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A Checklist of the Curaçao Sponges (Porifera Demospongiae)  
including a pictorial key to the more common reef-forms

by

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## Introduction

Although sponges are by no means unimportant organisms, in biomass and diversity, of the Curaçao coral reefs, very few scientific studies have been undertaken in this area involving sponges. To date, apart from taxonomic studies by Arndt (1927) and myself (Van Soest, 1978, 1980), only the boring sponges received attention (e.g. studies of De Groot, in progress). The main reason for this, no doubt, is the confused taxonomy of West Indian sponges. While taxonomic studies are in full progress (but are necessarily slow), it is now already possible to present sufficient data to allow certain identification of the more common reef forms by non-taxonomists for ecological or other purposes.

It is one of the objects of the present paper to provide these data; they take the form of a pictorial key of 30 species (following the idea of H. Reiswig for Jamaican sponges), some accompanying descriptions of the habit, and references to published photographs.

Next to this, I decided to construct a checklist of Curacao Demosponges in order to facilitate any identification difficulties of sponges not represented in the pictorial key. Also, I hope to benefit from this list by receiving any comments or material of sponges rare or new to the fauna of the area.

The checklist contains all species that to my knowledge dwell (or used to dwell) in Curaçao waters, both on the reefs and in the numerous mangrove-lined bays. For convenience, also those of Bonaire and Aruba are listed, since these islands are quite close to Curaçao and supposedly have the same fauna. Of necessity, I omitted the calcareous sponges, because the taxonomy of this group in the West Indies is quite confused.

More precise locality data are given with each species; in many cases material of these localities is available in the collections of the Zoölogisch Museum Amsterdam. Many species have already been treated in my monographic reports on the Keratosa and Haplosclerida of Curaçao and other Caribbean localities (Van Soest, l.c.); the remaining ones will be dealt with in similar future publications. In quite a few instances, species could not be identified further than to genus (many of these are new), in one case even that proved impossible.

The list of boring sponges is incomplete, since De Groot (1980) mentioned a total of 14 boring sponges against 10 (at the most) in the present list. We have to await De Groot's final reports for a complete picture.

The 166 species listed have been collected or observed over a period of approximately one hundred years. The following major collectors deserve to be named: Dr P. Wagenaar Hummelinck (1959-1970), Prof. Dr J.H. Stock (1959-1975), Dr S. Weinberg, Drs E. Westinga & P. Hoetjes (1975-1976); L. Delvoye (1981) collected a piece of coral on which the first and so far only sclerosponge of Curaçao was found.

During my visit to Curaçao (December 1980) I received great help from my host, deputy-director of the Carmabi Dr R.P.M. Bak, from Drs G. van Moorsel and from the Carmabi diving buddies F. Isabella, O. Frank and A. van Tiel. My visit to Bonaire (January 1981) was made a pleasure by Drs T. van 't Hoff and Drs E. Newton.

Checklist of the Marine Sponges of Curaçao, Bonaire and Aruba.

The order in which the taxa are listed, in general follows Bergquist (1978)

Subclass Homoscleromorpha

Order Homosclerophorida

Family Plakinidae

1. Plakortis angulospiculatus (Carter, 1874)

(= P. zyggompha (De Laubenfels, 1936) a.o. authors)

Curaçao: 300 m SE of Hilton Hotel (33 m), Blauwbaai (10-15 m), Boei 4 (20-25 m), Playa Kalki (10-20 m), off Holiday Hotel (20 m), Spaans Water (shallow), Caracas Bay (shallow).

Subclass Tetractinomorpha

Order Choristida

Family Stelettidae

2. Myriastrā fibrosa (Schmidt, 1870)

(= Stelletta fibrosa; Ulicka, 1929)

Curaçao: Blauwbaai (10-15 m), Boca Grandi (tidal zone).

3. Myriastrā kallitetilla De Laubenfels, 1936

Curaçao: Piscadera Baai (mangroves), Awa di Oostpunt.

4. Dercitus cf. plicatus (Schmidt, 1868)

Aruba: Lagoen (tidal zone).

Family Geodiidae

5. Geodia gibberosa (Lamarck, 1814)

Curaçao: 300 m SE of Hilton Hotel (33 m), Boei 2 (10 m), Spaans Water, Piscadera Baai (1-1.5 m), Boca Bartool, Playa Kalki.

Bonaire: Lac (1 m).

6. Geodia papyracea Hechtel, 1965

Curaçao: Boca Lagoen (tidal zone), Piscadera Baai (tidal zone).

7. Erylus formosus Sollas, 1886

Curaçao: Boei 1 (5-15 m).

8. Erylus trisphaerus (De Laubenfels, 1953)

Curaçao: Boei 0 (25-35 m), Boei 2 (30 m), off Holiday Hotel (10-20 m),  
Cape Malmeeuw (12-16 m).

Family Jaspidae

9. Jaspis pudica Wiedenmayer, 1977

Bonaire: Lac (tidal zone), Punta di Rancho (shallow)

Order Spirophorida

Family Tetillidae

10. Cinachyra kuekenthali Ulicka, 1929

Curacao: 300 m SE of Hilton Hotel (33 m).

11. Cinachyra alloclada Ulicka, 1929

Curaçao: Awa di Oostpunt (0.1-0.3 m).

Bonaire: Klein Bonaire NE (shallow)

Aruba: Lagoen Boekoeti (0-1 m).

Order Desmophorida

Family Theonellidae

12. Discodermia dissoluta Schmidt, 1880

Curaçao: Boei 2 (25 m).

Order Hadromerida

Family Spirastrellidae

13. Spirastrella coccinea (Duch. & Mich., 1864)  
(= S. cunctatrix Schmidt, 1868)  
Curaçao: Boei 3 (5 m), Knipbaai (tidal zone), Spaans Water, Blauwbaai (20-30 m).
14. Spheciospongia vesparia (Lamarck, 1814)  
(= Spirastrella pulvinata sensu Arndt, 1927)  
Curaçao: near Carmabi (2-22 m), 300 m SE of Hilton Hotel (10-12 m), Boei 0 (6-35 m), Daaibooibaai (3 m), Spaans Water, St Michielsbaai (3-50 m).  
Bonaire: Lac Awa Blancu (shallow), Lac Binnenklip (2-2.5 m).

Family Clionidae

15. Cliona caribboea Carter, 1882  
Curaçao: Boei 0 (6-35 m), Boei 3 (30 m), off Holiday Hotel (20 m)  
Bonaire: Karpata (25 m).
16. Cliona (Anthosigmella) spec. (off-white)  
Curaçao: 300 m SE of Hilton Hotel (33 m).
17. Cliona cf. amplivata Ruetzler, 1971  
(= C. celata sensu Arndt, 1927)  
Curaçao: Caracas Baai (shallow), Piscadera Baai (shallow), Boei 0 (25-35 m).
18. Cliona delitrix Pang, 1973  
Curaçao: Awa Blancu (10-20 m), Boei 2 (5-30 m), Boei 3 (30 m).  
Bonaire: Karpata (25 m).
19. Cliona lampa De Laubenfels, 1950  
Curaçao: Piscadera Baai (shallow), Boca Lagoen (tidal zone).

20. Cliona vermifera Hancock, 1867

Curaçao: Jan Thiel Baai (3 m).

21. Thoosa armata Topsent, 1905

Curaçao: Spaans Water (shallow), Playa Djerimi (tidal zone).

Family Placospongiidae

22. Placospongia melobesioides Gray, 1835

Curaçao: Spaans Water (shallow).

Family Timeidae

23. Timea spec. (light yellow)

Curaçao: Boei 0 (6-12 m), Boei 1 (10 m), Boei 4 (10-20 m), Awa Blancu (10-20 m).

Bonaire: Lac Awa di Palu Grandi (0-0.25 m).

24. Timea spec. (double rayed)

Curaçao: Blauwbaai (20-30 m).

Family Tethyidae

25. Tethya cf. seychellensis Wright, 1891

Curaçao: off Carmabi (0.5-1.5 m), Boei 0 (6-12 m), Spaanse Haven (shallow), Caracas Baai (shallow), Awa di Oostpunt (0.25-1 m),

Piscadera Baai (0-2 m), Boca Grandi (tidal zone).

Bonaire: Lac Secu di Sorobon (0.1-0.5 m), Lac Boca di Pos (0-0.5 m), Lac Punta di Rancho (0-0.5 m), Sorobon near Boca Jewfish (0.25-1 m).

Aruba: Lagoon S of Oranjestad (shallow).

26. Tethya cf. maza Selenka, 1879

Curacao: Playa Kalki (tidal zone), Caracas Baai (shallow).



Family Suberitidae

27. Pseudosuberites spec. (orange)

Curaçao: Blauwbaai (10-15 m), off Carmabi (0-1 m).

28. Terpios fugax Duch. & Mich., 1864

Curaçao: Caracas Baai (shallow).

Bonaire: Lagoen (shallow), Lac Awa di Palu Grandi (shallow)

29. Terpios zeteki (De Laubenfels, 1936)

Curaçao: Piscadera Baai (1 m).

Aruba: Lagoen Morster (shallow).

30. Aptos bergmanni De Laubenfels, 1950

Curaçao: Boei 0 (25-35 m).

Bonaire: Lac Secu di Sorobon (shallow).

Family Chondrosiidae

31. Chondrilla nucula Schmidt, 1870

Curaçao: Boei 2 (20 m), Barbara Beach (3 m), Spaanse Haven (shallow),

Caracas Baai (shallow), 500 m W of Piscadera (32-40 m), Fuikbaai (3 m),

Blauwbaai (10-15 m), Awa di Oostpunt (0.25-1 m), Piscadera Baai (0-2 m)

Bonaire: Lac 300 m E of Palu Calbas (shallow), Lac Punta di Rancho

(0.5 m), Lac Secu di Sorobon (0.1-1 m), Lac Poejito (tidal zone).

