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Two new *Hyalonema* species (Hyalonematidae: Amphidiscosida) from eastern and south-eastern Brazil, and further Hexactinellida (Porifera) collected from seamounts off south-eastern Brazil by the RV 'Marion Dufresne' MD55 expedition

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Descriptions of hexactinellid sponges collected by the RV 'Marion Dufresne' MD55 expedition on the Vitória–Trindade seamounts chain (off Espírito Santo State, south-eastern Brazil) in 1987 and stored in the MNHN (Muséum National d'Histoire Naturelle in Paris) are presented. Hyalonema (Cyliconema) conqueror *sp. nov. (the first finding of this subgenus in the Atlantic Ocean) and* H. (Prionema) dufresnei *sp. nov. (the second record of this subgenus for the Atlantic Ocean) are described as new species. The holotype of* H. (C.) conqueror *sp. nov. was collected with a ROV at Campos Basin (off Rio de Janeiro State, south-eastern Brazil), while the paratypes originated from Vitória–Trindade seamounts chain and off Bahía State (eastern Brazil). Other hexactinellids reported here,* Farrea *sp.,* Sarostegia *aff.* oculata, Aphrocallistes *aff.* beatrix, Dactylocalyx *aff.* subglobosus *and* Euplectella suberea *were known before to be widely distributed in the Atlantic Ocean. The total number of hexactinellid sponges known from Brazil has risen to 15 and from the south-western Atlantic to 23.*

Keywords: Porifera, Hexactinellida, taxonomy, new species, south-eastern Brazil, Vitória–Trindade seamouts chain

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INTRODUCTION

Only nine species of the Hexactinellida have been reported from Brazil up to now, viz. *Aphrocallistes beatrix* Gray, 1858, *Chonelasma choanoides* Schulze & Kirkpatrick, 1910, *Dactylocalyx pumiceus* Stutchbury, 1841, *Euplectella suberea* Thomson, 1876, *Eurete atlantica* Lopes, Hajdu & Reiswig, 2007, *Hyalonema (Coscinonema) schmidti* Schulze, 1899, *Lophocalyx brasiliensis* Menshenina, Tabachnick, Lopes & Hajdu, 2007, *L. reiswigi* Menshenina Tabachnick, Lopes & Hajdu, 2007 and *Pheronema carpenteri* (Thomson, 1869). These originated from several oceanographic expeditions. First among these, the 'Challenger' expedition collected *E. suberea* and *P. carpenteri* off north-eastern Brazil (Schulze, 1887). The 'Albatross' expedition yielded *H. schmidti* also from north-eastern Brazil (Schulze, 1899). *Dactylocalyx pumiceus* was first recorded by Mothes de Moraes (1977) and then again by Lopes *et al.* (2005), along with *A. beatrix*, both collected by the Programme REVIZEE. *Chonelasma choanoides* and *E. atlantica* were recorded by Lopes *et al.* (2007), both collected by the Campos Basin Deep-waters Environmental Assessment Project. The 'Marion Dufresne' expedition collected *Lophocalyx brasiliensis* and the Programme REVIZEE collected *L. reiswigi*, both recorded by Menshenina *et al.* (2007).

The notion that only a poor hexactinellid fauna occurs off Brazil is being disproved as new material is being collected and old material is studied, as is the case for the MD55 RV 'Marion Dufresne' expedition material described here. Additional material collected by recent Brazilian environmental assessment programmes will also contribute to this better focused view of deep sea biodiversity in the south-western Atlantic.

MATERIALS AND METHODS

The material studied here originated mostly from the oceanographic expedition TAAF MD55 of the French RV 'Marion Dufresne', collected in the deep-sea off south-eastern Brazil between 6 May and 2 June 1987. The sponge specimens are deposited in the MNHN (Paris) collection. An additional specimen originated from an ROV collection made at Campos Basin, also off south-eastern Brazil, during 'Campos Basin Deep-Sea Coral Assessment', a research project coordinated by CENPES/PETROBRAS; and another from trawling conducted by the RV 'Thalassa' off eastern Brazil, during Programme REVIZEE.

