mm; n. + 5 w..
Odostomia jadisi Olsson & McGinty, 1958, described from Bocas Island, Colón, is closely related. Acc. to O. & McG.: Holotype 3.5 × 1.4 mm; ribs about 18, fade out on the base. Altena (1975, fig. 32 a, b) mentions *O. jadesi* from Suriname. In our specimens the ribs end before the base; moreover O. & McG. and Altena do not mention the strong spiral threads on the n.w.

644 *C. gemmulosa* (C. B. Ads, 1850). — Ill.: W, Cl.
Acc. to Adams: Shell ovate-turrited, on the upper whorls 3 and on the lower whorls 4 spiral ridges, with well-developed nodular intersections. Size 3.9 × 1.4 mm. A new spiral is formed below the last spiral and at a normal distance. — Our largest specimen: 3.0 × 1.1 mm, n. + $4\frac{3}{4}$ w.; on the last 3 whorls respectively 3, 4 and 5 spirals. Some specimens of

2.6 × 1.1 mm have 4 spirals above the aperture; the 4th spiral sometimes lacks knobs. In first author's collection 7 specimens.

645 *C. cancellata* (d'Orb., 1842). — Ill.: Pl. 19.
Acc. to d'Orbigny: Size 2 × 1 mm, a regular cancellated sculpture, 5 flat whorls, each with 3 spirals, suture deep, aperture ovate, columellar plait weak. The specimen figured in the Atlas has 4 spirals at the beginning of the last whorl. l:w = 1.9:0.8. — In our specimens the 4th spiral is formed at the beginning of the 4th whorl between the 2nd and 3rd spiral. The beads are connected into ribs which strongly decline to the right. The columellar plait is only visible far inside the aperture. One of our specimens: 1.9 × 0.7 mm, n. + 4½ w.; the largest: 2.6 × 0.8 mm. The species looks somewhat like *gemmulosa*. About 35 specimens collected.

646 *Chrysallida buijsei* sp.n. — Ill.: W (*seminuda*); Pl. 19.
Holotype in ZMA (no. 3.87.102), 2.3 × 0.9 mm, fig. 646A. One paratype in ZMA (no. 3.87.103), 1.6 × 0.7 mm, fig. 646B.
Type locality: the type material was selected from a lot containing shells from Curaçao and Aruba.
The shell has 4 postnuclear whorls and is covered by strong axial ribs and about equally strong spirals. The adult shell is small, from 2.4 × 1.1 to 3.0 × 1.1 mm. The earlier whorls have 2, the later whorls 3 beaded spirals, always with a smooth spiral below. A new spiral is formed by a gradual widening of the upper spiral and dividing into two. Suture deep; the colour is white. Rather common.
For distinctive characters is referred to the Key.
C. buijsei is named after Jan A. Buijse, a shell collector who has photographed 125 specimens figured in this publication.
C. buijsei is much like *Odostomia dux* Dall & Bartsch, 1906, described from Japan. Acc. to D. & B.: 1.8 × 1.0 mm, n. + 3 w.
Andrews (1971) mentioned *O. dux* as fairly common in Texas, its size 1.8 × 0.9 mm, n. + 4 w. Fig. 3490 in Abbott (1974), copied from Wells & Wells (1961) in Nautilus (vol. 74), as "*O. dux*", shows a shell with 3 beaded spirals and a smooth one below on all the p.n.w.

647 *C. terryi* Olsson & McGinty, 1958. — Ill.: Pl. 6.
Acc. to O. & McG.: Shell 2.8 × 1.1 mm, n. + 3 w., flat to slightly convex; a narrow shoulder at the suture; sculpture net-like pattern, about 12 axials showing on the periferal side of the body whorl. — There are many spirals. The outer lip makes a right angle before joining the whorl. Our largest out of 4 specimens; 3.2 × 1.4 mm. Collected at Aruba's west coast (Fr).

648 *C. toroensis* (Olsson & McGinty, 1958). — Ill.: Pl. 19.
Acc. to O. & McG.: *Rissoa? t.*, 2.35 × 1.5 mm; nucleus a single smooth whorl, p.n.w. about 3; 15 or 16 narrow axial ribs, axial interspaces are wide and flat, smooth or marked with low, indistinct, widely spaced spiral striation; outer lip thin. Bocas Island. The generic reference of the species is tentative. Acc. to Ponder (1983) the species belongs to the Pyramidellidae. — Our largest specimen measures 2.8 × 1.6 mm. Rare.

649 *C.* cf. *virginiae* (Altena, 1975). — Ill.: Pl. 6, 26.
Acc. to A.: Holotype 2.2 × 1.0 mm, n. + 4 w.; whorls shouldered, straight or somewhat concave; axial ribs about 20; knobs at the upper side and at the under side forming a more

or less knobbed ridge. Very indistinct spirals are noticeable between the axial ribs. Base on the last whorl with fine spirals and an umbilical slit. Another specimen measures 1.7 × 1.0 mm. Suriname, washed ashore. The spirals are not indicated on the drawing. — In our specimens there are no fine spirals on the base; the ribs are inclined to the right. In the Suriname specimens the ribs are inclined to the left. Size of our largest specimen 2.0 × 1.1 mm; n. + 4 w.. Near Sta. Martha 2 specimens and at Bonaire 2 specimens, all at a depth between 30 and 40 m.

650 *Miralda abbotti* Olsson & McGinty, 1958. — Ill.: Pl. 6, 26.
Acc. to O. & McG.: Size 2.0 × 1.0 mm, n. + 4 w.; second and third whorls have 2 strong spiral cords of which the upper one is much enlarged and forms a prominent shoulder. On the final whorl another spiral cord emerges from the suture and may be considered as marking the edge of the base. About 20 oblique axials. No axials on base. — Our largest specimen is 2.6 mm. Rather common.

651 *M. havanensis* Pilsbry & Aguayo, 1933. — Ill.: Pl. 6, 26.
Acc. to O. & McG., 1958: Shell white or glassy; 2.0 × 0.9 mm, n. + 4 w.; Sculptured with 2 strong tuberculated spiral cords, the spaces between them forming a deep smooth groove. The suture lies in a similar deep groove. — This species resembles *abbotti*, but has a steeper more conic spire, a simpler sculpture and no true axials. From Aruba 8 specimens.

652 *Menestho somersi* Verrill & Bush, 1900. — Ill.: Pl. 6.
Acc. to V. & B.: Shell 2.5 × 1.28 mm, n. + 4w., 3 broad, strong, rounded cingula; base smooth; common in the shell sand. Bahamas. — In Piscadera outer bay 1 specimen; in Schottegat, west of countryhouse Koningsplein, from dredged material 6 specimens.

653 *Menestho beermanae* sp.n. — Ill.: Pl. 19, 20.
Holotype in ZMA (no. 3.87.104), 1.5 × 0.7 mm. Five paratypes in the collection of Frère Fredericus Verberne.
Type locality: Aruba, Noordpunt.
The shell is very small and has 1 nuclear and 3½ postnuclear whorls. The whorls are shouldered and covered with spirals, of which 5 are present on the body whorl between the aperture and the shoulder. On the shoulder are 18 short ribs. Aperture oval.
For distinctive characters, see Key.
M. beermanae is named after Mieke J. H. Beerman-Paul, former shell collector at Aruba.

654 *Menestho* spec.
Largest out of 2 specimens 6.0 × 2.0 mm, 1½ + 6 w.; on the penultimate whorl there are 7 about equal ridges, between and over them axial striae; 2 varices; outlines of shell straight; on the upper part of the twisted columella is a fold. Colour white, may be bleached. The second specimen measures 5.0 × 2.0 mm, it lacks varices. Collected from material dredged from harbour, Aruba (Fr).

655 *Evalea stocki* sp.n. — Ill.: Pl. 6.
Holotype in ZMA (no. 3.87.105), 2.0 × 1.0 mm.
Type locality: The holotype was selected from a mixed lot with shells from Curaçao and Aruba.
The shell is very small, it has one nuclear and 4½ postnuclear whorls. Shell thin, whorls rounded, umbilicated, outlines of shell rather straight, apex sunken, columellar plait weak;

on last whorl 2 to 4 spiral incised lines quite near to each other, on earlier whorls 1 or 2 spirals visible just above the suture. In a few specimens the spiral grooves cover the whole base.
Several specimens collected, some from dredging material harbour, Aruba. Provisionally placed in *Evalea*.
E. stocki is named after Prof. Dr. Jan Stock of the Institute of Taxonomic Zoology, University of Amsterdam.

Turbonilla. Shell elongate, ribbed, with or without spiral striae.

KEY to the species of *Turbonilla*

The species are divided into five groups: A — E. — 5w 4 means: Length = about 5 × width. length 4 mm. Behind the name the number of the species is added.

A. Ribs end at periphery, no spirals visible

- Contour not straight, n.w. a little over 1 whorl 5w 4 — *levis* 656
- Contour straight, 2 n.w.: At a shell length of 3½ mm about 10½ p.n.w., protoc. much smaller than in the 2 following sp. 5w 4½ — *minor* 657
- At a shell length of 3½ mm about 9 p.n.w. 5w 8 — spec. A1 658
- At a length of 3½ mm about 8 p.n.w., base dull 5w 5 — spec. A2 659

B. Ribs end at periphery, spirals visible

- One spiral only, a little below suture 5w 5 — *unilirata* 660
- Many spirals, above middle a wider one 4w 6 — *puncta* 661
- 9-13 spirals, on base a smooth area 5w 6 — spec. B 662
- Many spirals, on base no smooth area 4½w 6 — *deboeri* sp.n. 665
- 5 pitted grooves, ribs turn to the right 4w 5 — *virga* 663
- Whorls flattish, shouldered, shining white 5w 7 — *lillybeckae* 664

C. Ribs extending a little on base, spirals visible

- 10 grooves, about 20 ribs, white 5w 6 — *insularis* 666
- 6 pitted grooves, above suture a coloured band 4w 4½ — *portoricana* 667
- 5 pitted grooves, all brown, last wh. ribs obsolete 4½w 4½ — *krebsii* 668
- 5 spirals, reticulated sculpture 3w 3 — *textilis* 669
- On anterior part 4 spirals, angular 4w 3 — *elegans* 670
- Fine sp. over ribs, at 1/5th a coloured band 3w 5 — *westermanni* sp.n. 671

D. Ribs extending well over base, spirals visible

- Straight, numerous sp., shining brown to whitish 4w 5 — *ornata* 672
- Straight, elongated whorls, apex pointed, brown to yellowish 4w 4 — *stimpsoni* 677
- Curvilinear, wh. swollen, 1 or 2 coloured bands 3w 4 — *riisei* 673
- Curvilin., wh. little convex, margined, strong ribs 3w 4½ — *rixtae* nom.n. 674
- Curvilin., at lower 3/4 wh. slightly convex, slightly shouldered; yellowish brown along suture 3½w 3½ — *pupoides* 676
- Curvilin. like *pupoides*, wh. somewhat convex not shouldered; about 16 ribs 3.8w 3.8 — *cynthiae* sp.n. 676a
- Angular, below sut. 1 sp., on anterior part 3 sp. 3w 1.8 — *arnoldoi* sp.n. 675

E. Ribs extending well over base, no spirals visible

- 6 p.n.w., whorls convex (cf. *laxa*) 3w 6 — *krumpermani* sp.n. 678
- 3 p.n.w., orange brown (cf. *callimorpha*) 2w 1.2 — *fonteini* sp.n. 679

A. Ribs end at periphery, no spirals visible.

656 *Turbonilla levis* (C. B. Ads, 1850). — Ill.: Cl, W (*abrupta*).
Syn. *T. abrupta* Bush, 1899.
Acc. to Adams: 4.2 × 1.0 mm; 28-30 rather stout ribs, without spiral striae; spire with the outlines nearly rectilinear, whorls 9 or 10, scarcely convex, a little constricted above, aperture rhombic ovate; nucleus consists of about 1 1/3 whorl. Bush described this species from 1 specimen: shell irregularly coiled; whorls 9 below the small nucleus; the first 3 or 4 whorls enlarge quite abruptly, while below the increase is very gradually, ribs about 20, oblique, nearly straight, 4 × 1 mm. The fig. in Bush agrees with pl. 49, fig. 4 of *Chemnitzia levis* in Cl. & T. (1950); fig. 3 shows a more slender specimen with a nearly straight contour, more in accordance with Adams' description. — Our specimens comprise both forms and their intermediates, average number of ribs 20, in a varying degree inclined to the left. About 70 specimens were collected.

657 *T. minor* Bush, 1899. — Ill.: Cl as *pusilla*; Pl. 20.
Syn. *Chemnitzia pusilla* C. B. Ads, 1850, not Philippi, 1844.
Acc. to Adams: 3.4 × 0.76 mm, about 12 rather stout transverse ribs, without spiral striae; spire with rectilinear outlines; whorls 10 or 11 besides the nucleus, moderately convex, nucleus consisting of about 1½ whorls, aperture ovate. This species resembles *C. levis*. — One of our specimens: 3.0 × 0.65 mm, n. + 9 w., 14 ribs. Rare.
This species and the following differ from *levis* by having a straight contour and a very clean cut sculpture.
The specimen figured by Tryon 8 (1884) as *pusilla* is not 6 mm long as the line next to the fig. indicates, but 3 mm, 9 whorls; it represents not *pusilla* but *unilirata*, which is slightly curvilinear. See Bush (1899, p. 165).

658 *T.* spec. A1. — Ill.: Pl. 45.
The shell has a larger protoconch than occurs in *minor* and in accordance the following p.n.w. are larger, therefore the shell is more robust and has at a certain length less whorls. The ribs may be perpendicular or in a more or less degree turned to the left, which sometimes occurs in different whorls of a specimen. Our largest specimen: 8.3 × 1.7 mm. Rather common.
T. spec. A1 looks very much like *T. aresta* Dall & Bartsch, 1909 from the Pacific east coast, figured by Abbott (1974, fig. 3710).

659 *T.* spec. A2. — Ill.: Pl. 7.
Only one specimen: 4.0 × 1.2 mm (top missing), n. + 9 w., 18 ribs. In front of the ends of the ribs is a narrow, smoothish glistering area, on which very fine growth lines are visible; after that the base is dullwhite, being the main difference with spec. A1, which has a smoothish base.

B. Ribs end at periphery, spirals visible.

660 *Turbonilla unilirata* Bush, 1899. — Ill.: Pl. 20.
Acc. to B.: 3.5 × 0.8 mm; whorls very slightly convex, 9 + small nucleus, ribs slightly oblique, inclined to the left, varying from 20 to 24. The interspaces cut by a single, conspicuous, raised spiral thread or lira, a little below the sutures. Base rounded smooth. — The outlines are somewhat curvilinear; *unilirata* has a cleaner cut sculpture than *levis*. Our largest specimen; 5.0 × 1.0 mm, n. + 10½ w. In first author's collection 10 specimens.

661 *T. puncta* (C. B. Ads, 1850). — Ill.: W (*haycocki*).
Acc. to Adams: Size 5.6 × 1.3 mm; shell white, with about 26-30 rather prominent transverse ribs, which are not produced below the convexity of the last whorl, with numerous crowded spiral striae in the intercostal spaces, one of which striae, a litle above the middle of the whorls, and another along the suture are wide and deep, resembling series of punctures, intercostal spaces depressed anteriorly below the adjacent anterior surface; spire whith the outlines rectilinear, whorls 10 to 11 after the loss of the nucleus, scarcely convex, with a distinct suture; aperture ovate-rhombic. Cl. & T. (1950) added: Type lost. — Between the ribs may be 35 spiral striae, those on the base form wavy spiral lines and have about double the distance between each other. Colour white or orange. Rather common. The specimen figured by Abbott (1974 no. 3775), has curvilinear outlines and convex whorls; it is not *T. puncta*.

662 *Turbonilla* spec. B. — Ill.: W (*interrupta*); Pl. 45.
Figured specimen 6.0 × 1.2 mm. Our specimens vary from 6.0 × 1.2 mm, n. + 11 w. to 5.4 × 1.2 mm, n. + 10½ w.; on the penultimate whorl about 24 ribs, the number of spirals varies from 9 to 13; there is a smooth area between the sutural groove and the basal spirals. Shell thin, white. About 20 specimens collected.
The species differs from *puncta* in being slenderer, having a smooth area below the sutural groove, having less spirals and lacking the pitted groove above the middle of the whorl, having a larger nucleus.
We suppose that the specimen, identified by W. & A. (1961, pl. 26 fig. A) as *T. interrupta* Totten is this species. Acc. to W. & A.: 5 to 6 mm, white to yellow, 20-24 vertical ribs, 11-14 spiral lines between them. Base with strong spiral lines. Common. Acc. to picture: l = 4.7 w.
T. interrupta Totten, 1835 has its typelocality in Newport Harbor, R.I. and is figured by Bush (1909); it is much wider, l = 4.0 w; Tryon 8 (1886) and Abbott (1974) gave the same dimensions. Acc. to Tryon range Mass. to N. Carolina.

663 *T. virga* Dall, 1884. — Ill.: Pl. 45.
Acc. to Dall: Size 3.1 × 1.0 mm, aperture squarish, ribs slightly oblique, nearly continuous along the spire, the line of the ribs turned to the right; the outlines of the spire nearly rectilinear; whorls flattened, spiral grooves appear sharply and distinctly cut, about 5 to the end of the ribs of the last whorl. (No fig.). Dall (1889) mentioned a length of 8.1 mm. Bush (1899) stated: 6 × 1½ mm, n. + 10 w., ribs about 20, spirals = 7 lines on intercostal spaces. — Figured specimen: 6.6 × 1.6 mm, n. + 10 w.; 5 pitted grooves. Largest out of 4 specimens: 9 × 1.9 mm, n. + 12 w., 22 ribs, the line of the ribs turns from apex to base over about 60° to the right.

664 *T. lillybeckae* Usticke, 1969. — Ill.: Pl. 7.
Acc. to U.: Shell shiny white; 9.5 × 1.6 mm, acc. to text erroneously 9.5 × 1.0 mm; 14 straight sided whorls plus a brownish n.w., 20 bluntly rounded vertical ribs. The in-be-

tween spaces appear smooth, but have microscopic fine striae between; there are very fine spirals on the base. The suture is deep, the top of each rib projects, giving a crenulated effect. St. Croix, very rare. — Only one specimen collected from dredging material harbour, Aruba, size 5.0 × 1.3 mm, top whorls lost; at the 'top' the width is 0.6 mm; between the ribs many fine spirals and a sutural groove, on the base better visible spirals.

665 *Turbonilla deboeri* sp.n. — Ill.: Pl. 7.
Holotype in ZMA (no. 3.87.106), 5.7 × 1.25 mm.
Type locality: Aruba, from material dredged at south west coast.
Shell small and elongate, 11 postnuclear whorls. The shell has 26 ribs which do not continue on the base, numerous spirals between ribs and on base; outlines straight, whorls rather flat. Colour white.
The shell differs from *T.* spec. B (no. 662) in being proportionally wider, in lacking the smooth space between sutural groove and basal spirals and in having the spirals more numerous.
For distinctive characters, see Key.
T. deboeri is named after Thijs W. de Boer, who has collected the shell.

C. Ribs extending a little on base; spirals visible.

666 *Turbonilla insularis* Dall & Simpson, 1901. — Ill.: W, A fig. 3708.
Largest specimen 6.0 × 1.2 mm, n. + 12 w., about 20 ribs, 10 spiral grooves. From materal dredged in Schottegat near Salinja (TdB).

667 *T. portoricana* Dall & Simpson, 1901. — Ill.: W, A fig. 3709.
Acc. to D. & S.: 4.7 × 1.2 mm, n. + 10 w., flattened whorls, a narrow brownish-yellow band ¼ the breadth of the whorl above its suture and a second very pale one on the middle of the base. Vertical axial ribs pass almost undiminished in size over the periphery and base of the last whorl. Intercostal spaces ornamented by 6 equally spaced deep broad striations; on the base the striations are placed much closer. — Our specimens average in size 4.0 × 1.0 mm, n. + 9 w.; the whorls are flattened but above and below convex, causing a deep suture. The number of ribs is usually about 18, but may increase on the last whorl unto 28. Rather common.

668 *T. krebsii* (Mörch, 1875). — Ill.: Pl. 20.
Syn. *T. palmerae* Aguayo & Jaume, 1936.
Average size 4.0 × 1.0 mm, n. + 8½ w.; about 20 ribs, often becoming obsolete on the last whorl; 5 spirals visible as deep pits between the ribs, also on the last whorl when the ribs have nearly disappeared. Columellar plait directed axially. Colour brown. Rather common.
Tryon 8 (1886) placed the species in *Pyramidella*.

669 *T. textilis* (Kurtz, 1860). — Ill.: Pl. 20, 26.
Acc. to Bush (1899): Shell with swollen whorls, beveled above, forming a rounded shoulder. 3.2 × 1.2 mm, n. + 6 w., nucleus good sized, oblique; 26 ribs which extend a little below the periphery of the body whorl, perpendicular but a little inclined to the right on the last whorl, their sides rendered uneven by the cutting of 5 grooves. Base cut by 2 grooves, interrupted by the ribs, which here disappear, below there are 4 or 5 spiral threads. Aperture elongate-ovate. Two other specimens 3 × 1 mm, have moderately swollen, not

distinctly shouldered whorls. — One of our specimens 2.7 × 1.0 mm n. + 5 w., 24 ribs. 4 specimens collected at Vaersenbaai, 8 in Aruba.

670 *T. elegans* (d'Orb., 1842). — Ill.: W.
Acc. to d'Orbigny: 3½ × 1 mm, 9 whorls, angular anteriorly, the anterior part with some spiral striae; columella with a plait. Guadeloupe. — Our largest specimen 3.1 × 0.8 mm, n. + 7 convex whorls, spire with the outlines rectilinear, 19 ribs, on the lower half of the last whorl 4 spirals, at the base some fine spirals, on the columella a slight but distinct fold. 5 specimens collected.

671 *Turbonilla westermanni* sp.n. — Ill.: Pl. 46.
Holotype in ZMA (no. 3.87.107), 4.2 × 1.4 mm
Type locality: Aruba.
The shell has 8 postnuclear whorls, the whorls are flat, spire with the outlines rectilinear; on the last whorl about 20 ribs, gradually sloping down; numerous fine spirals surpassing the ribs. Suture indistinct. Colour whitish, at 1/5 of the height of the whorl an orange-brown band. Aperture rhombic-ovate. Only 3 specimens collected.
For distinctive characters, see Key.
T. westermanni is named after Dr. Jan Hugo Westermann (1907-1981), a geologist who has done much for nature conservation in the Netherlands Antilles.

D. Ribs extending well over base; spirals visible.

672 *Turbonilla ornata* (d'Orb., 1842). — Ill.: Pl. 20, 26.
Acc. to d'Orbigny: Nucleus one whorl; 10 p.n.w., little convex, finely striated between closely placed ribs, extending over the base; colour white. The figured specimen measures 6 × 1.5 mm, has rectilinear outlines, aperture ovate in front and rhombic behind. — Our specimens are from 5.0 × 1.2 mm, n. + 9 w. to 5.5 × 1.4 mm, n. + 9½ w., about 26 ribs, on last whorl inclining to the right. Colour a shining brown to whitish. 40 specimens collected.

673 *T. riisei* Mörch, 1875. — Ill.: Pl. 7.
Syn. *T. pilsbryi* Bush, 1899.
Acc. to Bush (1899): The type (of *riisei*) was deep yellow, with 2 darker bands, the superior one near the suture and the other median, with very delicate spiral striae. Costae about 40, continuous to the aperture, which is ovate with a continuous thickened peritreme, with a thickened white lip and an indistinct columellar fold. 3½ × 1⅓ mm. Bush described *T. pilsbryi* from one specimen: Shell white, 4½ × 1½ mm, whorls 6, swollen, indistinctly bevelled on the top; ribs about 26, slightly oblique, the inclination to the right; covered by numerous, unequal spiral grooves; aperture oblique ovate with continuous peritreme. — The spire has the outlines curvilinear; ribs 24-40, in some specimens strongly inclined to the right, in others less to very little. Some specimens have 2 coloured bands, one has 3 bands, one has a band on the last whorl only, one is completely light orange; most specimens are white (bleached) often with a weak indication of a band. About 60 specimens were collected.

674 *Turbonilla rixtae* nom.n. — Ill.: Cl (*modesta*); Pl. 7, 20, 46.
Syn. *Truncatella modesta* C. B. Ads, 1851 (non *Chemnitzia modesta* d'Orb., 1842).
Acc. to Adams: Size after truncation 4.4 × 1.5 mm, yellowish horn colour with a white upper margin of the whorls, with about 21 prominent compressed ribs, and numerous

spiral striae, spire with the outlines somewhat curvilinear, whorls 7 (after truncation), moderately convex, margined above. The holotype is figured by Cl. & T. (1950, pl. 40 fig. 17).
Our specimens agree with Adams' description (see Pl. 20) except those from Playa Lechi, Bonaire, which are larger, proportionally wider and with less ribs (Pl. 46), their size about 5.4 × 1.9 mm, n. + 7 w., 14 ribs.
T. rixtae is named after Drs. Rixt de Jong, a niece of the first author.

675 *Turbonilla arnoldoi* sp.n. — Ill.: Pl. 20.
Holotype in ZMA (no. 3.87.108), 1.7 × 0.6 mm.
Type locality: Curaçao, Schottegat.
Shell very small, with nucleus and 4 postnuclear whorls. The whorls are angulated just below the middle, they have one spiral below the suture and 3 on the anterior half of the whorl, in addition to about 16 axial ribs; the ribs and spirals continue on the base of the shell. The columella has a fold.
The species seems to be rare, and resembles *T. elegans*.
For distinctive characters, see Key.
T. arnoldoi is named after frater Arnoldo Broeders (1906-1981), botanist and shell collector on the Netherlands Antilles.

676 *T. pupoides* d'Orb., 1842. — Ill.: W, Cl (*flavocincta*); Pl. 20.
Syn. *Chemnitzia flavocincta* C. B. Ads, 1850.
Adams gave a better description than d'Orbigny. Acc. to Adams: 3.7 × 1.0 mm, n. + 8 or 9 w., white with a broad spiral band of yellowish brown along the suture; with about 28 rather slender ribs, with excessively minute spiral striae in the intercostal spaces, coarser and traversing the ribs on the anterior region; whorls slightly convex below the middle, slightly shouldered; aperture elliptical. — Except for the coloured band along the suture the last whorl may have two more coloured bands. Common.

676a *Turbonilla cynthiae* sp.n. — Ill.: Pl. 7.
Holotype in ZMA (no. 3.87.109), 3.8 × 1.0 mm.
Two paratypes in the collection of the first author (K. M. de Jong).
Type locality: Curaçao.
The shell is small with nucleus and 7 postnuclear whorls. The contour of the elongate shell is curvilinear. The whorls have about 16 ribs, with very fine spirals in between. The whorls are somewhat convex and not shouldered; the surface is shining, colour whitish. Aperture squarish.
The type material was found in a lot of *T. pupoides*, the latter is shouldered and yellowish brown along the suture.
For distinctive characters, see Key.
T. cynthiae is named after Cynthia Vrijsen-Coomans, daughter of the second author.

677 *T. stimpsoni* Bush, 1899. — Ill.: Pl. 20, 26.
Acc. to B.: 5.4 × 1 mm, n. + 9 w.; whorls elongated flattened; causing the apex to appear very pointed. Ribs about 36; about 10 spiral incised lines, which form deep pittings. Acc. to the figure of the described specimen: 5.4 × 1.3 mm. — Our specimens average 4.0 × 1.0 mm, n. + 7½ w.; colour brown, yellow or white; 2 yellowish specimens have a brown band on the middle of the body whorl. Rather common.

E. Ribs extending well over base; no spirals visible.

678 *Turbonilla krumpermani* sp.n. — Ill.: Pl. 20, 46.
Holotype in ZMA (no. 3.87.110), 6.3 × 2.0 mm.
Type locality: the type specimen was selected from a lot containing shells from Curaçao and Aruba.
The shell has a nucleus and 6 postnuclear whorls, the whorls are convex and bear 32 strong ribs, also varcies are present, there are no spirals. Aperture ovate, columellar fold practically absent. Colour white.
Next to the holotype we have studied about 20 specimens.
For distinctive characters, see Key.
The species is very much like the Eastern Pacific species *Odostomia laxa* Dall & Bartsch, 1909, figured by Abbott (1974, fig. 3634) copied from Dall & Bartsch.
T. krumpermani is named after André Krumperman, physician and shell collector.

679 *Turbonilla fonteini* sp.n. — Ill.: Pl. 20.
Holotype in ZMA (no. 3.87.111), 1.4 × 0.6 mm
Type locality: Curaçao.
The shell is very small and has a nucleus and 3 postnuclear whorls. The whorls are rather flat, with about 18 ribs, no spirals; aperture ovate, columellar fold practically absent. Colour a lustrous brown.
We have studied several specimens from Curaçao, and only one from Aruba.
For distinctive characters, see Key.
The species looks like *Odostomia callimorpha* Dall & Bartsch, 1909, from the Eastern Pacific, but lacks the spiral lirations on the anterior half of the whorls. See Abbott (1974, fig. 3637), which is copied from D. & B..
T. fonteini is named after P. F. Fontein, a shell collector.

Careliopsis. Shell elongate, fragile; with or without spiral striae.

680 *C. octona* (Guppy, 1896). — Ill.: Pl. 21.
By G. placed in the genus *Turbonilla*, subgenus *Stylopsis*.
Acc. to Guppy & Dall (1896): Shell turreted, fusiformly cylindrical, smooth or only striate longitudinally by lines of growth, size 1.25 × 0.3 mm; whorls 4-5 (in addition to the discoid sinistral apex set on at an angle), angulated above and separated by a deep suture; aperture suboval, angulate above and sòmewhat produced anteriorly. Miocene, Trinidad. — Our specimens up to 2.0 × 0.4 mm, n. + 6 w.; smooth, 2 specimens, one of them at a depth of 30 m near Sta. Martha; at Aruba 2 specimens.

681 *C. bermudensis* Dall & Bartsch, 1911. — Ill.: Pl. 21.
By D. & B. placed in the genus *Turbonilla*, subgenus *Careliopsis*.
Acc. to D. & D.: Nuclear whorls about 1½, having their axes at right angles to that of the succeeding turns, without being immersed. P.n.w. feebly shouldered at the summit, marked by about 19 spiral threads; 2 × 0.4 mm, n. + 6 w.; 3 specimens in Bermuda. — Our specimens about 1.5 × 0.4 mm, n. + 4½ w.. One specimen at Slangenbaai, from Aruba 2 specimens.
Because both species are bearing ribs and are fragile, we think they do not fit in the genus *Turbonilla*.

Related species are:
Monoptygma (Stylopsis) styliformis Mörch, 1875. Acc. to M.: 4.1 × 0.9 mm; St. Thomas. No fig. Mentioned by Dall & Bartsch (1911, p. 279): *Turbonilla (Careliopsis) styliformis*. *Turbonilla (Stylopsis) resticula* (Dall, 1889). Acc. to D.: 3.5 × 0.7 mm; Key West, sand flats. No fig.

ACTEONIDAE

Acteon. Shell small, globose or oval, with one fold on the columella.

682 *A. punctostriatus* (C. B. Ads, 1840). — Ill.: W, A fig. 3887, Cl.
Syn. *Tornatella punctata* d'Orb., 1842.
Our largest specimen: 4.5 × 2.6 mm, 5 w.; the punctate spirals on the basal half of the whorl do not reach higher than the aperture, the uppermost ones (sometimes) being vague. A few specimens collected.

683 *A. splendidulus* Mörch, 1875. — Ill.: Pl. 7.
Acc. to M.: "4¾ × 2¼ mm, sp. unic." See also Marcus (1974). — Our largest specimen: 3.2 × 1.7 mm, 4½ w.; the punctate spiral sculpture reaches above the aperture, the uppermost spiral being visible above the suture. The shell is slenderer than *punctostriatus* and the plait at the columella is much weaker. A few specimens collected.
Juv. specimens of *Tralia ovula* (no. 734) have spirals over the entire surface and look like *Acteon*. They differ by having two columellar folds.

ACTEOCINIDAE (syn. Tornatinidae)

Nuclear whorls heterostrophic, not enclosed by later whorls.

KEY of *Acteocina*

- The whorls join up to the previous one with a double bend
  - Shell bulbous *candei*
  - Shell straight *recta*
- The whorls join up to the previous one with a single bend
  - Spire conic like in *recta* A. spec.
  - Spire flat, only nucleus protuding *kristenseni* sp.n.
  - Spire rounded, only nucleus protuding *inconspicua*

684 *Acteocina candei* (d'Orb., 1842). — Ill.: W, A fig. 3919.
Previously *Bulla* and *Retusa candei*.
Acc. to d'Orb.: 3 × 2 mm, shell oblong, bulbous, slightly retracted in front, hardly marked by some growth lines. Spire canalized on the suture; aperture provided with a projection on the columella featuring a tooth. — Our specimens measure at the average 3.6 × 1.7 mm. At the columella a significant inwardly declining ridge. The most common species of this genus.

685 *A. recta* (d'Orb., 1842). — Ill.: Pl. 26.
Acc. to d'Orbigny: Shell oblong, straight, cylindrical, entirely plain, showing indication of transversal striae under the magnifying glass. Spire strongly canalized on the suture. Aperture with a simple columella without teeth. — Our specimens measure at the average approximately 3.3 × 1.3 mm. A weak ridge on the columella runs more upwardly than inwardly. Rather common.

686 *Acteocina* spec. — Ill.: Pl. 7.
Figured specimen 3.0 × 1.3 mm; the whorls join up to the previous one with a single bend (spire not canalized on the suture); spire conic like in *recta*. For distinctive characters, see Key. Rather common.

687 *Acteocina kristenseni* sp.n. — Ill.: Pl. 7.
Holotype in ZMA (no. 3.87.112), 2.1 × 1.0 mm
Type locality: Curaçao.
Shell very small and cylindrical, spire flat, only the nucleus protuding. The whorls join up to the previous one with a single bend.
We have studied 15 specimens from several localities in Curaçao: Spaanse Water near the Cabrietenberg, and Playa Kalki near Westpunt.
For distinctive characters, see Key.
A. kristenseni is very much like *A. mammillata* (Philippi, 1836, pl. 7 fig. 20) described from Sicily, 2.2 × 0.9 mm. Aartsen et al. (1984, fig. 223) mentioned *mammillata* from Algeciras, dimensions 1.9 × 0.9 mm.
A. kristenseni is named after Dr. Ingvar Kristensen, former director of the Caribbean Marine Biological Institute in Curaçao.

688 *A. inconspicua* Olsson & McGinty, 1958. — Ill.: Pl. 7.
Acc. to O. & McG.: 2.1 × 1.0 mm; nucleus projecting prominently above the apex, spire overlapped by the edge of the bodywhorl. Bodywhorl narrowly cylindrical, bevelled at the upper end. — Several specimens from material dredged from harbour Aruba (Fr).