32. Chondrosia collectrix Schmidt, 1870

Curaçao: Spaans Water (shallow), near Carmabi (10 m), Jan Thiel Baai  
(23-32 m).

Bonaire: Lac Salinha di Cal (shallow).

Aruba: Hadikoerari (0.3 m),

Order Axinellida

Family Axinellidae

33. Ptilocaulis cf. arbusculum Duch. & Mich., 1864

Curaçao: Fuikbaai (shallow).

34. Ptilocaulis walpersi (Duch. & Mich.)

Curaçao: Boei 1 (34-40 m).

35. Teichaxinella marquezii (Duch. & Mich., 1864)

Curaçao: Boei 1 (22 m), Awa di Oostpunt (1.5 m).

36. Axinella sp. aff. polycapella De Laubenfels, 1953

Aruba: Boekoeti reef (beach worn).

37. Topsentia n.sp. (brown plate)

Curaçao: Boei 2 (10 m), Playa Kalki (10-20 m).

38. Topsentia n.sp. (purple digitations)

Curaçao: Boei 2 (20 m), Boei 4 (20-25 m), Awa Blancu (10-20 m).

39. Pseudaxinella lunaecharta Ridley & Dendy, 1887

Curaçao: Playa Kalki (10-20 m).

40. Pseudaxinella n.sp. (purple tubes)

Curaçao: Boei 1 (25 m), Cape Malmeeuw (10-12 m).

41. ? Dragmaxia n.sp. (orange strings)

Curaçao: 300 m SE Hilton (33 m), Boei 2 (25 m).

42. "Ulosa" ruetzleri Wiedenmayer, 1977 (probably not genus Ulosa)

Curaçao: Hilton landing (0.5 m), 300 m SE of Hilton Hotel (10-33 m),

Boei 0 (25-35 m), Boei 4 (20-25 m), Cape Malmeeuw (12-16 m), Awa Blancu

(10-20 m), Playa Kalki (10-20 m), Boei 1 (5-30 m), Boei 2 (5-30 m),

Boei 3 (5-30 m), Holiday Hotel (5-30 m), Jan Thiel Baai (23-32 m),

Blaauwbaai (15-30 m), Spaans Water (shallow), off Carmabi (11-14 m),  
500 m W of Piscadera (35 m).

Bonaire: Cai (2-3 m), Carl's Hill (5-35 m), Forest (5-33 m), Karpata  
(5-25 m), Lac Secu di Sorobon (0.25-1 m), Lac Poejito (shallow).

43. "Ulosa" spec. (dark brown) (probably not genus Ulosa)

Curaçao: Cape Malmeeuw (10-12 m).

Family Euryponidae

44. Eurypon spec. (orange) (sp. aff. clavata Bowerbank, 1866)

Curaçao: Boei 4 (20-25 m).

45. ? Eurypon spec. (without acanthostyles; orange)

Curaçao: Cape Malmeeuw (12-16 m), Boei 1 (25 m), Awa Blancu (10-20 m).

46. Eurypon spec. (dark purple)

Curaçao: Boei 1 (25 m).

47. Eurypon spec. (bright yellow)

Curaçao: Awa Blancu (10-20 m).

48. Tricheurypon viridis Verrill,

Curaçao: Boei 0 (6-12 m), 300 m SE Hilton (33 m), Awa Blancu (10-20 m)

49. Cyamon vickersi Bowerbank, 1864

Curaçao: Spaans Water (shallow).

Family Raspailiidae

50. Ectyoplasia ferox Duch. & Mich., 1864

Curaçao: 300 m SE Hilton (10-33 m), Boei 0 (6-35 m), Playa Kalki  
(10-20 m), Boei 1 (5-30 m), Boei 2 (5-30 m, including fo. surgens),  
Boei 3 (5-30 m), Holiday Hotel (5-30 m), Blaauwbaai (15-30 m), 500 m  
W of Piscadera (35 m).

Bonaire: Carl's Hill (5-35 m), Forest (5-35 m), Karpata (5-25 m, incl. fo. surgens).

51. Echinodictyon pennatum (Duch. & Mich., 1864)

Curaçao: Piscadera Baai (2 m).

Family Hemiasterellidae

52. Hemiasterella stylifera Arndt, 1927

Curaçao: Piscadera Baai (0-2 m).

Aruba: Playa Morster (shallow).

53. Hemiasterella n.sp.

Bonaire: Lac Sorobon.

Family Agelasidae

54. Agelas dispar Duch. & Mich., 1864

Curaçao: off Carmabi (5-30 m), 300 m SE of Hilton Hotel (10-33 m), Boei 0 (6-35 m), Awa Blancu (10-20 m), Playa Kalki (10-20 m), Boei 2 (5-30 m), Boei 3 (5-30 m), off Holiday Hotel (5-30 m), St Michielsbaai (2 m), 500 m W of Piscadera (10-18 m).

Bonaire: Carl's Hill (5-35 m), Forest (5-33 m), Karpata (5-25 m).

55. Agelas clathrodes (Schmidt, 1870)

Curaçao: Boei 3 (5-30 m), off Holiday Hotel (5-30 m), Boei 2 (5-30 m), Boei 1 (5-30 m), Playa Kalki (10-20 m), Blauwbaai (10-15 m), off Carmabi (18-20 m), 500 m W of Piscadera (35 m).

Bonaire: Forest (5-33 m), Karpata (5-25 m).

56. Agelas conifera (Schmidt, 1870)

Curaçao: off Carmabi (5-22 m), 300 m SE of Hilton Hotel (33 m), Boei 0 (6-35 m), Blauwbaai (10-30 m), Cape Malmeeuw (12-16 m), Boei 4 (20-25 m),

Playa Kalki (10-20 m), Boei 1 (5-30 m), Boei 2 (5-30 m), Boei 3 (5-30 m), off Holiday Hotel (5-30 m), Jan Thiel Baai (23-32 m).  
Bonaire: Carl's Hill (5-35 m), Forest (5-33 m), Karpata (5-25 m).

57. Agelas sceptrum (Lamarck, 1814)

Curaçao: off Carmabi (10-22 m).

Bonaire: Carl's Hill (5-35 m), Karpata (5-25 m).

58. Agelas spec. (encrusting, pale orange)

Curaçao: Boei 4 (20-25 m), Boei 1 (19 m), Blauwbaai (10-15 m).

Subclass Ceractinomorpha

Order Halichondrida

Family Halichondriidae

59. Halichondria melanodocia De Laubenfels, 1936

Curaçao: Piscadera Baai (shallow), Awa di Oostpunt (1 m).

60. Halichondria cf. magniconulosa Hechtel, 1965

Curaçao: Piscadera Baai (shallow), Playa Djerimi (shallow).

Bonaire: Lac Poejito (shallow).

61. Ciocalypta n.sp.

Curaçao: Piscadera Baai (2 m).

Family Hymeniacionidae

62. Hymeniacion heliophila (Parker, 1905)

Curaçao: off Carmabi (1 m).

63. Hymeniacion spec. (purple brown)

Curaçao: Boei 0 (6-12 m).

Order Poecilosclerida

Family Mycalidae

64. Mycale laevis (Carter, 1881)

Curaçao: Cape Malmeeuw (12-16 m), 300 m SE of Hilton Hotel (10-12 m),  
Awa Blancu (10-20 m).

65. Mycale angulosa (Duch. & Mich., 1864)

Curaçao: Spaans Water (shallow), Piscadera Baai (58 m), Schottegat  
(shallow).

66. Mycale n.sp. (greyish blue)

Curaçao: Piscadera Baai (shallow), Spaans Water (shallow).

67. Mycale n.sp. (red)

Curaçao: Piscadera Baai (shallow), Schottegat (shallow), St Martha  
Baai (1 m).

68. Mycale microsigmatosa Arndt, 1927

Curaçao: Spaans Water (shallow), Schottegat (shallow), Piscadera Baai  
(shallow), Lagoen (3 m), Cape Malmeeuw (4 m).

Bonaire: Lac S of Boca Fogon (shallow), Lac Poejito (shallow).

69. Mycale n.sp. (blue-green)

Curaçao: Hilton Hotel landing (1 m).

70. Mycale spec. (orange)

Curaçao: St Martha Baai (1 m).

71. Mycale laxissima (Duch. & Mich., 1864)

Curaçao: Hilton Hotel landing (1 m), off Carmabi (18 m).

Bonaire: Lac Poejito (shallow).

Family Biemnidae

72. Biemna tubulata (Dendy, 1905)

(= Toxemma t.)

Bonaire: Lac Cai (0.5 m), Lac Poejito (shallow), Lac Boca Fogon (0.5 m), Lac Boca di Pos (0.5 m).

73. ? Biemna spec. (bright red, no sigmata)

Curaçao: Boei 4 (20-25 m).

Family Latrunculiidae

74. Didiscus n.sp.

Curaçao: off Carmabi (10-20 m), 300 m SE of Hilton Hotel (33 m),

Cape Malmeeuw (12-16 m), off Holiday Hotel (5-30 m).

Bonaire: Carl's Hill (5-35 m), Karpata (5-25 m).

Family Esperlopsidae (= Desmacidonidae Gray)

75. Iotrochota birotulata (Higgin, 1877)

Curaçao: off Carmabi (0-20 m), Hilton Hotel landing (shallow), Fuikbaai

(2 m), 300 m SE of Hilton Hotel (10-33 m), Boei 0 (6-12 m), Daaibooibaa

(3 m), Cape Malmeeuw (4 m), Boei 4 (20-25 m), Lagoen (4 m), Awa Blancu

(10-20 m), Boei 1 (5-30 m), Boei 3 (5-30 m), off Holiday Hotel (5-30 m)

Bonaire: Carl's Hill (5-35 m), Forest (5-33 m), Karpata (5-25 m).

76. Monanchora barbadensis Hechtel, 1969

Curaçao: Jan Thiel Baai (23-32 m), off Carmabi (10 m), Vaarsen Baai

(shallow), Blauwbaai (15 m), Boei 0 (6-35 m), Boei 4 (20-25 m), Cape

Malmeeuw (12-16 m), Playa Kalki (10-20 m), Awa Blancu (10-20 m), off

Holiday Hotel (5-30 m).

