SHALLOW WATER SPONGES OF JAMAICA

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Keywords: Sponges, Jamaica, shallow-water, new species, checklist

ABSTRACT

An annotated comprehensive list is provided of all shallow-water sponges (down to 60 m) recently collected and previously recorded from Jamaica. Five new species are described, Plakina jamaicensis, Melophlus ruber, Agelas repens, Stylissa caribica and Hyrtios tubulatus, two of which belong to genera not recorded before from the Western Atlantic (viz. Melophlus and Stylissa). The number of species recorded from shallow waters (reefs, mangroves and lagoons) now amounts to 157 species, several of which, however, are still of uncertain status.

INTRODUCTION

Field work and sampling was carried out at the Discovery Bay Marine Laboratory from January to July 1993. Samples were taken from an area enclosed by the mouth of the Rio Bueno in the west of the Marine Laboratory and the mouth of the Pear Tree River in the east. Investigated habitats range from lagoonal habitats with sediment and seagrass areas (Thalassia or Syringodium), algal-rich areas and blue holes with turbid water to reef and fore-reef areas which were either intact or severely damaged by hurricanes Allen (1980) and Gilbert (1988). The latter were overgrown by various algae, due to the lack of Diadema sea urchins and fishes grazing on them.
Among the sponges observed and collected there appear to be several undescribed forms, while other already known species appear to be insufficiently described. It is the purpose of the present paper to provide descriptions and records of the observed species. We also decided to include here all previous records of Jamaican shallow-water sponges—down to 60 m depth—, thus making this a comprehensive checklist. Investigations of deep-fore reef sponges > 60 m are still ongoing and will be reported elsewhere.

Previous studies of the sponge fauna of Jamaica were made by Hechtel (1965) who investigated the area around Port Royal on the south coast and extended the known Jamaican sponge fauna to 57 species.


Pang (1973) described 13 excavating sponges from Jamaica, 7 of which were attributed to new species.

Pulitzer-Finali (1986) investigated sponges from different Caribbean localities, a good deal of them from Jamaica.

Several further records of Jamaican sponges are scattered in the literature.

MATERIAL AND METHODS

During 112 dives of HL, 327 samples of sponges were taken in the area of the Discovery Bay Marine Laboratory. The dives were performed by snorkeling or with SCUBA. Multilevel dives were monitored by a Monitor II diving Computer. For identification of the sponges small fragments were cut off, stored in seawater in sample-bags and after return to the Marine Laboratory dried or stored in formalin-seawater. When ever possible the sponges were photographed in situ using a Nikonos V with a 35mm lens and a SB 102 strobe. Spicule preparations and sections followed Rützler, 1979.

All material of HL’s collection is deposited in the Zoologisch Museum Amsterdam (ZMA).

Hechtel’s (1965) material, mentioned below with the initials GH, is deposited in the Peabody Museum of Natural History, Yale University (YPM). Hechtel quoted collection numbers only for his holotypes, and these are repeated below.

Excavating sponge species described by Pang (1973) are likewise deposited in the Peabody Museum of Natural History, Yale University (YPM), but additional specimen were donated to the Natural History Museum (London, BMNH) and the State University of New York - University of the West Indies Marine Laboratory, Discovery Bay, Jamaica, W. I. (SUNY-UWT).

Pulitzer-Finali’s (1986) records of Jamaican sponges, mentioned below with the initials PL, are deposited in the “Giacomo Doria” Museum of Natural History of Genoa, Italy (MSNG).

Specimen numbers and localities of specimens of these authors are given in the materials section of each species entry.

SYSTEMATICS

The order in which species are treated follows Desqueyroux-Faúndez & Van Soest (1997).

Phylum Porifera
Class Demospongea
Order Homosclerophorida
Family Plakinidae Schulze, 1880

Genus Plakina Schulze, 1880
Plakina jamaicensis sp. n.
Figs. 1-4

MATERIAL

Holotype ZMA POR. 12736, Jamaica, Discovery Bay, # J319, 16.7.1993, forereef, underside of Montastrea annularis, 35 m.

DESCRIPTION

Shape and size: Tan encrusting sponge, 3-4 mm thick, rather tough, whole sponge easily detachable from the substrate. Surface convoluted brain-like (Fig. 1). Surface smooth without visible oscules. Found on the underside of a Montastrea
annularis encrusting an area of approx. 30 x 40 cm. The holotype is a fragment, light brown in the dry state, whereas the choanosome is light grey. The fragment is about 4 x 3.5 x 0.3 cm and has now the consistency of cork. It has a smooth surface interrupted by several sharp ridges (like knife-cuts) which run straight or in curves.

Skeleton: The ectosomal skeleton is a regular arrangement of spicules around pore fields. The choanosomal skeleton is a tight mass of spicules, arranged along large canals.

Spicules: Angulate diods (Fig. 2), 90-120 μm, at the bend frequently one, or more rarely, two spines; triods (Fig. 2), occasionally calthropses, rays 6-33 μm; lophotriaenes (Figs. 3-4) with all four rays branched and bifurcate at the ends, 20-25 μm in direction of biggest extension. Lophotriaenes mainly in the ectosome.

Ecology: on reefs.

Etymology: named after its origin.

Remarks

The assignment of the present species to the genus Plakina is unquestionable. With regard to spicule complement it is closest to P. trilopha Schulze (1880). It deviates from this species in the form of the lophotriaenes: trilops are missing and tetrhaps, described for P. trilopha as well, have branched and bifurcate arms. There is also a difference in habitus: P. trilopha is described as white, while the present species is orange-brown coloured and it has a characteristic brain-like surface pattern.
Genus *Plakortis* Schulze, 1880

*Plakortis simplex*" complex

**MATERIAL**

ZMA POR. 12786, Discovery Bay, #J64, 4.3.1993, forereef, 38 m; ZMA POR. 12800, Discovery Bay, #J81, 17.3.1993, forereef, 28 m; ZMA POR. 12809, Discovery Bay, #J186, 20.5.1993, forereef, 25 m; ZMA POR. 12812, Discovery Bay, #J37, 22.2.1993, forereef, 23 m; ZMA POR. 12814, Discovery Bay, #J95, 23.3.1993, forereef, 32 m; ZMA POR. 12816, Discovery Bay, #J121, 6.4.1993, forereef, 30 m; ZMA POR. 12817, Discovery Bay, #J305, 5.7.1993, forereef, 8 m; ZMA POR. 12819, Discovery Bay, #J185, 20.5.1993, forereef, 25 m; ZMA POR. 12825, Discovery Bay, #J71, 9.3.1993, forereef, inside small cave, 31m; ZMA POR. 12818, Discovery Bay, #J318, 16.7.1993, forereef, 28 m; ZMA POR. 12908, Discovery Bay, #J307, 6.7.1993, forereef, 27 m.

**REMARKS**

While Mediterranean *Plakortis simplex* Schulze (1880) is probably close to the Caribbean species of *Plakortis*, it is unlikely to be the same species. Hechtel (1965) recorded both *P. simplex* and *P. zygomapha* (De Laubenfels, 1936) from Jamaica. Pulitzer-Finali (1986) recorded *P. simplex* Diaz & Van Soest (1994) record three *Plakortis* species from the Caribbean: *P. angulospiculatus* (Carter, 1882), *P. halichondrioides* (Wilson, 1902), and *P. zygomapha*. In the present study we found the following shapes and spicle sizes:

J37 (ZMA 12812) and J307 (ZMA 12908) are massively encrusting or branching sponges, relatively tough with a dark brown ectosome and light brown choanosome. Diods are of a wide size range, 22-180 x 2-6 μm, rays of triods are 25-50 μm.

J65 (ZMA 12783), J66 (ZMA 12791), J95 (ZMA 12814) and J186 (ZMA 12809) are thickly encrusting brown sponges with a brown choanosome and soft consistency. Very small diods are missing, large diods are 120-180 x 2-7 μm, no triods were observed. All the above mentioned specimens are here assumed to belong to *P. angulospiculatus*. It is likely that Hechtel’s *P. simplex* also belongs here.

J64 (ZMA 12786), J81 (ZMA 12800), J121 (ZMA 12816), J185 (ZMA 12819), J305 (ZMA 12817) and J138 (ZMA 12824) were black in life, with a black choanosome with blueish dots. Gives off a dark exudate in preservative. Diods, occasionally with one or both ends bifurcate: 120-180 x 2-6 μm, rays of triods: 30-80 μm. According to Diaz & Van Soest (1994) dark exudate and large diods are characteristic for *P. halichondrioides* (Wilson, 1902).

J71 (ZMA 12825) is a thickly encrusting olive green sponge, still green in preservative. Diods: 35 - 110 x 2-4 μm, rays of triods: 20-55μm. This conforms to Diaz & Van Soest’s (1994) - and presumably also Hechtel’s - concept of *P. zygomapha*.

Further records: GH: 76, (as *P. zygomapha*), shallow water at Maiden Cay, Port Royal; PL: 65 (as *P. simplex*), Duncans, fore-reef slope, 35-45 m.

Genus *Plakinastrella* Schulze, 1880

**Plakinastrella onkodes** Uliczka, 1929

**MATERIAL**

ZMA POR. 12810, reefs in front of the mouth of the Rio Bueno, #J128, 7.4.1993, 14 m.

**REMARKS**

Massive lump-like sponge, dark grey, only slightly compressible, easy to tear. Oscules flush with the smooth surface or slightly raised. Diods: 20 - 150 μm. Triods: ca. 30 μm per ray. Calthropses: 30 - 80 μm per ray. Triods and calthropses are often thicker than the diods.