APLUSTRIDAE (syn. Hydatinidae)

Shell globose or oval, thin, with depressed spire.

689 *Hydatina vesicaria* (Lightfoot, 1786). — Ill.: W, A fig. 3938; Pl. 46.
A colony of 27 specimens, depositing eggs, was found in May 1964 on the southwest coast of Aruba; largest 45 mm (dM). Otherwise rare.

690 *Micromelo undatus* (Brug., 1792). — Ill.: W, A fig. 3939; Pl. 46.
Collected on rocks at a depth of ½ m. Rather rare.

691 Omitted.

CYLICHNIDAE (syn. Scaphandridae)

Shell small, cylindrical with the spire involute, leaving an apical concavity.

692 *Cylichna auberii* (d'Orb., 1841). — Ill.: W (*krebsi*); Pl. 26.
Spirals over the entire length of the shell. Our largest specimen: 4.0 × 2.0 mm. Rather rare. Acc. to Mörch (1875) *C. krebsii* measures 8 × 4 mm.

693 *C. caelata* Bush, 1885. — Ill.: A fig. 4026; Pl. 21.
Acc. to B.: 3 × 1.5 mm, shell rather thick, numerous delicate riblets curve over the top, extending down a short distance and gradually blend with the flexuous lines of growth. Commencing about the middle of the whorl and covering the base there are numerous fine spiral lines very much crowded anteriorly. Rare. — Four specimens, the largest of which 2.8 × 1.3 mm, the uppermost part (still) transparent. At the top-half there also are (weaker) spirals. Curaçao and Aruba.
If *caelata* has no radula, it ought to be placed in Retusidae.

Cylichnella. Columella has 2 folds.

694 *C. bidentata* (d'Orb., 1841). — Ill.: W, A fig. 3950; Pl. 27.
Acc. to d'Orbigny: 2¼ × 1¼ mm; on the lower part covered with small transversal striae. — Our largest specimen 2.5 × 1.3 mm, with a prominent and a very small columellar fold. Rather common.

PHILINIDAE

695 *Philine sagra* (d'Orb., 1841). — Ill.: A fig. 3965; Pl. 27.
Acc. to d'Orbigny (Atlas 1842, pl. 4 fig. 8); *Bulla sagra*, 3.0 × 1.7 mm, sculpture consists of chains of oblong rings and lines; Martinique. — Not known from the ABC islands.
Bush (1885, pl. 45 fig. 16-16a) mentioned "*sagra*" from Cape Hatteras. Abott (1974, fig. 3965) copied Bush's figures. These figures show a shell with a different aperture than occurs in the shell figured by d'Orbigny.

696 *Philine* spec. 1. — Ill.: W (*sagra*).
Differs from *sagra* by having the sculpture consisting of chains of oblong rings, without lines between these chains, the shell and therefore the aperture being narrower. One of our specimens measures 3.8 × 1.8 mm. Collected at Oostpunt, from material dredged from Schottegat and from material dredged from harbour, Aruba.

BULLIDAE

Shell oval, aperture produced above the apex.

697 *Bulla occidentale* A. Adams, 1850. — Ill.: W (*striata*), A (*striata*) fig. 4000.
Our specimens up to 40 mm. Common.

698 *B. umbilicata* Röding, 1798. — Ill.: Pl. 26.
B. umbilicata differs from *B. occidentala* by a wider apical aperture and spirals around the apex; moreover it is slenderer; in specimens up to ½ cm these differences are prominent, in adult specimens less so. Our specimens up to 35 mm. Rather common.
If this species is identical with *B. striata* Brug., 1792 from the Mediterranean area, the latter name has priority.

699 *B. solida* Gm., 1790. — Ill.: Pl. 46.
Acc. to Kobelt (1896): Shell solid, 35 × 25 mm (l:w = 10:7); loc. W.I. and Brasil. — Contrary to both foregoing species our specimens do not show spirals at the base. The figured specimen measures 42 × 29 mm (l:w = 10:7); the top of the lip is slightly damaged; at the back it has 3 darker, little defined, coloured bands. At Aruba, from material dredged from harbour, 4 specimens, largest 52 × 35 mm (Fr).
B. gouldiana Pilsbry, 1895 (Abbott fig. 4001), from the Eastern tropical Pacific, differs in being fragile and differently spotted.

HAMINOEIDAE

Haminoea. Shell thin, transparent yellowish or brownish horn-coloured. Distinguished from *Bulla* by being thin-shelled and monochromatic.

700 *H. elegans* (Gray, 1825). — Ill.: W, A fig. 4015.
Common.

701 *H. succinea* (Conrad, 1846). — Ill.: W, A fig. 4018.
Some 20 specimens from Aruba's southwest coast.

702 *H. petiti* (d'Orb., 1841). — Ill.: W; Pl. 27.
Between algae on mangroves in Fuik Baai. Rather common.

703 *H. antillarum* (d'Orb., 1841). — Ill.: W; A fig. 4019; Pl. 27.
Some specimens washed ashore on the west-side of Sta. Martha inner bay

Atys. Shell moderately solid.

704 *A. riiseana* Mörch, 1875. — Ill.: W.
Acc. to M.: 10½ × 5 mm. — In our specimens l:w is variable; in the narrowest specimens it equals our specimens of *caribaea* but is distinguished from it by shape and implantation of the outer lip. The outer lip joins up to the centre of the spire, which is not pierced; the outer lip starts there with a widening, a kind of tooth. On the top and the bottom spiral sculpture, not in the centre. Common.

705 *A. caribaea* (d'Orb., 1841). — Ill.: W, A fig. 4010; Pl. 28.
Acc. to d'Orbigny's figures: The outer lip joins to the right side of the spire; the spire is pierced. — The outer lip proceeds along a fluent line without widening or a tooth at the beginning. Spiral sculpture over the entire surface, however, less clear to sometimes invisible at the centre. In our specimens the top is flatter and the shell more cylindrical than is indicated in d'Orbigny's figures. — Our specimens agree with the figure for *A. caribaea* in

W. & A. (1961, Pl. 27 fig. q) and with fig. 4009 in Abbott (1974) for *A. sandersoni* Dall, 1881 (See our. fig. 705B). Rather common.

706 *A. macandrewii* E.A. Smith, 1872. Ill.: W (*lineata*); Pl. 46.
Syn. *A. lineata* Usticke, 1959.

Acc. to Smith: 5 × 2½ mm. It is at once recognized by the numerous lacteous bands upon a pellucid background. 'Locality Lancerote'. Acc to Usticke (1971): 5.0 × 2.1 mm. Our largest specimen measures 5.5 × 2.3 mm; on the top and on the bottom spiral grooves much further apart than in *A. caribaea*. Rather rare.

The specimens from the ABC islands are identical with those from Lanzarote (Canary Islands) and Madeira, present at ZMA.

RETUSIDAE

No radula.

707 *Retusa sulcata* (d'Orb., 1842). Ill.: Pl. 21.
Acc. to d'Orbigny: 2 × 1 mm, shell cylindric, a little wider in front, truncated at the rear, marked by longitudinal striae or deep grooves over its entire length; apex umbilicate. — Our largest specimen 2.6 × 1.1 mm. Rather rare.

Volvulella. Shell ovate cylindrical with a pointed vertex.

708 *V. persimilis* (Mörch, 1875). Ill.: W (*Rhizorus oxytatus*); Pl. 21.
Acc. to M.: 4½ × 1¾ mm. Shell nearly cylindric. Rather common.

Volvula oxytata Bush, 1885, loc. Cape Hatteras, is figured by Abbott (1974, fig 4027). Acc. to B.: Largest specimen 4 × 1.5 mm, not uncommon.

709 *V. minuta* (Bush, 1885). — Ill.: A fig. 4028, is orig. fig. *minuta*; Pl. 28
Syn. *Bulla acuta* d'Orb., 1841, non Grateloup, 1828.
Acc. to Bush: Shell destitute of sculpture with the exception of 3 or 4 very indistinct punctate, spiral lines on the base; largest specimen 2.5 × 1 mm; acc. to the fig. 1:w = 2.5:1.2; Cape Hatteras, in 25-30 m. Acc. to d'Orb. 2 × ¾ mm; acc. to the fig. 1:w = 2:0.8; marked in front by some transversal striae and at the rear by some others a little before the extremity, which is longitudinally striated. — 4 specimens collected, up to 2.0 × 0.8 mm from material dredged on Aruba's south west coast. The specimens from Cape Hatteras are a little wider than those from the Caribbean.
In d'Orbigny's Atlas *B. acuta* is figured on pl. 4 fig. 17-20 and *B. recta* on pl. 4 "bis" fig. 17-20. Mörch (1875) mixed up these names as he mentioned *Volvula recta* (d'Orbigny) but referred to the figure of *acuta*. Abbott (1974, nr. 4028) used for *B. acuta* the name *Volvula recta* (Mörch, 1875) which name therefore is not acceptable.

VOLVATELLIDAE

710 *Cylindrobulla beaui* P. Fischer, 1856. — Ill.: A fig. 4036.
Acc. to F.: Shell yellowish, horny, thin, fragile, obliquely truncated in front, rounded posteriorly, finely striated. 14 × 7 mm. — Rather common; in Boca Playa Canoa among algae.

LIMACINIDAE

Pelagic; shell sinistrally coiled. See Van der Spoel (1967 and 1976).

711 *Limacina inflata* (d'Orb., 1836). — Ill.: A fig. 4044; Pl. 21.
Shell a little over 1 mm; common in grit. Like the following species predominantly from a depth of 30 m.

712 *L. lesueuri* (d'Orb., 1836). — Ill.: A fig. 4045; Pl. 21.
Shell a little over 1 mm. Rare in grit.
Do not mistake the sinistral protoconch of *Heliacus*, 0.5 × 0.8 mm (nr. 187), for a *Limacina* species.

713 *L. bulimoides* (d'Orb., 1836). — Ill.: A fig. 4047.
Acc. to d'Orbigny's fig. 1.5 × 0.9 mm; our shells measure 1.2 × 0.7 mm. Rather common in grit.
Acc. to d'Orbigny's figures *L. trochiformis* is proportionally much wider and measures 1.0 × 0.9 mm.

CAVOLINIIDAE

Pelagic; shell symmetrical (not coiled).

Creseis. Shell a long cone, needle-like, almost circular in cross-section.

714 *C. acicula* (Rang, 1828). — Ill.: W, A fig. 4048.
Shell max. 33 × 1.5 mm; fragments up to a length of 5 mm are rather common in grit

715 *C. virgula* (Rang, 1828). — Ill.: A fig. 4049.
Shell max. 7 × 1 mm; specimens with only slightly bent apex (= forma *virgula* Rang, 1828) are rather common in grit; specimens with strongly bent apex and more rapidly increasing diameter (= forma *conica* Eschholtz, 1829) are rare, only 1 specimen was found (Fr).

716 *Styliola subula* (Quoy & Gaimard, 1827). — Ill.: W, A fig. 4050.
Shell max. 13 mm; specimens up to 4 mm are rather common in grit.

717 *Hyalocyclis striata* (Rang, 1828). — Ill.: A fig. 4051.
Shell max. 8 mm; only 2 specimens up to 3 × 2.5 mm in grit

718 *Clio pyramidata* L., 1767. — Ill.: A fig. 4052.
Shell max. 20 × 15 mm; only 1 fragment in grit.

Diacria Shell bulbous, with spine-like projections, dorsal lip thickened.

719 *D. quadridentata* (ms. Lesueur) (De Blainville, 1821). — Ill.: W, A fig. 4061
Shell max. 3 × 2.5 mm; a few specimens up to 1.8 mm from grit.

720 *D. trispinosa* (ms. Lesueur) (De Blainville, 1821). — Ill.: W, A fig. 4060
Shell max. 13 mm; some specimens from grit.

Cavolina. Like *Diacria* but dorsal lip not thickened.

721 *C. longirostris* (ms. Lesueur) (De Blainville, 1821). — Ill.: W, A fig. 4062.
Shells up to 5 mm; common in grit.

722 *C. tridentata* (ms. Forskål) (Niebuhr, 1775). — Ill.: W, A fig. 4064
3 Specimens, up to 15 × 10 mm, washed ashore.

723 *C. uncinata* (Rang, 1829). — Ill.: W, A fig. 4065.
Only 1 shell 7 × 6 mm from dredged material

724 *C. gibbosa* (ms. Rang) (d'Orb., 1836). — Ill.: W, A fig. 4063
Only 1 specimen 9 mm, washed ashore.

725 *C. inflexa* (Lesueur, 1813). — Ill.: W, A fig. 4066.
Fragments rather common in grit, only 2 undamaged specimens 5 mm. The forms *imitans* (Pfeffer, 1880) with a strongly curved apex, and *labiata* (d'Orb., 1836) with a regularly curved apex occur in a ratio approximately 10:3.

OXYNOEIDAE

Shell thin, bubble-like, external.

726 *Oxynoe antillarum* Mörch, 1863. — Ill.: A fig. 4119.
Near Boca Playa Canoa and elsewhere on seaweed; at Aruba near Baby Lagoon in beach deposits.

727 *Lobiger sowerbii* Fischer, 1856. — Ill.: W, A fig. 4122.
Same localities as former species.

APLYSIIDAE

Shell under the skin, thin, chitinous, flat. See Engel (1936).

728 *Aplysia dactylomela* Rang, 1828. — Ill.: A fig. 4166; Pl. 46
Syn. *A. protea* Rang, 1828.
See Reeve, vol. 17 (1870): Shell brown outside, testaceous pearly whithin. Acc. to his Fig. 36 × 27 × 10 mm. — Snail up to 15 cm in length; internal shell fragile, glossy whitish on the inside, yellow brown on the outside. Common.

729 *A. parvula* Mörch, 1863. — Ill.: Pl. 47.
See Dall & Simpson (1901): Length of animal 20 mm; shell 13 × 9 × 5 mm, interior slightly iridescent, pinkish white, exteriorly straw coloured. — One specimen near Boca Grandi at a depth of 1 dm among algae; colour grey-brown, internal shell visible through the skin. The shell differs from the foregoing species in being less flat and, in our specimens, being darker brown in colour. Empty shells common.

Engel (1936) also mentioned the following species:

729a *A. cervina* (Dall & Simpson, 1902) from Curaçao.

729b *Dolabrifera dolabrifera* (Rang, 1828) from Curaçao, Aruba and Bonaire.

TYLODINIDAE

Shell flat limpet-like, external.

730 *Umbraculum umbraculum* (Lightfoot, 1786). — Ill.: A fig. 4186.
Acc. to Abbott (1974): Animal 100-125 mm, oval; uniform dull yellow. Shell 25-50 mm across, flat, calcareous, thick, glossy brown to whitish on the underside. Top with a weak yellowish periostracum and feltlike in a marginal rim. 1-40 fath. uncommon. — One specimen at ½ m in the entrance to the Lagoen near Sta.Cruz (CdJ). The animal was about 15 cm long, colour grayish brown with orange dots. The shell measured 86 × 68 × 8 mm. Outside: covered with a brownish periostracum, complete and thick near the rim but in the centre disappeared; shell colour yellowish, the elevated apex brown; sculpture concentric rings (growth lines). Inside: the central part of about 4 × 3 cm is covered with extra shell material, it is radially sculptured and the innermost part of about 2 × 1½ cm is also finely concentrically sculptured. Outside this central part the shell is smooth and whitish; central part yellowish brown with a darker brown oval band and centre (corresponding with the brown apex). In Aruba 5 specimens from between coral near Malmok, and 2 at a depth of ½ m between *Thalassia* near Oranjestad; these shells up to 68 × 49 mm.

PLEUROBRANCHIDAE

Shell internal, thin, calcareous, oblong.

731 *Pleurobranchus lacteus* Dall & Simpson, 1901. — Ill.: Pl. 47.
Acc. to D. & S.: Length of animal 22 mm; shell having about 2 whorls, spire mamillary; growth lines developed into well-marked irregular ridges. Shell 5.5 × 3 mm. — One specimen near Boca Playa Canoa, at a depth of 20 cm on rock; shell white with an irregular growth-line sculpture and perpendicular to that extremely fine spiral lines. The first (nuclear) whorl is hardly visible as a nodule on the second whorl. At Aruba empty shells only.

PULMONATA

MELAMPIDAE (syn. Ellobiidae)

Shell small with one or more strong folds on the columella.

Melampus. On the outer lip 9 or 10 about equal sized linear teeth, in rather young specimens already present.

732 *M. monilis* (Brug., 1789). — Ill.: W, A fig. 4090.
The apical whorls have a spiral of pit scars. Common

733 *M. coffea* (L., 1758). — Ill.: W, A fig. 4088.
Distinct from *monilis* as the top has no spiral of pit scars, the lower fold of the columella is weaker, whilst the upper fold is stronger. Rather common.

Tralia. On the outer lip, in the middle, a ridge.

734 *T. ovula* (Brug., 1789). — Ill.: W, A fig. 4095; Pl. 47.
Syn. *T. vetula* Woodring, 1928.
Acc. to Bruguière: *Bulimus ovulus*, the spire has very fine spirals, the columella has 3 plaits. Guadeloupe. — Our specimens, up to 14 mm, show on the spire faint, finely pitted grooves. On the south coast of Curaçao and Bonaire at 5 localities 13 specimens of the genus *Tralia* were collected, size 5.6-11 mm, all with a 4th inner lip fold. In the specimen of 5.6 mm the front of the 4th fold was about in a line with the front of the other folds, in the larger specimens it was situated far inside the aperture and hardly visible. On the north coast, also in 5 localities, 69 specimens collected; 3 of them, 8-10.8 mm, had a 4th inner lip fold; in 66 specimens larger than 10 mm up to 14 mm, a 4th fold was not visible.
Usticke (1959) mentioned: *T. ovula* Brug. (spire smooth) 8-12 mm, rather scarce. *T. ovula* var. sculpta Usticke (spire lined), 7-10 mm, very scarce.
T. venezuelana Gibson-Smith & Gibson-Smith, 1982. Ill.: Pl. 28.
Acc. to G. & G.: holotype 12.7 × 7.2 mm. The 4th inner lip fold distinguishes *T. venezuelana* from *T. ovula*. *T. ovula* futhermore lacks on the spire the pitted spiral grooves of *T. venezuelana*. In Venezuela in different localities 87 specimens of *T. venezuelana* and 3 of *T. ovula* were collected.

Detracia. Outer lip smooth or with one large and several small folds.

735 *D. bullaoides* (Montagu, 1808). — Ill.: W. A fig. 4092.
Acc. to M.: *Voluta b.*, shell ovate, pale horn-colour, inclining to purplish brown at the tip. A strong ridge at the columella, the pillar lip quite smooth. Length three eights of an inch (= 9.5 mm). Only one specimen, loc. unknown. Acc. to Morrison (1951): Easily distinguished by the heavily buttressed palatal lamella. The few low parietal lamellae are present only on the basal portion of the parietal wall. Adult: 9.5 × 4.3 mm. Shell Key, Fla. Acc. to Abbott (1974, nr. 4092): 10-12 mm, white apex, base of columella with single prominent tooth. Acc. to fig. 1: w = 28 : 12. South half of Florida, upper Caribbean, Bermuda. — Not known from the ABC islands.

736 *D. roquesana* Gibson-Smith & Gibson-Smith, 1982. — Ill.: Pl. 28, 47.
Acc. to G. & G.: Holotype 10.8 × 5.9 mm. There is a weak fold, well within the aperture at the middle of the parietal area. Within the outer lip are 3 to 8 lirae, the lowest and largest projects towards the columellar fold. 6 specimens were collected on the islands of Los Roques, Ven. Comparisons: *D. bullaoides* lacks a parietal fold and lirae within the outer lip, and the protoconch is white. — *D. roquesana* is proportionally wider than *bullaoides*. We collected at Awa di Oostpunt several specimens, 6 of them up to 9 × 4.8 mm, with a smooth parietal wall and a smooth outer lip and 2 specimens 10.1 × 5.0 resp. 12.0 × 6.0 mm with a smooth parietal wall and in the outer lip a heavy tooth opposite the columella; the specimen of 12 mm moreover had several lirae above and joining the tooth. At Aruba 2 specimens, one of them with a tooth on the outer lip; at Klein Bonaire 3 specimens, 10 to 12 mm, which moreover have a small lamella on the parietal wall.

737 *D. parana* Morrison, 1951. — Ill.: Pl. 47.
Acc. to M.: Holotype 6.8 × 3.9 mm. about 10 whorls, body whorl smoothly sculptured with minute growth lines only; prominent columellar lamella, on palatal wall a single low lamella. Amazon River at Pará. Altena (1975, p. 87, text fig. 41) figured a specimen from Suriname, size 5.1 mm. — We collected at Awa di Oostpunt under driftwood, together with *D. roquesana*, 2 empty shells, size 5.1 × 2.9 mm, n. + 10 w.; one had a small palatal lamella and in the outer lip opposite to the col. lamella a tooth; the other had a smooth parietal wall and in the outer lip opposite the col. lamella a tooth and above and joining this tooth several more, much smaller teeth. From Spaanse Water one specimen size 6.8 × 3.7 mm, with a plait on the parietal wall and a tooth in the outer lip.
The fact that the specimens of *D. roquesana*, collected at the same spot as *D. parana*, only showed lamellae on parietal wall and outer lip at a size of over 9 mm, may be an indication that they are a distinct species.

738 *Microtralia occidentalis* (Pfeiffer, 1854). — Ill.: A fig. 4105.
Acc. to Pf.: 3 × 1½ mm, 5-6 w.; one parietal fold of median size and one columellar fold curved. No fig. — Our specimens up to 2.8 × 1.3 mm, finely spirally striated all over. 7 specimens at high tide line under debris on the southcoast (Stock, TdB).

739 *Pedipes mirabilis* (Mühlfeld, 1816). — Ill.: W, A fig. 4096, Cl. (*globulis*).
Rather rare.

740 *Laemodonta cubensis* (Pfeiffer, 1854). — Ill.: A fig. 4101.
Acc. to Clench (1964): 2.5 × 1.6 to 3.3 × 1.8 mm. — The outer lip bears 1 or 2 teeth, the inner lip 3 larger ones. A few specimens at high tide line under debris at Spaans Lagoen, Aruba (Fr.); 1 at Playa Lechi, Bonaire (ZMA, Arn.).

741 *Apodosis novimundi* Pilsbry & McGinty, 1949. — Ill.: A fig. 4102.
Acc. to P. & McG.: 3.4 × 1.8 mm; 5½ w.; Bahamas; p.n.w. evenly sculptured with spiral striae; one strong fold at the junction of columella and parietal wall. — One specimen, 3.5 × 1.8 mm, from grit at Playa Lechi, Bonaire. (ZMA, Arn).

742 *Blauneria heteroclita* (Montagu, 1808). — Ill.: A fig. 4104.
Acc. to M. in Testacea Britannica, Suppl.: 6 × 2 mm, white, 8 or 9 reverse volutions, slightly tapering to an obtuse point. The lower whorl occupies ⅔ of the shell and the columella possesses one plication. Dunbar (Scotland). The loc. mentioned by M. seems to

be erroneous. Acc. to Abbott (1974, fig. 4104): Florida, Alabama and the W.I. to Brazil, Bermuda. 3 mm. — Our specimens of this sinistral species measure up to 4.2 × 1.5 mm, about 6 rather flat whorls; on the lower, straight part of the columella 2 small folds, higher a large one. Colour translucent yellowish-cream. One specimen near Cabrietenberg, Spaanse Water (ZMA, leg. Arn); some specimens in the upper strand line at Spaans Lagoen, Aruba (Fr).

TRIMUSCULIDAE

743 *Trimusculus goesi* (Hubendick, 1946). — Ill.: W., A fig.. 4107.
Rather common.

SIPHONARIIDAE

Shell limpet shaped, with a more or less distinct siphonal groove, corresponding with a gap in the muscle scar on the right side, which distinguishes it from *Acmaea*.

744 *Siphonaria pectinata* (L., 1758). — Ill.: A fig. 4111; Pl. 47.
Many specimens on a large stone near Malmok, Aruba (dM); sometimes empty shells are washed ashore at Boca Grandi, Aruba.

745 *Williamia krebsii* (Mörch, 1877). — Ill.: W, A fig. 4118.
Rather common.

NEW SPECIES

UNIDENTIFIED SPECIES

SPECIES WITH NEW NAMES

LITERATURE CITED

AARTSEN, J. J. VAN & H. P. M. G. MENKHORST & E. GITTENBERGER, 1984. The marine Mollusca of the Bay of Algeciras, Spain, with general notes on Mitrella, Marginellidae and Turridae. *Basteria, Suppl. 2,* 135 pp.

ABBOTT, R. T., 1951. New deep water Olivellas from Florida, with notes on the O. jaspidea-nivea complex. *Nautilus 64*: 110-116.

— 1954. *American Seashells.* 541 pp. Princeton, N.J.

— 1958. The marine mollusks of Grand Cayman Island, B.W.I. *Monogr. Ac. nat. Sci. Phil.* 11, 138 pp.

— 1968. *Seashells of North-America.* 280 pp. New York.

— 1974. *American Seashells.* 2nd ed. 663 pp. New York, etc.

ABBOTT, R. T. & C. J. FINDLAY, 1979. Chicoreus cosmani, a new Muricid Gastropod from the West Indies. *Nautilus 93*: 159-162.

ADAMS, A., 1855. Descriptions of twenty-seven new species of shells from the collection of Hugh Cuming, Esq. *Proc. Zool. Soc. London 1854*: 311-317.

ADAMS, C. B., 1850; see CLENCH & TURNER 1950.

AGUAYO, C. G., 1949. Tres nuevos moluscos marinos de las costas de Cuba. *Revista Soc. Malac. C. Torre 6*: 93-96.

— & M. L. JAUME, 1947. Nuevos Gasteropodos de Cuba. *Revista Soc. Malac. C. Torre 5:* 54-55.

ALTENA, C. O. VAN REGTEREN, 1966. Vitrinellidae (Marine mollusks, Gastropoda) from Holocene deposits in Surinam (Dutch Guiana). *Zool. Verh. Rijksmus. nat. Hist. Leiden 41*: 233-241.

— 1975. The marine Mollusca of Suriname (Dutch Guiana), Holocene and Recent. Pt. 3. Gastropoda and Cephalopoda. *Zool. Verh. Rijksmus. nat. Hist. Leiden 139*: 104 pp.

ANDREWS, JEAN, 1971. *Sea shells of the Texas coast.* xvii + 298 pp. Austin and London, Univ. Texas Press.

BALES, B. R., 1942. A new subspecies of Strombus raninus Gmelin. *Nautilus 56*: 18-19.

BANDEL, K., 1974. Studies on Littorinidae from the Atlantic. *Veliger 17*: 92-114.

— & D. KADOLSKY, 1982. Western Atlantic species of Nodilittorina. *Veliger 25*: 1-42.

BARTSCH, P., 1911. New marine mollusks from Bermuda. *Proc. U.S. nat. Mus. 41*: 303-306.

— 1917. A monograph of West American melanellid mollusks. *Proc. U.S. nat. Mus. 53*: 295-356.

— 1920. The West American mollusks of the families Rissoellidae and Synceratidae, and the rissoid genus Barleeia. *Proc. U.S. nat. Mus. 58*: 156-176.

— 1946. A new genus and species of minute marine stiliferid mollusks from Florida. *J. Wash. Ac. Sci. 36*: 30.

— 1947. A monograph of the West Atlantic mollusks of the family Aclididae. *Smiths. misc. Coll. 106*: 1-29.

— & H. A. REHDER, 1939. New turrid mollusks from Florida. *Proc. U.S. nat. Mus. 87*: 127-138.

BAVAY, A., 1911. Une Marginellidée nouvelle de Cuba. *Bull. Mus. nat. Hist. nat. 1911*: 240-243.

— 1922. Sables littoraux de la mer des Antilles provenant des abords de Colon et de Cuba. *Bull. Mus. nat. Hist. nat. 1922*: 423-428.

BEQUAERT, J. C., 1942. Cerithidea and Batillaria in the Western Atlantic. *Johnsonia 1* (5): 1-11.

— 1943. The genus Littorina in the Western Atlantic. *Johnsonia 1* (7): 1-27.

BERNARDI, A., 1858. Descriptions d'espèces nouvelles. *J. de Conch. 7*: 301-303.
BLAINVILLE, H. M. DE, 1825. *Manuel de Malacologie et de Conchyliologie*. 647 pp. Paris.
BORKOWSKI, T. V. & M. R. BORKOWSKI, 1969. The Littorina ziczac species complex. *Veliger 11*: 408-414.
BORN, I. VON, 1778. *Index Rerum Naturalium Musei Caesarei Vindobonensis* Pt. *I,Testacea*. Vienna, pp. XLII + 458.
BULLOCK, R. C., 1974. A contribution to the systematics of some West Indian Latirus (Gastropoda: Fasciolariidae). *Nautilus 88*: 69-79.
BRUGGEMAN-NANNENGA, M. A. & P. WAGENAAR HUMMELINCK, 1986. Notes on the Caribbean Crown Conch Melongena melongena. *Stud. Fauna Curaçao 68*: 148-190.
BUSH, K. J., 1885. Additions to the shallow-water mollusca of Cape Hatteras, N.C. dredged by the U.S. Fish Commission steamer "Albatros", in 1883 and 1884. *Trans. Conn. Acad. 6*: 453-480.
— 1899. Descriptions of new species Turbonilla of the Western Atlantic Fauna, with notes on those previously known. *Proc. Ac. nat. Sci. Phil. 51*: 145-177.
— 1909. Notes on the family Pyramidellidae. *Am. J. of Sci. 4*: 475-484.
CANTRAINE, F., 1835. Les diagnoses ou descriptions succinctes de quelques espèces nouvelles de mollusques. *Bull. Ac. roy. Sci. Bruxelles 2*: 376-406.
CARNES, S. F., 1975. Mollusks from Southern Nichupté Lagoon, Quintana Roo, Mexico. *Sterkiana 59*: 21-50; *60*: 1-40.
CARPENTER, P. P., 1858. First steps towards a monograph of the Caecidae. *Proc. zool. Soc. London 26*: 413-444.
CATE, C. N., 1979. A review of the Triviidae. *Mém. San Diego Soc. nat. Hist. 10*: 1-126.
CERNOHORSKY, W. O., 1970. Systematics of the families Mitridae and Volutomitridae. *Bull. Auckland Inst. Mus. 8*: 1-190.
— 1975. The taxonomy of some West American and Atlantic Nassariidae based on their type specimens. *Rec. Auckland Inst. Mus. 12*: 121-173.
— 1978. The taxonomy of Caribbean-Atlantic Costellariidae (Mollusca: Gastropoda). *Rec. Auckland Inst. Mus. 15*: 87-109.
— 1978. The taxonomy of some Indo-Pacific Mollusca, part 6. *Rec. Auckland Inst. Mus. 15*: 67-86.
CHEMNITZ, J. H., 1780, 1781. In: Martini & Chemnitz. *Neues systematisches Conchylien-Cabinet 4, 5*. Nürnberg, 344 pp., 324 pp.
CHENU, J. C., 1842-53. *Illustrations Conchyliologiques*, 4 vols. Paris.
CLENCH, W. J., 1947. The genera Purpura and Thais in the Western Atlantic. *Johnsonia 2* (23): 61-91.
— 1964. The genera Pedipes and Laemodonta in the Western Atlantic. *Johnsonia 4* (42): 117-124.
— & R. T. ABBOTT, 1943. The genera Cypraecassis, Morum, Sconsia and Dalium in the Western Atlantic. *Johnsonia 1* (9): 1-8.
— & R. C. BULLOCK, 1970. The genus Conus in the Western Atlantic. *Johnsonia 4*: 372-378.
— & I. PÉREZ FARFANTE, 1945. The genus Murex in the Western Atlantic. *Johnsonia 1* (17): 1-58.
— & R. D. TURNER, 1948. The genus Truncatella in the Western Atlantic. *Johnsonia 2* (25): 149-164.
— & — 1950. The Western Atlantic marine molluscs described by C. B. Adams. *Occ. Pap. Moll. 1*: 233-404. Cambridge, Mass..
— & — 1950. The genera Sthenorytis, Cirsotrema, Acirsa, Opalia and Amaea in the Western Atlantic. *Johnsonia 2* (29): 221-246.

— & — 1951. The genus Epitonium in the Western Atlantic, part 1. *Johnsonia 2* (30): 249-288.
— & — 1952. The genera Epitonium (part 2), Depressiscala, Cylindriscala, Nystiela and Solutiscala in the Western Atlantic. *Johnsonia 2* (31): 289-356.
— & — 1957. The family Cymatiidae in the Western Atlantic. *Johnsonia 3* (36): 189-244.
— & — 1960. The genus Calliostoma in the Western Atlantic. *Johnsonia 4* (40): 1-80.
CONRAD, T. H., 1846. Descriptions of new species of fossil and Recent shells and corals. *Proc. Ac. nat. Sci. Phila. 3*: 19-27.
COOMANS, H. E., 1958. A survey of the littoral Gastropoda of the Netherlands Antilles and other Caribbean islands. *Stud. Fauna Curaçao 8*: 42-111.
— 1963. Systematics and distribution of Siphocypraea mus and Propustularia surinamensis (Gastropoda, Cypraeidae). *Stud. Fauna Curaçao 15*: 51-71.
— 1965. Teralatirus, a new genus in the Fasciolariidae. *Basteria 29*: 10-14.
— 1967. The classification of Columbella dormitor with descriptions of a new genus Minipyrene (Mollusca, Gastropoda). *Beaufortia 14*: 71-80.
— 1972. The genus Pachybatron (Gastropoda). *Basteria 36*: 89-96.
— 1973. Conidae with smooth and granulated shells. *Malacologia 14*: 321-325.
— 1976. Historie en systematiek van de Marginellidae (Gastropoda). In: *Malacologische Opstellen* (Uitg. De Kreukel): 7-10.
DALL, W. H., 1884. On a collection of shells sent from Florida by Mr. Henry Hemphill. *Proc. U.S. nat. Mus. 6*: 318-342.
— 1889a. A preliminary catalogue of the shell-bearing marine molluscs and brachiopods of the south-eastern coast of the U.S., with illustrations of many of the species. *Bull. U.S. nat. Mus. 37*: 1-221.
— 1889b. Blake Report 2, Gastropoda and Scaphopoda. *Bull. Mus. comp. Zool. 18*: 1-492.
— 1890. Contributions to the Tertiary Fauna of Florida. Part I. *Trans. Wagner free Inst. Sci. 3*: 1-200.
— 1892. Contributions to the Tertiary Fauna of Florida. Part II. *Trans. Wagner free Inst. Sci. 3*: 201-473.
— 1903. Contributions to the Tertiary Fauna of Florida. Part VI. *Trans. Wagner free Inst. Sci. 3*: 1219-1654.
— 1919. Descriptions of new species of mollusks of the family Turritidae from the west coast of America and adjacent regions. *Proc. U.S. nat. Mus. 56*: 1-86.
— & P. BARTSCH, 1906. Notes on Japanese, Indo-Pacific, and American Pyramidellidae. *Proc. U.S. nat. Mus. 30*: 321-369.
— & — 1909. A monograph of West American pyramidellid mollusks. *U.S. nat. Mus. Bull. 68*: 258 pp.
— & — 1911. New species of shells from Bermuda. *Proc. U.S. nat. Mus. 40*: 277-288.
— & C. T. SIMPSON, 1901. The Mollusca of Porto Rico. *Bull. U.S. Fish Comm. 20*: 351-524.
DAUTZENBERG, P. & H. FISCHER, 1896. Dragages effectués par l'Hirondelle et par la Princesse-Alice, 1888-1895. *Mém. Soc. zool. France 9*: 395-498.
DESJARDIN, M., 1949. Les Rissoina de l'île de Cuba. *J. Conchyl. 89*: 193-208.
DILLWYN, L. W., 1817. *A descriptive catalogue of recent shells.* 2 vols., 1092 pp. London.
DUCROS DE ST-GERMAIN, A. M. P., 1857. *Revue critique du genre Oliva De Bruguières.* 120 pp.; Clermont, Thibaud.
EMERSON, W. K. & A. D'ATTILIO, 1963. A new species of Latiaxis from the Western Atlantic. *Am. Mus. Novit. 2149*: 1-9.
ENGEL, H., 1936. Ueber westindische Aplysiidae und Verwandten anderer Gebiete. *Capita Zool. 8* (1): 1-76.
FABER, M. J., 1984. A new species of Rissopsetia (Gastropoda: Pyramidellidae) from the Caribbean Sea. *Stud. Fauna Curaçao* 67: 110-112.