77. Desmapsamma anchorata (Carter, 1882)

Curaçao: Spaans Water (shallow), Barbara Beach (3 m), Hilton Hotel landing (1-5 m), off Carmabi (2-14 m), Boei 1 (5-40 m), Piscadera Baai (shallow), off Holiday Hotel (5 m), Boei 3 (30 m), Boei 2 (5 m), Boei 4 (3-25 m), Daaibooibaai (3 m).

Bonaire: Lac Sorobon (shallow), Lac Poejito (0.5 m).

78. Neofibularia nolitangere (Duch. & Mich., 1864)

Curaçao: Spaans Water (shallow), Piscadera Baai (2-10 m), Blauwbaai (10-30 m), off Carmabi (2-22 m), Hilton Hotel landing (3-5 m), Boei 0 (6-35 m), Cape Malmeeuw (3-16 m), Boei 4 (20-25 m), Lagoen (4 m), Cape St Marie (3 m), Playa Kalki (10-20 m), Boei 2 (5-30 m), Boei 3 (5-30 m), off Holiday Hotel (5-30 m).

Bonaire: Klein Bonaire (3-6 m), Punt Vierkant (3 m), Carl's Hill (10 m), Forest (10-15 m), Karpata (5 m).

79. Fibularia spec. (thin, green incrustation)

Curaçao: Hilton Hotel landing (1 m).

80. Fibularia spec. (dark brown, limp bush; no sigmata)

Bonaire: Karpata (8 m).

81. Fibularia spec. (bright red incrustation)

Curaçao: Boei 0 (25-35 m), Cape Malmeeuw (12-16 m).

82. Fibularia spec. (dull red incrustation; no stomata)

Curaçao: Lagoen (3 m), Cape Malmeeuw (12-16 m).

Family Myxillidae

83. ? Plocamione spec. (yellow incrustation)

Curaçao: Boei 0 (6-12 m).



84. Lissodendoryx isodictyalis (Carter, 1882)  
Curaçao: Piscadera Baai (shallow).  
Bonaire: Lac Cai (0.5 m), Lac Poejito (0.5 m), Lac Boca Fongon (0.5 m),  
Lac Sorobon (0.5 m), Lagoon (shallow).  
Aruba: Playa Master (shallow).
85. Lissodendoryx sigmata (De Laubenfels, 1949)  
Curaçao: Boei 0 (25-35 m), Boei 4 (20-25 m).
86. Lissodendoryx n.sp. (bright red cushions)  
Curaçao: Piscadera Baai (2-5 m).
87. Myxillidae indet. (red)  
Curaçao: Cape Malmeeuw (12-16 m).
88. Tedania ignis (Duch. & Mich., 1864)  
Curaçao: Piscadera Baai (shallow), Spaans Water (shallow), Hilton Hotel  
landing (0.5-3 m), Cape St Marie (3 m), off Holiday Hotel (5 m), Boei 3  
(30 m), Playa Kalki (10-20 m).  
Bonaire: Lac 300 m E of Palu Calbas (0.5 m), Lac Cai (0.5 m), Lac  
Poejito (0.25-2 m), Lac Sorobon (shallow).
89. Hemitedania n.sp.  
Curaçao: Boei 0 (25-35 m), Boei 4 (20-25 m).
90. Acanthancora n.sp.  
Curaçao: Boei 0 (25-35 m).
91. Acarnus innominatus Gray, 1867  
Curaçao: Spaans Water (shallow), off Carmabi (11-14 m).
92. Acarnus souriei (Lévi, 1952)  
Curaçao: Blauwbaai (10-15 m), Boei 4 (20-25 m).

93. Phorbas amaranthus Duch. & Mich., 1864

(= Merriamium tortuganensis De Laubenfels, 1936)

Curaçao: 300 m SE of Hilton Hotel (33 m), Boei 0 (6-12 m), Playa Kalki (10-20 m), Boei 2 (5-30 m), Boei 1 (5-30 m), Boei 4 (20-25 m).

Family Hymedesmiidae

94. Hymedesmia spec. (orange)

Curaçao: Boei 4 (10 m).

95. Hymedesmia spec. (red)

Curaçao: 300 m SE of Hilton Hotel (33 m), Awa Blancu (10-20 m).

Family Microcionidae

96. Thalysias juniperina (Lamarck, 1814)

Curaçao: 300 m SE of Hilton Hotel (33 m), Cape Malmeeuw (12-16 m).

97. Thalysias schoenus (De Laubenfels, 1936)

Curaçao: Boei 0 (25-35 m), Spaans Water (shallow), Caracas Baai (shallow), Jan Thiel Baai (2 m), Piscadera Baai (1-1.5 m).

Bonaire: Pier Kralendijk (1 m).

98. Thalysias n.sp. (yellow-veined)

Curaçao: Blauwbaai (15-20 m), off Carmabi (11-14 m), Hilton Hotel landing (1 m), Jan Thiel Baai (23-32 m), Boei 0 (25-35 m), 300 m SE of Hilton Hotel (10-33 m), off Holiday Hotel (5-30 m).

Bonaire: Carl's Hill (5-35 m), Karpata (5-25 m).

99. Microciona spinosa Wilson, 1902

Curaçao: Boei 2 (10 m), Boei 4 (20-25 m), 300 m SE of Hilton Hotel (33 m), off Carmabi (4-20 m), Jan Thiel Baai (2 m).

100. Microciona rarispinosa Hechtel, 1965  
Curaçao: Vaarsen baai (20 m).
101. Microciona ferrea (De Laubenfels, 1936)  
(= Zetekispongia f.)  
Curaçao: off Carmabi (1 m).
102. Microciona spec. (aff. ferrea) (bright red, slimy)  
Curaçao: Boei 4 (20-25 m).
103. Microciona n.sp. (black)  
Curaçao: Hilton Hotel landing (2 m), Playa Kalki (10-20 m).
104. Microciona n.sp. (dull red)  
Curaçao: Awa Blancu (10-20 m).
105. Microciona spec. (orange, conulose)  
Curaçao: Awa Blancu (10-20 m)
106. Pandaros acanthifolium Duch. & Mich., 1864  
Curaçao: Boei 0 (25-35 m), Awa di Oostpunt (21 m), Blauwbaai (15-20 m),  
Jan Thiel Baai (23-32 m), Vaarsen baai (10 m.).

Order Haplosclerida

Family Haliclونidae

107. Haliclona hogarthi Hechtel, 1965  
Curaçao: Piscadera Baai (shallow), St Joris Baai (shallow), Schottegat (shallow).  
Bonaire: Lac (shallow).  
Aruba: Lagoen Boekoeti (0-1 m), Spaans Lagoen (shallow)

108. Haliclona molitba De Laubenfels, 1949  
Curaçao: Piscadera Baai (shallow).  
Bonaire: Lac Playa Mangel (1-1.5 m).
109. Haliclona spec. (greyish brown cushions)  
Curaçao: Boei 0 (6-12 m), Boei 4 (10 m), 300 m SE of Hilton Hotel (33 m), Awa Blancu (10-20 m).
110. Reniera curaçaoensis Van Soest, 1980  
Curaçao: Sta Martha Baai (4 m), Piscadera Baai (shallow).
111. Reniera carmabi Van Soest, 1980  
Curaçao: Hilton Hotel landing (1 m), Piscadera Baai (shallow).
112. Reniera n.sp. (yellow, with strongyles)  
Curaçao: Boei 0 (25-35 m).
113. Reniera spec. (red)  
Curaçao: off Carmabi (shallow, under stones).
114. Adocia implexiformis Hechtel, 1965  
Curaçao: Piscadera Baai (shallow), off Carmabi (10 m), Fuikbaai (2 m), Boei 4 (20-25 m), Awa Blancu (10-20 m), Boei 4 (20-25 m), Playa Kalki (10-20 m).  
Bonaire: Lac Awa di Palu Grande (0.25 m), Lagoen (shallow), Cai (1 m).
115. Adocia spec. (light blue)  
Curaçao: Boei 1 (5-30 m), Boei 2 (5-30 m).
116. Adocia spec. (light beige incrustation)  
Curaçao: Cape Malmeeuw (6-12 m).
117. Sigmadocia coerulea Hechtel, 1965  
Curaçao: St Jorisbaai (shallow).

118. Sigmatocia piscaderensis Van Soest, 1980

Curaçao: Piscadera Baai (1-1.5 m), St Martha Baai (1 m).

Family Niphatidae

119. Amphimedon viridis Duch. & Mich., 1864

Curaçao: Awa di Oostpunt (0.5-21 m), Fuikbaai (2 m), Piscadera Baai (shallow).

120. Amphimedon complanata (Duchassaing, 1850)

Curaçao: 300 m SE of Hilton Hotel (33 m).

121. Niphates erecta Duch. & Mich., 1864

Curaçao: Barbara Beach (3 m), 500 m W of Piscadera (10-40 m), off Carmabi (5-25 m), Blauwbaai (10-20 m), Jan Thiel Baai (23-32 m), Boei 1 (40 m), 300 m SE of Hilton Hotel (10-33 m), Boei 0 (6-35 m), Boei 4 (20-25 m), Lagoen (3 m), Awa Blancu (10-20 m), Playa Kalki (10-20 m), Boei 1 (5-30 m), Boei 2 (5-30 m), Boei 3 (5-30 m), off Holiday Hotel (5-30 m).

Bonaire: Lac 250 m N of Sorobon Point (0.1-0.5 m), Carl's Hill (5-35 m), Forest (5-33 m), Karpata (5-25 m).

122. Niphates amorpha Wiedenmayer, 1977

Curaçao: Boei 0 (6-12 m), Blauwbaai (10-15 m), Playa Kalki (10-20 m)  
Bonaire: Forest (5-33 m).

