



## Poecilosclerida (Porifera, Demospongiae) collected by the spanish antarctic expedition BENTART-94

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**Abstract:** Two new species of Poecilosclerida *Iophon hesperidesi* sp. nov. (Iophonidae) and *Isodictya bentarti* sp. nov. (Isodictyidae) are described from material collected during the first Spanish expedition on the study of the Antarctic benthos, "Bentart '94". A total of 67 individuals of Poecilosclerida (Demospongiae) were examined, corresponding to 14 species, 9 genera and 8 families. The individuals were collected from 13 stations in muddy sand, mud, stones, rocks, gravel and mixed sediment, at depths of 15 to 396 m. The specimens were collected by scuba diving, Van Veen dredge and rock dredge, on board the "Hespérides".

**Résumé :** *Poecilosclerida* (Porifera, Demospongiae) récoltés par l'expédition Antarctique espagnole BENTART-94. Deux nouvelles espèces de Poecilosclerida, *Iophon hesperidesi* sp. nov. (Iophonidae) et *Isodictya bentarti* sp. nov. (Isodictyidae) sont décrites à partir du matériel récolté au cours de la première expédition espagnole consacrée à l'étude du benthos antarctique, "Bentart 94". L'étude a porté sur 67 spécimens de Poecilosclerida (Demospongiae), appartenant à 14 espèces, 9 genres et 8 familles provenant de 13 stations sur des fonds de sable vaseux, de vase, de pierres, de roches, de graviers (et de sédiments mixtes), entre 15 et 396 m de profondeur. Les récoltes ont été faites en plongée autonome ou à l'aide d'une drague Van Veen et d'une drague à roche, à bord de l' "Hespérides".

**Keywords:** Porifera, Antarctica, Demospongiae, Poecilosclerida, BENTART.

### Introduction

Porifera represent one of the most important elements in the Antarctic biota due to their considerable diversity and predominance in different areas (Sarà et al., 1992).

A research project has been carried out in Spain since 1987, for the study of the Antarctic benthos. The work plan includes the taxonomic identification of 45 groups of invertebrates, fishes and algae.

The BENTART '94 expedition was undertaken on board the Oceanographic Research Vessel "Hespérides", in February 1994, off the South Shetland Islands. This was the first Spanish expedition in relation to the study of the benthos in Antarctic waters. The objective was to explore

and study the benthos on the southern seafloor of Livingston Island and Deception Island, from 4 to 443 m depth.

Although numerous scientific expeditions were undertaken in the Antarctic since the 18<sup>th</sup> century, the area covering South Orkney-South Shetland was scarcely studied with regard to Porifera and only 39 species of Poecilosclerida were reported by Sarà et al. (1992).

In the course of the Bentart expedition, 119 sponge specimens were collected in February 1994 at 13 stations off Livingston Island (see Table 1). Among them 67 belong to the order Poecilosclerida.

## Material and methods

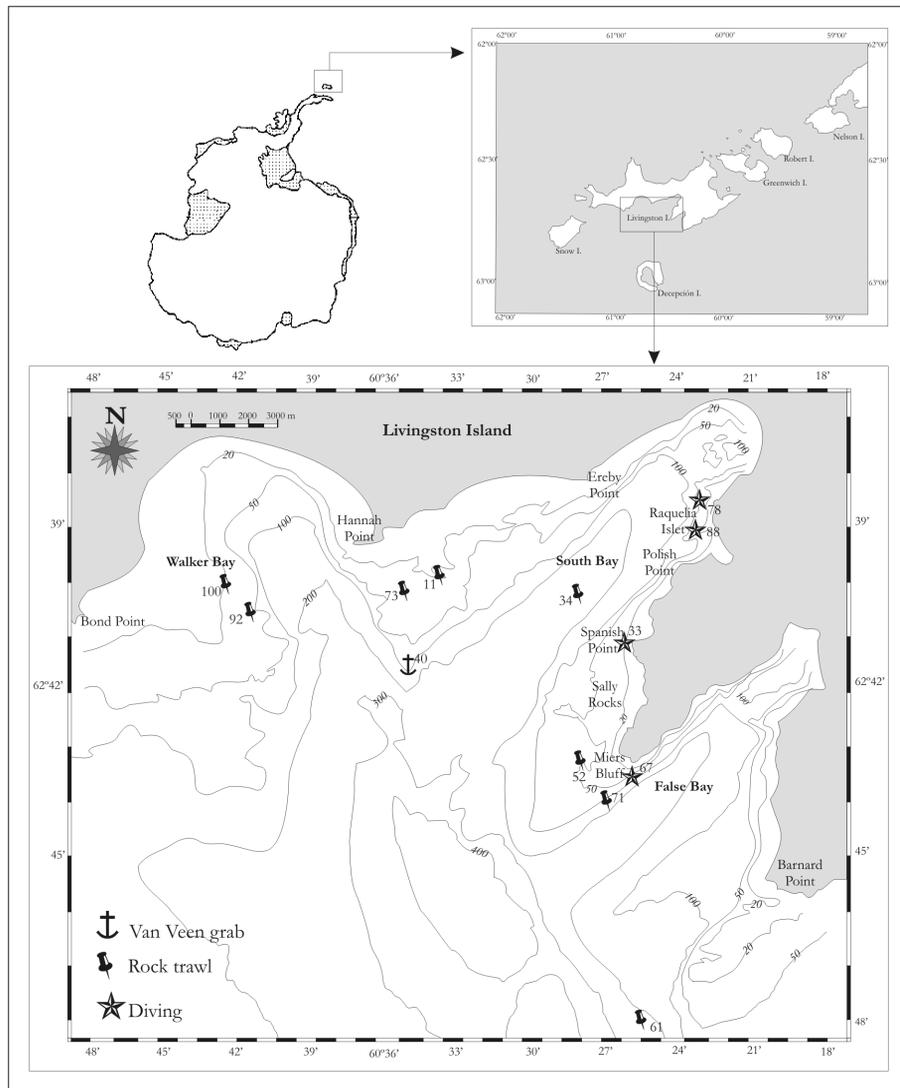
The species described were collected during the Spanish expedition "BENTART '94" in February 1994 in order to study the Antarctic benthos using rock dredge, Van Veen dredge and scuba diving (Fig. 1).

The specimens studied were fixed in 4% formaldehyde or 70% alcohol, then preserved in 70% alcohol. For the study of spicules, the organic matter was digested by nitric acid taken to boiling point, following Rützler's method (1978). For each species, 25 measurements of each of the different spicular types were made, as well as permanent preparations of

**Table 1.** List of stations with Poecilosclerida.

**Tableau 1.** Liste des stations avec des Poecilosclerida.

STATION	SPECIES	Long W	Lat S	DEPTH (m)	SEDIMENT TYPE	SAMPLER
11	<i>Myxilla lissostyla</i> Burton, 1938 <i>Tedania charcoti</i> Topsent, 1907 <i>Isodictya bentarti</i> sp. nov. <i>Iophon flabello-digitatus</i> Kikrpatrick, 1907	60°33'24"	62°40'21"	30	Rock and stones	Rock dredge
33	<i>Myxilla lissostyla</i> Burton, 1938	60°26'00"	62°41'30"	15	Pebbles and gravel	Diving
34	<i>Isodictya bentarti</i> sp. nov.	60°25'01"	62°40'26"	28	Gravels and stones	Rock dredge
40	<i>Mycale fibrosa</i> Boury-Esnault & Van Beveren, 1982	60°34'20"	62°41'22"	122	Sandy mud	Van Veen dredge
52	<i>Isodictya bentarti</i> sp. nov. <i>Isodictya kerguelenensis</i> (Ridley & Dendy, 1886)	60°27'54"	62°43'32"	56	Mixed	Rock dredge
61	<i>Hoplakithara dendyi</i> Kikrpatrick, 1907	60°26'14"	62°48'10"	396	Stones	Rock dredge
67	<i>Isodictya erinacea</i> (Topsent, 1916) <i>Iophon hesperidesi</i> sp. nov.	60°26'00"	62°43'30"	21	Gravel and rocks	Diving
71	<i>Isodictya bentarti</i> sp. nov. <i>Isodictya setifera</i> (Topsent, 1901) <i>Iophon flabello-digitatus</i> Kikrpatrick, 1907 <i>Isodictya kerguelenensis</i> (Ridley & Dendy, 1886)	60°26'35"	62°43'24"	50	Mixed	Rock dredge
73	<i>Iophon hesperidesi</i> sp. nov. <i>Isodictya bentarti</i> sp. nov.	60°34'29"	62°40'10"	30	Stones	Rock dredge
78	<i>Latrunculia biformis</i> <i>Clathria (Axosuberites) flabellata</i> (Topsent, 1916) <i>Mycale fibrosa</i> Boury-Esnault & Van Beveren, 1982 <i>Iophon flabello-digitatus</i> Kikrpatrick, 1907	60°23'00"	62°39'00"	22	Rock	Diving
88	<i>Artemisina apollinis</i> (Ridley & Dendy, 1886) <i>Isodictya kerguelenensis</i> (Ridley & Dendy, 1886) <i>Mycale acerata</i> Kikrpatrick, 1907 <i>Mycale fibrosa</i> Boury-Esnault & Van Beveren, 1982	60°23'00"	62°39'00"	x 15	Rock	Diving
92	<i>Isodictya bentarti</i> sp. nov.	60°23'00"	62°40'21"	x 34	Rock and gravel	Rock dredge
100	<i>Myxilla lissostyla</i> Burton, 1938 <i>Isodictya bentarti</i> sp. nov. <i>Tedania charcoti</i> Topsent, 1907	60°42'02"	62°39'33"	24	Rock, stones and gravel	Rock dredge



**Figure 1.** Map of Livingston Island, with the location of the sampling stations.  
**Figure 1.** Carte de l'île Livingston, avec la localisation des stations d'échantillonnage.

skeletal architecture for the new species. Spicules were examined with scanning electron microscopes, Leo 435 vp and Leyca 440. The classification system adopted in this work is that proposed in *Systema Porifera* (Hooper & Van Soest eds., 2002). The type specimens were deposited in Museo Nacional de Ciencias Naturales, Madrid (MNCN) and in Museum National d'Histoire Naturelle, Paris (MNHN)

**Results**

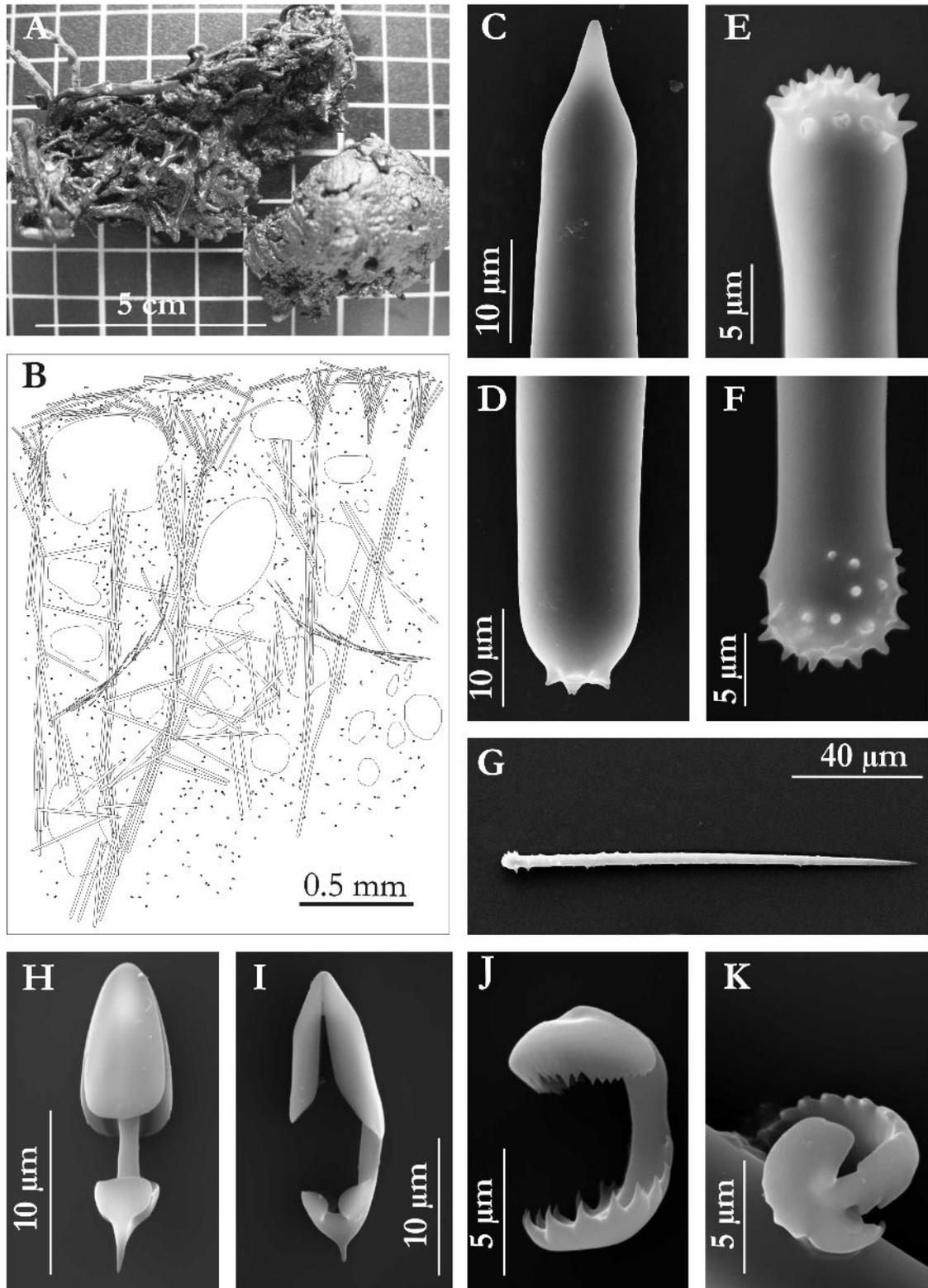
Order POECILOSCLERIDA Topsent, 1928  
 Suborder MICROCIONINA Hajdu,  
 Van Soest & Hooper, 1994  
 Family Acarnidae Dendy, 1922

Genus *Iophon* Gray, 1867  
*Iophon hesperidesi* sp. nov. (Fig. 2)

*Derivatio nominis.* This new species is dedicated to the Spanish Oceanographic Research Vessel “Hespérides” and its crew.

