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# The Porifera of East-Greenland.

By

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With one Plate.

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The following paper is chiefly based on the collections of the Amdrup-expeditions to East-Greenland, as these collections were rather rich, but also the collections of the Ryder-expedition have been included into the paper, and mentions are also made of the species otherwise known from the region; thus the paper intends to give an enumeration of all the species of *Porifera* hitherto known from East-Greenland.

The Ryder-expedition took place in the years 1891—92, and the Amdrup-expeditions in 1898—99 and in 1900, therefore the material, collected by the Ryder-expedition, and belonging to the *Homorrhaphidae*, *Heterorrhaphidae* and the first part of the *Desmacidonidae* was included in "The Danish Ingolf-Expedition", Porifera, Part I, 1902 (containing *Homorrhaphidae* and *Heterorrhaphidae*), and Part II, 1905 (containing the first Part of the *Desmacidonidae*), and the material from the Amdrup-expeditions, belonging to the mentioned first part of the *Desmacidonidae* was included in Part II of the Ingolf-work; the species in question are therefore here only enumerated; the material from the Amdrup-expeditions, belonging to the *Homorrhaphidae* and *Heterorrhaphidae* on the other hand was received too late to be included in the first Part of the Ingolf-work, and this material is therefore now treated here: it contains one species, *Gellius varius*, not hitherto known from the regions in question.

I shall here make the remark, that of the stations of the Ingolf-expedition I have only taken station 94, 64° 56' lat. N., 36° 19' long. W. with a depth of 204 fathoms into consideration,

while I have not considered the other stations, lying in the western part of the Denmark-Strait, as belonging to the region treated here, but here there is some inconsequence as a few collections were made by both the mentioned expeditions in places lying more eastern, and these are treated here.

Some genera and species of the groups, not published hitherto in the Ingolf-work, are not yet worked out, and some new species not yet described, and they are therefore in the following only mentioned somewhat summarily. — The material from both expeditions, belonging to the families and orders not yet treated in the Ingolf-work, will be finally treated there, together with the other arctic material.

The following species are at present known to occur at East-Greenland:

### *Monaxonida.*

#### Fam. Homorrhaphidae.

- Chalina groenlandica* Frstdt.
- Halichondria panicea* Pall.
- Halichondria fibrosa* Frstdt.
- Halichondria osculum* Ldbck.
- Halichondria oblonga* Arm. Hans.
- Eumastia sitiens* O. S.
- Reniera folium* Ldbck.?
- Reniera clavata* Levins.
- Reniera cinerea* Grant.
- Reniera tubulosa* Frstdt.
- Reniera* sp.
- Reniera* sp.

#### Fam. Heterorrhaphidae.

- Gellius varius* Bow.
- Gellius arcoferus* Vosm.
- Gellius porosus* Frstdt.

- Gelliodes plexa* Ldbck.
- Oceanapia robusta* Bow.
- Biemma rosea* Frstdt.
- Desmacella Peachii* Bow.
- Desmacella hamifera* Ldbck.
- Desmacella groenlandica* Frstdt.
- Hamacantha Bowerbanki* Ldbck.

#### Fam. Desmacidonidae.

- Esperiopsis villosa* Cart.
- Esperiopsis typichela* Ldbck.
- Mycale placoides* Cart.
- Mycale lingua* Bow.
- Mycale thaumatochela* Ldbck.
- Mycale intermedia* O. S.
- Asbestopluma pennatula* O. S.
- Asbestopluma cupressiformis* Cart.
- Asbestopluma lycopodium* Levins.
- Chondrocladia gigantea* Arm. Hans.
- Artemisina arcigera* O. S.
- Artemisina apollinis* R. and D.
- *Myxilla incrustans* Johnst.
- *Myxilla perspinosa* Ldbck.
- *Lissodendoryx Sophia* Frstdt.
- *Lissodendoryx indistincta* Frstdt.
- *Lissodendoryx complicata* Arm. Hans.
- Jophon piceus* Vosm.
- Jophon frigidus* Ldbck.
- Jotrochota oxeata* Ldbck.
- Jotrochota rotulancora* Ldbck.
- Jotrochota affinis* Ldbck.
- *Forcepia fabricans* O. S.
- *Forcepia groenlandica* Frstdt.
- Melonanchora elliptica* Cart.

