

## HYDRIDS OF R.V. "METEOR" 5/2 EXPEDITION TO THE SOUTHERN RED SEA AND GULF OF ADEN

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### ABSTRACT

During the Expedition of R.V. "METEOR" Cruise 5, leg 2 (2.2-16.3.1987) to the southern Red Sea and Gulf of Aden hydroids were collected beside other marine organisms by means of dredge, box corer and beam trawl. The present work is to a great extent restricted to the Gulf of Aden.

A total of 20 species were recorded from the present collection, 12 species are reported from the Gulf of Aden for the first time: *Zygophylax millardae* Rees & Vervoort 1987, *Synthecium elegans* Allman, 1872, *Abietinaria filicula* (Ellis & Solander 1786), *Diaphasia mutulata* Busk 1852, *Thyroscyphus fruticosus* Esper 1793, *Cnidoscyphus aequalis* Warren 1908, *Sertularella campanulata* Warren 1908, *Sertularella mediterranea* Hartlaub 1901, *Sertularella polyzonias* Linnaeus 1758, *Sertularella diaphana* (Allman 1885), *Antennella secundaria* Gmelin 1791, and *Ventromma halecioides* Alder 1859. In the same time two species of the 12 new recorded for the Gulf of Aden are also recorded for the first time for the Red Sea (St.230): *Zygophylax millardae* and *Sertularella diaphana*. Another one species is recorded for the first time in the Red Sea (St.230): *Acryptolaria conferta* (Allman 1877). One more species is new to science: *Macrorhynchia meteor* (ST.230 Red Sea). and one new variety: *Gymnangium eximium millardae* n.v (St. 230 Red Sea). Three species are already known from the Gulf of Aden: *Halecium beanii* (Johnston 1838), *Clytia latitheca* Millard & Bouillon 1973, and *Lytocarpia flexuosa flexuosa* (Lamouroux 1816). The rest 2

*species are only to the Genus-level identified: Sertularella sp. and Sertularia sp.*

*The total list of the Gulf of Aden thecate hydroids-fauna is now 39 species.*

*The Taxonomy and distribution of the recorded 20 species are discussed. A checklist of total records of the Gulf of Aden is given, and their geographical aspects are discussed.*

## **INTRODUCTION**

Our knowledge of hydroids from the Red Sea and its southern exits was very poor until the works of (Vervoort, 1967; Schmidt, 1972; Mergner & Wedler, 1977 and Rees & Vervoort, 1987), which gave a great impulse forward.

In the present study a total of 20 species of thecate hydroids were recorded from the Gulf of Aden and the southern Red Sea. With these findings the total list of thecate hydroids so far recorded in the Gulf of Aden comprise 39 species.

It is expected, that the total list of species recorded from the Gulf of Aden will be raised after a careful survey of the area explored, specially by the catch below the 50 m. All the present material were caught at depths between 472 m. (St.287) and 2250 m.(St.257) with exception at 45 m. (St.236) and at 76 m. (St.283).

The aim of the present work is to identify the recorded 20 thecate hydroid species, discuss their morphology and distribution, and to give an idea about the total thecate hydroid-fauna of the the Gulf of Aden.

A list of the stations with collected species beside a map for the investigated area are given.

**MATERIAL AND METHODS**

The present hydroid-material was previously collected by the expedition of the R/V Meteor Cruise 5, leg. 2 during the period (2.2-16.3.1987) from the south Red Sea and Gulf of Aden.

Specimens were collected from 12 stations by means of dredge at depths (45-237 m.), box corer (1316-1819 m.) and beamtrawl (76-2250 m.)

The stations, in which the hydroids were found are as follow: Two stations (St.90), Lat. 22 15 4N long 7 44 7E, which lies in the Red Sea water closely between the Egyptian and the Sudanese Red Sea waters and (St.230), which lies in the southern Red Sea. The rest 9 Stations were in the Gulf of Aden (Map 1).

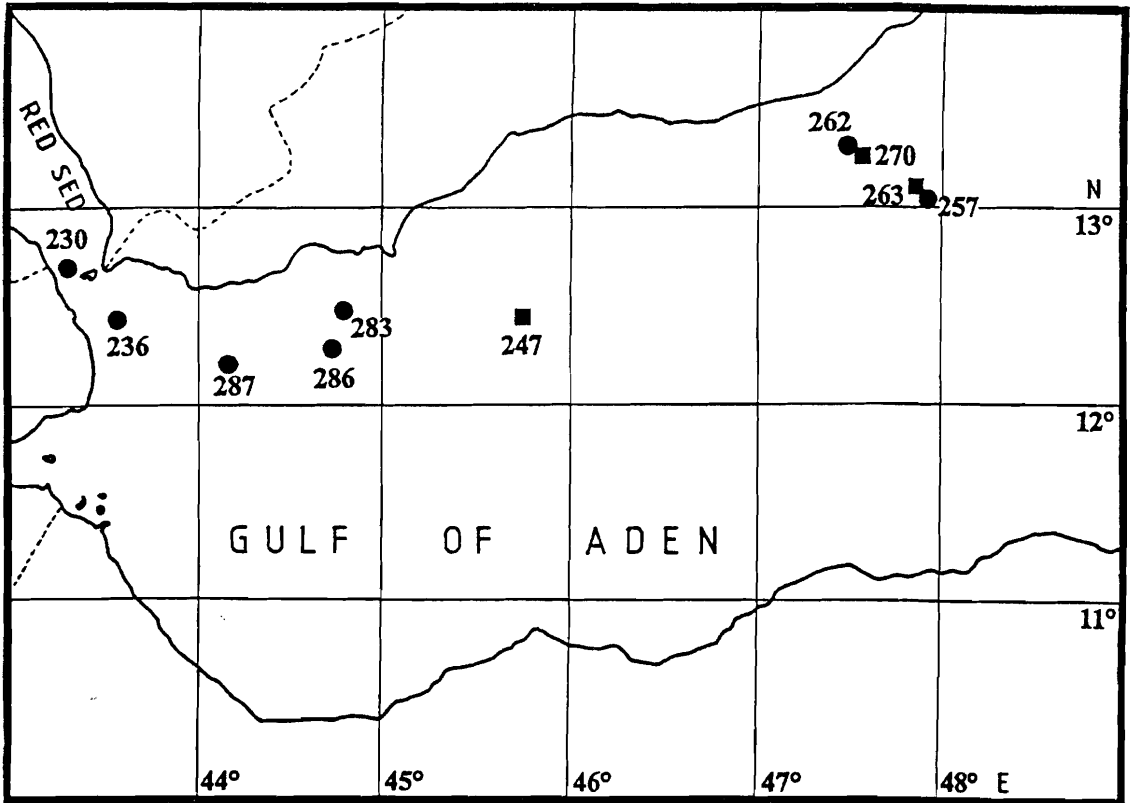
**List of species recorded**

- Halecium beanii* (Johnston, 1838)  
*Acryptolaria conferta* (Allman, 1877)  
*Zygophylax millardae* Rees & Vervoort, 1987  
*Clytia latithecata* Millard & Bouillon, 1973  
*Synthecium elegans* Allman, 1872  
*Abietinaria filicula* (Ellis & Solander, 1786)  
*Diaphasia mutulata* Busk, 1852  
*Thyroscyphus fruticosus* Esper, 1793  
*Cnidoscypus aequalis* Warren, 1908  
*Sertularella campanulata* Warren, 1908  
*Sertularella mediterranea* Hartlaub, 1901  
*Sertularella polyzonias* Linnaeus, 1758  
*Sertularella diaphana* (Allman, 1886)  
*Sertularella* sp.  
*Sertularia* sp.  
*Lytocarpia flexuosa flexuosa* (Lamouroux, 1816)  
*Antennella secundaria* Gmelin, 1791  
*Ventromma halecioides* Alder, 1859  
*Gymnangium eximium* (Allman, 1874)  
*Gymnangium eximium millardae* n. var.  
*Macrorhynchia meteor* sp.nov.

Table (1) : List of stations and species collected with relevant data (BMT = Beam trawl, DrG = Dredge and KG = Kasten - Greifer = box corer).

Station No.	Date	TIME	Position	Depth [m]	Gear	Hydroids collected
90	08.02.1987	05.41	22°15.4'N 37°44.7'E	1095	BMT	<i>Synthecium elegans</i>
		06.10	22°14.4'N 37°45.0'E	1116	BMT	<i>Gymnangium eximium</i>
230	05.03.1987	20.10	12°43.7'N 43°15.0'E	228	DRG-1	<i>Halecium beanii</i> <i>Acryptolaria conferta</i>
		20.45	12°43.5'N 43°14.8'E	235	DRG-1	<i>Synthecium elegans</i>
		21.05		214	DRG-2	<i>Clivia latitheca</i> <i>Thyroscyphus fruticosus</i>
		21.40		237	DRG-2	<i>Sertularella diaphana</i> <i>Sertularella mediterranea</i> <i>Zygophylax millardae</i> <i>Lytocarpia flexuosa flexuosa</i> <i>Gymnangium eximium</i> <i>Gymnangium eximium millardi</i> <i>Macrorhynchia meteor</i> sp. nov.
236	06.03.1987	13.30	12°21.4'N 43°26.9'E	45	DRG	<i>Cnidoscypus aequalis</i> <i>Gymnangium eximium</i>
		13.45	12°20.6'N 43°27.3'E	45	DRG	<i>Thyroscyphus fruticosus</i> <i>Antennella secundaria</i> <i>Diaphasia mutulata</i> <i>Sertularella polyzonias</i> <i>Sertularella mediterranea</i> <i>Sertularella diaphana</i> <i>Synthecium elegans</i> <i>Sertularella</i> sp.
247	08.03.1987	00.29	12°30.7'N 45°41.4'E	1315	KG-1195	<i>Cnidoscypus aequalis</i> <i>Thyroscyphus fruticosus</i>
257	11.03.1987	03.14	13°06.6'N 47°54.0'E	2227	BMT	<i>Cnidoscypus aequalis</i>
		04.16	13°06.8'N 47°52.1'E	2250	BMT	<i>Ventromma halecioides</i>
262	12.03.1987	00.49	13°19.7'N 47°29.2'E	1830	BMT	<i>Abietinaria filicula</i>
		01.50	13°19.9'N 47°31.8'E	1837	BMT	
263	12.03.1987	08.13	13°07.7'N 47°56.6'E	2195	KG-1200	<i>Cnidoscypus aequalis</i>
270	13.03.1987	20.31	13°19.6'N 47°29.3'E	1819	KG-1205	<i>Cnidoscypus aequalis</i> <i>Thyroscyphus fruticosus</i>
283	16.03.1987	11.52	12°30.9'N 44°47.7'E	76	BMT	<i>Zygophylax millardae</i> <i>Sertularella mediterranea</i>
		12.12	12°31.2'N 44°48.4'E	76	BMT	<i>Sertularella polyzonias</i> <i>Sertularella campanulata</i> <i>Sertularia</i> sp. <i>Gymnangium eximium</i> <i>Antennella secundaria</i>
286	16.03.1987	15.50	12°20.9'N 44°44.7'E	725	BMT	<i>Zygophylax millardae</i> <i>Antennella secundaria</i>
		16.50	12°22.7'N 44°46.3'E	751	BMT	<i>Gymnangium eximium</i> <i>Sertularella polyzonias</i> <i>Cnidoscypus aequalis</i> <i>Thyroscyphus fruticosus</i> <i>Synthecium elegans</i>
287	16.03.1987	21.12	12°16.0'N 44°08.5'E	472	BMT	<i>Gymnangium eximium</i> <i>Cnidoscypus aequalis</i>
		21.42	12°16.0'N 44°09.5'E	479	BMT	<i>Sertularella polyzonias</i> <i>Thyroscyphus fruticosus</i> <i>Zygophylax millardae</i>

THECATE HYDROIDS OF GULF OF ADEN



**Map (1): Map of the investigated area**

The collections were preserved in 70 % Alcohol. The hydroid specimens were examined under the Microscope and Stereomicroscope. The dimensions of the different species were made by means of Eye-Piece Micrometer. The descriptive drawings were made by the aid of the Camera Lucida.