Genus *Corticium* Schmidt, 1862

**Corticium tetralophum** Hechtel, 1965:77

Holotype YPM 5047, Maiden Cay, Port Royal.

Order Astrophorida

Family Ancorinidae Schmidt, 1870

Genus *Stelletta* Schmidt, 1862

**Stelletta kallitetilla** (De Laubenfels, 1936)

**MATERIAL**

ZMA POR. 12876, Discovery Bay, lagoon, inside a fissure with freshwater outflow, #J102a, 24.3.1993, 1.5 m.

Genus *Melophlus* Thiele, 1899

**Melophlus ruber** sp. n.

Figs. 5-9
MATERIAL

Holotype ZMA POR. 12741, Discovery Bay, blue hole near Columbus Park, #J2, 20.1.1993, 15 m.

DESCRIPTION

Shape and size: Dark red, vase-shaped sponge (Fig. 5), very similar in shape to Mycale laxissima. Consistency elastic, compressible, but difficult to tear. Surface covered with soft thorns.

Spicules: Oxeas (Fig. 6), sometimes with a forked end: 700-1475 x 20-70 μm; microspined microstrongyles to microxeas (Fig. 7): 45-65 x 4-6 μm; oxyasters (Fig. 8) to strongylasters (Fig. 9): 5-15 μm in diameter.

Skeleton: Ectosome relatively thick (ca. 1 mm), heavily pigmented, with a reticulation of fine (barely to see with the unaided eye) fibers on the surface which may in fact be an encrusting red alga. Microstrongyles and microxeas are concentrated in a layer between ectosome and choanosome. The choanosome is a dense, confused arrangement of spicules.

Ecology: shallow reef.

Etymology: ruber = red, referring to the live colour.

REMARKS

The present material conforms in all skeletal
characters to the genus *Melophlus* Thiele, as redefined by Hajdu & Van Soest (1992). It shares the spiculation of oxeas, euasters and spined micro-rhhabds, and the tangential surface skeleton of smaller sized oxeas, with the other species of *Melophlus*. This is the first record of the genus from the Atlantic. So far the genus contained two species, viz. the Indo-Malayan type species *M. sarasinorum* Thiele (1899) (with junior synonym *Stellettinopsis isis* De Laubenfels, 1954), and Western Indian Ocean *M. cherbonnieri* (Lévi, 1961 as *Stellettinopsis*). *Melophlus* is similar - and probably close - to *Penaes*, but that genus has triaenes, and to *Asteropus*, but that has sandasters in lieu of the microrhhabds.

The only remotely similar species in the region with which this could be confused is *Asteropus vasiformis* Hajdu & Van Soest (1992) from Barbados. This shares the cup-shaped habit and skeletal architecture; however, this species has sandasters and much larger euasters, while it lacks microrhhabds.

Family Thrombidae Sollas, 1887
Genus *Thrombus* Sollas, 1886
*Thrombus jancai* Lehnert, 1998

Holotype ZMA POR. 11414, Montego Bay, Chalet Caribe, 30 m, in cave.

Family Geodiidae Gray, 1867
Genus *Geodia* Lamarck, 1815
*Geodia neptuni* (Sollas, 1888)

**Geodia papyracea** Hechtel, 1965: 71

Holotype YPM 5045; Port Royal, mangrove boat channel.

Genus *Erylus* Gray, 1867
*Erylus formosus* Sollas, 1886

**Material**

ZMA POR. 12726, reefs in front of the mouth of the Rio Bueno, #J78, 12.3.1993, 17 m; ZMA POR. 12729, Discovery Bay, forereef, #J76, 11.3.1993, 20 m; ZMA POR. 12743, Discovery Bay, forereef, #J82, 17.3.1993, 30 m; ZMA POR. 12931, Discovery Bay, forereef, #J41, 20.2.1993, 16 m.

**Description**

Shape and size: Dark brown to dark grey, almost black, massively encrusting sponge, up to 10 cm thick. Surface smooth, rough to the touch. Few oscules scattered over the surface, flush or slightly elevated. Below the thin, dark, leathery ectosome a white choanosome. Consistency firm, only slightly compressible, easily torn.

Spicules: Orthotriaenes: 300-800 x 10-18 μm; clads: 180-450 μm; oxeas: 550-1200 x 12-20 μm; elongated aspidasters, commonly with a central swelling: 110-250 x 18-45 μm, their surface is covered with small, often pentagonal "stars", exactly like the surface of the sterrasters in the genus *Geodia*; smooth, centrotyleote, microxea to microstrongyles: 45-63 x 3-5 μm; tylasters with spined rays: 15-35 μm.

**Remarks**

This species can be confused in shape with *Erylus gofrilleri* Wiedenmayer (1977), which can only be separated by a harder consistency and by spicule examination (cf. below). It can also be superficially confused with the similar looking *Plakortis angulospiculatus*, which can be separated - apart from different spiculation - by a more light brown ectosome and an also brown coloured choanosome.

**Geodia gibberosa** (Lamarck, 1815)

**Material**

ZMA POR. 5745, Port Royal, coll. P. Wagenaar Hummelinck, #1680, 0.5-1 m.

Further records: GH: 68, Port Royal, mangroves.
**Erylus gofrilleri** Wiedenmayer, 1977

**Material**

ZMA POR. 12730, Discovery Bay, fore reef, #J62, 3.3.1993, 21 m; ZMA POR. 12738, Discovery Bay, fore reef, #J58, 27.2.1993, 25 m.

**Remarks**

Very similar to *E. formosus* (see remarks above), but it has a slightly harder consistency. Spiculation like that of *E. formosus*. Differences are the circular to ovoid aspidasters: 125-180 x 55-90 \( \mu \)m, and a bigger size range of tylasters, measuring 15-65 \( \mu \)m in diameter. The tylasters have a very small center and spined rays, the tyle is a concentration of spines at the end of the rays.

**Erylus ministrongylus** Hechtel, 1965: 72

Holotype YPM 5046, Drunkenman’s Cay, under rocks in a few feet of water.

**Remarks**

*E. ministrongylus* differs from the previously described species in having thicker aspidasters: 87-106 x 43-181 x 64-87 \( \mu \)m, in having small strongyloxeas: 370-551 \( \mu \)m, in having oxyasters instead of tylasters and in having smaller triaenes, rhabdome: 187-311 \( \mu \)m, cladome: 119-319 \( \mu \)m.

**Erylus clavatus** Pulitzer-Finali, 1986: 80

Holotype MSNG 47684, Jamaica, Duncans, fore reef slope, 40-45m; paratype MSNG 47685, same locality.

**Remarks**

The clavate (pedunculated) shape differs from the other species, but in most other respects (skeleton, spicules) it is indistinguishable from *E. formosus*. An alleged difference would be the possession in *E. clavatus* of oxyasters in addition to tylasters, but the drawing provided by Pulitzer-Finali (his fig. 15) indicates the oxyasters are larger tylasters with few rays. Reexamination of the type specimens is necessary, but conspecificity with *E. formosus* is likely.

**Cinachyrella alloclada** (Uliczka, 1929)

**Material**

ZMA POR. 12887, reefs in front of the mouth of the Pear Tree River, #J218, 3.6.1993, 12 m.

**Cinachyrella kuekenthali** (Uliczka, 1929)

**Material**

ZMA POR. 12794, Discovery Bay, blue hole near Columbus Park, #J5, 31.1.1993, 20 m; ZMA POR. 12943 (10 specimens), Discovery Bay, forereef, #J61, 3.3.1993, 22 m; Discovery Bay, forereef, #J96, 23.3.1993, 27 m; Discovery Bay, near shellbreak, #J118, 2.4.1993, 43 m; reefs west of the mouth of the Rio Bueno, #J127, 7.4.1993, 18 m; reefs west of the mouth of the Rio Bueno, #J134, 9.4.1993, 23 m; Discovery Bay, forereef, #J200, 29.5.1993, 33 m; Discovery Bay forereef, #J210, 2.6.1993, sediment area, 25 m; Discovery Bay forereef, #J214, 2.6.1993, 5 m; reefs in front of the mouth of the Pear Tree River, inside cave, #J217, 3.6.1993, 25 m.

**Cinachyrella spp.** Pulitzer-Finali, 1986: 82 (as *Cinachyra*)

Recorded: Duncans, fore-reef slope, 35 m; Port Royal, cays, 10-25 m.

Order Chondrosida
Family Chondrillidae Schmidt, 1862
Genus *Chondrilla* Schmidt, 1862

**Chondrilla nucula** Schmidt, 1862

Figs. 10-11

**Material**

ZMA POR. 12801, Discovery Bay, lagoon, #J17, 9.2.1993, 1 m.

Further records: GH: 74, PL: 99, Port Royal, cays, 10-25m, R.N. KC.15; Port Royal, wharf pilings, 1 - 6 m, R.N. PR.12.

**Remarks**

As noted by Wiedenmayer (1977: 186) two distinct habits occur, which may be separated by
colour and habitat. One growth form occurs inside the lagoon, encrusting, up to 1 cm thick to lobate on coral rubble (Fig. 10). It is dark brown with smooth surface and inconspicuous oscules. The other growth form occurs on the shallow fore reef on hard substrate and may cover larger areas than the dark brown growth form. It is thinly encrusting, yellowish brown coloured (Fig. 11). The surface is smooth and the small oscules are surrounded by star-like oscular canals. The consistency is elastic but resilient. Spicules: oxyospherasters: 10-40 μm in diameter.
Genus *Chondrosia* Nardo, 1847

*Chondrosia collectrix* (Schmidt, 1870)

Recorded: PL: 99, Port Royal, wharf pilings, 1-6 m.