— & R. G MOOLENBEEK, 1987. On the doubtful records of Alvania platycephala, A. pagodula and A. didyma, with the description of two new Rissoid species. *Beaufortia 37* (4): 67-71.

FAIR, RUTH H., 1976. *The Murex book: an illustrated catalogue of Recent Muricidae* (Muricinae, Muricopsinae, Ocenebrinae). 138 pp., Honolulu, Sturges.

FARFANTE, I. PÉREZ, 1943. The genera Fissurella, Lucapina and Lucapinella in the Western Atlantic. *Johnsonia 1* (10): 1-20.

— 1943. The genus Diodora in the Western Atlantic. *Johnsonia 1* (11): 1-20.

— 1947. The genera Zeidora, Nesta, Emarginula, Rimula, and Puncturella in the Western Atlantic. *Johnsonia 2* (24): 93-148.

FARGO, W. G., 1953, see OLSSON, HARBISON, FARGO & PILSBRY, 1953.

FISCHER, P., 1856. Description d'espèces nouvelles. *J. Conchyl. 5*: 273-277.

FLORES, C., 1973a. La familia Littorinidae (Mollusca: Mesogastropoda) en las aguas costeras de Venezuela. *Bol. Inst. Oceanogr. Univ. Oriente 12* (1): 3-22.

— 1973b. Notas sobre la distribución horizontal y vertical de los Littorinidae en las aguas costeras de Venezuela. *Bol. Inst. Oceanogr. Univ. Oriente 12* (1): 67-74.

FOLIN, L. DE, 1867. Descriptions d'espèces nouvelles de Caecidae. *J. Conchyl. 15*: 44-58.

— 1871. Nouveau supplément aux mollusques de la Pointe-à Pitre. *Les Fonds de la Mer 2*: 264.

GARDNER, JULIA, 1948. Mollusca from the Miocene and lower Pliocene of Virginia and North Carolina. Pt. 2. Scaphopoda and Gastropoda. *U.S. geol. Sur., prof. Paper 199-B*: 179-310.

GASKOIN, J. S., 1835. Descriptions of new species of Cypraea. *Proc. zool. Soc. London 3*: 198-204.

— 1853. On the genus Pachybathron and some new species of Marginella. *Ann. Mag. nat. Hist. (2) 11*: 356-360.

GIBSON SMITH, J. & W. GIBSON-SMITH, 1982. The subfamily Melampinae (Pulmonata: Basommatophora) in Venezuela, with descriptions of two new species. *The Nautilus 96*: 116-120.

GMELIN, J. F., 1791. *Systema naturae*. Ed. 13, vol. 1; 4120 pp. Lipsiae.

GUPPY, R. J. L. & W. H. DALL, 1896. Descriptions of Tertiary fossils from the Antillean region. *Proc. U.S. nat. Mus. 19*: 303-331.

HOLEMAN, J. & A. J. KOHN, 1970. The identity of Conus mappa (Lightfoot), C. insularis Gmelin, C. aurantius Hwass in Bruguière, and Hwass's infraspecific taxa of C. cedonulli. *J. Conchol. 27*: 135-137.

HOUBRICK, J. R., 1968. (Houbrick, R. S. in later publications). A survey of the littoral marine Mollusks of the Caribbean coast of Costa Rica. *Veliger 11*: 4-23.

— 1974. The genus Cerithium in the Western Atlantic. *Johnsonia 5* (50): 33-84.

— 1977. Reevaluation and new description of the genus Bittium (Cerithiidae). *Veliger 20*: 101-106.

HUMFREY, M., 1975. *Sea shells of the West Indies*. 351 pp. London, Collins.

HWASS, C. H., 1792. Cone. In: J. G. BRUGUIÈRE, *Encyclopédie Méthodique. Histoire Naturelle des Vers 1*: 586-757. Paris.

HYMAN, L. H., 1967. *The Invertebrates 6, Mollusca 1*. 792 pp.; New York etc., Mc. Graw Hill.

"Johnsonia" 1941-1974. Monographs of the marine Mollusca of the Western Atlantic. Vols. 1-5. Cambridge, Mass.

JONG, K. M. DE & I. KRISTENSEN, 1965. Gegevens over marine Gastropoden van Curaçao. *Corresp.blad Ned. Malac. Ver., Suppl.* 1965, 56 pp.

KAICHER, SALLY D., 1973-77. *Card catalogue of world-wide shells*. St. Petersburg, Florida.

KAUFMANN, R. & K. J. GÖTTING, 1970. Prosobranchia aus dem Litoral der Karibischen Küste Kolumbiens. *Helgol. wiss. Meeresunters. 21*: 333-398.

KEEN, A. M., 1961. A proposed reclassification of the gastropod family Vermetidae. *Bull. Brit. Mus. (nat. Hist.) Zoology 7*: 183-213.

KEMPERMAN, Th. C. M. & H. E. COOMANS, 1984. Studies on West Indien marine mollusks, 1. Risomurex mosquitensis, a new Caribbean species, with remarks on the status of the genus Risomurex. *Bull. zool. Mus. Univ. Amsterdam 10*: 1-7.

KIENER, L. C., 1834. Genre Mitre. In: *Spécies général et iconographie des coquilles vivantes*, 120 pp.; Paris.

KOBELT, W., 1896. Die Familie Bullidae. In: *Martini & Chemnitz Conchylien-Cabinet 1* (9), 190 pp.; Nürnberg, Bauer und Raspe.

— 1897. Columbellidae. In: *Martini & Chemnitz Conchylien-Cabinet 3* (1d), 343 pp.; Nürnberg, Bauer und Raspe.

KOHN, A. J., 1968. Type specimens and identity of the described species of Conus, 4. The species described by Hwass, Bruguière and Olivi in 1792. *J. Linn. Soc. 47*: 431-503.

— 1976. Chronological analysis of the species of Conus described during the 18th century. *Zool. J. Linn. Soc. 58*: 39-59.

KURTZ, J. D. & W. STIMPSON, 1851. Descriptions of several new species of shells from the Southern coast. *Proc. Boston Soc. nat. Hist. 4*: 114-115.

LAMARCK, J. B. P. A. DE, 1822. *Histoire naturelle des animaux sans vertèbres*. Vol. 7, 711 pp., Paris.

— 1844. *Histoire naturelle des animaux sans vertèbres*. ed. 2, revised by G. P. DESHAYES & H. MILNE EDWARDS, vol. *10*, 639 pp., Paris.

LAURSEN, D., 1953. The genus Janthina, a monograph. *Dana-Rep. 38*: 1-40; Copenhagen.

LINNAEI, C., 1758. (= C. LINNAEUS = C. VON LINNÉ). *Systema naturae. ed. 10*, vol. 1; 824 pp. Holmiae.

LYONS, W. C., 1972. New Turridae (Gastropoda, Toxoglossa) from South Florida and the eastern Gulf of Mexico. *Nautilus 86*: 3-7.

— 1977. Comments on three Jamaican melanellid species, described by C. B. Adams. *Occ. Pap. Moll. 4*: 149-157.

— 1978. Status of the genus Oceanida de Folin (Gastropoda, Eulimidae), with the description of a new species. *Proc. biol. Soc. Wash. 91*: 539-545.

MAES, V. O., 1983. Observations on the systematics and biology of a Turrid Gastropod assemblage in the British Virgin Islands. *Bull. Mar. Sci. 33*: 305-335.

MARCUS, EVELINE DU BOIS REYMOND, 1974. On some Cephalaspidea (Gastropoda, Opisthobranchia) from the western and middle Atlantic warm waters. *Bull. Mar. Sci. 24*: 300-371.

— & ERNST MARCUS, 1962. Studies on Columbellidae. Bol. Fac. Fil. Ciên. Letr. Univ. São Paulo 261. Zoologica 24, pp. 335-402.

— & —, 1963. Opisthobranchs from the Lesser Antilles. *Stud. Fauna Curaçao 19*: 1-76.

MARSH, J. A., 1964. *Cone shells of the world*. 166 pp., Brisbane, Jacaranda.

MARSHALL, B. A., 1977. The dextral triforid genus Metaxia (Mollusca: Gastropoda) in the southwest Pacific. *New Zealand J. Zool. 4*: 111-117.

MARTINI, F. H. W., 1773. In: MARTINI & CHEMNITZ, *Neues systematisches Conchylien-Cabinet 2*. Nürnberg.

MATTHEWS, H. R. & A. C. D. S. COELHO, 1971. Superfamilia Tonnacea do Brazil, 2. Familia Bursidae: Bursa (Bursa) pacamoni sp.n. *Bol. Mus. nac. Zool. 283*: 1-9.

— & A. C. D. S. COELHO & P. D. S. CARDOSO & M. KEMPF, 1975. Notas sobra a Familia Terebridae no Brasil. *Arch. Mus. nac. R.J. 55*: 85-104.

MAURY, C. J., 1917. Santo Domingo type sections and fossils. *Bull. Amer. Paleont. 5*: 1-251.
MCGINTY, T. L., 1940. New marine shells dredged off Palm Beach, Florida. *Nautilus 54*: 62-64.
— 1955. New marine mollusks from Florida. *Proc. Ac. Nat. Sci. Phil. 107*: 75-85.
— 1962. Caribbean marine shells. *Nautilus 76*: 39-44.
MCLEAN, J. H., 1967. West American species of Lucapinella. *Veliger 9*: 349-352.
— & R. POORMAN, 1971. New species of tropical Eastern Pacific Turridae. *Veliger 14*: 89-130.
MELVILL, J. C., 1891. An historical account of the genus Latirus (Montfort) and its dependencies, with descriptions of eleven new species, and a catalogue of Latirus and Peristernia. *Mem. Proc. Manchester Lit. Phil. Soc. (4)4*: 365-411.
— 1925. Descriptions of nine new species of Mitridae. *Proc. mal. Soc. 16*: 215-219.
MITCHELL-TAPPING, H. J., 1979. The Caecidae (Gastropoda: Rissoacea) of Water Island, U.S. Virgin Islands, with a new species. *Nautilus 93*: 103-105.
MOHRENSTERN, see under: SCHWARTZ VON MOHRENSTERN.
MONTAGU, G., 1808. *Supplement to Testacea Britannica*, p. 1-183, London.
MOOLENBEEK, R. G. & M. J. FABER, 1984. A new Gastropod genus and species from Bonaire, Netherlands Antilles. *Stud. Fauna Curaçao 67*: 98-103.
MOORE, D. R., 1961. The marine and brackish water Mollusca of the state of Mississippi. *Gulf Research Reports 1*: 1-58.
— 1965. New species of Vitrinellidae from Gulf of Mexico and adjacent waters. *Nautilus 78*: 73-79.
— 1969a. A new Caecum from the tropical Western Atlantic. *Nautilus 83*: 26-28.
— 1969b. Systematics, distribution, and abundance of the West Indian micromollusk Rissoina catesbyana d'Orbigny. *Bull. Am. Ass. Petrol. Geol. 53*: 20-41.
— 1970. A new Caecum from Puerto Rico and the Virgin Islands. *Bull. mar. Sci. 20*: 368-373.
— 1972a. Cochliolepis parasitica, a nonparasitic marine Gastropod, and its place in the Vitrinellidae. *Bull. mar. Sci. 22*: 100-112.
— 1972b. Ecological and systematic notes on Caecidae from St. Croix, U.S. Virgin Islands. *Bull. mar. Sci. 22*: 881-894.
MÖRCH, C. A. L., 1874-1877. Synopsis Molluscorum marinorum Indiarum occidentalium. *Malakoz. Blätt. 22*: 142-184; *23*: 45-58, 87-143; *24*: 14-66, 93-123.
MORRISON, J. P. E., 1951. Two new Western Atlantic species of pulmonate mollusks of the genus Detracia and two old ones (family Ellobiidae). *J. Wash. Ac. Sci. 41*: 217-224.
NOWELL USTICKE, G. W. see USTICKE.
OLSSON, A. A., 1956. Studies on the genus Olivella. *Proc. Ac. nat. Sci. Phil. 108*: 155-225.
— & A. HARBISON & W. G. FARGO & H. A. PILSBRY, 1953. Pliocene Mollusca of southern Florida. *Monogr. Ac. nat. Sci. Phil. 8*, 457 pp.
— & T. L. MCGINTY, 1958. Recent marine mollusks from the Caribbean coast of Panama with the description of some new genera and species. *Bull. Am. Paleo. 39* (177): 1-58.
ORBIGNY, A, D', 1835-1843. *Voyage dans l'Amérique Méridionale, 1826-33* (3, Mollusques): 758 pp., Paris.
— 1841-1853. Mollusques, in: R. DE LA SAGRA's *Histoire ... de l'Ile de Cuba. 1*: 264 pp., *2*: 380 pp.; Atlas pl. 1-28, published 1842; Paris.
PETIT DE LA SAUSSAYE, S., 1853. Description d'un genre nouveau, G. Recluzia, appartenant à la familie des Janthinidées. *J. de Conch. 4*: 116-120.
PHILIPPI, R. A., 1836. Beschreibung einiger neuen Conchylien Arten. *Arch. Naturgesch. 2* (1): 224-233.
— 1847. Testaceorum novorum centuria. *Zeitschr. Malakozool. 4*: 113-127.
— 1845-1851. *Abbildungen und Beschreibungen neuer oder wenig gekannter Conchylien*, 3 Vols., Cassel.

PILSBRY, H. A., See also TRYON & (PILSBRY).
— 1933. Notes on the Gastropod genus Liotia and its allies. *Proc. Ac. nat. Sc. Phil. 85*: 375-381.
— 1956. A gastropod domiciliary in sea urchin spines. *Nautilus 69*: 109-110.
— & C. G. AGUAYO, 1933. Marine and fresh water mollusks new to the fauna of Cuba. *Nautilus 46*: 116-123.
— & T. L. MCGINTY, 1945-1946. Cyclostrematidae and Vitrinellidae of Florida, 1-4. *Nautilus 59*: 1-13 [pl. 1-2]; 52-59; 77-83; 60: 12-18.
— & — 1949. New marine Mollusks of Florida and the Bahamas. *Nautilus 63*: 9-15.
PONDER, W. F., 1968. Anatomical notes on two species of the Colubrariidae (Mollusca, Prosobranchia). *Trans. royal Soc. New Zealand 10*: 217-223.
— 1974. A review of the Australian species assigned to Rissopsis Garrett with a description of a new species of Rissopsetia (Mollusca: Gastropoda). *J. Maloc. Soc. Aust. 3*: 25-35.
— 1983. Reclassification of some American species assigned to the Rissoidae (sensu lato). *Nautilus 97*: 90-91.
POWELL, A. W. B., 1966. *The molluscan families Speightiidae and Turridae*. 184 pp. Unity Press Auckland, New Zealand.
PRESTON, H. B., 1907. Latirus funebris n.sp. from the West Indies. *J. Conchol. 12*: 33.
RADWIN, G. E., 1977. The Family Columbellidae in the Western Atlantic. *Veliger 19*: 403-417.
— 1978. The family Columbellidae in the Western Atlantic. Part 2b. The Pyreninae (continued). *Veliger 20*: 328-344.
— & A. D'ATTILIO, 1976. *Murex shells of the world.* 284 pp. Stanford, Univ. Press.
REEVE, L. A., 1843-78. *Conchologia iconica 1-20*. London.
REHDER, H. A., 1935. New Caribbean marine shells. *Nautilus 48*: 127-130.
— 1943. New marine mollusks from the Antillean region. *Proc. U.S. nat. Mus. 93*: 187-203.
— 1944. A new Vitrinella from Maryland. *Nautilus 57*: 97.
RIOS, E. C., 1970. *Coastal Brazilian seashells.* 255 pp. Rio Grande, Museu Oceanografico.
— 1975. *Brazilian marine mollusks iconography.* 331 pp. Rio Grande, Museu Oceanogr.
ROBERTSON, R., 1958. The family Phasianellidae in the Western Atlantic. *Johnsonia 3* (37): 245-283.
ROSEWATER, J., 1980. Subspecies of the Gastropod Littorina scabra. *Nautilus 94*: 158-162.
SARASUA, H., 1975. Nuevos género, subgénero y especies de moluscos marinos Neogastropodos. *Poeyana 140*: 1-15.
SAY, TH., 1822. An account of some of the marine shells of the United States. *J. Ac. nat. Sci. Phil. 2*: 221-248, 256-270, 302-325.
— 1826. Descriptions of marine shells recently discovered on the coast of the United States. *J. Ac. nat. Sci. Phila. 5*: 207-221.
SCHILDER, F. A., 1931. Beiträge zur Kenntnis der Cypraeacea, 4. Neue und alte Triviinae. *Zool. Anz. 96*: 65-72.
— 1932. Cypraeacea. In *Fossilium Catalogus I: Animalia 55*: 1-276: Berlin.
SCHILDER, M. & F. A. SCHILDER, 1971. A catalogue of living and fossil cowries... etc. *Mém. Inst. royal. sc. Belgique (2) 85*, 246 pp.
SCHWARTZ VON MOHRENSTERN, G., 1860. *Über die Familie der Rissoiden und im besondere die Gattung Rissoina.* 120 pp. Wien, Staatsdruckerei.
SCHWENGEL, J. S., 1940. New Mollusca from Florida. *Nautilus 54*: 49-52.
— 1943. New marine shells from Florida. *Nautilus 56*: 75-78.
— 1951. New marine Mollusks from British West Indies and Florida Keys. *Nautilus 64*: 116-119.

— & T. L. McGINTY, 1942. Some new and interesting marine shells from northwest Florida. *Nautilus 56*: 13-18.

SMITH, E. A., 1872. Remarks on several species of Bullidae, with descriptions of some hitherto undescribed forms. *Ann. Mag. nat. Hist. 1872*: 344-355.

— 1882. Diagnosis of new species of Pleurotomatidae in the British museum. *Ann. Mag. nat. Hist. 1882*: 206-218, 296-306.

— 1888. Diagnosis of new species of Pleurotomatidae in the British museum. *Ann. Mag. nat. Hist. 1888*: 300-317.

SOWERBY, G. B., 1842-1887. *Thesaurus Conchyliorum 1-5*. London.

— 1878. Descriptions of ten new species of shells. *Proc. zool. Soc. London 1878*: 795-800.

SPOEL, S. VAN DER, 1967. *Euthecosomata, a group with remarkable developmental stages (Gastropoda, Pteropoda)*. 375 pp.; Gorinchem, Noorduyn.

—, 1976. *Pseudothecosomata, Gymnosomata and Heteropoda (Gastropoda)*. 484 pp. Utrecht, Bohn, Scheltema & Holkema.

STEARNS, R. E. C., 1872. Descriptions of new species of marine mollusks from the coast of Florida, *Proc. Boston Soc. nat. Hist. 15*: 21-24.

STIMPSON, W., 1851. The genus Caecum in the United States. *Proc. Boston Soc. nat. Hist. 4*: 112-114.

THIELE, J., 1929-1931. *Handbuch der systematischen Weichtierkunde, 1, 2*. 778 pp., Jena, Fischer.

TORRE, A. DE LA, 1960. Caribbean species of Truncatella. *Nautilus 73*: 79-88.

TRYON, G. W. (& H. A. PILSBRY). 1879-1898. *Manual of Conchology*. (1), 1-17; Philladelphia. (From half of the 10th Vol. continued by PILSBRY).

TURNER, R. D., 1956. Additions to the Western Atlantic marine Mollusks described by C. B. Adams. *Occ. Pap. Moll. 2* (20) 134-136.

— 1959. The genera Hemitoma and Diodora in the Western Atlantic. *Johnsonia 3* (39): 334-344.

USTICKE, G. W. N., 1959. *A check list of the marine shells of St. Croix, U.S. Virgin Islands*. 90 pp., Burlington, Lane Press.

— 1971. *A supplementing listing of new shells*. 32 pp., privately printed.

VANATTA, E. G., 1901. New marine Mollusks. *Proc. Ac. Nat. Sci. Phil. 53*: 182-187.

— 1913. Descriptions of new species of marine shells. *Proc. Ac. nat. Sci. Phil. 65*: 22-27.

VERRILL, A. E. & K. J. BUSH, 1900. Additions to the marine Mollusca of the Bermudas. *Trans. Conn. Ac. Sci. 10*: 513-544.

VOKES, EMILY H. & A. D'ATTILIO, 1980. Pygmaepterys, a newly described taxon of Muricidae (Mollusca, Gastropoda), with the description of three new species from the Cenozoic of the Western Atlantic. *Tulane Stud. Geol. Palaeont. 16* (2): 45-54.

— & R. HOUART, 1986. An evaluation of the taxa Muricopsis and Risomurex (Gastropoda, Muricidae), with one new species of Risomurex. *Tulane Stud. Geol. Paleont. 19* (2): 63-88.

VOKES, H. E. & EMILY H. VOKES, 1983. Distribution of shallow-water marine mollusca, Yucatan Peninsula. Mexico. *Middle Amer. Res. Inst. 54*: 1-183.

VINK, D. L. N., 1977. A range extension of Bursa pacamoni. *Haw. Shell News 25* (11): 14.

WARMKE, GERMAINE L. & R. T. ABBOTT, 1961. *Caribbean Seashells*. 346 pp., Narberth, Penn.; Livingstone Publ. Cy.

WEINKAUFF, H. C., 1879. Die Gattungen Marginella und Erato. In: *Martini & Chemnitz Systematisches Conchilien-Cabinet 5* (4): 1-166.

WENZ, W., 1938-1944. Gastropoda. In: *Handbuch der Paläozool. 6* (1): 1-1639; Berlin.

WOODRING, W. P., 1925-1928. *Miocene Mollusks from Bowden, Jamaica*. Pt. *2. Gastropods and discussion of results*. Carnegie Inst. Washington, 460 pp.

ALPHABETIC INDEX

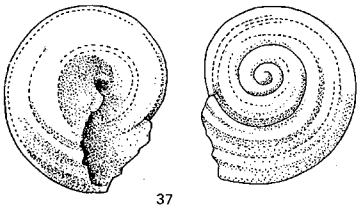
WITH (FIRST) SPECIES NUMBER

PLATES

If the figured specimen is not from Curaçao, Aruba or Bonaire, the locality is mentioned.

PLATE 1

37 *Tegula hotessieriana* (d'Orb., 1842); juv. 0.8 × 1.6 mm.
52 *Haplocochlias swifti* Vanatta, 1913; 3.1 mm (Drawing by M. J. FABER).
53 *Haplocochlias moolenbeeki* sp.n., holotype, 4.4 × 4.7 mm.
104 *Rissoina vanpeli* sp.n. holotype, 3.8 × 1.6 mm.
105 *Rissoina vanderspoeli* sp.n. holotype, 3.0 × 1.3 mm.
120 *Zebina cordorae* sp.n. holotype, 5.4 × 2.0 mm.
121 *Zebina vitrinella* (Mörch, 1876); 4.5 × 1.9 mm.
123 *Assiminea creutzbergi* sp.n., holotype, 1.75 × 1.0 mm.
124 *Assiminea gerhardtae* sp.n., holotype, 2.9 × 1.6 mm.
130 *Vitrinella anomala* (d'Orb., 1842); 1.1 mm.



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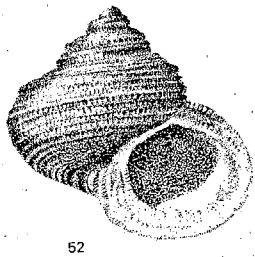

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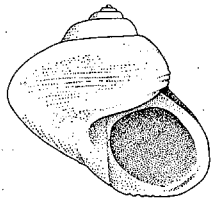

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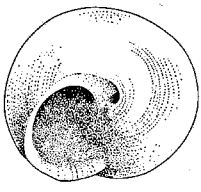

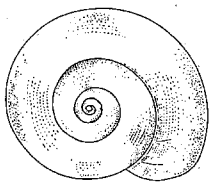

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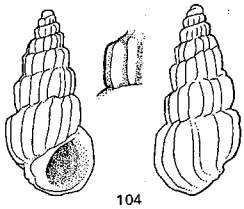

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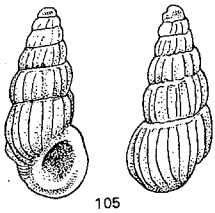

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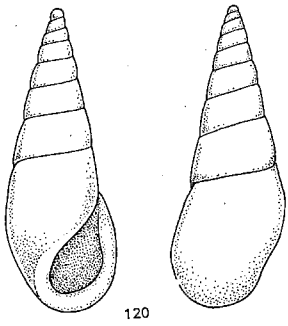

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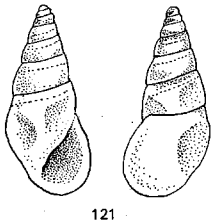

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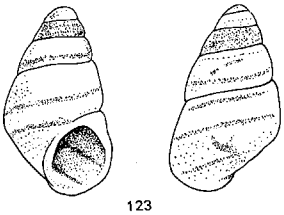

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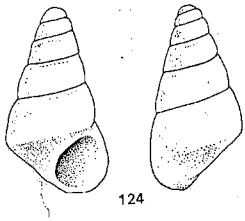

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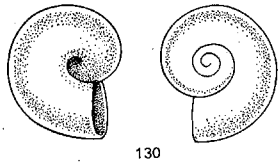

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PLATE 2

131 *Vitrinella anneliesae* sp.n., holotype, 0.9 × 1.7 mm.
132 *Circulus cubanus* (Pilsbry & Aguayo, 1933); 1.2 mm.
136 *Cyclostremiscus vanbruggeni* sp.n., holotype, 0.7 × 1.6 mm.
145 *Solariorbis bartschi* (Vanatta, 1913); 1.1 mm.
148 *Teinostoma clavium* Pilsbry & McGinty, 1945; 1.8 mm.
149 *Teinostoma chumoi* Vanatta, 1913; 1.0 × 2.0 mm.
150 *Teinostoma millepunctata* Usticke, 1969; 2.0 × 2.6 mm.
151 *Teinostoma lerema* Pilsbry & McGinty, 1945; 0.8 mm.
165 *Caecum debile* Verrill & Bush, 1900; 2.4 × 0.5 mm.
171 *Caecum rijgersmai* sp.n., holotype, 2.5 × 0.5 mm.
175 *Caecum cornucopiae* Carpenter, 1858; 1.8 × 0.45 mm.
177 *Caecum butoti* sp.n., holotype, 2.2 × 0.5 mm.

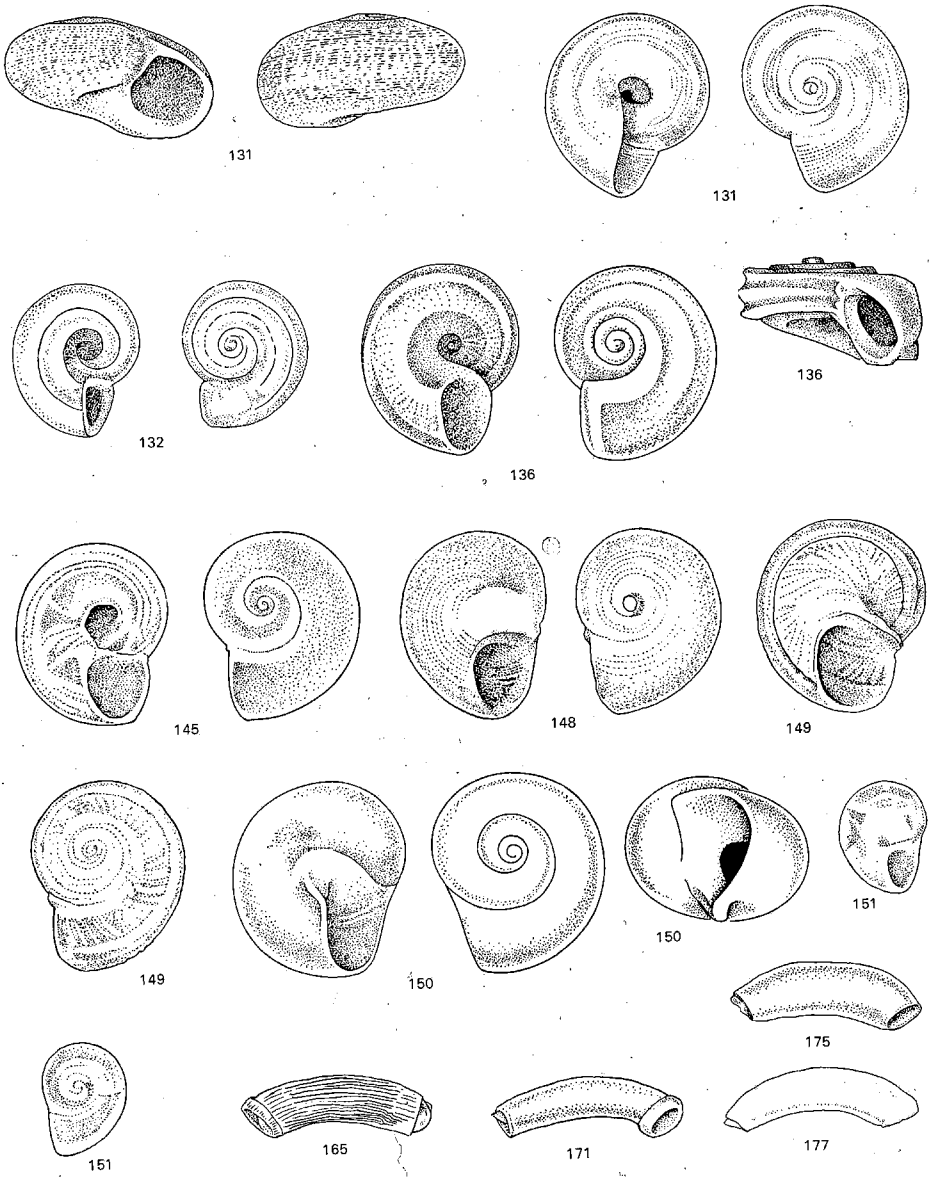
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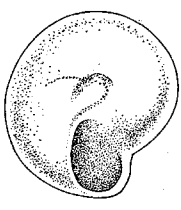
PLATE 3

154 *Teinostoma parvicallum* Pilsbry & McGinty, 1945; 1.0 × 1.6 mm
192 *Calodisculus retiferus* (Dall, 1892); 3.0 mm.
220 *Cerithiopsis ara* Dall & Bartsch, 1911; 2.5 mm.
226 *Cerithiopsis io* Dall & Bartsch, 1911; 2.0 mm.
227 *Cerithiopsis buijsei* sp.n., holotype, 2.2 × 1.1 mm.
228 *Cerithiopsis albovittatum* (C. B. Ads, 1850); 3.5 × 1.3 mm.
229 *Cerithiopsis warmkae* sp.n., holotype, 4.5 × 2.0 mm.
231 *Cerithiopsis iontha* Bartsch, 1911; 2.9 mm.
232 *Cerithiopsis movilla* Dall & Bartsch, 1911; 3.0 mm.
239 *Triphora bermudensis* Bartsch, 1911; 4.3 mm.



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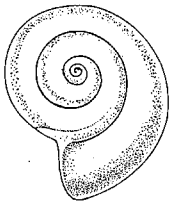

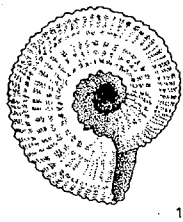

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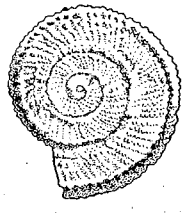

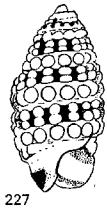

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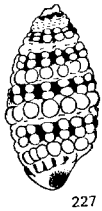

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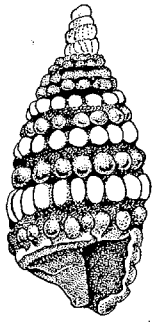

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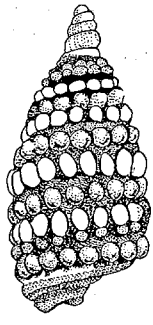

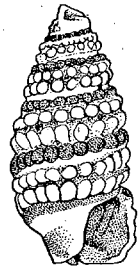

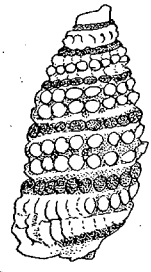

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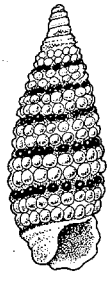

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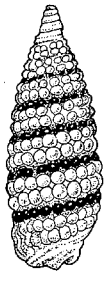

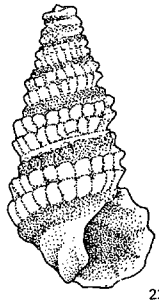

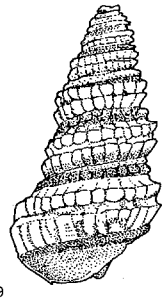

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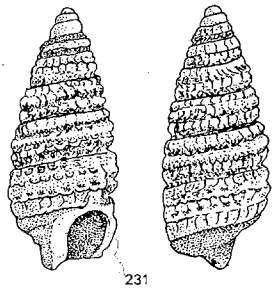

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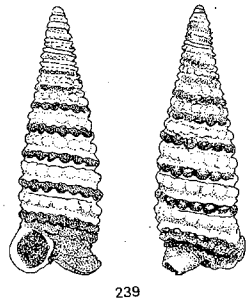

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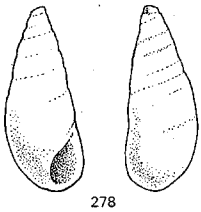
PLATE 4

278 *Melanella compsa* (Verrill & Bush, 1900); 3.5 mm.
284 *Melanella* spec. 1; 2.2 × 0.8 mm.
285 *Melanella* spec. 2; 2.2 × 0.9 mm.
286 *Melanella* spec. 3; 1.2 × 0.55 mm.
287 *Melanella bermudezi* Pilsbry & Aguayo, 1933; 2.8 mm.
291 *Melanella* spec. 6; 3.7 × 1.35 mm.
292 *Melanella arcuata* (C. B. Ads, 1850); 2.3 × 1.1 mm.
296 *Strombiformis fulvocinctus* (C. B. Ads, 1850); 4.0 × 1.2 mm
303 *Bermudaclis gittenbergeri* sp.n., holotype, 1.8 × 0.6 mm.
305A *Graphis menkhorsti* sp.n., holotype, 1.7 × 0.45 mm.
305B The same, paratype, 1.5 × 0.55 mm.
306 *Henrya morrisoni* Bartsch, 1947; 1.2 × 0.4 mm.
308 *Atlanta gaudichaudi* Souleyet, 1852; 1.5 mm, juv.spec.
450a *Engina slootsi* sp.n., holotype, 18 × 8 mm.
468A *Nassarius antillarum* (d'Orb., 1842); 12.0 × 8.0 mm.