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The methods employed were the usual ones for preparation of dissociated spicule and thick section microscopic slides, as described elsewhere (Janussen *et al.*, 2004). Abbreviations used throughout the text are: BA (Bahía State); CENPES (Centro de Pesquisas e Desenvolvimento Leopoldo Américo Miguez de Mello); ES (Espírito Santo State); MD55 (RV 'Marion Dufresne' 55th oceanographic campaign); MNHN (Muséum National d'Histoire Naturelle, Paris); ROV (remotely operated vehicle); MNRJ (Porifera Collection, Museu Nacional/UFRJ); PETROBRAS (Petróleo Brasileiro SA); REVIZEE (Evaluation of the Sustainable Potential of Life Resources in the Economic Exclusive Zone); RJ (Rio de Janeiro State); TAAF (Terres Australes et Antarctiques Françaises); and UFRJ (Universidade Federal do Rio de Janeiro, Rio de Janeiro).

RESULTS

SYSTEMATICS

Order AMPHIDISCOSIDA Schrammen, 1924
Family HYALONEMATIDAE Gray, 1857
Genus *Hyalonema* Gray, 1832

DIAGNOSIS

Hyalonematidae with mainly bell-like or ovoid body; the everted (when known) atrialia do not form notable rise; basalia are gathered in a compact twisted (in grown specimens) tuft, being represented by toothed anchors (Tabachnick & Menshenina, 2002).

TYPE SPECIES

Hyalonema sieboldi Gray, 1835 (by monotypy).

Subgenus *Hyalonema (Cyliconema)* Ijima, 1927

DIAGNOSIS

Hyalonema with whip-like (rarely spindle-like in overall shape), short spiny pinular ray of dermal spicules, its rhachis is thickest at base; without ambuncinates; macramphidiscs have umbels broader than long, their umbels are 1/2–1/7 as long as the length of the whole spicule (Tabachnick & Menshenina, 2002).

TYPE SPECIES

Hyalonema (*Cyliconema*) *apertum* Schulze, 1886 (by original designation).

Hyalonema (Cyliconema) conqueror sp. nov.
(Figures 1–2; Table 1)

TYPE MATERIAL

Holotype: MNRJ 10093, Campos Basin Deep-sea Coral Assessment Project, CENPES/PETROBRAS, Station Marlim Leste tr. 900-600 (Campos Basin, RJ, 22°20′58,676″ S–39°59′17,914″W), depth 835 m, coll. ROV on board of ROVS 'Toisa Conqueror', 12 November 2004.

Paratypes: MNRJ 3342, Programme REVIZEE, Bahia II, Station 0517 (BA, 13°22′173″S–038°36′566″W), depth 750 m, coll. RV 'Thalassa', 19 July 2000; MNHN HCL 1500 (KT fr387), MD 55, Station 15 DC 28 (Vitória–Trindade seamounts chain, ES, 20°26′39″S–36°41′66″W), depth 750 m, coll. RV 'Marion Dufresne', 14 May 1987.

DESCRIPTION

Body of the holotype is conical, 91 mm long, 67 mm in diameter in the upper part and basalia, 350 mm long; sieve-plate present. The body of the paratype MNRJ 3342 is conical, 76 mm long, 25 mm in diameter in the upper part and basalia, 90 mm long; sieve-plate absent. MNHN HCL 1500 has body conical, 70 mm long and 30 mm in diameter in the upper part, walls about 5 mm thick and vast atrial cavity, basalia broken, longer than 300 mm. Sieve-plate absent in the paratypes.

Spicules: choanosomal spicules are diactins (rarely tauactins) and hexactins with conically pointed outer ends. The diactins are 570–2300/5–18 μm. The rays of choanosomal hexactins are 120–60/5–14 μm. Hypodermal pentactins have conically pointed outer ends; tangential rays are 140–770 μm long, proximal ray is 520–990 μm long, the diameter of these rays is about 10–25 μm. Dermalia and atrialia are pinular pentactins (rarely dermal diactins and dermal hexactins) with rays conical in shape with short spines; tangential rays are rough, conically pointed. Dermal pentactins have pinular rays 126–310 μm long, tangential rays 22–59 μm long, their diameter is 5–10 μm. Atrial pentactins have pinular rays 136–377 μm long, tangential rays 30–79 μm long, their diameter is about 5–14 μm.

Microscleres: amphidiscs have rough or tuberculated shafts. Total length of macramphidisc 165–391 μm, the umbel length 63–118 μm, the umbel diameter 63–148 μm. Total length of large mesamphidisc is 73–248 μm, the umbel length 24–89 μm, the umbel diameter 19–74 μm. Total length of small mesamphidisc is 37–80 μm, the umbel length 11–33 μm, the umbel diameter 11–28 μm. Total length of micramphidisc is 19–56 μm, the umbel length 5–15, the umbel diameter 7–19 μm. Microxyhexactins, microxypentactins and microxystauractins have rough rays 53–137 μm, their diameter is 4–8 μm.