Order Hadromerida

Family Clionidae Gray, 1867

Genus *Alectona* Carter, 1879

*Alectona jamaicensis* Pang, 1973: 50

Holotype YPM 8718, Discovery Bay, *on Porites furcata*.

Genus *Cliona* Grant, 1826

*Cliona delitrix* Pang, 1973: 28

**MATERIAL**


Further records: Holotype YPM 8715; paratypes in BMNH, SUNY-UWI, 6 specimens from Discovery Bay; PL: 96, Port Royal, cays, 10-25 m.

*Cliona vermifera* Hancock, 1867

**MATERIAL**

ZMA POR. 12835, Discovery Bay, fore reef, #J309, 7.7.1993, 9 m; ZMA POR. 12836, Discovery Bay fore reef, #J294, 17.6.1993, 29 m. Not preserved: Discovery Bay, fore reef, #J367, 4.3.1993, 15 m; Discovery Bay, fore reef, #J132, 8.4.1993, 10 m.

Further records: GH: 60, Port Royal; Pang, 1973: 12, Discovery Bay.

*Cliona caribbaea* Carter, 1882

**MATERIAL**

ZMA POR. 12870, Discovery Bay, fore reef, #J205, 1.6.1993, 9 m.

Further records: GH: 61, Port Royal (as *Cliona viridis*); Pang, 1973: 22, Discovery Bay, lagoon.

Remarks: The sponge does not seem to encrust the surface of the substrate so that only small borings in the infested rock are visible. In these papillae the greenish colour of the sponge may be recognizable.

*Cliona schmidtii* (Ridley, 1881)

Recorded: Pang, 1973: 8, Discovery Bay and Rio Bueno.

*Cliona janitrix* Topsent, 1932


*Cliona lampa* de Laubenfels, 1950

Recorded: Pang, 1973: 18, Discovery Bay.

*Cliona peponacea* Pang, 1973: 32

Holotype YPM 8719; paratypes in BMNH and SUNY-UWI, 6 specimens from Discovery Bay.

*Cliona langae* Pang, 1973: 34

Holotype YPM 8716; paratypes in BMNH and SUNY-UWI, 8 specimens from Discovery Bay.

*Cliona laticavicola* Pang, 1973: 37

Holotype YPM 8720; paratypes in BMNH and SUNY-UWI, 6 specimens from Discovery Bay.

*Cliona aprica* Pang, 1973: 42

Holotype YPM 8722; paratypes in BMNH and SUNY-UWI, 6 specimens from Discovery Bay.

Family Spirastrellidae Ridley & Dendy, 1886

Genus *Spirastrella* Schmidt, 1868

*Spirastrella coccinea* (Duchassaing & Michelotti, 1864)

**MATERIAL**

ZMA POR. 12802, Discovery Bay, fore reef, #J44, 17.2.1993, 23 m; ZMA POR 12820, Discovery Bay, blue hole near Columbus Park, #J126, 18.2.1993, 20 m; ZMA POR. 12821, Discovery Bay, blue hole near Columbus Park, #J252, 7.6.1993, 15 m; ZMA POR. 12830, reefs in front of the mouth of the Pear Tree River, inside a cave, #J222, 3.6.1993, 25 m; ZMA POR. 12831, Discovery Bay, fore reef, #J297, 28.6.1993, 12 m; ZMA POR. 12832, Discovery Bay, fore reef, #J280, 14.6.1993, 34 m; ZMA POR. 12873, Discovery Bay, fore reef, #J212, 2.6.1993, 8 m.

Further records: GH: 54, Port Royal.

**REMARKS**

Two growth forms of this species appear to exist, both are thinly to massively encrusting and differ mainly in colour. There is a rose-red growth.
form with often white-skinned canals on the surface, all leading to a circular oscule. The second growth form is more massively encrusting, pink-coloured with irregular red spots on the surface. Spicules: tylostyles, sometimes with a blunt end, occasionally with an elevated ring just before the head, measuring 280-650 × 5-12 μm; spirasters, very variable in size and form, measuring 5-47 μm.

Genus *Anthosigmella* Topsent, 1918

*Anthosigmella varians* (Duchassaing & Michelotti, 1864)

**MATERIAL**

ZMA POR. 12792, Discovery Bay, fore reef, #J8, 5.2.1993, 40 m; ZMA POR. 12826, Discovery Bay, fore reef, #J215, 2.6.1993, 7 m; ZMA POR. 12827, Discovery Bay, fore reef, #J213, 10.2.1993, 20 m; ZMA POR. 12828, Discovery Bay, fore reef, #J143, 23.4.1993, 11 m; ZMA POR. 12829, reefs in front of the mouth of the Pear Tree River, #J111, 28.3.1993, 12 m; ZMA POR. 12863, Discovery Bay, fore reef, #J39, no further data; ZMA POR. 12866, Discovery Bay, back reef, #J92, 22.3.1993, 1 m; Further records: GH: 55, Port Royal; Pang, 1973: 48, Discovery Bay; PL: 92, Port Royal, cays, 10-25 m.

Genus *Speciospongia* Marshall, 1882

*Speciospongia vesparium* (Lamarck)

**MATERIAL**

ZMA POR. 12785, Discovery Bay, fore reef, #J73, 11.3.1993, 25 m; ZMA POR. 12900, Discovery Bay, fore reef, #J123, 6.4.1993, 30 m; Further records: GH: 57, Port Royal; PL: 93, Port Royal, cays.

Family Placosphoiiidae Gray, 1867

Genus *Placosphoria* Gray, 1867

*Placosphoria intermedia* Sollas, 1888

Recorded: GH: 62 (as *P. carinata*), Port Royal and at the cays; PL: 100 (as *P. carinata*), Port Royal, wharf pylons and wall, 1-6 m.

**REMARKS**

The usual assignment of West Indian specimens conforming to this species to *P. carinata* Bowerbank (1858) is unlikely to be realistic under any species concept other than a strict morphological one. *P. carinata* was originally described from the Indo-Pacific ("South Seas") and the synonymy of *P. intermedia* with it is based on overall similarity. We prefer to keep *P. intermedia* (originally described from the Western Atlantic) as a closely related but separate species.

Family Timeidae Topsent, 1928

Genus Diplastrella Topsent, 1918

*Diplastrella megastellata* Hechel, 1965

**MATERIAL**


Family Polymastiidae Gray, 1867

Genus *Polymastia* Bowerbank, 1862

*Polymastia tenax* Pulitzer-Finali, 1986

**MATERIAL**

ZMA POR. 12861, Discovery Bay, fore reef, #J115, 29.3.1993, 15 m.

Family Suberitidae Schmidt, 1870

Genus *Suberites* Nardo, 1833

*Suberites aurantiaca* (Duchassaing & Michelotti, 1864)

**MATERIAL**

ZMA POR. 12857, Discovery Bay, blue hole near Columbus Park, #J6, 31.1.1993, 20 m; ZMA POR. 12858, Discovery Bay, blue hole near Columbus Park, #J33, 19.2.1993, 17 m; ZMA POR. 12859, Discovery Bay, fore reef, #J288, 16.6.1993, 43 m; ZMA POR. 12860, Discovery Bay, fore reef, #J312, 8.7.1993, 26 m; ZMA POR. 5749, 5761, Kingston Harbour, inlet W of airport, 7.5.1973, coll. P. Wagenaar Hummelinck, #1677, 0-1 m; Further records: GH: 59 (as *Terpios zeteki*), Port Royal; PL: 88 (as *Terpios zeteki*), Port Royal, mangrove, 0.2-1.5 m, and on submerged ruins, 5-10 m.

Genus *Aaptos* Gray, 1867

*Aaptos lithophaga* (Wiedenmayer, 1977 as *Epipolips*)
Tethya sp.
Recorded: PL: 98, Port Royal, wall of wharf, 1-6 m.

Order Agelasida
Family Agelasidae Verrill, 1907
Genus Agelas Duchassaing & Michelotti, 1864
Agelas clathrodes (Schmidt, 1870)

Material
ZMA POR. 12772, Discovery Bay, fore reef, #J277, 34 m; ZMA POR. 12775, Discovery Bay, fore reef, #J272, 28 m.
Further record: PL: 110, Duncans, drop-off, 35 m.

Agelas conifera (Schmidt, 1870)

Material
ZMA POR. 12774, Discovery Bay, fore reef, underside of Agaricia agaricites, #J294, 37 m; ZMA POR. 12778, Discovery Bay, fore reef, #J299, 28-6. 1993, 9 m.
Further record: PL: 108, Duncans, drop-off, 35 m.

Agelas dispar Duchassaing & Michelotti, 1864

Material
ZMA POR. 12766, beach worn specimen, found near the mouth of the Pear Tree river, #J107, 27.3.1993; ZMA POR. 12782, Discovery Bay, shelf-break, #J12, 5.2. 1993, 40 m; ZMA POR. 12936, Discovery Bay, fore reef, #J133, 8.4. 1993, 11 m.
Further record: PL: 107, Duncans, drop-off, 35 m.

Agelas sceptrum (Lamarck, 1815)

Material
ZMA POR. 12871, reefs in front of the mouth of the Rio Bueno, vertical wall, #J125, 7.4. 1993, 12 m, infested with Parazoanthus sp.