- Melonanchora emphysema* O. S.  
 — *Tedania suctoria* O. S.  
*Histoderma physa* O. S.  
*Cornulum textile* Cart.  
*Grayella pyrula* Cart.  
*Hymedesmia Dujardini* Bow.  
*Hymedesmia* sp. }  
*Hymedesmia* sp. } all new.  
*Hymedesmia* sp. }  
*Hymedesmia* sp. }  
*Hymedesmia* sp. }  
*Ectyodoryx foliatus* Frstdt.  
*Ectyodoryx* sp.  
*Pocillon* sp.  
*Stylostichon hospitalis* O. S.  
*Hymenaphia* sp.  
*Crella* sp.  
*Crella* sp.  
*Crella* sp.  
*Echinoclathria* sp.  
*Plocamia* sp.  
*Plocamia* sp.

## Fam. Axinellidae.

- Phakellia ventilabrum* Johnst.  
*Phakellia Bowerbanki* Vosm.  
*Phakellia rugosa* Bow.  
*Tragosia Sluiteri* Vosm.  
*Bubaris vermiculata* Bow.

## Fam. Spirastrellidae.

- Latrunculia* sp.

## Fam. Polymastiidae.

- Polymastia uberrima* O. S.

- Polymastia mammillaris* Müll.  
*Polymastia paupera* Frstdt.  
*Trichostemma hemisphaericum* Sars.  
*Quasillina brevis* Bow.  
*Tentorium semisuberites* O. S.

## Fam. Suberitidae.

- Prosuberites* sp.  
*Ficulina ficus* L.  
*Suberites carnosus* Johnst.  
*Suberites* sp.

*Tetractinellida.*

## Fam. Tetillidae.

- Craniella cranium* Müll.

## Fam. Theneidae.

- Thenea muricata* Bow.

## Fam. Geodiidae.

- Geodia Barretti* Bow.

*Hexactinellida.*

## Fam. Rossellidae.

- Schaudinnia rosea* Frstdt.  
 sp. of *Rossellinae*.

*Calcarea.*

## Fam. Asconidae.

- Leucosolenia coriacea* Mont.  
*Leucosolenia Lamarckii* Haeck.  
*Leucosolenia Nanseni* Breitfss.  
*Ascandra complicata* Mont.  
*Ascandra Fabricii* O. S.  
*Ascandra variabilis* Haeck.

## Fam. Syconidae.

- Sycon ciliatum* Risso.  
*Grantia arctica* Haeck.  
*Grantia mirabilis* Frstdt.  
*Grantia capillosa* O. S.  
*Grantia pennigera* Haeck.  
*Grantia utriculus* O. S.  
*Amphoriscus glacialis* Haeck.  
*Ebnerella Schulzei* Breitfss.

## Fam. Leuconiidae.

- Leuconia Egedii* O. S.

*Myxospongia*.

## Fam. Halisarcidae.

- Halisarca Dujardinii* Johnst.

Besides the species, mentioned in the following from: "Die zweite deutsche Nordpolarfahrt", still a few sponges have been recorded by O. Schmidt in this work, but they are indetermined and indeterminable; they are the following:

- Cacospongia* sp.  
*Chalinula* sp. (may be some Axinellid, as Schmidt says it has "einspitzige Nadeln".)  
*Reniera* sp.  
*Isodictya infundibuliformis* (probably = *Tragosia Sluiteri* Vosm.)

*Desmacidon anceps*.

With regard to this latter species, Thiele has shown (Arch. für Naturgesch., 1903, 388) that *Desmacidon anceps* in reality not exists, but is a mixtum of different species; judging from the spicules figured by Schmidt (l. c. Pl. I) none for East-Greenland new species seems to be represented in it.