ETYMOLOGY

The proposed new name, *conqueror*, a name in apposition, derives from 'Toisa Conqueror', the ROV support vessel conducting the operations on which the holotype of this species has been collected.

REMARKS

The subgenus is well-known in the World Oceans by numerous representatives. This sponge is the first record of *H. (Cyliconema)* in the South Atlantic. Two other species known in the Atlantic Ocean: *H. (C.) infundibulum* Topsent, 1896 and *H. (C.) thomsoni* (Marshall, 1875) are widely distributed in the north-eastern Atlantic Ocean (Schulze, 1887; Topsent, 1896, 1904, 1928; Stephens, 1915; Arnesen, 1932; Boury-Esnault *et al.*, 1994). The new species is well distinguished from the others by presence of mesamphidiscs with elongated umbels (previously not reported in the subgenus) and presence of oxyoidal microscleres: microhexactins and their derivatives micropentactins and microstauractins. Other features of the spicule content of this species are similar to those seen in other species of this subgenus, e.g. the western Indian Ocean species *H. (C.) nicobaricum* Schulze, 1904; *H. (C.) valdivia* Schulze, 1904 and *H. (C.) tulipa* Schulze, 1904. An ovoid shape of mesamphidiscs is known in three species of the subgenus: *H. (C.) coniforme* Schulze, 1904 (off Somalia Peninsula); *H. (C.) globiferum* Schulze, 1904 (south-east of Ceylon) and *H. (C.) timorense* Ijima, 1927 (off Indonesian Archipelago).

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Hyalonema (Cyliconema) sp.

MATERIAL EXAMINED

MNHN HCL 1501–1506 (KT fr353–358, respectively)—MD 55, Station 41 CP 07 (Vitória–Trindade seamounts chain, ES, 21°31′S–40°07″W), depth 750–785 m, coll. RV 'Marion Dufresne', 10 May 1987.

DESCRIPTION

Body: most of these specimens are fragments and only one sponge fragment MNHN HCL 1501 contains remnants of the body attached to basalia.

REMARKS

These fragments likely belong to another new species of *Hyalonema (C.)* sp. but their poor preservation condition does not allow its proper description. Unlike the *H. (C.) conqueror* sp. nov. described above, they have no large mesamphidiscs, no other oxyoidal microscleres apart from microxyhexactins.

Subgenus *Hyalonema (Prionema)* Lendenfeld, 1915

DIAGNOSIS

Hyalonema with pinular ray of dermal spicules from spindle-like to finely tapering; macramphidiscs with umbels longer than broad or as long as broad; the teeth of macramphidiscs or large mesamphidiscs have serrated edges (some microstauractins have thick rays with rounded ends (Tabachnick & Menshenina, 2002)).

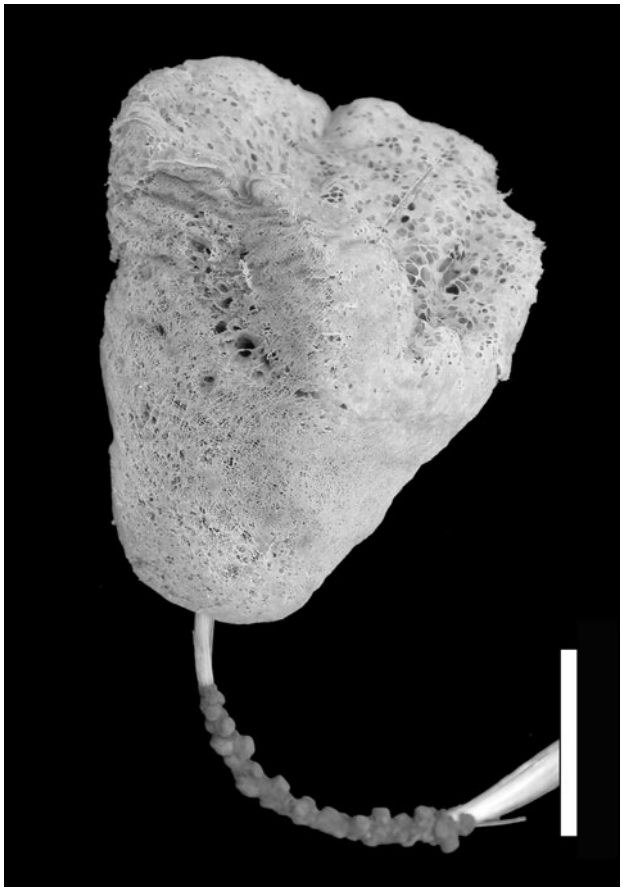

Fig. 1. *Hyalonema (Cyliconema) conqueror* sp. nov. Holotype, view from aside (scale 30 mm).