Agelas sventres Lehnert & Van Soest, 1996

Holotype ZMA POR. 11322, Discovery Bay, vertical shelf break, #J177, 5.5.1993, 51 m.

Agelas schmidti Wilson, 1902

Material
ZMA POR. 12777, Discovery Bay fore reef, coral rubble,
Agelas sp.1, 4, 5 sensu Pulitzer-Finali, 1986: 113

Recorded: Duncans, drop-off, 35-45 m.

Agelas repens n.sp.

Fig. 12

Material

Holotype ZMA POR. 12870, reefs in front of the mouth of the Rio Bueno, ceiling of a cave, #J146, 23. 4. 1993, 23 m.

Description

Shape and size: Persistently thin, whip-like branches following a repent-ramose course, attaching here and there on the substrate or on each other. Branches 2-5 mm diameter, issuing from a thickly encrusting base of size 10 x 30 x 5 mm in size. Oscules small, less than a mm in size, in slight depressions, with vaguely visible depressed exhalant channels leading to them. Colour pale orange.

Spicules: the verticillated acanthostyles usual for the genus; they are quite variable in length and number of whorls: 85-200 x 6-10 µm with 11-19 whorls; juvenile growth stages of the spicules are smooth annulated or wobbly styles, often with a slight tyle subterminally.

Skeleton: Rather irregular, with little distinction in primary fibres (recognizable on the larger number of coring spicules: 0-4) and secondary fibres (coring 0-1 spicule). Fibre diameter: 15-50 µm. Echinating spicules are distributed irregularly, average distance 70-90 µm, but often quite far apart. The fibres form irregular meshes of 100-800 µm, the latter often enclosing larger canals. Many loose spicules are strewn in the choanosome.

Ecology: In caves in the fore-reef.

Etymology: The name refers to the creeping habit.

Remarks

The species is similar in habit to Agelas ceylonica Dendy, 1905 from the Indian Ocean. The only other West Indian species that may approach this new species in habit is Agelas sceptrum which is also persistently thinly ramose without obvious elevated oscules. In fact, the material described as Agelas sceptrum by van Soest & Stentoft (1988) from deep water (100 m) off Barbados contains fine branches similar to that of the present species; it is likely that this material also belongs to the present species. However, typical A. sceptrum specimens, including Lamarck’s type (cf. Topsent, 1933: pl. II fig. 5), have branches of at least 1 cm - but more frequently 2 cm - in diameter and they are erect and giving off side branches at regular intervals. They also have a characteristic punctured aspect of many non-oscular / non-poral apertures.

The new species is erected mostly on the basis of the habit, which is unique among West Indian Agelas. Apparently the skeletal characters of Agelas species are not useful for species discrimination as they exhibit a large variation within each specimen.

Family Ceratoporellidae Hartman & Goreau, 1972

Genus Ceratoporella Hickson, 1912

Ceratoporella nicholsoni (Hickson, 1911)

Material


Genus Stromatospongia Hartman, 1969

Stromatospongia vermicola Hartman, 1969

Material not preserved: several specimens from the deep fore reef slope between 40 and 45 m depth.

Further records: Holotype YPM 6376, Runaway Bay, 31-37 m; Hartman & Goreau, 1970: Maria Buena Bay, Rio
Bueno, Discovery Bay, Runaway Bay, Tower Isle, and Salt Gut, 10-95 m, under overhanging corals.

**Stromatospongia norae** Hartman, 1969

**MATERIAL**


Further records: Holotype YPM 7770, and paratype 6463, both from Runaway Bay, 26-34 m; Hartman & Goreau, 1970: Maria Buena Bay, Río Bueno, Discovery Bay, Runaway Bay, Tower Isle, and Salt Gut, 8-85 m, in subreef tunnels.

Genus **Goreauilla** Hartman, 1969

**Goreauilla auriculata** Hartman, 1969

**MATERIAL**

ZMA POR. 4798, Chalet Caribe, 20 m, coll. R.P.M. Bak. Not preserved: several specimens from reef caves at Runaway Bay and in front of the mouth of the Rio Bueno.

Further records: Holotype YPM 6838, Runaway Bay, 25 m; Hartman & Goreau, 1970: Maria Buena Bay, Río Bueno, Discovery Bay, Runaway Bay, and Salt Gut, 8-70 m, in subreef tunnels.

Genus **Hispidopetra** Hartman, 1969

**Hispidopetra miniana** Hartman, 1969

Recorded: Holotype YPM 6833, Discovery Bay, 55-57 m; Hartman & Goreau, 1970: Maria Buena Bay, Río Bueno, Discovery Bay, Runaway Bay, Salt Gut, Greta Pedro Bay (S coast), 10-95 m, in subreef tunnels.

Order Halichondrida

Family Axinellidae Carter, 1875

Genus **Ptilocaulis** Carter, 1883

**Ptilocaulis walpersi** (Duchassaing & Micheliotti, 1864)

**MATERIAL**

ZMA POR. 12886, Discovery Bay, fore reef, #J324, 16 m; ZMA POR. 12947, Discovery Bay, ship channel, #J262, 10 m.

Genus **Stylissa** Hallmann, 1914

Definition (modified after Hooper & Lévi, 1993): Axinellidae with irregular to confused reticulation, without clear axial condensation. Spicules are exclusively curved and rather robust styles occurring in a wide size range but in a single size category.

**Stylissa caribica** sp. n.

Figs. 13-15

**MATERIAL**

Holotype ZMA POR. 12761, Discovery Bay, LTS, #J96/32, 67 m; paratype ZMA POR. 12754, reef cave in front of the mouth of the Pear Tree River, #J188, 30 m.

**DESCRIPTION**

Shape and size (Fig. 13): Dark orange sponge, starts from a narrow base, broadening to the top, flattened in one dimension, up to 15 cm high. The surface is undulating, corrugate, even lamellate in places. Oscules are circular and flush with the surface. The sponge is dark brown in the dry state.

Skeleton and spicules: Thin organic ectsosome without spicules. In the choanosome the styles are arranged in axinellid-plumose ascending columns often connected by short spicule tracts and so forming a confused reticulation. No clear axial condensation. The spicules are curved styles (Fig. 14), sometimes with a blunt end. Dimensions: 210 - 360 x 5-15 μm.

Ecology: on reefs.

Etymology: Named after the region where this species was found.

**REMARKS**

This is the first record of the genus from the Atlantic ocean. According to Hooper & Lévi (1993) the genus Stylissa contains only three valid species (*S. flabelliformis* (Hentschel, 1912), *S. massa* (Carter, 1889) and *S. variabilis* (Hallmann, 1914). It is likely that a fourth species, conversely known as “Acanthella” or “Axinella carteri” (Dendy, 1889), is also a member of the genus. All four are so far restricted to the Indo-west Pacific region. Apart from the geographic separation the present species differs from all other known *Stylissa* in growth form and in having smaller and narrower styles.
Genus *Pseudaxinella* Schmidt, 1875

**Pseudaxinella reticulata** (Ridley & Dendy, 1886)

**Material**

ZMA POR. 12919, Discovery Bay, near Columbus Park, #J250, 14 m.

Family Dictyonellidae Van Soest et al., 1990

Genus *Scopalina* Schmidt, 1862

**Scopalina ruetzleri** (Wiedenmayer, 1977)

**Material**

ZMA POR. 12737, Discovery Bay, lagoon, #J38, 22.2.1993, 4 m; ZMA POR. 11289, Discovery Bay, shellbreak, on rope, #J241, 5.6.1993, 60 m; ZMA POR. 12922, Discovery Bay, fore reef, #J211, 2.6.1993, 7 m; ZMA POR. 12932, Discovery Bay, fore reef, #J209, 2.6.1993, 23 m.

Further record: PL: 118 (as *Ulosa*), Port Royal, cays, 10-25 m.

**Scopalina hispida** (Hechtel, 1965: 51, as *Ulosa*)

Holotype YPM 5043, common on mangrove roots near Port Royal.

Family Desmoxyidae Hallman, 1917

Genus *Myrmekioderma* Ehlers, 1870

**Myrmekioderma rea** (De Laubenfels, 1934)

**Material**

ZMA POR. 12927, Discovery Bay, blue hole, #J265, 15 m; ZMA POR. 12939, Discovery Bay, fore reef, #J228, 33 m; ZMA POR. 12940, Discovery Bay, blue hole near Columbus Park, #J36, 20 m.

**Myrmekioderma styx** De Laubenfels, 1953

**Material**

ZMA POR. 12865, Discovery Bay, fore reef inside a small cave at the base of a pinnacle, #J72, 35 m; ZMA POR. 12938, Discovery Bay, fore reef, inside a small cave several hundred meters west of #J72, #J273, 31 m.

Genus *Didiscus* Dendy, 1922

**Didiscus oxeata** Hechtel, 1983

**Material**

ZMA POR. 12917, reefs in front of the mouth of the Rio Bueno, inside cave, #J149b, 23.4.1993, 24 m; ZMA POR. 12930, reefs in front of the mouth of the Pear Tree River, #J113, 28.3.1993, 35 m.

Genus *Julavis* De Laubenfels, 1936

**Julavis jamaicensis** Van Soest & Lehner, 1997

Holotype ZMA POR. 11520, Montego Bay, off Chalet Caribe, 20 m.

Family Halichondriidae Vosmaer, 1887

Genus *Halichondria* Fleming, 1828

**Halichondria magniconulosa** Hechtel, 1965: 53

Holotype YPM 5039, Rasta’s wreck, Port Royal.