123. Siphonodictyon coralliphagum Ruetzler, 1971

Curaçao: Playa Kalki (10-20 m).

124. Siphonodictyon incrustans Ruetzler, 1971

Curaçao: Boei 1 (5-30 m).

Family Callyspongiidae

125. Callyspongia fallax Duch. & Mich., 1864.

Curaçao: Coraaltabak ( ? ), off Carmabi (11-14 m), Jan Thiel Baai (2 m), Hilton Hotel landing (1 m), 300 m SE of Hilton Hotel (10-12 m), Cape Malmeeuw (3-16 m), Awa Blancu (10-20 m), Boei 1 (5-30 m), Boei 2 (5-30 m), Boei 3 (5-30 m), off Holiday Hotel (5-30 m).

Bonaire: Boca Washikemba ( ? ), Carl's Hill (5-35 m), Forest (5-35 m), Karpata (5-25 m).

126. Callyspongia pallida Hechtel, 1965

Curaçao: Piscadera Baai (shallow), Spaans Water (shallow), Playa Forti (4 m), 300 m SE of Hilton Hotel (33 m).

Bonaire: Lac Binnenklip.

127. Callyspongia vaginalis (Lamarck, 1814)

Curaçao: Caracas Baai (shallow), Piscadera Baai (2-8 m), 500 m W of Piscadera (10-18 m), Blauwbaai (3-30 m), off Carmabi (11-30 m), St Michielsbaai (2-4 m), Hilton Hotel landing (3-4 m), 300 m SE of Hilton Hotel (10-33 m), Boei 0 (6-35 m), Daaibooibaai (0.3-3 m), Cape Malmeeuw (3-16 m), Boei 4 (20-25 m), Lagoen (3 m), Awa Blancu (10-20 m), Playa Kalki (10-20 m), Boei 1 (5-30 m), Boei 2 (5-30 m), Boei 3 (5-30 m), off Holiday Hotel (5-30 m).

Bonaire: Punt Vierkant (3 m), Carl's Hill (5-35 m), Forest (5-33 m).

128. Callyspongia armigera (Duch. & Mich., 1864)

Curaçao: Boei 4 (20-25 m).

129. Callyspongia plicifera (Lamarck, 1814)

Curaçao: 500 m E of Carmabi (10-15 m), 500 m W of Piscadera (10-18 m), 300 m SE of Hilton (10-33 m), Boei 2 (5-30 m).

Bonaire: Carl's Hill (5-35 m), Karpata (5-25 m), off Holiday Hotel (5-30 m).

Family Petrosiidae

130. Xestospongia muta (Schmidt, 1870)  
Curaçao: off Carmabi (15-30 m), Boei 2 (5-30 m), off Holiday Hotel (5-30 m).
131. Xestospongia wiedenmayeri Van Soest, 1980  
Curaçao: Piscadera Baai (1-1.5 m).
132. Xestospongia spec. (off-white mass of tubes)  
Curaçao: Boei 4 (20-25 m).
133. Xestospongia spec. (white)  
Bonaire: Karpata (75 m).
134. Xestospongia subtriangularis (Duchassaing, 1850)  
Curaçao: Spaans Water (shallow).
135. Petrosia weinbergi Van Soest, 1980  
Curaçao: 500 m W of Piscadera (10-50 m), Boei 0 (6-12 m), Boei 2 (20 m).  
Bonaire: Carl's Hill (5-35 m).

Family Oceanapiidae

136. Pellina nodosa (George & Wilson, 1919)  
Curaçao: Piscadera Baai (shallow).
137. Pellina spec. (tiny white fistules under coral blocks)  
Curaçao: Boei 0 (6-35 m), Awa Blancu (10-20 m), Cape Malmeeuw (12-16 m).
138. Pellina carbonaria (Lamarck, 1814)  
Curaçao: Spaans Water (shallow), Boei 0 (6-12 m), Cape Malmeeuw (12-16 m)
139. Oceanapia spec. (white tube)  
Curaçao: Blauwbaai (10-15 m).

Order Dictyoceratida

Family Spongiidae

140. Spongia obliqua Duch. & Mich., 1864

Curaçao: Coraaltabak ( ? ).

Bonaire: Boca Washikemba ( ? ).

Aruba: Boekoeti Reef ( ? ).

141. Spongia tubulifera Lamarck, 1814

Curaçao: Caracas Baai (shallow), Schottegat (shallow).

Bonaire: Lac Cai (0.5 m).

142. Spongia obscura Hyatt, 1877

Curaçao: (no further data).

143. Spongia solitaria Hyatt, 1877

Curaçao: (no further data).

144. Hippospongia lachne De Laubenfels, 1936

Curaçao: (no further data).

145. Hyattella cf. intestinalis (Lamarck, 1814)

(= H. cavernosa sensu Wiedenmayer, 1977, & Bergquist, 1980)

Curaçao: Piscadera Baai (1-2 m), off Carmabi (26 m), Blauwbaai (20-30 m),

Cape Malmeeuw (12-16 m).

Bonaire: Lac Poejito (shallow).

Family Thorectidae

146. Hyrtios violacea (Duch. & Mich., 1864)

(= Oligoceras v.)

Curaçao: Awa di Oostpunt (0.5 m), Fuikbaai (2 m), Piscadera Baai (1-1.5 m).

Bonaire: Lac Poejito (0.5 m), Lac Cai (0.5-2 m).



147. Hyrtios caracasensis (Carter, 1882)  
Curaçao: Caracas Baai (shallow).
148. Hyrtios proteus Duch. & Mich., 1864  
Curaçao: Caracas Baai (shallow), St Michielsbaai (shallow), Lagoen (4-5 m), Cape St Marie (3 m).
149. Ircinia spec. (blue)  
Curaçao: Awa Blancu (10-20 m).
150. Ircinia felix (Duch. & Mich., 1864)  
Curaçao: Spaans Water (shallow), Caracas Baai (shallow), Blauwbaai (10-20 m), 500 m W of Piscadera (15 m), Piscadera Baai (1-1.5 m), Knipbaai (tidal zone), 300 m SE of Hilton Hotel (10-12 m), Boei 0 (25-35 m), Boei 4 (20-25 m), Cape St Marie (4 m), Awa Blancu (10-20 m), Boei 1 (5-30 m), Boei 2 (5-30 m), Boei 3 (5-30 m), off Holiday Hotel (5-30 m).  
Bonaire: Punt Vierkant (3 m), Carl's Hill (5-35 m), Forest (5-33 m), Karpata (5-25 m).
151. Ircinia campana (Lamarck, 1816)  
Curaçao: Piscadera Baai (5 m), Blauwbaai (3-30 m), Caracas Baai (shallow), Spaans Water (shallow), Hilton Hotel landing (1 m), off Carmabi (5-22 m), 300 m SE of Hilton Hotel (10-33 m), Boei 0 (6-35 m), Daaibooibaai (3 m), Cape Malmeeuw (12-16 m), Boei 4 (20-25 m), Lagoen (3 m), Cape St Marie (4 m), Awa Blancu (10-20 m), Playa Kalki (10-20 m), Boei 1 (5-30 m), Boei 2 (5-30 m), Boei 3 (5-30 m), off Holiday Hotel (5-30 m).  
Bonaire: Punt Vierkant (3 m), Carl's Hill (5-35 m), Forest (5-33 m), Karpata (5-25 m).

152. Ircinia strobilina (Lamarck, 1816)

Curaçao: Spaans Water (shallow), Barbara Beach (3 m), Piscadera Baai (1 m), Caracas Baai (shallow), Fuikbaai (2 m), off Carmabi (5-30 m), Blauwbaai (10-30 m), Hilton Hotel landing (1-5 m), 300 m SE of Hilton Hotel (10-33 m), Boei 0 (6-35 m), Daaibooibaai (3 m), Cape Malmeeuw (3-16 m), Boei 4 (20-25 m), Boei 2 (5-30 m), Lagoen (3 m), Boei 3 (5-30 m), Awa Blancu (10-20 m), off Holiday Hotel (5-30 m), Playa Kalki (10-20 m), Boei 1 (5-30 m).

Family Dysideidae

153. Dysidea janiae (Duch. & Mich., 1864)

Curaçao: Hilton Hotel landing (1-3 m), Spaans Water (shallow), Fuikbaai (3 m), Boei 3 (30 m on artificial objects).

154. Dysidea etheria De Laubenfels, 1936

Curaçao: Caracas Baai (shallow), Schottegat (shallow), Piscadera Baai (3 m), Hilton Hotel landing (1 m), 300 m SE of Hilton Hotel (10-12 m), Boei 0 (6-12 m), Boei 4 (20-25 m), Boei 1 (5-30 m).

Order Dendroceratida

Family Darwinellidae

155. Chelonaplysilla erecta Tsurumai, 1967

Curaçao: Hilton Hotel landing (1 m).

156. Aplysilla cf. sulfurea Schulze, 1878

Curaçao: Cape Malmeeuw (12-16 m), Awa Blancu (10-20 m), Lagoen (3 m).

Family Dictyodendrillidae

157. Igernella notabilis (Duch. & Mich., 1864)

Curaçao: Blauwbaai (15-20 m).

Family Halisarcidae

158. Halisarca n.sp.

Curaçao: off Carmabi (5-22 m), Boei 3 (5-30 m), off Holiday Hotel (5-30 m).

Order Verongida

Family Aplysinidae

159. Aplysina fistularis (Pallas, 1766)

Curaçao: Hilton Hotel landing (0.5 m), off Carmabi (5-22 m), Blauwbaai (10-15 m), Awa Blancu (10-20 m), Playa Kalki (10-20 m), off Holiday Hotel (5-30 m).

Bonaire: Carl's Hill (5-35 m).