*Type Locality:* Livingston Island. 60°26'00”W, 62°43'30”S and 60°34'29”W, 62°40'10”S. Stations 67 and 73. Depth 21-30 m. Two specimens.

*Type material*  
*Holotype:* Museo Nacional de Ciencias Naturales de Madrid (MNCN) MNCN 1.01/346.  
*Paratype :* Muséum national d'Histoire naturelle, Paris (MNHN) DCL 3884



**Figure 2.** *Iophon hesperidesi* sp. nov. A. Habitus. B. Skeleton. C-D. Ends of style. E-F. Two bases of tyloles. G. Acanthostyle. H-I. Anisochelae. J-K. Bipocilla.

**Figure 2.** *Iophon hesperidesi* sp. nov. A. Habitus. B. Charpente. C-D. Extrémités d'un style. E-F. Deux bases de tyloles. G. Acanthostyle. H-I. Anisochèles. J-K. Bipocilles.

*Other material examined:* Slides MNHN Paris: N.D.T. 1664 (*Iophon pluricornis*), D.T. 1975, D.NBE 1368, D.NBE 1369, D.NBE 1370, D.NBE 1371, D.NBE 1372 and D.NBE 1375 (*Iophon radiatus*).

#### Description

The holotype covers a seaweed. Size: 8 x 5 x 1.5 cm. Smooth, glossy surface. Soft, slightly flexible consistency. Crumbly appearance of the choanosome. Circular oscules 1 mm in diameter. Dark brown colour in alcohol, it dyes ethanol yellow.

The paratype is a fragment with an encrusting form, it breaks easily. Size: 3 x 1.8 x 0.6 cm. Smooth, glossy surface. Elliptical to circular oscule 2 mm in diameter.

#### Skeleton

Choanosomal skeleton anisotropic in disposition; primary tracts made of 6-8 styles interconnected by 1-2 styles at right or oblique angles. Fine tracts of 3-5 acanthostyles among the primary fibres. Very abundant spongin around alveolate cavities with many microscleres embedded in it. Bipocilla are more abundant than anisochelae.

Ectosomal skeleton made of spined tylotes in bouquets supporting a tangential skeleton of the same spicules where microscleres are not very frequent.

#### Spicules

*Megascleres:* slightly curved styles; the head presents some spines and an extremity occasionally shows two spines. Size: 370-410 x 5-20  $\mu\text{m}$ .

Straight or slightly curved tylotes. Smooth shaft, thickened heads partially covered with spines. Size: 207.5-285 x 3.75-10  $\mu\text{m}$ .

Very rarely acanthostyles, with spines throughout the whole length, but these are more abundant on the head, not forming part of the spiny skeleton, and their shape recall that of the tylotes. Size: 100-152.5 x 2.5-10  $\mu\text{m}$ .

*Microscleres:* spurred anisochelae. Size: 19-35 x 5-11  $\mu\text{m}$ . Highly abundant bipocilla. The ends are spoon shaped. One of these curves back towards the shaft, finishing in numerous denticles, and the other ends in 10-12 spines. Size: 9-11  $\mu\text{m}$  in length.

#### Remarks

This new species is characterized by having styles with some spines on the base; ectosomal tylotes with spines covering the top of the head; small, thin acanthostyles; anisochelae of one type only, and abundant bipocilla. The closest species are *Iophon radiatus* Topsent, 1901 and *I. pluricornis* Topsent, 1907, both synonymized by Burton, 1932, with whom we agree, after having studied both types. These species differ from ours because they have two types of anisochelae and lack acanthostyles. Another species in the same environment presenting a similar type of style, is *Iophon timidum* Desqueyroux & Van Soest, 1996, but this species lacks acanthostyles and bipocilla, the dimensions of its styles are smaller and it has two types of anisochelae.

#### Distribution

Antarctic shores, Livingston Island (South Shetland Islands).

*Iophon flabello-digitatus* Kirkpatrick, 1907 (Fig. 3)

*Locality and material:* Stations 11, 71 and 78. Depth 22-50 m. Four specimens.

*Other material examined:* Slides MNHN Paris: N.D.T. 1665, D.T. 1606, D.NBE 1376 and D.NBE 1377 (*Iophon unicornis*); D.T. 1600 (*I. spatulatus*), D.T. 1601 (*I. spatulatus?*); D.T. 1596 and D.T. 1599 (*Iophon flabello-digitatus*) and samples TA-D 102 (*I. spatulatus?*), TA-D77 (*I. spatulatus*) and TA-D89a (*I. spatulatus*) of Vacelet & Arnaud (1972).

#### Description

Massive sponge, covering bryozoans and seaweeds. Size: 7.5 x 2.5 x 2.5 cm. Smooth and bright surface sometimes granulous or very pierced. Slightly flexible, but easily broken. They accumulate small grains of black sand in their bodies. The oscules, when seen, are circular 1-7 mm in diameter and ostia 1-2 mm in diameter. Brown or black colour in alcohol, it dyes ethanol yellow.

#### Skeleton

Choanosomal skeleton formed by a reticulate skeleton with primary and secondary fibres of styles. Ectosomal skeleton made of bundles of tylotes. Microscleres in ectosomal and choanosomal skeleton.

#### Spicules

*Megascleres:* Straight or slightly curved styles in central shaft with a sharp-pointed end and the other mucronate, sometimes bifid, curved or rounded. In larger individuals, the axial canal can be seen, in accordance with Topsent (1908); size: 310-535 x 5-25  $\mu\text{m}$ .

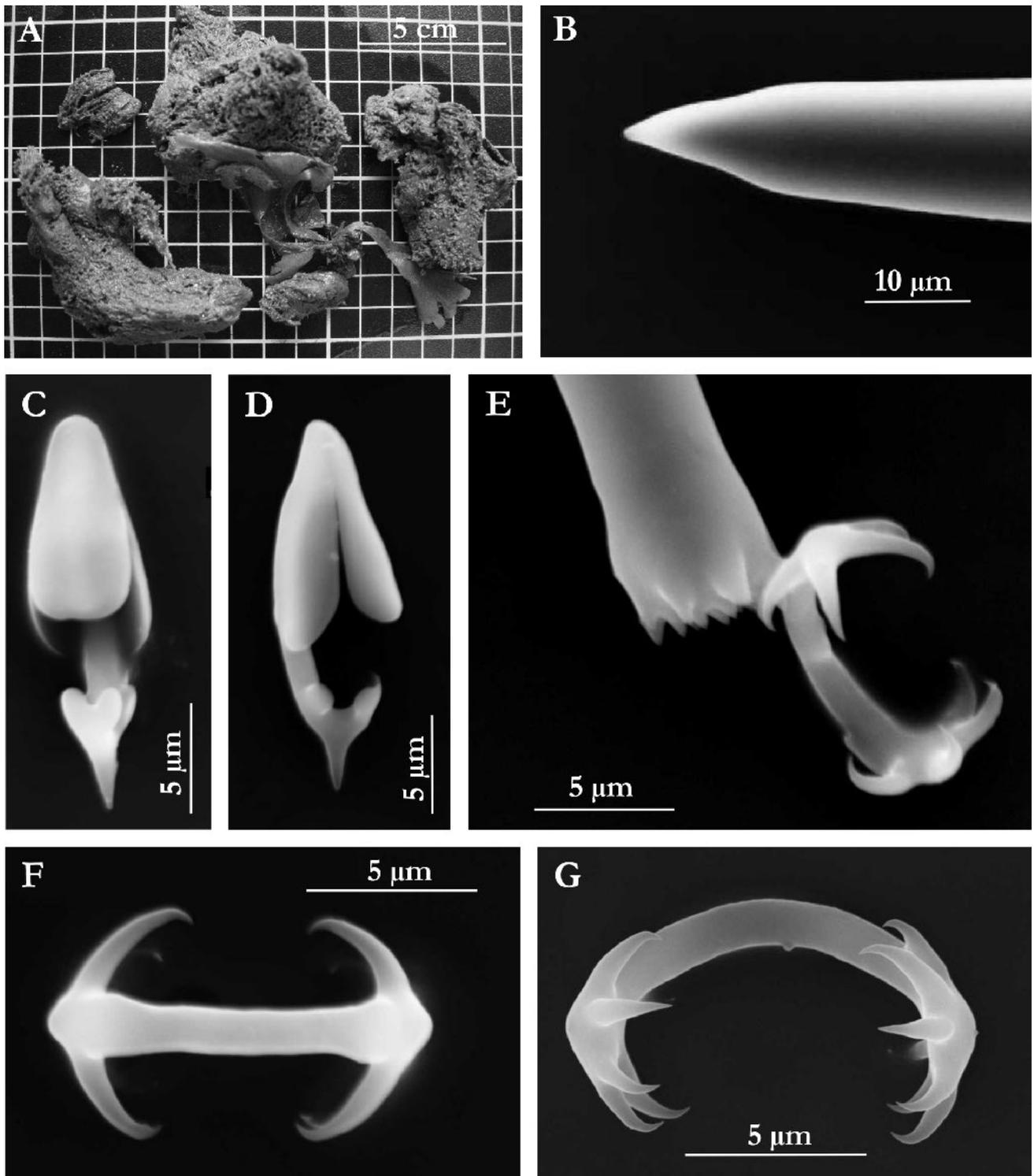
Acanthotylotes with both heads spined are not so prominent. In some cases, one end also presents a tooth among the spines 102.5-300 x 5-15  $\mu\text{m}$ .

*Microscleres:* Spurred anisochelae prominent and slightly curved in the upper alae free end. Central lower alae with a fissure; size: 15-22.5 x 5-8  $\mu\text{m}$ .

Abundant bipocilla, terminal apex diverging like small pointed fingers, the number of which is from 5 to 7; length 9-12.5  $\mu\text{m}$ .

#### Remarks

*Iophon flabello-digitatus* (Kirkpatrick, 1907) is a species very close to *I. unicornis* (Topsent, 1907), but there are differences noted in their acanthostyles: straight all along their body in *I. flabello-digitatus*, and curved in *I. unicornis*; straight ends in the former and thickened ends in the latter; a central spine in the former, which does not exist in the latter. These differences lead us to maintain *I. flabello-digitatus* as a valid species.



**Figure 3.** *Iophon flabello-digitatus* Kirkpatrick, 1907. A. Habitus. B. End of a style. C-D. Anisochelae. E. End of acanthotylote and bipocillum. F-G. Bipocilla.

**Figure 3.** *Iophon flabello-digitatus* Kirkpatrick, 1907. A. Habitus. B. Pointe d'un style. C-D. Anisochèles. E. Base d'acanthotylote et bipocille. F-G. Bipocilles.

Although we agree with the existing synonymy between *I. unicornis* (Topsent, 1907) and *I. spatulatus* (Kirkpatrick, 1907), we disagree with the synonymy established by Burton (1929) for the majority of the species of the Antarctic *Iophon*. In the case of the synonymy between *I. flabello-digitatus* (Kirkpatrick, 1907) and *I. aceratus* (Hentschel, 1914), the priority would always be the one described by Kirkpatrick (1907).

Regarding the specimens from Bentart 94, they are similar to those from the 2<sup>nd</sup> Antarctic French Expedition (Topsent, 1908) and from the “Scotia” expedition (Topsent, 1913) due to the presence, although not constant, of a central mucron that projects out of the spines at the base of the tyloles. Having studied the slide N. D.T. 1596, a specimen of *I. flabello-digitatus* sent to Topsent by Kirkpatrick, we have seen that this is not a constant character as Topsent (1913) stated, although it occurs in the majority of cases. In our opinion, the samples from Kerguelen, identified as *I. unicornis* (Boury-Esnault & Van Beveren, 1982) correspond to *I. flabello-digitatus* and the sample TA-D 102 of Terre Adélie (Vacelet & Arnaud, 1972) identified as *I. spatulatus*, also corresponds to *I. flabello-digitatus*.