**Halichondria melanodocia** de Laubenfels, 1936

Recorded: GH: 52, on pilings and mangrove roots near Port Royal; PL: 115, Port Royal, wharf pilings, 1-6 m, and mangrove, 0.5 m.

Genus *Aponastra* Topsent, 1927

**Aponastra modesta** Pulitzer-Finali, 1986: 101

Holotype: MSNG 47688, Port Royal, submerged ruins, 5-7 m. This is considered a junior synonym of *Halichondria melanodocia* by Van Soest et al., 1990.

Genus *Topsentia* Berg, 1899

**Topsentia ophirhaphidites** (De Laubenfels, 1934)

**Material**

ZMA POR. 12918, reefs in front of the mouth of the Pear Tree River, inside cave, #J223, 3.6.1993, 25 m.

Order Poecilosclerida

Suborder Microcionina Hajdu et al., 1994

Family Iophonidae Burton, 1929

Genus *Acarnus* Gray, 1867

**Acarnus nicoleae** Van Soest et al., 1991

Recorded: GH: 40 (as *Acanthacamus souriei*), Drunkenman’s Cay, coral rock.
Family Microcionidae Carter, 1875
Genus *Clathria* Schmidt, 1862

**Clathria (Microciona) calla** (De Laubenfels, 1934)

**Material**

ZMA POR. 12878, Discovery Bay, fore reef, #J182, 19.5.1993, 20 m; ZMA POR. 12884, Discovery Bay, fore reef, pinnacle, on sea whip (*Elisella* sp.), #J302a, 2.7.1993, 33 m.

**Clathria (Microciona) simpsoni** Van Soest, 1984

Recorded: PL: 150, Port Royal, submerged ruins, 5-10 m. This species is generally considered a junior synonym of *Clathria echinata* (Acolado, 1984).

**Clathria (Thalysias) virgultosa** (Lamarck, 1814)

Fig. 16.

**Material**

ZMA POR. 12845, Discovery Bay, fore reef, infested by hydroid polyps, #J181, 19.5.1993, 25 m.

**Remarks**

Hooper (1996) demonstrated that the West Indian species formerly known as *C. juniperina* (Lamarck) should in fact be named *C. virgultosa*, because *C. juniperina* is an Indo-Pacific species. The present material is an orange-red branching sponge. Surface smooth. Spicules: Large ectsosomal subtylostyles: 250-320 x 4-8 µm, small ectsosomal subtylostyles: 120-180 x 2-3 µm, large choanosomal styles: 230-310 x 8-10 µm, echinating acanthostyles: 45-65 x 5-7 µm, small toxas: 10-80 µm, large raphidiform toxas: 150-280 µm, and palmate isochelae, concentrated at the surface: 10-15 µm.

**Clathria (Thalysias) schoenus** (De Laubenfels, 1936)

**Material**

ZMA POR. 12844, Discovery Bay, blue hole near ship channel, #J269, 9.6.1993, 15 m.

**Clathria (Thalysias) raraechelae** (Van Soest, 1984)

**Material**

ZMA POR. 12888, Discovery Bay, fore reef, #J208, 2.6.1993, 33 m, overgrowing a *Madracis decactis*.

Further record: PL: 151, Port Royal, cays, 10-25 m.

**Clathria (Thalysias) microchela** (Hechtel, 1965: 41)

Holotype YPM 5040, Rasta’s wreck, common on shells and pilings at Port Royal.

**Clathria (Thalysias) rarispinosa** (Hechtel, 1965: 42)

Holotype YPM 5041, Rasta’s wreck, incrusting on pilings and mussel shells at Port Royal.

Genus *Artemisina* Vosmaer, 1885

*Artemisina melana* Van Soest, 1984

**Material**

ZMA POR. 12768, Discovery Bay, fore reef, pinnacle, on sea whip (*Elisella* sp.), #J302b, 2.7.1993, 33 m.

Genus *Pandaros* Duchassaing & Michelotti, 1864

*Pandaros acanthifolium* Duchassaing & Michelotti, 1864

Recorded: GH: 44, as holotype of *Thalyseyron conulosa*, YPM 5042, off Maiden Cay, in about 10 feet of water.

Family Raspailiidae Hentschel, 1923

Genus *Ectyoplasia* Topsent, 1930

*Ectyoplasia ferox* (Duchassaing & Michelotti, 1864)

**Material**

ZMA POR. 12795 & 12843, Discovery Bay, fore reef, #J15, 8.2.1993, 12 m; ZMA POR. 12869, Discovery Bay, back reef, underside of dead coral, #J101, 24.3.1993, 1.5 m; ZMA POR. 12881, Discovery Bay, fore reef, #J206, 2.6.1993, 39 m; ZMA POR. 12964, Discovery Bay, fore reef, #J40, 20.2.1993, 20 m; ZMA POR. 12965, Discovery Bay, fore reef, #J131, 8.4.1993, 10 m; ZMA POR. 12966, Discovery Bay, fore reef, #J139, 17.4.1993, 14 m; ZMA POR. 12967, Discovery Bay, fore reef, #J187, 20.3.1993, 21 m.
Further record: PL: 105, Duncans, fore reef slope, 35-40 m.

Genus *Echinodictyum* Ridley, 1881
*Echinodictyum lugubre* (Duchassaing & Michelotti, 1864)

Recorded: PL: 106, Port Royal, submerged ruins, 5-10 m. This is generally considered a junior synonym of *E. pennatum* (Duchassaing & Michelotti, 1864).

Suborder Myxillina Hajdu et al., 1994
Family Desmacididae Schmidt, 1870
Genus *Desmapsamma* Burton, 1934
*Desmapsamma anchorata* (Carter, 1882)

**Material**

ZMA POR. 12789, Discovery Bay, lagoon near ship channel, #J53, 26.2.1993, 8 m; ZMA POR. 12815, Discovery Bay, fore reef near ship channel, #J229, 39 m; ZMA POR. 12833, Discovery Bay, ship channel, #J620, 8.6.1993, 10 m; ZMA POR. 12834, Discovery Bay, ship channel, #J116, 1.4.1993, 12 m; ZMA POR. 12925, Discovery Bay, blue hole near Columbus Park, #J245, 7.6.1993, 25 m.

Further record: GH: 21, Port Royal; PL: 138, Port Royal, wharf pilings, 1-6 m, and submerged ruins, 5-10 m.

Genus *Holopsamma* Carter, 1885
*Holopsamma helwigi* De Laubenfels, 1936

Recorded: PL: 147, Port Royal, cays, 10-25 m. This is possibly a heavily sanded specimen of *Desmapsamma anchorata*.

Family Myxillidae
Genus *Myxilla* Schmidt, 1862
*Myxilla mucronata* Pulitzer-Finali, 1986: 145

Holotype MSNG 47702, Port Royal, wharf pilings, 1-6 m, and submerged ruins, 5-10 m.

Genus *Iotrochota* Ridley, 1884
*Iotrochota birotulata* (Higgin, 1877)

**Material**

ZMA POR. 12793, Discovery Bay, fore reef, #J11, 5.2.1993, 12 m; ZMA POR. 12872, reefs in front of the mouth of the Rio Bueno, #J129, 7.4.1993, 10 m.

Further records: GH: 24, Port Royal; PL: 139, Port Royal, cays, 10-25 m, and wharf pilings, 1-6 m; Duncans, fore reef slope, 40-45 m.

Family Crambeidae Lévi, 1963
Genus *Monanchora* Carter, 1883
*Monanchora arbuscula* (Duchassaing & Michelotti, 1864)

**Fig. 17.**

**Material**

ZMA POR. 12727, reefs in front of the mouth of the Pear Tree River, #J112, 28.3.1993, 32 m; ZMA POR. 12732, Discovery Bay, blue hole near ship channel, #J263, 9.6.1993, 15 m; ZMA POR. 12735, reefs in front of the mouth of the Pear Tree River, #J129, 3.6.1993, 30 m; ZMA POR. 12739, Discovery Bay, fore reef, #J195, 28.5.1993, 34 m; ZMA POR. 12769, Discovery Bay, shelfbreak, #J230, 4.6.1993, 40 m.

Further record: PL: 142, *as M. barbadensis*, Port Royal, cays, 10-25 m.

**Remarks**

This is a variable species. The habit ranges from small thin, red encrustations on worm tubes with smooth surface to dark red sponges with whitish spots, massively encrusting or elevated, flattened masses with a strongly lamellated surface, no oscules apparent. Consistency tough, somewhat elastic. Spicules vary from thick styles to tylostyles: 100-280 x 4-8 μm, and thin subtylostyles to tylostyles: 150-270 x 2-3 μm. Microscleres include isochelae: 15-27 μm, and sigmata (reduced sigmatose chelae after van Soest, 1984): 8-12μm. The microscleres were very rare, sometimes absent in specimens from deeper water and were very abundant in J230 and J263. This could be an ecological adaptation to more abundant gastropods inside the lagoon, feeding on sponges. In J230 no sigmas were present and megascleres were true tylostyles. See also Van Soest et al. (1996) for further discussion of this species.