*Monaxonida*.

## Halichondrina.

## Fam. Homorrhaphidae.

*Chalina* Grant.*C. groenlandica* Frstdt.

1887. *Chalina groenlandica* Fristedt, Vega-Exp. vetensk. Iakttag. IV, 417, Pl. 23, fig. 19.  
 1902. — — — — —, Lundbeck, The Danish Ingolf-Exp. VI, 1, 13.

This species was taken at East-Greenland, depth 140 fathoms, on the Swedish arctic expedition 1883 (Fristedt l. c.).

*Halichondria* Flem.*H. panicea* Pall.

1842. *Halichondria panicea* Johnston, Brit. Spong. and Litoph. 114, Pl. X, Pl. XI, fig. 5.

Of this common and cosmopolitan species there are in the collections some small specimens, growing on Bryozoa and Hydroids; the largest specimen is somewhat massive, of a greatest extent of about 30 mm; some of the specimens growing on the Hydroids are of a quite ovular shape, much resembling specimens of *Mycale ovulum*; these specimens have a size of only 8 mm. The oxea are of quite the typical shape, of a length of up to 0.50 mm.

Tasiusak <sup>23</sup>/<sub>5</sub> and <sup>1</sup>/<sub>6</sub> 1899, depth 25—30 fathoms (The Amdrup-expedition 1898—99); Hurry Inlet <sup>21</sup>/<sub>7</sub> 1900, depth 20 fathoms (The Amdrup-expedition 1900). The species was hitherto not known from East-Greenland.

*H. fibrosa* Frstdt.

1887. *Amorphina fibrosa* Fristedt, Vega-Exp. vetensk Iakttag., IV, 426, Pl. 24, figs. 11—12.  
 1902. *Halichondria fibrosa*, Lundbeck, The Danish Ingolf-Exp. VI, 1, 20, Pl. IX, figs. 3 a, b, c.

This species is represented by about ten specimens; they form irregular, often lengthy lumps. The oscula are conically spout-shaped. The specimens show generally very distinctly

marked parts of the surface where the small oxea are more or less closely packed without forming a reticulation and other, generally more restricted parts where there is a reticulation.

Tasiusak <sup>19</sup>/<sub>5</sub> 1899, depth 20 fathoms (The Amdrup-expedition 1898—99), Tasiusak <sup>22</sup>/<sub>8</sub> 1902, depth 30—35 fathoms (Kruuse).

*H. osculum* Ldbck.

1902. *Halichondria osculum* Lundbeck, The Danish Ingolf-Exp. VI, 1, 23, Pl. III, figs. 3—7, Pl. IX, figs. 7—9.

At the south end of Jamesons Land, depth 10—60 fathoms. (The Ryder-expedition 1891—92) (Lundbeck l. c.).

*H. oblonga* Arm. Hans.

1885. *Reniera oblonga* Armauer Hansen, The Norwegian North-Atl. Exp. XIII, 4, Pl. II, fig. 5 A, Pl. VI, fig. 2.

1902. *Halichondria oblonga*, Lundbeck, The Danish Ingolf-Exp. VI, 1, 24, Pl. II, fig. 4, Pl. IX, fig. 10.

Of this species the Amdrup-expedition has brought home a rather great number of fragments and some more or less damaged specimens; these latter are chiefly of the shape known for this species, whereas some of the fragments show, that the species may also assume the shape of a thick leaf; the largest of these leaf-shaped fragments has a greatest length of 9 cm.

72° 40' lat. N., 19° 42' long. W., depth 130 fathoms, at the south end of Jamesons Land, depth 10—60 fathoms (The Ryder-expedition 1891—92) (Lundbeck l. c.); Cape Brewster <sup>22</sup>/<sub>8</sub> 1900, depth about 250 fathoms (The Amdrup-expedition 1900).

*Eumastia* O. Schmidt.

*E. sitiens* O. Schmidt.

1870. *Eumastia sitiens* O. Schmidt, Grundzüge einer Spongienfauna des atlant. Gebiet, 42, Tab. V, Fig. 12.