160. Aplysina archeri (Higgin, 1875)

Curaçao: Caracas Baai ( ? ), 500 m W of Piscadera (40 m), off Carmabi (15-30 m), Blauwbaai (10-20 m), Playa Forti (3 m), St Michielsbaai (2-4 m), Cape Malmeeuw (3-5 m), Awa Blancu (10-20 m), Playa Kalki (10-20 m), Boei 2 (5-30 m), Boei 3 (5-30 m).

Bonaire: Carl's Hill (5-35 m), Forest (5-33 m), Karpata (5-25 m).

161. Aplysina fulva (Pallas, 1766)

Curaçao: off Carmabi (5-22 m), Awa Blancu (10-20 m), Playa Kalki (10-20 m), off Holiday Hotel (5-30 m).

Bonaire: La 300 m W of Palu Calbas (shallow), Forest (5-33 m), Karpata (5-25 m).

162. Aplysina lacunosa (Pallas, 1766)

Curaçao: off Carmabi (5-30 m), Blauwbaai (10-20 m), 300 m SE of Hilton Hotel (33 m), Cape Malmeeuw (12-16 m), Awa Blancu (10-20 m), Playa Kalki (10-20 m), Boei 2 (5-30 m), off Holiday Hotel (5-30 m), off Hilton Hotel (0.5 m).

Bonaire: Carl's Hill (5-35 m), Forest (5-33 m), Karpata (5-25 m).

163. Aplysina cauliformis (Carter, 1882)

Curaçao: Awa Blancu (10-20 m).

164. Verongula rigida (Esper, 1794)

Curaçao: Playa Forti (1.5 m), Playa Chikitoe (4 m), St Martha Baai (5 m), Cape Malmeeuw (3-5 m), Awa Blancu (10-20 m), Playa Kalki (10-20 m), Boei 3 (5-30 m).

Bonaire: Lac reef (1-2 m), Lac Binnenklip (2.5 m).

Family Aplysinellidae

165. Pseudoceratina crassa (Hyatt, 1875)

(= Aiolochoxia c.)

Curaçao: off Carmabi (3-20 m), Jan Thiel Baai (23-32 m), Blauwbaai (15-20 m), 500 m W of Piscadera (35 m), Boei 0 (25-35 m), Lagoen (0.5 m), Awa Blancu (10-20 m), Playa Kalki (10-20 m), Boei 1 (5-30 m), Boei 2 (5-30 m), Boei 3 (5-30 m), off Holiday Hotel (5-30 m), off Hilton Hotel (0.5 m).

Bonaire: Carl's Hill (5-35 m), Karpata (5-25 m).

Subclass Sclerospongea

Order Ceratoporellida

Family Ceratoporellidae

166. Merlia cf. normani Kirkpatrick, 1908

Curaçao: Boei 4 (10 m).

(This species would easily fit in the family Hamacanthidae of the order Poecilosclerida on account of its spicules)

Short descriptions of common reef Sponges of Curaçao and Bonaire  
(illustrated in the pictorial key):

Aplysina fistularis (Pallas, 1766) (= Verongia f.)

Groups of long (fo. fistularis) or short (fo. insularis) yellow or yellow-brown tubes with an undulating but smooth surface (sometimes somewhat roughened); when removed from the water the tubes turn to dark brown and eventually black (after two days). Consistency alive is spongy, compressible.

Occurrence: seen near Carmabi, Boei 0, Blauwbaai, Playa Kalki, Holiday Hotel, Awa Blancu (Curaçao), Carl's Hill (Klein Bonaire), from 0.5 m downwards. Also on poles of Hilton Hotel landing.

Illustrations: Van Soest, 1978: pl.10 fig.2. George & George, 1979: pl.9 fig.1.

Aplysina lacunosa (Pallas, 1766)

Groups of yellow or more often yellow-brown, large tubes with an irregularly grooved and pitted surface; they turn to black when removed from the water. Consistency alive is spongy, compressible (this is not A. lacunosa sensu Colin, 1978 and George & George, 1979 = A. archeri, see below).

Occurrence: seen near Carmabi (also in hollows excavated by the surf), Boei 2, Blauwbaai, Cape Malmeeuw, Playa Kalki, 300 m E of Carmabi, Holiday Hotel, Awa Blancu (Curaçao), Carl's Hill, Forest (Klein Bonaire), Karpata (Bonaire), from 0.5 m downwards

Illustrations: Colin, 1978: p.119 above, Van Soest, 1978: pl.12 1-4, Wiedenmayer, 1977: pl.8 fig.1.

Aplysina archeri (Higgin, 1877)

Groups of bright purple, large tubes with an undulating but smooth

surface; when removed from the water they turn to black (after two days). Inside the tubes are yellow, and they may be only a colour-variety of A. fistularis. Consistency alive is spongy and compressible. It is known to "smoke" in February (Jamaica).

Occurrence: seen at Boei 2, Boei 3, Blauwbaai, Playa Kalki, Awa Blancu (Curaçao), Carl's Hill, Forest (Klein Bonaire), Karpata (Bonaire), from 3 m downwards.

Illustrations: Van Soest, 1978: pl.11 3-4; Colin, 1978: p.92-93; George & George, 1979: pl.9 figs 2, 6.

Callyspongia vaginalis (Lamarck, 1814)

Grey or lavender, thin walled tubes with sharp conules on the outer wall; often the tubes are laterally flattened; sometimes adjacent tubes are merged into a single flabelliform structure. Almost invariably infested with Parazoanthus.

Occurrence: seen near Carmabi, Boei 0, Boei 1, Boei 2, Boei 3, Boei 4, Blauwbaai, Cape Malmeeuw, Daaiboobaai, Lagoen, Playa Kalki, 300 m E of Carmabi, Awa Blancu (Curaçao), Carl's Hill, Forest (Klein Bonaire), Punt Vierkant, Karpata (Bonaire), from 0.5 m downwards; concentrated in the upper reef slope and on the reef flats, very common (also found on poles of Carmabi landing).

Illustrations: Wiedenmayer, 1977: cover, pl.23 fig.2 (as Spinoseella); Van Soest, 1980: pl.9 figs 2-4, 10 fig.1; Colin, 1978: p.65; George & George, 1979: pl.7 fig.4.

Callyspongia plicifera (Lamarck, 1814)

Small groups or single tubes, a beautiful iridescent blue, with intricately grooved outer surface (rarely smooth). Very spongy.

Occurrence: seen at Boei 2, 300 m E of Carmabi (Curaçao), Carl's Hill (Klein Bonaire), Karpata (Bonaire), from 5 m downwards.

Illustrations: Wiedenmayer, 1977: pl.25 fig.1; Van Soest, 1980: pl.10 fig.3; Colin, 1978: p.65, 67, 68; George & George, 1979: pl.7 fig.7.

Niphates erecta Duch. & Mich., 1864

Erect or repent, greyish purple branches, with irregular spiny surface, often closely infested with Parazoanthus. Oscules distributed along the branches, which often fork at right angles. Very spongy.

Occurrence: seen near Carmabi, Boei 0, Boei 1, Boei 2, Boei 3, Boei 4, Blauwbaai, Cape Malmeeuw, Lagoen, Playa Kalki, 300 m E of Carmabi, Holiday Hotel, Awa Blancu (Curaçao), Carl's Hill, Forest (Klein Bonaire), from 3 m downwards, very common.

Illustrations: Wiedenmayer, 1977: pl.21 figs 1-4; Van Soest, 1980: pl.5 figs 1-3; Colin, 1978: p.81.

Agelas conifera (Schmidt, 1870)

Thick, orange-brown repent or occasionally erect branches, with large oscules at the summit of volcano-shaped lobes; next to oscules there are numerous smaller openings, which tend to be irregular. They contract when specimens are lifted out of the water. Often infested with Parazoanthus. Consistency compressible.

Occurrence: seen near Carmabi, Boei 0, Boei 1, Boei 3, Boei 4, Blauwbaai, Cape Malmeeuw, Playa Kalki, Holiday Hotel (Curaçao), Carl's Hill, Forest (Klein Bonaire), Karpata (Bonaire), from 5 m downwards, common.

Illustrations: Wiedenmayer, 1977: pl.27 figs 2-5; Colin, 1978: p.61 below (as A. schmidtii).

Agelas sceptrum (Lamarck, 1814)

Thinner, orange-brown, repent or erect branches, with oscules flush on the branches. Smaller openings tend to be small and rounded.

Occurrence: seen near Carmabi (Curaçao), Carl's Hill (Klein Bonaire) and Karpata (Bonaire) from 10 m downwards; rather rare.

Illustrations: Wiedenmayer, 1977: pl.27 fig.1 (as A. schmidti);

Colin, 1978: p.64.

Iotrochota birotulata (Higgin, 1877)

Upright branching sponges, black, often discontinuously green mottled. In exceptional cases (e.g. at Carl's Hill, Klein Bonaire) completely green (this colour disappears fast when a specimen is lifted out of the water). Surface strongly conulose to spiny. When squeezed the sponges give off a dark purple stain. Consistency toughly spongy.

Occurrence: seen at Boei 0, Boei 3, Boei 4, Cape Malmeeuw, Daaibooibaai, Lagoen, 300 m E of Carmabi, Holiday Hotel, Awa Blancu (Curaçao), Carl's Hill, Forest (Klein Bonaire), Karpata (Bonaire), from 2 m downwards; common.

Illustrations: Wiedenmayer, 1977: Pl.21 fig.5; Colin, 1978: p.89 (above).

Aplysina fulva (Pallas, 1766)

Orange-red to brick red, tall, erect branches, mostly singly or sparsely branched. Oscules flush on the branches, small. Surface very finely conulose. Choanosome yellow (scratch in order to find out about this); no small holes next to oscules (cf. Agelas spp.). Consistency alive is compressible but tough. Turns black after some hours exposure to air.

Occurrence: seen near Carmabi, Playa Kalki, Holiday Hotel, Awa Blancu (Curaçao), Forest (Klein Bonaire), Karpata (Bonaire), mostly on the blue edge, about 5-10 m in depth.

Illustrations: Wiedenmayer, 1977: pl.6; Van Soest, 1978: pl.11 fig.2 (both as A. fistularis fulva).



