

## The athecatae hydroids (Cnidaria, Hydrozoa) from Northern Bahía, Brazil

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**Abstract:** We provide a taxonomic account of the athecatae hydroids taxonomic known from northern Bahia, down to a depth of 60 m, based largely on collections made by the authors since 1992. All colonies were collected along the coast of Salvador City, at Todos os Santos Bay, in Itaparica Island and at the northern most part of the coast of the State of Bahia. The 226 colonies obtained are stored at the Scientific Collection of the Departamento de Zoologia do Instituto de Biologia da Universidade Federal da Bahia (UFBA-CNI-HYD). The studied athecatae fauna is represented by nine species. This fauna is rather depauperate, accounting for only about one-third of the total number of hydroids recorded from Brazil. A simplified identification key, redescrptions, illustrations, and data on nematocysts complement and size are provided for each species. *Rhizodendrium sterreri* and *Parawrightia robusta* are reported from Brazil for the first time.

**Key words:** Athecatae, hydroids, northern Bahia, identification key, Brazil.

The state of Bahia has a very extensive coastline, 1.120 km, with different kinds of ecosystems, such as mangroves, sand-shores, beach rocks and coral reefs. Although there are some descriptions of these environments, the athecatae hydroids from the northern part of the state of Bahia have not been the subject of previous investigations, a fact that makes it difficult to establish its natural background.

Taking into consideration that the classification of these organisms is complicated by many factors, including: (i) the existence of two generations in many species; (ii) the legacy of separate classifications for hydroids and medusae; (iii) the production of free medusae and gonophores in closely related species, (iv) the differential reduction of male and female gonophores in certain species; (v) the produc-

tion in some taxa of morphologically dissimilar medusae by the hydroids and vice versa; (vi) the morphological variation sometimes displayed within a given taxon; (vii) the scarcity of reliable taxonomic characters in various taxa and (viii) the general lack of knowledge concerning the biology of these animals, including life cycles of many species (Calder, 1988), the purpose of this report is to provide a taxonomic account of the athecatae hydroids currently known from northern Bahia, down to a depth of 60 m, based largely on collections made by the authors, since 1992.

### MATERIAL AND METHODS

The present study started in 1992 along the coast of Salvador City, at Todos os Santos Bay,

in Itaparica Island, and at the northern most part of the coast of the State of Bahia (Fig. 1).

All hydroids colonies were collected either along transect lines, during snorkelling and S.C.U.B.A. dives, using Petersen's dredge and by collecting artificial substrate. The colonies were anesthetized in 7,8% solution of  $MgCl_2$ , fixed in 4% fonnalin, preserved in 70% ethanol, and stored at the Scientific Collection of the Departamento de Zoologia do Instituto de Biologia da Universidade Federal da Bahia (UFBA-CNI-HYD 0073; 0204; 0205; 0206; 0208; 0209; 0210; 0211; 0215; 0216; 0222; 0225; 0229; 0231; 0239; 0240; 0241; 0244; 0245; 0249; 0252; 0260; 0279; 0284; 0285; 0286; 0287; 0291; 0292; 0293; 0299).

Identifications were made according to the specific literature, and all descriptions and illustrations herein provided are from the studied specimens.

Nematocysts, were examined in preserved material by compressing pieces of tissue, or entire individual of minute specimens, between a slide and coverslip (Calder 1988). Sometimes, the colonies were treated with a 5% solution of sodium hypochlorite for 10 to 50 seconds and rinsed in distilled water. All observations were done by brightfield microscopy. The nematocysts categories were identified based in Weill's (1934) classification. The length and width measurements were done on undischarged nematocysts by means of ocular micrometer. At least ten nematocysts of each type were measured for determining size ranges.

## RESULTS

After the analysis of the 226 colonies collected, six families and eight species of athe-

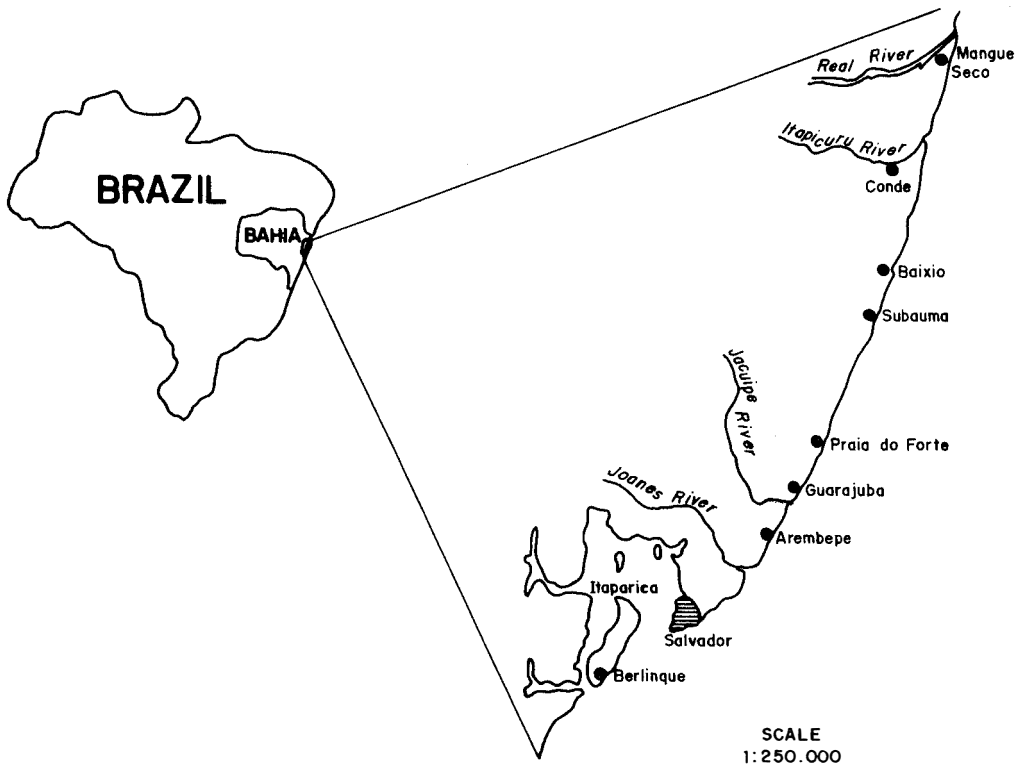


Fig. 1. Location map.

cateae hydroids were recorded for the studied area (Table 1). The analysis of the relative abundance (Peixinho & Peso-Aguiar 1989) reveals *Eudendrium carneum* as the most abundant species, and *Rhizodendrium sterreri*, *Parawrightia robusta* and *Porpita porpita* as the least abundant (Fig. 2).