1902. — — , Lundbeck, The Danish Ingolf-Exp. VI, 1, 31, Pl. IV, figs. 1—6, Pl. X, figs. 9—12.

Angmagsalik <sup>22</sup>/<sub>3</sub> 1901 (Søren Nielsen); Forsblad-Fjord <sup>30</sup>/<sub>8</sub> 1900, depth 50—90 fathoms (The Amdrup-expedition 1900). The specimens from Angmagsalik are for the larger part ir-

regular, massive lumps with much bottom material imbedded, only one of the specimens has distinct papillæ. The specimens from Forsblad-Fjord are fragments, probably of the lower part of the sponge, as they show no papillæ; the latter specimens have very large spicules, of a length up to 1.2 mm.

*Reniera* Nardo.

*R. folium* Ldbck.?

1902. *Reniera folium* Lundbeck, The Danish Ingolf-Exp. VI, 1, 39, Pl. V, fig. 5, Pl. XI, fig. 5.

From Cape Dalton <sup>20</sup>/<sub>7</sub> 1900, depth 9—11 fathoms (The Amdrup-expedition 1900) we have a small fragment of a *Reniera* which in every respect seems to agree with *Reniera folium*, the spicules are of the same shape and likewise of a length of 0.19—0.21 mm, but the fragment is too small to allow a quite sure determination.

*R. clavata* Levins.

1886. *Reniera clavata* Levinsen, Dijnphna Togtets zool. bot. Udbytte. 351, 10, Pl. XXIX, fig. 5, Pl. XXX, fig. 3.

1992.? — — , Lundbeck, The Danish Ingolf-Exp. VI, 1, 43, Pl. XI, fig. 9.

As mentioned in "The Danish Ingolf-Exp." l. c. we have two small specimens from East-Greenland, 72° 40' lat. N., about 20° long. W., depth 100 fathoms (The Ryder-expedition 1891—92), but these have spicules, which are a little longer than those of the original specimen, so that the identity is not sure. Later on a specimen is brought home from Tasiusak, <sup>22</sup>/<sub>8</sub> 1902, depth 30—50 fathoms (Kruuse); this specimen is quite agreeing with that described by Levinsen; the spicules have a length of 0.23—0.27 mm, and a diameter of about 0.015 mm. The specimen has a length of 50 mm; it shows an osculum at the summit.

*R. cinerea* Grant.

Pl. XIV. Fig. 2.

1827. *Spongia cinerea* Grant, Edinb. New Philos. Journ. II, 204.

1902. *Reniera cinerea*, Lundbeck, The Danish Ingolf-Exp. VI, 1, 43, Pl. XI, fig. 10.

We have some specimens which I determine with rather great certainty as *R. cinerea*. They have an unispicular skeleton, and the spicules are of a length of 0.15 mm, with an average diameter of 0.006 mm. The specimens grow on seaweed and on Hydroids, they are not small, the largest specimen has a greatest extent of 55 mm; they are of a lobate shape, with oscula-bearing cones. The colour is grey, in some of the specimens with a yellowish or rosy tinge, in others quite grey.

Jan Mayen <sup>25</sup>/<sub>6</sub> 1900, depth 50—60 fathoms (The Amstrup-expedition 1900); Angmagsalik <sup>23</sup>/<sub>8</sub> 1901 (Søren Nielsen).

*R. tubulosa* Frstdt. *identical with R. mollis Lambe.*

1887. *Reniera tubulosa* Frsttdt, Vega-Exp. vetensk. Iakttag. IV, 419, Pl. 24, fig. 1.

1902. — — —, Lundbeck, The Danish Ingolf-Exp. VI, 1, 44, 8, Pl. II, fig. 5, Pl. XI, figs. 11 a—c, fig. 12.

Some in all respects typical specimens.

Tasiusak <sup>22</sup>/<sub>5</sub> 1899 depth 20—30 fathoms (The Amstrup-expedition 1898—99).

