

Antarctic and subantarctic sponges
collected by S. Wallin 1924.

By

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With 4 figures in the text.

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The following paper is an account of a collection of sponges dredged by Dr. ST. WALLIN in the Ross Sea and at Campbell Island and New Zealand in March and April 1924.

The collection has been entrusted to me for research by Professor, Dr. CARLGREN of Lund; I wish here to express my gratitude towards Professor CARLGREN for this opportunity once more to make the acquaintance of sponges from that area. My sincere thanks are also due to the Direction of The Carlsberg Fund for the possibility of carrying on this investigation.

There are 14 species, 3 of which are new: *Toxochalina chalméri*, *Desmacidon doryphora*, *Clathria pauper*. It is a curious fact, that of 14 species, 3 belong to one genus, *Desmacidon*; of these, one, *Desmacidon stelliderma*, from Port Chalmers, hitherto only known from South Australia, gives further evidence of the relationship of the New-Zealand and Australian sponge-fauna (for a discussion on this topic see: BRØNDSTED: Sponges from New Zealand. Part II. Vid. Medd. Dansk Naturh. Foren. 81, p. 318 ff.).

Birkerød, Denmark, ²¹/₁₀ 1926.

Craniella leptoderma (SOLL.)

1888 *Tetilla leptoderma*, SOLLAS: Tetraxonida. Chall. Rep. Zool. XXV, p. 3.
 1908 *Craniella leptoderma*, KIRKPATRICK: Tetraxonida. National Antarct. Exp. 1901—1904, Zool. IV, p. 4.

One specimen, shape as a flattened globe, ca. 39 mm in diameter, agreeing well with the type.

35' N, Discovery Inlet, 640 m.

Geographical distribution: off Rio de la Plata (SOLLAS); West of Balleney Island; Winter Quarters, Flagon Point and Hut Point (KIRKPATRICK).

Cinachyra vertex LDF.

1907 *Cinachyra vertex*, LENDENFELD: Tetraxonida. Deutsche Südpol. Exp. 1901—03; p. 310.
 1908 " " , KIRKPATRICK: op. cit.; p. 9.

A few small specimen from Discovery Inlet, 550 m.

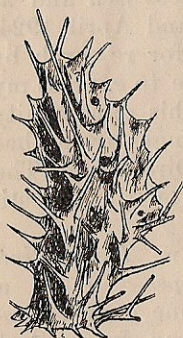
Hitherto known from Winterquarters (LENDENFELD and KIRKPATRICK).

Desmacidon doryphora nov. spec.

One specimen (fig. 1), which apparently has been erect; sausage-shaped, somewhat curved, thickest in the middle, about 2 cm, by a length of 6 cm. The sponge has a curious exterior: the entire surface is beset with big spears up to 2 cm in length, their mutual distance is from 1 to 6 mm; they are mainly directed obliquely upwards, they are namely constituting the main (and only) skeletal fibres quite after the manner of many *Astrotetraxonida* (*Donatia* f. i.); their thickness vary up to over one mm. The oscula, found on several places of the body-surface, are rather large, up to 4 or 5 mm in diameter. The softer parts of the body is very spongy; they have an appearance as if they were suspend on the strong skeletal fibres.

Fig. 1. *Desmacidon doryphora* nov. spec.

The skeleton is as before said made up of very strong fibres, consisting of numerous oxea placed closely together with only vestiges of spongin. The microscleres are placed everywhere in the choanosome.



Spicules. 1. *Oxea* (fig. 2), slightly bent, thickest in the middle, tapering to the finely pointed ends. Length 700—800 μ , thickness ca. 30 μ ; a few styli are found. 2. *Isochelae palmatae* (fig. 2), stout, about 60 μ by 26 μ (side view); the shaft is somewhat curved, alae and tooth of about the same length, viz. up to a third of the length of the shaft; the tooth is ca. 10 μ broad, the alae about 16 μ .

This remarkable species is presumably somewhat allied to the following species.