#### Distribution

Winter Quarters (Kirkpatrick, 1908), Scotia Bay (Topsent, 1913), Gauss Station (Hentschel, 1914), Peterman Island (Topsent, 1917), Terre Adélie (Vacelet & Arnaud, 1972), Kerguelen (Boury-Esnault & Van Beveren, 1982) and South Shetland Islands

Family Microcionidae Carter, 1875

Genus *Clathria* Schmidt, 1862

Subgenus *Axosuberites* Topsent, 1893

*Clathria* (*Axosuberites*) *flabellata* (Topsent, 1916) (Fig. 4)

*Locality and material*: Station 78. Depth 22 m. One specimen.

*Other material examined*: Slides MNHN Paris: N.D.T. 732 and D.T. 733 (as *Ophlitaspongia flabellata*).

#### Description

Erect and fan-shaped sponge with a broken frond and dichotomous ramifications. Size: 70 x 65 x 5 mm. Hispid surface rough to the touch and smoother upper edge. Oscules or ostia were not noted. Beige to light brown colour (in alcohol). It dyes ethanol yellow.

#### Skeleton

Choanosomal skeleton with an axial architecture made by primary styles joined to form a central region, some of them located toward the surface. Ectosomal skeleton made of secondary styles in bouquets, some of them in tangential disposition. Toxas are more abundant in ectosome.

Many diatoms were attached to the end of secondary styles.

#### Spicules

*Megascleres*: Choanosomal styles: smooth, with a slightly curved head. Size: 450-1095 x 12.5-25 µm. Ectosomal styles: thin and straight, sometimes with spines in their head. Size: 350-720 x 5-12.5 µm.

*Microscleres*: three size classes of toxas, the two larger ones strongly curved in their central part, the smaller one with a wide angle. Rounded spines at the extremities, except for the smaller ones, which are smooth. Size: Toxas I: 97.5-217.5 x 1.25-2.5 µm. Toxas II: length 35-77.5 µm. Toxas III: length 12.5-15 µm.

#### Remarks

Regarding the description of *Ophlitaspongia flabellata* by Topsent (1916), the author described toxas of one size category only, although when studying the slides of *Ophlitaspongia flabellata* from the 2<sup>nd</sup> Antarctic French Expedition, we observed three categories.

#### Distribution

Antarctic shores (Wilkes Land, Oates Coast, Victoria Land, Graham Coast, Mac-Robertson Coast), South Georgia Island (Koltun, 1964) and South Shetland Islands.

Genus *Artemisina* Vosmaer, 1885

*Artemisina apollinis* (Ridley & Dendy, 1886) (Fig. 5)

*Locality and material*: Station 88. Depth 15 m. Four fragments.

*Other material examined*: Slides MNHN Paris: N.D.T. 1666 and D.T. 690 (*Artemisina diana* Topsent, 1917).

#### Description

Massive, choanosome rough when touched, cavernous in aspect. With no resistance to traction. Size: 6 x 4 x 2.5 cm. Velvet-like surface and very hispid. Circular oscules 2 mm in diameter. Beige or brown in alcohol. It dyes ethanol light yellow.

#### Skeleton

The choanosomal skeleton consists of ascending longitudinal tracts of 4-10 styles with spongin from which single styles radiate obliquely or in right angles. Ectosomal skeleton composed of subtylostyles in confused disposition, palisade and brushes.

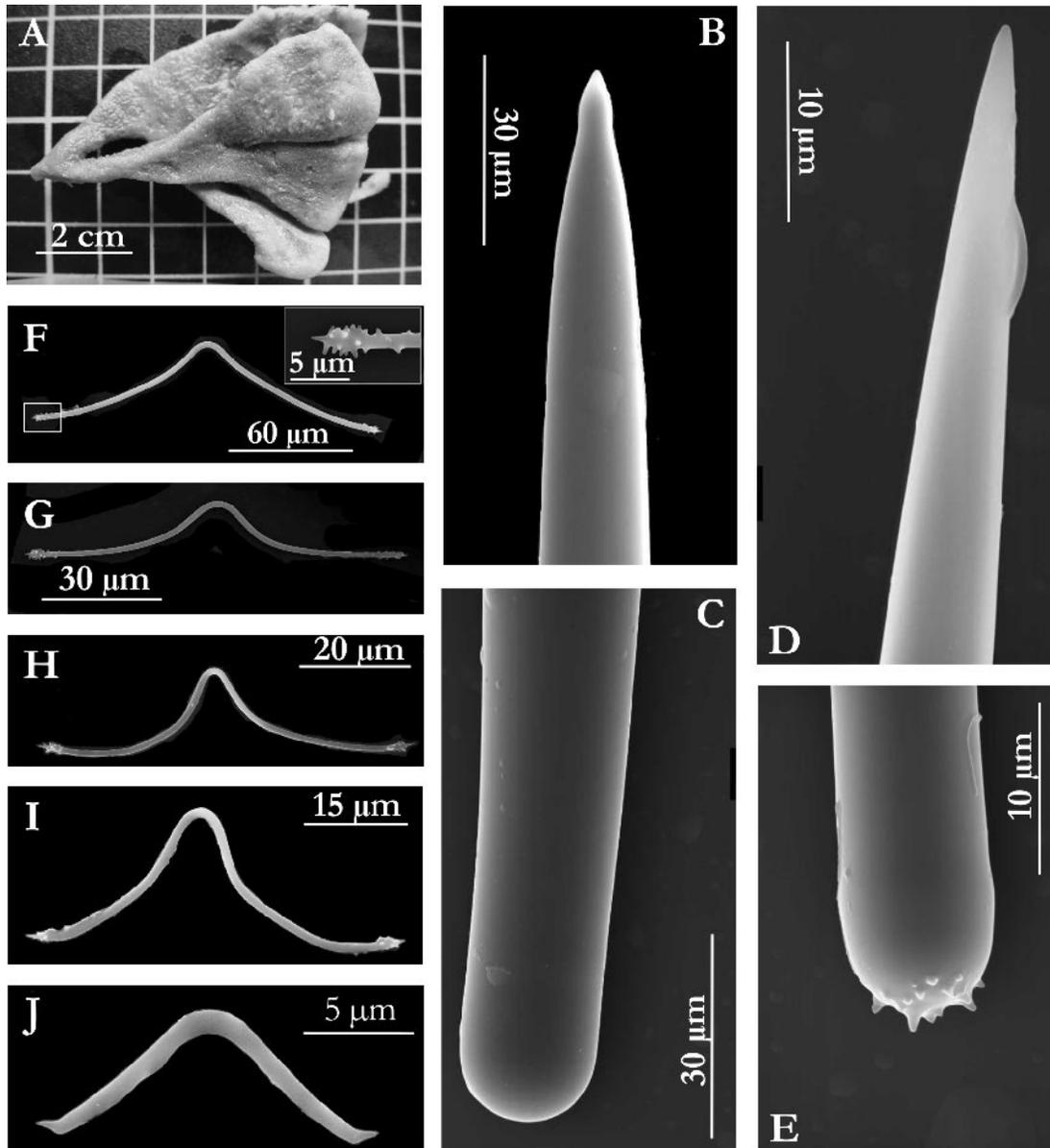
#### Spicules

*Megascleres*: choanosomal styles: thick, short and slightly curved. Size: 430-670 x 12.5-30 µm. Ectosomal styles: very long and thin, straight and with spines in the head. Size: 275-570 x 2.5-10 µm. In one specimen tyloles with spined heads were also found. Size: 220-315 x 5-7.5 µm.

*Microscleres*: isochelae 12.5-17.5 x 2.5-5 µm. Toxas with spined ends. Size: 42.5-580 µm.

#### Remarks

Regarding *Artemisina apollinis*, one of the specimens also had spiny headed tyloles, as described in the original description as: “slender, straight styli, very sharply and gradually pointed, often very slightly spined at the base and



**Figure 4.** *Clathria (Axosuberites) flabellata* (Topsent, 1916). A. Habitus. B-C. End and base of choanosomae style. D-E. End and base of ectosomal style. F. Toxa I and detail of tip. G-I. Toxas II. J. Toxa III.

**Figure 4.** *Clathria (Axosuberites) flabellata* (Topsent, 1916). A. Habitus. B-C. Pointe et base d'un style choanosomique. D-E. Pointe et base d'un style ectosomique. F. Toxe I et détail d'une extrémité. G-I. Toxes II. J. Toxe III.

with a slight tendency to become tylostylote" (Ridley & Dendy, 1887). Our samples are more similar to those identified by Topsent (1917) as *Artemisina diana*, above all in their spicular dimensions. Burton (1929) synonymized two species and we agree with this because there are not enough characters to differentiate between the two species.

#### Distribution

Antarctic shores (Wilhelm II Coast, Victoria Land, Graham Coast) South Georgia and Kerguelen, North Atlantic, Arctic (Koltun, 1964) and South Shetland Islands.

Suborder MYXILLINA Hadju, Van Soest & Hooper, 1994

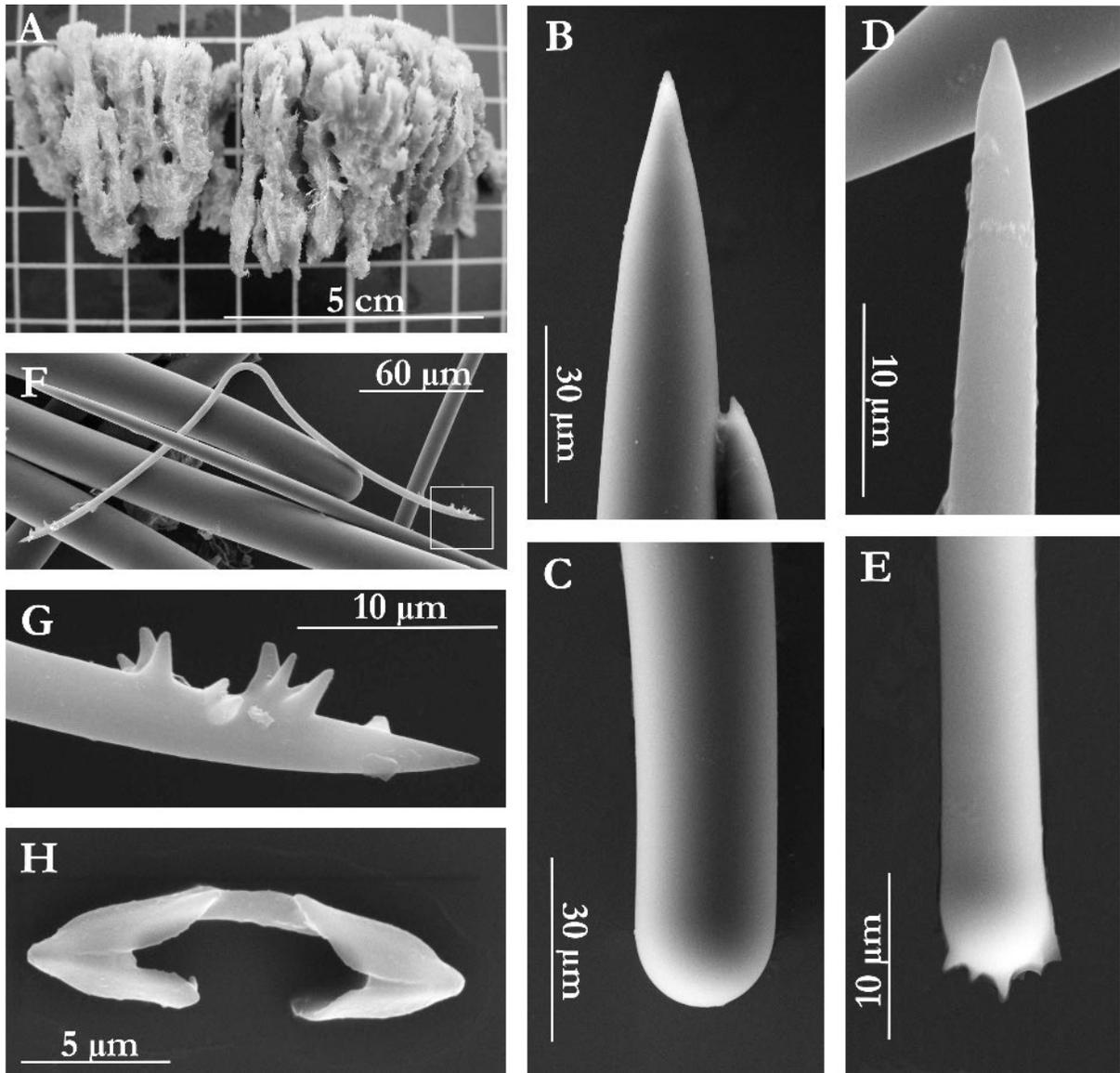
Family Myxillidae Topsent, 1928

Genus *Myxilla* Schmidt, 1862

*Myxilla lissostyla* Burton, 1938 (Fig. 6) (Table 2)

*Locality:* Stations 11, 33 and 100. Seven specimens. Depth 15-30 m.

*Other material examined:* Slides MNHN Paris, N.D.T. 1608 (*Myxilla asigmata*) and slides of the type specimen BMNH 1935:10:26:29a (*Myxilla lissostyla*).