*R. sp.*

In «The Danish Ingolf-Exp.» VI, 1, 49, Pl. XI, fig. 17 a species of *Reniera* is mentioned, indicated as *Reniera sp. a*, which was taken in Scoresby Sund, depth between 10 and 60 fathoms (The Ryder-expedition 1891—92). Later on a specimen has been brought home which quite resembles the mentioned species, it is likewise lengthily pyriform and of the same size; also the spicules are quite agreeing, so that these specimens are no doubt identical. The specimen was taken in Angmagsalik Fjord <sup>7</sup>/<sub>8</sub> 1902 (Kruuse).

*R. sp.*

In the Ingolf-work quoted (50, Pl. XII, fig. 2) another *Reniera* species is mentioned, indicated as *Reniera sp. c*; it shows some affinity to *R. Voeringii* Ldbck. (= *R. simplex* Arm. Hans.), but the spicules are a little different. The specimens were taken in Hekla Havn (The Ryder-expedition 1891—92).

Fam. Heterorrhaphidae.

*Gellius* Gray.

*G. varius* Bow.

Pl. XIV. Fig. 3 a, b.

1875. *Halichondria varia* Bowerbank, Proc. Zool. Soc. 292.

1884. *Gellius varius*, Ridley, Rep. of Zool. Coll. made during the Voy. of H. M. S. "Alert" 1884, 424.

We have a small specimen, probably only a fragment, which I identify as *G. varius* Bow. Its greatest extent is only 17 mm. The colour (in spirit) is brown.

It is very difficult for the present to determine with certainty a *Gellius* species belonging to the group with the spiculation consisting only of oxea and sigmata, because the species of this group have hitherto neither been thoroughly described nor figured. When I determine the present species as *varius* Bow., I do so chiefly because the sizes of the spicules agree best with this species, while *G. couchi* Bow. and *G. fibulatus* O. S. have thinner oxea (see Ridley l. c.). The oxea of the specimen in hand are evenly {curved, sometimes the curve is localized more or less distinctly in the middle; they are of the same thickness in the whole length, the points are short and bounded by curved lines, the very apex bears a little mucro. The length of the oxea is 0.26—0.3 mm and the thickness 0.014 mm. The ends of the oxea are connected by a distinct mass of spongin. The sigmata are of common shape and they are plane, their length is 0.036 mm and the thickness is 0.0015 mm.

Cape Tobin, depth 57 fathoms (The Amstrup-expedition 1900).

*G. arcoferus* Vosm.

1885. *Gellius arcoferus* Vosmaer, Bijdrag. tot de Dierk. 12te Afl. 3die Ge-deelt. 29, Pl. IV, fig. 18, Pl. V, figs. 87—90.

1902. — — —, Lundbeck, The Danish Ingolf-Exp. VI, 1, 62, Pl. XII, figs. 11 a, b, c.

Only a small fragment.

72° 40' lat. N., 20° long. W., depth 100 fathoms (The Ryder expedition 1891—92) (Lundbeck l. c.).

*G. porosus* Frstdt.

1887. *Desmacella porosa* Fristedt., Vega-Exp. vetensk. Iakttag. IV, 440, Pl. 24, figs. 36—37, Pl. 28, figs. 15.  
1902. *Gellius porosus*, Lundbeck, The Danish Ingolf-Exp. VI, 1, 73, Pl. XIV, figs. 2 a—c.

Of this species we have some specimens or fragments, all of the brittle consistens which is earlier noted for this species; the largest specimen has a greatest extent of 60 mm and is of an irregular massive shape.

Angmagsalik <sup>18</sup>/<sub>9</sub> 1900, depth 140 fathoms; Cape Tobin <sup>21</sup>/<sub>8</sub> 1900, depth 57 fathoms; Forsblad-Fjord <sup>30</sup>/<sub>8</sub> 1900, depth 50—90 fathoms (The Amdrup-expedition 1900).

*Gelliodes* Ridley.

*G. plexa* Ldbck.