Simplified identification key

- 1a. Hydroids with calcareous trabeculae .....*M. alcorni*
- 1b. Hydroids without calcareous trabeculae.....2
- 2a. With float and mantle .....*P. porpita*
- 2b. Without float and mantle .....3
- 3a. Elongated, clavate to fusiform hydranths, with scattered filiform tentacles.....4
- 3b. Hydranths of other form.....5
- 4a. Yellowish erect colonies up to 6 mm high; fusiform hydranths; 12 to 21 tentacles .....*T. nutricula*
- 4b. White stolonial colonies; cylindrical and elongate hydranths; 22 to 26 tentacles.....*R. sterreri*

- 5a. Vasiform hydranths, conical hypostome.....8
- 5b. Hydranths not vasiform .....6
- 6a. Pear-shaped hydranth; hypostome dome-shaped .....*H. disticha*
- 6b. Urn-shaped hydranth; large and flared hypostome ...7
- 7a. White or yellowish colonies; 15 to 22 tentacles.....*E. capillare*
- 7b. Reddish to orange colonies; 26 to 32 tentacles.....*E. carneum*
- 8a. Hypostome with 8 to 16 filiform tentacles in two close whorls .....*B. vestita*
- 8b. Up to about 26 tentacles in two or three close whorls.....*P. robusta*

TABLE 1

Systematic account of the commonest athecatae hydroids from Bahia

- Family Clavidae McCrady 1859
  - Subfamily Corydendriinae Calder 1988
    - Genus *Turritopsis* McCrady 1859
    - Turritopsis nutricula* McCrady 1859
    - Genus *Rhizodendrium* Calder 1988
    - Rhizodendrium sterreri* Calder 1988
- Family Bounganvillidae Lütken 1850
  - Subfamily Rhizorhagiinae Calder 1988
    - Genus *Parawrightia* Warren 1907
    - Parawrightia robusta* Warren 1907
  - Subfamily Bimeriinae Allman 1872
    - Genus *Bimeria* Wright 1859
    - Bimeria vestita* Wright 1859
- Family Eudendriidae L. Agassiz 1862
  - Genus *Eudendrium* Ehrenberg 1834
  - Eudendrium capillare* Alder 1856
  - Eudendrium carneum* Clarke 1882
- Family Halocordylidae Stecow 1921
  - Genus *Halocordyle* Allman 1872
  - Halocordyle disticha* (Goldfuss 1820)
- Family Milleporidae Fleming, 1828
  - Genus *Millepora* Linnaeus 1758
  - Millepora alcorni* Linnaeus 1858
- Family Porpitiidae Goldfuss 1818
  - Genus *Porpita* Lamarck 1801
  - Porpita porpita* (Linnaeus 1758)

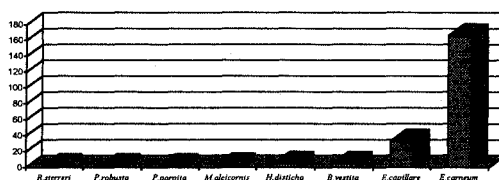


Fig. 2. Relative abundance of the commonest athecatae hydroids from Bahia.

Systematic account

*Turritopsis nutricula* (Fig. 3)

?*Turris neglecta* Forbes, 1848, [medusa] [*Turris neglecta* Lesson, 1843, a nomem dubium]; *Clavula gossii* Wright, 1859; *Oceania (Turritopsis) nutricula* McCrady, 1859 [medusa]; *Turritopsis nutricula* McCrady, 1859 [medusa]; *Turritopsis nutricula* L. Agassiz, 1862 [medusa] [incorrect subsequent spelling]; *Oceania polycirra* Kieferstein, 1863 [medusa]-*Turritopsis polynema* Haeckel, 1879 [medusa]; *Modeeria multitentacula* Fewkes, 1881 [medusa]; *Modeeria nutricula*, Fewkes, 1882 [medusa]; *Modeeria (Turritopsis) nutricula* Fewkes, 1883 [medusa]; *Modeeria multitentaculata*, Brooks, 1883a [medusa] [incorrect subsequent spelling]; *Oceania nutricula*, Brooks, 1883b [medusa]; *Modeeria nutricula* Brooks, 1886 [medusa] [incorrect subsequent spelling]; *Turritopsis polycirra* Hartlaub, 1897 [medusa]-*Turritopsis nutricula* var. *pacifica* Maas, 1911; *Corydendrium nutricula*, Kramp, 1935; *Turritopsis nutricula*, Wedler and Larson, 1986 [incorrect subsequent spelling]; *Turritopsis nutricula* Calder, 1988.

Material examined: Ribeira Beach, on the sponge *Desmapsamma anchorata*, 4 April 1995, eight colonies, 3-6 mm high, with 1 gonophore, UFBA-CNI HYD 0204.

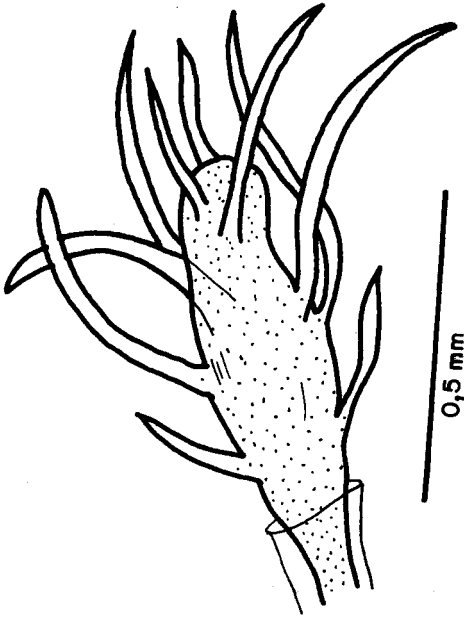


Fig. 3. *Turritopsis nutricula*.