All samples were documented and they are deposited in the collection of Senckenberg-Museum, Frankfurt a.M., (SMF).

Family Haleciidae Hincks 1868

*Halecium beanii* (Johnston 1838)

(Fig. 1 A,B)

*Thoa beanii* Johnston, 1838 : 120, pl. VII, figs. 1,2.

*Halecium beanii*, -- Millard, 1957 : 188; Millard, 1958 : 168; Vervoort, 1959 : 224, fig. 6; Mergner & Wedler, 1977: 12, Taf. 1, fig. 7.

*Halecium tenellum*, -- Mammen, 1965 : 9, figs. 35-36.

*Halecium cf. beanii*, -- Rees & Vervoort, 1987 : 23-25, fig. 4 a,b.

**Material:** St. 230. Two colonies, 30 and 40 mm high, with polysiphonic stems and main branches. With gonotheca. Another 3 fragments, 10-20 mm high.

Hydrocaulus is erect, monosiphonic, irregularly branched, internode short; hydrophore small. The hydrocaulus arising from stolon attached to substratum. The hydrothecal rim is slightly tilted upwards. Gonothecae oval, elongate, membranous and attached to the hydrocaulus by short peduncles.. The primary hydrothecae reduplicate to secondary and tertiary. Length of hydrophore: 0.18-0.33 mm, diameter at rim of hydrotheca: 0.12-0.16, maximal height of gonotheca: 0.90-1.10 mm.

**Distribution:** *Halecium beanii* is a nearly cosmopolitan species (Rees & Vervoort, 1987), although it prefers the sub-arctics, subantarctics and moderate waters (ELBeshbeeshy, 1991).

This species was recorded from the eastern coasts of Africa (Zanzibar area) by Rees & Vervoort (1987). It was previously recorded from the Red Sea (from Perim (southern part of the Red Sea) by Mergner & Wedler (1977).

**Remarks:** The present Material resembles exactly the Material described and figured by Mammen, 1965 from the Indian Coasts under the name *Halecium tenellum*. *Halecium tenellum* Hincks 1861 is characterised by its "weniggliedrige Äste und längere, oft distal an Länge zunehmende, bis 1.5 mm

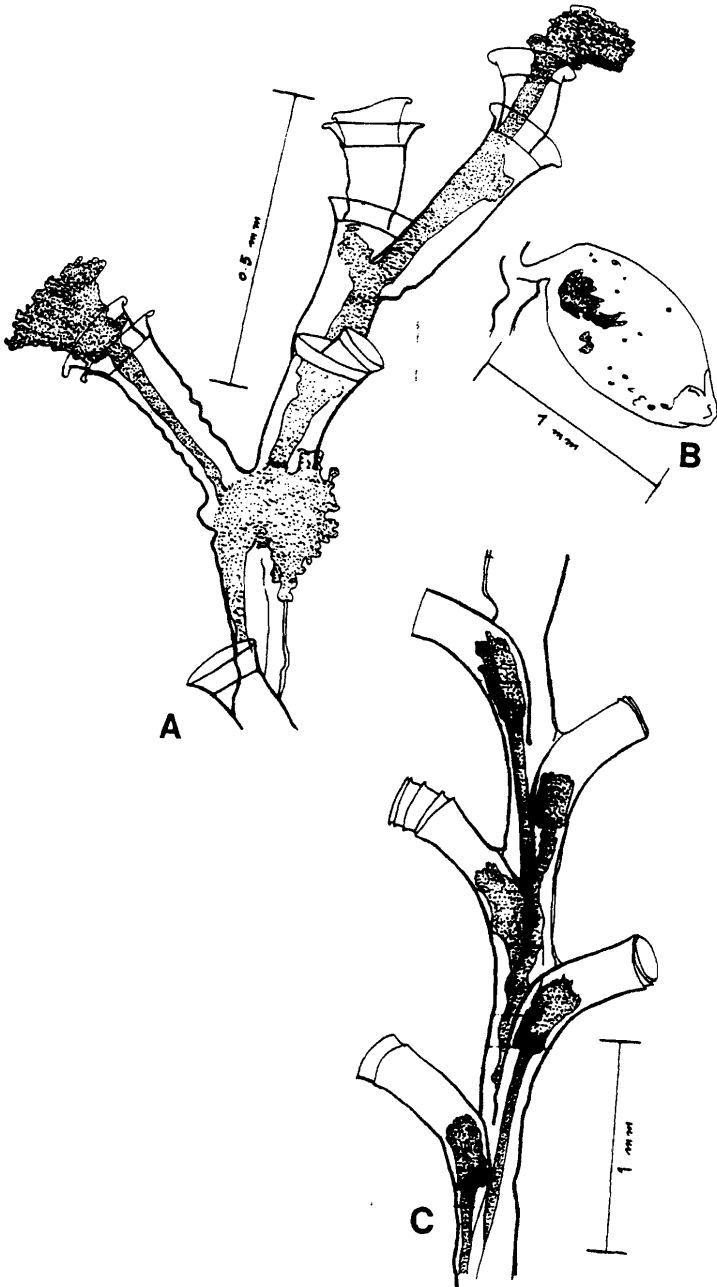


Fig. (1): A- *Halecium beanii*  
B- *Gonotheca of H. beanii*  
C- *Acryptolaria conferta*

lange Internodien" (ELBeshbeeshy,1991). Therefore I have considered the Material of Mammen, (1965) from the Indian Coasts as conspecific for the present examined species.

**Family Lafoeidae**  
***Acryptolaria conferta* (Allman 1877)**  
**(Fig. 1 C)**

*Cryptolaria conferta* Allman: 1877, pl.12, fig. 6-10

*Cryptolaria conferta* var. *australis*, -- Ritchie, 1911: 826-830, pl. 84 fig.2, pl. 87 fig. 1

*Acryptolaria conferta australis*, -- Millard, 1964: 9-10, fig.1 D, F, G; Millard, 1967: 172; Rees & Vervoort, 1987: 37-39, fig. 6e.

*Acryptolaria conferta*, -- Calder, 1991: 33-35, figs.19, 20

**Material:** St.230. A 28 mm long stem fragement with 6 side branches. No gonosome.

Stem erect, arising from a creeping hydrorhiza. Hydrocaulus with an axial tube overgrown by accessory tubes. Hydrothecae alternately arranged on opposite sides of the stem and immersed to a varying degree within the stem, with free part, curving outwards and slightly frontwards.

Length free part adcauline wall of the hydrotheca, including renovations:0.39-0.55 mm,length of abcauline wall:0.75-1.00 mm,breadth at rim:0.22-0.28 mm.

**Distribution:** *Acryptolaria conferta* is nearly cosmopolitan in water deeper than 100 m (Rees & Vervoort,1987). This species was recorded from South Africa by Millard (1964), from the Eastern coasts of Africa (Zanzibar area) by Rees & Vervoort (1987) and from the South West of Indian Ocean by Millard (1967). This is the first record of *Acryptolaria conferta* in the area investigated and in the Red Sea.

**Remarks:** The two subspecies, *Acryptolaria conferta conferta* (Allman 1877) and *Acryptolaria conferta australis* (Ritchie, 1911), were referred to a



single varied species, *Acryptolaria conferta* (Allman, 1877), by Millard (1975), a point of view was also followed by Calder 1991 and accordingly by the present work.

*Zygophylax millardae* Rees & Vervoort, 1987  
(Fig. 2 A,B)

*Zygophylax biarmata*, -- Jarvis, 1922: 335

*Zygophylax ? antipathes*, -- Millard, 1975: 190-192, fig. 62 F-G

*Zygophylax millardae* Rees & Vervoort, 1987: 86-89, fig. 14 a-f

**Material:** St.230, St.283, St.286. Various colonies and fragments, probably originating from strongly polysiphonic, irregularly branched colonies.

Axis erect, basally with side-branches (hydrocladia) pointing left and right and in the same plane of axis. Basal part of the stem is redish-brown. The axis without division into segments or internodes, bearing alternately arranged apophysis, separating by a variable distances; hydrothecae inserting on a strong apophysis. Hydrothecae deeply campanulate, they narrowing basally towards short peduncle, separated from hydrotheca by strong annular diaphragm (Fig. 2,B). Hydrothecal rim smooth, circular. Renovations of hydrothecal rim common and usually multiple. Nematothecae occuring very sparingly, but on close investigation nearly all apophyses with circular spot indicating that a nematotheca had originally been present on each apophysis. length 17-40 mm high, without coppinae. The length of hydrotheca along adcauline wall, without renovations: 0.25-0.30 mm and the length with renovations: 0.28-0.33 mm, the breadth at rim: 0.16-0.18 mm, the distance between two consecutive hydrothecae: 0.50-0.75 mm.

**Distribution:** *Zygophylax millardae* was recorded from the Eastern coast of Africa and South Africa by Jarvis (1922), Millard (1975), and Rees & Vervoort (1987). This is the first record of this species in the Southern Part of the Red Sea (St.230) and in the Gulf of Aden.