1902. *Gelliodes plexa* Lundbeck, The Danish Ingolf-Exp., VI, 1, 75, Pl. V, figs. 3—4, Pl. XIV, figs. 3 a—d, 4—5.

Of this interesting species some fragments have been taken, no doubt all belonging to one individual. They are in all respects conform to the original specimens, and may have formed a flabelliform or a large cup-shaped specimen; the largest fragment which has the upper edge undamaged and thus proves to be a piece of the upper part of the sponge, has a horizontal extent of 100 mm. With regard to the oscula and pores the specimen shows the same structures which are described in the place quoted.

Turner Sund <sup>26</sup>/<sub>7</sub> 1900, depth 120 fathoms (The Amdrup-expedition 1900).

*Oceanapia* Norman.

*O. robusta* Bow.

1866. *Isodictya robusta* Bowerbank, Mon. Brit. Spong. II, 304, 20.  
1874. *Desmacidon Jeffreysii* Bowerbank, ibid. III, 157, Pl. LXII.  
1887. — — —, Fristedt, Vega-Exp. vetensk. Iakttag. IV, 442.

1902. *Oceanapia robusta*, Lundbeck, The Danish Ingolf-Exp. VI, 1, 78, Pl. XV, figs. 1 a—c, 2—4.

This species is not represented in our collections, but it was taken at the East-coast of Greenland, depth 130 fathoms by the Swedish arctic expedition 1883 (Fristedt l. c.).

*Biemma* Gray.

*B. rosea* Frstdt.

1887. *Desmacella rosea* Fristedt, Vega-Exp. vetensk. Iakttag. IV, 439, Pl. 24, figs. 32—35, Pl. 28, fig. 13.  
1902. *Biemma rosea*, Lundbeck, The Danish Ingolf-Exp. VI, 1, 82, Pl. VI, figs. 1—2, Pl. XV, figs. 5 a—d, 6—9.

The East-coast of Greenland, depth 125 fathoms (The Swedish arctic expedition 1883; Fristedt l. c.).

*Desmacella* O. Schmidt.

*D. Peachii* Bow.

1866. *Desmacidon Peachii* Bowerbank, Mon. Brit. Spong. II, 349, 3, and 1874, III, Pl. LXIII, figs. 1—7.  
1902. *Desmacella Peachii*, Lundbeck, The Danish Ingolf-Exp. VI, 1, 90, Pl. IV, figs. 10—13, Pl. XVI, figs. 2 a—1.

One specimen, taken at the East-coast of Greenland 65° 39' lat. N., 28° 25' long. W., depth 553 fathoms (The Ryder-expedition 1891—92) (Lundbeck l. c.).

*D. hamifera* Ldbck.

1902. *Desmacella hamifera* Lundbeck. The Danish Ingolf-Exp. VI, 1, 93, Pl. VII, figs. 4—6, Pl. XVII, figs. 1 a—1.

Some more or less fan-shaped pieces are found in the collections, they are in all respects quite typical.

Angmagsalik <sup>18</sup>/<sub>9</sub> 1900, depth 140 fathoms, at Cape Tobin <sup>21</sup>/<sub>8</sub> 1900, depth 57 fathoms (The Amdrup-expedition 1900).

*D. groenlandica* Frstdt.

1887. *Desmacella Peachii* var. *groenlandica* Fristedt, Vega-Exp. vetensk. Iakttag. IV, 441, Pl. 24, figs. 38—45, Pl. 28, fig. 14.  
1902. *Desmacella groenlandica* Lundbeck, The Danish Ingolf-Exp. VI, 1, 95, Pl. VI, fig. 14, Pl. VII, fig. 7, Pl. XVII, figs. 7 a—b.



A small fragment of this species was taken at East-Greenland, depth 130 fathoms (The Swedish arctic-expedition 1883; Fristedt l. c.).

#### *Hamacantha* Gray.

##### *H. Bowerbanki* Ldbck.

1902. *Hamacantha Bowerbanki* Lundbeck, The Danish Ingolf-Exp. VI, 1, 99, Pl. VII, figs. 2—3, Pl. XVIII, figs. 1 a—k, 2—3.