**Description:** Yellowish erect colonies with hydrorhiza and a great part of hydrocaulus embedded in the sponge, sparingly and irregularly branched, reaching 6 mm high. Hydrocaulus monosiphonic, branches adnate to hydrocaulus at their origin, curved outwards and becoming distally free; hydrocaulus and branches slender basally, 0.14 mm wide, gradually expanding distally in diameter, reaching 0.25 mm wide at the base of the hydranth. Perisarc moderately thick with fine longitudinal creases and occasional wrinkles but no annulations, terminating below the tentacles on hydranth base. Fusiform hydranths, reaching 1.1 mm long from base to tip, 0.4 mm wide. Filiform tentacles vary from 12 to 21 in number; hypostome elongate and conical. Cnidom represented by desmonemes  $4.5-5.0 \mu\text{m} \times 3.0-3.2 \mu\text{m}$  and heterotrichous microbasic euryteles  $6.5-7.1 \mu\text{m} \times 3.2-3.4 \mu\text{m}$ .

**Known range:** Western Atlantic (Fraser 1944); Eastern Atlantic (Russel 1953); Indian Ocean (Millard 1975); Western Pacific (Ralph

1953); Eastern Pacific (Fraser 1948); Bermudas (Calder 1988); Brazil (Migotto 1993).

*Rhizodendrium sterreri*  
(Fig. 4)

**Material examined:** Ribeira Beach, 4 April 1995, one colony on conglomerate rock, 1.8 mm high, without gonophores, UFBA-CNI-HYD 0205; Praia do Forte, 12 September 1996, one colony on emergent nearshore bank reef, 2.1 mm high, without gonophores, UFBA-CNI-HYD 0208.

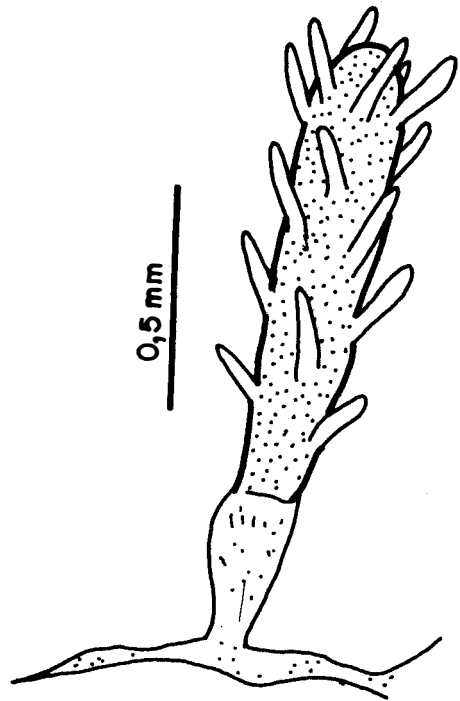


Fig. 4. *Rhizodendrium sterreri*.

**Description:** White stolonal colonies, with a creeping reticular hydrorhiza bearing sessile hydranths. The perisarc is smooth or softly wrinkled, moderately thin on hydrorhiza. elongated and cylindrical hydranths, up to 2.1 mm long, and 0.4 wide, with 22-26 filiform tentacles. Hypostome dome-shaped. Cnidom represented by desmonemes  $4.6-5.4 \mu\text{m} \times 2.6-3.1 \mu\text{m}$ , and heterotrichous microbasic euryteles  $6.5-7.8 \mu\text{m} \times 2.5-3.0 \mu\text{m}$ .

**Known range:** Whalebone Bay, Bermudas (Calder 1988).

*Parawrightia robusta*  
(Fig. 5)

*Parawrightia robusta* Warren, 1907; *Rhizorhagium robustum*, Millard, 1966; *Garveia robusta* Wedler and Larson, 1986; *Parawrightia robusta* Calder, 1988.

**Material examined:** Northern coast of Bahia, 20 December 1992, 02 colonies on the hydroid *Thyrosocyphus ramosus*, 1.6 and 1.8 mm high, without gonophores, UFBA-CNI-HYD 0206.

**Description:** Stolonal or erect colonies, reaching 1.8 mm high, that arise from a creep-

ing hydrorhiza. The hydrocaulus is monosiphonic, slender, irregularly branched; colonies tangled and straggly. perisarc fairly thick, smooth or wrinkled, extending as a thin pseudohydrotheca over the hydranth base nearly to the tentacles. Vasiform hydranths, about 1.2 mm long from the base to the tip of hypostome, 0.5 mm wide at widest point; hypostome conical and elongate. Filiform tentacles, tapering gradually from the base to tip, up to about 26 in number; these tentacles arranged in two or three close whorls, those of one whorl more or less alternating with those of adjacent whorls; proximal tentacles smaller than the distal ones. Cnidom represented by desmonemes measuring 4.8 - 5.2  $\mu\text{m}$  x 2.8 - 2.9  $\mu\text{m}$ ; and by heterotrichous microbasic euryteles 7.3 - 7.5  $\mu\text{m}$  x 3.6 - 3.8  $\mu\text{m}$ .

**Known range:** Western Atlantic (Florez Gonzalez 1983); Indian ocean (Millard 1975); Bermudas (Calder 1988).

*Bimeria vestita*  
(Fig. 6)

*Bimeria vestita* Wright, 1859; *Manicellafusca* Allman, 1859; *Bimeria humilis* Allman, 1877; *Perigonimus vestitus*, Motz-Kossowska, 1905; not *Bimeria vestita*, Annandale, 1907 [= *Garveia franciscana* (Torrey 1902)]; *Bimeria vestita* f. *nana* Leloup, 1932; *Leuckartiara vestita* f. *nana* Vervoort, 1946; *Leuckartiara vestita* Vervoort, 1946; *Perigonimus vestita* Mammem, 1963 [incorrect subsequent spelling]; *Garveia humilis*, Vervoort, 1968; *Bimeria* (*Garveia*) *humilis* Wedler and Larson, 1986 [incorrect subsequent spelling]; *Bimeria vestita* Calder, 1988.