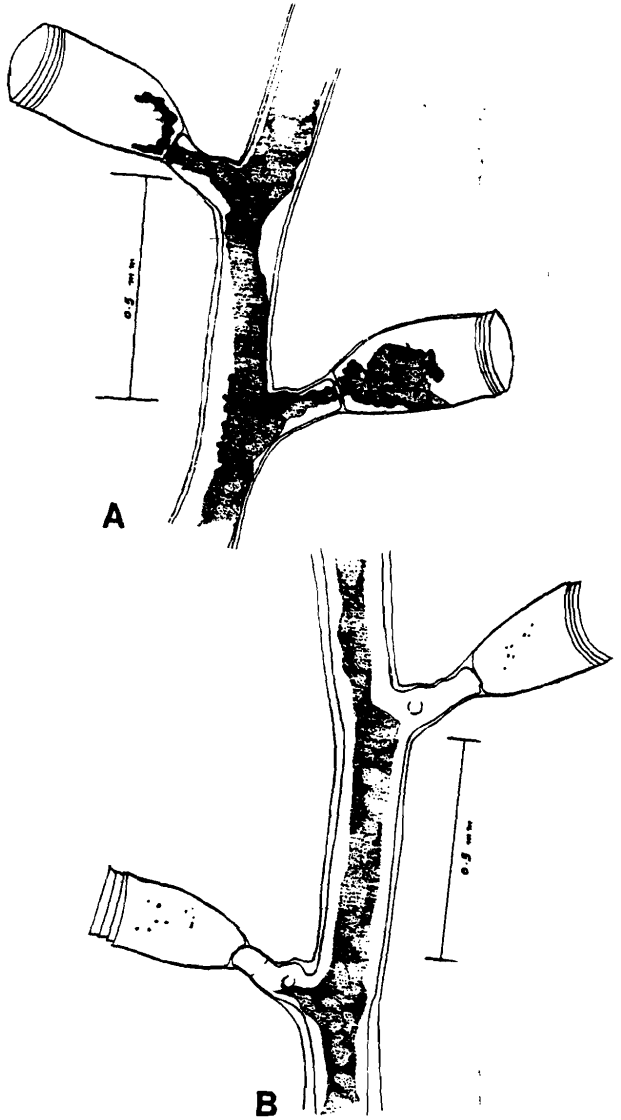


Fig. (2): (A,B): *Zygophylax millardae*

Family Campanulariidae Hincks 1868

*Clytia latithec* Millard & Bouillon 1973

(Fig. 3 A, B)

*Campanularia denticulata*, -- Thornely 1908, pl. 9, fig. 3

*Clytia latithec* Millard & Bouillon 1973: 59, fig. 7 H-I

*Campanularia (Clytia) latithec*, -- Mergner & Wedler, 1977: 14, Taf. 2, fig. 9

**Material:** St. 230. Two small colonies, 13, 15 mm high. No gonothecae.

Creeping colony, erect, sympodial. Pedicels strongly annulated basally and distally, and smooth in between. Hydrothecae campanulate, wide at margin, and wide at diaphragm. Hydrothecal margin with about 9-10 blunt, broadly triangular teeth, with each tooth having a shallow, U-shaped pleat extending inwards towards hydrothecal cavity. Hydrothecal diaphragm thick, straight; basal chamber deep. The length of hydrothecae: 0.40-0.50 mm, diameter at rim: 0.38-0.48 mm, the length of internodes: 0.90-0.110 mm, its maximal width: 0.10-0.12 mm.

**Distribution:** *Clytia latithec* was previously recorded from the Eastern coast of Africa by Thornely (1908) as *Campanularia denticulata*, and by Millard & Bouillon (1973). It was recently recorded from the Suez canal (EL Ballah), and from the Southern part of the Red Sea (around Perim) by Mergner & Wedler (1977).

**Remarks:** This species was regarded as new species by Thornely (1908), but wrongly described. It was correctly described by Millard & Bouillon (1973).

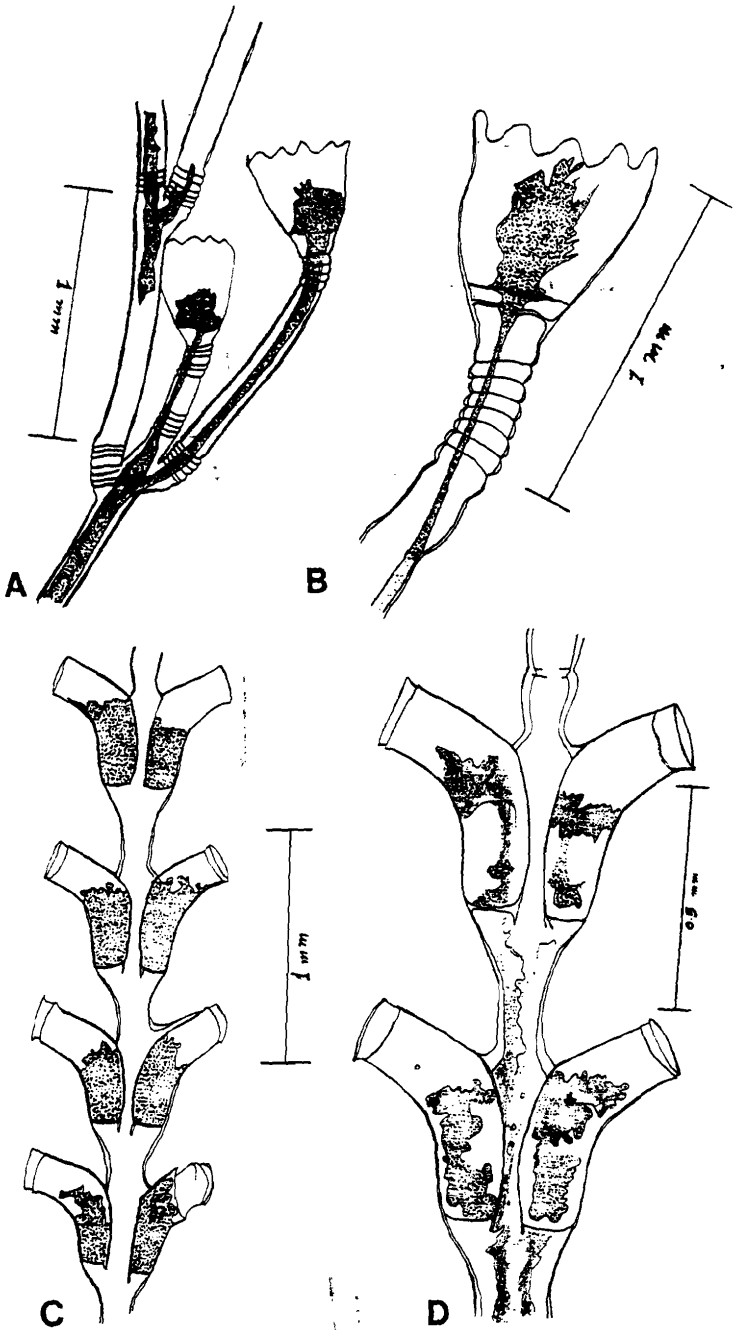


Fig. (3): (A,B): *Clytia latitheca*  
(C,D): *Synthecium elegans*

Family Syntheciidae Marktanner-Turneretscher, 1890

*Synthecium elegans* Allman, 1872

(Fig. 3 C,D)

*Synthecium elegans* Allman:229, fig. 1

*Synthecium elegans*, -- Bale, 1924: 251; Billard, 1925: 129, fig 5; Ralf, 1958: 349, fig. 17 a-e; Mergner & Wedler, 1977: 16, Taf. 3, fig. 18 a,b.

**Material:** St.90, St.230, St.236, St.286. Many colonies 10-20 mm high rising from epizotic stolons on another hydroids, each composed of main stem and opposite hydrocladia; no gonothecae.

Colony erect, pinnately branched, arising from a creeping hydrorhiza. Stems short, split up into internodes bearing one to three pairs of opposite hydrothecae. Hydrothecae in strictly opposite pairs, not touching and equally far removed from each other on both sides of hydrocaulus. Hydrothecae tubiform, and curved, with adnate adcauline part distinctly longer than free part. Hydrothecal aperture perfectly circular. Hydrothecal rim slightly everted, usually one or two renovations visible. The length of adnate adcauline wall of the hydrothecae: 0.31-0.38 mm, the length free adcauline wall, including renovations: 0.22-0.30 mm, the breadth at rim: 0.13-0.16 mm, the distance between apertures of a pair: 0.48-0.53 mm.

**Distribution:** This species was recorded from Australia (Hartlaub, 1901), from Newzeland (Bale, 1924; Ralph, 1958) and from East India and Madagascar (Billard, 1925). *Synthecium elegans* was previously recorded from the Southern part of the Red Sea (around Perim) by Mergner & Wedler (1977). This is the first record of *Synthecium elegans* in the Gulf of Aden.

Family Sertulariidae Hincks, 1868  
*Abietinaria filicula* (Ellis & Solander, 1786)  
(Fig. 4 B)

*Sertularia filicula* Ellis & Solander, 1786: 57; -- Hincks, 1868: 264-266,  
pl. 53, fig.3.

*Abietinaria filicula*, -- Broch, 1918: 119-120; Vervoort, 1946: 240-242, fig.  
106 a; Cornelius, 1979: 253-254, fig. 5 a-b.

**Material:** Two fragments: 13-20 mm high comprising the stems, each with a single Hydrocladium with 10-18 pairs of Hydrothecae. No gonothecae.

Hydrocaulus erect. Hydrothecae in two rows, sub-alternate. They are flask-shaped, bulbous basally, tapering distally to a neck. Aperture circular. The length of the abcauline wall of the hydrothecae: 0.75-0.87 mm, the length of the free part of adcauline wall: 0.63-0.71 mm, the length of adnate part of adcauline wall: 0.41-0.50 mm, the breadth at rim: 0.28-0.32 mm.

**Distribution:** Said to be boreal (Broch,1918). It was recorded from south Scotland (Hincks,1868),Plymouth (England) (Cornelius,1979).It has been recorded more often north of a line passing through the Isle of Man and Norfolk. It has also been reported from northern parts of Ireland but not from the south (Thompson,1856; Stephens,1905). It was also recorded from the southern North Sea from Holland (Vervoort,1946) and from the North-West Coast of Germany (Broch,1927),and from Helgoland and Denmark (Kramp,1935).

**Remarks:** As far as the available literature shows,*Abietinaria filicula* was not previously recorded neither in the Mediterranean nor in the Red Sea or even in the Indian Ocean. This is the first record at all in the Red Sea and there is no link between the localities in North Sea and the Gulf of Aden (present locality)

The present specimens resemble exactly the material described and figured by Cornelius (1979) from Plymouth (England).The occurrence of this species in the Gulf of Aden may be explained through the distributional mechanism i.e. through the transport by ships (as fouling-organisms) and sea-currents.

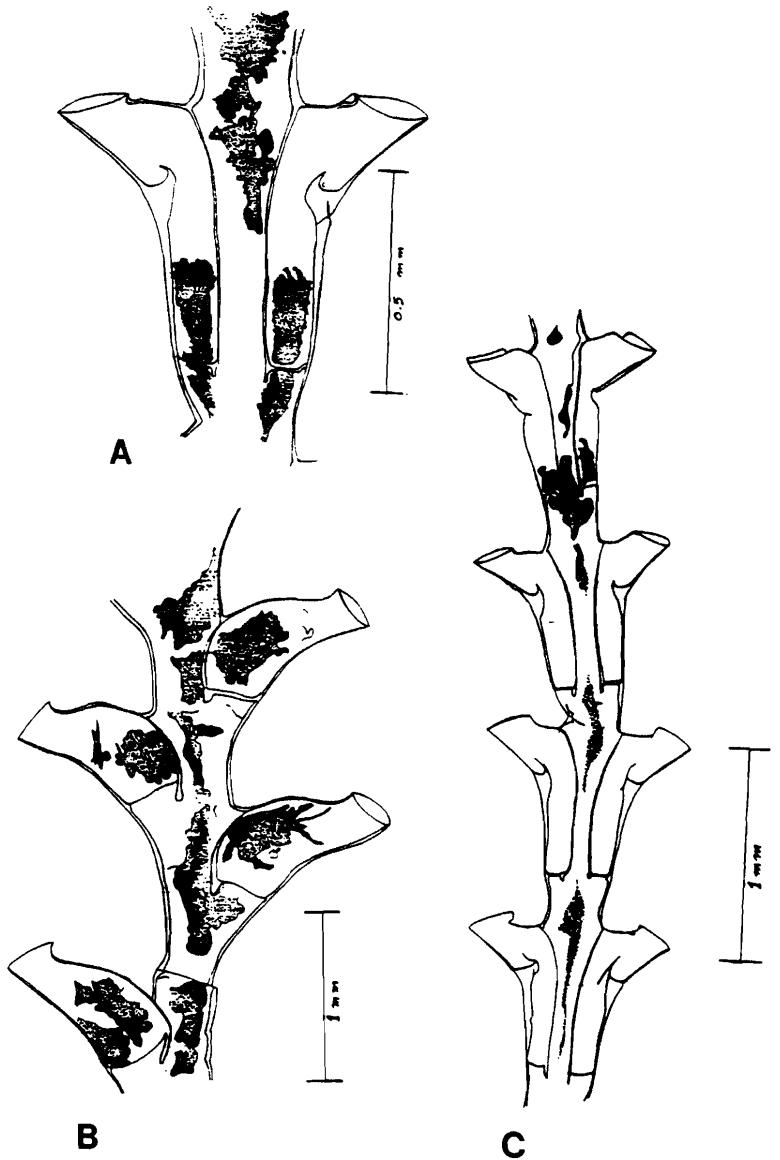


Fig. (4): (A,C) : *Diaphasia mutulata*  
(B) : *Abietinaria filicula*

*Diaphasia mutulata* Busk 1852

(Fig. 4 A, C)