**Figure 5.** *Artemisina apollinis* (Ridley & Dendy, 1886). A. Habitus. B-C. End and base of a choanosomal style. D-E. End and base of an ectosomal style. F. Toxa. G. End of toxa. H. Isochela.

**Figure 5.** *Artemisina apollinis* (Ridley & Dendy, 1886). A. Habitus. B-C. Pointe et base d'un style choanosomique. D-E. Pointe et base d'un style ectosomique. F. Toxe. G. Extrémité d'un toxo. H. Isochèle.

#### Description

Massive sponge and firm but cavernous appearance. Size: 8 x 6 x 2.5 cm. Smooth or rough surface. It tears easily. Circular and flat oscules 1-2 mm in diameter uniformly distributed. Beige or brown in colour in alcohol, it dyes ethanol to yellow. Contains small sand grains. Embryos were noted in some specimens among bundles of styles.

#### Skeleton

Choanosomal skeleton. Primary fibres of styles (approximately 8). Secondary tracts of styles at right angles. Anchorate chelae in all skeleton were found. Ectosomal

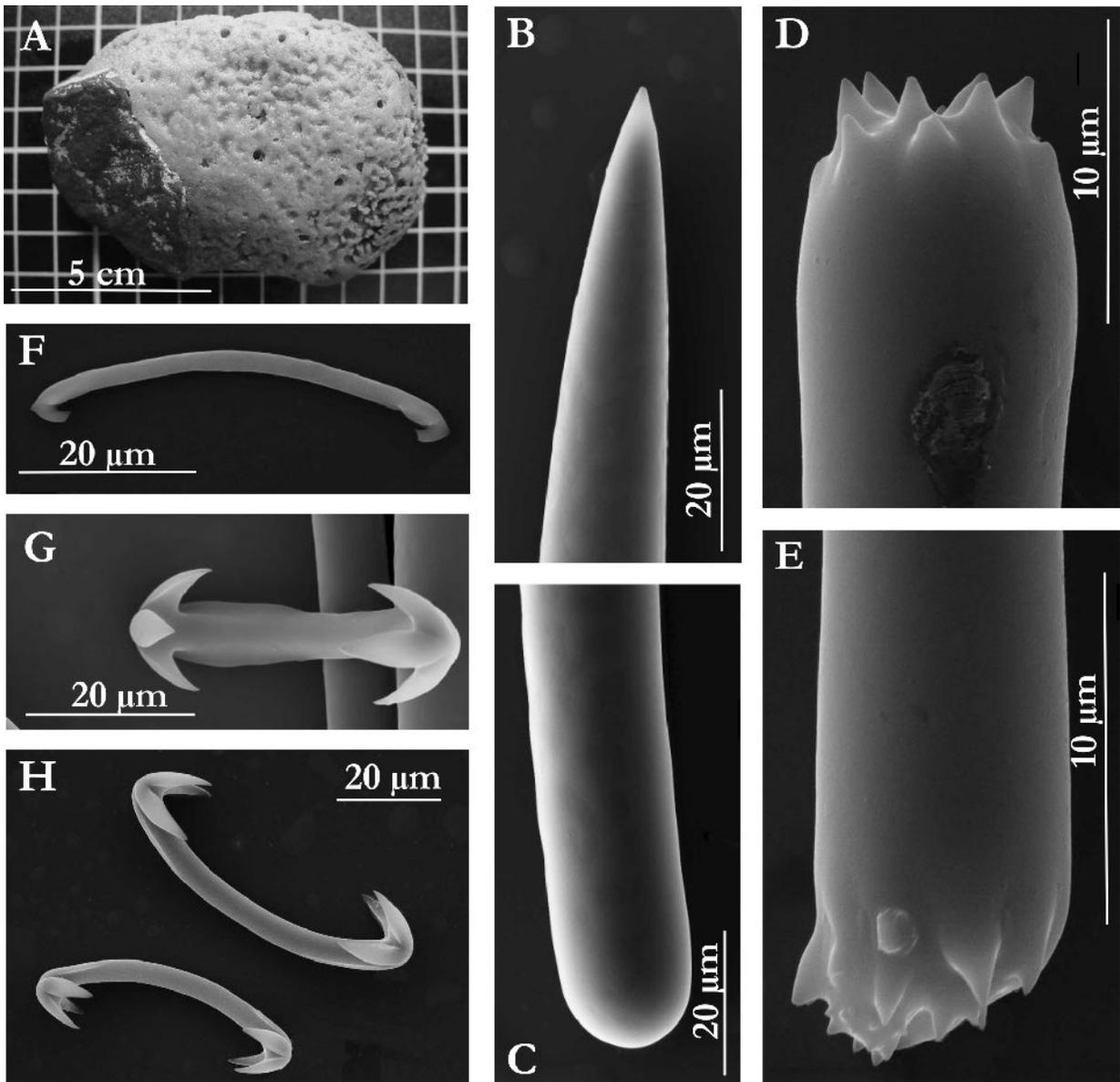
skeleton made of spined tylotes projecting through the pinacoderm in palisade or brushes of some spicules.

#### Spicules

*Megascleres:* styles: thick, short and slightly curved, sometimes with differences at the point that can be rounded. Size: 205-600 x 1.25-27.5 µm.

Smooth, straight and spined ended tylotes. Size: 205-320 x 3.75-15 µm. Smaller styles with straight ends were also observed. Size: 190-415 x 3.75-10 µm.

*Microscleres:* mature and developing anchorate chelae with a pronounced curvature and 3-4 short, sometimes bifid, pointed teeth at each end. Size: 27.5-80 x 2.5-17.5 µm.



**Figure 6.** *Myxilla lissostyla* Burton, 1938. **A.** Habitus. **B-C.** End and base of a style. **D-E.** Ends of tyloles. **F-H.** Anchorate chelae (F. Developmental form).

**Figure 6.** *Myxilla lissostyla* Burton, 1938. **A.** Habitus. **B-C.** Pointe et base d'un style. **D-E.** Extrémités de tyloles. **F-H.** Isancres (F. Forme en développement).

**Table 2.** Measurements of spicules of *Myxilla lissostyla* Burton, 1938.

**Tableau 2.** Dimensions des spicules de *Myxilla lissostyla* Burton, 1938.

Author	Styles	Tyloles	Anchorate chelae
Burton, 1938	800 x 35 µm	350 x 10 µm	110
Remeasurements of type (25)	770-890 x 27.5-37.5 µm	315-365 x 5-12.5 µm	112-140 x 17.5-35 µm
Desqueyroux, 1975	600 x 24 µm	290 x 7 µm	30-75 µm
Bentart 94	205-600 x 1.25-27.5 µm	205-320 x 3.75-15 µm	27.5-80 x 2.5-17.5 µm

*Remarks*

There are already several references to this species (Burton, 1938; Koltun, 1964; Barthel *et al.*, 1990; Desqueyroux, 1975), but the lack of spicular iconography and data on the species previously collected prevented us from a sure identification of our specimens as *M. lissostyla*. An examination of the preparations of the type specimen, leads us to identify our individuals with this species. The spicular dimensions are somewhat smaller than those of the type, a fact previously pointed out by Desqueyroux (1975) (Table 2); the bathymetric range is also changed from 15 to 438,72 m depth.

*Distribution*

Antarctic shores (Queen Mary Coast) (Koltun, 1964); Brabante Island (Desqueyroux, 1975) and South Shetland Islands.

Family Tedaniidae Ridley & Dendy, 1886

Genus *Tedania* Gray, 1867

*Tedania charcoti* Topsent, 1907 (Fig. 7)

*Locality and material*: Stations 11 and 100. Depth 24-30 m. Two specimens.

*Other material examined*: Slides MNHN Paris: N.D.T. 1667 (*Tedania charcoti*).

*Description*

Massive sponge, fragile, tearing easily. Choanosome with crumbly appearance, it breaks easily. Size: 8 x 6 x 3 cm. Smooth or rough irregular surface. Circular oscules 2 to 3 mm in diameter. Ostia not observed. Beige or light brown in alcohol, it dyes ethanol yellow-orange.

*Skeleton*

Choanosomal skeleton in plumose disposition. Tracts of 3-5 styles with onychaetes highly abundant among them. Ectosomal skeleton made of tornotes in palisade.

*Spicules*

*Megascleres*: very abundant long and slightly curved styles. Size: 330-410 x 5-15  $\mu\text{m}$ .

Straight or slightly curved anisotornotes with sharp end with central or lateral mucron. Size: 235-305 x 7.5-10  $\mu\text{m}$ .

*Microscleres*: onychaetes I: very long with short spines. One end sharp-pointed and the other spiny. Size: 187.5-287.5  $\mu\text{m}$ .

Onychaetes II: One end pointed and the other made up of several spines. Size: 75-107.5  $\mu\text{m}$ .

*Remarks*

Our individuals correspond to those described by Topsent (1907), particularly specimen N. 581 of Topsent (1907). In our specimens, however, the spicular dimensions are slightly smaller than those of the type specimen and there is no end thickening in the smaller onychaetes as described by Topsent.

*Distribution*

Antarctic shores (Wilhelm II Coast, Victoria Land, Graham Coast) South Georgia, South Sandwich, Falkland Islands

(Koltun, 1964); Kerguelen, Chile Coast (Zapallar a Tierra de Fuego) (Desqueyroux, 1989) and South Shetland Islands.

Suborder MYCALINA Hadju, Van Soest & Hooper, 1994

Family Guitarridae Dendy, 1924

Genus *Hoplakithara* Kirkpatrick, 1907

*Hoplakithara dendyi* Kirkpatrick, 1907 (Fig. 8)

*Locality and material*: Station 61. Depth 396 m. One specimen.

*Description*: massive sponge on a small stone. White colour in alcohol.

*Skeleton*

Choanosomal skeleton. Irregularly positioned strongyles in a confused way, sometimes in groups of 5-10 towards the sponge surface. Ectosomal skeleton with protective exotyles in bouquets or palisade with scattered sigmata near the sharp-pointed end of exotyles.

*Spicules*

*Megascleres*: exotyles with a spherical base covered with a spiny edged crater-form ornamentation. Some spicules with a double swell. The other end with rounded point. In young spicules, the head is smooth with a sharp point. Size: 350-440 x 50-87.5  $\mu\text{m}$ .

Straight and thin strongyles, in some places very abundant, with central swell and malformations at the ends. Very fine axial canal. 480-650 x 5-25  $\mu\text{m}$ .

*Microscleres*: placocheles. 65-82.5 x 27.5-57.5  $\mu\text{m}$ . Wide alae 17.5-25  $\mu\text{m}$ .

Very small and thin C-shaped sigmata with spiny ornamentation 7.5-10  $\mu\text{m}$ .