**Material examined:** Arembepe Beach, 12 November 1995, one colony on *Eudendrium carneum*, 4.3 mm high, without gonophores, UFBA-CNI-HYD 0210; Guarajuba Beach, 16 August 1996, two colonies on the algae *Gellidiella* sp., 4.1 and 5.2 mm high, with male and female gonophores, UFBA-CNI-HYD 0215; 14 December 1996, one colony on the sponge *Anthosigmella varians*, 3.4 mm high, with male gonophores, UFBA-CNIHYD 0225; Arembepe Beach, 10 November 1996, one colony on artificial substrate, 3.2 mm high, without gonophores, UFBA-CNI-HYD 0279.

**Description:** Very small grayish stolonal or erect colonies arising from a creeping hydrorhiza. Hydrocaulus monosiphonic, slen-

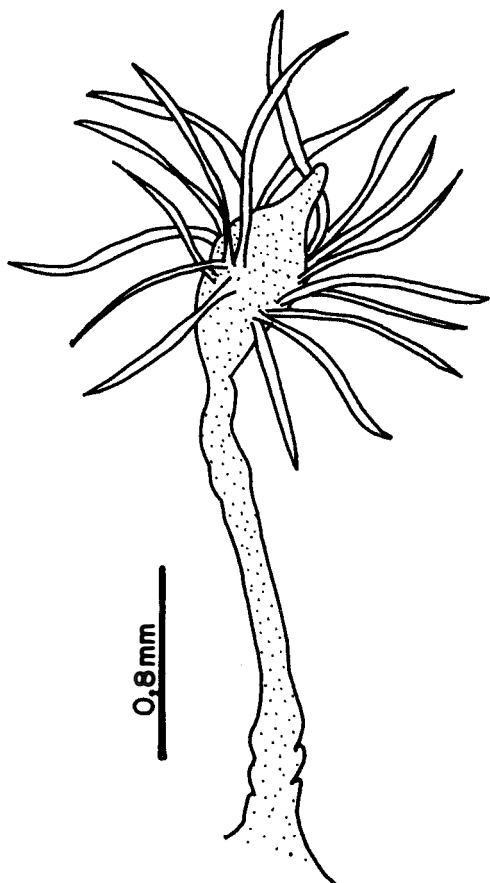


Fig. 5. *Parawrightia robusta*.

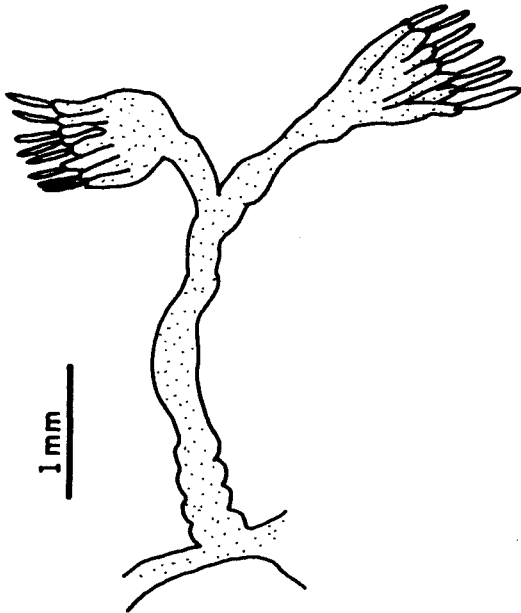


Fig. 6. *Bimeria vestita*.

der basally expanding distally, sparingly and more or less alternately branched. Perisarc annulated or softly wrinkled at the base of hydrocaulus and, branches extending as a film covering over the hydranth and around the base of the hypostome, forming tubular sheaths around the bases of the tentacles. Vasiform hydranth with an almost imperceptibly pedicel. Hypostome conical with 8 to 16 filiform tentacles, in two close whorls. Gonophores completely enveloped in a perisarc arising singly or short, annulated or softly wrinkled pedicels from hydrocaulus and branches. Female gonophores pear-shaped, each bearing a simple egg or embryo. Male gonophores pear-shaped to elongate-oval. Cnidom represented by the desmonemes  $3.8 - 4.6 \mu\text{m} \times 2.5 - 2.8 \mu\text{m}$  and by heterotrichous microbasic euryteles  $6.5 - 7.2 \mu\text{m} \times 3.6 - 4.6 \mu\text{m}$ .

**Known range:** Bermuda on hydroids and sponges (Congdon 1907, Bennit 1922 and Calder 1986); Western Atlantic (Vervoort 1968); Eastern Atlantic (Picard 1958); Indian Ocean (Millard 1975); Western Pacific (Leloup 1937) and Eastern Pacific (Fraser 1948); Brazil (Migotto 1993).

### *Eudendrium capillare* (Fig. 7)

*Eudendrium capillare* Alder, 1856; *Corymbogonium capillare*, Allman, 1861; *Dicoryne capillare*, Alder, 1862; *Eudendrium tenue* A. Agassiz, 1865; *Eudendrium capillare* var. *mediterranea* Neppi, 1917; *Eudendrium parvum* Warren, 1908; not *Eudendrium ? capillare* Millard, 1966; *Eudendrium capillare* Calder, 1988; *Eudendrium capillare*, Marques, 1993.

**Material examined:** Ribeira Beach, 14 April 1993, four colonies on the sponge *Desmapsamma anchorata*, 10-12 mm high, without gonophores, UFBA-CNI-HYD 0209; six colonies on the sponge *Dysidea etheria*, 11-12 mm high, without gonophores, UFBA-CNI-HYD 0211; three colonies on the hydroid *Thyroscyphus ramosus*, 8-11 mm high, with female gonophores, UFBA-CNI-HYD 0229; Itaparica Island, Berlinque Beach, 05 February 1993, one colony on the rock, 8 mm high, without gonophores, UFBA-CNI-HYD 0299; Todos os Santos Bay, 03 June 1995, four colonies on the mollusc *Trachycardium muricatum*, 6-9 mm high, without gonophores, UFBA-CNI-HYD 0241; northern coast of Bahia, 15 September 1996, fifteen colonies on artificial substrate, 6-14 mm high, with male and female gonophores, UFBA-CNI-HYD 0073.

**Description:** Whitish or light-yellowish small colonies, slender, straggly, up to 14 mm high, arising from a creeping hydrorhiza.