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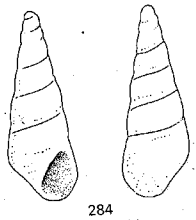

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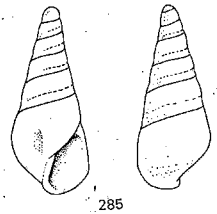

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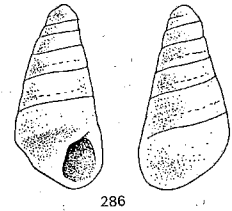

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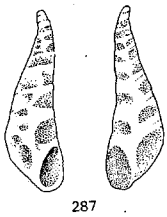

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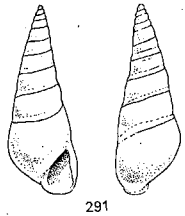

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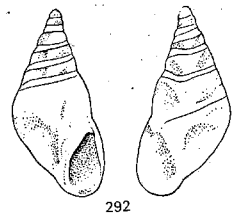

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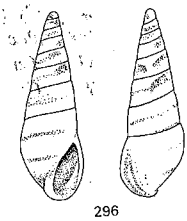

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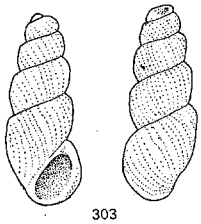

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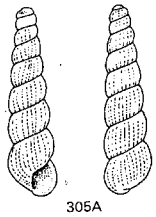

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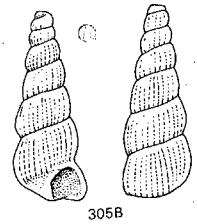

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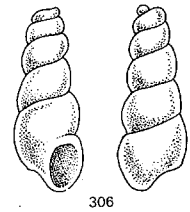

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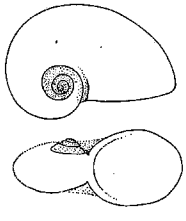

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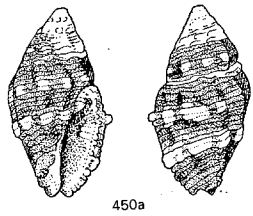

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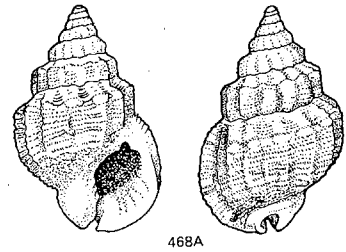
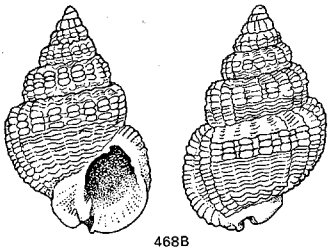


468A

PLATE 5

468B *Nassarius antillarum* (d'Orb., 1842); 11.5 × 7.5 mm.
522 *Dentimargo sulcata* (d'Orb., 1842); 2.7 mm.
523 *Dentimargo reducta* Bavay, 1922; 2.5 × 1.3 mm.
526 *Cypraeolina antillensis* sp.n., holotype, 1.7 × 1.1 mm.
529 *Volvarina pauli* sp.n., holotype, 5.5 × 2.5 mm.
530 *Volvarina abbotti* sp.n., holotype, 4.0 × 2.0 mm.
545 *Gibberula evadne* (Dall & Simpson, 1901); 2.5 × 1.5 mm.
546 *Gibberula* spec.; 2.7 × 1.7 mm.
547 *Cystiscus jansseni* sp.n., holotype, 2.0 × 1.2 mm.
548 *Pachybathron cypraeoides* (C. B. Ads, 1845); juv.spec. 2.3 mm
574a *Terebra* spec. 2; 25 × 5.8 mm.
595 *Cerodrillia hannyae* sp.n., holotype, 6.5 × 2.4 mm.



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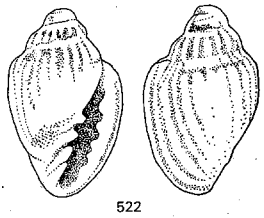

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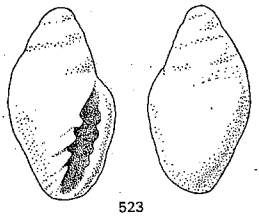

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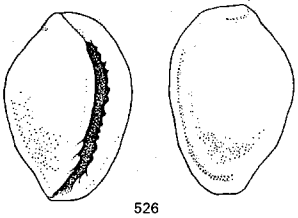

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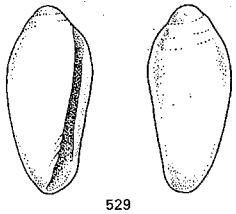

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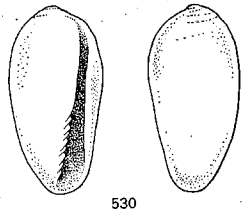

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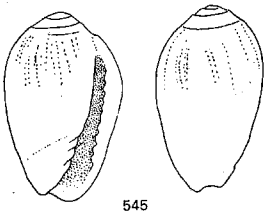

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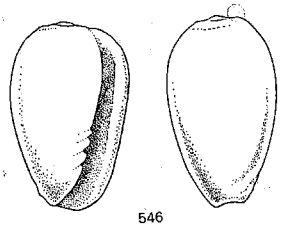

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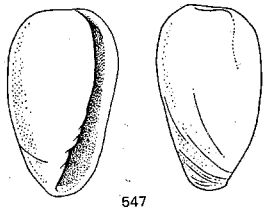

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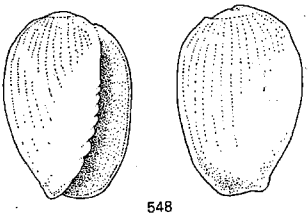

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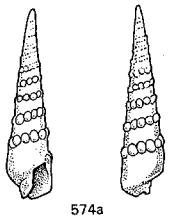

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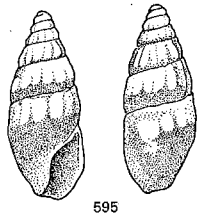

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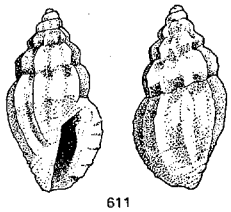
PLATE 6

611 *Tenaturris* spec. 2; 4.0 mm.
631a *Daphnella louisae* sp.n., holotype, 7.0 × 2.3 mm.
641a *Odostomia teres* Bush, 1885; 2.9 × 1.0 mm.
642 *Odostomia* spec.; 2.6 × 1.3 mm.
643 *Chrysallida nioba* (Dall & Bartsch, 1911); 3.5 mm.
647 *Chrysallida terryi* Olsson & McGinty, 1958; 3.2 mm.
649 *Chrysallida* cf. *virginiae* (Altena, 1975); 1.9 × 1.1 mm
650 *Miralda abbotti* Olsson & McGinty, 1958; 2.6 mm.
651 *Miralda havanensis* Pilsbry & Aguayo, 1933; 1.7 mm.
652 *Menestho somersi* Verrill & Bush, 1900; 2.0 mm.
655 *Evalea stocki* sp.n., holotype; 2.0 × 1.0 mm.



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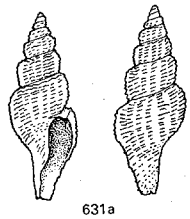

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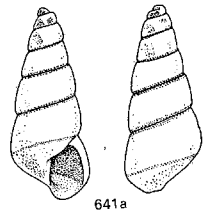

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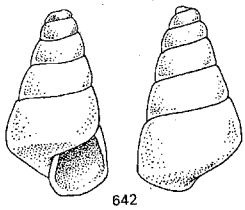

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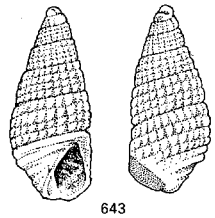

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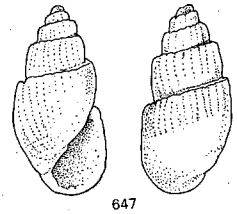

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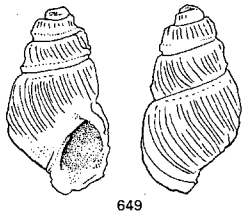

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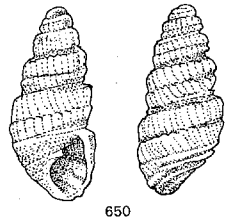

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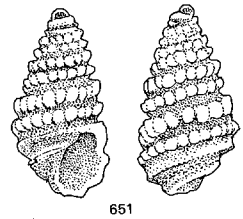

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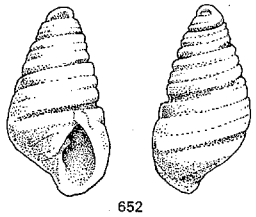

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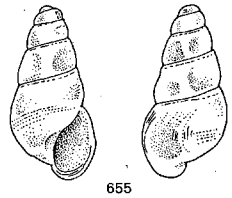

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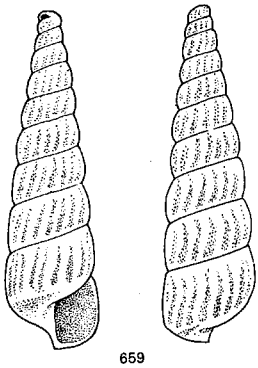
PLATE 7

659 *Turbonilla* spec. A2; top missing, 4.0 × 1.2 mm.
664 *Turbonilla lillybeckae* Usticke, 1969; top missing, 5.0 × 1.3 mm.
665 *Turbonilla deboeri* sp.n., holotype, 5.7 × 1.25 mm.
673 *Turbonilla riisei* Mörch, 1875; 4.2 mm.
674 *Turbonilla rixtae* nom.n.; 4.5 mm.
676a *Turbonilla cynthiae* sp.n., holotype, 3.8 × 1.0 mm.
683 *Acteon splendidulus* Mörch, 1875; 2.7 mm.
686 *Acteocina* spec.; 3 × 1.3 mm.
687 *Acteocina kristenseni* sp.n., holotype, 2.1 × 1.0 mm.
688 *Acteocina inconspicua* Olsson & McGinty, 1958; 1.8 mm.



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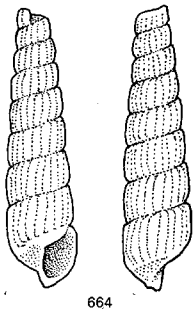

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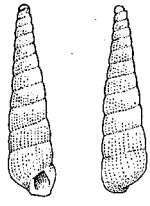

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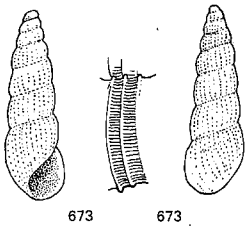

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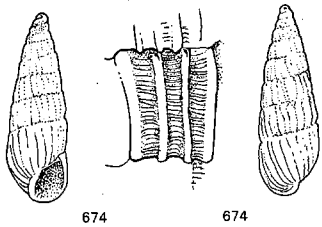

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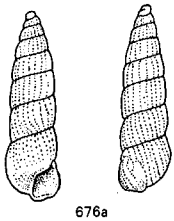

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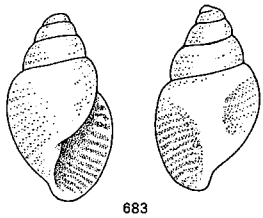

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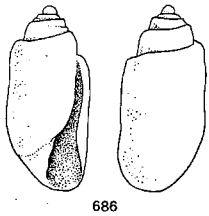

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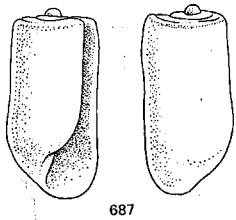

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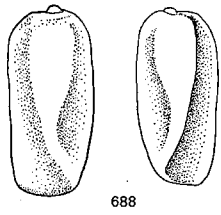

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PLATE 8

1 *Scissurella cingulata* O. G. Costa, 1861; Puerto Rico
4 *Rimula frenulata* Dall, 1889.
30 *Euchelus guttarosea* Dall, 1889.
31 *Synaptocochlea picta* (d'Orb., 1842).
46 *Cyclostrema cancellata* Marryat, 1818.
50 *Sansonia tuberculata* (Watson, 1886).
51 *Parviturbo comptus* (Woodring, 1928).
51B The same, juv.spec. from Marie-Galante.
87 *Alvania meridioamericana* Weisbord, 1962.

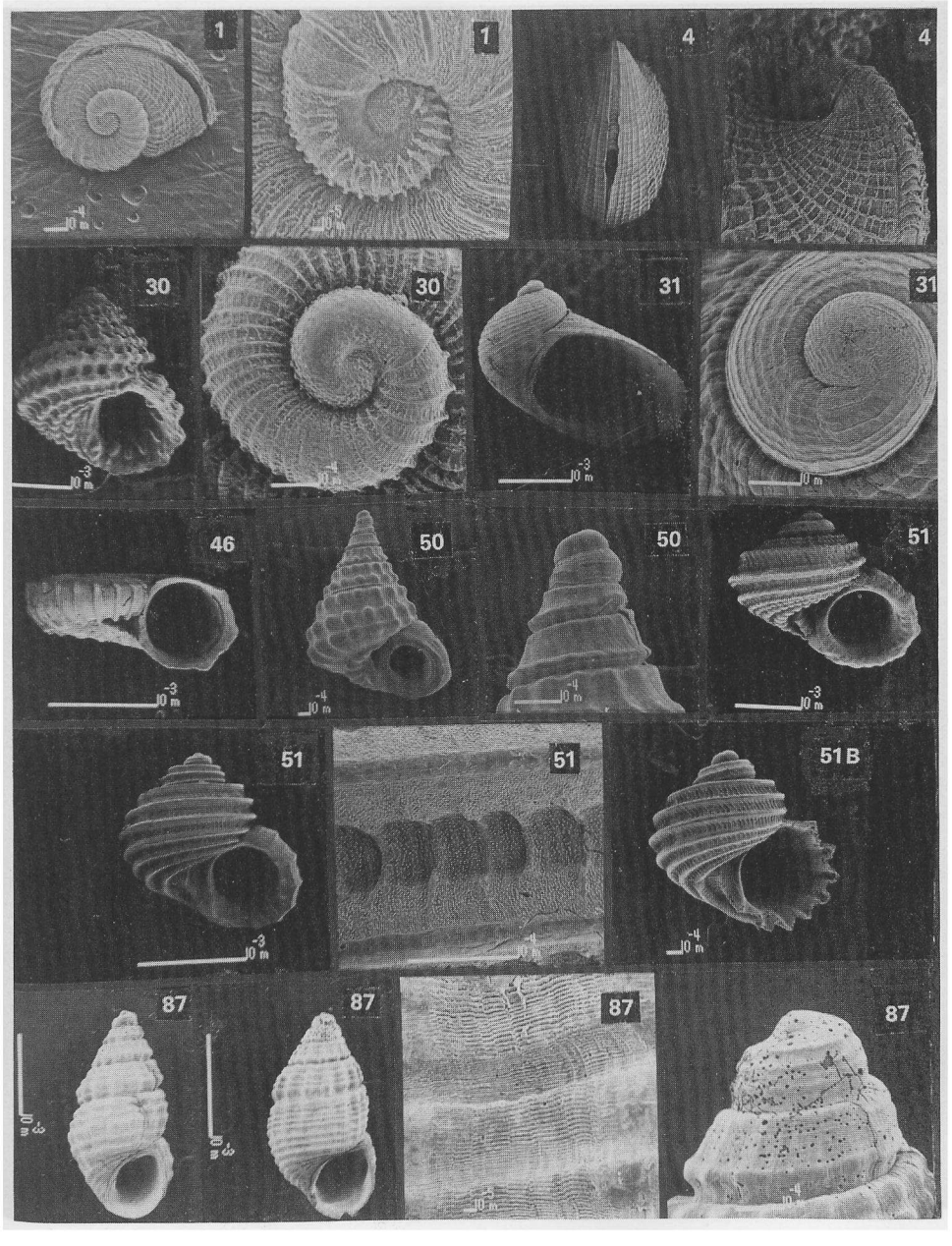
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PLATE 9

53a *Mareleptopoma karpatensis* Moolenbeek & Faber, 1984; – 45 m
88 *Alvania deboeri* sp.n., holotype.
89 *Alvania gradata* (d'Orb., 1842); Marie-Galante.
90 *Alvania moolenbeeki* sp.n., holotype.
91A *Alvania arubensis* sp.n., holotype.
91B The same, paratype.

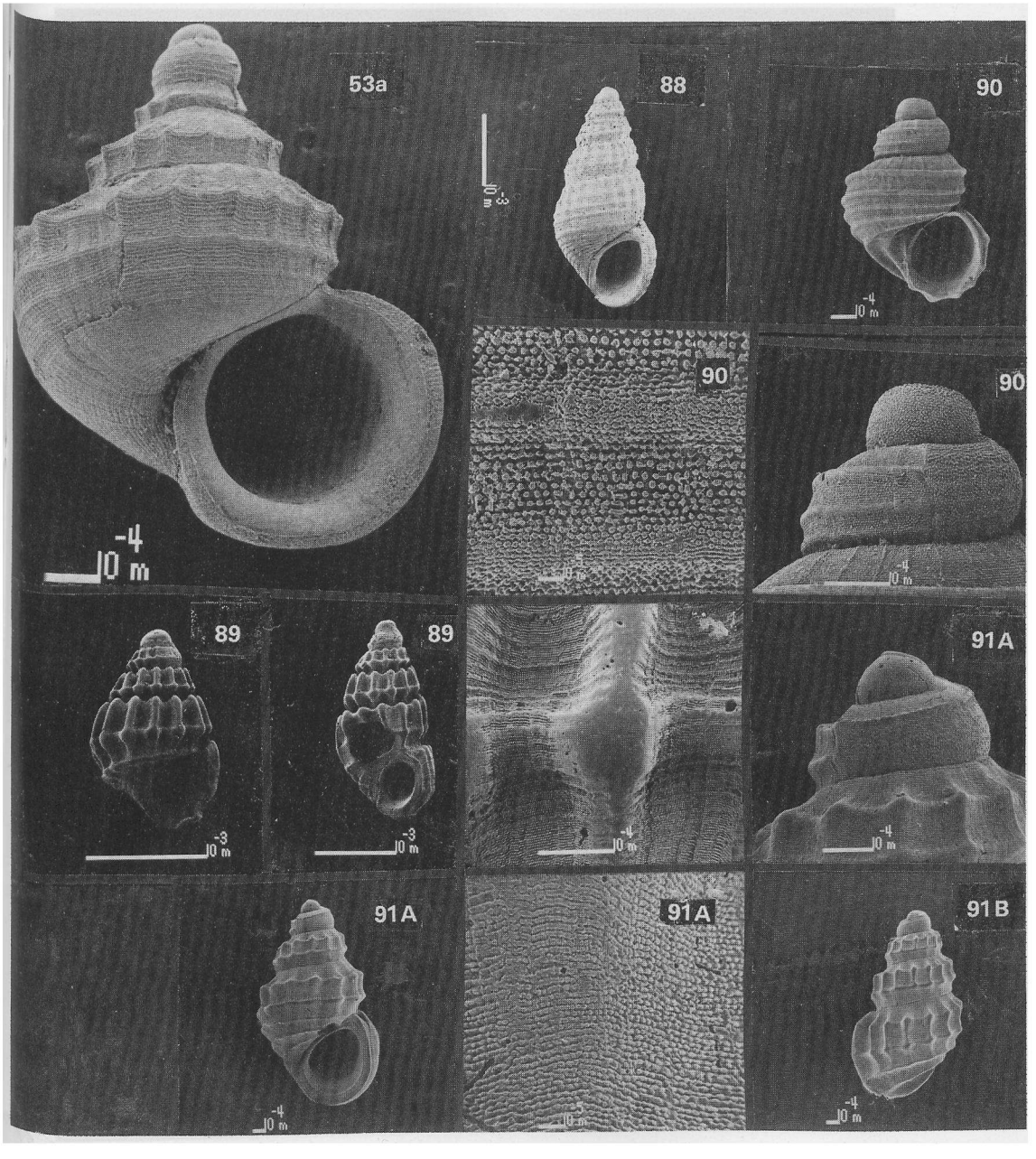
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PLATE 10

92 *Alvania auberiana* (d'Orb., 1842).
93 *Alvania faberi* sp.n., holotype.
94 *Alvania bermudensis* Faber & Moolenbeek, 1987
95 *Alvania didyma* (Watson, 1885); St. Martin.
96 *Alvania caribaea* (d'Orb., 1842).
97 *Alvania curacaoensis* sp.n., holotype.
99 *Amphitalamus vallei* Aguayo & Jaume, 1947.

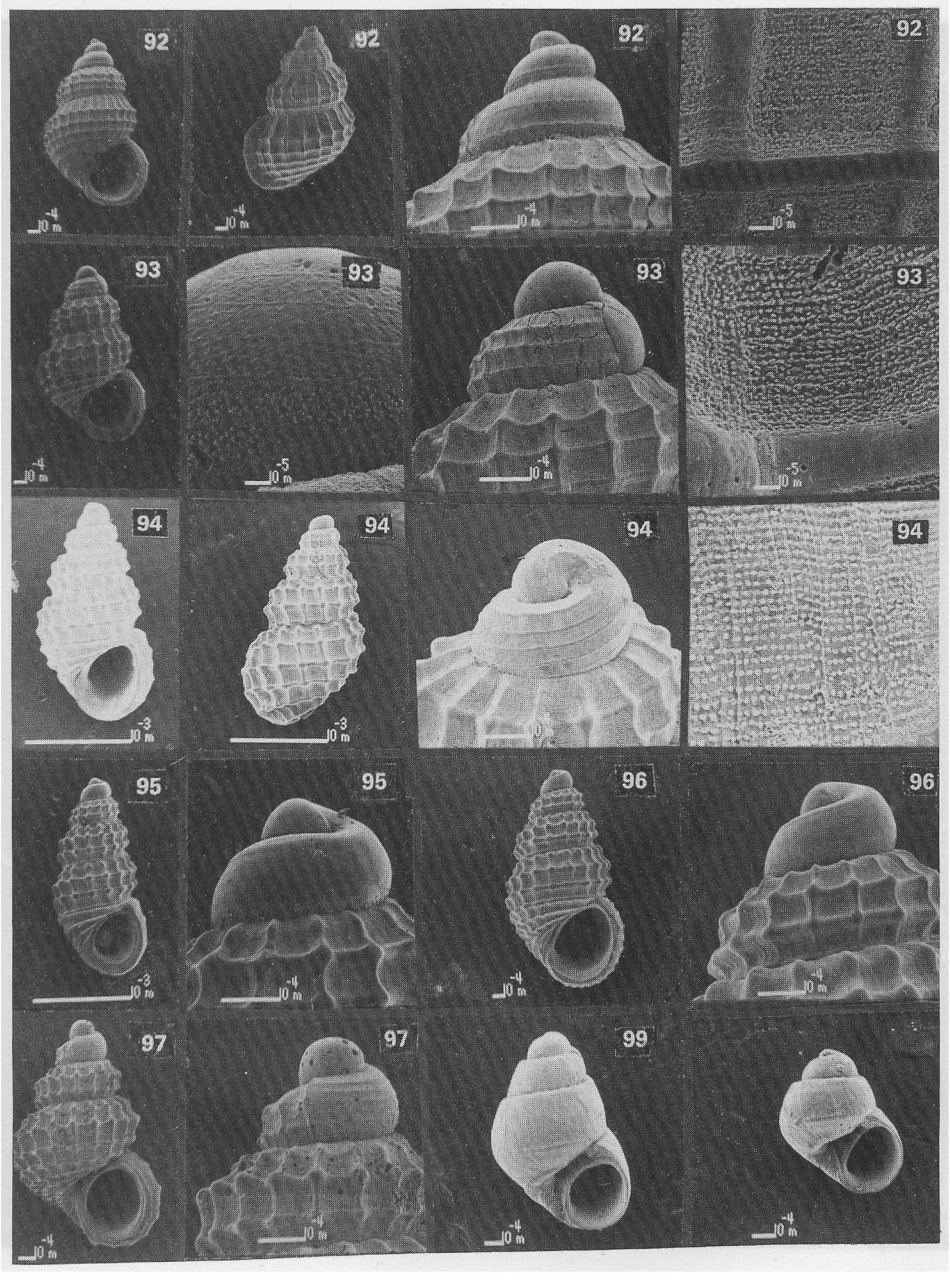
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PLATE 11

99 *Amphitalamus vallei* Aguayo & Jaume, 1947.
100 *Rissoina bryerea* (Montagu, 1803).
101 *Rissoina catesbyana* d'Orb., 1842.
112 *Rissoina hummelincki* sp.n., holotype, 2.0 × 0.8 mm
114 *Rissoina cancellata* Philippi, 1847.
115 *Rissoina sagraiana* d'Orb., 1842.
116 *Rissoina aberrans* (C. B. Ads, 1850); Puerto Rico.
117 *Rissoina fenestrata* Schwartz, 1860; St. Martin.

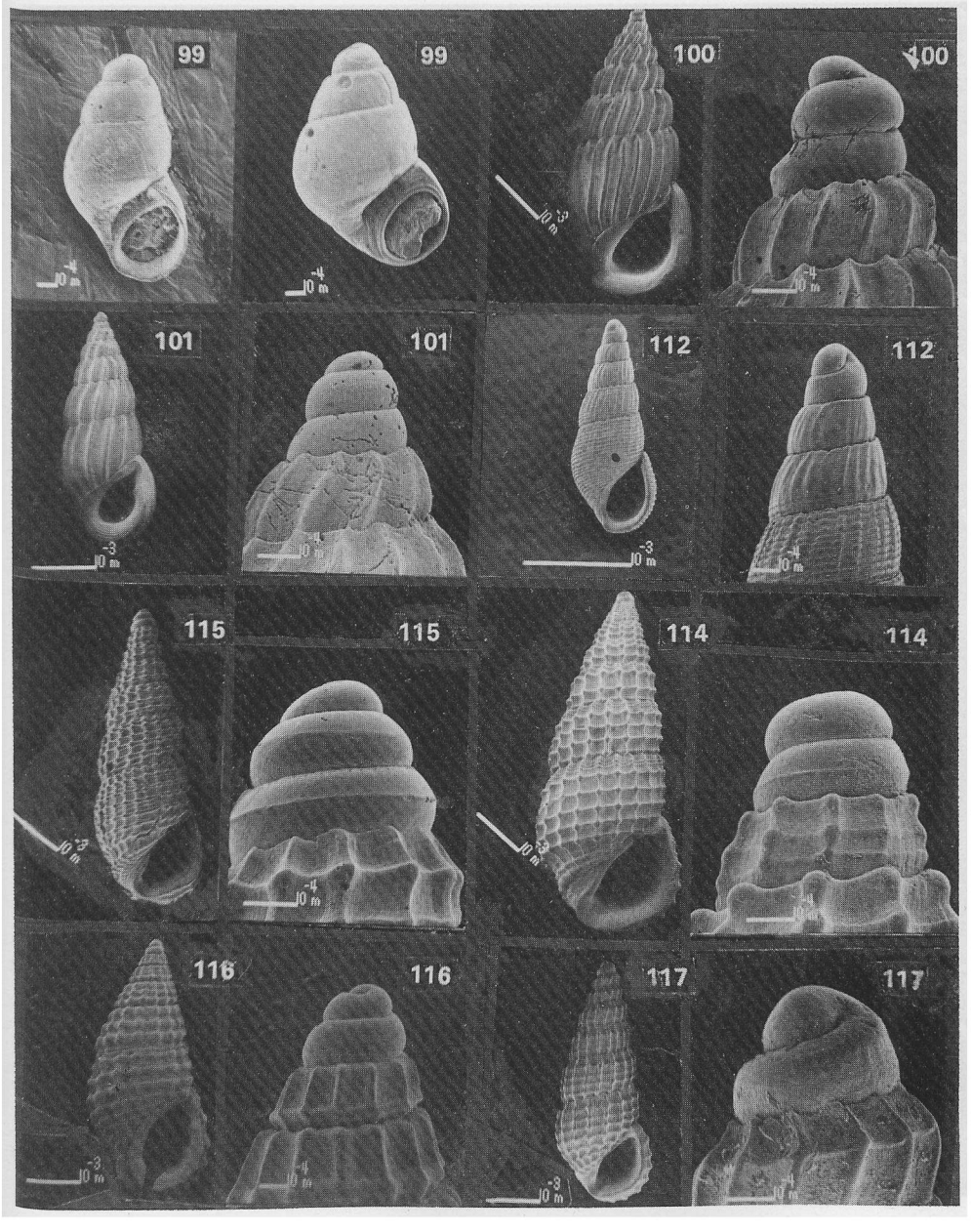
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PLATE 12

125 *Truncatella pulchella* Pfeiffer, 1839.
126 *Truncatella scalaris* (Michaud, 1830).
127 *Truncatella caribaeensis* Reeve, 1842.
129 *Vitrinella helicoidea* C. B. Ads, 1850.
132 *Circulus cubanus* (Pilsbry & Aguayo, 1933).
135 *Cyclostremiscus caraboboensis* Woodring, 1962.
141 *Parviturboides interruptus* (C. B. Ads, 1850); Puerto Rico.
142 *Solariorbis guianensis* Altena, 1966.

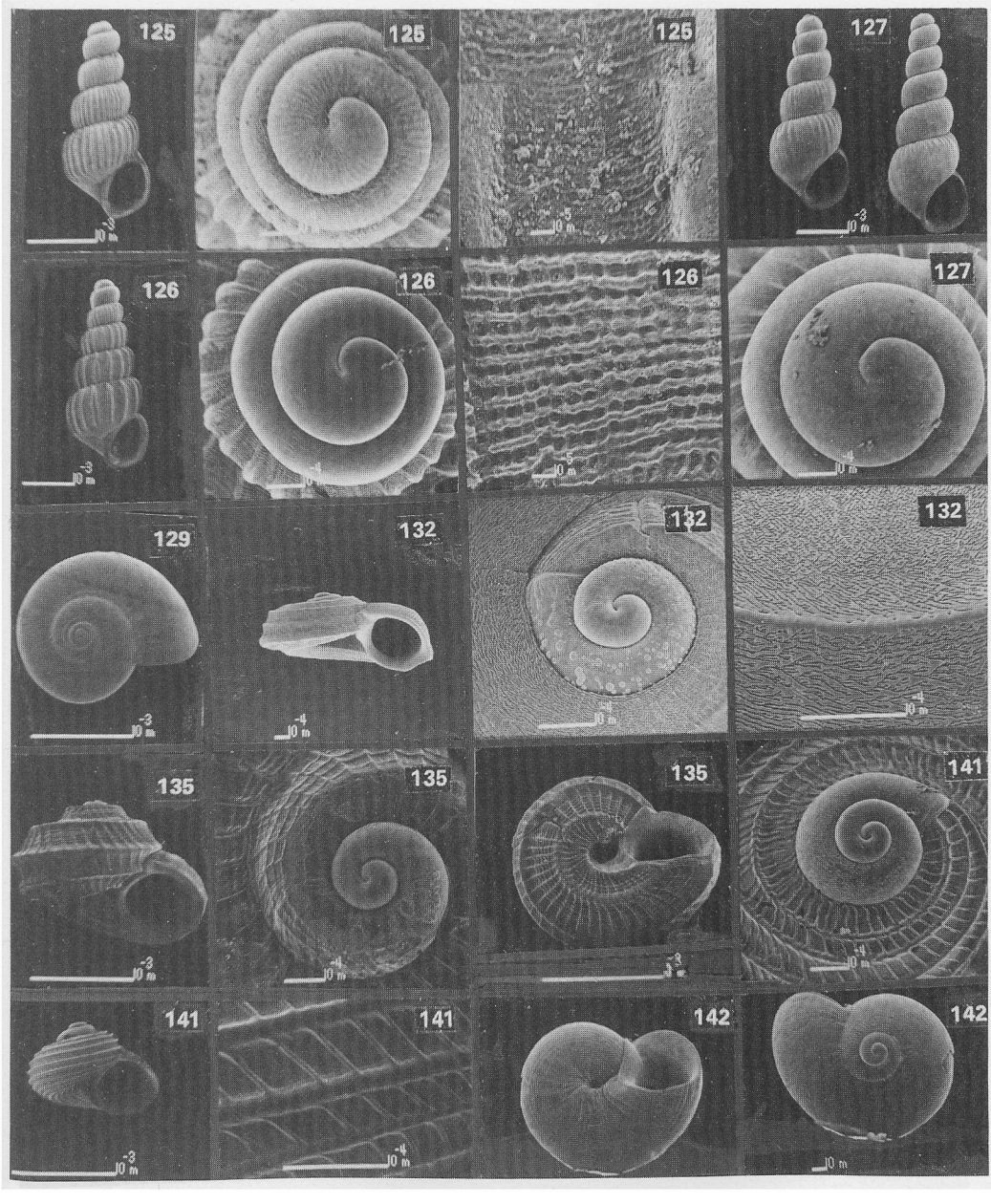
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PLATE 13

142 *Solariorbis guianensis* Altena, 1966.
143 *Solariorbis antillensis* sp.n., holotype, width 1.6 mm
146 *Pleuromalaxis balesi* Pilsbry & McGinty, 1945.
147 *Teinostoma proboscoidea* Aguayo, 1949.
148 *Teinostoma clavium* Pilsbry & McGinty, 1945.
151 *Teinostoma lerema* Pilsbry & McGinty, 1945.
152 *Teinostoma obtectum* Pilsbry & McGinty, 1945.
153 *Teinostoma megastoma* (C. B. Ads, 1850).
155 *Macromphalina oxygone* (Mörch, 1877).