*Sertularia mutulata* Busk, 1852: 391

*Diaphasia mutulata*, -- Ritchie, 1910: 12, pl.4, fig.3; Billard, 1933: 16, fig.4  
Mergner & Wedler, 1977: 18, Taf.4, fig.24 a-c

**Material:** St.236. 4 colonies: 10-64 mm high without gonothecae. The big colony (64 mm high) with a hydrorhiza composed of perisarcal tubes that attach colony to fixed substratum or form a basal tuft to another colony in movable sandy substrate. Hydrorhiza giving rise to erect, straight, monosiphonic axis bearing pairs of opposite hydrothecae. The length adnate part of adcauline wall of hydrothecae: 0.51-0.56 mm, length free part adcauline wall: 0.10-0.15 mm, length abcauline wall: 0.58-0.62 mm, diameter at rim: 0.14-0.19 mm.

**Distribution:** This species was recorded from the Australian Coasts and the Louisiade Archipelago (Busk, 1852), from the Mergui Archipelago, Lower Burma (Ritchie, 1907). *Diaphasia mutulata* was previously recorded from the Red Sea, from the Gulf of Aqaba and Gulf of Suez (Billard, 1933) and from the southern part of the Red Sea, around Perim (Mergner & Wedler, 1977)

This is the first record of *Diaphasia mutulata* in the Gulf of Aden.

*Cnidoscyphus aequalis* WARREN 1908

(Fig. 5 A,B)

*Thyroscyphus aequalis* Warren, 1908: 344, pl.48, figs. 38-40; -- Millard,  
1964: 52, fig.16

*Tyroscyphus aequalis*, -- Millard, 1968: 273

*Cnidoscyphus aequalis*, -- Spletstösser, 1929: 124; Rees & Thurnsfield, 1965:  
117; Mergner & Wedler, 1977: 18, 20, Taf.4, fig.28

**Material:** St.236, St.247, St.257, St.263, St.270, St.286, St.287. Several fragments of 23-35 mm length. No gonothecae. The division of the hydrocaulus into internodes is not visible. The hydrothecae have the



characteristic closing apparatus composed of four flaps in a few cases but the majority of the hydrothecae are renovated and carry no closing plates. The length of abcauline wall of hydrothecae: 0.90-0.100 mm, length of adcauline wall: 0.75-0.100 mm, breadth at rim: 0.63-0.75 mm.

**Distribution:** *Cnidoscyphus aequalis* was restricted only to the southern Eastern Coasts of Africa (Warren, 1908; Millard 1964; Millard, 1968), until it was recorded in the southern part of the Red Sea (around Perim) by Mergner & Wedler (1977) :

The present records extend its distribution to the Gulf of Aden.

***Thyroscyphus fruticosus* Esper 1793**  
(Fig. 5 C)

*Laomedia fruticosa* Esper, 1739: 162

*Thyroscyphus vitiensis*, -- Billard, 1926 : 96

*Thyroscyphus fruticosus*, -- Splettstößer, 1926: 7, figs.1-27

*Thyroscyphus fruticosus*, -- Vervoort, 1946: 306; Vervoort, 1967: 35, figs.8,9 ;  
Schmidt, 1972: 35, Pl. 2A; Mergner & Wedler, 1977:  
18, Taf.2, fig.14 .

**Material:** St.230, St.236, St.247, St.270, St.286, St.287.

So many fragments of 1.5 -7 cm length. No gonothecae are present. The division of the hydrocaulus into internodes is visible only in the younger (higher) parts. The shape of the hydrothecae can best be judged from (Fig. 5 C). The hydrothecae have a characteristic closing apparatus composed of four flaps. The hydrothecae of the older parts of the colony carry no closing plates and usually renovated. The length abcauline wall of hydrothecae: 0.95-0.100, length adcauline wall: 1.15-1.30 mm, breadth at rim: 0.55-0.62 mm.

**Distribution:** *Thyroscyphus fruticosus* is well distributed throughout the Indian and the western Pacific Ocean (Schmidt, 1972). It was also found in the Adriatic Sea (Marktanner, 1890). This species was previously recorded from the Red Sea, from the Gulf of Seuz as *Thyroscyphus vitiensis* by Billard (1926)

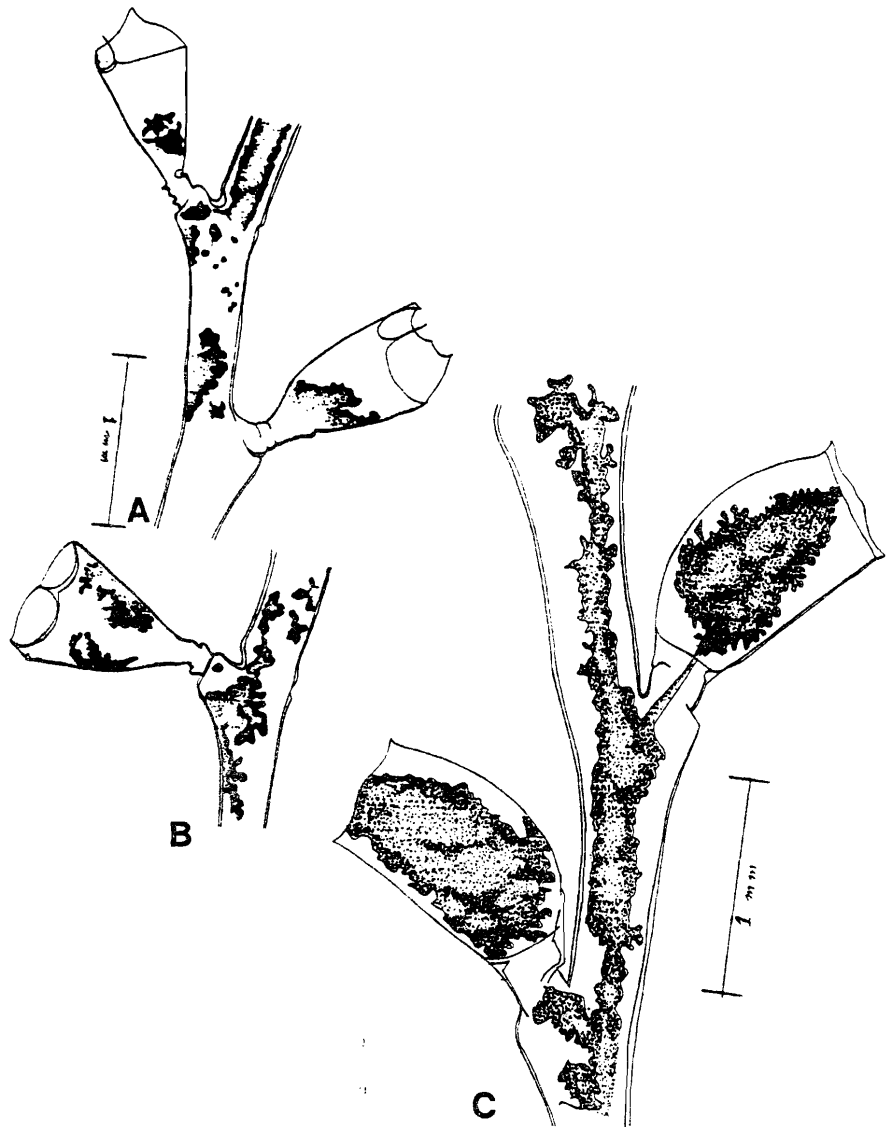


Fig. (5): (A,B): *Cnidocyphus aequalis*  
(C): *Thyroscyphus fruticosus*

and from the Gulf of Aqaba by Schmidt (1972) and from the southern part of the Red Sea by Vervoort (1967) , Mergner & Wedler, (1977) forming a link between the localities in Indo-Pacific and those in the Gulf of Suez. This is the first record of *Thyroscyphus fruticosus* in the Gulf of Aden.

*Sertularella campanulata* Warren 1908  
(Fig. 6 B)

*Sertularella campanulata* Warren, 1908: 300, pl. 47, figs. 21, 22; Mergner & Wedler, 1977: 20, Taf. 3, Fig. 23, Taf. 7, fig. 48.  
*Calamphora campanulata*,--Gravely, 1927 : 12, pl. 2, fig.9; Mammen, 1965: 35, fig. 67 .

**Material:** St.283. Five hydrothecae on a creeping stolon, without gonothecae, hydrothecal peduncles are half as long as the hydrotheca, with 3-5 annulations. Hydrothecae with 8-10 transverse annular ridges. The length of hydrotheca: 0.87-0.100mm, maximal breadth: 0.36-0.48 mm, diameter at rim: 0.30-0.33 mm.

**Distribution:** Previously this species was recorded from the West Coasts of India (Jäderholm, 1903; Mammen, 1965) and from the Eastern Coasts of Africa (Warren, 1908). *Sertularella campanulata* was first recorded from the Red Sea (around Perim) by Mergner & Wedler (1977).

This is the first record of *Sertularella campanulata* in the Gulf of Aden.

**Remarks:** It is interesting to note that the Indian specimens described and figured by Jäderholm (1903) and Mammen (1965) have comparatively sharp annulations on the hydrothecae than the specimens of the Southern Red Sea described and figured by Mergner & Wedler (1977) and the present material from the Gulf of Aden.