Locality: 30' N. Discovery Inlet, 640 m.

Desmacidon spinigera KIRKP.

1908 *Desmacidon spinigera*, KIRKPATRICK: op. cit., p. 39.

Some rather macerated fragments, so that the outer surface and skeletal structure could not be made out clearly. The spicules: oxea about 700 μ \times 23 μ and isochelae about 25 μ \times 6 μ correspond well with those of the type both in shape and dimensions.

Locality: Discovery inlet, 550 m.

Previously known from Winter Quarters and off Coulman Islands (KIRKP.).

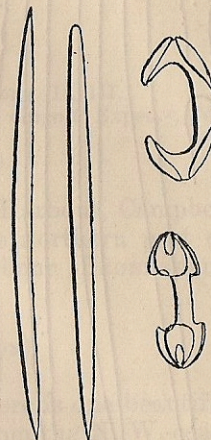


Fig. 2. Spicules of *Desmacidon doryphora* nov. spec.

Desmacidon stelliderma (CARTER).

1886 *Halichondria stelliderma*, CARTER: Sponges from South Australia. Ann. Mag. Nat. Hist. 5. Ser. XVIII, p. 451.
 1892 *Desmacidon stelliderma*, DENDY: Catalogue of Non-Calcareous Sponges etc. Proc. Roy. Soc. Vict. N. S. VIII, p. 20.

Some small fragments, all agreeing very well with CARTER's and DENDY's descriptions.

Locality: Port Chalmers. Hitherto known from South Australia.

Clathria pauper nov. spec.

Several specimens, some incrusting and some consisting of erect branching and coalescing digitate processes, the terminal free ends of which are up to 2 cm in length by 1—4 mm in thickness. In the lower parts of the sponge the coalescing is in most places so complete, that the body is a rather compact

mass. The dermal membrane in most places rather macerated, or absent; in the few places, where it is found, it seems to be rather tough and only pierced by few spicules. Oscula and ostia could not with certainty be made out. Consistence elastic, colour grey. The largest specimens attain a highness of ca. 8 cm.

The skeleton consists of rather stout, longitudinally arranged main fibres; they are up to ca. 100 μ in diameter; they contain comparatively little spongin, which is very pale; when giving rise to new fibres they simply split, mostly at very acute angles in accordance with the erect branching habit of the sponge. The main fibres are sparingly echinated by acanthostyli; they are in several places connected with single styli lying transversely, so forming a lattice work; this is a very interesting feature, giving evidence, that *Clathria* is a true Desmacidonide, the typical skeleton of which is the lattice-shaped one.

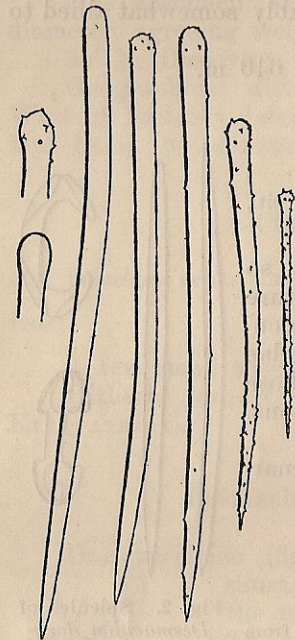


Fig. 3. Spicules of *Clathria pauper* nov. spec.

Spicules (fig. 3). 1. Styli and subtylostyli, only a little bent, generally thickest near the base, tapering evenly to the finely pointed apex; sometimes slightly spined at the base and over the entire length; up to 650 μ long, by 20 μ thick. 2. Acanthostyli, generally rather slender, slightly bent, evenly tapering from the base to the fine apex, spined throughout the entire length, but not coarsely; up to 250 $\mu \times 12 \mu$. All sorts of intermediate forms between the two types of megasclera occur. No microsclera.

This species apparently take up a somewhat unique position in the genus *Clathria*; not so much on account of the entire lack of microsclera, but because the skeleton is far from typically clathrioid.

Locality: 30' N. Discovery Inlet, 640 m.