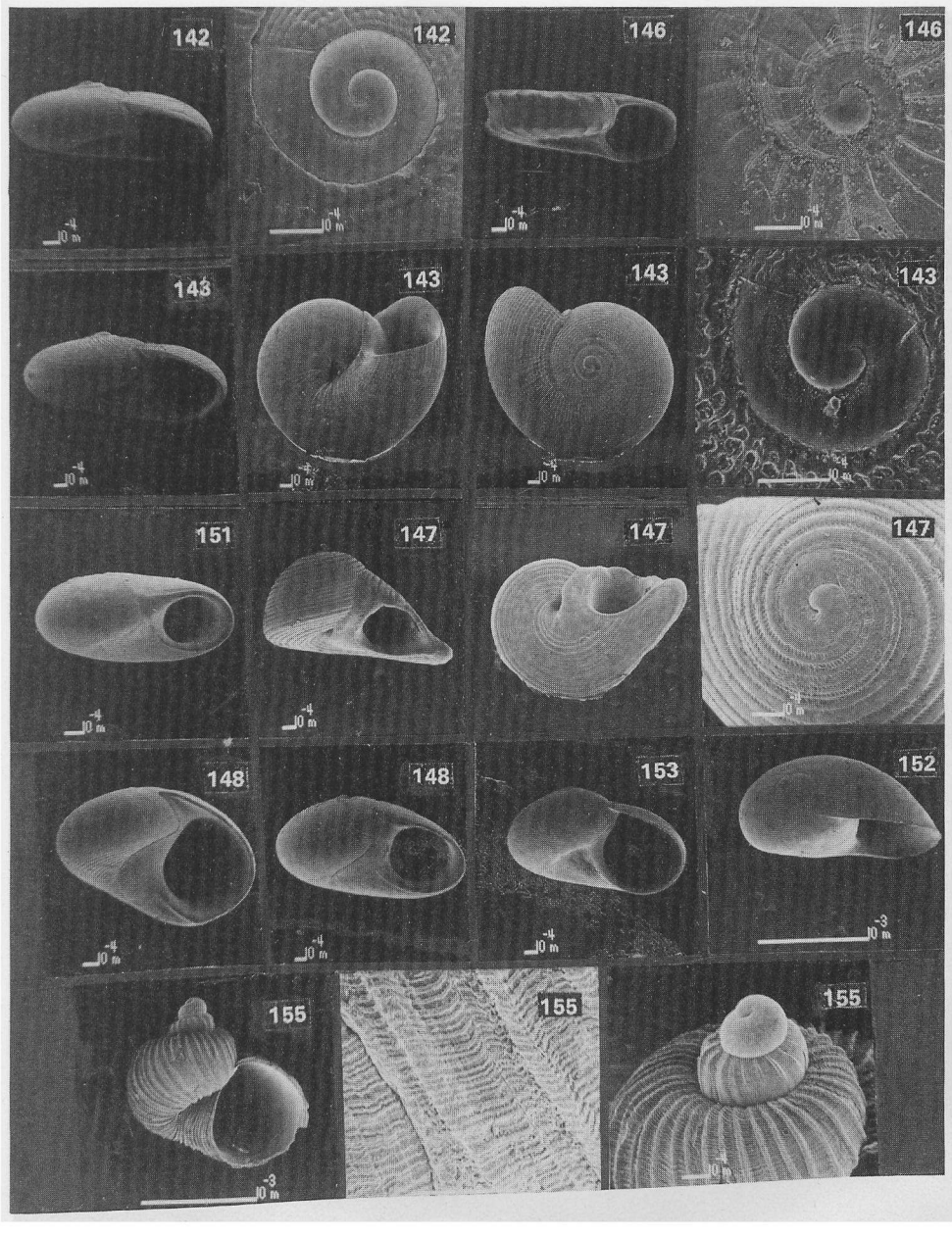
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PLATE 14

158 *Caecum imbricatum* Carpenter, 1856.
159A *Caecum zaagmani* sp.n., holotype; Bonaire, length 1.8 mm.
159B The same, Aruba.
160 *Caecum insularum* Moore, 1970; St. Martin.
161 *Caecum textile* de Folin, 1867; Little Cayman.
162 *Caecum cycloferum* de Folin, 1867.
163 *Caecum plicatum* Carpenter, 1858; Little Cayman, except the last one (from Bonaire).
166 *Caecum clava* de Folin, 1867.
169 *Caecum condylum* Moore, 1969.

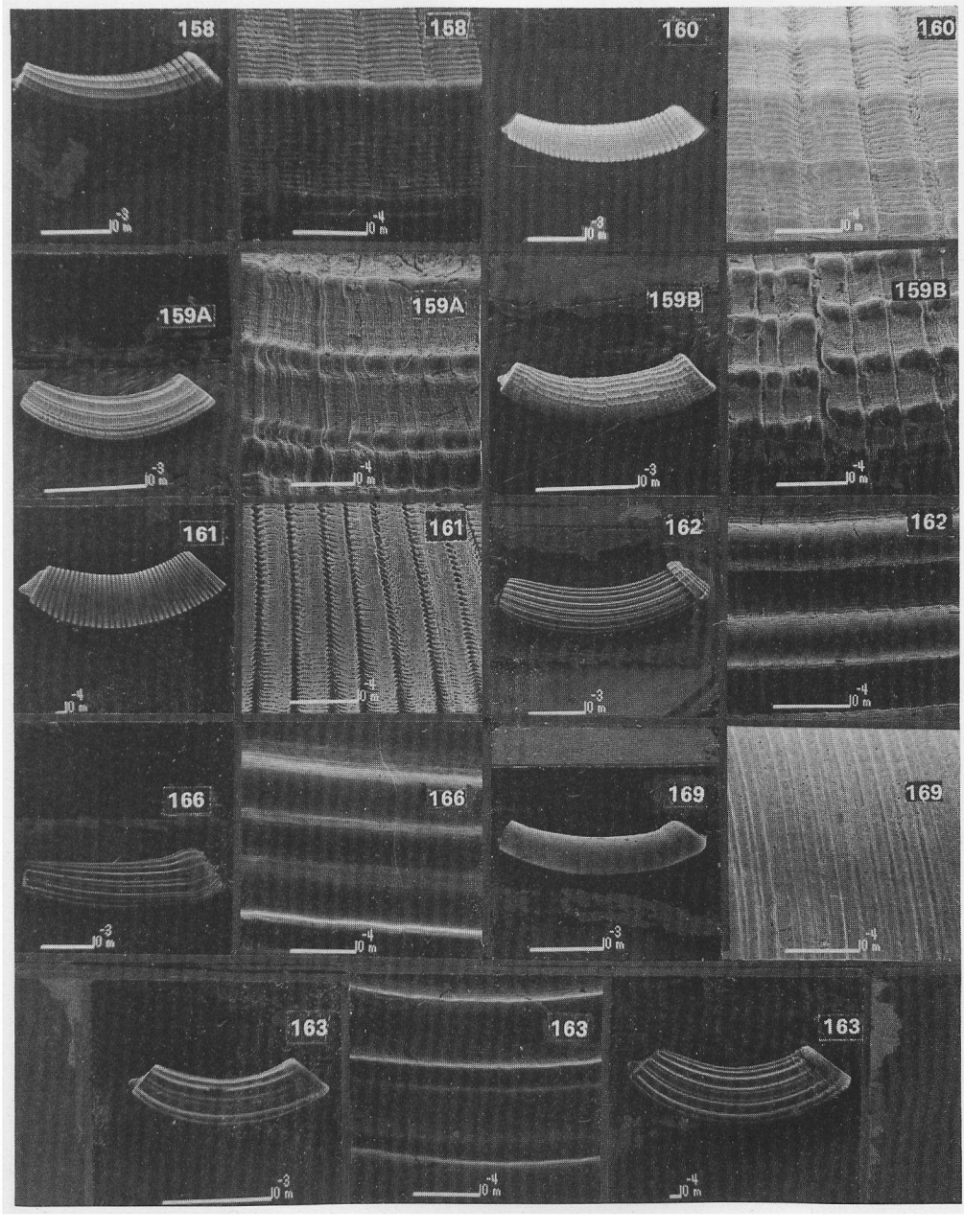
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PLATE 15

184 *Mathilda barbadensis* Dall, 1889 Suriname.
185 *Mathilda vanaartseni* sp.n.
187 *Heliacus cylindricus* (Gm., 1791); protoconch.
192 *Calodisculus retiferus* (Dall, 1892).
200 *Planaxis lineatus* (da Costa, 1778).
209 *Cerithium lutosum* Menke, 1928; Little Cayman
212 *Bittium varium* Pfeiffer, 1840.
213 *Finella dubia* (d'Orb., 1842).
214 *Finella adamsi* (Dall, 1889).
215 *Litiopa melanostoma* Rang, 1829.
277 *Epitonium apiculatum* (Dall, 1889).

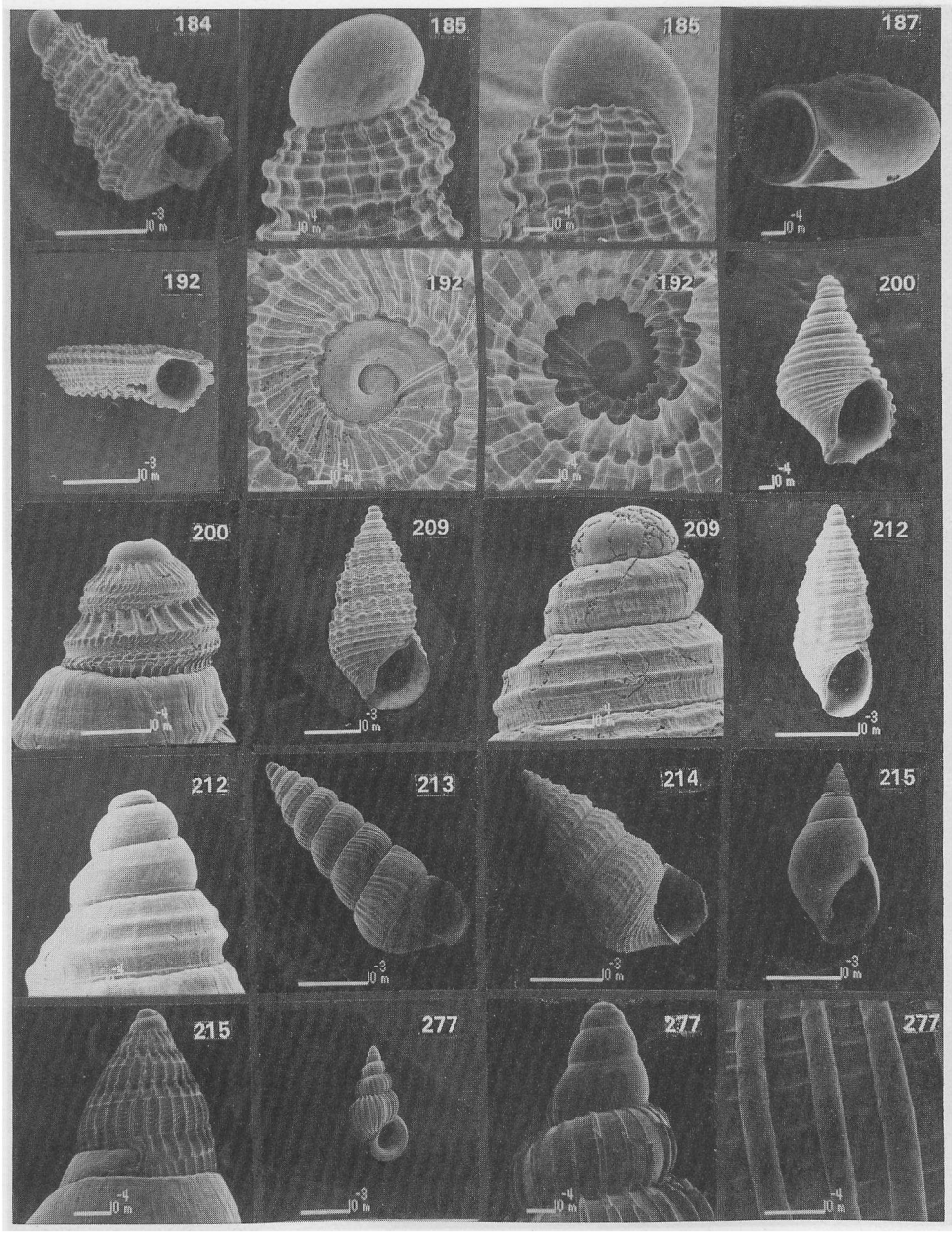
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PLATE 16

259 *Opalia pumilio* (Mörch, 1874).
297 *Oceanida graduata* de Folin, 1871; Puerto Rico.
298 *Oceanida faberi* sp.n, paratype, 1.5 × 0.6 mm.
302 *Bermudaclis bermudensis* (Dall & Bartsch, 1911).
313 *Fossarus orbignyi* Fischer, 1864.
339 *Cypraea cinerea* Gm., 1791; protoconch.
382 *Bursa cubaniana* (d'Orb., 1842); protoconch, Suriname.
408 *Trachypollia nodulosa* (C. B. Ads, 1845).
409 *Trachypollia didyma* (Schwengel, 1943).
414 *Coralliophila caribaea* Abbott, 1958; veliger.
428A *Anachis demani* sp.n., holotype.
428B The same, paratype.

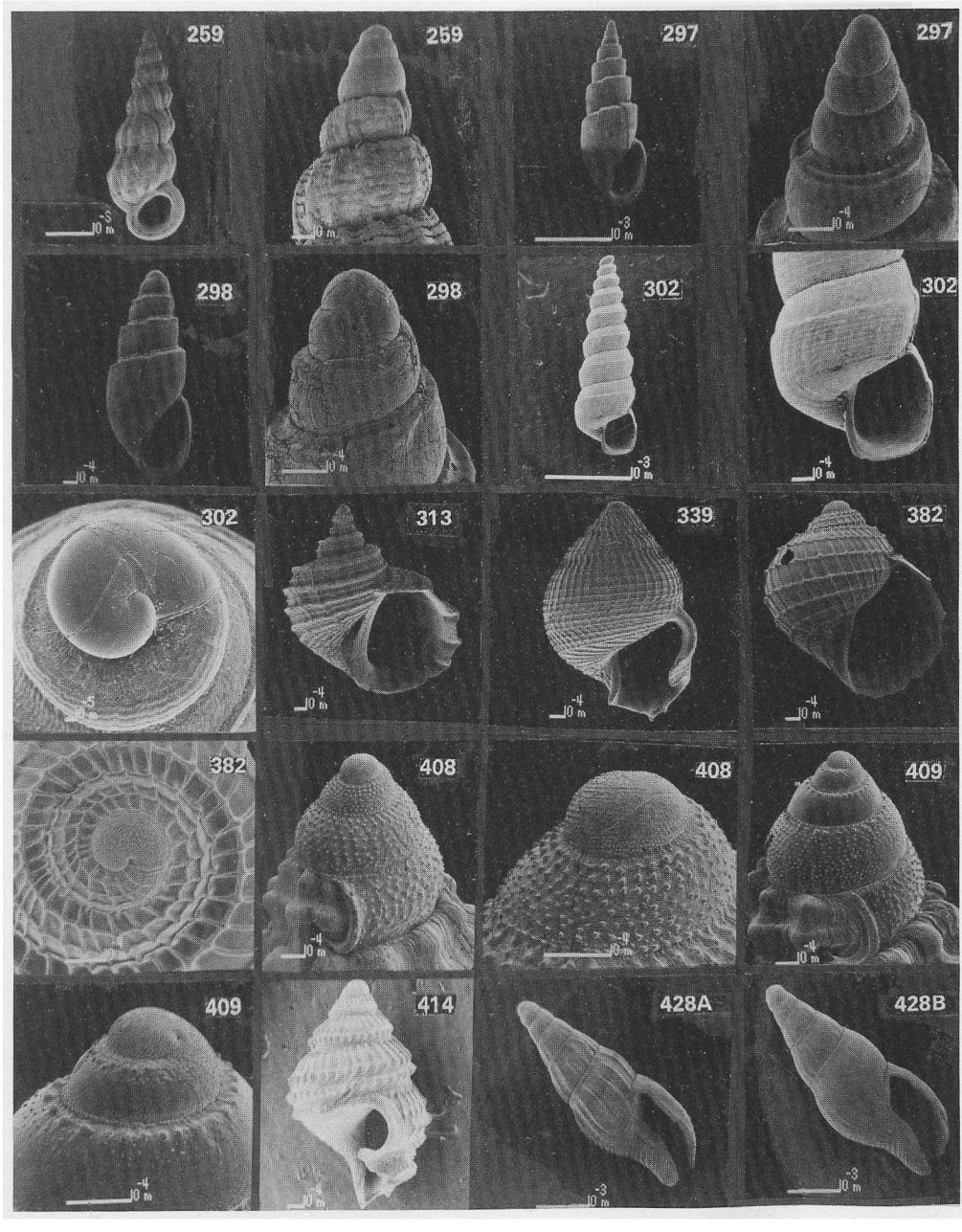
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PLATE 17

440 *Nassarina monilifera* (Sow., 1844).
441 *Nassarina pygmaea* (C. B. Ads, 1850).
442 *Nassarina dubia* Olsson & McGinty, 1958.
470 *Nassarius candidissimus* (C. B. Ads, 1845).
516 *Pusiolina veldhoveni* sp.n.
522 *Dentimargo sulcata* (d'Orb., 1842).
524 *Marginellopsis serrei* Bavay, 1911.
545 *Gibberula evadne* (Dall & Simpson, 1901).
569 *Conus aurantius* Hwass, 1792; juv.spec.
585 *Crassispira mennoi* sp.n.
588 *Crassispira pellisphocae* (Reeve, 1845).
589 *Crassispira verbernei* sp.n.
604 *Agathotoma candidissima* (C. B. Ads, 1845).

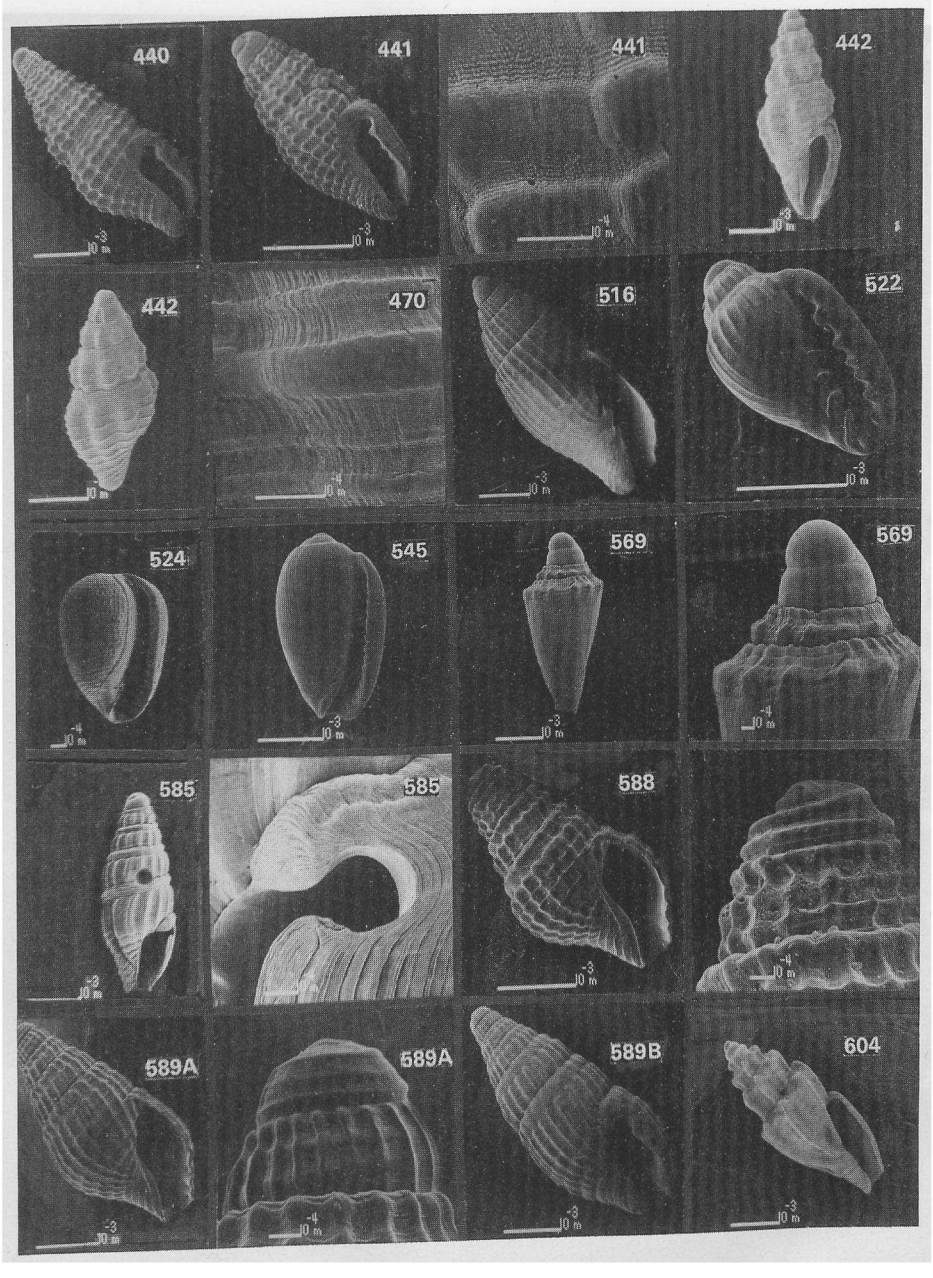
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PLATE 18

604 *Agathotoma candidissima* (C. B. Ads, 1845).
606 *Glyphoturris diminuta* (C. B. Ads, 1850).
609 *Tenaturris trilineata* (C. B. Ads, 1845).
610 *Tenaturris fusca* (C. B. Ads, 1845).
614 *Cryoturris quadrilineata* (C. B. Ads, 1850).
621 *Miraclathurella kleinrosa* (Usticke, 1969).
623 *Nannodiella vespuciana* (d'Orb., 1842).
625 *Brachycythara biconica* (C. B. Ads, 1850).
626 *Brachycythara* spec.
627 *Pyrgocythara metria* (Dall, 1903).

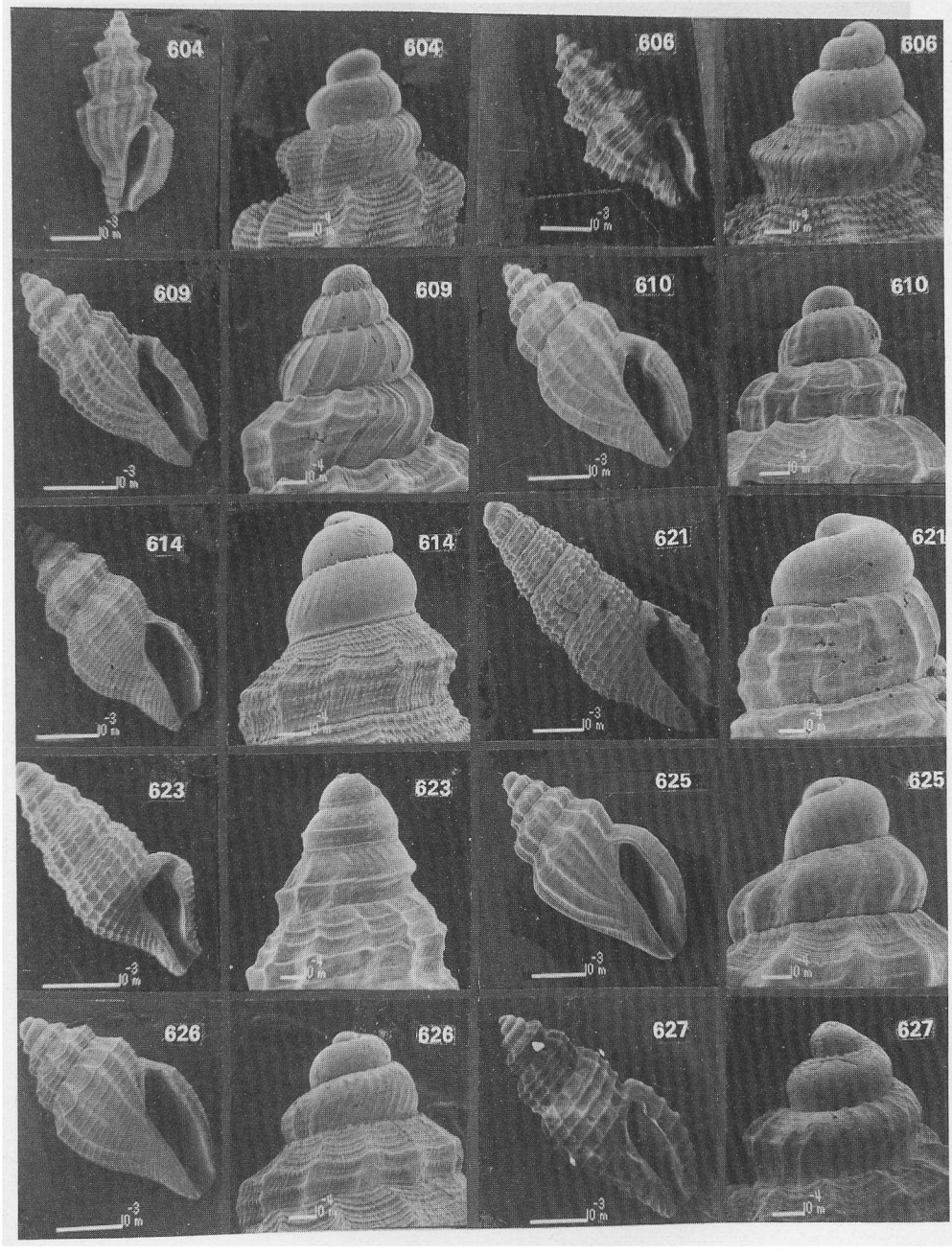
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PLATE 19

629 *Daphnella lymneiformis* (Kiener, 1840).
632 *Philbertia permiscere* (Usticke, 1969).
636 *Triptychus niveus* Mörch, 1875. (Also the unnumbered Figure.)
637 *Cingulina babylonia* (C. B. Ads, 1845).
637a *Rissopsetia hummelincki* Faber, 1984.
639 *Odostomia ovuloides* C. B. Ads, 1850; juv.
641 *Odostomia didyma* Verrill & Bush, 1900.
645 *Chrysallida cancellata* (d'Orb., 1842).
646A *Chrysallida buijsei* sp.n., holotype, 2.3 × 0.9 mm.
646B The same, paratype.
648 *Chrysallida toroensis* (Olsson & McGinty, 1958).
653 *Menestho beermanae* sp.n., holotype, 1.5 × 0.7 mm.

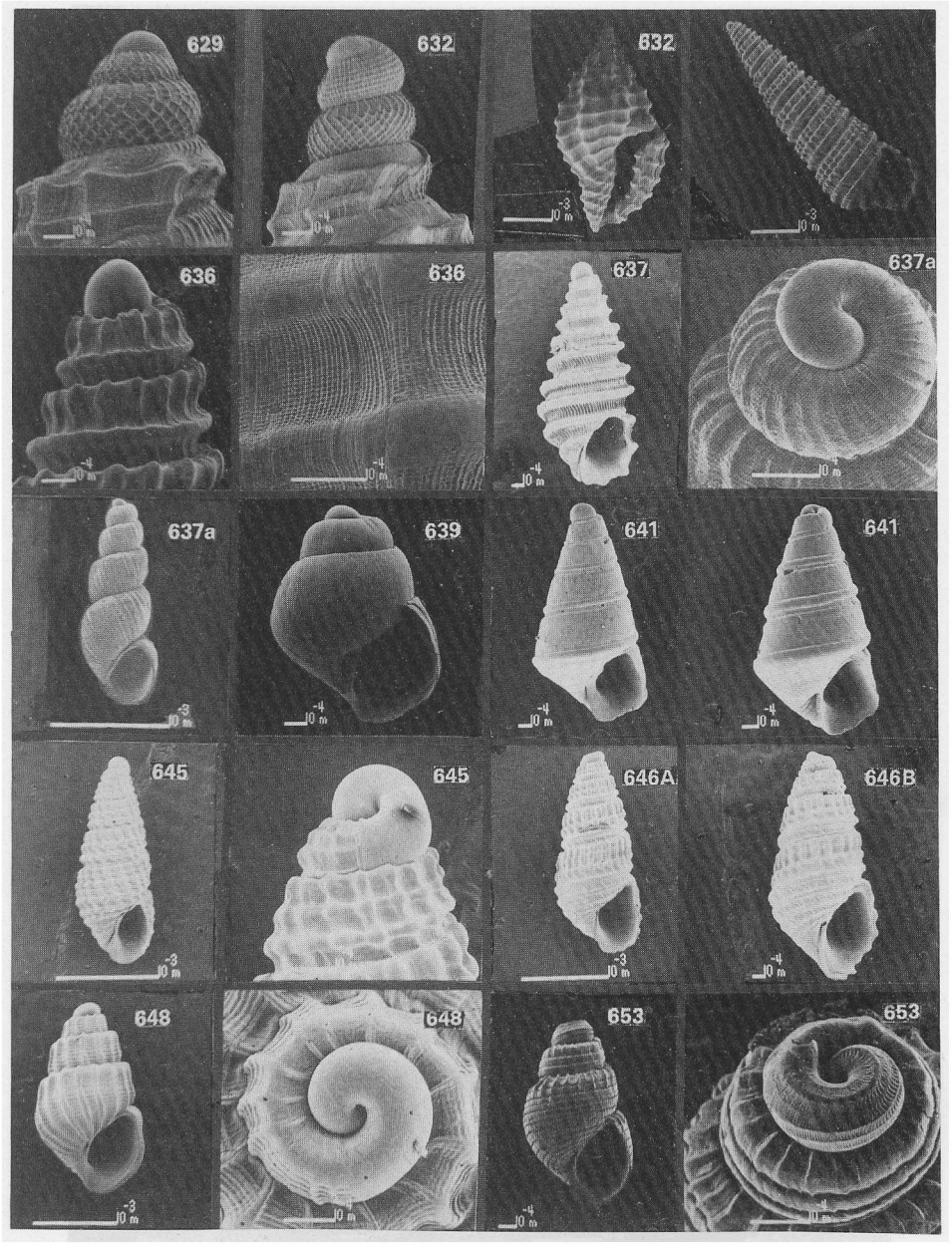
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PLATE 20

653 *Menestho beermanae* sp.n., holotype. (First Figure.)
657 *Turbonilla minor* Bush, 1899; Puerto Rico, – 90 m.
660 *Turbonilla unilirata* Bush, 1899.
668 *Turbonilla krebsii* (Mörch, 1875).
669 *Turbonilla textilis* (Kurtz, 1860).
672 *Turbonilla ornata* (d'Orb., 1842).
674 *Turbonilla rixtae* nom.n.
675 *Turbonilla arnoldoi* sp.n., holotype, 1.7 × 0.6 mm.
676 *Turbonilla pupoides* d'Orb., 1842.
677 *Turbonilla stimpsoni* Bush, 1899.
678 *Turbonilla krumpermani* sp.n.
679 *Turbonilla fonteini* sp.n., holotype, 1.4 × 0.6 mm.

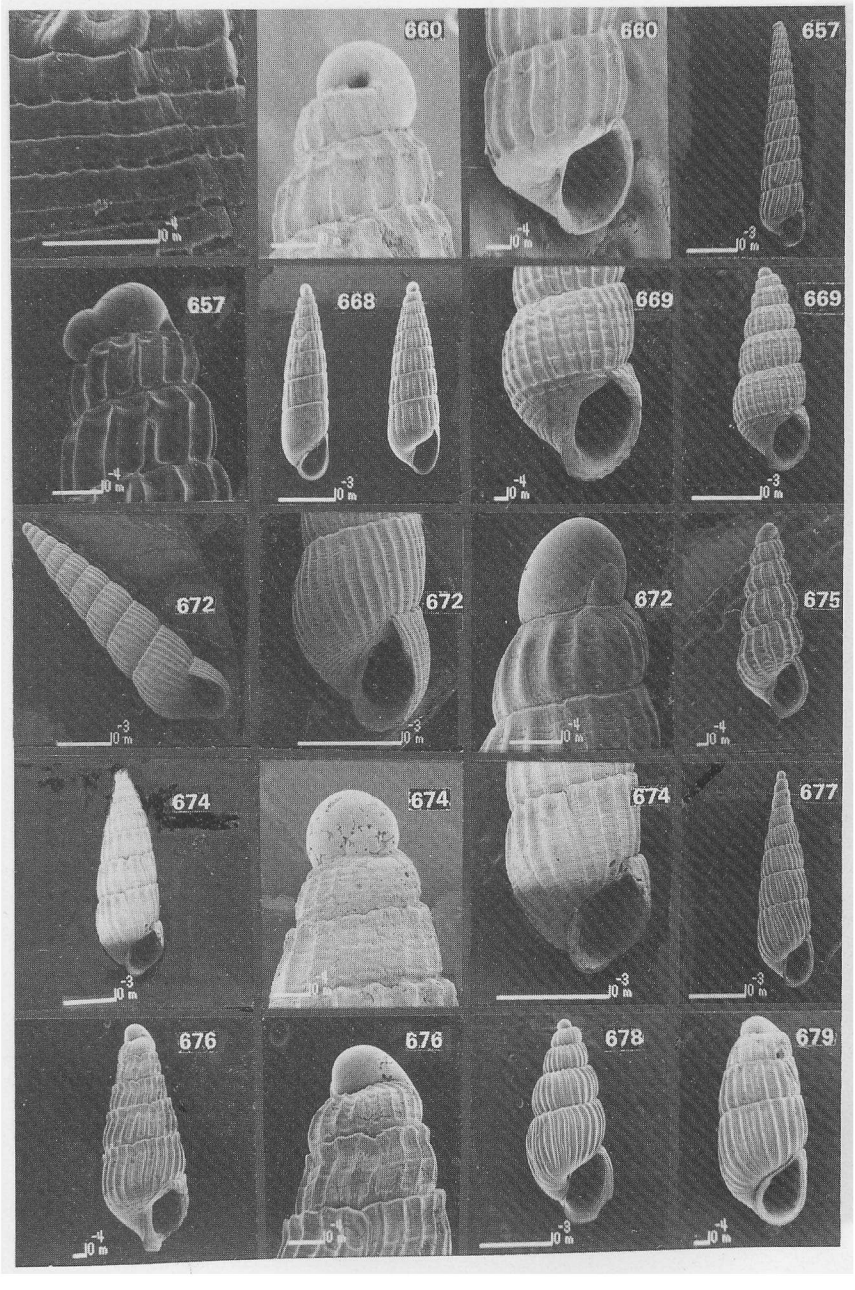
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PLATE 21

680 *Careliopsis octona* (Guppy, 1896); Barbuda.
681 *Careliopsis bermudensis* Dall & Bartsch, 1911; Barbuda
693 *Cylichna caelata* Bush, 1885; Suriname.
707 *Retusa sulcata* (d'Orb., 1842).
708 *Volvulella persimilis* (Mörch, 1875); Puerto Rico.
711 *Limacina inflata* (d'Orb., 1836).
712 *Limacina lęsueuri* (d'Orb., 1836).