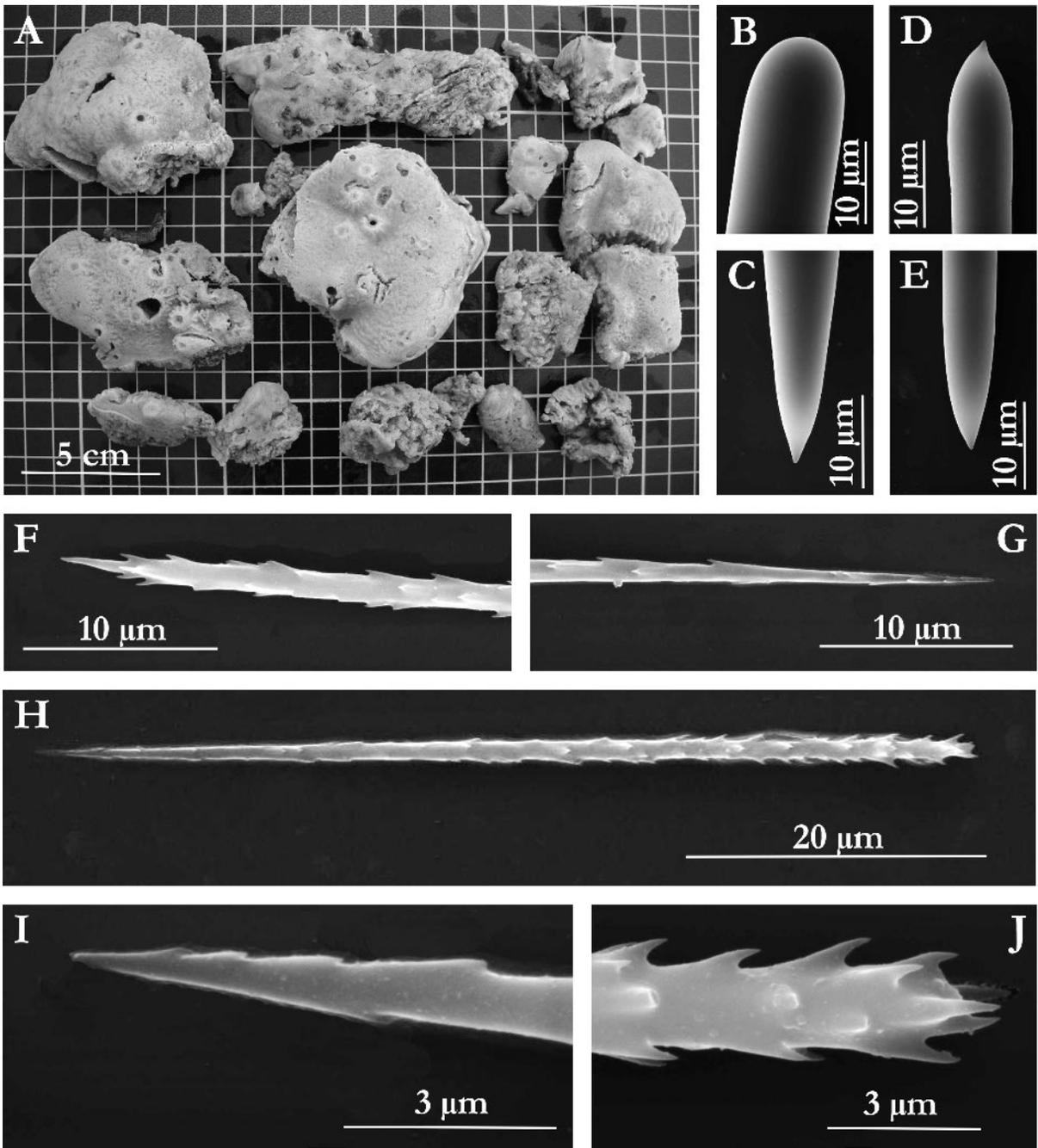
*Remarks*

In a recent publication, "Systema Porifera" (Hajdu & Lerner, 2002), the genus *Hoplakithara* was put in synonymy with *Guitarra* on the basis of the morphology of the microscleres without considering the diversity of megascleres. The argument of the authors were based on the alleged fact that *H. dendyi* would be the only known species of this genus, completely forgetting another species namely *Hoplakithara exoclavata* Lévi (1993). In this work, the species was described as having a habitus similar to *H. dendyi*. The characteristic spicules of *Hoplakithara*, the exotyles, are regularly scattered all over the surface, always with the thicker end projecting out in a characteristic sponge hispidation (Lévi, 1993). For these reasons, we consider necessary to maintain *Hoplakithara* as a valid genus with two valid species: *H. dendyi* Kirkpatrick, 1907 and *H. exoclavata* Lévi, 1993.

*Distribution*

Antarctic shores (Wilhelm II Coast, Banzare Coast, Victoria Land) (Koltun, 1964) and South of Livingston Island (South Shetland Islands).

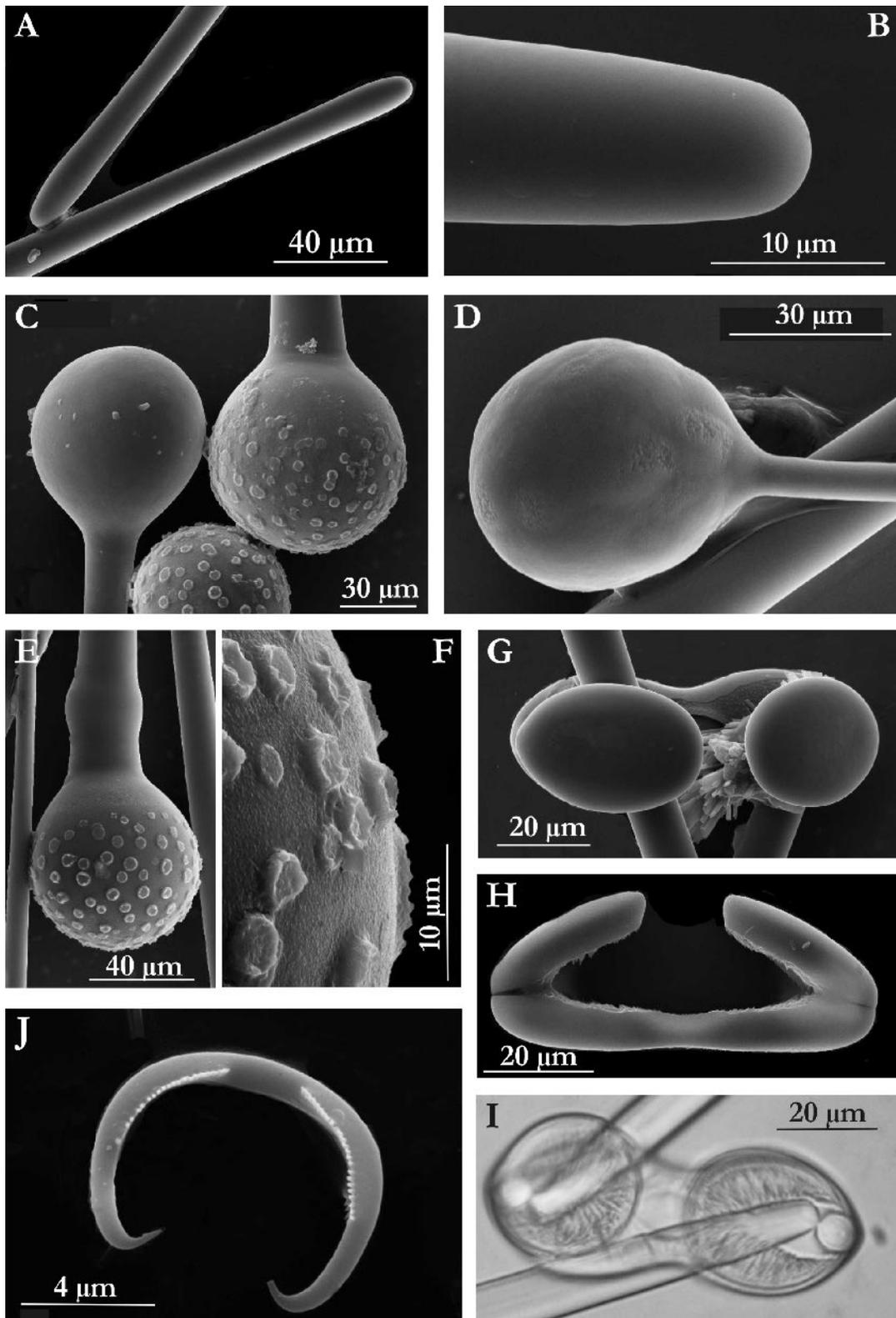
The key to genera of the family Guitarridae proposed by Hajdu & Lerner, 2002 could be modified as follows:



**Figure 7.** *Tedania charcoti* Topsent, 1907. A. Habitus. B-C. Base and end of a style. D-E. Ends of anisotornotes. F-G. Ends of onychaeta I. H. Onychaeta II. I-J. End of onychaeta II.

**Figure 7.** *Tedania charcoti* Topsent, 1907. A. Habitus. B-C. Base et pointe d'un style. D-E. Extrémités des anisotornotes. F-G. Extrémités d'une onychète I. H. Onychète II. I-J. Extrémités d'une onychète II.

- |   |  |
|---|--|
| (1) With placocheles.....2                              | Other habits; palmate isochelae when present, spiny; no sigmancistras..... <i>Guitarra</i> |
| With placocheles derivatives, but no true placocheles.4 |  |
| (2) With exotyles..... <i>Hoplakithara</i>              | (4) With tetrapocilla..... <i>Tetrapocillon</i>  |
| Without exotyles.....3                                  | With dischelae..... <i>Coelodischela</i>   |
| (3) Erect, with sigmancistras..... <i>Euchelipluma</i>  |  |



**Figure 8.** *Hoplakithara dendyi* Kirkpatrick, 1907. A. Strongyles. B. End of strongyle. C-E. End of exotyles (D. Developmental form) F. Spines on head. G-I. Placochele. (I. Optical microscope) J. Sigma.

**Figure 8.** *Hoplakithara dendyi* Kirkpatrick, 1907. A. Strongyles. B. Extrémité d'un strongyle. C-E. Extrémités des exotyles (D. Forme en développement) F. Épines de la tête. G-I. Placochele. (I. Microscopie optique). J. Sigmate.

Family Mycalidae Lundbeck, 1905

Genus *Mycale* Gray, 1867

*Mycale acerata* Kirkpatrick, 1907 (Fig 9)

*Locality and material:* Station 88. Depth 15 m. One specimen.

*Other material examined:* Slides of the type 1908.2.5.170.b (*Mycale acerata*), NHM London.

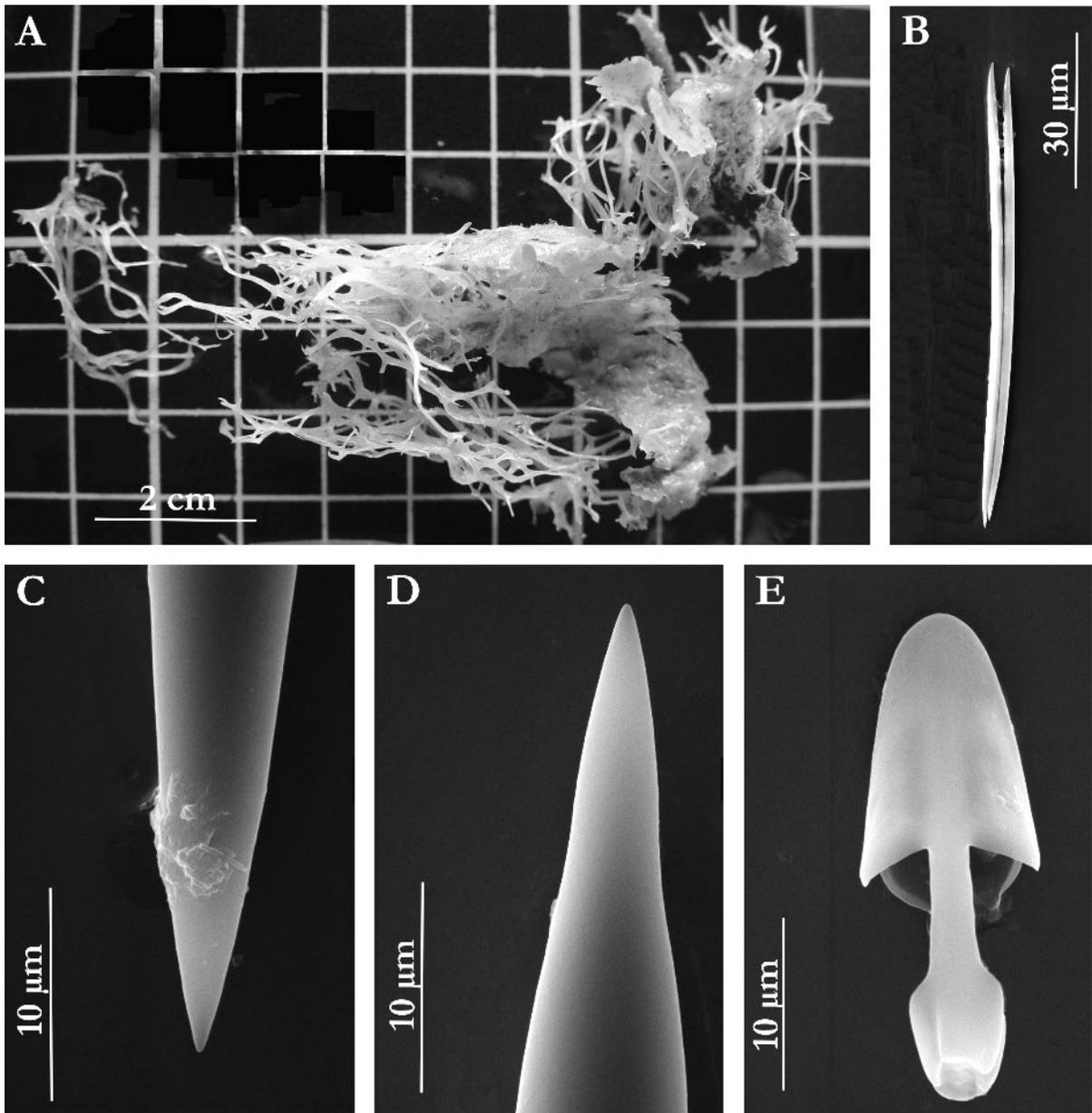
*Description*

Specimen in an extremely poor condition with only one

group of fibres with ramifications formed by bundles of grouped oxeas. Little organic material.

*Skeleton*

Choanosomal skeleton. Primary columns of oxeas composed of multispicular fibres (more than 15 spicules). Secondary ones obliquely criss-crossed. Anisochelae and raphids present in the fibres. Ectosomal skeleton. Oxeas arranged parallel to the surface in number of 6-10 spicules, supported by the choanosomal brushes reaching the surface in bouquets. Anisochelae present.



**Figure 9.** *Mycale acerata* Kirkpatrick, 1907. A. Habitus. B. Raphides. C-D. Ends of oxeas. E. Small anisochela.  
**Figure 9.** *Mycale acerata* Kirkpatrick, 1907. A. Habitus. B. Raphides. C-D. Extrémités des oxeas. E. Petit anisochèle.

### Spicules

*Megascleres*: abundant straight or slightly curved oxaeas with a visible axial canal in the larger ones. Some of them mucronate or with a short end. We found spicules with three tyles in the central part of them. Size: 590-688 x 15-22.5 µm.

*Microscleres*: anisochelae. In profile view, superior central alae are broader than the lower ones. Size: 25-35 x 7.5-12.5 µm.