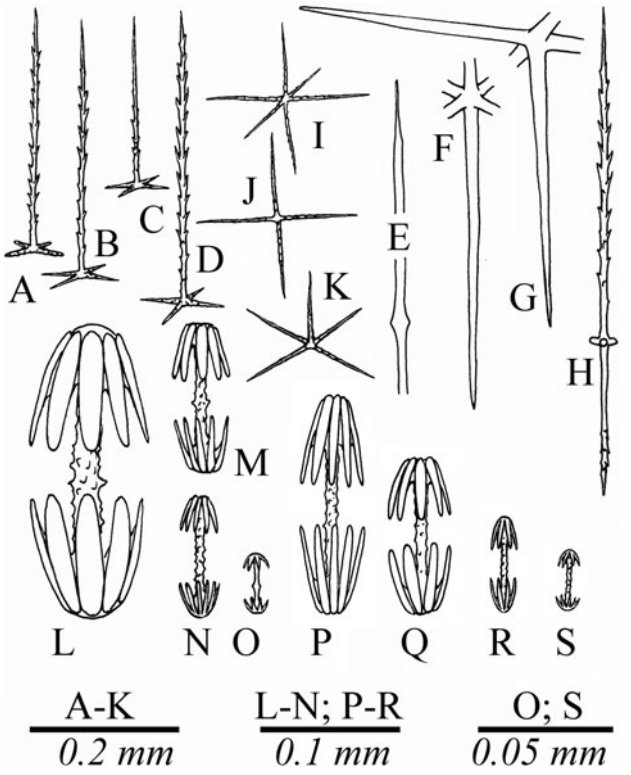

Fig. 2. Spicules of *Hyalonema (Cyliconema) conqueror* sp. nov. holotype. (A–B) Dermal pentactins; (C–D) atrial pentactins; (E) choanosomal diactin; (F) choanosomal hexactin; (G) hypodermal pentactin; (H) atrial pinular diactin; (I) microxyhexactin; (J) microxystauractin; (K) microxypentactin; (L) macramphidisc; (M–N; P–R) mesamphidiscs; (O; S) micramphidiscs; (A–G; I–O) holotype; (H) paratype MNRJ 3342; (P–S) paratype MNHN (fr387).

TYPE SPECIES

Hyalonema (Prionema) agujanum Lendenfeld, 1915 (by subsequent designation (Ijima, 1927)).

Hyalonema (Prionema) dufresnei sp. nov.
(Figures 3–4)

TYPE MATERIAL

Holotype: MNHN HCL 1507 (KT fr335), MD 55, Station 42 CB 76 (Vitória–Trindade seamounts chain, ES, 18°58′S–37°49′W), depth 600–637 m, coll. RV 'Marion Dufresne', 27 May 1987.

DESCRIPTION

Body: the sponge is clavate, without atrial cavity, with body 100 mm long and long apical cone 30 mm long. The maximal diameter of the sponge is 60 mm, basalia are remnants 40 mm long.

Spicules: choanosomal spicules are diactins 800–1700/5–27 μm with a widening in the middle and with conically pointed or rarely rounded outer ends. Hypodermal pentactins have rays 170–530/8–34 μm long with conically pointed or rounded outer ends; hypoatrial pentactins appear to be

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Table 1. Spicule measurements of *Hyalonema (Cyliconema) conqueror* sp. nov. (in μm). Avg, average; Min, minimum; Max, maximum; SD, standard deviation; L, length; D, diameter.