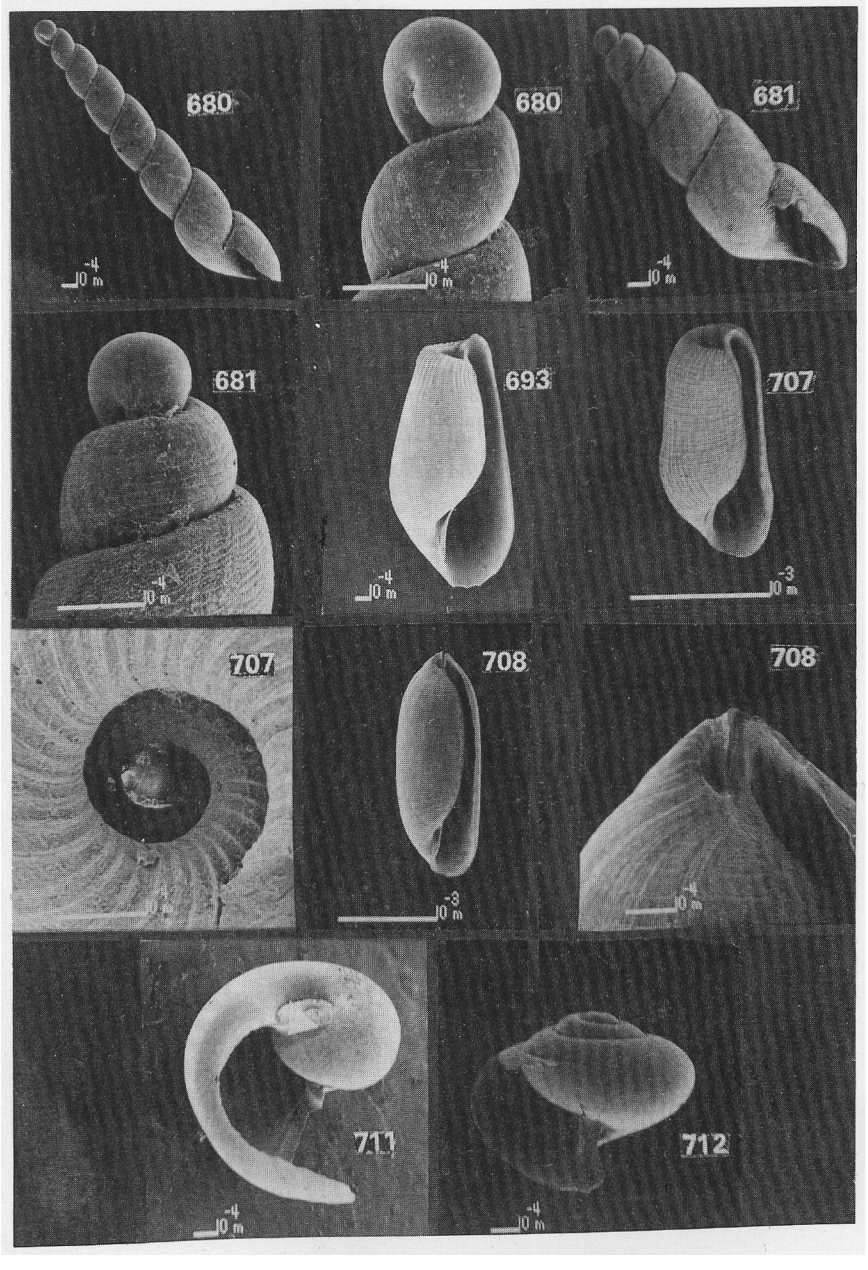
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PLATE 22

77B *Littorina mordax* (Bandel & Kadolsky, 1982). 10.5 × 8 mm, Curaçao.
103 *Rissoina fischeri* Desjardin 1949. 3.7 × 1.4 mm, Cuba
108 *Rissoina striatocostata* d'Orb., 1842. 6 mm, Caribbean.
113 *Rissoina labrosa* Schwartz, 1860. 9.5 mm, Cuba.
117 *Rissoina fenestrata* Schwartz, 1860. 4.5 mm, Cuba.
133 *Vitrinella semisculpta* Olsson & McGinty, 1958. 1.4 × 2.5 mm, Bocas Isl. (= *Circulus s.*).
137 *Cyclostremiscus ornatus* Olsson & McGinty, 1958. 0.28 × 0.76 mm, Bocas Isl. (Panama).
139 *Cyclostremiscus pulchellum* Olsson & McGinty, 1958. 0.47 × 0.98 mm, Bocas Isl.
155 *Macromphalina pilsbryi* Olsson & McGinty, 1958. 2.7 mm, Bocas Isl. (= *M. oxygone*).
164 *Caecum delicatulum* Verrill & Bush, 1900. 2 × 0.5 mm, Bermudas.
193 *Petaloconchus floridana* Olsson & Harbison, 1953. solitary specimen 30 mm, Florida.
194 *Petaloconchus nigricans* Dall, 1884. Florida (copied from Olsson & Harbison 1953).
219 *Cerithiopsis pupa* Dall & Simpson, 1901. 2.5 mm, Puerto Rico (= *C. pulchellum*).
220 *Cerithiopsis ara* Dall & Bartsch, 1911. 2.3 mm, Bermuda.
226 *Cerithiopsis io* Dall & Bartsch, 1911. 2.3 mm, Bermuda.

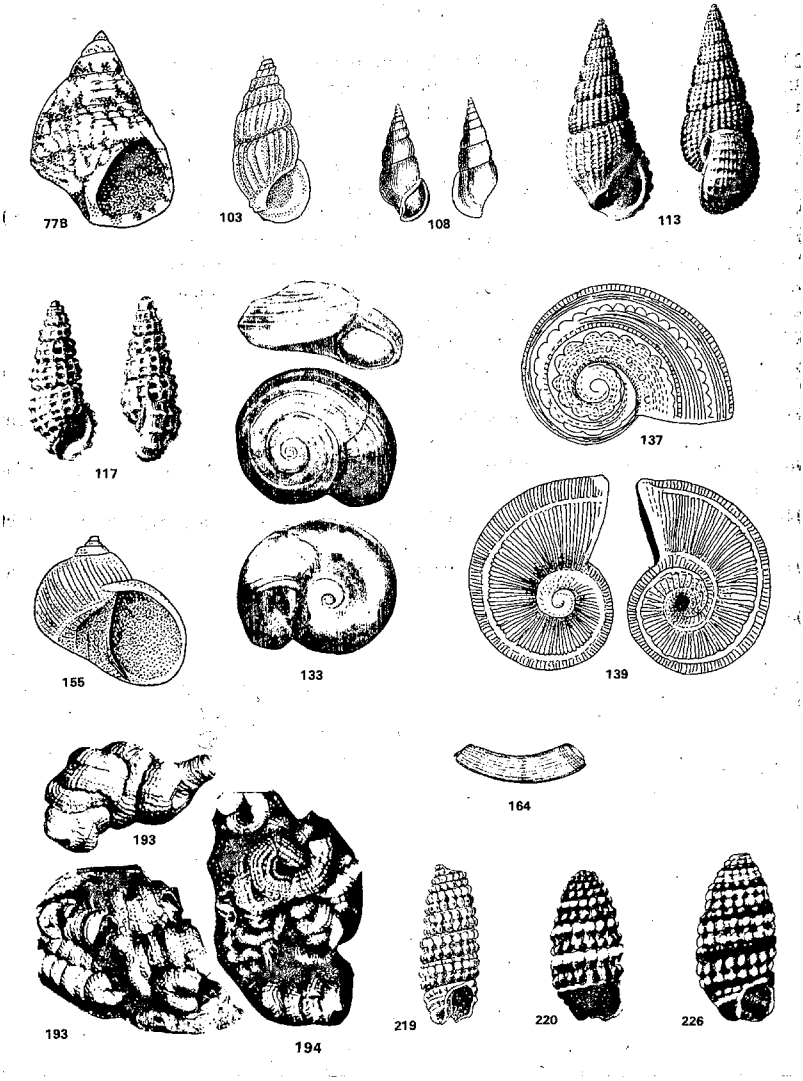
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PLATE 23

223 *Cerithiopsis cynthia* Bartsch, 1911. 3.9 mm, Bermuda (= *C. iota*).
230 *Cerithiopsis vicola* Dall & Bartsch, 1911. 2.9 mm, Bermuda (= *C. latum*).
231 *Cerithiopsis iontha* Bartsch, 1911. 2.1 mm, Bermuda.
232 *Cerithiopsis movilla* Dall & Bartsch, 1911. 3.8 mm, Bermuda.
239 *Triphora bermudensis* Bartsch, 1911. 4.9 mm, Bermuda.
249 *Cerithiopsis bermudensis* Verrill & Bush, 1900. 4.5 mm, Bermuda (= *Metaxia b.*).
256 *Epitonium pilsbryi* McGinty, 1940. 16 × 7 mm, Florida – 75 fms. (= *Cirsotrema p.*).
278 *Eulima compsa* Verrill & Bush, 1900. 3.5 × 1.5 mm, Bermuda (= *Melanella c.*).
279 *Eulima hypsela* Verrill & Bush, 1900. 6.0 × 1.5 mm, Bermuda (= *Melanella h.*).
280 *Eulima amblytera* Verrill & Bush, 1900. 5.5 × 1.6 mm, Bermuda (= *Melanella a.*).
281 *Eulima engonia* Verrill & Bush, 1900. 4.5 × 1.5 mm, Bermuda (= *Melanella e.*).
282 *Eulima atypha* Verrill & Bush, 1900. 2.2 × 0.8 mm, Bermuda (= *Melanella a.*).
288 *Eulima conica* C. B. Adams, 1850. 2.6 mm, Jamaica (= *Melanella c.*), lectotype by Lyons, 1977.
293 *Rissoa eulimoides* C. B. Adams, 1850. 5.6 mm, Bahamas (= *Melanella e.*), copied from Lyons, 1977.
296 *Eulima fulvocincta* C. B. Adams, 1850. 4.9 mm, Jamaica (= *Strombiformis f.*), lectotype by Lyons, 1977.
304A *Graphis albida* (Kanmacher, 1798). 1.9 mm, Mediterranean, copied from Aartsen et al., 1984.
304B *Graphis unica* (Montagu, 1803). 2.9 mm, Europe (= *G. albida*), copied from Bartsch, 1947.
304C *Graphis underwoodae* Bartsch, 1947. 2.7 mm, Florida.

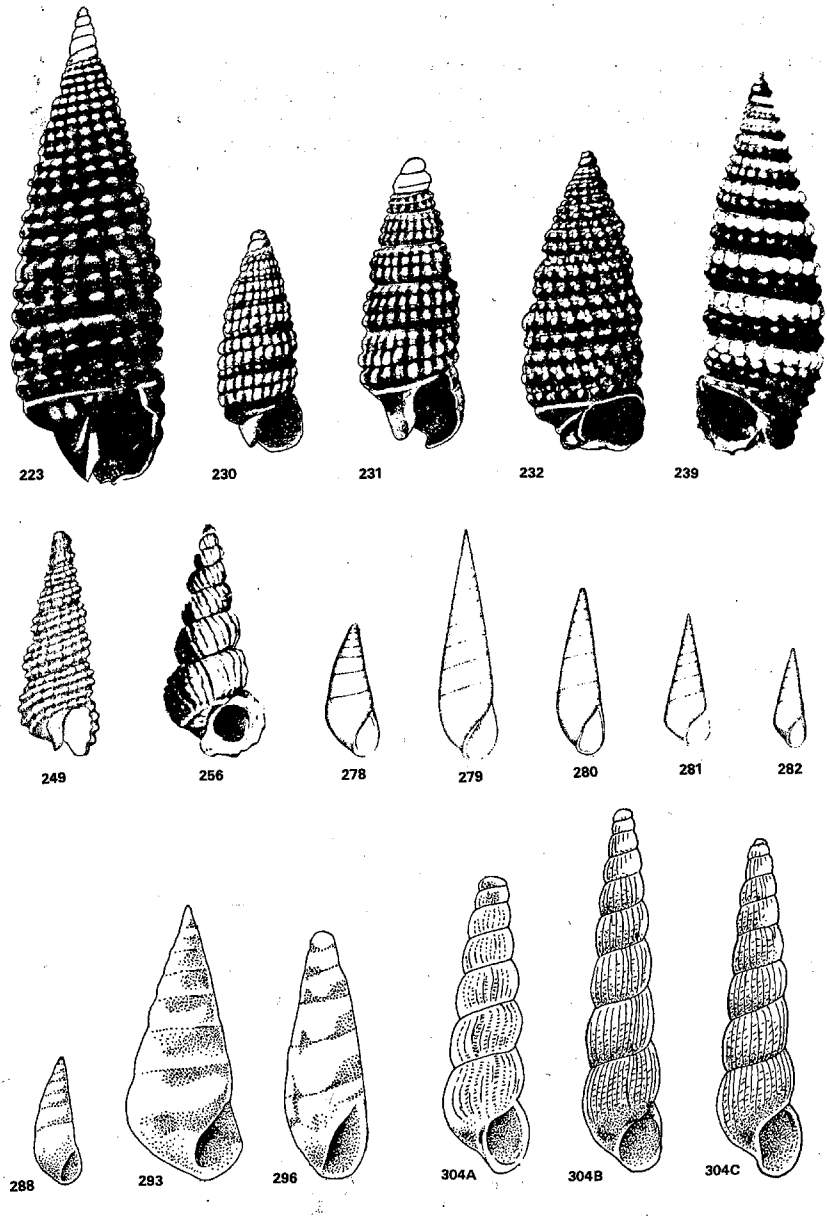
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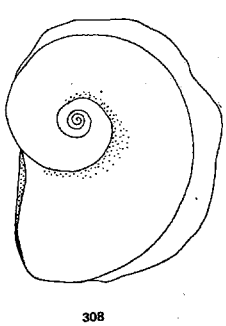
PLATE 24

308 *Atlanta gaudichaudi* Souleyet, 1852. Copied from Van der Spoel (1976).
309 *Atlanta inclinata* Souleyet, 1852. Copied from Van der Spoel (1976).
310 *Protatlanta souleyeti* (Smith, 1888). Copied from Van der Spoel (1976).
520 Marginellidae genera. 10 figures copied from Coomans (1976).



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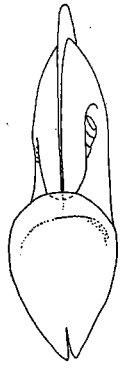

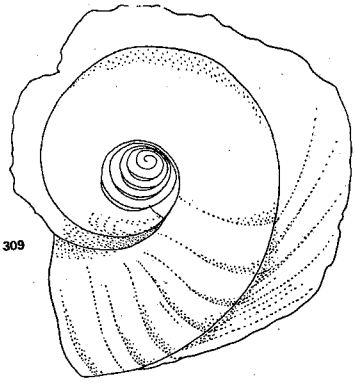

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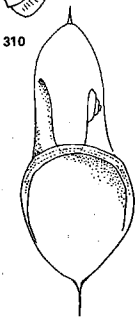

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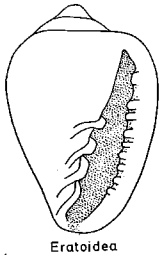

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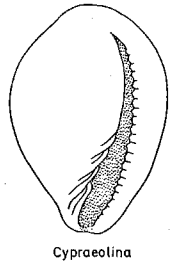
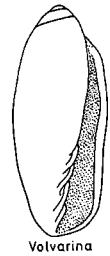
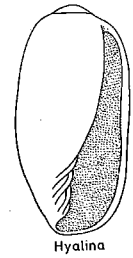


Cypraeolina



Volvarina



Hyalina

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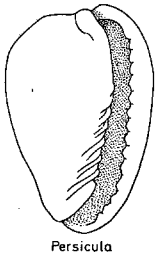
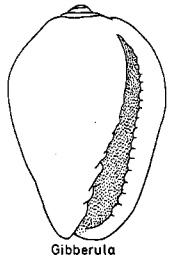
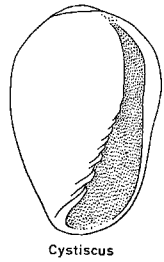


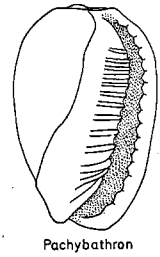
Persicula



Gibberula



Cystiscus



Pachybathron

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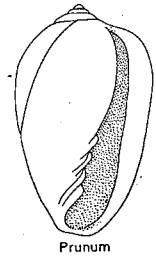

Prunum

PLATE 25

347 *Natica uberina* d'Orb., 1842. 20 × 15 mm, Caribbean (= *Polinices uberinus*).
390 *Murex pulcher* A. Adams, 1853. 60 mm, Red Sea (= *Siratus consuela*), copied from Sow. (1880).
392 *Murex spectrum* Reeve, 1846. 11 cm, loc. unknown (= *Chicoreus s.*).
420 *Columbella dormitor* Sow., 1844. 7 × 3.5 mm, loc. unknown (= *Minipyrene d.*).
479 *Latirus eppi* Melvill & Schepman, 1891. 24 × 10 mm, Curaçao.
491 *Olivella adelae* Olsson, 1956. 12.4 mm, Florida.
493A *Oliva dealbata* Reeve, 1850. 11.5 mm, loc. unknown (= *Olivella d.*).
493B *Oliva monilifera* Reeve, 1850. 10 mm, loc. unknown (= *Olivella m.*).
503 *Olivella verreauxii* Ducros, 1857. 8 × 3.4 mm, Marie-Galante.
524 *Marginellopsis serrei* Bavay, 1911. 1 × ¾ mm, Cuba.
527 *Marginella albolineata* d'Orb., 1842. 6 × 2.4 mm, Cuba (= *Volvarina a.*).

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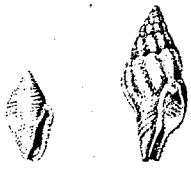

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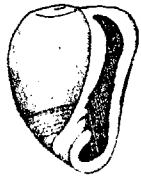

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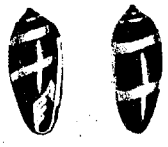

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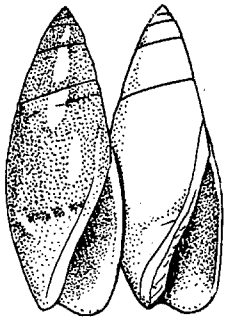

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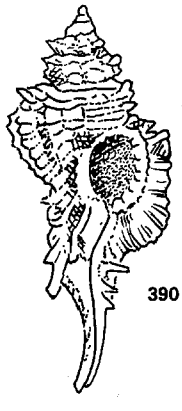

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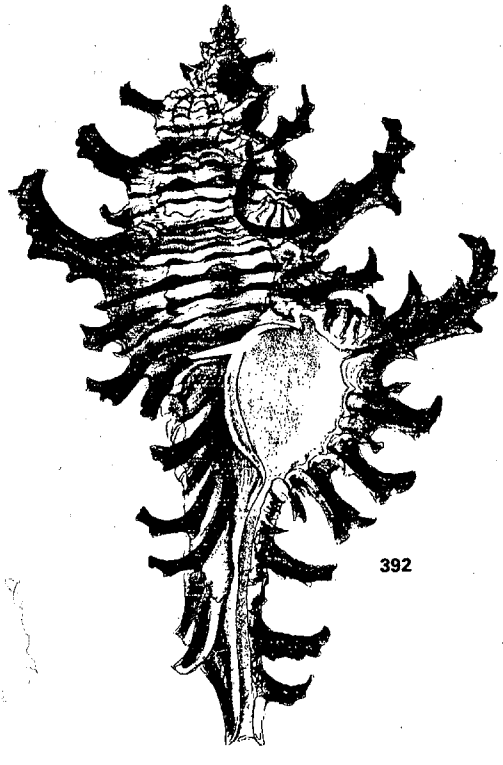

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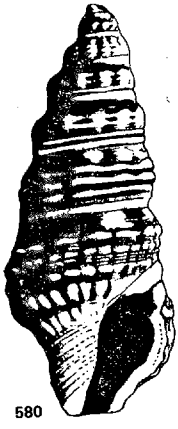
PLATE 26

578 *Mitra haycocki* Dall & Bartsch, 1911. 4.7 × 2.5 mm, Bermuda (= *Mitrolumna h.*).
580 *Crassispira candace* Dall, 1919. 7 mm, Caribbean.
613 *Acmaturris brisis* Woodring, 1928. 8 mm, Miocene Jamaica.
622 *Maesiella maesae* McLean & Poorman, 1971. 9.2 × 3.3 mm, Gulf of California.
624 *Ghlyphostoma johnsoni* Dall, 1892. 10 mm, Miocene Florida.
631 *Pleurotoma morra* Dall, 1881. 5.75 mm, Cuba (= *Daphnella m.*).
633 *Drillia? actinocycla* Dall & Simpson, 1901. 3 mm, Puerto Rico.
641a *Odostomia engonia,* var. *teres* Bush, 1885. 5 mm, Cape Hatteras – 28 m (= *O. teres*).
649 *Egila? virginiae* Altena, 1975. 2.2 mm, Suriname (= *Chrysallida v.*).
650 *Miralda abbotti* Olsson & McGinty, 1958. 2 mm, Bocas Isl.
651 *Miralda havanensis* Pilsbry & Aguayo, 1933. 2 mm, Bocas Isl.
669 *Turbonilla textilis* Kurtz, 1860. 3.2 × 1.2 mm, Florida, copied from Bush (1899).
672 *Chemnitzia ornata* d'Orb., 1842. 6 × 1.5 mm, Caribbean (= *Turbonilla o.*).
677 *Turbonilla stimpsoni* Bush, 1899. 5.4 × 1.3 mm, Carolina.
685 *Bulla recta* d'Orbigny, 1842. 2 mm, St. Thomas (= *Acteocina r.*).
692 *Bulla auberii* d'Orbigny, 1841. 3 mm, Cuba (= *Cylichna a.*).
698 *Bulla umbilicata* Röding, 1798. 30 mm, loc. unknown.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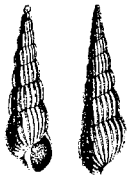
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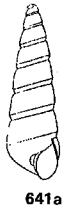
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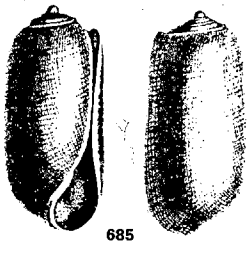
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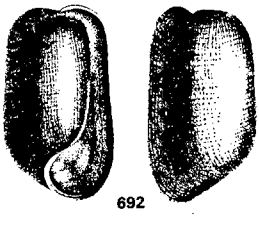
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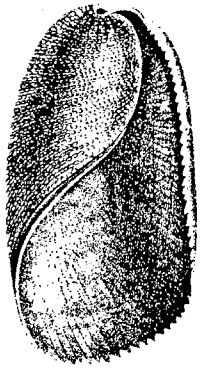
PLATE 27

694 *Bulla bidentata* d'Orbigny, 1841. $2\frac{1}{4} \times 1\frac{1}{4}$ mm, Caribbean (= *Cylichnella b.*).
695 *Bulla sagra* d'Orb., 1841. 3.0 × 1.7 mm, Martinique (= *Philine s.*).
702 *Bulla petiti* d'Orb., 1841. 9 mm, Cuba (= *Haminoea p.*).
703 *Bulla antillarum* d'Orb., 1841. 7 mm, St. Thomas (= *Haminoea a.*).



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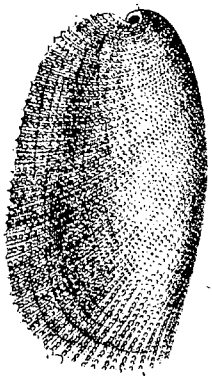

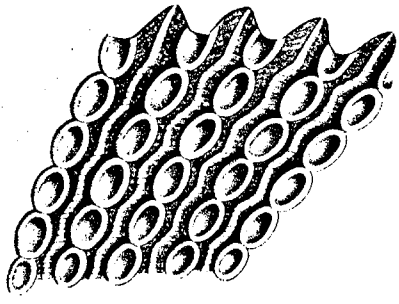

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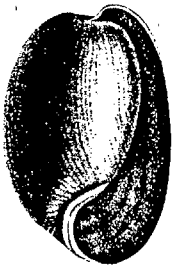

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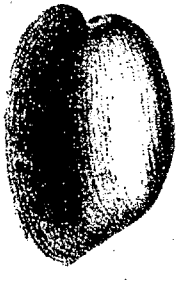

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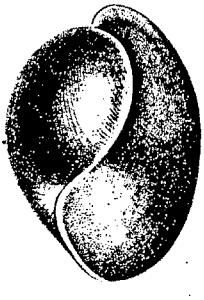

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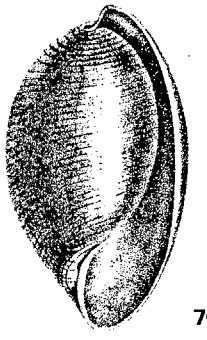
PLATE 28

705 *Bulla caribaea* d'Orbigny, 1841. 5 mm, Caribbean (= *Atys c.*).
705B *Atys sandersoni* Dall, 1881. 6.5 mm, Caribbean.
709 *Bulla acuta* d'Orbigny, 1841. 2 × ¾ mm, Caribbean (= *Volvulella minuta*).
734 *Tralia venezuelana* Gibson Smith & Gibson Smith, 1982. 12.7 × 7.2 mm, Venezuela.
736 *Detracia roquesana* Gibson Smith & Gibson Smith, 1982. 10.6 × 5.8 mm, Los Roques.



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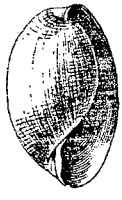

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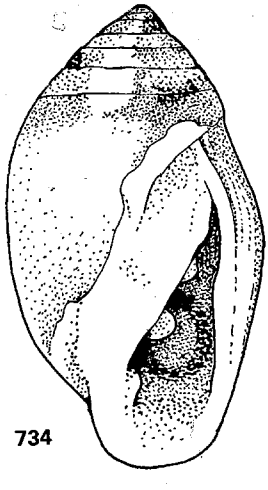

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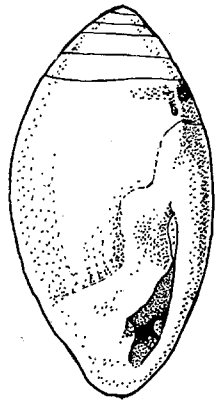

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PLATE 29

3 *Emarginula pumila* (A. Adams, 1851); 7 mm.
5 *Hemitoma octoradiata* (Gm. 1791); 16 mm, St. Martin
6 *Hemitoma emarginata* (Blainville, 1825); 24 mm.
7 *Hemitoma ostheimerae* (Abbott, 1958); 14 mm.
8 *Diodora listeri* (d'Orb., 1842); 20 mm.
9 *Diodora cayenensis* (Lam., 1822); 32 mm, Barbuda.
11 *Diodora dysoni* (Reeve, 1850); 13 mm.
13 *Diodora viridula* (Lam., 1822); 20 mm.

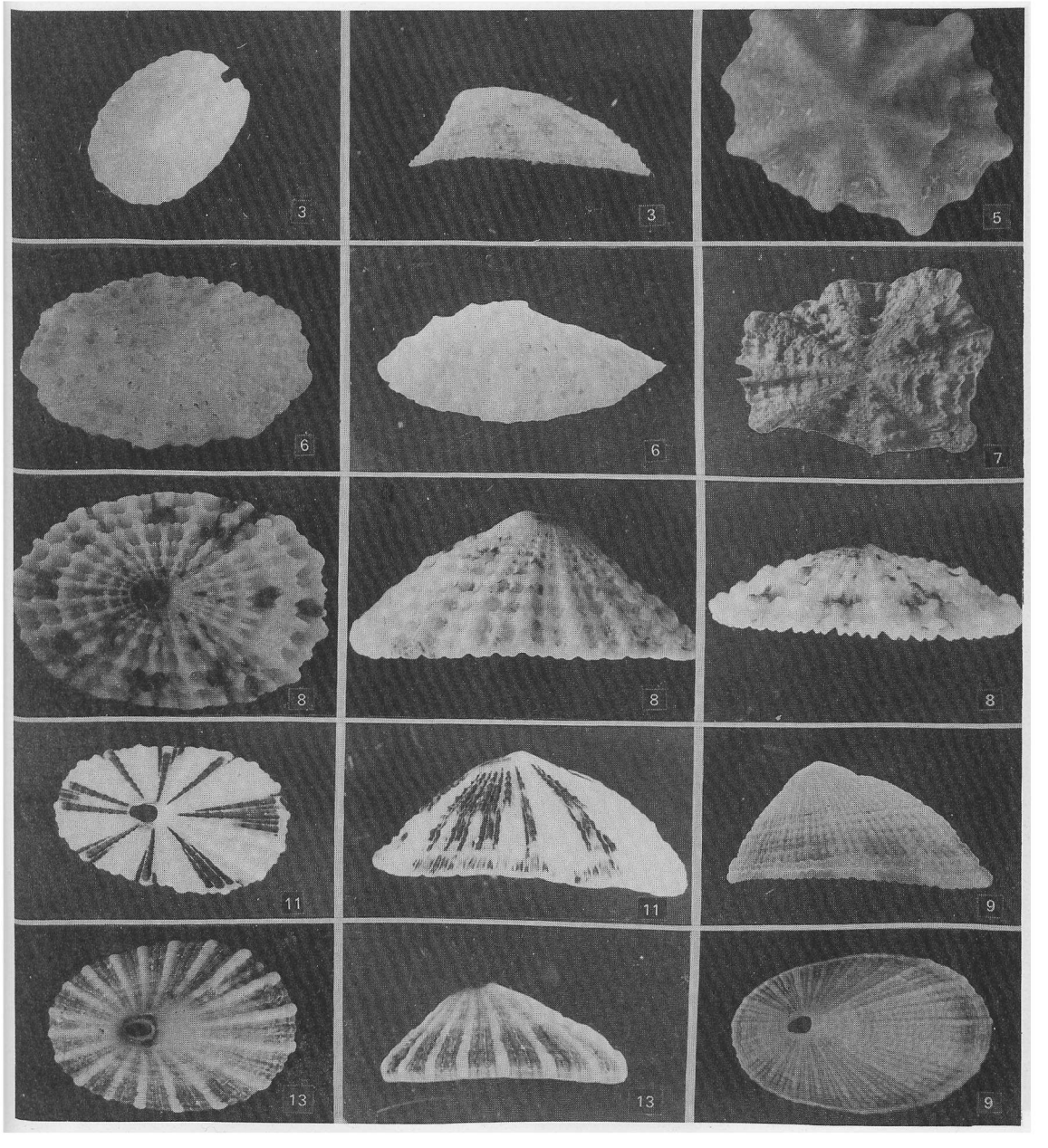
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PLATE 30

16 *Lucapina sowerbii* (Sow., 1835); 24 mm.
19 *Lucapinella callomarginata* (Dall, 1871); 10 mm
20 *Fissurella nodosa* (Born, 1778); 22 mm.
21 *Fissurella barbadensis* (Gm., 1791); 22 mm.
22 *Fissurella rosea* (Gm., 1791); 24 mm.
23 *Fissurella angusta* (Gm., 1791); 22 mm.
25 *Fissurella nimbosa* (L. 1758); 40 mm.
27 *Acmaea antillarum* (Sow. 1831); 16 mm.
28 *Acmaea pustulata* (Helbling, 1779); 14 mm.

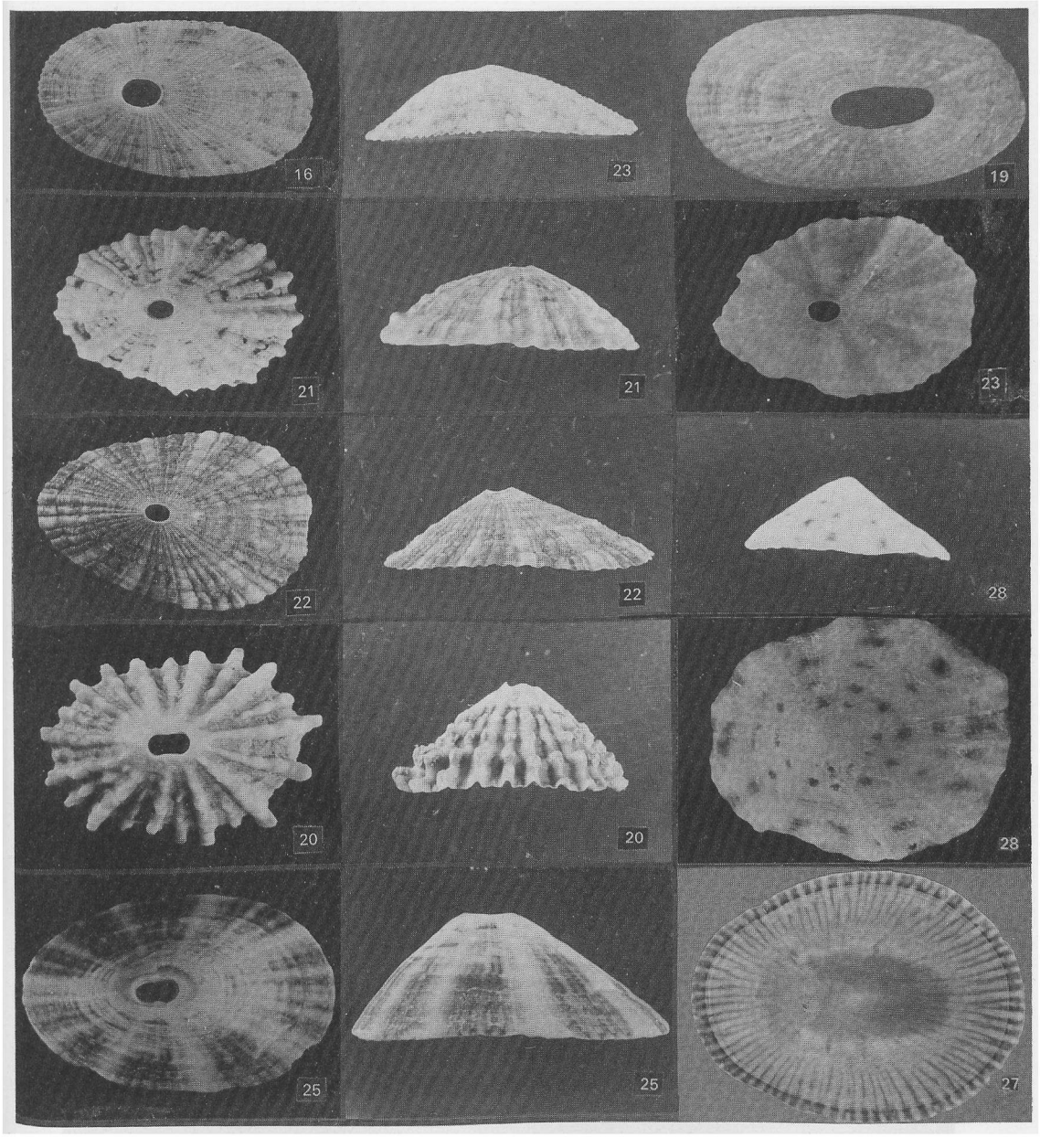
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PLATE 31

29 *Acmaea leucopleura* (Gm., 1791); 16 mm, Antigua.
38 *Tegula substriata* (Pilsbry, 1889); 9 mm.
41 *Calliostoma jujubinum* (Gm., 1791); 18 mm.
42 *Calliostoma tampaensis* (Conrad, 1846); 20 mm.
65 *Nerita peloronta* L., 1758; 22 mm.
66A *Nerita versicolor* Gm., 1791; 16 mm.
66B *Nerita versicolor* f. *nigrocincta* Usticke, 1959; 10 × 11 mm
67 *Nerita tessellata* Gm., 1791; 11 mm.
68 *Nerita fulgurans* Gm., 1791; 16 mm, Tobago.