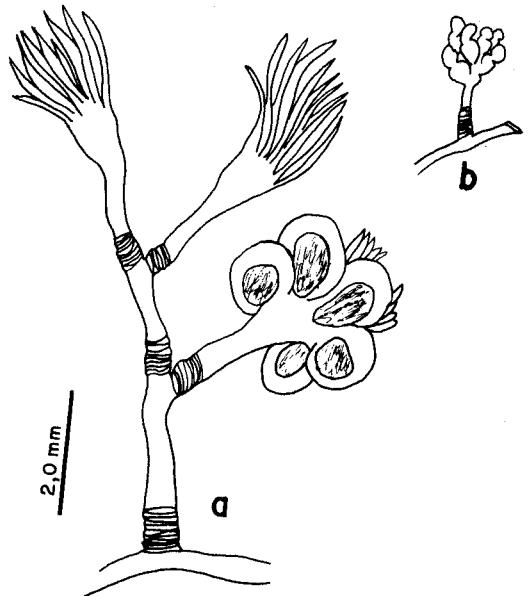


Fig. 7. *Eudendrium capillare*. A- Part of a colony with two normal hydranths and a reduced hydranth with female gonophores. B-Reduced hydranth with male gonophore.

Hydrocaulus monosiphonic with 100-120 mm wide, irregularly to more or less alternately branched; branches irregularly subdivided; pedicels often long and bent. Perisarc relatively thick and dark-yellow coloured at the base of the colony, becoming progressively thinner and white towards the extremities, terminating at groove around the base of the hydranth, annulated at the bases of the hydrocaulus, branches and pedicels, and with some irregularly placed annulations frequent elsewhere. Hydranths urn-shaped measuring about 290-380  $\mu\text{m}$  long from the proximal end to the base of the hypostome, and 245-336  $\mu\text{m}$  wide, with a shallow but distinct perisarc groove basally. Hypostome large and flared. Tentacles solid, filiform, 15-22 in number and in one whorl. Gonophores fixed sporadically, originating distal to perisarc groove on hydranth. Female gonophores borne in a whorl on hydranths with tentacles partially atrophied. Male gonophores, with 3 or more chambers each, borne on atrophied hydranths; apical chamber presents an apical tubercle. Cnidom represented only by heterotrichous microbasic euryteles measuring 7.0 - 8.2  $\mu\text{m}$  x 2.9 - 3.2  $\mu\text{m}$ .

**Known range:** Western Atlantic (Fraser 1944); Eastern Atlantic (Hincks 1868); Indian Ocean (Millard 1975); Western Pacific (Yamada 1959); Eastern Pacific (Fraser 1937); Bermudas (Calder 1988), Brazil (Marques 1993).

*Eudendrium carneum*  
(Fig. 8)

*Eudendrium ramosum* McCrady, 1859; *Eudendrium ramosum* A. Agassiz, 1865; *Eudendrium ramosum* Congdon, 1906; *Eudendrium ramosum* Fraser, 1912 [not *Eudendrium ramosum* (Linnaeus, 1758)]; *Eudendrium carneum* Clarke, 1882; *Eudendrium cunninghami* Kirkpatrick, 1910; *Eudendrium carneum* Calder, 1988; *Eudendrium carneum*, Marques, 1993.

**Material examined:** Todos os Santos Bay, 3 June 1995, thirty-four colonies, on carbonate bank, 6 - 12 cm high with male and female gonophores, UFBA-CNI-HYD 0239; 20 September 1995, fifty-two colonies, on the sponge *Haliclona* sp., 6-10 mm high, without gonophores, UFBA-CNI-HYD 0216; 4 December 1995, sixteen colonies, on carbonate bank, 6-11 mm high, with male and

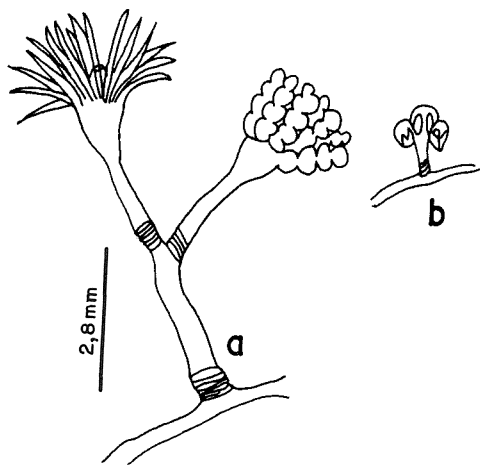


Fig. 8. *Eudendrium carneum*. A - Art of a colony with a normal hydranth (on the left) and a reduced hydranth with male gonophores (on the right). B - Reduced hydranth with female gonophores.

female gonophores, UFBA-CNI-HYD 0231; 4 December 1995, four colonies, on the octocoral *Carijoa riisei*, 6-8 mm high, without gonophores, UFBA-CNI-HYD 0240; Arembepe Beach, 12 November 1996, one colony on the scleractinian *Siderastrea stellata*, 6.5 mm high without gonophores, UFBA-CNI-HYD 0244; 16 November 1995, two colonies, on beach-rock, 6 mm high, without gonophores, UFBA-CNI-HYD 0252; Itaparica Island, one colony, 6.5 mm high, without gonophore, UFBA-CNI-HYD 0260; northern coast of Bahia, 13 October 1996, fifty-six colonies, on artificial substrate, 5.5 - 10 mm high, without gonophores, UFBA-CNI-HYD 0284.

**Description:** Reddish to orange colonies, extensively branched and bushy, up to 12 mm high, arising from a creeping mass of hydrorhizal stolons. Hydrocaulus upright and polysiphonic, more or less branched; primary branches also polysiphonic and irregularly branched; secondary ones often polysiphonic basally and branched in like manner. Perisarc thick and reddish/brownish-coloured in older parts of the colony, and thinner and paler towards the extremities, annulated or wrinkled at the bases of the branches; hydranth pedicels, with some occasional annulations elsewhere but mostly smooth, terminating almost perceptibly at the groove around the hydranths base. Hydranths are urn-shaped, about 0.7-0.8

mm long from the proximal end to the base of the hypostome, about 0.6 - 0.7 mm wide, with a shallow perisarc groove. Hypostome very large and flared to knob-shaped. Solid and filiform tentacles about 26-32 in number, in one whorl. Female gonophores on reduced hydranths with partially atrophied tentacles and the spadix is bifid. Male gonophores present more than five chambers each, borne on atrophied hydranths; the distal end of the gonophores presents scattered anisorhiza nematocysts. Cnidom represented by heterotrichous anisorhizas measuring 20.0 - 23.0  $\mu\text{m}$  x 9.5 - 11.5  $\mu\text{m}$ , and by heterotrichous microbasic euryteles, 8.2 - 9.4  $\mu\text{m}$  3.5 - 3.9  $\mu\text{m}$ .