Spicules	Holotype					Paratype					Paratype				
	MNRJ 10093					MNRJ 3342					MNHN (fr387)				
	N	Avg	Min	Max	SD	N	Avg	Min	Max	SD	N	Avg	Min	Max	SD
L dermal pentactin pinular ray	25	248	126	310	35	25	207	135	253	31	25	242	185	278	24
L dermal pentactin tangential ray	25	43	34	53	5	25	38	23	50	7	24	39	22	59	8
L atrial pentactin pinular ray	14	167	136	213	23	4	243	205	315	51	19	289	218	377	51
L dermal atrial tangential ray	23	53	36	79	13	15	42	38	48	4	19	49	30	63	8
L macramphidisc	3	200	176	215	21	12	252	165	375	62	6	343	326	391	21
L macramphidisc umbel	3	80	70	88	9	12	83	63	100	10	7	103	89	118	11
D macramphidisc umbel	3	82	79	87	4	12	86	63	113	18	7	131	118	148	9
L large mesamphidisc	25	104	77	168	28	25	111	73	150	22	24	159	111	248	38
L large mesamphidisc umbel	23	42	24	72	16	25	46	33	73	13	24	59	41	89	13
D large mesamphidisc umbel	23	35	19	65	13	25	37	25	60	10	24	45	26	74	13
L small mesamphidisc	25	59	46	70	6	25	63	45	80	10	25	65	37	78	10
L small mesamphidisc umbel	10	20	17	26	3	25	23	15	33	4	25	22	11	28	4
D small mesamphidisc umbel	10	20	14	24	3	25	20	15	28	3	25	17	11	22	3
L micramphidisc	25	23	19	31	3	25	25	20	35	3	25	38	26	56	7
L micramphidisc umbel	10	7	5	10	1	25	8	5	13	1	25	10	7	15	2
D micramphidisc umbel	10	10	7	12	1	25	10	8	13	1	25	12	9	19	2
L ray of microxyhexactin, microxypentactin, microxystauractin	25	87	53	108	14	25	86	68	115	10	25	113	85	137	11

entirely absent or very rare. Dermalia and atrialia are pinular pentactins (rarely hexactins) with pinular ray spindle-like in shape and short spines. The length of dermal pinular ray is 190–426 μm, their diameter is 6 μm at base and 9 μm in the thickest part; tangential rays are smooth 30–61 μm, their diameter is 6 μm. Atrialia are pentactins similar to dermal ones in shape. The length of atrial pinular ray is 243–395 μm, their diameter is 7–9 μm at base and 9–14 μm in the thickest part; tangential rays are smooth 30–53 μm, their diameter is 5 μm.

Microscleres: amphidiscs are represented by numerous types: macramphidiscs (umbel broader than long), mesamphidiscs (umbel longer than broad) with smooth and serrated teeth margins, small mesamphidiscs and micramphidiscs. The macramphidiscs and large mesamphidiscs have spiny or tuberculated shafts with a whorl of tubercles in the middle; the other amphidiscs have spiny shafts. Total length of macramphidiscs with smooth teeth is 212–319 μm, the umbel length is 61–91 μm, the umbel diameter is 41–129 μm. Total length of macramphidiscs with serrated teeth is 252–342, the umbel length 77–108 μm, the umbel diameter 72–83 μm. Total length of mesamphidiscs with smooth teeth is 76–192 μm, the umbel length 34–56 μm, the umbel diameter 22–33 μm. Total length of mesamphidiscs with serrated teeth is 218–243 μm, the umbel length 54–70 μm, the umbel diameter 36–59 μm. Total length of small mesamphidiscs is 32–68 μm, the umbel length 11–23 μm, the umbel diameter 11–18 μm. Total length of micramphidiscs is 20–25 μm, the umbel length 5–9 μm, the umbel diameter 6–9 μm. Microxyhexactins have straight spiny rays 23–41 μm long, their diameter is 1–2 μm.

ETYMOLOGY

The proposed new name, *dufresnei*, derives from 'Marion Dufresne', the research vessel conducting the operations on which this species has been collected.

REMARKS

This is the second species of the subgenus found in the Atlantic Ocean. The first was *Hyalonema (P.) repletum* Reiswig, 2000, formerly *Leiobolidium*, from off the Lesser Antilles Islands (16 km, west–south-west of the island of Bequia, USCSS Blake, Station 235, 12°57′10″N 61°25′25″W, 2757 m depth), other species are known mostly in the central east Pacific and one in the central western part of the Indian Ocean. The shape of the pinular ray of the new species is clavate with short spines (unlike *H. (P.) repletum* with same spicules having stout raphis and long spines); part of macramphidiscs, as well as part of mesamphidiscs have serrated teeth margin. The pinular ray of *H. (P.) dufresnei* sp. nov. is similar to that of *H. (P.) poculum* Schulze, 1886 (*sensu* Schulze, 1887) and *H. (P.) agujanum* Lendenfeld, 1915; but unlike the macramphidiscs of these species, those found in the new species have umbels which are broader than long, and teeth which have wide, rounded ends. Unlike *Hyalonema (P.) crassum* Lendenfeld, 1915 the pinular rays in the new species are spindle-like and the teeth of macramphidiscs may have serrated margins.

Hyalonema (Prionema)? sp.