Right or central curved raphides in trichodragmata sometimes with central tyle. Size: 42.5-87.5 µm.

### Remarks

In a specimen identified as *Mycale acerata* Kirkpatrick, 1907, we observed smaller anisochelae than those described by the author. After an examination of preparations of the type specimen, we confirm that our specimen corresponds to *M. acerata*, despite the fact that we found no large anisochelae, probably due to the poor condition of the sample.

### Distribution

Antarctic shores (Wilhem II Coast, Wilkes Land, South Shetland Islands, Princess Ragnhild Coast, Lars Christensen Coast), South Orkneys, South Georgia, Falkland, Kerguelen (Koltun, 1964) and Livingston Island.

*Mycale fibrosa* Boury-Esnault & Van Beveren, 1982  
(Fig. 10)

*Locality and material*: Stations 40, 78 and 88. Depth 15-122 m. Three specimens.

*Other material examined*: Slides MNHN Paris: N.D.NBE 1086 and D.NBE 1086a (*Mycale fibrosa*).

### Description

Some fragments covering bryozoans. Beige colour in alcohol. Smooth surface without oscules or ostia. 1 mm thick. Some specimens in extremely poor condition with only a group of fibres of 2 mm in diameter composed of compact bundles of spicules. In others, only organic material can be seen besides a specimen of *Mycale acerata* Kirkpatrick, 1907. Texture smooth and a very light hispidation can be seen with the dissecting microscope.

### Skeleton

Choanosomal skeleton. Thick tracts of styles (more than 150 spicules) with dichotomous branches ending in bouquets at the sponge surface. Ectosomal skeleton. Tangential confused skeleton with styles criss-crossed.

### Spicules

*Megascleres*: abundant right or slightly curved styles, sometimes with both ends rounded. We can distinguish the axial canal. In some specimens we found very thin styles with central curvature and sharp-pointed ends. Size: 400-800 x 2.5-22.5 µm.

*Microscleres*: anisochelae I, observed at different stages of development sometimes with a small swell in the shaft. Their larger alae are triangular in shape but with rounded angles. Rosettes can be seen. Size: 82.5-97.5 x 30-37.5 µm.

Anisochelae II can be differentiated in size: 40-52.5 x 7.5-18.75 µm.

In anisochelae III the alae are also triangular but more rounded than the others. Size: 27.5-32.5 x 7.5-12.5 µm.

Sigmata I, very large and C shaped with one of the ends perpendicular to the other. Length: 122.5-242.5 µm.

Sigmata II, C or S shaped. C shaped ones similar to sigmata I. Length: 32.5-60 µm.

### Remarks

Regarding the specimens which were identified as *Mycale fibrosa* Boury-Esnault & Van Beveren, 1982, we observed a third category of anisochelae, not seen in the Kerguelen specimens. Having studied slides in the MNHN, Paris (n. D. NBE 1086 and D. NBE 1086a), we could not corroborate the presence of this spicules category, possibly due to the poor state of the type specimen. Among three specimens from Bentart 94, in we only found one which had this third category of anisochelae, and this was the specimen with the highest quantity of organic material.

### Distribution

Kerguelen (Boury-Esnault & Van Beveren, 1982) and Antarctica (Bahía Paraiso, Puerto Leith (Desqueyroux, 1989); Ross Sea (Pansini *et al.*, 1994) and Livingston Island).

Family Isodictyidae Dendy, 1924  
Genus *Isodictya* Bowerbank, 1864  
*Isodictya bentarti* sp. nov. (Fig. 11)

*Derivatio nominis*: This species name refers to the first Spanish Antarctic project on the study of marine benthos, "Bentart 94".

### Type material

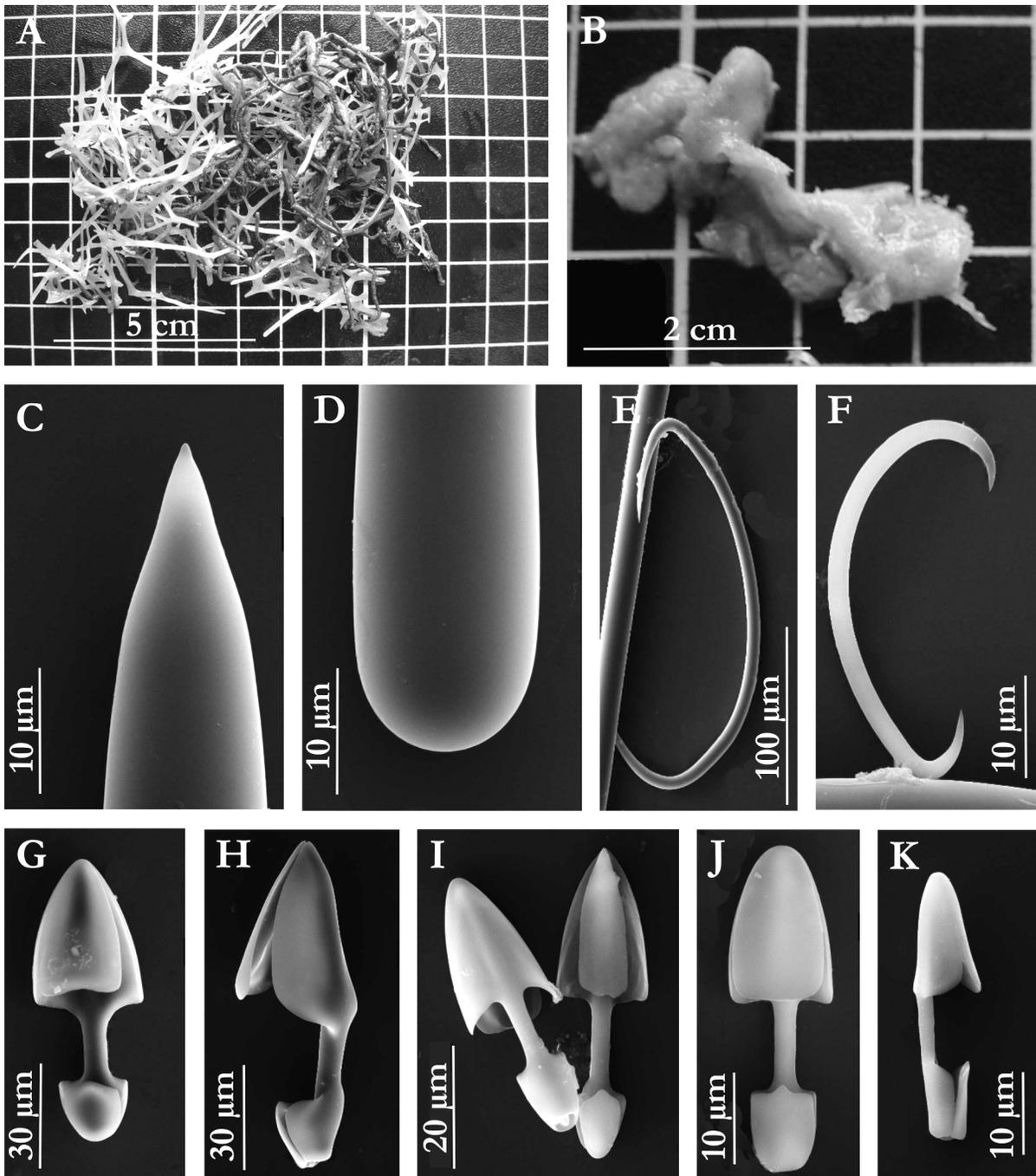
*Holotype*: MNCN 1.01/345

*Paratype*: MNHN DCL 3885

*Type Locality and material*: Livingston Island. 60°24'41"W 62°24'13"S and 60°15'00"W, 62°24'16"S. Stations 11, 34, 52, 71, 73, 92, y 100. Depth 24-56 m. Eighteen specimens.  
*Other material examined*: Slides MNHN: N.D.T. CL 593 and D.T. CL 594 (as *Homoeodictya grandis*) and slides of the type specimen BMNH 1887.5.2.161 (as *Desmacidon (Homoeodictya) grandis*).

### Description

Specimens in very different states of preservation. The holotype is a straight, tongue-shaped sponge. Attached to the substratum by a narrower area that broadens and narrows in the upper part again. One of the sides is covered by oscules and the other is smooth, although a pitted surface can be seen, probably formed by fibres. It breaks easily, due to an increased weight when impregnated in a liquid (alcohol), although it's normally flexible. Size: 35 x (6-15-7) x 2 cm. Rough and hispid surface with many fibres projecting from the middle. They accumulate black sand grains inside the sponge, especially at the base where are



**Figure 10.** *Mycale fibrosa* Boury-Esnault & Van Beveren, 1982. A-B. Habitus. C-D. End of styles. E. Sigma I. F. Sigma II. G-H. Anisochelae I. I. Anisochelae II. J-K. Anisochelae III.

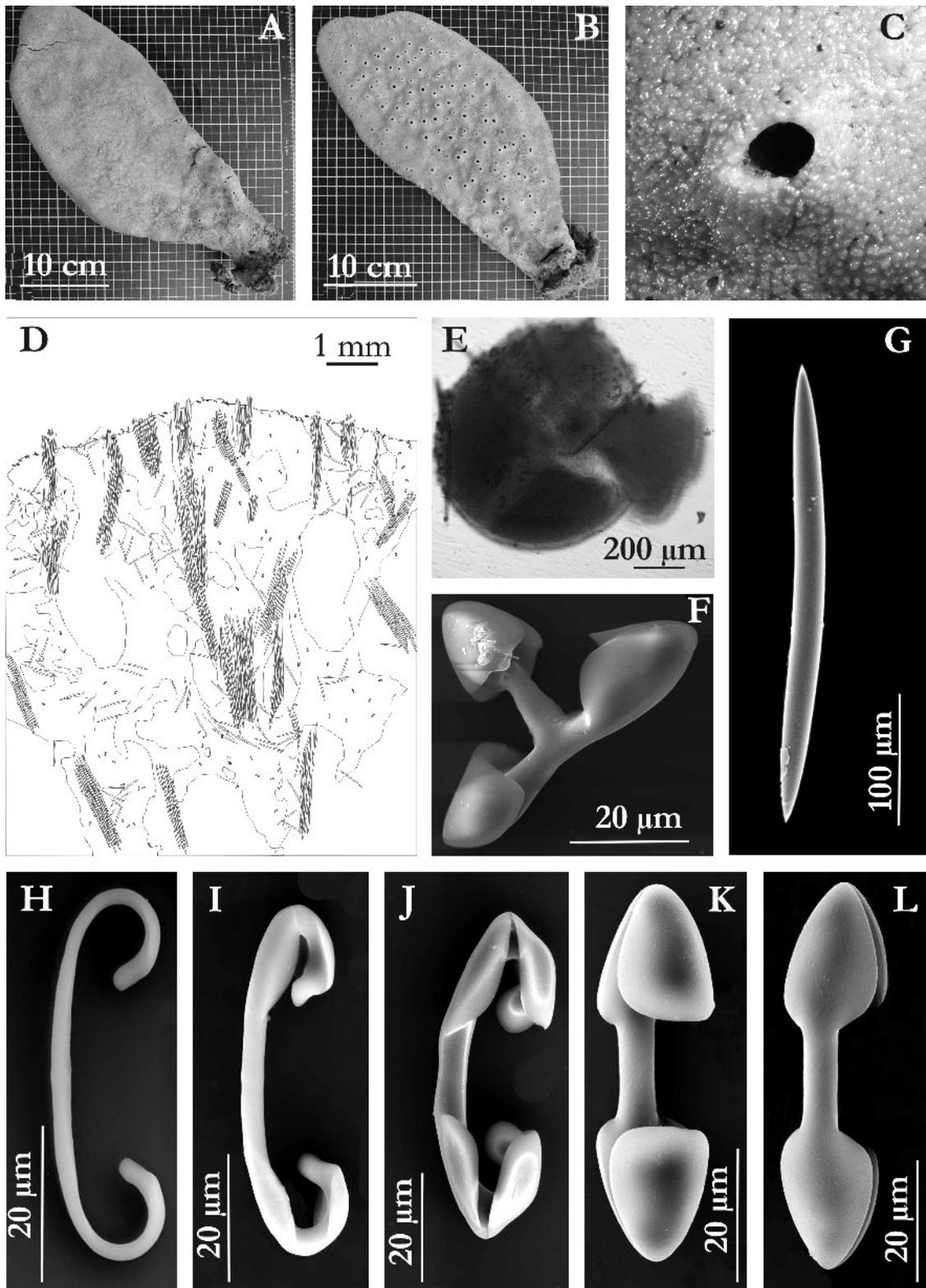
**Figure 10.** *Mycale fibrosa* Boury-Esnault & Van Beveren, 1982. A-B. Habitus. C-D. Extrémités des styles. E. Sigmate I. F. Sigmate II. G-H. Anisochèles I. I. Anisochèles II. J-K. Anisochèles III.

anchoring fibres. Circular oscules 2 to 5 mm in diameter, some of them slightly elevated (2-3 mm). Beige in colour in alcohol. It dyes ethanol to dark yellow.

*Other specimens:* polymorphous species, always presenting a narrow base, which thickens leading to massive, erect but flattened forms or with a parallel

digitiform process. White, beige or pink in colour in alcohol. Some specimens were in a reproductive state.