Aplysina cauliformis (Carter, 1882)

Bright purple, strongly branching and anastomosing mass of thin branches, with oscules on the branches. Surface fairly smooth. Consistency spongy, compressible. Turns dark brown when lifted out of the water.

Occurrence: seen at Awa Blancu in fair quantities, at 10-20 m in depth

Illustrations: Colin, 1978: p.77 above (as Haliclona hogarthi);

Wiedenmayer's figures (pl.7 figs 1-2) probably represent A. fulva;

George & George, 1979: pl.9 fig.9.

Ircinia campana (Lamarck, 1814)

Large, thin walled cups, flaring out widely from a small basis; brown, with conulose ("goose flesh") surface. Oscules only on inside of the cup. Sometimes flabelliform specimens are found (in which one part of the cup is not developed). Consistency very spongy, compressible; difficult to cut or tear.

Occurrence: seen near Carmabi, Boei 0, Boei 1, Boei 2, Boei 3, Boei 4, Blauwbaai, Cape Malmeeuw, Daaibooibaa, Cape St Marie, Lagoen, Playa Kalki, 300 m E of Carmabi, Holiday Hotel, Awa Blancu (Curaçao), Carl's Hill, Forest (Klein Bonaire), Karpata, Punt Vierkant (Bonaire), from 0.5 m downwards, very common (also found on poles of Carmabi landing).

Illustrations: Van Soest, 1978: pl.7 fig.3

Xestospongia muta (Schmidt, 1870)

Dark red-brown, thick walled, vase-shaped sponges with longitudinal undulating ridges. Very large specimens tend to be barrel-shaped. Consistency wooden or stony, easily crumbling. It is known to "smoke" in April (Bahamas) and August (Barbados).

Occurrence: seen at Boei 2 and Holiday Hotel (Curaçao), from 10 m downwards; fairly rare.

Illustrations: Wiedenmayer, 1977: pl.15 figs 1-2; Van Soest, 1980: pl.11 fig.1; Colin, 1978: p.84; George & George, 1979:

Neofibularia nolitangere (Duch. & Mich., 1864)

Dark red, massive sponges with a large central cavity. Surface smooth. Inner wall often closely infested with polychaetes (Syllis sp.). When touched the sponge causes severe skin irritation. Consistency stiff, crumbly. The species "smokes" (sperm production) in October (G. van Moorsel, H. Reiswig).

Occurrence: seen near Carmabi, W. of Piscadera Baai (entrance), Boei 0, Boei 1, Boei 2, Boei 3, Boei 4, Blauwbaai, Cape Malmeeuw, Lagoen, Cape St Marie, Playa Kalki, 300 m E of Carmabi, Holiday Hotel (Curaçao), Carl's Hill, Forest (Klein Bonaire), Karpata, Punt Vierkant (Bonaire), from 3 m downwards. The impression has been acquired that this species is most common on the reef flat and in deeper parts where the reef has been damaged (it is rare on Bonaire, it was not seen at Awa Blancu).

Illustrations: Colin, 1978: p.88, 106.

Erylus trisphaerus (De Laubenfels, 1953)

Slate grey masses, often with a large central cavity or depression, although specimens without are not uncommon. Surface smooth. Choanosome yellow-white. Consistency corky, easily crumbled.

Occurrence: seen at Boei 0, Boei 2, Cape Malmeeuw and Holiday Hotel (Curaçao), from 10 m downwards.

Agelas clathrodes (Schmidt, 1870)

Bright orange, irregular masses, often very huge (1-2 m), tending to form curved upright, thick walls or even ill defined cups. Surface grooved and pitted. Consistency spongy, compressible.

Occurrence: seen at Boei 1, Boei 3, Boei 4, Blauwbaai, Playa Kalki, Holiday Hotel (Curaçao), Forest (Klein Bonaire), Karpata (Bonaire), from 10 m downwards (incrusting forms may be found occasionally near the blue edge or on the reef flat).

Illustrations: Wiedenmayer, 1977: pl.28 figs 1-2; Colin, 1978:

Agelus (sic) sp. C, p.60; George & George, 1979: pl.4 fig.10.

Ircinia strobilina (Lamarck, 1814)

Grey, dark grey or black cake-shaped mounds with a coarsely conulose ("goose flesh") surface. Oscules concentrated on the top, black-rimmed. Normally no incrusting organisms.

Occurrence: seen near Carmabi, Boei 0, Boei 1, Boei 2, Boei 3, Boei 4, Blauwbaai, Cape Malmeeuw, Daaibooibaa, Lagoen, Playa Kalki, 300 m E of Piscadera, Holiday Hotel, Awa Blancu (Curaçao), Carl's Hill, Forest (Klein Bonaire), Punt Vierkant, Karpata (Bonaire), from 1 m downwards (normally it is only found below 3 m). Also found on poles of Carmabi-landing. Very common.

Illustrations: Wiedenmayer, 1977: pl.5 figs 1-2; Van Soest, 1978: pl.8 fig.2; Colin, 1978: p.79, 92.

Sphaciospongia vesparia (Lamarck, 1814)

Black or dark grey cake-shaped mounds with undulate surface with characteristic fields of pores. Oscules concentrated on the top, mostly in a shallow depression. Consistency hard, incompressible.

Occurrence: seen near Carmabi, Boei 0, Daaibooibaa, 300 m E of Carmabi (Curaçao), from 2 m downwards. Found mostly on the reef flats or in deep reef localities.

Illustrations: Wiedenmayer, 1977: pl.34; George & George, 1979:

Pseudoceratina crassa Hyatt, 1877

Purple, purple-yellow (mottled) or yellow mounds or lobate masses with oscules on the summit of lobes. Characteristic fields of pores. The colour range apparently is genuine. Often thick, wiry spongin fibres are sticking out beyond the skin. Consistency spongy, compressible. Turns jet-black after some hours exposure to air.

Occurrence: seen near Carmabi, Boei 0, Boei 1, Boei 2, Boei 3, Lagoen, Playa Kalki, E of Hilton Hotel, Holiday Hotel, Awa Blancu (Curaçao), Carl's Hill (Klein Bonaire), Karpata (Bonaire), from 0.5 m downwards; common.

Illustrations: Wiedenmayer, 1977: pl.10 fig.2 (as Aiolochoxia); Van Soest, 1978: pl.13 fig.3 (as Aiolochoxia); Colin, 1978: p.96 (as Verongia longissima).

Verongula rigida (Esper, 1779)

Yellow lobate masses with surface sharply ridged into a meandering pattern; oscules at the summit of lobes. Consistency spongy, compressible. Turns jet-black when exposed to air. (For a good representation of the characteristic surface pattern, cf. Colin, 1978: p.104, a photograph of Verongula gigantea Hyatt, closely related to the present one).

Occurrence: seen near Carmabi, Boei 3, Boei 4, Cape Malmeeuw, Awa Blancu (Curaçao), from 4 m downwards; fairly rare.

Illustrations: Wiedenmayer, 1977: pl.10 fig.3; Van Soest, 1978: pl.13 fig.4.

Agelas dispar Duch. & Mich., 1864

Bright orange, round mass ("football") with characteristic large round oscules and key-hole type of smaller openings. Surface smooth.

Consistency toughly spongy.

Occurrence: seen near Carmabi, Boei 0, Boei 2, Boei 3, Playa Kalki, 300 m E of Carmabi, Holiday Hotel, Awa Blancu (Curaçao), Carl's Hill, Forest (Klein Bonaire), Karpata (Bonaire), from 5 m downwards.

Illustrations: Wiedenmayer, 1977: pl.26 figs 2-4; Colin, 1978: p.102 (above).

Ircinia felix (Duch. & Mich., 1864)

Brown, somewhat lobate mass with fine conulose ("goose flesh") surface; oscules distributed evenly over the surface, often with a black rim. Consistency spongy, compressible.

Occurrence: seen at Boei 0, Boei 2, Boei 4, Blauwbaai, Cape St Marie, Playa Kalki, 300 m E of Carmabi, Holiday Hotel, Awa Blancu (Curaçao), Carl's Hill, Forest (Klein Bonaire), Punt Vierkant, Karpata (Bonaire), from 2 m downwards; common.

Illustrations: Wiedenmayer, 1977: pl.4 fig.3; Van Soest, 1978: pl.6 fig.2; Colin, 1978: p.67, 89 (as I. fasciculata).

Hyrtios proteus Duch. & Mich., 1864

Black, conulose masses with one or more oscules on top. Choanosome yellow-white, coarse-grained (great masses of sand and coral rubble are found in the interior). Consistency very spongy, compressible.

Occurrence: seen at Cape St Marie, and Lagoen (Curaçao), on the reef flat, 2-4 m in depth; locally common.

Illustrations: Van Soest, 1978: pl.8 fig.4.

Halisarca n.sp.

Flat, light purple incrustations (several mm in thickness, several sq.cm in lateral expansion) with very characteristic star-shaped oscules + canalsystem. These "stars" are isolated from each other by a cm at least of flat featureless surface. Slimy-smooth when touched by hand. Consistency toughish, not very compressible.

Occurrence: seen with certainty near Carmabi, Boei 3, and Holiday Hotel (Curaçao), from 10 m downwards; it is probably quite common, though I only made a few notes of its occurrence because I mistook it for a compound ascidian. It encrusts the undersurface or vertical surface of corals.

Desmapsamma anchorata (Carter, 1879)

Salmon coloured, sprawling or sometimes erect, series of oscular lobes with a smooth surface. Consistency is soft, easily torn.

Occurrence: seen near Carmabi, W of Piscadera Baai entrance, Boei 2, Boei 3, Boei 4, Daaibooibaa, Holiday Hotel (Curaçao), from the surface downwards. It is a very common fouling organism (on poles of Hilton Hotel landing, on experimental constructions of Carmabi research projects, etc.), which is not infrequent on the reef flat and occasionally also occurs on the deep reef, where it encrusts upper surfaces of corals.