Family Tedaniidae Ridley & Dendy, 1886
Genus *Tedania* Gray, 1867
*Tedania ignis* (Duchassaing & Michelotti, 1864)

**Material**

ZMA POR. 12803, Discovery Bay, lagoon, #J42, 17.2.1993, 0.3 m; ZMA POR. 12811, Discovery Bay, lagoon, #J150, 28.4.1993, 0.2 m; ZMA POR. 12822, Discovery Bay, fore reef, on a rope, #J63, 3.3.1993, 4 m; ZMA POR.
12823, Discovery Bay, blue hole near Columbus Park, from rope, #J257, 7.6.1993, 0.1 m; ZMA POR. 12883, Discovery Bay, 15 m; ZMA POR. 12924, Discovery Bay, lagoon, #J105, 26.3.1993, 0.3 m. Not preserved: Discovery Bay, blue hole near Columbus Park, #J23, 10.2.1993, 2 m; Discovery Bay, fore reef, #J61, 3.3.1993, 22 m; Discovery Bay, lagoon, #J135, 13.4.1993, 7 m.

Further records: GH: 37, Port Royal; PL: 147, Duncans, drop-off, 40-45 m, and wharf, 1-6 m; Port Royal, mangrove, 0.5-1 m, and cays, 10-25 m.

Family Coelosphaeridae Hentschel, 1923
Genus *Lissodendoryx* Topsent, 1892
*Lissodendoryx isodictyalis* (Carter, 1882)

Recorded: GH: 38, Drunkenman’s Cay, turtle grass bed, 1 m.

Family Anchinidae Topsent, 1928
Genus *Phorbas* Duchassaing & Michelotti, 1864
*Phorbas amaranthus* Duchassaing & Michelotti, 1864: 33

**Material**

ZMA POR. 12841, Pear Tree Bottom, #J220: 3.6.1993, 20 m; ZMA POR. 12842, Discovery Bay, fore reef, #J298, 26.6.1993, 12 m; ZMA POR. 12880, Discovery Bay, fore reef, #J144, 22.4.1993, 9 m.

Suborder Mycalina Hajdu et al., 1994
Family Mycalidae Lundbeck, 1905
Genus *Mycale* Gray, 1867
*Mycale laevis* (Carter, 1881)

**Material**

ZMA POR. 12882, Discovery Bay, #J206.

Further records: GH: 46, Port Royal; PL: 125, Port Royal, on pilings of wharf, 1-6 m and on submerged ruins, 5-10 m; including PL: 133, as holotype MSNG 47698 of *Oxymycale strongilata*, Port Royal, cays, 10-25 m.

**Remarks**

Normally yellow to orange sponge, but occasionally it is white.

*Mycale laxissima* (Duchassaing & Michelotti, 1864)

**Material**


Further record: PL: 119, Port Royal, cays, 10-25 m.

*Mycale angulosa* (Duchassaing & Michelotti, 1864)

**Material**

ZMA POR. 12920, Discovery Bay, blue hole near Columbus Park, #J258, 7.6.1993, 0.2 m, attached to rope.

Further records: GH: 48, Port Royal; PL: 130, Port Royal, on pilings of wharf, 1-6 m, and on submerged ruins, 5-10 m.

**Remarks**


*Mycale mucifluous* Pulitzer-Finali, 1986: 121

Holotype MSNG 47695, paratype: MSNG 47696, Port Royal, cays, 10-25 m, R.N. KC.32 & LP.62. This may very well be a somewhat atypical form of *M. laxissima*.

*Mycale microsigmatosa* Arndt, 1927

Recorded: GH: 47, Port Royal, on mangrove roots and on turtle grass; PL: 124, Port Royal, mangrove, 0.2-1.5 m.

*Mycale jamaicensis* Pulitzer-Finali, 1986: 125

Holotype MSNG 47697, Duncans, fore reef slope, 35 m.

Family Desmacellidae Ridley & Dendy, 1886
Genus *Biemma* Gray, 1867
*Biemma caribea* Pulitzer-Finali, 1986
**Neofibularia nolitangere** (Duchassaing & Michelotti, 1864)

**DESCRIPTION**

Shape and size: Orange-yellow, encrusting sponge.

**Genus Neofibularia** Hechtel, 1965

**Neofibularia cribaria** (Alcolado & Gotera, 1986)

**REMARKS**

Comparison with a slide of Alcolado & Gotera’s type of *Neofibularia cribaria* and the type material of *Biemna oxeaata* Van Soest & Stentoft (1988) (ZMA POR. 5420) revealed that these are conspecific with the present barrel-shaped specimen. The presence of two size categories of trichodragmas was confirmed for all specimens. Alcolado & Gotera’s name has priority. The species is assigned to *Biemna* rather than to *Neofibularia* based on the plumose-halicONDroid arrangement of the megascleres.

**Haliclona spec.**

Fig. 19

**DESCRIPTION**

Shape and size: Orange-yellow, encrusting sponge.
Surface covered with numerous star-like branched canals leading to an osculum. Consistency very soft, slimy.

Spiculation: Oxeas to styles, 120-165 x 2-5 \(\mu m\), arranged in an ill-defined reticulation of single spicules or paucispicular tracts.

**REMARKS**

This matches exactly "Rhaphidophlus venosus" pictured in Humann (1993: 51). Because of its spiculation of diactines without any microscleres it is not a *Rhaphidophlus* but belongs to the order Haplosclerida. It is an undescribed species and for its description we refer to a forthcoming publication.

**Haliclona coerulae** (Hechtel, 1965: 30 as *Sigmadocia*)

**MATERIAL**

ZMA POR. 12895, Discovery Bay, lagoon, #J90, 22.3.1993, 1.5 m; ZMA POR. 12889, Discovery Bay, lagoon, #J99, 24.3.1993, 1 m. Not preserved: Discovery Bay, lagoon, fissure with freshwater outflow, #J102a, 24.3.1993, 1.5 m.

Further record: Holotype YPM 5037, Port Royal, Ra
ta's wreck.

**Haliclona piscaderaensis** (Van Soest, 1980)

**MATERIAL**

ZMA POR. 12874, Discovery Bay, blue hole near Columbus Park, #J26, 18.2.1993, 20 m; ZMA POR. 12961, Discovery Bay, lagoon, #J104, 25.3.1993, below algae, 1 m; ZMA POR. 12962, Discovery Bay, lagoon, #J103, 25.3.1993, 1.5 m.

Family Niphatidae van Soest, 1980

Genus *Amphimedon* Duchassaing & Michelotti, 1864

**Amphimedon complanata** (Duchassaing, 1850)

**MATERIAL**

ZMA POR. 12753, Discovery Bay, fissure in fore reef, #J207, 2.6.1993, 16 m.

**REMARKS**

Brown, massively encrusting sponge. Surface covered with connected ridges and deep depressions in between, causing a net-like appearance. Mesh size of the ridges 1-2 mm. Oscules slightly raised, scattered over the surface. Consistency firm, only slightly compressible. Dry specimens are dark brown and hard.

Spicules and skeleton: thin strongyles, 75-110 x 1-3 \(\mu m\), coring the spongin fibres. Uncored fibres also common. Spongion dominating, fibres 30-75 \(\mu m\) in diameter, connecting fibres 15-30 \(\mu m\). More or less rectangular meshes, meshsize, 50-250 \(\mu m\). The regular network of spongion fibres, the thin spicules coring the fibres in small numbers resembles the skeleton of *Callyspongia*, but the characteristic double surface network is lacking.

**Amphimedon compressa** Duchassaing & Michelotti, 1864

**MATERIAL**

ZMA POR. 12790, Discovery Bay, forereef, #J18, 9.2.1993, 19 m; POR. 12941, Discovery Bay, blue hole near Columbus Park, #J244, 7.6.1993, 25 m; ZMA POR. 12942, Discovery Bay, lagoon, eastern margin, #J192, 26.5.1993, 3 m.

Further records: GH: 18 (as *Haliclona rubens*), Port Royal; PL: 168, Port Royal, cays, 10-25 m; Duncans, drop-off, 35 m.

**Amphimedon erina** (De Laubenfels, 1936)

**MATERIAL**

ZMA POR. 12838, 12879, Discovery Bay, lagoon, fissure with freshwater outflow, #J4, 21.1.1993, 1 m; ZMA POR. 12904, Discovery Bay, lagoon, fissure with freshwater outflow, #J100, 24.3.1993, 1 m.

Further records: GH: 19 (as *Haliclona erina* and *Haliclona doria*), Port Royal.

**Amphimedon caribica** (Pulitzer-Finali, 1986)

**MATERIAL**

**Amphimedon viridis** Duchassaing & Michelotti, 1864

Recorded: PL: 167, Port Royal, submerged ruins, 7 m.

**Genus Niphates** Duchassaing & Michelotti, 1864

**Niphates erecta** Duchassaing & Michelotti, 1864

**Niphates digitalis** (Lamarck, 1814)

**Genus Callyspongia** Duchassaing & Michelotti, 1864

**Callyspongia fallax** Duchassaing & Michelotti, 1864

**Callyspongia fallax** Duchassaing & Michelotti, 1864

**Genus Xestospongia** De Laubenfels, 1932

**Xestospongia muta** (Schmidt, 1870)

**Xestospongia subtriangularis** (Duchassaing, 1850)

**REMARKS**

Van Soest (1980) reported that most specimens lack the sigmata, but they are abundant in the present material.

**Family Callyspongiidae** De Laubenfels, 1936

**Genus Callyspongia** Duchassaing & Michelotti, 1864

**Callyspongia armigera** (Duchassaing & Michelotti, 1864)

**Genus Petrosiidae** van Soest, 1980

**Xestospongia pallida** Heichet, 1965: 36

Holotype YPM 5038, sea wall of police post, Port Royal in several feet of water.