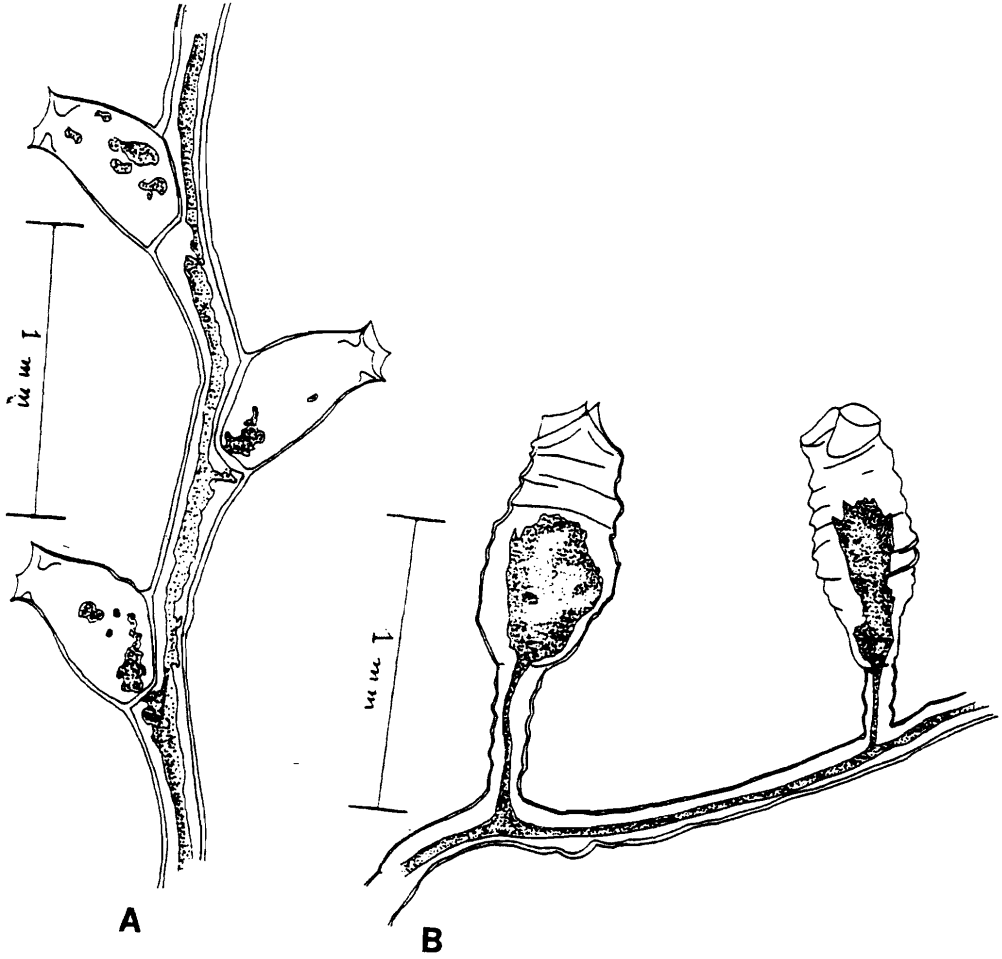


Fig. (6): A: *Sertularella mediterranea*  
B: *Sertularella campanulata*

*Sertularella mediterranea* Hartlaub, 1901

(Fig. 6 A)

*Sertularella mediterranea* Hartlaub, 1901 : 86, pl. 5, figs. 10, 15, 16  
*Sertularella mediterranea*, -- Vervoort, 1959: 272, fig. 33; Millard, 1967:  
180; Schmidt, 1972: 37, pl. 1B, fig. 2a; Mergner  
& Wedler, 1977: 20, Taf. 3, fig. 20 a,b.

**Material:** St.230, St.236, St.283. So many fragements: 8-23 mm high. Monosiphonical with no side-branches. No gonothecae. The length of abcauline wall of hydrothecae: 0.55-0.60 mm, length free adcauline wall: 0.40-0.45 mm, length adnate adcauline length: 0.31-0.35 mm, breadth at rim: 0.20-0.22 mm.

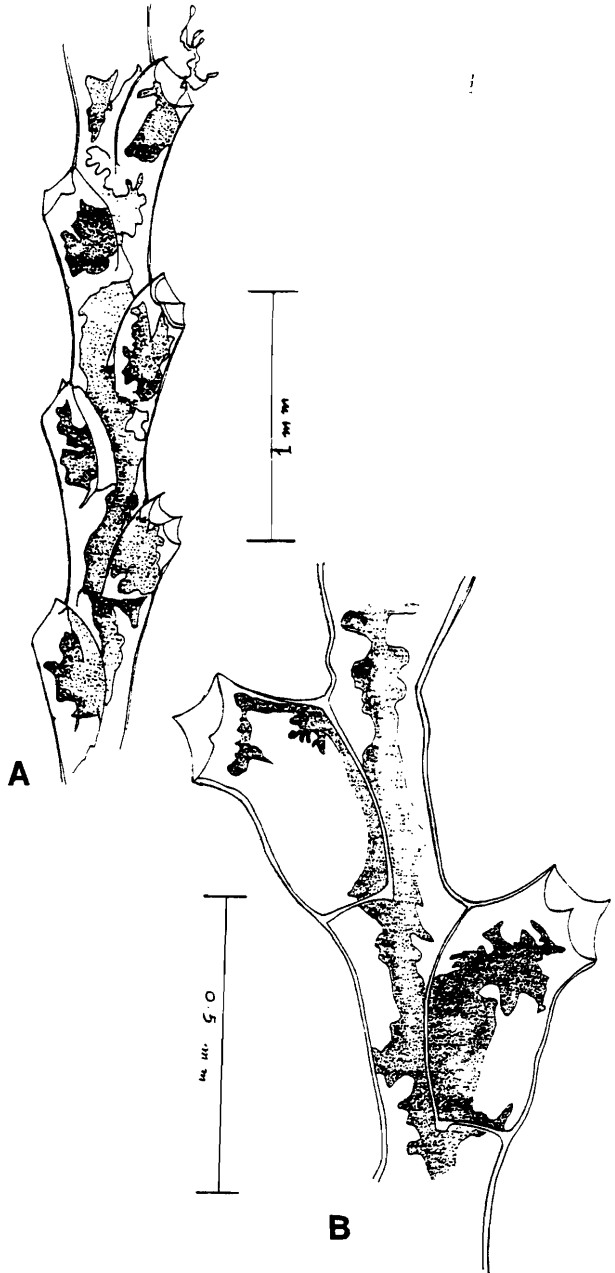
**Distribution:** *Sertularella mediterranea* was described from the Mediterranean Sea. It was recently described by the Author from the Egyptian Mediterranean coasts (Abu Qir, EL Burollus and Sidi Krer). It is also distributed along the tropical and subtropical coasts of West and East Africa (Billard, 1906; Stechow, 1925 and Vervoort, 1946). *Sertularella mediterranea* was first recorded from the Red Sea (Gulf of Aqaba and Eilat) by Schmidt (1972). The second record was in the southern part of the Red Sea (around Perim) by Mergner & Wedler (1977). This is the first record of *Sertularella mediterranea* in Gulf of Aden.

*Sertularella polyzonias* Linnaeus, 1758

(Fig. 7 B)

*Sertularella polyzonias* Linnaeus, 1758 : 813  
*Sertularella polyzonias*, -- Mergner & Wedler, 1977: 20, Taf.3, fig.22

**Material:** St.236, St.283, St.286, St.287. Many fragements: 9-16 mm high and two young colonies: 18-30 mm high (St.283, St.287), monosiphonical with side-branches. No gonothecae. The length of abcauline wall of hydrothecae: 0.30-0.42 mm, length free adcauline wall: 0.15-0.43 mm, length adnate adcauline wall: 0.28-0.32 mm, breadth at rim: 0.18-0.20 mm.



A: *Sertularella diaphana*  
B: *Sertularella polyzonias*

**Distribution:** *Sertularella polyzonias* is a cosmopolitan species (Millard, 1975). It was previously recorded from the southern part of the Red Sea (around Perim) by Mergner & Wedler (1977). This is the first record of *Sertularella polyzonias* from the Gulf of Aden.

**Remarks:** The present specimens resemble identically the specimen described and figured by Mergner & Wedler (1977) from the Southern Part of the Red Sea (around Perim) as *Sertularella polyzonias*. Both specimens differ from the the original *Sertularella polyzonias* Linnaeus, by the arrangement of their hydrothecae, and the very short internodes, and the very long adnate part of their hydrothecae, while *Sert. polyzonias* described by Linnaeus 1758 with relatively but distinctly long internodes, and the adnate part of their hydrothecae is short, and accordingly the arrangement of the hydrothecae is different. So the present species may be a new one, but because it has no gonothecae, the identification of Mergner & Wedler is followed here waiting for more materials in the future.

*Sertularella diaphana* (Allman 1885)

(Fig. 7 A)

*Thuiaria diaphana* Allman, 1885: 145, pl. 18, figs. 1-3

*Sertularella lata*, -- Billard, 1907: 346, fig. 4

*Sertularella diaphana*, -- Billard, 1925: 157, fig. 22; pl. 7, figs. 12, 13;

Millard, 1958: 188, fig. 7 C, D; Calder, 1991: 101-103, fig. 53.

**Material:** St.230, St.236. By St.230 four fragments: 6-25 mm high. By St.236 one colony 11 cm high. No gonothecae.

Colony erect, arising from a creeping hydrothiza. Hydrocaulus monosiphonic, divided into internodes at regular intervals by oblique nodes sloping alternately left and right. Hydrothecae almost entirely adnate, they are alternate, on opposite sides of hydrocladia. The hydrothecal aperture nearly circular, and the hydrothecal margin with four low teeth. Length abcauline wall of hydrothecae: 0.30-0.35 mm, length free adcauline wall: 0.10-0.15 mm, length adnate adcauline wall: 0.47-0.50 mm, diameter at rim: 0.22-0.25 mm.

**Distribution:** This species was previously recorded from the Portuguese East Africa by Billard (1907), Jarvis (1922), and Millard (1958). It was also recorded from the Indian Ocean by Millard 1975. This is the first record of *Sert. diafana* in the Red Sea and in the Gulf of Aden.

**Remarks:** This species resemble *Sertularella quadriedens* (Bale 1884) recorded from Australian coasts and recorded also from the Indian Ocean by Mammen (1965), but the fact , that the hydrothecae almost entirely adnate within the stem , makes it fairly certain, that the present material is *S. diaphana*

*Sertularella* sp.

(Fig. 8 B)

**Material:** St.236. One fragement: 15 mm long. No gonothecae.

The stem, moderately stiff, divided into internodes each bearing one hydrotheca; nodes oblique, and marked by perisarcial constrictions. Hydrothecae alternate, and usually in one plane. Shape of the hydrothecae can best be judged from (Fig. 8 B). Length of Internodes: 0.65-0.75 mm, length free adcauline part of hydrothecae: 0.35-0.40 mm, length adnate of adcauline part: 0.25-0.30 mm, length abcauline part: 0.45-0.50 mm, diameter at rim: 0.20-0.25 mm.

**Remarks:** The present specimen resemble to some extend the specimen described and illustrated by Rees & Vervoort (1987) from the Gulf of Aden as *Sertularella dubia*, but the hydrothecae of the latter exhibit distinctly 4-6 undulations on the free adcauline part, while these undulations are abscent in the present specimen. Because the present specimen is scanty, and has no gonothecae, I refer to it as *Sertularella* sp. waiting for further mateial in future.