Callyspongia fallax Duch. & Mich., 1864

Purple or cream, creeping or erect oscular lobes or low tubes, with a smooth surface and a very spongy, tough but compressible consistency

Occurrence: seen near Carmabi, Boei 1, Boei 2, Boei 3, Blauwbaai, Cape Malmeeuw, 300 m E of Carmabi, Holiday Hotel, Awa Blancu (Curaçao), Carl's Hill, Forest (Klein Bonaire), Karpata (Bonaire), from 0.5 m downwards. It is particularly common between the stalks of "bushy" stony corals as Madracis mirabilis or Porites porites.

Illustrations: Wiedenmayer, 1977: pl.18 figs 5-7, pl.19 figs 1-2; Van Soest, 1980: pl.7 fig.4, pl.8 fig.1; Colin, 1978: p.101 (below), p.107 (above).

Ulosa ruetzleri Wiedenmayer, 1977

Bright orange, thick incrustation with a strongly spinous surface; consistency quite soft, easily torn.

Occurrence: seen near Carmabi, Boei 0, Boei 1, Boei 2, Boei 3, Boei 4, Blauwbaai, Cape Malmeeuw, Playa Kalki, 300 m E of Carmabi, Holiday Hotel, Awa Blancu (Curaçao), Carl's Hill, Forest (Klein Bonaire), Karpata, Cai at entrance Lac (Bonaire), from 2 m downwards. This is an extremely common species on the reefs, but it also occurs on

rocks and poles as a fouling organism.

Illustrations: Wiedenmayer, 1977: pl.30 figs 6-7; Colin, 1978: p.73 (below), p.76 (above) (as U. hispida).

Thalysias n.sp.

Pale yellow to pale grey, partly transparent thin incrustation with slight raised, fairly large oscules surrounded by a distinctive radiating canalsystem. The choanosome underneath is red. Consistency is soft. The sponge gives off a lot of slime when damaged.

Occurrence: seen near Carmabi, W. of entrance Piscadera Baai, Boei 0, Boei 4, Cape Malmeeuw, 300 m E of Carmabi, Holiday Hotel (Curaçao), Carl's Hill (Klein Bonaire), Karpata (Bonaire), from 0 m downwards. It is common both on reefs (incrusting undersides and vertical sides of corals), and on fouling localities (e.g. poles Hilton Hotel landing).

Ectyoplasia ferox (Duch. & Mich., 1864).

Red-brown massive, thick incrustations with oscules on the summit of low elevations. Sometimes these elevations become tall and chimney-like. The sponge takes on a block-like appearance. Surface rugose. Choanosome yellow. Consistency spongy, compressible but easily crumbled. The species may cause a slight skin irritation when touched (probably very slight because I did not notice any ill effects).

Oocyte production (extrusion of a thready, slimy mass) has been observed in August (Aug. 3 between 14.30-15.30, observed by G. van Moorsel, at Lagun San Juan, 35 m, Curaçao; 5-13 Aug. on Jamaica, 13-15 Aug. Panama, 30 Aug. on Barbados).

Occurrence: seen at Boei 0, Boei 1, Boei 2, Boei 3, Playa Kalki, 300 m E of Carmabi, Holiday Hotel (Curaçao), Carl's Hill, Forest (Klein Bonaire), Karpata (Bonaire), from 6 m downwards; quite common. Illustrations: Wiedenmayer, 1977: pl.32 figs 4-7; Colin, 1978: p.69 (below).

Tedania ignis (Duch. & Mich., 1864)

Bright red, thick or thinner, soft incrustations with fairly large flush oscules. Produces a slight skin irritation when touched.

Occurrence: seen near Carmabi, W of entrance to Piscadera Baai, Cape St Marie, E of Hilton Hotel (Curaçao), from 0.5 m downwards. This is a common fouling organism, normally not found on the reef; occasionally it is found encrusting dead corals (or experimental constructions of the Carmabi research projects).

Illustrations: Wiedenmayer, 1977: pl.29 fig.1 (atypical specimen).

Chondrilla nucula (Schmidt, 1870) ("Chicken-liver" sponge)

Brown-violet, thickish incrustations, with leathery appearance. It is easily mistaken for a compound ascidian on account of its evenly distributed small oscules, smooth and somewhat slimy surface and leathery consistency.






Occurrence: common on dead corals on the reef flat and upper slope.



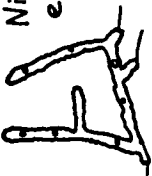

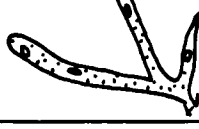
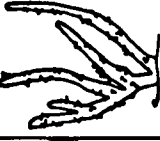
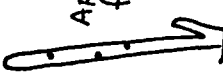

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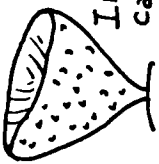




LARGE TUBES

Yellow, smooth (but undulating) surface <i>Aplysina fistularis</i> 	Yellow, with pits and grooves <i>Aplysina lacunosa</i> 	purple, smooth (but undulating) surface <i>Aplysina archeri</i> 	greyish, with sharp conules (sometimes flabelliform) (often Parazoanthus) <i>Callyspongia vaginalis</i> 	iridescent blue, surface intricately grooved <i>Callyspongia plicifera</i> 
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UPRIGHT or REPENT BRANCHES

Light purple, greyish surface irregular (often Parazoanthus) <i>Niphates erecta</i> 	orange brown, oscules on elevations, small holes key-hole like (often Parazoanthus) <i>Agelas conifera</i> 	orange brown, oscules flush, small holes round <i>Agelas sceptrum</i> 	black, greenish black, or green, sharp conules (gives off a purple exudate when squeezed) <i>Iotrochota birotulata</i> 	orange red finely conulose <i>Aplysina fulva</i> 	purple (bright), smooth <i>Aplysina cauliformis</i> 
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LARGE CUPS or FLABELLIFORM MASSES

brown, outside with "goose flesh" surface (may be flabelliform) <i>Ircinia campana</i> 	dark red brown, with longitudinal undulating ridges (stony) <i>Xestospongia muta</i> 	dark red brown, smooth, thick walled (do not touch!) <i>Neofibularia holitangere</i> 	dark slate grey, smooth surface, white choanosome (central cavity may be absent) <i>Erylus trisphaera</i> 	bright orange, very large irregular masses, tends to be flabelliform <i>Agelas clathroides</i> 
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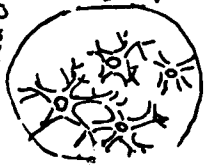


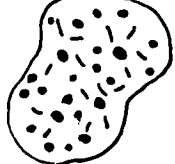
LOBULAR or CAKE-SHAPED MOUNDS

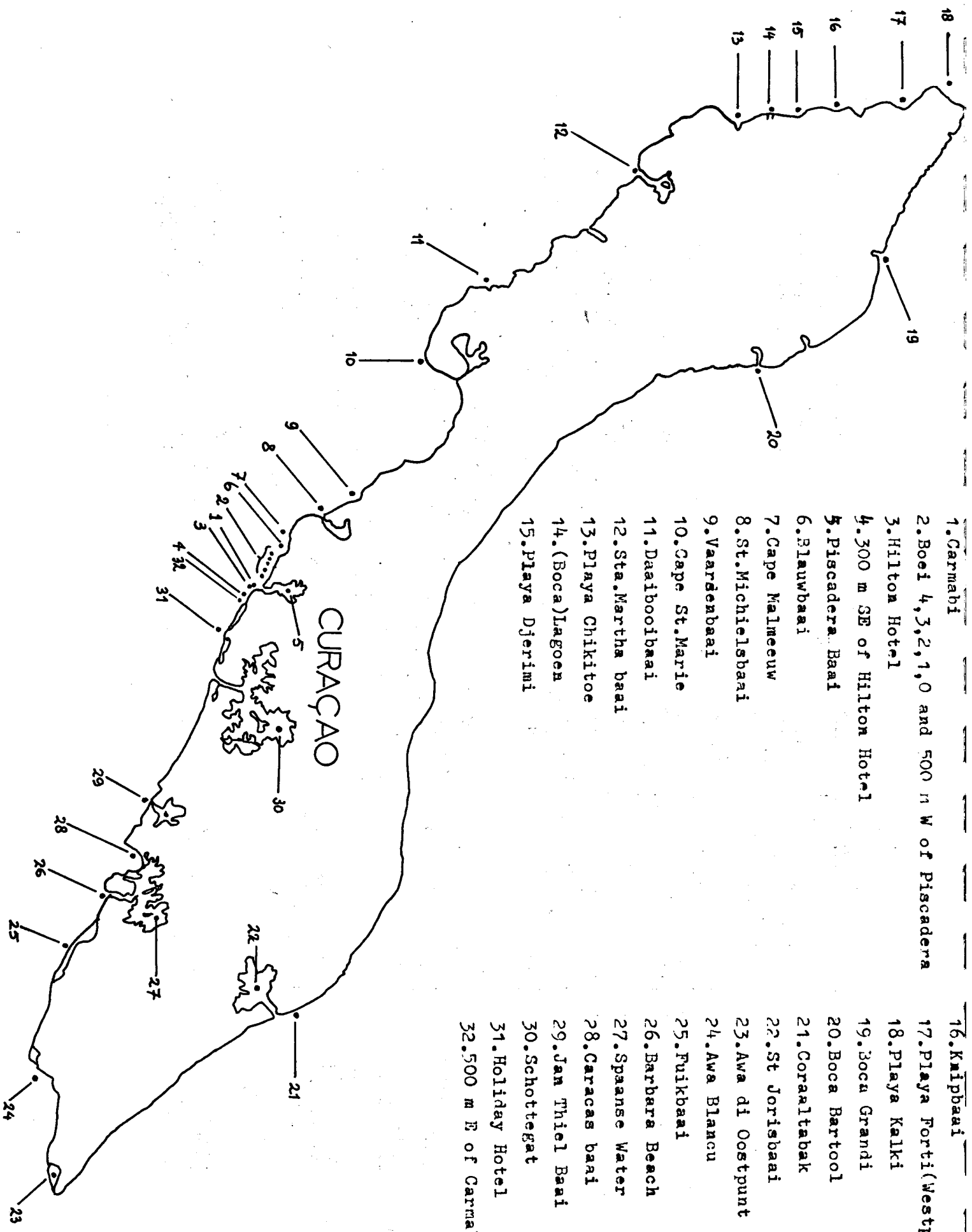
grey or blackish, with coarse "goose flesh" surface, oscules concentrated topside		Ircinia strobilina
black or dark grey, with undulating surface and characteristic fields of pores, oscules concentrated topside		Sphaerospongia vesparia
purple, yellow or purple-yellow, conulose, in groups of smaller masses or one bigger mass		Sphaerodocerrina crassa
yellow, with characteristic surface grooves (shallow, no pits).		Verongula rigida
bright orange, large round oscules and key-hole like smaller openings, surface smooth		Agelas dispar