**Callyspongia plicifera** (Lamarck, 1814)

**Callyspongia armigera** (Duchassaing & Michelotti, 1864)

**Callyspongia strongylophora** Hartman, 1955
**Xestospongia carbonaria** (Lamarck, 1814)

**Material**

ZMA POR. 12948, Discovery Bay, lagoon, between *Thalassia* seagrass, #J98, 24.3.1993, 0.3 m; ZMA POR. 12923, Discovery Bay, lagoon, between *Thalassia* seagrass, #J106, 26.3.1993, 1 m.

Further records: GH: 26 (as Adocia carbonaria), Port Royal; PL: 159 (as Pellina carbonaria), Port Royal, wharf pilings, 1-6 m.

**Remarks**


**Xestospongia caminata** Pulitzer-Finali, 1986: 157

Holotype MSNG 47705, paratype MSNG 47704, Port Royal, cays, 10-25 m. This species needs to be redescribed, as it is presently unrecognizable.

Genus *Petrosia* Vosmaer, 1885

**Petrosia pellasarca** (De Laubenfels, 1934)

**Material**

POR. 12731, Discovery Bay, fore reef, #J83, 17.3.1993, 31 m; ZMA POR. 12755, reefs in front of the mouth of the Pear Tree River, #J114, 28.3.1993, 20 m; ZMA POR. 12758, Discovery Bay, fore reef, #J300, 2.7.1993, 30 m; ZMA POR. 12759, Discovery Bay, fore reef, #J283, 15.6.1993, 32 m; ZMA POR. 12875, Discovery Bay, fore reef, #J56, 28.2.1993, 20 m.

**Petrosia weinbergi** Van Soest, 1980

**Material**

ZMA POR. 12746, reefs in front of the mouth of the Pear Tree River, #J89, 21.3.1993, 20 m; ZMA POR. 12756, reefs in front of the mouth of the Rio Bueno, inside cave, #J148, 23.4.1993, 23 m.

**Petrosia massiva** Lehnert & Van Soest, 1996

**Material**

ZMA POR. 12893, Discovery Bay, blue hole near Columbus Park, #J256, 7.6.1993, 18 m.

Genus *Crirochalina* Schmidt, 1870

**Crirochalina vasculum** (Lamarck, 1814)

Recorded: PL: 168, Duncans, drop-off, 40-45 m.

Family Phloeodictyidae Carter, 1882

Genus *Aka* De Laubenfels, 1936

**Aka siphona** (De Laubenfels, 1949)

**Material**

ZMA POR. 12921, Discovery Bay, fore reef, #J122, 6.4.1993, 28 m.

**Aka coralliphaga** (Rützler, 1971)

**Material**


**Aka brevitubulata** (Pang, 1973: 56, as *Siphonodictyon*)

Holotype YPM 8717, paratypes BMNH and SUNY-UWI, 7 specimens from Discovery Bay.

Further record: PL: 165, Duncans, drop-off, 30-40 m.

**Aka xamaycaensis** (Pulitzer-Finali, 1986: 164, as *Siphonodictyon*)

Holotype MSNG 47707, Duncans, 40-45 m.

Genus *Aka* De Laubenfels, 1936/*Metschnikowia* Grimm, 1890

**Aka/Metschnikowia** sp. sensu Kobluk & Van Soest, 1989

**Material**

Reefs in front of the mouth of the Pear Tree River, #J191, 21.5.1993, 26 m.
REMARKS

Very pale orange, almost transparent, thinly encrusting sponge on the underside of a *Mycetophyllia lamarckiana*. Spiculation: acanthoxeas 100-125 x 2-3 μm. Confused reticulation of single spicules or short tracts, embedded in spongin. This is similar to Kobluk & Van Soest's record from Bonaire. The systematic assignment is problematic; it will be addressed in a separate paper.

Genus *Oceanapia* Norman, 1869

*Oceanapia bartschi* (De Laubenfels, 1934)

MATERIAL

ZMA POR. 12763, Discovery Bay, blue hole near Columbus Park, #J248, 7.6.1993, 5 m; ZMA POR. 12848, Discovery Bay, shelfbreak, #J68, 5.3.1993, 40 m; ZMA POR. 12849, Discovery Bay fore reef, vertical wall, #J49, 24.2.1993, 28 m.

Further records: PL: 158, Duncans, 40-45 m.

DESCRIPTION

Shape and size: Black tube-shaped sponge. Surface covered with numerous paper-thin, closed fistules, 1-3 cm long. Apical end surrounded by a paper-thin rim. Consistency firm, somewhat elastic but easy to tear or cut. Yellow choanosome.

Spicules and skeleton: Strongyles or rare oxeas: 155-280 x 4-10 μm. Confused reticulation of single spicules or vague tracts. Choanosome: Irregularly arranged spicule tracts enclosed in spongin, 50-180 μm in diameter and many loose spicules in between. J248 is an encrusting sponge.

*Oceanapia fistulosa* (Bowerbank, 1873)

Recorded: PL: 158, Duncans, 40-45 m.

*Oceanapia nodosa* (George & Wilson, 1919)

Recorded: GH: 29 (holotype YPM 5036 of *Pellina coeliformis*), mangrove, Port Royal. It frequently grows on the surface of *Geodia gibreroa*.

Genus *Calyx* Vosmaer, 1885

*Calyx podatypa* (De Laubenfels, 1934)
REMARKS

Clusters of olive-green, volcano-shaped cones, 4-8 cm high with a contractile osculum at the top of each cone. The surface of the cones is conulose, between these conules numerous ostia are present. The acute cones, 2-3 mm high, are often connected by ridges, giving the sponge a reticulate surface pattern. The consistency is spongy, elastic, compressible. The habitus is similar to *Verongula rigid*. Skeleton: The fibres are yellow-orange coloured, laminated, uncored. Fibres are not distinguishable as primaries and secondaries: 15-65 μm in diameter. Mesh size: 50-500 μm.

**Smenospongia aurea** (Hyatt, 1875)

**MATERIAL**

ZMA POR. 12734, Discovery Bay, fore reef, #J226, 4.6.1993, 15 m; ZMA POR. 12760, Discovery Bay, fore reef, #J198, 29.5.1993, 28 m. Not preserved: Discovery Bay, fore reef, #J225, 3.6.1993, 20 m.

Genus *Hyrtios* Duchassaing & Michelotti, 1864

*Hyrtios violaceus* (Duchassaing & Michelotti, 1864)

Recorded: GH: 11 (as *Oligoceras hemorrhages*), Port Royal.

*Hyrtios tubulatus* sp. n.

Figs. 20-21.

**MATERIAL**

Holotype ZMA POR. 12762, Discovery Bay, blue hole near Columbus Park, #J35, 19.2.1993, 5 m.

**DESCRIPTION**

Shape and size (Figs. 20-21): Dark grey, tube-shaped sponge, up to 20 cm high and 6 cm in diameter (now broken into two pieces). Vent 1.5 cm diameter, wall 0.5 cm thick. Surface strongly ribbed, conulose, annulated. Rare apertures of 1-3 mm in diameter are scattered over the surface. Fragile in dried condition.

Skeleton: Primary fibres: 90-250 μm in diameter, secondaries: 25-90 μm. All fibres are heavily cored with foreign material, predominantly small-sized (20 μm) sand grains and a minority of broken spicules. Meshes variable with smaller meshed parts separated by larger spaces, size 75-800 μm. No data on soft parts are available as the specimen was dried upon collection.

*Ecology*: sandy lagoon.

*Etymology*: Named after its shape.

REMARKS

Four other *Hyrtios* species have been recorded from the West Indian region, viz. *H. proteus* Duchassaing & Michelotti (1864), *H. violaceus* (Duchassaing & Michelotti, 1864, as *Acamas*), *H. spongeliformis* (Wilson, 1902 as *Cacospongia*), and *H. caracasensis* (Carter, 1882 as *Hircinia*). *H. proteus* is a pitch-black, coarsely conulose, cake-shaped sponge with finer conules and fibres similar to our new species, but differing in the persistently heavy coring of both primaries and secondaries. *H. spongeliformis* is similar in most respects to *H. violaceus*, but has ramose habit; it is uncertain whether it is specifically distinct from *H. violaceus*. *H. caracasensis* is again a coarsely conulose lobate sponge, differing from *H. proteus* in the light coring of the fibres and the fasciculated primaries. From all these species, *H. tubulatus* differs in the tube-shape and the peculiarly ribbed-annulated surface. These features stand out so distinctly from the other species of *Hyrtios* that the new species is erected with confidence, despite lack of information on the soft parts. In coring of the fibres, it approaches *H. proteus*, in thickness of the fibres and size of the meshes, it is more similar to *H. violaceus*.

Family Irciniidae Gray, 1867

Genus *Ircinia* Nardo, 1833

*Ircinia felix* (Duchassaing & Michelotti, 1864)

Fig. 22

**MATERIAL**

ZMA POR. 12773, Discovery Bay, fore reef, #J292, 31.5.1993, 26 m; ZMA POR. 12805, Discovery Bay, fore reef, #J67, 4.3.1993, 15 m; ZMA POR. 12899, Discovery Bay, fore reef, #J75, 14.6.1993, 37 m; Lehnert collection,
Discovery Bay, forereef, #J154, 29.4.1993, 20 m; Lehnert collection, Discovery Bay, fore reef, #J140, 22.4.1993, 18 m.

Further record: GH: 8 (as I. fasciculata), Port Royal.