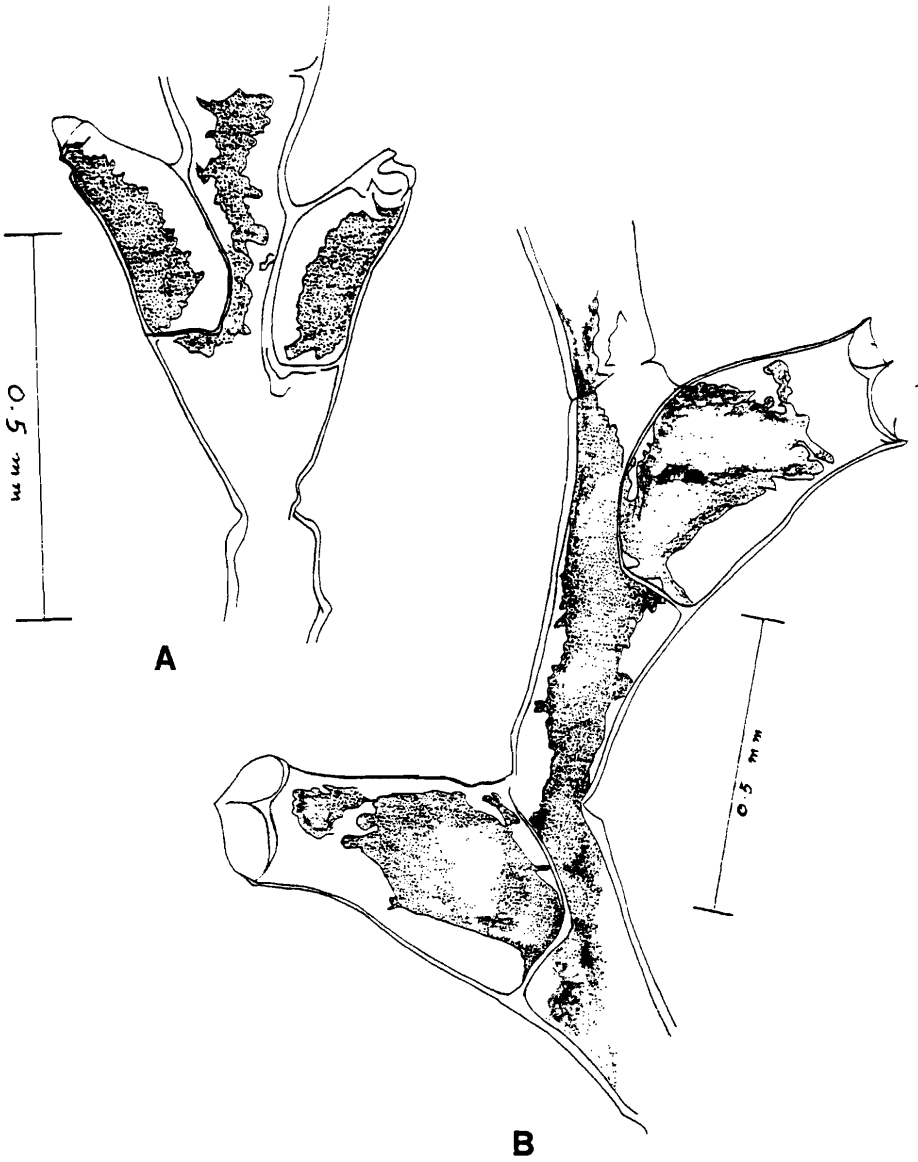


Fig. (8): A: *Sertularia* sp.  
B: *Sertularella* sp.

*Sertularia* sp.

(Fig. 8 A)

**Material:** St. 238. Single fragement 2.6 Cm long; no gonothecae.

Hydrocladium long, erect, monosiphonic. Hydrothecae in sub-opposite to sub-alternate pairs. They are cylindrical basally, tapered distally, can best to be judged from (Fig. 8 A). The hydrothecal rim with 2-cusped, cusps.

**Remarks:** The present specimen resemble to some extend the material described and figured by Cornelius (1979) as *Sertularia cupressina* from South East of England. Because the present specimen was represented in the collection by a single fragement and without gonothecae, I refer to it as *Sertularia* sp.

Family Aglaopheniidae Broch, 1918

*Lytocarpia flexuosa flexuosa* (Lamouroux, 1816)

(Fig. 9 A,B)

*Aglaophenia flexuosa* Lamouroux, 1816: 167

*Thecocarpus flexuosus flexuosus*,--Millard, 1962: 315, fig. 12 A, J-L; Mergner & Wedler, 1977: 22, pl. 6 fig. 37, pl. 11 figs. 70-73.

*Lytocarpia flexuosa flexuosa*,--Rees & Vervoort, 1987: 175-177, fig. 42 a-b

**Material:** St. 230. Two fine colonies: 4.7-8.5 cm high, with gonosome.

Colonies erect, monosiphonic, and feather-shaped. They were attached to coral debris. Length hydrocladial internode: 0.20-0.24 mm, max. depth of hydrothecae: 0.23-0.27 mm, breadth at rim: 0.13-0.15 mm, length mesial nematothecae: 0.16-0.20 mm, breadth at rim: 0.03-0.05 mm, Corbula (Fig. 9 B) total length: 4.0-8.0 mm, max. breadth: 1.5-2 mm.

**Distribution:** This species was originally recorded from the East Indies by Lamouroux (1816) (type locality). *Lytocarpia flexuosa flexuosa* is widely distributed in the western Indian Ocean (Vervoort 1946; Millard, 1957, and Millard, 1962), in the Red Sea (southern part) (Mergner & Wedler, 1977), in the Gulf of Aden and the southern Arabian coast (Rees & Vervoort, 1987).

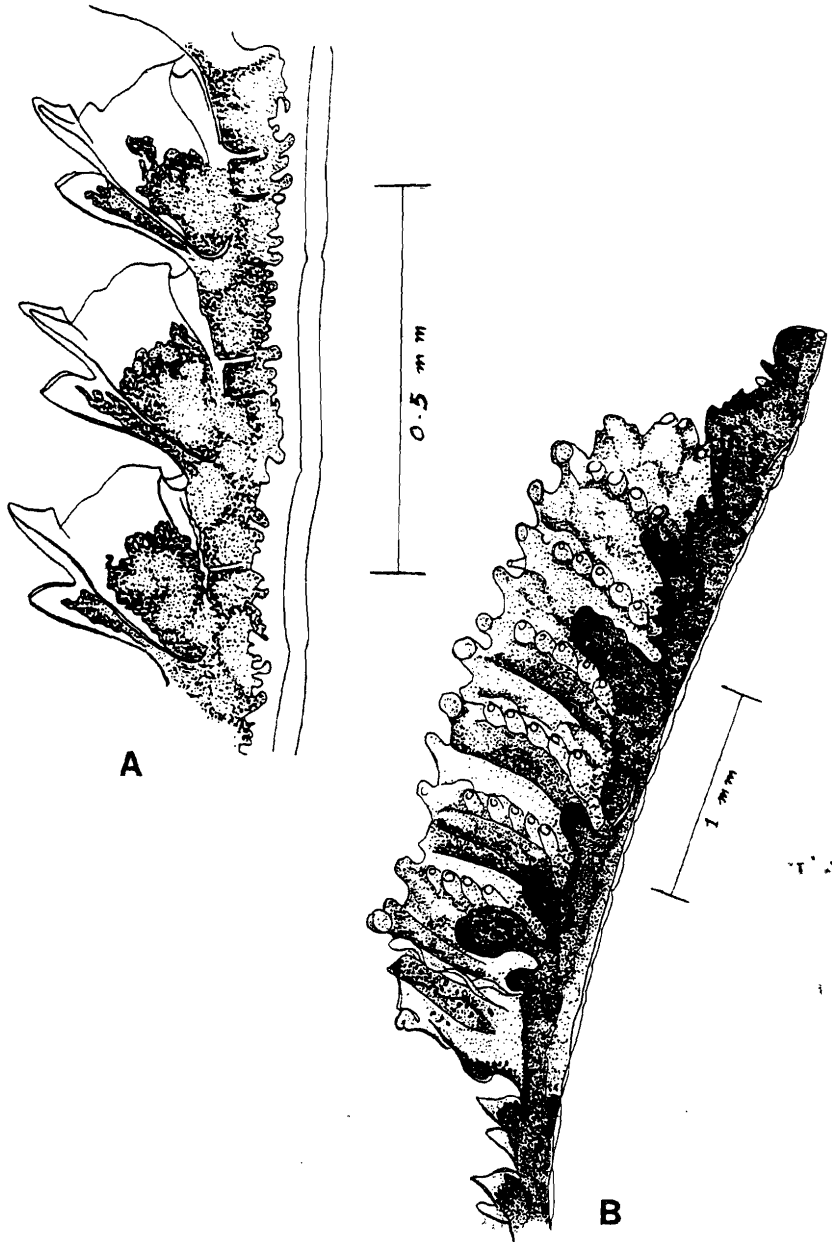


Fig. (9): A: *Lytocarpia flexuosa flexuosa*  
B: Corbula of *L. flexuosa flexuosa*

Family Halopteridae  
*Antennella secundaria* Gmelin, 1791  
(Fig. 10 B)

*Sertularia secundaria* Gmelin 1791: 3854

*Antennella secundaria*, -- Vervoort, 1967: 42, fig. 12; Mergner & Wedler, 1977: 22, Taf. 5, fig. 31 a,b.

**Material:** St. 236, St. 283, St. 286. One 17 mm high stem, two small colonies: 5-12 mm high, all without gonothecae. Vervoort (1967) gives a good description for this species from the southern part of the Red Sea (Dahlak Archipelago). Length abcauline wall of hydrothecae: 0.17-0.20 mm, total depth: 0.20-0.23 mm, length free adcauline wall: 0.08-0.11 mm, diameter at rim: 0.20-0.23 mm

**Distribution:** *Antennella secundaria* is a cosmopolitan species with preference for warmer seas (Gili, Vervoort & Pages, 1989). This species is recently recorded by the author from the Egyptian Mediterranean waters. It was also recorded from the southern part of the Red Sea (Vervoort, 1967; Mergner & Wedler, 1977)

This is the first record of this species in the Gulf of Aden.

Family Plumulariidae  
*Ventromma halecioides* Alder 1859  
(Fig. 10 A,C)

*Plumularia halecioides*, -- Vervoort, 1967: 45-46, text fig. 13 a-c

*Ventromma halecioides*, -- Schmidt, 1973: 284

**Material:** St. 257. Two small 6-8 mm high colonies. No gonothecae.

Colony monosiphonic, not erect, unbranched. The hydroclades are divided into thecate and athecate internodes. The thecate internode has a proximal nematotheca, a hydrotheca and a pair of flanking nematothecae. The hydrotheca is wider than deeper, (Fig. 10 C). Length athecate internode: 0.11-0.13 mm, length thecate internode: 0.21-0.23 mm, total length of hydrothecae: 0.06-0.07 mm, diameter at margin: 0.07-0.08 mm.