INCRUSTING or SPRAWLING FORMS

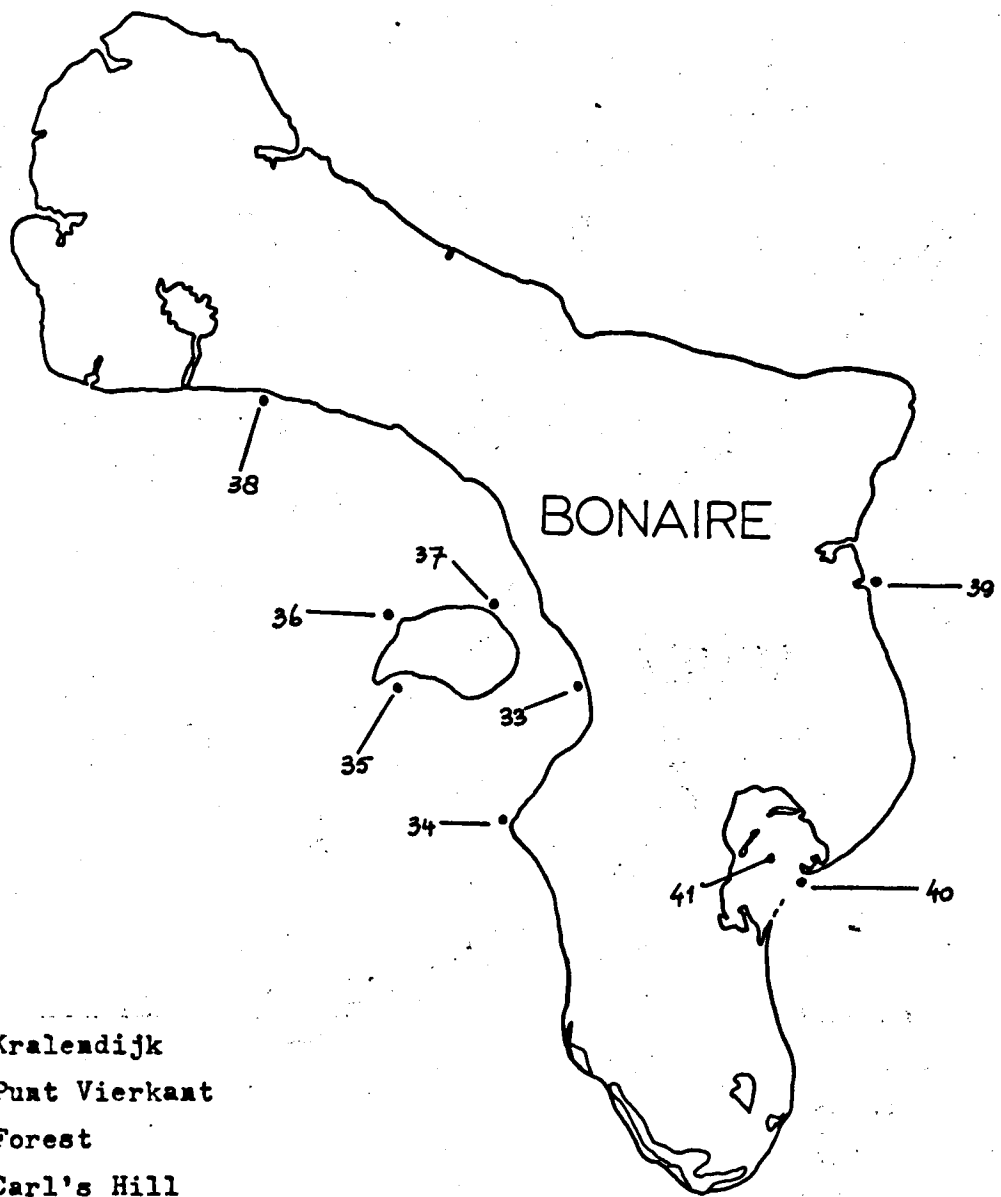
brown, with fine "goose flesh" surface, oscules dispersed		Ircinia felix
black, conulose surface, white choanosome		Hyrtios proteus
light greyish purple, very smooth, slimy		Halisarca n.sp.
salmon coloured, smooth (common fouling organism)		Desmopisma anchorata
purple or cream, creeping, very spongy, resilient		Callyspongia fallax

INCRUSTING or SPRAWLING FORMS

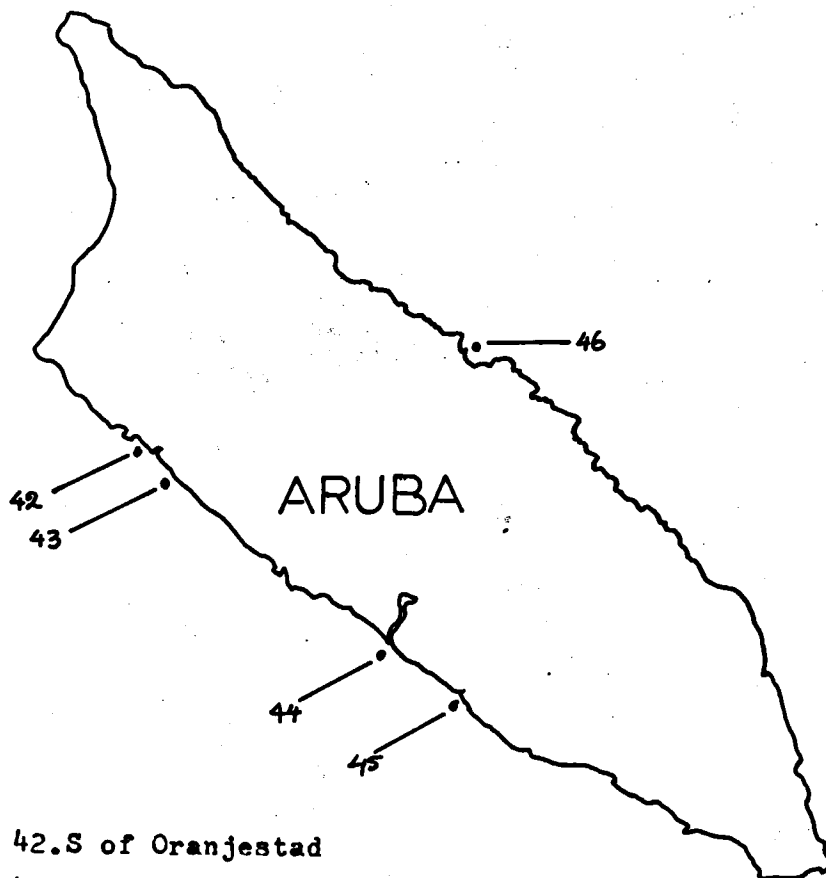
bright orange, spiny, soft (very common)		Ulosa ruetzleri
pale yellow or yellow-grey, with red choanosome (slimy)		Thalysia n.sp.
red brown, with yellow choanosome (may develop rather tall upright chimneys)		Ectyoplasia ferox
bright red, soft, with large oscules (common fouling organism)		Tedania ignis ("fire-sponge")
brown-violet, with leathery consistency, smooth, evenly distributed small oscules		Chondrilla nucula ("chicken-liver sponge")



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|------------------------------------------------|--------------------------------|
| 1. Carmabi                                     | 16. Kipbaai                    |
| 2. Boei 4, 3, 2, 1, 0 and 500 m W of Piscadera | 17. Playa Forti (Westpuntbaai) |
| 3. Hilton Hotel                                | 18. Playa Kalki                |
| 4. 300 m SE of Hilton Hotel                    | 19. Boca Grandi                |
| 5. Piscadera Baai                              | 20. Boca Bartool               |
| 6. Blaauwbaai                                  | 21. Coraaltabak                |
| 7. Cape Malmeuw                                | 22. St Jorisbaai               |
| 8. St. Michielsbaai                            | 23. Awa di Oostpunt            |
| 9. Vaardenbaai                                 | 24. Awa Blancu                 |
| 10. Cape St. Marie                             | 25. Fuikbaai                   |
| 11. Daaiboobbaai                               | 26. Barbara Beach              |
| 12. Sta. Martha baai                           | 27. Spaanse Water              |
| 13. Playa Chikitoe                             | 28. Caracas baai               |
| 14. (Boca) Lagoen                              | 29. Jan Thiel Baai             |
| 15. Playa Djerimi                              | 30. Schottegat                 |
|                                                | 31. Holiday Hotel              |
|                                                | 32. 500 m E of Carmabi         |



- 33.Kralendijk
- 34.Punt Vierkant
- 35.Forest
- 36.Carl's Hill
- 37.NE coast Klein Bonaire
- 38.Karpata
- 39.Boca Washikemba
- 40.Cai
- 41.Lac



- 42.S of Oranjestad
- 43.Boekoeti
- 44.Spaans Lagoen
- 45.Playa Master
- 46.Hadikoerari(Andikoeri)