**Known range:** Western Atlantic (Fraser 1944); Eastern Atlantic (Kirkpatrick 1910); Indian Ocean (Millard 1975); Eastern Pacific (Fraser 1948); Bermuda (Calder 1986, 1988); Brazil (Marques 1993).

*Halocordyle disticha*  
(Fig. 9)

*Sertularia pennaria* Cavolini, 1785 [incorrect subsequent spelling] [not *Sertularia pennaria* Linnaeus, 1758]; *Sertularia pennaria* Gmelin, 1790 [not *Sertularia pennaria* Linnaeus, 1758]; *Pennaria disticha* Goldfuss, 1820; *Plumularia pennaria* de Blainville, 1830; *Pennaria cavolini* Ehrenberg, 1834; *Aglatopenia pennaria* Costa, 1839 [incorrect subsequent spelling]; *Pennaria caulini* Chiaje, 1841; *Anisocalyx pinnarium* Costa, 1842; *Globiceps tiarella* Ayres, 1854; *Eucoryne elegans* Leidy, 1855; ?*Euphysa globator* Leuckart, 1856; *Ilenaria tiarella* McCrady,

1859; *Pennaria gibbosa* L. Agassiz, 1860; *Pennaria disticha* L. Agassiz, 1862 [incorrect subsequent spelling]; *Eucoryna elegans* van Beneden, 1867 [incorrect subsequent spelling]; *Pennaria cavolini* van Beneden, 1867 [incorrect subsequent spelling]; *Halocordyle tiarella* Allman, 1872; *Pennaria symmetrica* Clarke, 1879; *Globiceps globator* Haeckel, 1879; *Pennaria inornata* Brooks, 1833-, *Pennaria australis* Bale, 1884; *Pennaria rosea* von Landenfeld, 1885; *Pennaria adamsia* von Landenfeld, 1885; *Pennaria pennaria* Marktanner-Tumeretscher, 1890; *Halocordyle australis* Bale, 1894; *Pennaria cavolina* Spencer, 1892 [incorrect subsequent spelling]; *Halocordyle cooperi* Warren, 1906; *Pennaria pacifica* Clarke, 1907; *Pennaria australis* var. *cooperi* Warren, 1908; *Pennaria australis* Warren, 1908; *Pennaria disticha* var. *australis* Ritchie, 1910; *Pennaria wilsoni* Bale, 1913; *Halocordyle disticha* Stechow, 1923; *Halocordyle australis* Stechow, 1923; *Halocordyle wilsoni* Stechow, 1923; *Corydendrium splendidum* Boone, 1938; *Halocordyle disticha* var. *australis* Vervoort, 1941; *Halocordyle fragilis* Vannucci, 1951; *Halocordyle pennaria* var. *australis* Manunem, 1963; *Pennaria "americans"* Garcia-Corrales and Aguirre, 1985 [nomem nudum]; *Pennaria (Halocordyle) tiarella* Garcia-Corrales and Aguirre, 1985; *Pennaria europea* Garcia-Corrales and Aguirre, 1985 [nomem nudum]; *Pennaria (Halocordyle) disticha* Garcia-Corrales and Aguirre, 1985; *Pennaria symmetrica* Garcia-Corrales and Aguirre, 1985 [incorrect subsequent spelling]; *Halocordyle disticho* Wedler and Larson, 1986 [incorrect subsequent spelling] *Halocordyle disticha* Calder 1988; *Halocordyle disticha* Migotto, 1993.

**Material examined:** Ribeira Beach, 16 April 1993, two colonies, on rock outcrop, 8.4 and 12 mm high, without gonophores, UFBA-CNI-HYD 0245; Capitania dos Portos, 29 September 1996, one colony, on rock outcrop, 13.1 mm high, without gonophores, UFBA-CNI-HYD 0249; Pituba Beach, 17 August 1996, one colony, on the sponge *Anthosigmella varians*, 9.2 mm high, without gonophores, UFBA-CNI-HYD 0285; Praia do Forte, 16 October 1995, one colony, on the escleractinian *Montastrea cavernosa*, 13.5 mm high, without gonophores, UFBA-CNI-HYD 0222.

**Description:** Erect colonies that arise from a creeping and branching hydrorhiza; monopodial growth with terminal white hydranths. Monosiphonic hydrocaulus black or dark-brown coloured, reaching about 0.5 mm wide, zigzag to nearly straight, annulated basally and divided at more or less regular intervals by one or more well-developed annulations; internodes measuring from 0.5 up to 4.4 mm long. Perisarc thick, black or dark-brown, becomes progressively thinner and lighter coloured distally, terminating abruptly below hydranths of the hydrocaulus, branches, and ramuli. Branches up to 26 mm

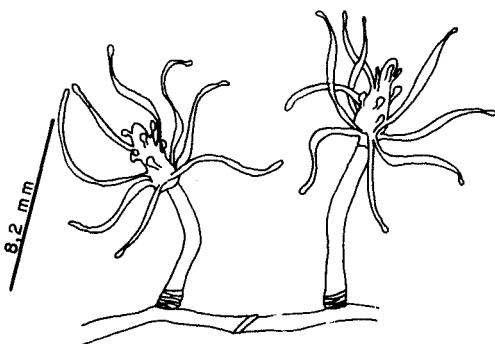


Fig. 9. *Halocordyle disticha*.



long, annulated basally, given off alternately from opposite sides of the hydrocaulus, curved outwards and divided into internodes (1.5 - 4.2 mm long). Ramuli, rising from the internodes, unbranched, annulated basally, and terminating in a hydranth. Hydranths clavate to pear-shaped, up to 1.6 mm long, 0.3 mm wide. Tentacles, 10-16 mm long, usually filiform. A varied number of short, capitate tentacles in one or more irregular verticils medially; and, orally, a whorl of about four to six short, capitate tentacles. Hypostome dome-shaped. Cnidom represented by desmonemes measuring 4.5 - 5.2  $\mu\text{m}$  x 3.2-3.8  $\mu\text{m}$ , basitrichous haplonemes 5.7 - 9.5  $\mu\text{m}$  x 2.4 - 3.5  $\mu\text{m}$ ; heterotrichous microbasic euryteles 10.8 - 13.5  $\mu\text{m}$  x 6.0 - 6.6  $\mu\text{m}$ ; and stenoteles varying from 5.5 - 6.5  $\mu\text{m}$  x 4.2 - 4.6  $\mu\text{m}$  up to 29.0 - 38.4  $\mu\text{m}$  x 15.9 - 21.0  $\mu\text{m}$ .