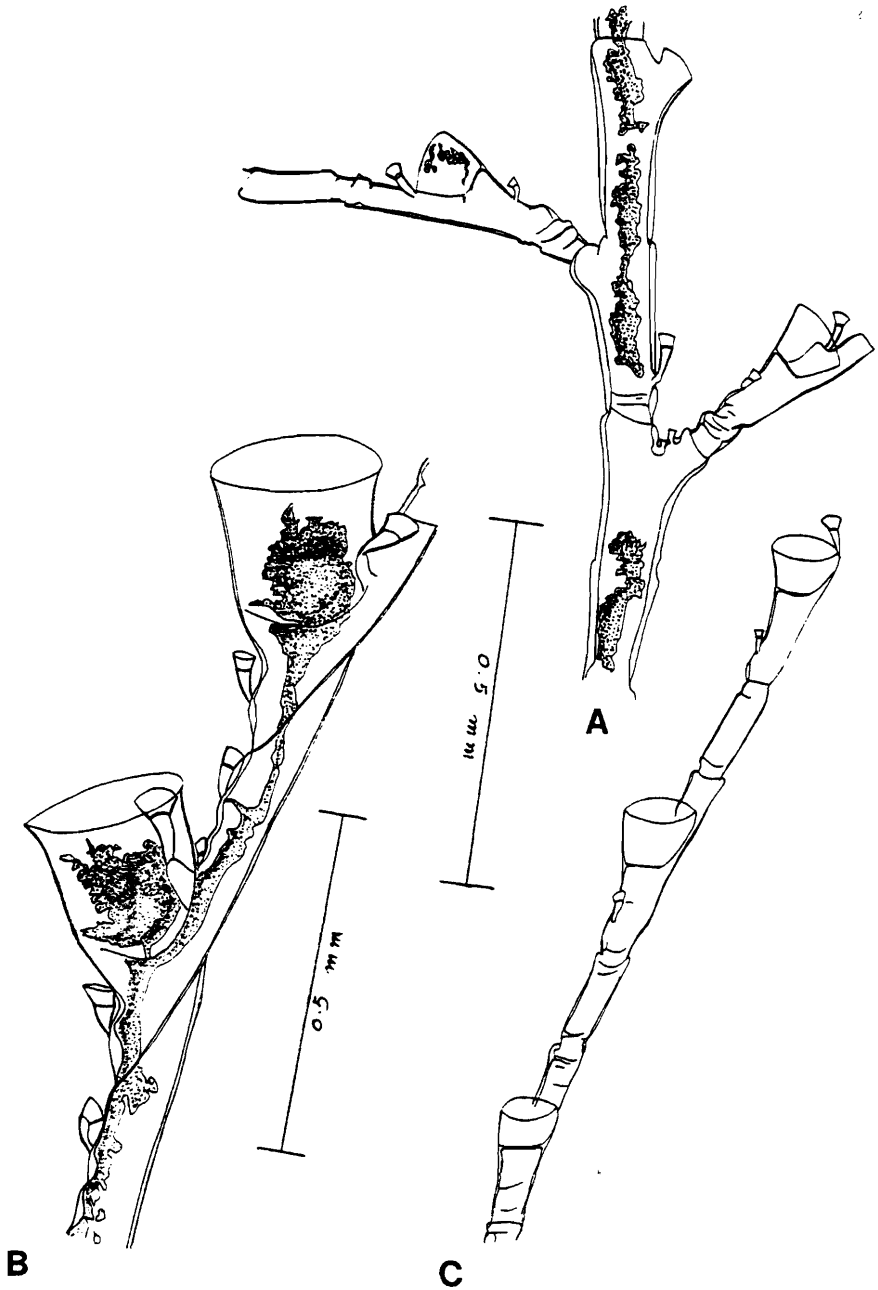


Fig. (10): (A,C): *Ventromma halecioides*  
(B): *Antennella secundaria*

**Distribution:** This species is widely distributed in the tropical, subtropical and temperate parts of the Atlantic and Indo-pacific (Vervoort, 1967). It has been recorded from the whole of the Suez Canal (Port Said, Lake Menzaleh, Bitter Lakes, Port Taufiq) by Billard (1926). According to Billard (1926) the species has penetrated from the Mediterranean into the Suez Canal area. No records are known from the coast of East Africa (Vervoort, 1967). *Plumularia halecioides* was previously recorded from the Red Sea (Gulf of Aqaba and from the southern part of the Red Sea) by Vervoort (1967). The present record of this species from the Gulf of Aden represents a link between the species-localities in the Red Sea and the Indo-Pacific.

**Family Aglaopheniidae**  
***Gymnangium eximium* (Allman, 1874)**  
**(Fig. 11 B)**

*Taxella eximia* Allman, 1874: 179

*Halicornaria flabellata* Marktanner, 1890: 278, pl. 6, fig. 14

*Halicornaria copiosa* Jarvis, 1922: 356, text-fig. 6, pl. 26, fig. 28

*Gymnangium eximium*, -- Mammen, 1967: 311-312, fig. 104; Schmidt, 1972: 39, 41, 43, text-fig. 2c, pl. 2 fig. c; Mergner & Wedler, 1977: 22, 24, pl. 6 fig. 40, pl. 9 figs. 62, 63; Rees & Vervoort, 1987: 156-162, figs. 36-37, 38 c.

**Material:** St. 90, St. 230, St. 236, St. 283, St. 286, St. 287. So many branched, plumose colonies: 4.5-15 cm high.

The colonies with strongly fascicled, stiff stem, and erect, forked, polysiphonic hydrocaulus. Branches mostly in the same plane. Length hydrocladial internode: 0.21-0.25 mm, its diameter: 0.04-0.05 mm, depth of hydrothecae: 0.19-0.21 mm, breadth at rim: 0.08-0.10 mm, length free part median nematotheca: 0.04-0.05 mm, breadth at rim: 0.01-0.02 mm, length lateral nematotheca: 0.10-0.12 mm, breadth at rim: 0.01-0.02 mm.

**Distribution:** This species was recorded from the Indian Ocean (off Trivandrum, India) by Mammen (1967), and from Wasin, East Africa by Jarvis (1922) as *Halicornaria copiosa*, and from Gulf of Aden, Off Omann and the Eastern coast of Africa (off Zanzibar) by Rees & Vervoort (1987). It was also

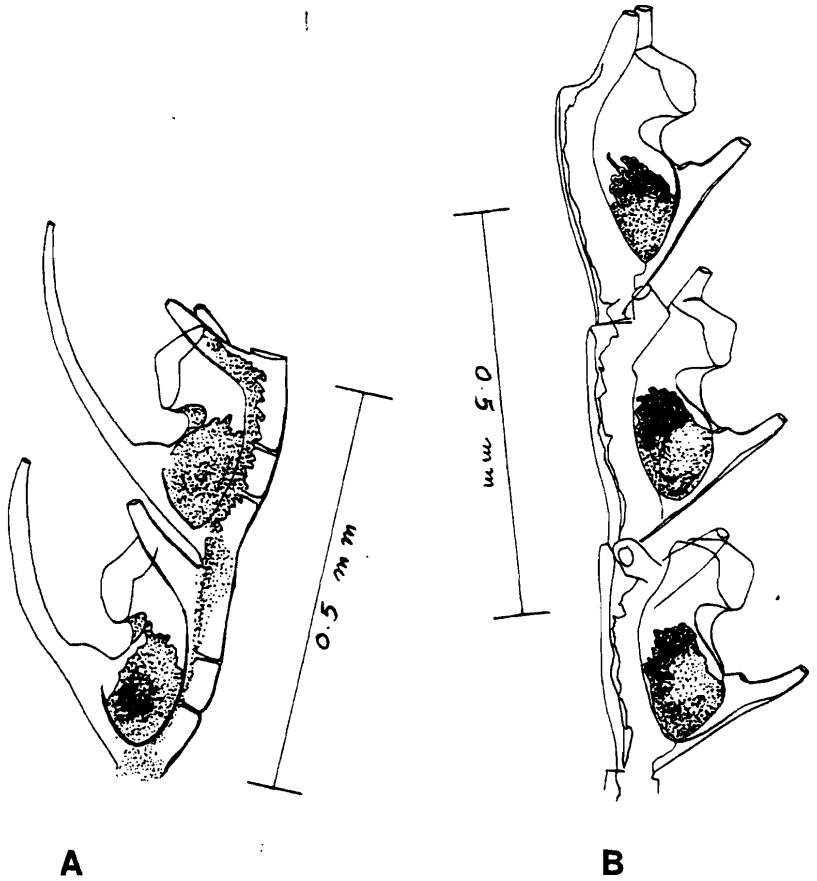


Fig. (11) : A: *Gymnangium eximium millardae*  
B: *Gymnangium eximium*

previously recorded from the Red Sea (Marktanner, 1890, no exact locality being given), (Gulf of Aqaba) by Schmidt (1972) and from Djidda and southern part of the Red Sea (around Perim) by Mergner & Wedler (1977), and off Eritrea by Rees & Vervoort (1987).

*Gymnangium eximium millardae* n.var.

(Fig. 11 A)

*Halicornaria gracilicaulis*, -- Billard, 1907: 364, text-fig. 12, pl. 25 fig. 7;  
Millard, 1958: 219, fig. 151 J; Millard, 1968: 282.

*Halicornaria gracilicaulis* var. *armata*, -- Billard, 1913: 63-65

*Gymnangium gracilicaule lingosum*, -- Millard, 1975: 443, fig. 136 B-C, E

**Material:** St.230, four colonies: 2.5-4.6 cm high. No gonosome.

Stem strongly fascicled, with up to four orders of branching, often branching profusely and in one plane. The hydrothecae have a strongly thickened abcauline wall, and exhibit very long median inferior nematotheca, which is characteristic for this variety. Length hydrocladial internode: 0.20-0.23 mm, internode diameter: 0.04-0.05 mm, depth of hydrothecae: 0.19-0.22 mm, breadth at rim: 0.09-0.11 mm, length free part median nematothecae: 0.25-0.30 mm, breadth at rim: 0.01-0.02 mm, length lateral nematothecae: 0.10-0.12 mm, breadth at rim: 0.01-0.02 mm.

**Distribution:** *Gymnangium eximium millardae* is previously recorded as *Halicornaria gracilicaulis* from Macalonga, Madagascar (Billard, 1907), from Natal and Portuguese East Africa (Millard, 1958) and from South Africa (Millard, 1968) and as *Gymnangium gracilicaule lingosum* by Millard, (1975). This is the first record of this variety out of south and Eastern South Africa.

**Remarks:** Millard 1958 found in her description of the species *Halicornaria gracilicaulis*, from Natal & Portuguese East Africa two varieties. In 1968 she suggested the separation of the two varieties. Millard 1975 subdivided the nominal species *Gymnangium gracilicaule* into two subspecies, *G.gracilicaule* and *G.gracilicaule lingosum* (Millard 1968). The first subspecies was correctly identified and described as the well known species



*Gymnangium gracilicaule* (Jäderholm 1903). The second subspecies *G.gracilicaule lingosum* was in true another var. of another species (*G.eximium* n.var.). This was regarded by Rees & Vervoort 1987 as synonym for *Gymnangium eximium* (Allman 1874). The present specimens resemble exactly the specimens described and figured by (Billard 1907, from Macalonga, Madagascar as *Halicornaria gracilicaulis*, by Billard 1913 (Siboga-material, St.49, Detroit de Sapeh), as *Halicornaria gracilicaulis var.armata*, Millard 1958, from Natal and Portuguese Africa as *Halicornaria gracilicaulis*, by Millard 1968 as *Halicornaria gracilicaulis* from South Africa, and by Millard 1975 as *Gymnangium gracilicaule lingosum*, from South Africa) in colony structure, hydrocladia, hydrothecae and mainly in its very long mesial nematothecae (0.25-0.30 mm long). On the other hand all the above mentioned specimens differ from those described and figured as *Gymnangium eximium* (Allman,1874) by (Mammen, 1965 from Indian Ocean, Schmidt 1972 from the Red Sea (Aqaba Gulf) and Rees & Vervoort 1987 from the Red Sea, Gulf of Aden, Off Oman and off Zanzibar). So it appears justified to separate the two forms at the subspecific level, for the first form I propose the name *Gymnangium eximium millardae* n.var., and the second form deals with the well known species *Gymnangium eximium* (Allman, 1874)

*Macrorhynchia meteor* sp.nov.