Iophon flabello-digitatus KIRKP.

1908 *Iophon flabello-digitatus*, KIRKPATRICK: op. cit. p. 30.

Two fragments, somewhat damaged and macerated, agreeing well with the type in sorts, forms and dimensions of spicules.

Locality: Discovery Inlet. Previously known from Winter Quarters (KIRKP.).

Esperiopsis crasso-fibrosa BRST.

1923 *Esperiopsis crasso-fibrosa*, BRØNSTED: Sponges from the Auckland and Campbell Island. Vid. Med. Dansk Natur. Foren. 75, p. 139.

One little specimen from Perseverance Harbour, Campbell Island. Previously known from Port Ross.

Esperiopsis normani (Bow.).

1866 *Isodictya Normani*, BOWERBANK: Mon. Brit. Spong. II, III.
1905 *Esperiopsis* " , LUNDBECK: Porifera, Dan. »Ingolf Exped.», VI, Part 2.

1923 " " , BRØNSTED: Op. cit., p. 138.

One little specimen from Perseverance Harbour, Campbell Island, 40 m. Previously known from the northern part of the Atlantic Ocean and from Caruley Harbour (BRØNSTED).

Myxilla incrustans (JOHNSTON).

Of this almost cosmopolitan species there is one beautiful globular specimen ca. 3 cm in diameter, from the N. W.-coast of Macqarie Island.

Reniera cinerea GRANT.

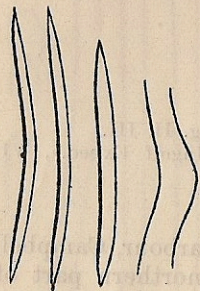
Of this cosmopolitan sponge there is several small specimens from Paterson Inlet and from Perseverance Harbour, Campbell Island, 40 m; the specimens from the latter locality are remarkably abundant and large.

Toxochalina chalmeri nov. spec.

3 specimens; nearly cylindrical, apparently erect, up to 6 cm long by 4—8 mm thick. Surface very finely shaggy, a few oscula are seen, 1—2 mm in diameter. Colour lightly brown. Consistence soft, elastic.

Skeleton. The main skeleton is built up of main fibres curving upwards and outwards to the surface sustaining the

dermal membrane; the main fibres are connected with the secondary ones at about right angles, so the whole skeleton is a more or less regular rectangular reticulation. The meshes are about $500\ \mu$ in diameter, the main fibres ca. $100\ \mu$ thick, the secondary $50\ \mu$ thick. The fibres are made up of spongin cored by an axis of oxea, which are lying uni- or diserially in most connecting fibres, polyserially in most main fibres. The dermal skeleton is a close reticulation of $15\text{--}20\ \mu$ thick spongin-fibres, mostly devoid of spicules, forming polyangular meshes of about $200\ \mu$ in diameter.



Spicules (fig. 4). 1. Oxea, a little curved, the generally sharply pointed ends rather sharply set off, about $55\ \mu \times 2,7\ \mu$. 2. Toxa, softly bent in the middle, the ends generally a little recurved, commonly $15\ \mu$ in a straight line from tip to tip, but may be up to $50\ \mu$.

This species is closely related to *Toxochalina robusta* RIDL. from Australia.

Locality: Port Chalmers, New Zealand.

Suberites incrustans BRST.

Fig. 4. Spicules of *Toxochalina chalmeri* nov. sp. 1923 *Suberites incrustans*, BRÖNDSTED: op. cit. p. 162.

One specimen incrusting a shell from the same locality as the type: Perseverance Harbour, Campbell Island.

Suberites anastomosus BRST.

1923 *Suberites anastomosus*, BRÖNDSTED, op. cit. p. 161.

Several beautiful specimens from Perseverance Harbour, 40 m. The type specimens are from the same locality and from Carnley Harbour, Auckland Islands.

There are in the collection several macerated Hexactinellids, which could not with any amount of certainty be referred to any species.

Tryckt den 21 februari 1927.