MATERIAL EXAMINED

MNHN HCL 1508–1512 (KT fr338; fr340; fr337; fr339; fr341, respectively), MD 55, Station 39 CB 68 (Vitória–Trindade seamounts chain, ES, 18°55′S–37°49′W), depth 1220 m, coll. RV 'Marion Dufresne', 26 May 1987; MNHN HCL 1513 (KT fr336), MD 55, Station 42 CB 76 (Vitória–Trindade seamounts chain, ES, 18°58′S–37°49′W), depth 600–637 m, coll. RV 'Marion Dufresne', 27 May 1987; MNHN HCL 1514 (KT fr333), MD 55, Station 44 CB 78 (Vitória–Trindade seamounts chain, ES, 18°55′S–38°48′W), depth 1200 m, coll. RV 'Marion Dufresne', 27 May 1987;

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Fig. 3. *Hyalonema (Prionema) dufresnei* sp. nov. Holotype, view from aside (scale 30 mm).

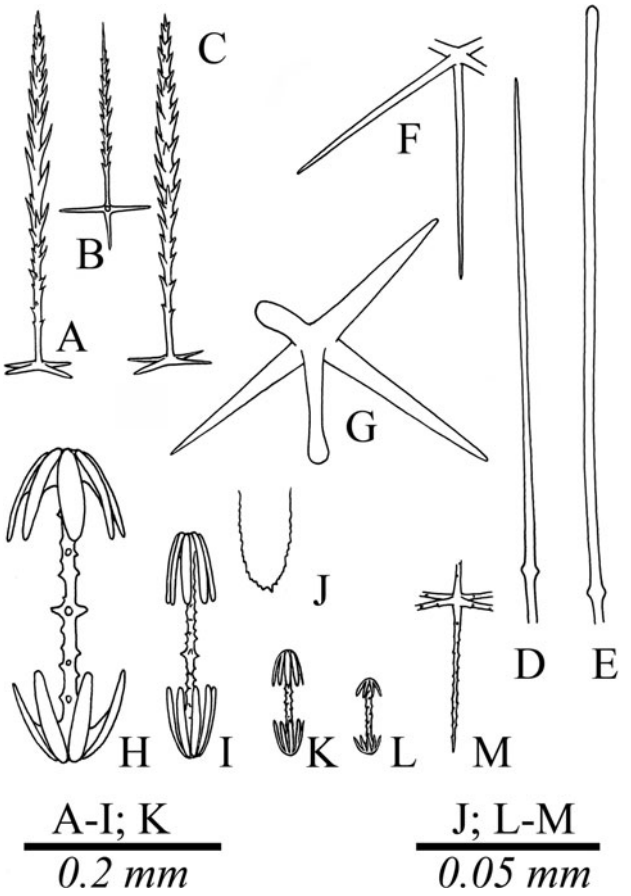

Fig. 4. Spicules of *Hyalonema (Prionema) dufresnei* sp. nov. holotype. (A) Dermal pentactins; (B) dermal hexactins; (C) atrial pentactins; (D–E) choanosomal diactins; (F–G) hypodermal pentactins; (H) macramphidisc; (I) large mesamphidiscs; (J) tooth of large mesamphidiscs; (K) small mesamphidiscs; (L) micramphidisc; (M) microxyhexactin.

MNHN HCL 1515–1516 (KT fr61; fr334, respectively), MD 55, Station 65 CB 107 (Vitória–Trindade seamounts chain, ES, 24°0′S–42°14′W), depth 1020 m, coll. RV 'Marion Dufresne', 2 July 1987.

REMARKS

These sponges are represented by poor fragments most of which are referred to *H. (P.)* with some hesitations. Their pinular rays are clavate in shape and have an apical cone. Two of these sponges (MNHN HCL 1508–1509) definitely belong to this subgenus but their pinular pentactins differ neither from the species described above nor from another species known in the Atlantic (*H. (P.) repletum* Reiswig, 2000).

Order HEXACTINOSIDA Schrammen, 1903
Family FARREIDAE Gray, 1872
Genus *Farrea* Bowerbank, 1862
Farrea sp.

MATERIAL EXAMINED

MNHN HCL 1517 (KT fr253), MD 55, 43 CB 77 (Vitória–Trindade seamounts chain, ES, 19°0′S–37°47′W), depth 900–790 m, coll. RV 'Marion Dufresne', 25 May 1987.

REMARKS

The sponge is presented by poor, dead fragments whose specific identification is not possible.