(Fig. 12 A, B & C)

**Material:** St.230., Ten colonies between 5 and 11 cm high, most attached to coral debris, is designated holotype. So many fragments: 1.5-6 cm high, no gonosome.

**Description:** Bundle of fine fibers basally, anchoring the colony in sediment (which is in the majority of colonies coral debris). Stem strongly fascicled and woody, rigid, reaching a max. breadth of about 7.5 mm at its base.. The base of the colony form a fork of erect, polysiphonic hydrocaulus. It carries the primary tube, that may bear hydrocladia, or may branch again into secondary, tertiary ramifications. Side branches irregularly, alternately arranged along hydrocaulus. They are fascicled or unfascicled, rigid. The side branches are divided into short internodes. Each internode of side branches with apophysis alternate ones directed left and right and in both slightly frontly. Each

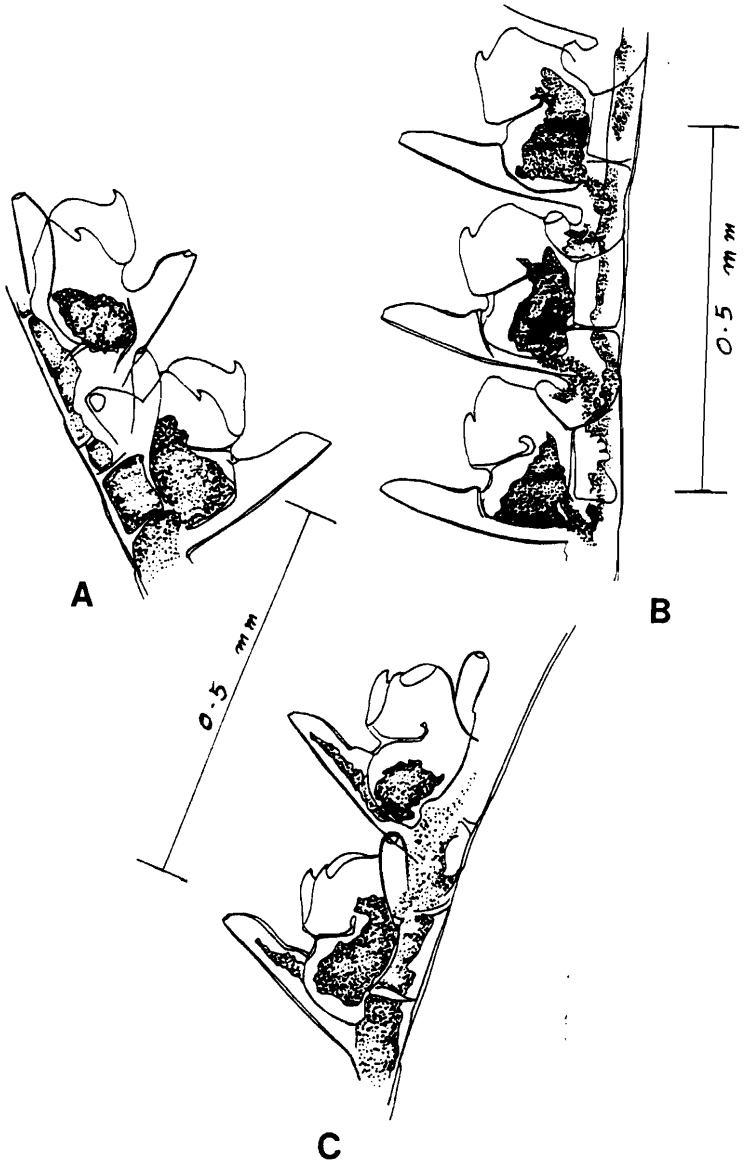


Fig. (12): (A,B,C): *Macrorhynchia meteor*

apophysis with three nematothecae: one (small) on the apophysis, one almost axillary and one near its base on internode (all with apertures). Each hydrocladium comprises 2-10 hydrothecate internode. Each hydrothecate internode comprises four internal rings. Hydrothecae comparatively short. Hydrothecal margin with a distinctive well developed two hook-shaped teeth. Plane of hydrothecal rim is to some extent parallel with long axis of hydrothecate internode. Nematothecae comprising one unpaired median and paired laterals. Median nematotheca covering about half median hydrothecal wall. The median ( mesial) nematotheca is large, directed upwards and forwards, narrowing towards apex and there with circular terminal aperture. In addition there is an opening in axil between nematotheca and hydrothecal wall. Lateral nematothecae in principal tubular structures, slightly swollen basally and narrowing apically, pointing obliquely forward, with an circular apical aperture.

**Remarks:** The present specimens resemble the specimens described and figured by Millard (1907) as *Lytocarpus filamentosus* (Lamarck 1816) from Madagascar, by Mergner & Wedler (1977) as *Lytocarpus balei* Nutting 1905, from the southern part of the Red Sea (around Perim), and by Rees & Vervoort 1987 as *Macrorhynchia philippina* (Kirchenpauer 1872), from Gulf of Aden, off Bandar Alula, Somalia. They can be readily distinguished from all above mentioned three species, by their characteristic shape of hydrothecae, and by the presence of a well developed two hook-shaped teeth on the hydrothecal margin. This species exhibits the general characters of the Genus *Macrorhynchia*. At the same time it is not identical to any species of this Genus in the available literature, so it deals with a new species, and I refer to it as *Macrorhynchia meteor*.

**DISCUSSION**

Table (2) : Total List of thecate hydroid species of the Gulf of Aden and their geographical distribution

Species	Red Sea	Indian Ocean	Eastern and South Africa	Suez Canal	Medit. Sea	Atlantic Ocean (excl. S. Africa)
<i>Halecium beanii</i> (JOHNSTON 1838)	+	+	+			+
<i>Halecium labiatum</i> BILLARD 1933	+					
<i>Hydrodendron dichotomum</i> (ALLMAN 1888)		+				
<i>Calicella syringa</i> (LINNE)					+	+
<i>Lovenella corrugata</i> THORNELY						
<i>Hebella calcarata</i> (AGASSIZ 1862)					+	+
<i>Hebelloopsis scandes</i> (BALE 1888) as <i>Hebella scandes</i> BALE 1888 var. <i>contorta</i> MARKTANNER 1890		+				+
<i>Filellum serratum</i> (CLARKE 1879)	+	+			+	+
<i>Zygophylax millardae</i> REES & VERVOORT 1987	+		+			
<i>Clytia latithecata</i> MILLARD & BOUILLON 1973	+		+	+		
<i>Clytia linearis</i> (THORNELY 1900) as <i>Campanularia gravieri</i> BILLARD 1904	+	+			+	+
<i>Obelia dichotoma</i> LINNAEUS 1758	+		+	+	+	+
<i>Obelia longissima</i> (PALLAS 1766)					+	+
<i>Synthecium elegans</i> ALLMAN 1872	+	+	+			
<i>Synthecium tubithecum</i> (ALLMANN 1877) as <i>Synthecium megathecum</i> BILLARD 1925		+	+			
<i>Synthecium patulum</i> (BUSK 1852)		+	+			
<i>Abietinaria filicula</i> (ELLIS & SOLANDER 1786)						+

THECATE HYDROIDS OF GULF OF ADEN

Table (2): cont.

<i>Dynamena crisiodes</i> LAMOUROUX 1824	+	+		+		+
<i>Diaphasia mutulata</i> BUSK 1852	+	+				
<i>Salacia tetracythara</i> LAMOUROUX 1816		+	+			
<i>Thyroscyphus fruticosus</i> ESPER 1793	+	+		+	+	
<i>Cnidoscaphus aequalis</i> WARREN 1902	+		+			
<i>Sertularella campanulata</i> WARREN 1908	+	+	+			
<i>Sertularella diaphana</i> (ALLMAN 1885)	+	+	+			+
<i>Sertularella dubia</i> BILLARD 1907			+			
<i>Sertularella mediterranea</i> HARTLAUB 1901	+		+		+	+
<i>Sertularella polyzonias</i> LINNAEUS 1758	+		+		+	+
<i>Cladocarpus alatus</i> JARVIS 1922		+				
<i>Cladocarpus dofleini</i> (STECHOW 1911)		+	+			
<i>Cladocarpus sewlli</i> REES & VERVOORT 1987						
<i>Gymnangium eximium</i> (ALLMAN 1874)	+	+	+			
<i>Gymnangium gracilicaule</i> (JØDERHOLM 1903)	+	+	+			
<i>Lytocarpia flexuosa flexuosa</i> (LAMOUROUX 1816)	+	+	+			
<i>Macrorhynchia philipina</i> (KIRCHENPAUER 1872)	+	+		+	+	+
<i>Antennella secundaria</i> GMELIN 1791	+	+	+		+	+
<i>Halopteris campanula</i> (BUSK 1852)	+	+				
<i>Halopteris catharina</i> (JOHNSTON 1833) var. <i>articulata</i> BILLARD						
<i>Halopteris diaphana</i> NUTTING						
<i>Ventromma halecioides</i> (ALDER 1859)	+			+	+	+

It becomes increasingly interesting to consider the origin of the species in the Gulf of Aden. From (table 2) it is possible to draw a picture about the thecate hydroid distribution. The total number of records is 39 species. A fair number of the species recorded are widely distributed throughout the Red Sea, Indian Ocean, Eastern African coasts, and the Mediterranean Sea. They are restricted to tropical and subtropical waters or are cosmopolitan. One species: *Abietinaria filicula*, which is well known from the North Sea, is newly recorded in the present region, and it may never become clear, from which region it penetrates into the Gulf of Aden. 12 species are also typical for the Mediterranean Sea-fauna. 23 species are recorded from the Red Sea, 22 from the Indian Ocean, 19 from Eastern and South Africa, 16 from the Atlantic (excl. South Africa), and 5 species are recorded from the Suez Canal. No endemic species were recorded from the Gulf of Aden. While *Macrorhynchia meteor* sp. nov. & *Gymnangium eximium millardae* n. var are endemic species to the Red Sea (St. 230).

So it is clear, that the thecate hydroid-fauna of the Gulf of Aden is an extension of those of the Red Sea (23 species), and has no special peculiarity. It exhibits in the same time a great affinity with those of both the Indian Ocean (22 species) and the Eastern African Coasts (including South Africa) (19 species). On the other hand the relation between the thecate hydroid fauna of the Gulf of Aden and those of both the Atlantic (16 species) and the Mediterranean (12 Species) become weaker. Only 5 species were previously recorded from the Suez Canal (it is expected, that this number will be strongly raised, because, up till now according to the available literature, we have only two studies in the Suez Canal, made by Marktanner-Turnertscher (1890), and by Billard (1926) during the Cambridge expedition to the Suez Canal).

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