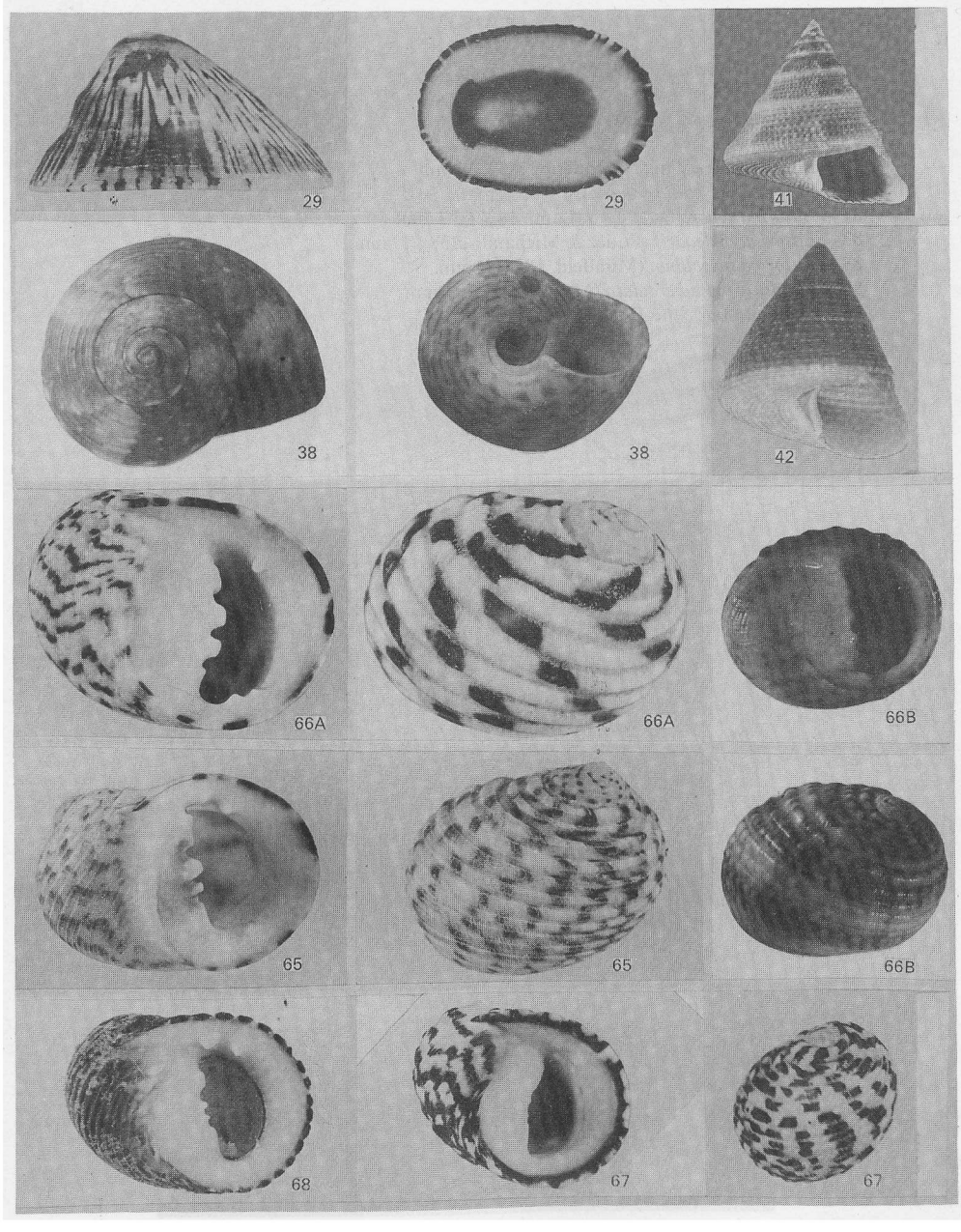
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PLATE 32

68 *Nerita fulgurans* Gm., 1791; 16 mm, Tobago.
69 *Neritina virginea* (L., 1758); 11 mm, Venezuela.
71 *Puperita pupa* (L., 1767); 9 mm.
75 *Littorina ziczac* (Gm., 1791); 14 mm.
79 *Littorina flava* King & Broderip, 1832; 14 mm.
80 *Littorina tessellata* Philippi, 1847; 12 mm.
81 *Littorina scabra angulifera* (Lam., 1822); 27 mm.
82 *Littorina meleagris* (Potiez & Michaud, 1838); 17 mm.
83 *Littorina mespillum* (Mühlfeld, 1824); 5 mm.
84 *Nodilittorina tuberculata* (Menke, 1828); 16 mm.
86 *Tectarius muricatus* (L., 1758); 20 mm.

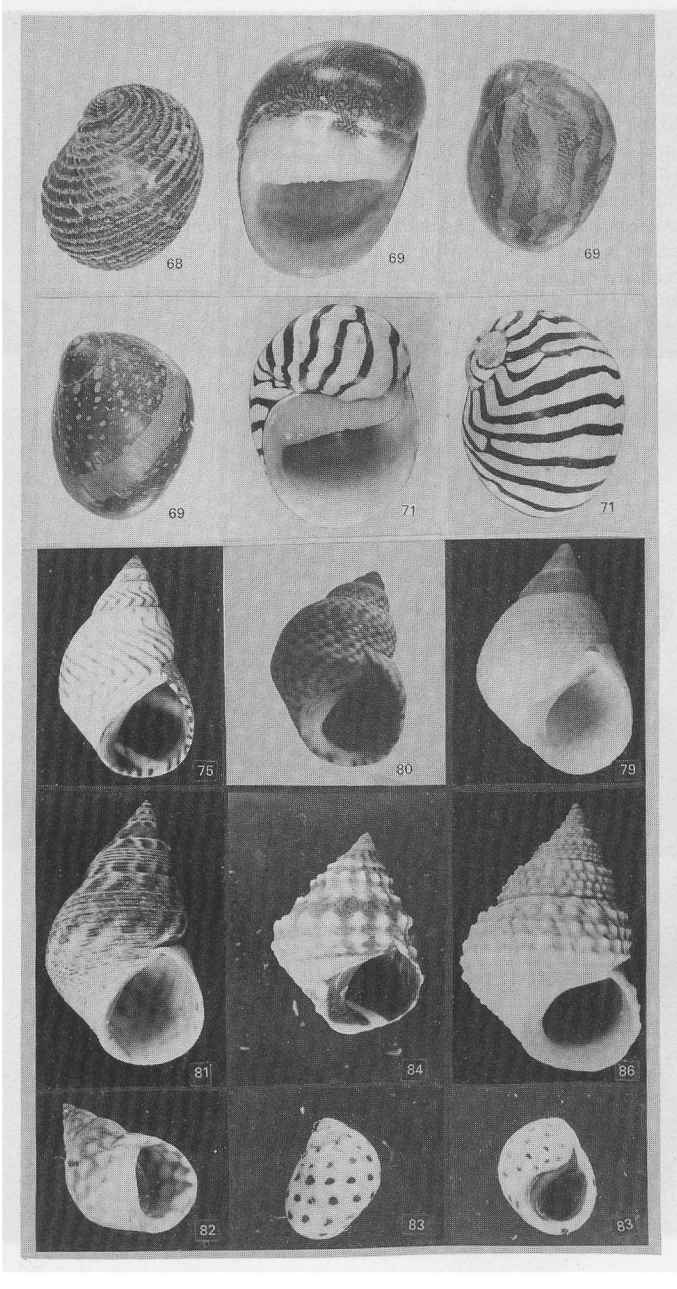
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PLATE 33

107A *Rissoina princeps* (C. B. Ads, 1850); 6 mm.
107B The same 11 mm.
113 *Rissoina labrosa* Schwartz, 1860; 12 mm.
185 *Mathilda vanaartseni* spec.nov. holotype; 5.2 × 1.8 mm.
187 *Heliacus cylindricus* (Gm., 1791); 6 mm.
194 *Petaloconchus nigricans* Dall, 1884; 45 mm.
195 *Petaloconchus mcgintyi* (Olsson & Harbison, 1953); 70 mm.
197 *Siphonium nebulosum* (Dillwyn, 1817); diam. aperture 7 mm
203 *Cerithidea costata* (da Costa, 1778); 11 mm.
206 *Batillaria minima* (Gm., 1791); 8 mm, St. Martin.
208 *Cerithium litteratum* (Born, 1778); 32 mm.
209 *Cerithium lutosum* Menke, 1828; 12 mm.

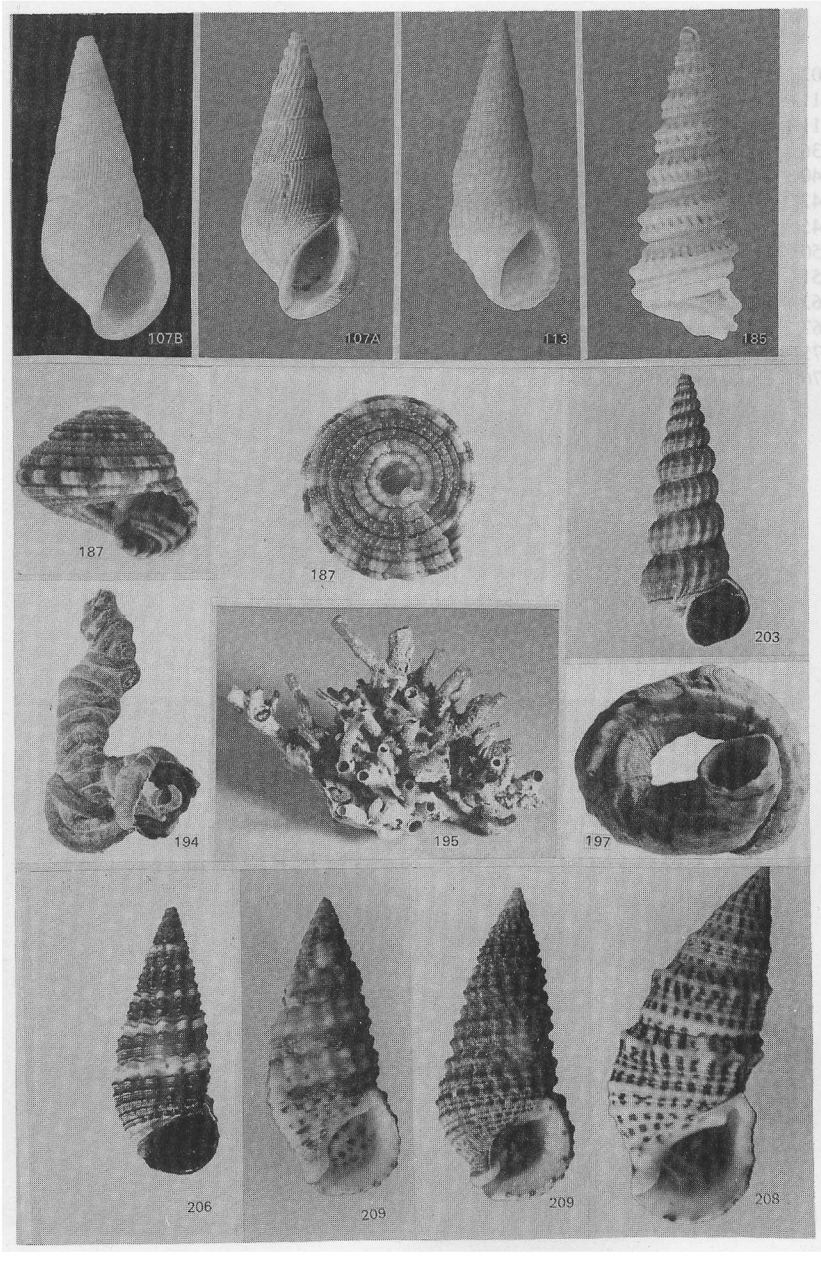
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PLATE 34

202 *Modulus modulus* (L., 1758); 13 mm.
211A *Cerithium atratum* (Born, 1778); 35 mm.
211B The same 38 mm.
236 *Triphora novem* Usticke, 1969; 6 mm.
240 *Triphora elvirae* spec.nov. holotype; 6.0 × 1.6 mm.
242 *Triphora ellyae* spec.nov. holotype; 3.7 × 1.3 mm.
245 *Triphora samanae* Dall, 1889; 9.7 × 2.5 mm.
250 *Janthina janthina* (L., 1758); 20 mm.
251 *Janthina globosa* Swainson, 1822; 22 mm.
262 *Epitonium krebsii* (Mörch, 1874); 5 mm, St. Martin
267 *Epitonium lamellosum* (Lam., 1822); 22 mm.
275 *Epitonium principale* Röding, 1798; 22 mm.
276 *Epitonium* spec.; 15 × 7.5 mm.

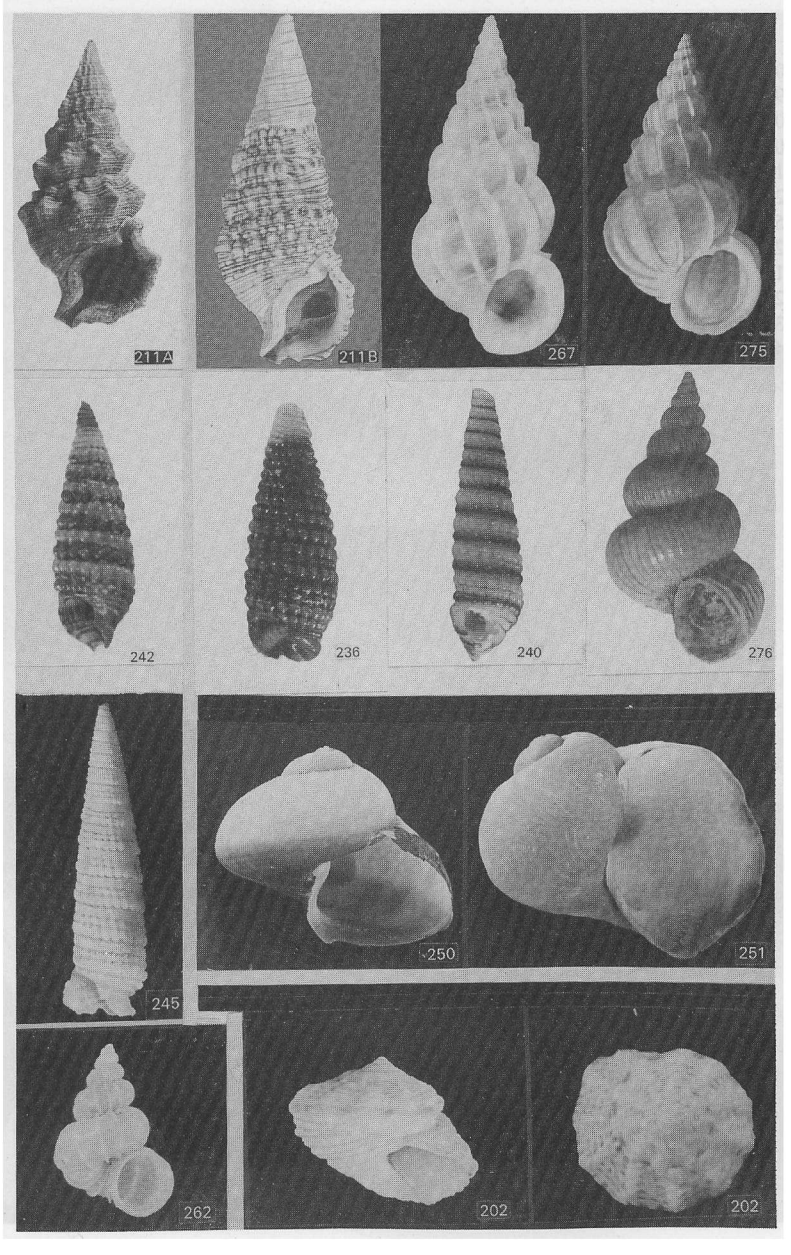
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PLATE 35

280 *Melanella amblytera* (Verrill & Bush, 1900); 5.0 mm.
289 *Melanella* spec. 4; 9.2 × 2.8 mm.
290A *Melanella* spec. 5; 7.7 × 2.5 mm.
290B The same 5.3 × 1.8 mm.
311 *Hipponix antiquatus* (L., 1767); 10 mm.
312 *Hipponix subrufus subrufus* (Lam., 1819); 15 mm.
315 *Capulus intortus* (Lam., 1822); 10 mm.
322 *Xenophora conchyliophora* (Born, 1780); 18 mm.
331 *Trivia pediculus* (L., 1758); 11 mm.
332 *Trivia suffusa* (Gray, 1827); 8 mm.
333 *Trivia quadripunctata* (Gray, 1827); 6 mm.
334 *Trivia antillarum* Schilder, 1922; 4 mm.

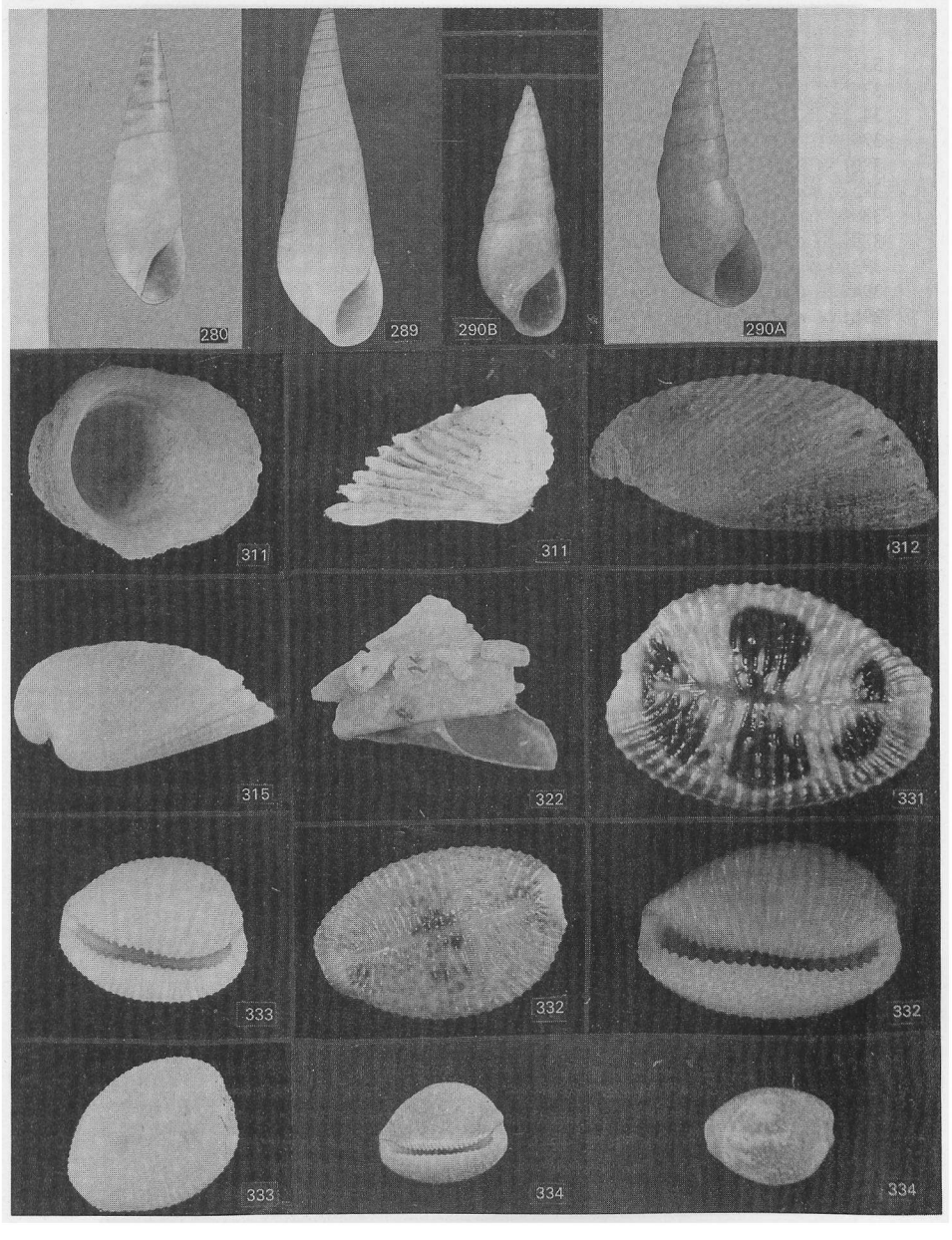
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PLATE 36

335 *Trivia nix* Schilder, 1922; 10 mm.
339 *Cypraea cinerea* Gm., 1791; 12 mm; juv.specimen.
342 *Cypraea surinamensis* Perry, 1811; 28 × 19 mm, Brasil.
379 *Cymatium pileare* (L., 1758); 11 mm, top whorls.
380 *Cymatium martinianum* d'Orb., 1845; 13 mm, top whorls.
385 *Bursa pacamoni* Matthews & Coelho, 1971; photo D. L. N. Vink
389A *Murex chrysostoma* Sow., 1834; 49.5 × 28 mm, (St. Joris Baai).
389B The same 53 × 26 mm, (Awa di Oostpunt).
393 *Phyllonotus pomum oculatus* (Reeve, 1845); 123 mm.
394 *Phyllonotus margaritensis* (Abbott, 1958); 84 mm.
396 *Calotrophon velero* (Vokes, 1970); 8 mm.
400 *Favartia germainae* (Vokes & d'Attilio, 1980); 9.5 × 5.0 mm.

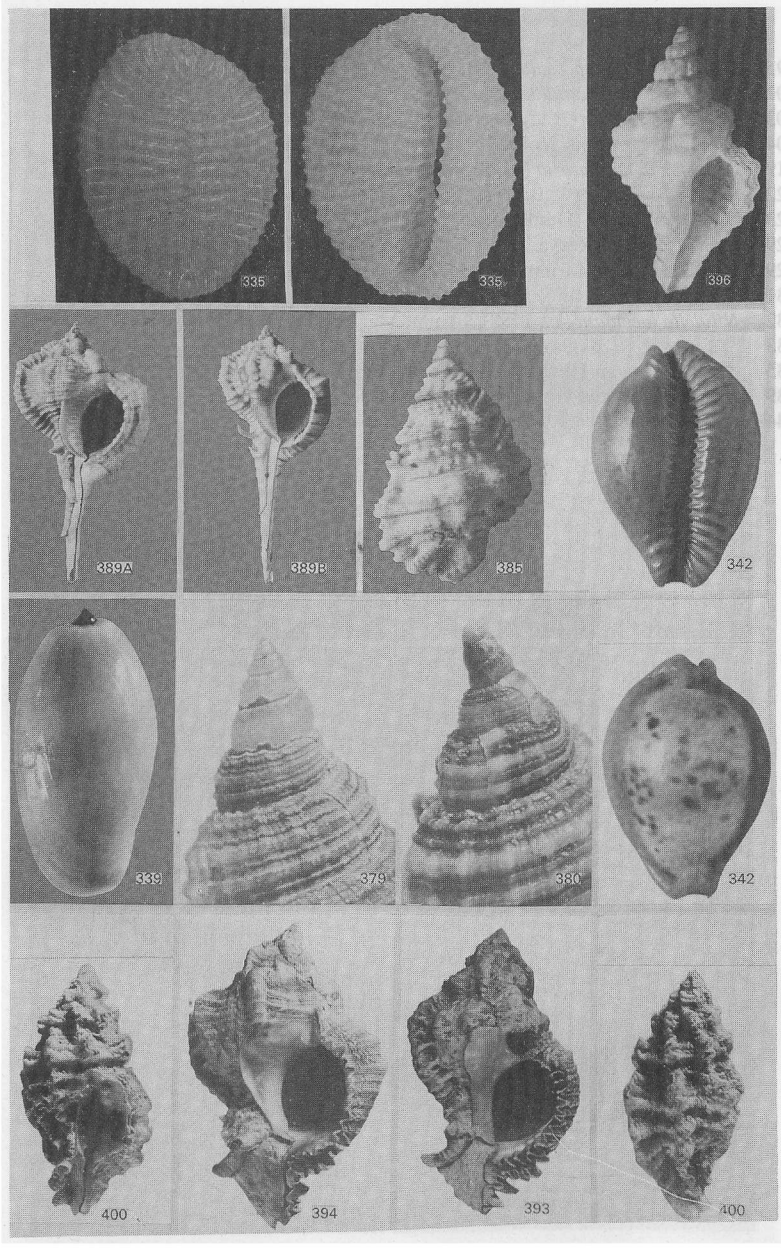
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PLATE 37

395 *Dermomurex paupercula* (C. B. Ads, 1850); 13 × 7 mm
402 *Muricopsis praepauxillus* (Maury, 1917); 21 mm.
403 *Muricopsis huberti* Radwin & d'Attilio, 1976; 18.5 mm.
404 *Risomurex withrowi* Vokes & Houart, 1986; 14 mm.
419 *Columbella mercatoria* (L., 1758); 16 mm.
422 *Conella ovuloides* (C. B. Ads, 1850); 12 mm.
423 *Anachis plicatula* (Dunker, 1853); 9.7 mm.
429A *Anachis sparsa* (Reeve, 1859); 7.4 × 3.1 mm, Aruba.
429B The same 9.5 × 4.0 mm, St. Martin.
431 *Nitidella nitida* (Lam., 1822); 11 mm.
432 *Nitidella laevigata* (L., 1758); 14 mm, Margarita.
433 *Mitrella ocellata* (Gm., 1791); 12 mm.
435 *Mitrella idalina* (Duclos, 1840); 7 mm.
439 *Decipifus kristenseni* spec.nov. holotype; 4.3 × 2.0 mm.
444 *Aesopus metcalfei* (Reeve, 1860); 7.8 mm.

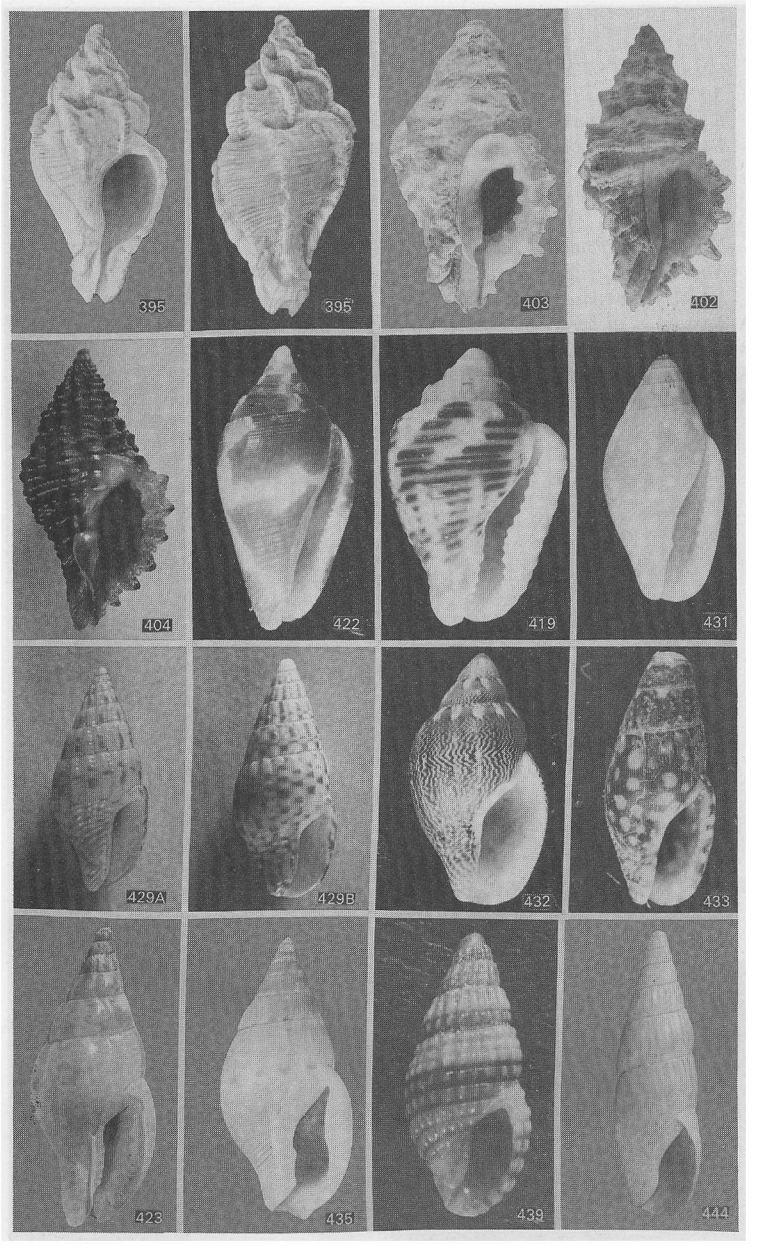
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PLATE 38

446 *Cosmioconcha humfreyi* spec.nov. holotype; 11.5 × 4.1 mm.
449 *Bailya marijkae* spec.nov. holotype; 16 × 8 mm.
450 *Engina turbinella* (Kiener, 1835); 11 mm, Margarita.
451 *Engina demani* spec.nov. holotype; 11.0 × 5.7 mm.
452 *Engina willemsae* spec.nov. holotype; 10 × 5 mm.
455 *Engoniophos unicinctus* (Say, 1825); 15 mm, Barbuda.
458 *Pollia auritula* (Link, 1807); 22 mm.
464 *Nassarius polygonatus* (Lam., 1822); 13 mm, Antigua.
466 *Nassarius hotessieri* (d'Orb., 1842); 5.5 mm.
467 *Nassarius* cf *consensus* Ravenel, 1861; 10 × 6 mm.
471A *Nassarius kaicherae* spec.nov. holotype; 8.4 × 4.5 mm.
471B The same (photo Sally Kaicher).
472A *Nassarius* spec. 2; 7.5 × 4.0 mm.
472B The same (photo Sally Kaicher).

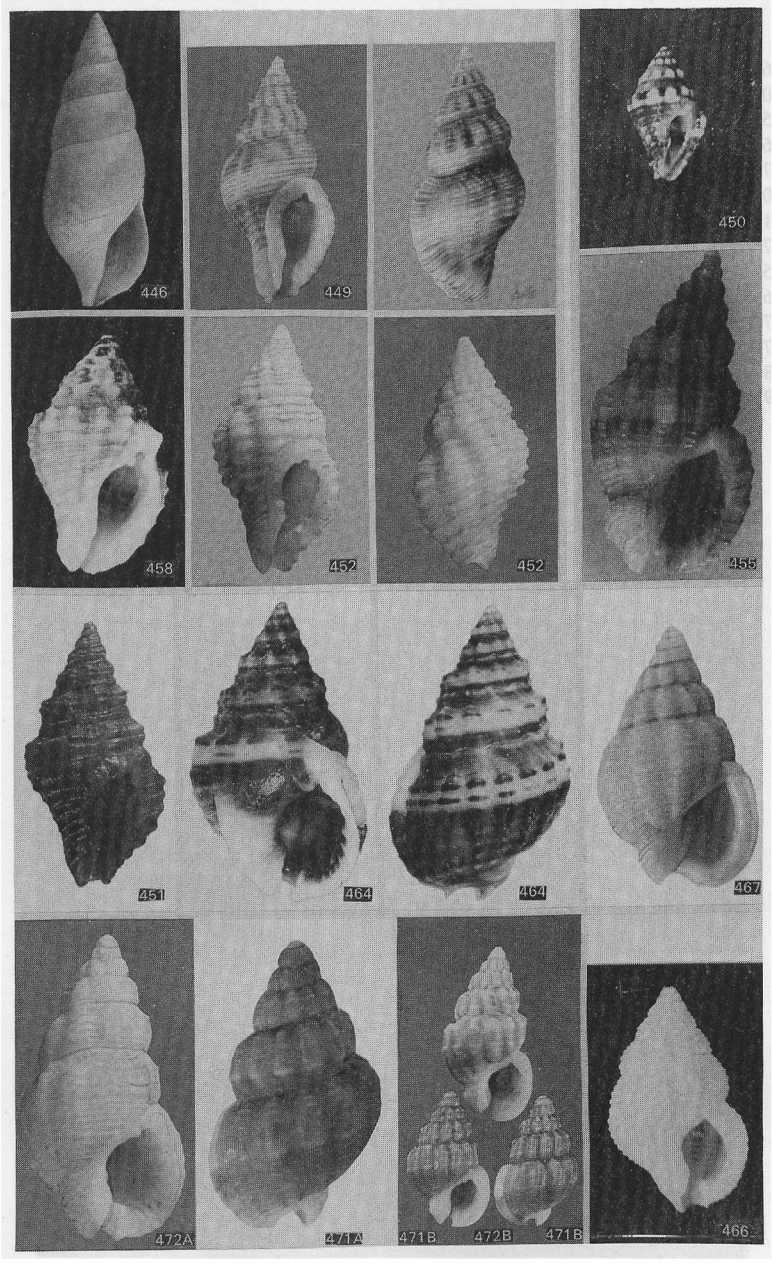
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PLATE 39

456 *Pisania pusio* (L., 1758); 28 mm.
470 *Nassarius candidissimus* (C. B. Ads, 1845); (photo Sally Kaicher).
475 *Fusinus closter* (Philippi, 1850); 46 mm.
476 *Latirus infundibulum* (Gm., 1791); 76 mm.
477 *Latirus angulatus* (Röding, 1798); 63 mm.
480 *Teralatirus ernesti* (Melvill, 1910); 11 mm.
481 *Teralatirus cayohuesonicus* (Sow., 1878); 13 mm.
487 *Ancilla balteata* (Sow. 1823); 53 mm.
495 *Olivella* spec. 1; 12.5 × 5.3 mm.
496 *Olivella* spec. 2; 9.2 × 3.8 mm.
497A *Olivella* cf. *esther* (Duclos, 1835); 15.7 × 7.2 mm.
497B The same; 11.0 × 5.0 mm.
498 *Olivella* spec. 3; 9.8 × 4.4 mm.
499 *Olivella macgintyi* Olsson, 1956; 11.8 × 5.0 mm.