In some cases, oscules are located on one side arranged in ascending lines, the other side is smooth or pitted surfaced, probably due to the fibres of the skeleton. Flexible consistence that breaks easily.



**Figure 11.** *Isodictya bentarti* sp. nov. A-B. Habitus. C. Oscule. D. Skeleton. E. Reproductive buds. F. Isochela malformation. G. Oxea. H-L. Isochelae (H-I. Developmental forms).

**Figure 11.** *Isodictya bentarti* sp. nov. A-B. Habitus. C. Oscule. D. Charpente. E. Bourgeons de reproduction. F. Isochèle avec malformation. G. Oxe. H-L. Isochèles (H-I. Formes en développement).

*Skeleton of type specimen*

Choanosomal skeleton is plumose, made of primary fibres of 20-40 oxeas, from which skeletal tracts radiate obliquely. Near the surface, oxea tracts are thinner. Palmate isochelae are very abundant among the columns in an irregular disposition.

Ectosomal skeleton made up of the ends of oxea tracts that overhang from the sponge surface in less than a 1/4 of their length. Isochelae are in a thin layer covering the surface.

*Spicules*

*Megascleres*: thick straight or slightly curved oxeas, very abundant with a visible axial canal in the thicker ones. Young oxeas sometimes with modified or rounded ends. Size: 185-535 x 2.5-35 µm.

*Microscleres*: palmate isochelae very frequent in different stages of development. Old spicules with a tubercle towards frontal alae perpendicular to the shaft. In a frontal view, alae with triangular shape. There are several spicules with a malformation in the middle of the shaft with a third axis and ala. Size: 35-80 x 12.5-25 µm.

*Remarks*

This new species is characterized by oxeas with a slight curve in the middle and isochelae with a more or less curved transversal prolongation.

The closest species is *Isodictya grandis* (Ridley & Dendy, 1886), described in Cape Town and found in the same place by Lévi (1963), presenting exactly the same characteristics as the type specimen. The species from South Africa has starry oscules, whereas the species found in the Bentart'94 expedition, is rounded. Furthermore, the oxeas of *I. grandis* constantly present a highly pronounced curve in the centre and the isochelae have a transverse elongation that appears to be bifid, while in *I. bentarti*, this is more or less recurved. When seen in profile, both ends of isochelae are rounded in *I. grandis* while they are sharp-pointed in *I. bentarti*. In the same way it has been observed in the shaft of *I. grandis* that some thickening does not seem to be typical of *I. bentarti*.

*Distribution*

Antarctica (Livingston Island and South Shetland Islands).

*Isodictya kerguelenensis* (Ridley & Dendy, 1886)  
(Fig. 12)

*Locality*: Stations 52, 71 and 88. Nine specimens. Depth 15-56 m.

*Other material examined*: Slides MNHN Paris: N.D.T. 1969 (as *Desmacidon* (?) sp.).

*Description*

Erect digitiform species. 8 x 2.5 cm in size. They can accumulate small black sand grains inside. Not so flexible when organic material is scarce. Choanosome with a lot of ramified fibres that are less than 1 mm in diameter. Rough

surface with group of spicules forming fine hispidation. Circular oscules 1-4 mm in diameter. Beige or brown in colour in alcohol. It dyes ethanol yellow.

*Skeleton*

Choanosomal skeleton. Primary multispicular fibres of oxeas with dichotomous tracts which radiate obliquely. Isochelae among the fibres. Ectosomal skeleton formed from the ends of the oxea tracts.

*Spicules*

*Megascleres*: thick straight or slightly curved oxeas. Some of them with a rounded end. With an axial canal visible in the thicker ones. Size: 130-650 x 1.25-30 µm.

*Microscleres*: small isochelae. In specimens with no organic material isochelae, are scarce. The alae are rounded-elliptical ending in a point in the central area while in lateral view they show a swell and another one in the shaft. We can find them at different stages of development. 15-25 x 5-8 µm.

*Remarks*

We agree with Boury-Esnault & Van Beveren (1982) who affirms *I. kerguelenensis* (Ridley & Dendy, 1886) and *I. antarctica* (Kirkpatrick, 1907) to be synonyms. Our specimens were collected at stations close to the coast, and many of them, despite their firm consistency, have become fragmented, possibly due to the type of treatment given on board.

After an examination of the slide N. D.T. 1969 *Desmacidon* (?) sp. from the Belgian Antarctic Expedition (Topsent, 1901) we conclude that this species corresponds to *Isodictya kerguelenensis*.

*Distribution*

Antarctic shores (Graham Coast, Wilhem II Coast, Queen Mary Land, Knox Coast, Victoria Land) Kerguelen, Falkland Islands, South Georgia Island (Boury-Esnault & Van Beveren, 1982) and South Shetland Islands.

*Isodictya setifera* (Topsent, 1901) (Fig. 13)

*Locality*: Station 71. Five specimens. Depth 50 m.

*Other material examined*: Slides MNHN Paris: N.D.T. 1970 (as *Desmacidon setifer*).

*Description*

Specimens very badly preserved. Only ramified fibres of spicules from the straight base of the body. At the top, fibre ends are free, while at their basal part there is a cover of organic material; some of them covered with seaweeds. Size: 10 x 3 cm. Soft consistency, not very flexible, they break easily. Crumbly and hispid surface, it breaks easily. Beige in colour in alcohol. It dyes ethanol an intense yellow.

*Skeleton*

Choanosomal skeleton composed of oxea fibres ending in the sponge surface.

*Spicules*

*Megascleres*: long straight or slightly curved oxeas. Size: 288-820 x 16-30 µm.

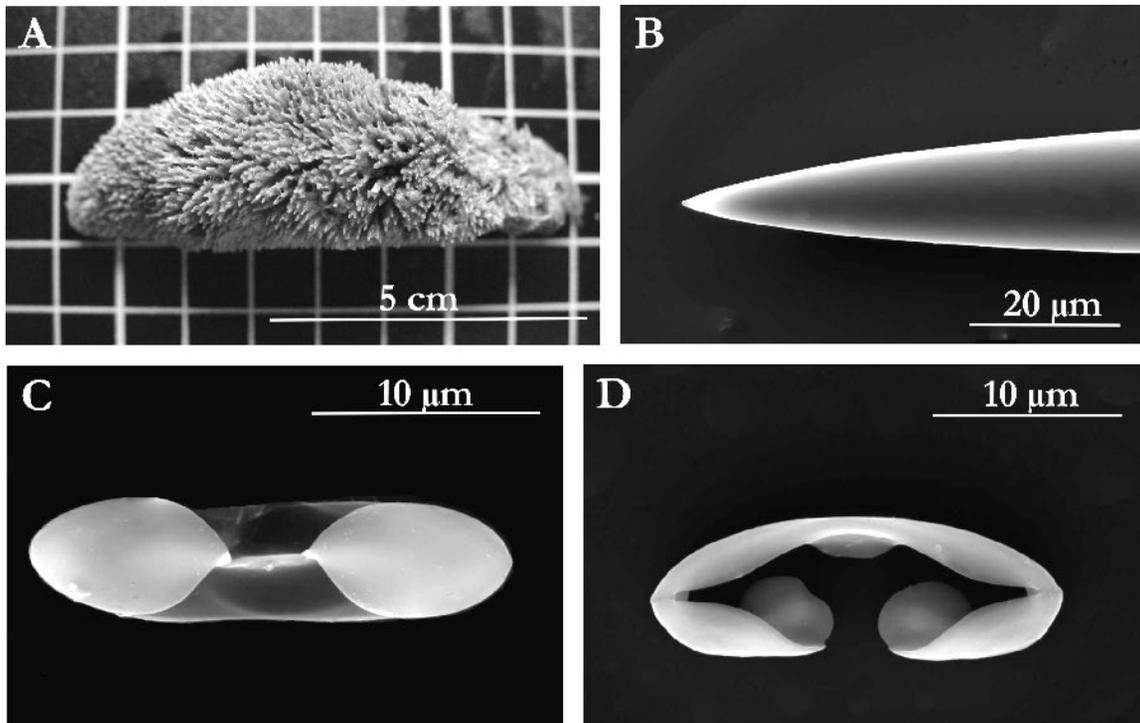


Figure 12. *Isodictya kerguelensis* (Ridley & Dendy, 1886). A. Habitus. B. End of oxa. C-D. Isochelae.

Figure 12. *Isodictya kerguelensis* (Ridley & Dendy, 1886). A. Habitus. B. Extrémité d'un oxe. C-D. Isochèles.

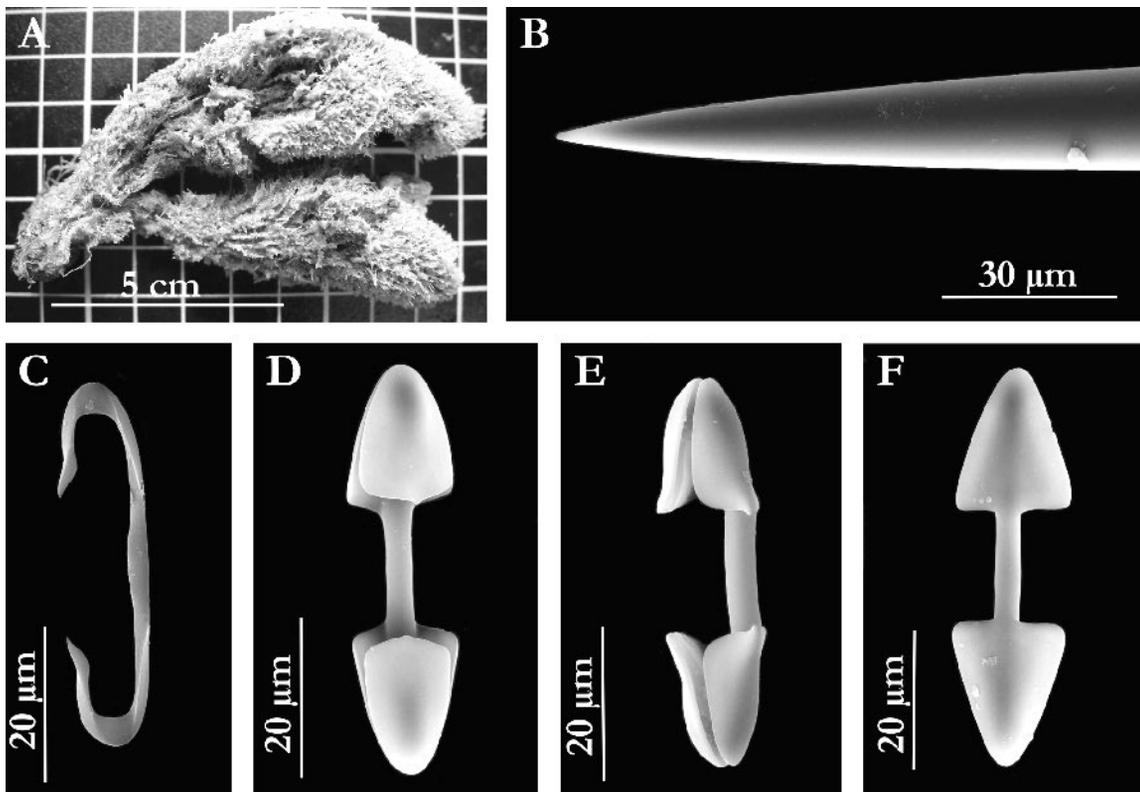


Figure 13. *Isodictya setifera* (Topsent, 1901). A. Habitus. B. End of oxa. C-F. Isochelae (C. developmental form).

Figure 13. *Isodictya setifera* (Topsent, 1901). A. Habitus. B. Extrémité d'un oxe. C-F. Isochèles (C. Forme en développement).

*Microscleres*: isochelae at several stages of development. In frontal view, central alae are triangular with rounded vertex and a small sharp-end. In profile, they have a short rounded extension. The lateral alae seem to fold to the shaft and in a back view their shape is triangular. Size: 30-60 x 8-16  $\mu\text{m}$ .

*Remarks*

In our specimens the dimensions of isochelae are smaller than those described by Topsent, but after comparison with the type specimens, we consider that it is the same species.

*Distribution*

Antarctic shores (Wilhelm II Coast, Knox Coast, Victoria Land, Bellingshausen Sea, Graham Coast, Palmer Archipelago, Prydz Bay), South Orkney, South Georgia, Falkland Islands (Koltun, 1964) and South Shetland Islands.

*Isodictya erinacea* (Topsent, 1916) (Fig. 14)

*Locality and material*: Specimen of station 67. Depth 21 m.

*Other material examined*: Slides MNHN Paris: N.D.T. 680 (as *Homoeodictya erinacea*).

*Description*

Erect and tubular sponge. Firm consistency, difficult to tear. Very thin ectosome. Size: 26 x 5 cm. Surface formed by many spines or conules of oxeas. Among them we observe

very abundant oscules 2 mm in diameter. On the surface, some 3 mm long bivalve molluscs were seen. Brown in colour in alcohol. It dyes ethanol to yellow.