Of this species we have a small, incrusting specimen, growing on a stone.

The Ingolf-expedition, station 94, 64° 56' lat. N., 36° 19' long. W., depth 204 fathoms.

Remarks. Topsent (Résultats des camp. scient. du Prince de Monaco, Fasc. XXV, 1904, 216) says, that he thinks this species identical with *H. Johnsoni* Bow., thinking this latter species identical with *H. Johnsoni* Cart. (Ann. Mag. Nat. Hist. 5, IX, 297, Pl. XI, figs. 20 a—e). I can not follow him in this interpretation, then I see, as I have declared at length in the place quoted, no sufficient reason for the identification of Bowerbank's and Carter's species; therefore I thought it necessary to give Carter's species a new name, and to leave the *H. Johnsoni* Bow. out of question.

#### Fam. Desmacidonidae.

##### *Esperiopsis* Cart.

##### *E. villosa* Cart.

1874. *Esperia villosa* Carter, Ann. Mag. Nat. Hist. 4, XIV, 213, Pl. XIII, figs. 13—15, Pl. XV, fig. 36.

1887. — —, Fristedt, Vega-Exp. vetensk. Iakttag. IV, 451, Pl. 25, figs. 33—39, Pl. 29, fig. 19.

1905. *Esperiopsis villosa*, Lundbeck, The Danish Ingolf-Exp. VI, 2, 9, Pl. I, fig. 4, Pl. VIII, figs. 1 a—i.

65° 39' lat. N., 28° 25' long. W., depth 553 fathoms (The Ryder-expedition 1891—92) (Lundbeck l. c.); East-coast of Greenland, depth 140 fathoms (The Swedish arctic expedition 1883; Fristedt l. c.).

##### *E. typichela* Ldbck.

1905. *Esperiopsis typichela* Lundbeck, The Danish Ingolf-Exp. VI, 2, 22, Pl. I, fig. 3, Pl. IX, figs. 2 a—c, 3—4.

The only hitherto known specimen of this interesting species was taken in Forsblad-Fjord <sup>30</sup>/<sub>s</sub> 1900, depth 50—90 fathoms (The Amdrup-expedition 1900) (Lundbeck l. c.).

#### *Mycale* Gray.

##### *M. placoides* Cart.

1876. *Esperia placoides* Carter, Ann. Mag. Nat. Hist. 4, XVIII, 316, Pl. XIII, fig. 12, Pl. XV, fig. 32.

1905. *Mycale placoides*, Lundbeck, The Danish Ingolf-Exp. VI, 2, 24, Pl. IX, figs. 5 a—1.

65° 39' lat. N., 28° 25' long. W., depth 553 fathoms (The Ryder-expedition 1891—92) (Lundbeck l. c.).

##### *M. lingua* Bow.

1866. *Hymeniacion lingua* Bowerbank, Mon. Brit. Spong. II, 187, 24.

1905. *Mycale lingua*, Lundbeck, The Danish Ingolf-Exp. VI, 2, 29, Pl. IX, figs. 6 a—f.

72° 53' lat. N., 20° 36' long. W., depth 96 fathoms (The Ryder-expedition 1891—92) (Lundbeck l. c.); it was also taken near the southern point of Greenland on 59° 33' lat. N., 43° 25' long. W., depth 120 fathoms. (The Swedish arctic expedition 1883; Fristedt).

##### *M. thaumatochela* Ldbck.

1905. *Mycale thaumatochela* Lundbeck, The Danish Ingolf-Exp. VI, 2, 39, Pl. X, figs. 2 a—g.

Of this interesting species which is at present only known from both coasts of Greenland, one specimen was taken off Cape Dalton <sup>20</sup>/<sub>r</sub> 1900, depth 9—11 fathoms (The Amdrup-expedition 1900) (Lundbeck l. c.).