**Known range:** Western Atlantic (Fraser 1944); Eastern Atlantic (Brinckmann-Voss 1970); Indian Ocean (Millard 1975); Western Pacific (Yamada 1959)- Eastern Pacific (Fraser 1948); Bermuda (Calder 1986, 1988); Brazil (Migotto 1993)

*Millepora alcicornis*  
(Fig. 10)

*Millepora alcicornis* Linnaeus, 1758; *Millepora alcicornis digitata* Esper, 1790; *Millepora alcicornis corniculata* Esper, 1790; *Millepora alcicornis* Esper, 1790 [incorrect subsequent spelling]; *Millepora alcicornis ramosa*

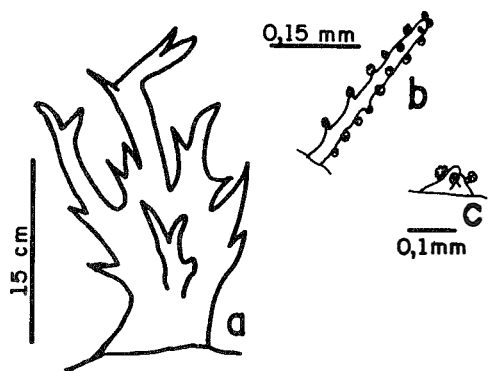


Fig. 10. *Millepora alcicornis*. A- Entire colony; B- Dactylozoid; C- Gastrozoid.

Esper, 1790; ? *Millepora alcicornis crustacea* Esper, 1790 [not *Millepora crustacea* Linnaeus, 1790]; *Millepora alcicornis* Bosc, 1802 [incorrect subsequent spelling]; *Palmipora alcicornis* de Blainville, 1834; *Millepora moniliformis* Dana, 1848 [not *Millepora moniliformis* Rafinesque, 1820]; *Millepora ramosa* Dana, 1848; *Millepora pumila* Dana, 1848 [not *Millepora pumila* Pallas, 1766]; *Palmipora fasciculata* Duchassaing, 1850; *Palmipora parasitica* Duchassaing, 1850; *Millepora forvkali* Milne Edwards, 1860; *Millepora fasciculata* Milne Edwards, 1860 [not *Millepora fasciculata* Lamarck, 1816]; *Millepora gothica* Duchassaing and Michelotti, 1860; *Millepora schrammi* Duchassaing and Michelotti, 1864; *Millepora esperi* Duchassaing and Michelotti, 1864; *Millepora crista-galli* Duchassaing and Michelotti, 1864 [not *Millepora crista-galli* Morren, 1828]; *Millepora delicatula* Duchassaing and Michelotti, 1864; *Millepora candida* Duchassaing and Michelotti, 1864; *Millepora digitata* Duchassaing and Micheletti, 1864; *Millepora carthaginiensis* Duchassaing and Michelotti, 1864; *Millepora trinitatis* Duchassaing and Michelotti, 1864; *Millepora frenestrata* Duchassaing and Michelotti, 1864; *Millepora nitida* Verrill, 1868; *Millepora alcicornis* var. *cellulose* Verrill, 1868; *Millepora alcicornis* var. *nestrata* Verrill, 1868; *Montipora gothica* Dollfus, 1936; *Millepora alcicornis* Calder, 1988.

**Material examined:** Itaparica Island, Mar Grande Beach, 23 November 1993, one colony, on fringing reef, 30 cm high, UFBA-CNI-HYD 0291; Capitanía dos Portos, 29 September 1996, one colony, on rock outcrop, 10 cm high, UFBA-CNI-HYD0292; Guarajuba Beach, 16 October 1996, one colony, on emergent nearshore bank reef, 12 cm high, UFBA-CNI-HYD 0293.

**Description:** Reddish or orange calcareous colonies with extensive upright branches of varied shape. Branches irregularly rebranched in one plane; branchlets fused to varying degrees basally, with free and digitate tips. Coenosteum consists of a framework of anastomosing calcareous trabeculae; interstices occupied by a network of coenosarc tubes, surface covered with an epidermal layer and perforated by many pores. Gastropores 0.35 - 0.36 mm in diameter; dactylopores 0.24 - 0.25 mm in diameter; five to nine dactylopores surround each gastropore. Gastrostyles and the dactylostyles absent. Gastrozooids relatively stout, reaching about 1 mm above the surface of the coenosteum when extended, with an oral whorl of five to seven short, capitate tentacles. Dactylozooids long and slender when extended, measuring 1.1 - 1.5 mm above the surface of the coenosteum; they present many short and capitate tentacles at the

distal end, and scattered elsewhere. Cnidom represented by microbasic mastigophores measuring  $30.5 - 32.0 \mu\text{m} \times 25.0 - 26.8 \mu\text{m}$ ; by stenoteles that varied from  $8.3 - 9.0 \mu\text{m} \times 5.5 - 6.5 \mu\text{m}$  up to  $21.5 - 25.0 \mu\text{m} \times 15.8 - 18.7 \mu\text{m}$  (at the gastrozooids), and  $8.2 - 8.5 \mu\text{m} \times 6.0 - 6.5 \mu\text{m}$  at the dactylozooids.