Genus *Sarostegia* Topsent, 1904
Sarostegia aff. oculata Topsent, 1904

MATERIAL EXAMINED

MNHN HCL 1518 (KT fr243), MD 55, 43 CB 77 (Vitória–Trindade seamounts chain, ES, 19°00′S–37°47′W), depth 900–790 m, coll. RV 'Marion Dufresne', 25 May 1987.

DESCRIPTION

Body: small fragment about 4 mm in diameter.

Framework: the dictyonal skeleton is typical for the species. The distance between the centres of the spicules of the rigid skeleton is 200–300 μm; the beams are 30–40 μm in diameter.

Spicules: the loose spicules are very rare. Sarules are 278–340 μm long (N = 10; avg = 307; SD = 22), their heads are 81–111 μm long (N = 10; avg = 92; SD = 9), their diameter is 6–7 μm. Dermal pentactins and hexactins have rays 148–222 μm long, the distal ray of hexactins is 37–44 μm long,

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their diameter is 7–11 μm. Uncinates are broken about 7 μm in diameter.

Microscleres: not found.

REMARKS

The precise identification of this sponge is impossible due to its poor condition and lack of microscleres. Nevertheless it is very likely that it is *Sarostegia oculata* known to be distributed in the eastern Atlantic and widely in the Indian Ocean. The sarules are smaller than those re-described from the lectotype but this is likely an intra-specific variation.

Family APHROCALLISTIDAE Gray, 1867
Genus *Aphrocallistes* Gray, 1858
Aphrocallistes aff. *beatrix* Gray, 1858

MATERIAL EXAMINED

MNHN HCL 1519 (KT fr192), MD 55, 43 CB 77 (Vitória–Trindade seamounts chain, ES, 19°0′S–37°47′W), depth 900–790 m, coll. RV 'Marion Dufresne', 25 May 1987.

REMARKS

Absence of loose spicules does not allow identification of these sponges precisely. Nevertheless, it is very likely that the species is identical to *A. beatrix* previously described from off south-eastern Brazil (Lopes *et al.*, 2005).

Family DACTYLOCALYCIDAE Gray, 1867
Genus *Dactylocalyx* Stutchbury, 1841
Dactylocalyx aff. *subglobosus* Gray, 1867

MATERIAL EXAMINED

KT fr584 (specimen not found in MNHN collection), MD 55, 16 DC 29 (Vitória– Trindade seamounts chain, ES, 20°26′S–36°41′W), depth 270–350 m, coll. RV 'Marion Dufresne', 15 May 1987.

DESCRIPTION

Body: large, excavated sponge, about 230 mm in diameter with walls 30–50 mm in diameter.

Framework: the framework is identical to that described before for both species of *Dactylocalyx*.

Spicules: hexactins have ray directed outside the body 11–215 (N = 17; avg = 105; SD = 64) μm long, tangential rays 130–851 (N =16; avg = 231; SD =173) μm long, the ray directed inside the body is 407–814 (N = 5; avg = 633; SD = 169) μm long.

The pentactins have tangential rays 144–555 (N = 11; avg = 260; SD =142) μm long, the ray directed inside the body is 252–426 (N = 4; avg = 329; SD = 74) μm long. The diameter of the rays of hexactins and pentactins is 3–7 μm; their outer ends are usually conicaly pointed rarely clavate.

Microscleres: the discohexasters are 44–89 (N = 26; avg = 67; SD = 13) μm in diameter with primary rosette 7–15 (N = 26; avg = 10; SD = 3) μm in diameter.

REMARKS

Dactylocalyx subglobosus is less investigated than another species of this genus, *D. pumiceus*, which is often mentioned in recent publications (Reiswig, 1991, 2002; Lopes *et al.*, 2005). The only proof of difference between these species is a single type of microscleres in *D. subglobosus* and the presence of onychohexasters in the second species (Reiswig, 1991). These species may be synonyms as was suggested previously (e.g. Reiswig, 2002). Their distribution seems to coincide. However, investigations of many specimens from different locations are necessary to settle this question.

Dactylocalyx sp.

MATERIAL EXAMINED

MNHN HCL 1520 (KT fr104), MD 55, 43 CB 77 (Vitória–Trindade seamounts chain, ES, 19°0′S 37°47′W), depth 900–790 m, coll. RV 'Marion Dufresne', 25 May 1987.

REMARKS

This sponge is represented by a dead body 50 mm high and 60 mm in diameter, with walls about 20 mm in thickness, and without loose spicules, thus rendering its specific identification impossible.