*Skeleton*

Choanosomal skeleton. Plumose with primary fibres of oxeas. Tracts radiate obliquely. Isochelae abounds among the fibres. Raphides rare. Ectosomal skeleton. Fibres end in the sponge surface.

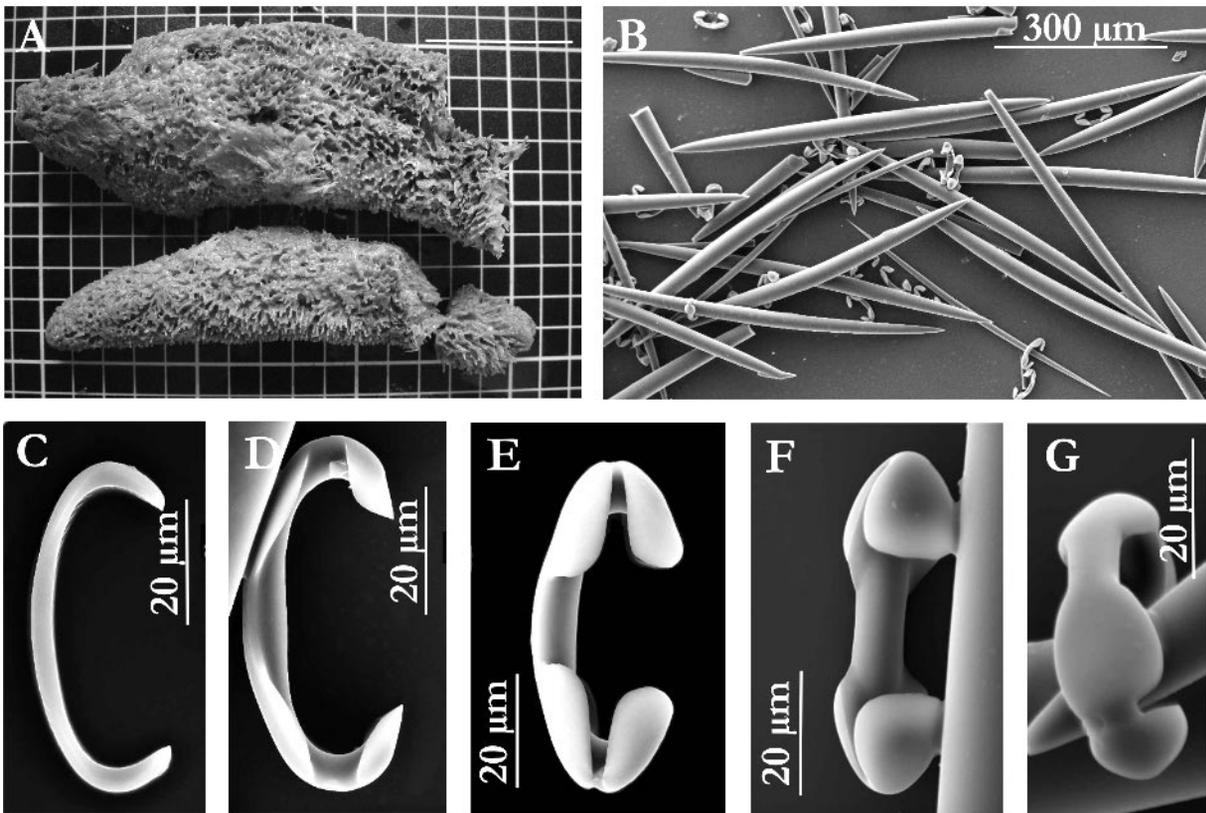
*Spicules*

*Megascleres*: long straight or slightly curved oxeas. Size: 400-712 x 7.5-30  $\mu\text{m}$ . There are also oxeas with a slightly curved form in the central part. Length 175-295  $\mu\text{m}$ .

*Microscleres*: isochelae at several stages of development. General habitus more rounded than isochelae from *I. bentarti*, *I. kerguelenensis* and *I. setifera*. Central ala is also triangular in form, but shorter and the vertical angle is larger in these spicules; some have a lateral swell in the shaft as previously described by Desqueyroux-Faúndez (1989). Size: 40-50 x 14-30  $\mu\text{m}$ .

*Remarks*

In general the only specimen from Bentart 94 has smaller spicular dimensions than the type. Comparing our



**Figure 14.** *Isodictya erinacea* (Topsent, 1916). A. Habitus. B. Oxeas and isochelae. C-G. Isochelae (C-D. developmental forms).

**Figure 14.** *Isodictya erinacea* (Topsent, 1916). A. Habitus. B. Oxeas et isochèles. C-G. Isochèles (C-D. Formes en développement).

preparations with those from type, we note that in the latter, raphides are very abundant whereas our specimen lacks them, as occurred in the case of the specimen determined by Desqueyroux-Faúndez (1989).

*Distribution*

Antarctic shores (Wilhelm II Coast, Banzare Coast, Adelie Coast, George V Coast, Oates Coast, Balleny Islands, Victoria Land, Graham Coast, Palmer Archipelago, Elephant (Mordvinov) Island, Mac-Robertson Coast), Falkland Islands (Koltun, 1964) and South Shetland Islands.

Suborder LATRUNCULINA subor. nov. *incertae sedis*  
Kelly & Samaai, 2002

Family Latrunculiidae Topsent, 1922

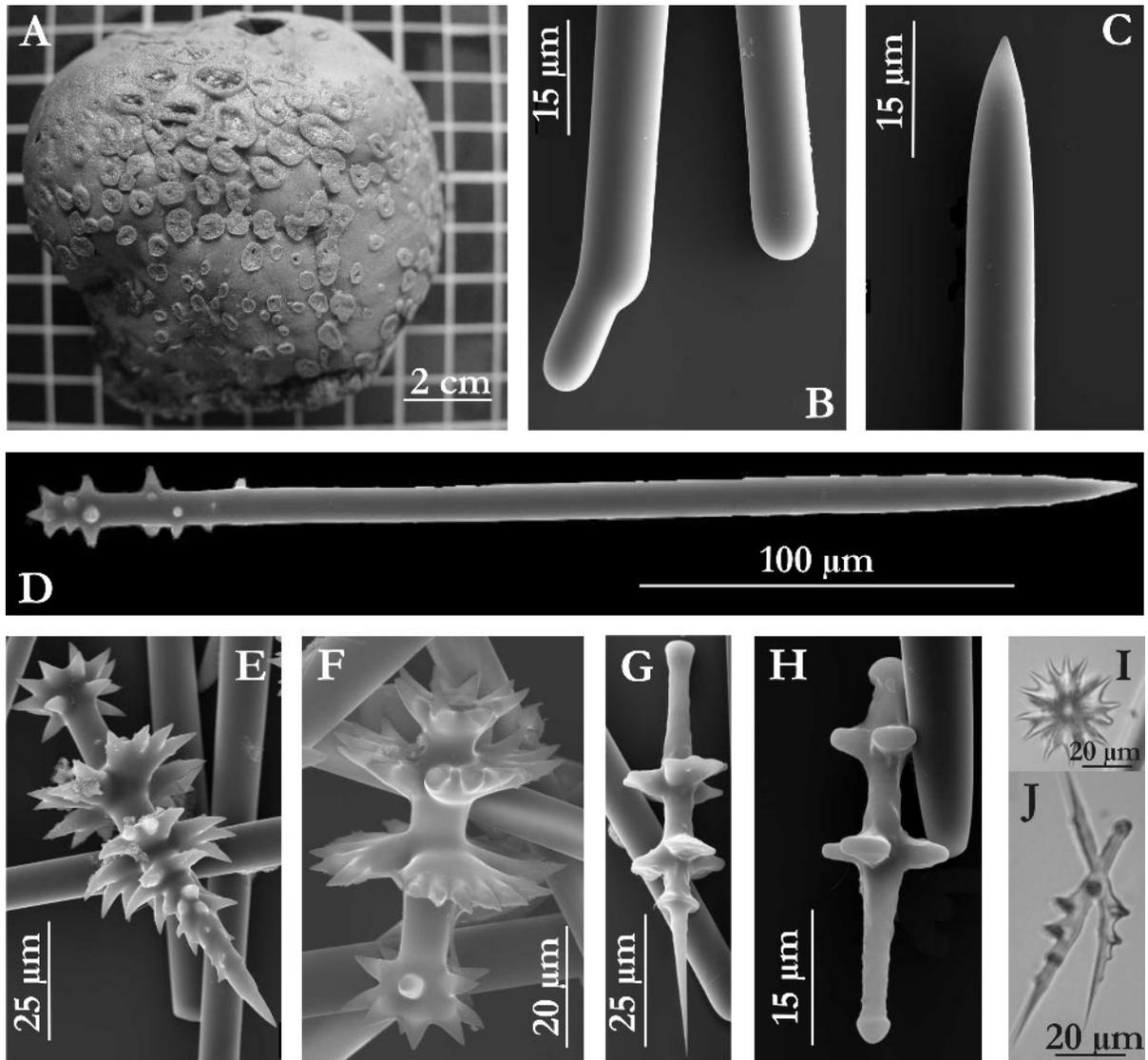
Genus *Latrunculia* Bocage, 1869

*Latrunculia biformis* Kirkpatrick, 1908 (Fig. 15)

*Locality:* One specimen. Station 78. Depth 22 m.

*Description*

Massive spheroid sponge. Firm consistency but can be broken easily. Firm, barely compressible. Size: 7.5 cm in diameter. Smooth surface, but with many scattered pore



**Figure 15.** *Latrunculia biformis* Kirkpatrick, 1908. A. Habitus. B-C. Bases (left with malformation) and end of styles. D. Discorhabd with long pointed end. E. Discorhabd I. F. Discorhabd II. G-H. Developmental forms. I. Section of a discorhabd. J. Discorhabd with malformation.

**Figure 15.** *Latrunculia biformis* Kirkpatrick, 1908. A. Habitus. B-C. Bases (à gauche avec malformation) et pointe des styles D. Discorhabde à extrémité apicale longue. E. Discorhabde I. F. Discorhabde II. G-H. Formes en développement. I. Coupe d'un discorhabde. J. Discorhabde avec malformation.

sieve areas. Specimen with four elliptical oscules from 2.5 to 8 mm in diameter. Brown in colour in alcohol. It dyes ethanol amber-yellow.

#### *Skeleton.*

Choanosomal skeleton plumoreticulate made of style tracts. Ectosomal skeleton made of a dense layer of discorhabds with the sharp end pointing outwards.

#### *Spicules*

*Megascleres:* Very abundant, straight styles with a short end. Some with rounded ends. Size: 427.5-550 x 2.5-15 µm.

*Microscleres:* Discorhabds I, large and frequently with a spined head and an apical spine. Three spined whorls; a larger one perpendicular to the shaft and two others towards the sharp-pointed end. Some with a long pointed end and others with both ends pointed as are the oxeas. Size: 82.5-240 x 32.5-40 µm.

Discorhabds II shorter than I with two spiny ends. In the middle of the spicule, there are two spiny whorls, each pointing towards the nearest end. Size: 50-80 x 15-42.5 µm.

#### *Remarks*

We completely agree with Boury-Esnault & Van Beveren (1982) that *Latrunculia biformis* must be considered as a true species, but we consider that the spicules - so-called atrophied discorhabds (Boury-Esnault & Van Beveren, 1982; Pansini *et al.*, 1994) - are really juvenile stages of both kinds of discorhabds; true anomalies, however, could be possible in this kind of spicule.

#### *Distribution*

Antarctic shores (Winter Quarters, South Shetland Islands) and Kerguelen.

## Discussion and conclusions

The publication on the biogeography of Antarctic sponges, by Sarà *et al.* (1992), includes a checklist of 352 Antarctic demosponge species, of which 184 belong to the Order Poecilosclerida. The majority of these species correspond to the continental sector Mac Robertson Land, Princess Elizabeth Land, Wilhem II Land and Queen Mary Land (71 species), McMurdo Sound (Ross Sea), Victoria Land, Georges V Land and Terre Adélie (66 species) and the Magellan area (63 species), which coincide with the best studied Antarctic areas along with the Weddell Sea, where a census of 61 species of the Order Poecilosclerida was taken up again.

In sector C8 (after Sarà *et al.*, 1992), (which corresponds to the western area of the Antarctic Peninsula and with Bellingshausen Sea, where species in the Bentart 94 were collected), 39 species of Poecilosclerida were found, accounting for the 17% of the Poecilosclerida taken in the census to date in the Antarctic. In this work, besides the description of two new species, *Iophon hesperidesi* sp. nov. and *Isodictya bentarti* sp. nov., the presence of

*Hoplakithara dendyi* Kirkpatrick, 1907 and *Latrunculia biformis* Kirkpatrick, 1908 is observed for the first time in this sector. Furthermore, the bathymetric range of *Myxilla lissostyla* Burton, 1938, is now enlarged since this species has been collected at a lesser depth than the previously known lower limit.

The other species described are well represented in the Antarctic and Subantarctic area, particularly *Mycale acerata* found in 12 sectors (Sarà *et al.* 1992), *Isodictya setifera*, which was found in 11 sectors (Sarà *et al.* 1992), and *Tedania charcoti* and *Isodictya kerguelenensis* present in 10 of the subdivisions examined by Sarà *et al.* (1992).

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