**Known range:** Western Atlantic (Boschma 1948); Bermuda (Calder 1988); Brazil (Nolasco and Ledo 1986; Nolasco 1987).

*Porpita porpita*  
(Fig. 11)

*Medusa porpita* Linnaeus, 1758; *Holothuria denudata* Forskal, 1775; *Holothurio denudata* Forskal, 1776 [lapsus]; *Medusa umbella* Müller, 1776; *Holothuria nuda* Gmelin, 1790; *Phyllidoce denudata* Modeer, 1790; *Phyllidoce porpita* Modeers, 1790; *Porpita indica* Lamarck, 1801; *Porpita apendiculata* Bosc, 1802; *Porpita radiata* Bory de St Vincent, 1804; *Porpita gigantea* Péron and Lesueur, 1807; *Porpita forskaeia* Oken, 1815 [name published in a work rejected for nomenclatural purposes by the ICZN (Opinion 417) Calder, 1988]; *Porpita nuda* Lamarck, 1816; *Porpita glandifera* Lamarck, 1816; *Porpita granulate* Cranch, 1818; *Porpita coerulea* Eschscholtz, 1825; *Porpita globosa* Eschscholtz, 1825; *Porpita ramifera* Eschscholtz, 1825;

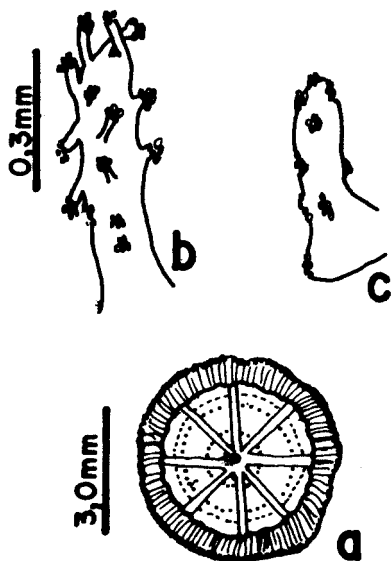


Fig. 11. *Porpita porpita*. A- Upper surface of the float and mantle; B- Dactylozooid; C- Gonozooid.

*Porpita chryvocomma* Lesson, 1826; *Porpita pacifica* Lesson, 1826; *Porpita moneta* Risso, 1826; *Medusa nuda* Bory de St Vincent, 1827; *Medusa glandifera* Bory de St Vincent, 1827; *Polybrachionia linnaeana* Guilding, 1828; *Porpita forskaehli* de Haan, 1827; *Porpita reinwardtii* de Haan, 1827; *Porpita kuhlii* de Haan, 1827; *Porpita mediterranea* Eschscholtz, 1829; *Porpita umbella* Eschscholtz, 1829; *Ratis medusae* Lesson, 1830; *Acies palpebrans* Lesson, 1830; *Porpita luteana* Lesson, 1843; *Porpita linnaeana* Lesson, 1843; *Chrysomitra striate* Gegenbaur, 1857 [medusa]; *?Discalia primordialis* Haeckel, 1888a [nomem nudum]; *Disconalia pectyllis* Haeckel, 1888a; [nomem nudum] *Disconalia gastroblasta* Haeckel, 1888a [nomem nudum]; *Porpitella coerulea* Haeckel, 1888a [incorrect subsequent spelling]; *Porpitella radiata* Haeckel, 1888a; *?Discalia primordialis* Haeckel, 1888b; *Disconalia pectyllis* Haeckel, 1888b; *Disconalia gastroblasta* Haeckel, 1888b; *Porpitella pectanthis* Haeckel, 1888b; *Porpita fungia* Haeckel, 1888b; *Disconalia ramifera* Haeckel, 1888b; *Porpitella coerulea* Haeckel, 1888b; *Porpita porpita* Schneider, 1898; *Phyllidice denudata* Bigelow, 1911 [incorrect subsequent spelling]; *Porpita porpita* Calder, 1988.

**Material examined:** Pituba Beach, 11 January 1995, one colony, 6.5 mm in diameter, UFBA-CNI-HYD 0286; Itaparica Island, Mar Grande, 22 February 1996, one colony, 6.8 mm in diameter, UFBA-CNI-HYD 0287.

**Description:** Pleustonic hydroid with a disc-shaped mantle and internal float; the upper surface of the mantle and float slightly convex, with a central pore and numerous peripheral stigmata. Mantle about 6.6 mm wide, with some radiating gastrodermal canals; margin soft and flexible, and the central region is firm with an internal chitinous float that consists of a series of air chambers. Undersurface presents a single large, central gastrozoid, a medial band of gonozooids, and a peripheral band of dactylozooids. Central gastrozoid short and broad with a terminal mouth; tentaculated dactylozooids have a distal whorl of four capitate tentacles; the number of short and small capitate tentacles around the body of the dactylozooid variable, and mouth lack. Clavate gonozooids. Cnidom represented by atrichous isorhizas,  $9.2 - 13.0 \mu\text{m} \times 4.2 - 5.0 \mu\text{m}$ ; haplonemes  $11.0 - 14.2 \mu\text{m} \times 5.5 - 6.7 \mu\text{m}$ , and by stenoteles that varied from  $15.0 - 16.5 \mu\text{m} \times 10.4 - 11.6 \mu\text{m}$  up to  $28.0 - 30.3 \mu\text{m} \times 21.6 - 25.5 \mu\text{m}$ .

**Known range:** Circumglobal, tropical and temperate waters (Brinckmann-Voss 1970); Bermuda (Calder 1988).

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## RESUMEN

El presente trabajo tiene como objetivo elaborar un inventario taxonómico acerca de la fauna de hidroides atecados registrada en la región norte de Bahía, hasta una profundidad de 60 m, basado en su gran parte en las colecciones hechas por los autores desde 1992. Todas las colonias fueron recolectadas a lo largo del litoral de la ciudad de Salvador, de la bahía de Todos los Santos, de la isla de Itaparica y en el litoral norte del estado de Bahía. Las 226 colonias analizadas están depositadas en la Colección Científica de Cnidaria del Departamento de Zoología del Instituto de Biología de la Universidad Federal de Bahía (UFBA-CNI-HYD). La fauna de atecados estudiada está representada por nueve especies. Esta fauna es considerada como depauperada, ya que la misma corresponde a menos de un tercio del número total de las especies registradas para Brasil. A cada especie estudiada se le proporcionó una clave simplificada para la identificación, nuevas descripciones, ilustraciones, y un estudio del cnidoma. Las especies *Rhizodendrium sterreri* y *Parawrightia robusta* se registraron por primera vez para Brasil.

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