Order LYSSACINOSIDA Zittel, 1877
Family EUPLECTELLIDAE Gray, 1867
Subfamily EUPLECTELLINAE Schulze, 1886
Genus *Euplectella* Owen, 1841
Euplectella suberea Thomson, 1877

MATERIAL EXAMINED

MNHN HCL 1521–1522 (KT fr90; fr91, respectively), MD 55, 43 CB 77 (Vitória–Trindade seamounts chain, ES, 19°0′S 39°47′W), depth 900–790 m, coll. RV 'Marion Dufresne', 25 May 1987.

DESCRIPTION

Body: the two specimens are represented by basal parts of the body, 40 mm high and 20 mm in diameter, which contain few microsleres.

Spicules: anchorate spicules present. The principal choanosomal spicules are pentactins, the most numerous choanosomal spicules are tauactins, stauractins, paratetractins and pentactins. Diactins comitalia are situated close to the distal ray of principal pentactins 400–700/4–9 μm. Dermalia are hexactins with rough distal ray 400–800 μm long, tangential rays are 300–400 μm long, proximal ray is 110–200 μm long, their diameter is 14–23 μm.

Microscleres: the microscleres are very rare. The floricome is 104 μm in diameter with primary rosette 19 μm in diameter. The oxyhexaster is 104 μm in diameter with primary rosette 15 μm in diameter.

REMARKS

In spite of their macerated condition, the assignment of these sponges to *E. suberea* is quite reliable because the choanosomal spicules are very peculiar for the species. It is impossible to discuss the variation of microscleres in these specimens because of their rarity.

Family ROSSELLIDAE Schulze, 1885
Subfamily LANUGINELLINAE Schulze, 1897
Genus *Lophocalyx* Schulze, 1887
Lophocalyx brasiliensis Menshenina, Tabachnick, Lopes & Hajdu, 2007

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MATERIAL EXAMINED

MNHN HCL 598 (KT fr351), holotype; MNHN HCL 599–605 (KT fr343, fr346, fr347, fr348, fr349, fr350, fr383, respectively; paratypes), MD 55, 64 CB 105 (Vitória–Trindade seamounts chain, ES, 23°46′S–42°9′W), depth 597–610 m, coll. RV 'Marion Dufresne', 2 July 1987.

REMARKS

Description of this species was given in the publication devoted to revision of *Lophocalyx* in the Atlantic Ocean (Menshenina *et al.*, 2007).

DISCUSSION

The MD55 collection clearly shows how much unexplored the south-western Atlantic is as regards its hexactinellid fauna. Species reported upon here originate in their majority from a narrow latitudinal zone stretching between 18°55′ and 24°0′S, and between the isobaths of 270 and 1220 m depth. In spite of the fragmentary, macerated nature of most of this material, the list of occurrences of Hexactinellida off the Brazilian coast has risen now from nine previously known, to at least 15 species. The updated list is as follows: *Aphrocallistes beatrix*, *Chonelasma choanoides*, *Dactylocalyx pumiceus*, *Dactylocalyx* aff. *subglobosus*, *Euplectella suberea*, *Eurete atlantica*, *Farrea* sp., *Hyalonema (Cyliconema) conqueror* sp. nov., *Hyalonema (Cyliconema)* sp., *Hyalonema (Prionema) dufresnei* sp. nov., *Hyalonema (Coscinonema) schmidti*, *Lophocalyx brasiliensis*, *L. reiswigi*, *Pheronema carpenteri* and *Sarostegia* aff. *oculata*.

Lopes *et al.* (2005) quoted 14 species of Hexactinellida known from the south-western Atlantic, pointing also to the fact that further richness was expected from study of undescribed material available in different collections. The publication of a few studies in later years (Lopes *et al.*, 2007; Menshenina *et al.*, 2007; Tabachnick *et al.*, this work) raised this total to 23 species now. In addition to the Brazilian species listed above, the following nine species are also present in the south-western Atlantic (list corrected from Lopes *et al.*, 2005): *Caulocalyx tener* Schulze, 1886; *Caulophacus abyssalis* Tabachnick, 1990; *Holascus stellatus* Schulze, 1887; *Hyalonema (Coscinonema) elegans* (Schulze, 1886); *Malacosaccus heteropinularia* Tabachnick, 1990; *Rossella antarctica* Carter, 1872; *R. nuda* Topsent, 1901; *R. racovitzae* Topsent, 1901 and *R. vanhoeffeni* (Schulze & Kirkpatrick, 1910).

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