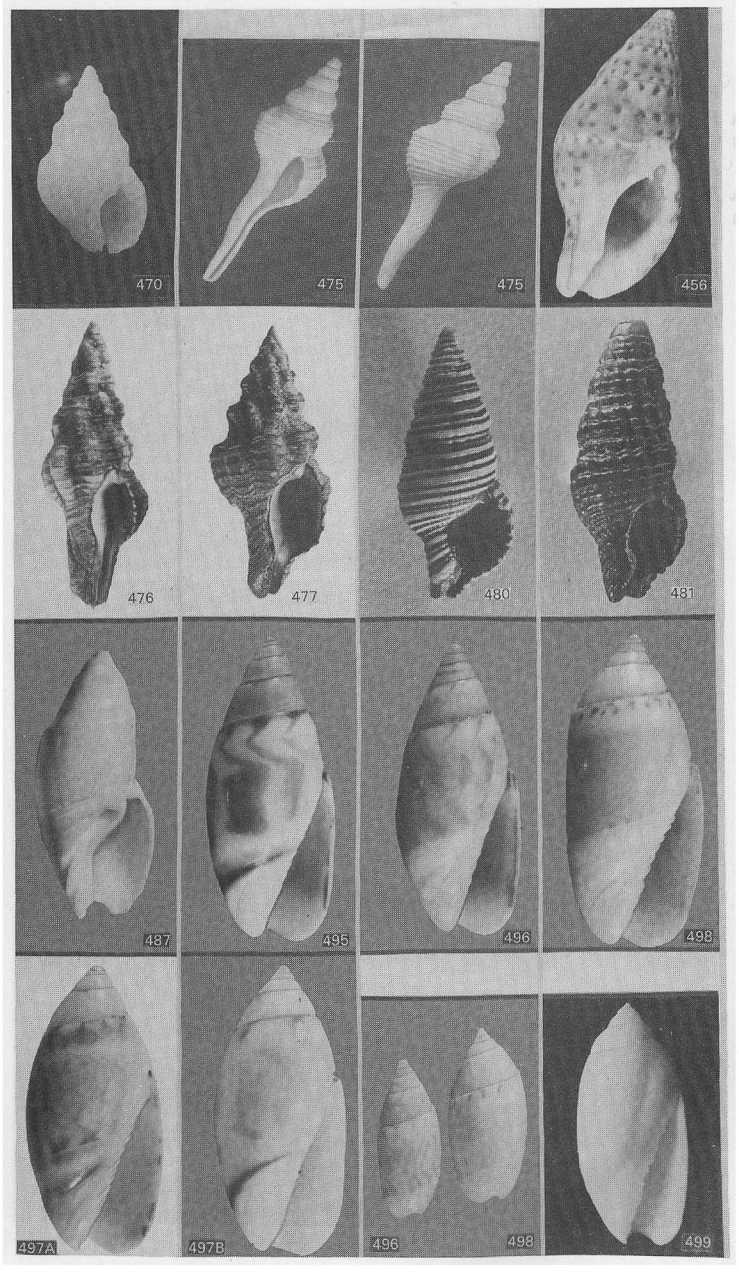
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PLATE 40

504 *Mitra nodulosa* (Gm., 1791); 22 mm.
506 *Pusia pulchella* (Reeve, 1844); 21 mm.
510A *Pusia variata* (Reeve, 1845); 19 mm.
510B The same; 3.7 mm, juv.specimen.
512 *Pusia bibsae* (Usticke, 1969); 14 mm.
516A *Pusiolina veldhoveni* spec.nov. holotype; 9.0 × 4.0 mm.
516B The same; 6.5 × 3.7 mm.
517 *Vasum muricatum* (Born, 1778); 70 mm.
518 *Vasum capitellum* (L., 1758); 65 mm.
519 *Voluta musica* L., 1758; 60 mm.
521 *Eratoidea margarita* (Kiener, 1834); 7 mm.
528 *Volvarina heterozona* (Jousseaume, 1857); 5.0 × 2.3 mm.

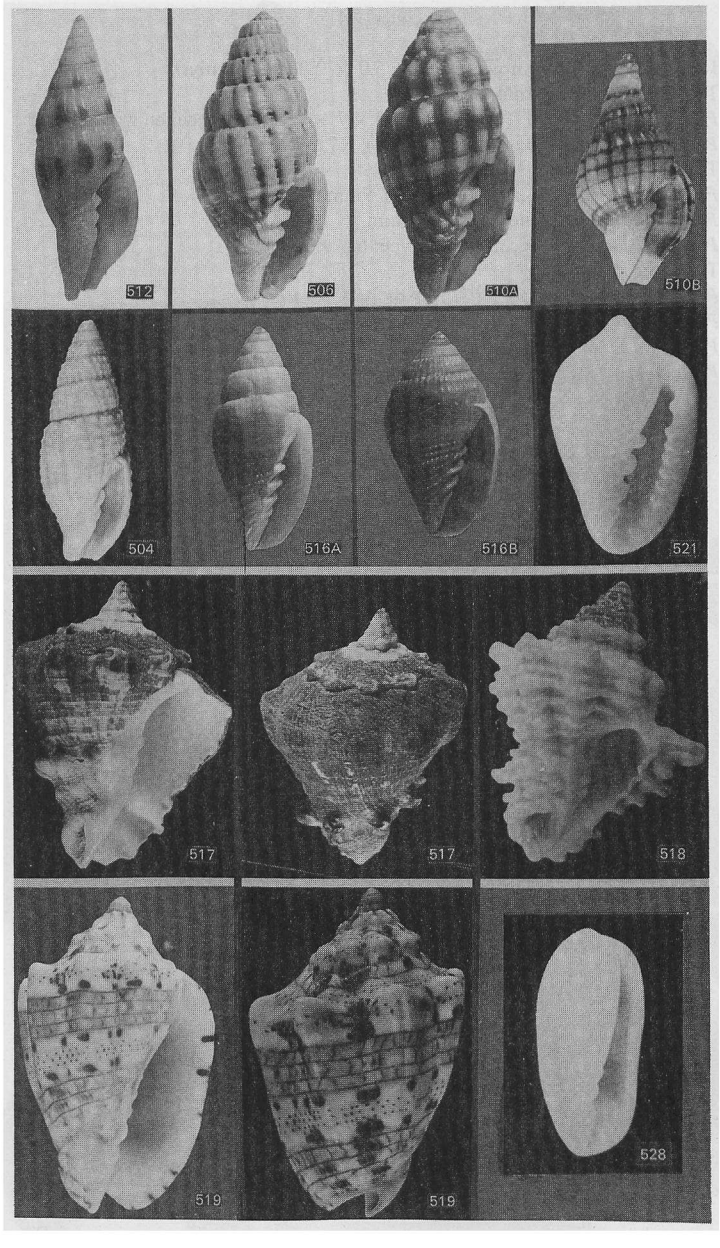
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PLATE 41

531A *Volvarina vokesi* spec.nov. holotype; 5.0 × 2.2 mm, (Aruba).
531B The same; 6.3 × 2.7 mm, (Curaçao).
537 *Persicula pulcherrima* (Gaskoin, 1849); 4.7 × 3.0 mm, specimen with 3 bands.
539A *Persicula chrysomelina* (Redfield, 1848); 6.7 mm.
539B The same; 6.3 mm.
541 *Persicula maculosa* (Kiener, 1834); 11.5 mm.
542 *Persicula muralis* (Hinds, 1844); 11 mm.
543A *Persicula cordorae* spec.nov. holotype; 6.5 × 3.7 mm.
543B The same; 5.5 mm.
548 *Pachybathron cypraeoides* (C. B. Ads, 1845); 7 mm.
550 *Prunum marginatum* (Born, 1778); 22.5 mm.
551 *Prunum prunum* (Gm., 1791); 21 mm.
553 *Prunum* spec.; 6.1 × 3.3 mm.

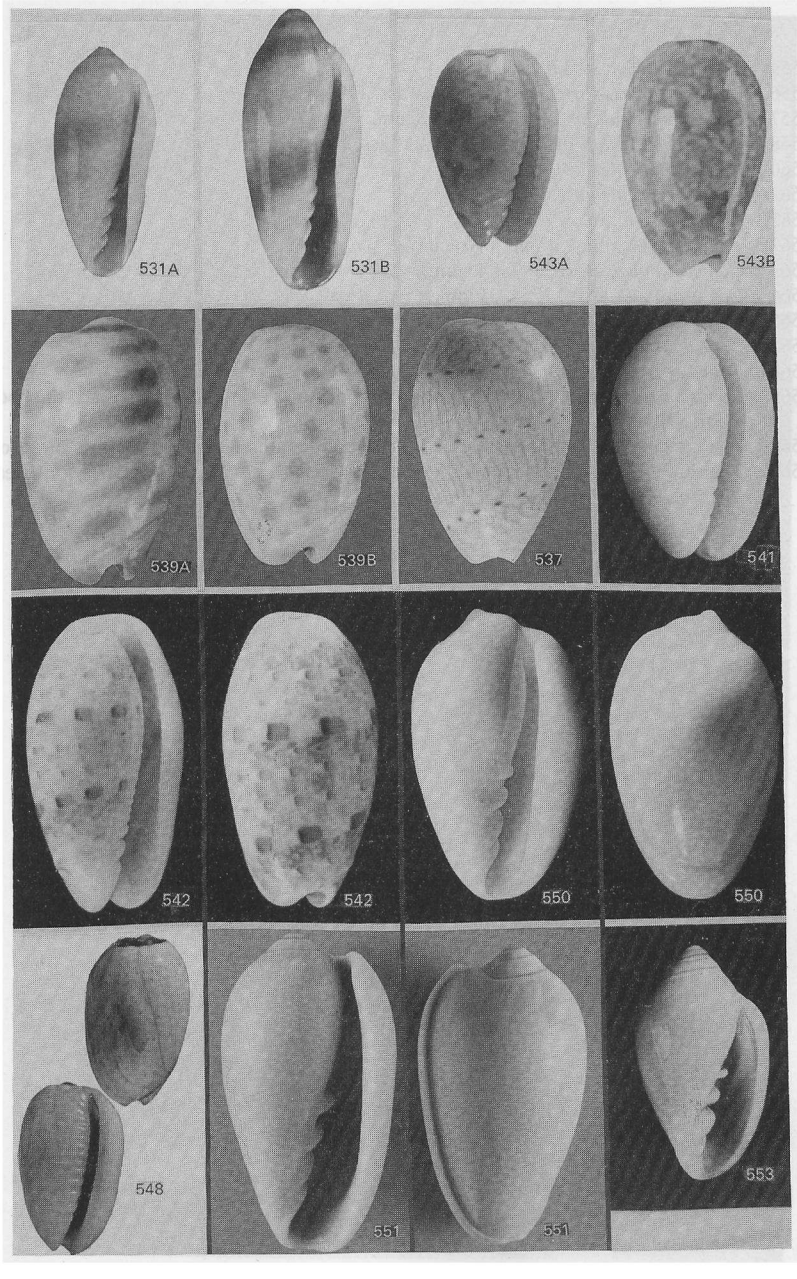
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PLATE 42

554 *Conus mus* Hwass, 1792; 20 mm.
556 *Conus jaspideus* forma *verrucosus* Hwass, 1792; 16 mm.
557 *Conus puncticulatus* Hwass, 1792; 18 mm.
558 *Conus puncticulatus* forma *columba* Hwass, 1792; 16 mm.
560 *Conus spurius* Gm., 1791; 29 mm.
562A *Conus daucus* Hwass, 1792; 34 mm.
562B The same; 41 mm.
562C The same; 40 mm, with periostracum.
563 *Conus ermineus* Born, 1778; 45 mm.
564 *Conus granulatus* L., 1758; 31 mm.
565 *Conus hieroglyphus* Duclos, 1833; 14 mm.
566 *Conus regius* Gm., 1791; 43 mm.
568 *Conus cedonulli* L., 1767; 35.4 × 18.2 mm.
569A *Conus aurantius* Hwass, 1792; 46 × 22 mm, pustules over half the length of the body whorl; (Bonaire).
569B The same; 44 × 21 mm, pustules over the whole length of the body whorl; (Curaçao).
569C The same; 54 × 26.5 mm, pustules over ¾ the length of the body whorl, white areas surrounded by dark lines; (Curaçao).

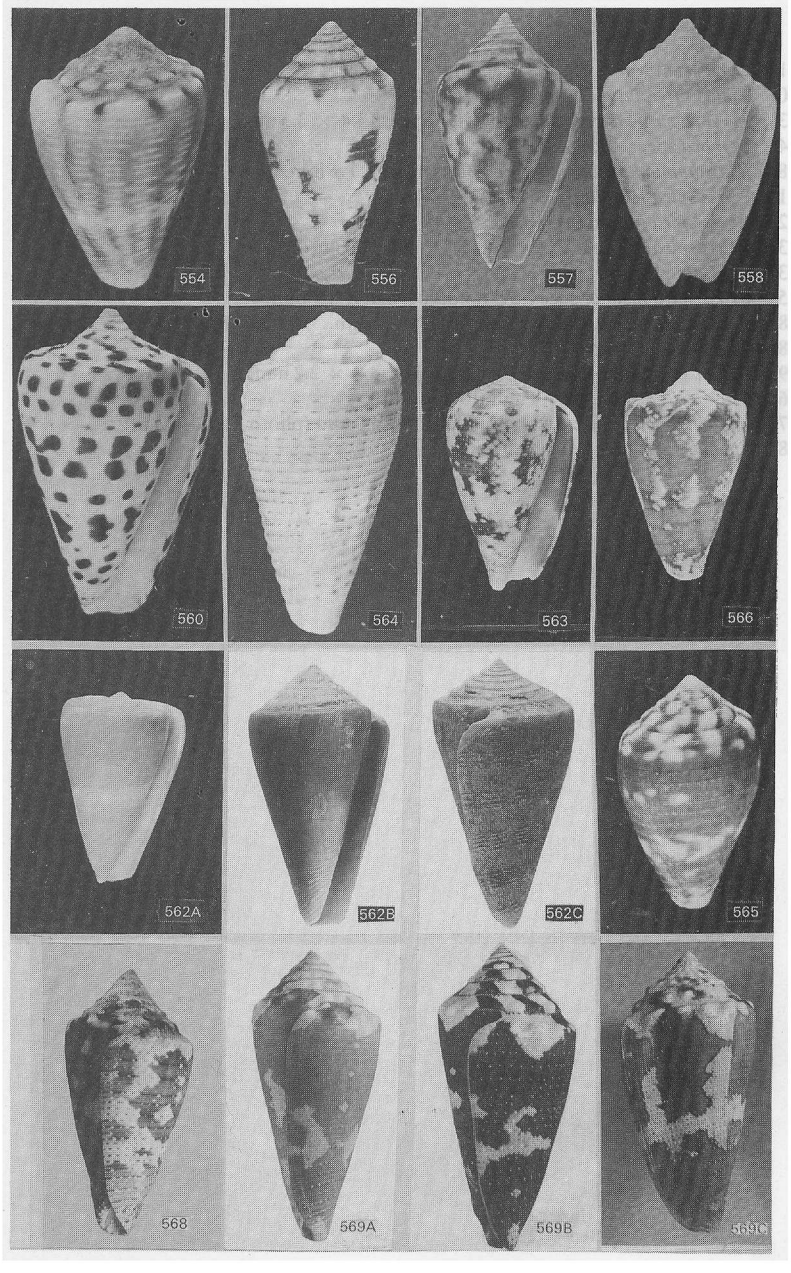
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PLATE 43

561 *Conus centurio* Born, 1778; 80 mm.
570 *Conus attenuatus* Reeve, 1844; 26 mm.
573 *Terebra curacaoensis* spec.nov. holotype; 13.4 × 3.3 mm.
574 *Terebra* spec.; 15.0 × 4.2 mm.
578 *Mitrolumna haycocki* (Dall & Bartsch, 1911); 5 mm.
581 *Crassispira paxillus* (Reeve, 1845); 14 mm.
582 *Crassispira fuscescens* (Reeve, 1845); 24 mm.
583A *Crassispira apicata* (Reeve, 1845); 11.0 × 4.0 mm.
583B The same; 7 mm.
585 *Crassispira mennoi* spec.nov. holotype; 4.4 × 1.7 mm.
588A *Crassispira pellisphocae* (Reeve, 1845); 8.2 mm.
588B The same; 4.7 mm.
589 *Crassispira verbernei* spec.nov. holotype; 4.8 × 2.2 mm.
596 *Microdrillia* spec.; 9 × 4 mm (touched up).
597 *Inodrillia vinki* spec.nov. holotype; 12 × 4.0 mm (photo L. v.d. Laan)
598 *Splendrillia* spec.; 8.0 × 3.0 mm.

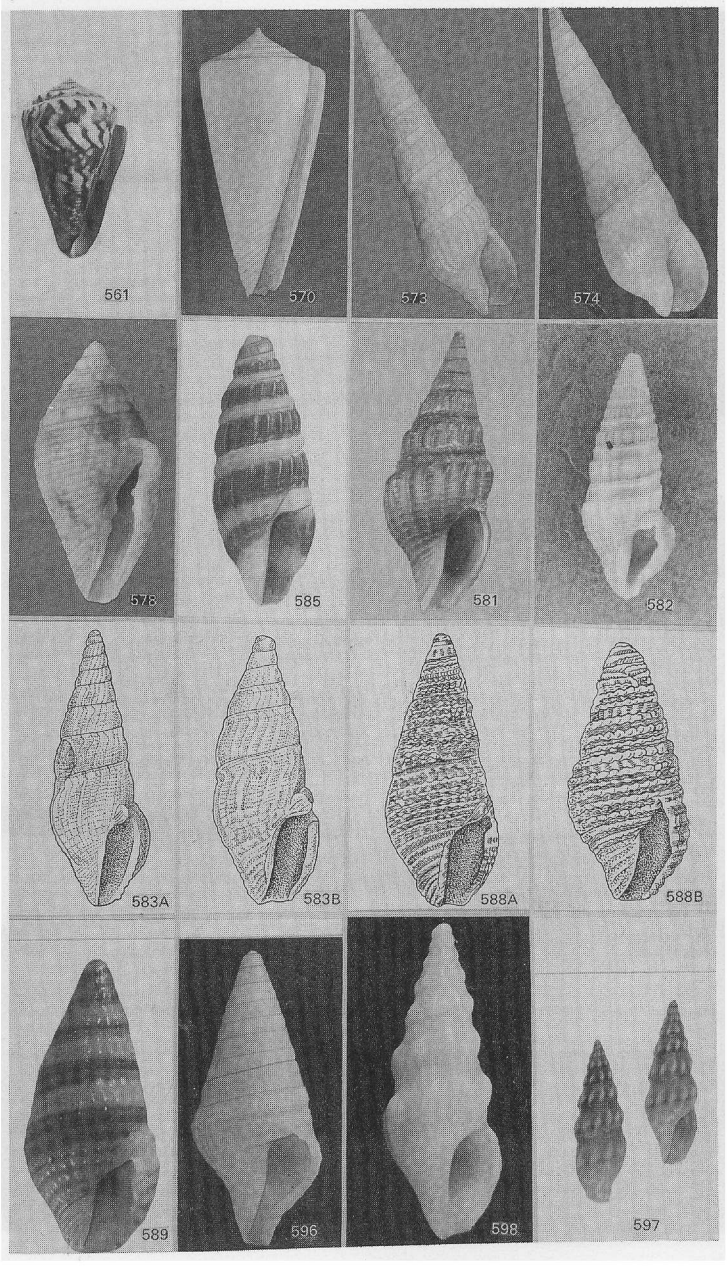
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PLATE 44

600 *Compsodrillia gonae* spec.nov. holotype; 11.3 × 4.5 mm.
601 *Compsodrillia* spec.; 7.0 × 3.0 mm.
602 *Leptodrillia cookei* (E. A. Smith, 1888); 6.8 mm.
604A *Agathotoma candidissima* (C. B. Ads, 1845); 5 mm.
604B The same; 10 mm.
605 *Agathotoma candidissima* forma *badia* (Reeve, 1846); 6 mm
608 *Tenaturris* spec. 1; 7.2 mm.
612 *Tenaturris* spec. 3; 4.3 × 1.8 mm.
613 *Acmaturris* cf. *brisis* Woodring, 1928; 5.7 mm.
615 *Cryoturris serta* Fargo, 1953; 8.0 mm.
616 *Kurzia* spec.; 4.9 × 1.9 mm.
617 *Kurziella vincula* Usticke, 1961; 6.3 mm.

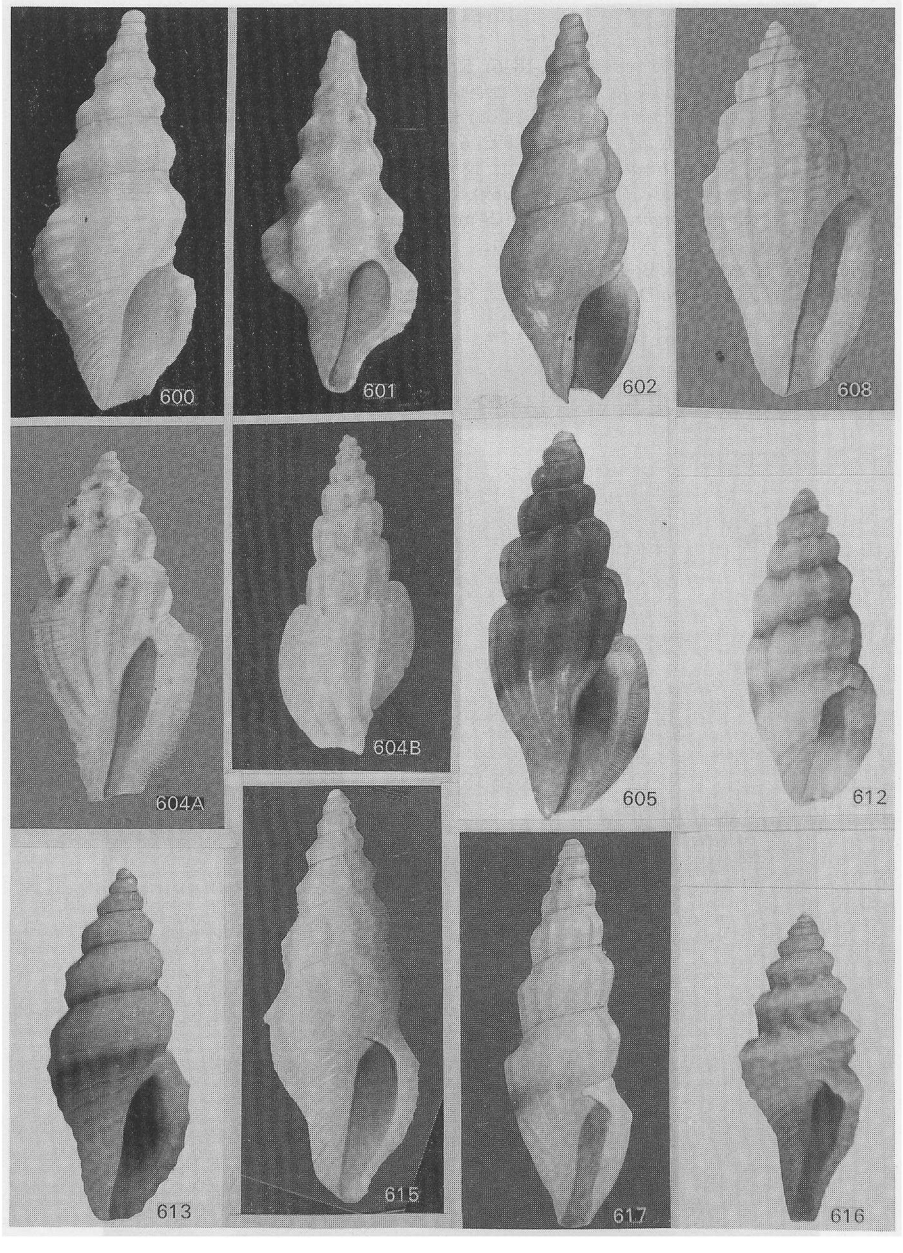
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PLATE 45

619 *Ithycythara rubricata* (Reeve, 1846); 5.6 mm.
621 *Miraclathurella kleinrosa* (Usticke, 1969); 8.5 mm.
622 *Maesiella* cf. *maesae* McLean & Poorman, 1971; 7.5 mm
624 *Glyphostoma* cf. *johnsoni* Dall, 1892; 6.0 × 2.6 mm.
625 *Brachycythara biconica* (C. B. Ads, 1850); 4.6 mm.
632 *Philbertia permiscere* (Usticke, 1969); 7 mm.
634 *Pyramidella dolabrata* (L., 1758); 24 mm.
658 *Turbonilla* spec. A1; 7.8 × 1.7 mm.
662 *Turbonilla* spec. B; 6.0 × 1.2 mm.
663 *Turbonilla virga* Dall, 1884; 6.6 × 1.6 mm.

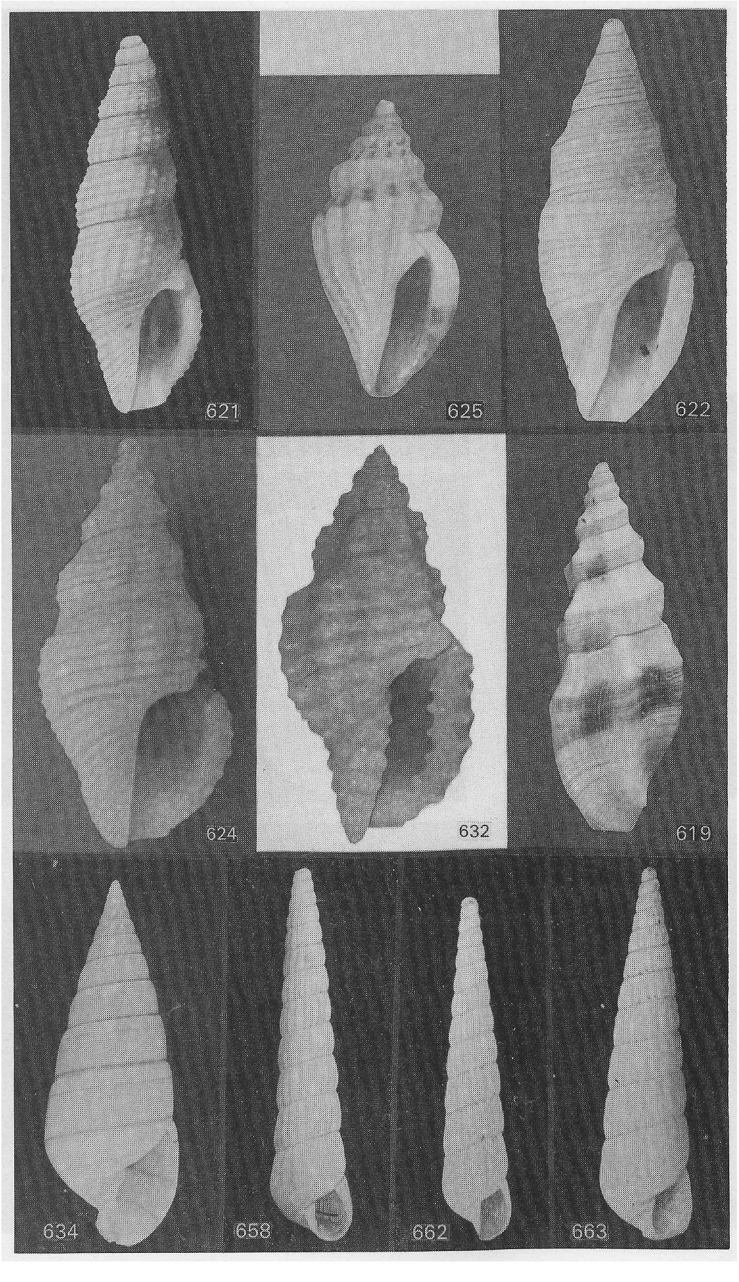
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PLATE 46

628 *Thelecythara floridana* Fargo, 1953; 7 mm.
671 *Turbonilla westermanni* spec.nov. holotype; 4.2 × 1.4 mm.
674 *Turbonilla rixtae* nom.nov.; 5.0 × 1.9 mm.
678 *Turbonilla krumpermani* spec.nov. holotype; 6.3 × 2.0 mm
689 *Hydatina vesicaria* (Lightfoot, 1786); 11 mm.
690 *Micromelo undatus* (Brug., 1792); 29 mm.
699 *Bulla solida* Gm., 1790; 42 mm.
706 *Atys macandrewii* E. A. Smith, 1872; 5 mm.
728 *Aplysia dactylomela* Rang, 1828; 33 mm.

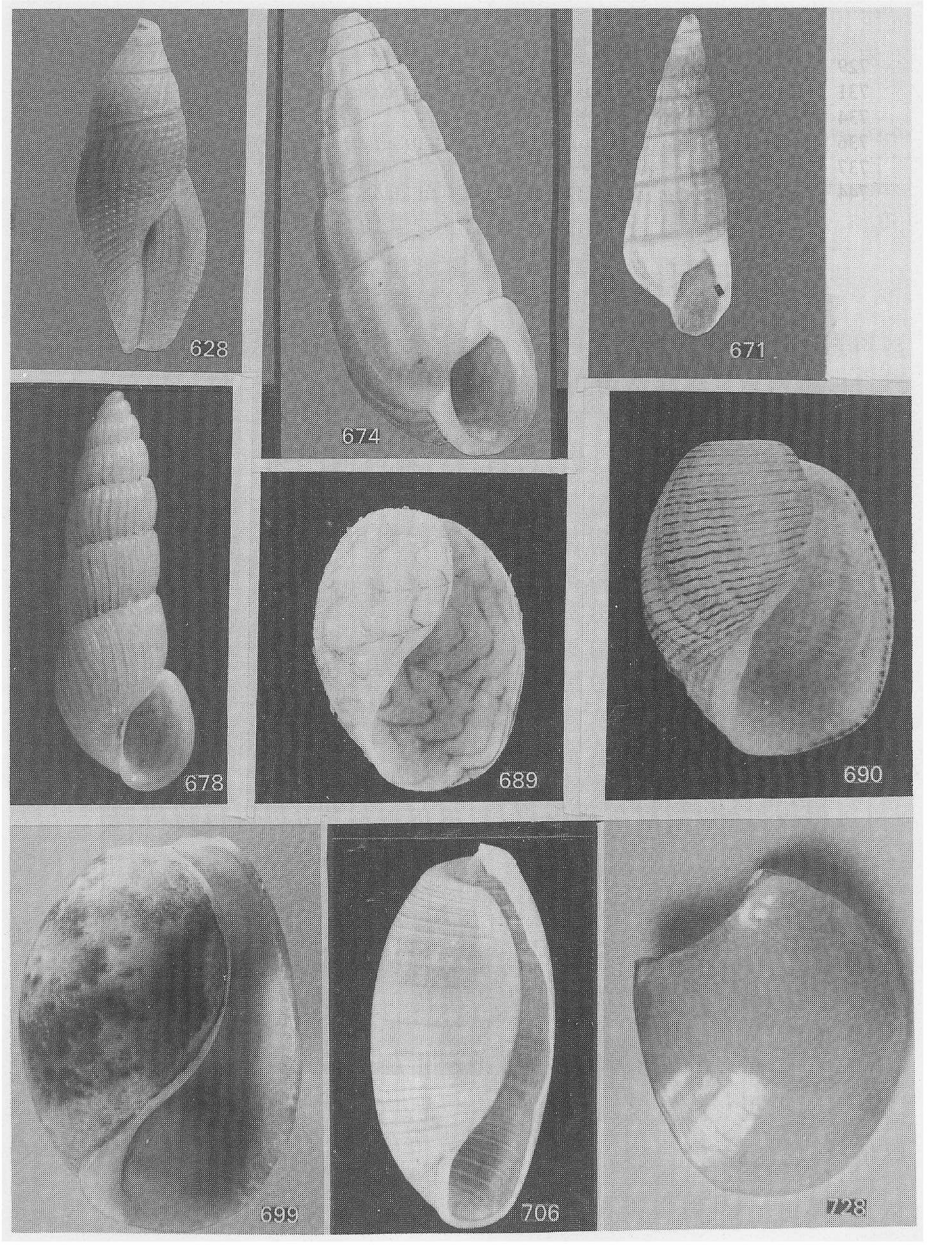
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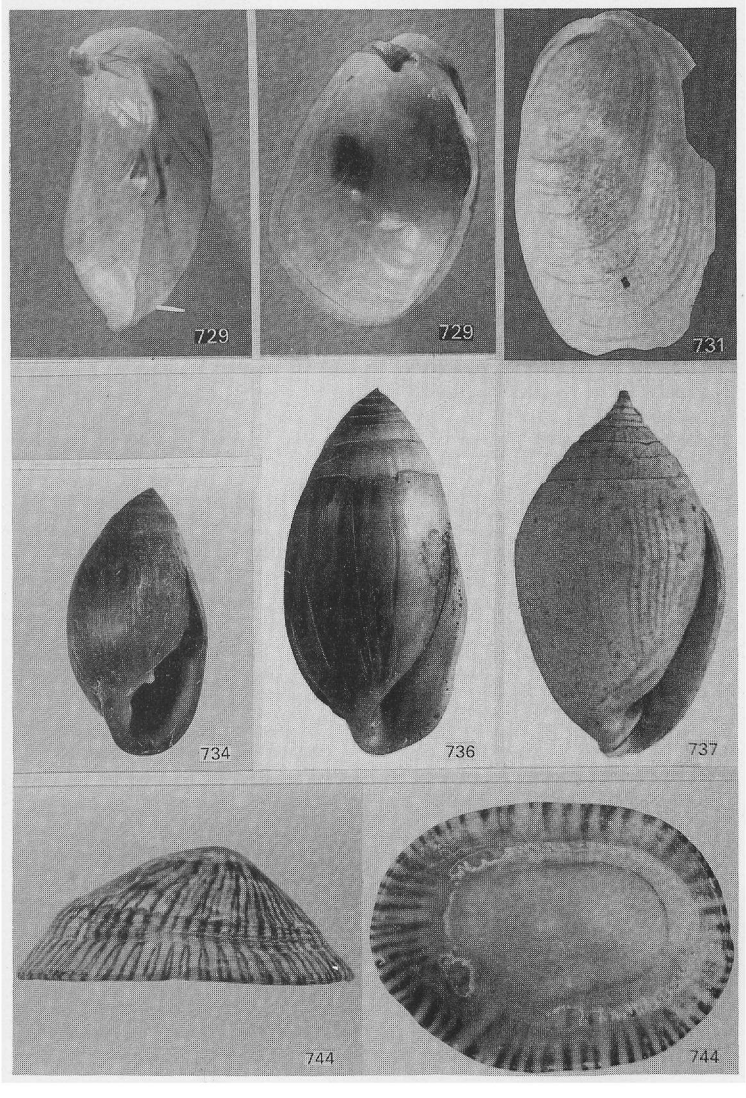
PLATE 47

729 *Aplysia parvula* Mörch, 1863; 10 mm.
731 *Pleurobranchus lacteus* Dall & Simpson, 1901; 5.3 mm.
734 *Tralia ovula* (Brug., 1789); 12 mm.
736 *Detracia roquesana* Gibson-Smith & Gibson-Smith, 1982; 12 × 6 mm
737 *Detracia parana* Morrison, 1951; 5 mm.
744 *Siphonaria pectinata* (L., 1758); 16 mm, Trinidad.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