**Remarks**

Typical specimens are of hemisperical shape, oscules surrounded by a violet coloured ring. Surface brown with whitish grey areas and finely...
conulose. Oscules scattered over the surface, often grouped together. Consistency tough, very compressible, but difficult to cut or tear. Primary fibres: 240-500 µm in diameter, 1000-2000 µm apart, secondaries 20-100 µm in diameter. All fibres cored with foreign material, the secondaries less than the primaries. Very long flexuous filaments, at least up to 1700 µm long, 4-8 µm in diameter, with terminal rounded head.

The specimens J67, J140, J202, J275 are unusual with respect to the fact that they are thin, leathery encrustations (Fig. 18) which cover up to 0.06 m². Although they cover relatively large areas, they were never observed to grow up to the typical massive or hemispherical shape of normal I. felix. However, for the time being the differences are regarded too small to separate them on the species level.

**Ircinia strobilina** (Lamarck, 1816)

**MATERIAL**

ZMA POR. 12788, Discovery Bay, fore reef, #J74, 11.3. 1993, 21 m. Not preserved: Discovery Bay, fore reef, #J199, 29.5.1993, 35 m.

Further records: GH: 10, Port Royal; PL: 178, Port Royal, cays, 10-25 m.

Order Dendroceratida
Family Darwinellidae Merejkowski, 1879
Genus *Igernella* Topsent, 1905

**Igernella notabilis** (Duchassaing & Michelotti, 1864)

**MATERIAL**

ZMA POR. 12898, Discovery Bay, fore reef, pinnacle, #J301, 2.7.1993, 25 m; ZMA POR. 12905, reefs west of the mouth of the Rio Bueno, #J130, 7.4.1993, 4 m.

Further record: PL: 181, Duncans, drop-off, 40-45 m.

**REMARKS**

Pink coloured, massively encrusting sponge, occasionally with clusters of low tubes, 3-5 cm high. Surface finely conulose, with the ends of branched spongin fibres supporting the conules. Consistency elastic, compressible, slimy. Areas of inhalant pores at the surface, pores 70-150 µm in diameter. Skeleton: yellow spongin fibres, cored by foreign material, primaries: 50-250 µm in diameter, secondaries: 30-80 µm, cored more slightly than the primaries or free from foreign inclusions. Mesh size: 75-1800 µm. Spongin diactines: ca. 2000 x 20-40 µm, spongin tetractines with rays: 500-1200 x 18-36 µm in diameter, spongin tetractines with rays: 500-750 x 18-30 µm in diameter. The ecosome is a thin organic layer, sometimes supported by foreign spicules.

The present specimens deviate from most previously described specimens in the possession of spongin tetractines. However, these were described recently for *I. notabilis* by Uriz & Maldonado (1996).

Genus *Darwinella* Schulze, 1865

**Darwinella rosacea** Hechtle, 1965: 17

Holotype YPM 5032, Port Royal, mangrove boat channel.

Family Dysideidae Gray, 1867
Genus *Dysidea* Johnston, 1842

**Dysidea janiae** (Duchassaing & Michelotti, 1864)

**MATERIAL**

ZMA POR. 12847, Discovery Bay, lagoon, #J54, 26.2. 1993, 8 m; ZMA POR. 12892, Discovery Bay, blue hole near Columbus Park, #J254, 7.6.1993, 12 m; ZMA POR. 12902, Discovery Bay, blue hole near ship channel, #J268, 9.6.1993, 15 m. Additionally several specimens from lost fish-traps from the blue hole from Discovery Bay; these were not preserved.

**Dysidea fragilis** (Montagu, 1818)

Recorded: GH: 14, Port Royal.

**Dysidea etheria** De Laubenfels, 1936.

Material not preserved, Discovery Bay, blue hole near Columbus Park, #J31, 19.2.1993, 8 m.

Order Verongida
Family Aplysinidae Carter, 1875
Genus *Aplysina* Nardo, 1833

**Aplysina fistularis** (Pallas, 1766)
**Remarks**

Big, yellowish green-coloured barrel-shaped sponge with thin (1-2 cm thick) walls. Up to 0.5 m in height and diameter. The surface is made up by a structure of net-like elevated ridges. The consistency is flexible, elastic. Oscules are scattered over the surface of the inner walls of the barrel. The choanosome is yellow.

Fibres: Yellow to orange-yellow, lamellate, pitted spongins fibers, 150-250 µm in diameter and 30-60% pith.

**Verongula rigida** (Esper, 1794)

**Material**

ZMA POR. 12915, Discovery Bay, fore reef, #J227, 4.6. 1993, 12 m.

Further record: GH: 16 (as *Ianthella ardis*), Port Royal.

Family Aplysinellidae Bergquist, 1980

Genus *Aiolochroia* Wiedenmayer, 1977

*Aiolochroia crassa* Wiedenmayer, 1977

**Material**

ZMA POR. 11350, Discovery Bay, shelfbreak, #J176, 5.5.1993, 65 m; ZMA POR. 12787, Discovery Bay, blue hole near Columbus Park, #J19, 10.2.1993, 2 m; ZMA POR. 12796, reefs in front of the mouth of the Rio Bueno, overgrown by a *Spirastrella cocinea*, #J79, 12.3.1993, 18 m; ZMA POR. 12901, Discovery Bay, fore reef, overgrown by a *Desmapsamma anchoreta*, #J184, 20.5.1993, 23 m; ZMA POR. 12913, Discovery Bay, blue hole near Columbus Park, #J251, 7.6.1993, 15 m; ZMA POR. 12933, Discovery Bay, fore reef, overgrown by a *Desmapsamma anchoreta*, #J194, 28.5.1993, 22 m; ZMA POR. 12934, Discovery Bay, fore reef, #J97: 23.3.1993, 25 m Not preserved: Discovery Bay, fore reef, #J98, 29.5.1993, 28 m; halfway between Discovery Bay and the mouth of the Pear Tree River, overgrown by *Spirastrella cocinea*, #J243, 6.6.1993, 20 m; Discovery Bay, fore reef, #J290, 16.6.1993, 28 m; Discovery Bay, fore reef, overgrown by a *Spirastrella cocinea*, #J75, 11.3.1993, 25 m.

Further records: PL: 186 (as *Pseudoceratina*), Duncans, drop-off, 33-45 m; Port Royal, wharf pilings, 1-6 m.

**Class Calcarea**

**Subclass Calcinea**

**Order Clathrinida**

**Family Clathrinidae** Minchin, 1898

**Genus Clathrina** Gray, 1867
Clathrina primordialis (Haeckel, 1872)

Fig. 23

MATERIAL

ZMA POR. 12742, Discovery Bay, fore reef, inside small cave, #J70, 9.3.1993, 32 m; ZMA POR. 12751, Discovery Bay, fore reef, underside Montastrea annularis, #J320, 16.7.1993, 35 m; ZMA POR. 12752, Discovery Bay, fore reef, #J279, 14.6.1993, 34 m.

REMARKS

Bright yellow trelliswork of ascon tubes, 3-6 cm high, only found on the undersides of platy corals. Spiculation: exclusively triactines. In naming this primordialis rather than the customary coriacea or canariensis we follow Klautau et al., 1994.

Family Leucettidae Borojevic, 1968
Genus Leucetta Haeckel, 1872

Leucetta aff. floridana (Haeckel, 1872)

Fig. 24

MATERIAL

ZMA POR. 12744, reefs in front of the mouth of the Rio Bueno, #J85, 19.3.1993, 22 m.

DESCRIPTION

Shape and size: White tube-shaped sponge, up to 15 cm high. Biggest diameter in the middle, base and top somewhat narrower. Apical opening surrounded by a thin spicular crown. Surface rough, calcareous spicules sting the skin upon touching.

Spiculation: Tri- and tetractines. Triactines divided clearly into giant triactines with rays: 600-1500 x 40-150 μm, and small ones, with rays: ca. 150 x 12 μm. Not reported from L. floridana, but abundantly present are tetractines of similar size and shape as the triactines, as well as a category of atrial tetractines, with the apical ray sticking into the canals, rays: 110-200 x 8 μm. The presence of the giant triactines visible to the naked eye is so characteristic, that conspecificity with Haeckel's (1872) and De Laubenfels' (1950) material from Florida and Bermuda seems likely.

Leucetta imberbis (Duchassaing & Michelotti, 1864)

MATERIAL

ZMA POR. 12740, Discovery Bay, blue hole near Columbus Park, #J27, 18.2.1993, 25 m. Not preserved: Discovery Bay, blue hole near Columbus Park, #J327, 19.2.1993, 10 m.

REMARKS

Smaller, but similar to the previous species. Spiculation: larger and smaller triactines, rays of the larger: 300-550 x 35-50 μm, of the smaller: 40-140 x 8-10 μm; tetractines in two categories, one similar to the triactines, with the fourth ray often rudimentary, the other with long apical ray: 120-320 x 8 μm, sticking into the canals.

ACKNOWLEDGEMENTS

The investigations for this paper were funded by the Deutsche Forschungsgemeinschaft (Le 822, Re 665/10). I thank Bettina Schwarz-Lehnert, Philip Janca and Klaus Demuth who accompanied me on many dives. I also thank the staff of the Discovery Bay Marine Laboratory, Jamaica for friendly support. The Institut und Museum für Geologie und Paläontologie, Göttingen and the Institut für Paläontologie, Erlangen kindly made all necessary equipment and material accessible.

Dr W.H. de Weerdt advised us about the Chali-nidae and Mr. J.J. Vermeulen assisted in making thick sections and spicule slides.

This is contribution no. 603 of the Discovery Bay Marine Laboratory.

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Received: March 2, 1998