##### *M. intermedia* O. Schmidt.

1874. *Esperia intermedia* O. Schmidt, Die zweite deutsche Nordpolarfahrt, II, 433, Taf. 1, Fig. 40.

1903. *Mycale intermedia*, Thiele, Arch. für Naturgesch. 1903, 381, Taf. 21, Fig. 12.

1905. — —, Lundbeck, The Danish Ingolf-Exp. VI, 2, 43.

This curious species, the only one known of this genus with diactinal megascleres, is not represented in our-collections.

At North-Shannon (Die zweite deutsche Nordpolarfahrt; Schmidt l. c.).

#### Asbestopluma Norman.

##### *A. pennatula* O. Schmidt.

1875. *Cladorhiza pennatula* O. Schmidt, Jahresber. der Comm. zur Unters. deutsch. Meere in Kiel für 1872—73, 119, Taf. 1, Fig. 14—16.
1887. *Cladorhiza Nordenskiöldii* Fristedt, Vega-Exp. vetensk. Iakttag. IV, 455, Pl. 25, figs. 56—59, Pl. 31, fig. 55.
1905. *Asbestopluma pennatula*, Lundbeck, The Danish Ingolf-Exp. VI, 2, 44, Pl. II, figs. 1—6, Pl. X, figs. 4a—o, 5—7.

One specimen was taken on the Swedish arctic expedition 1883 at the East-coast of Greenland, depth 130 fathoms (Fristedt l. c.), and one specimen and some fragments were taken by the Ingolf-expedition on station 94, 64° 56' lat. N., 21° 36' long. W., depth 204 fathoms (Lundbeck l. c.).

##### *A. cupressiformis* Cart.

1874. *Esperia cupressiformis* Carter partim, Ann. Mag. Nat. Hist. 4, XIV, 215, Pl. XIV, figs. 16a—f, 17—18, Pl. XV, fig. 37.
1905. *Asbestopluma cupressiformis*, Lundbeck, The Danish Ingolf-Exp. VI, 2, 58, Pl. II, figs. 11—14, Pl. XI, figs. 4a—f, 5.

72° 40' lat. N., 20° long. W., depth 100 fathoms, 72° 27' lat. N., 19° 50' long. W., depth 120 fathoms, and at the south end of Jameson Land, depth 10—60 fathoms (The Ryder-expedition 1891—92) (Lundbeck l. c.).

##### *A. lycopodium* Levins.

1886. *Esperella cupressiformis* var. *lycopodium* Levinsen, Dijnphna-Togtets zool. bot. Udbytte, 364, Tab. XXIX, figs. 12—13, Tab. XXX, figs. 15, 16d.
1905. *Asbestopluma lycopodium*, Lundbeck, The Danish Ingolf-Exp. VI, 2, 62, Pl. II, figs. 15—17, Pl. XI, figs. 6a—d, 7.
- 70° 32' lat. N., 8° 10' long. W., depth 470 fathoms (The

Ryder-expedition 1891—92) (Lundbeck l. c.). The species is a native of cold water.

#### Chondrocladia Wyv. Thoms.

##### *C. gigantea* Arm. Hans.

1885. *Desmacidon giganteum* Armauer Hansen, The Norweg. North-Atlant. Exp. XIII, Spongiadæ 14, Pl. II, figs. 12—13, Pl. VII, fig. 8.
1887. *Cladorhiza nobilis* Fristedt, Vega-Exp. vetensk. Iakttag. IV, 456, Pl. 25, fig. 60—65, Pl. 31, fig. 26.
1905. *Chondrocladia gigantea*, Lundbeck, The Danish Ingolf-Exp. VI, 2, 102, Pl. IV, fig. 1, Pl. XIII, figs. 2a—l.

A specimen of this beautiful arctic sponge was taken by the Swedish arctic expedition 1883 at the East-coast of Greenland, depth 130 fathoms (Fristedt l. c.).

#### Artemisina Vosm.

##### *A. arcigera* O. Schmidt.

1870. *Suberites arciger* O. Schmidt, Grundzüge einer Spongienf. des atlant. Gebiet. 47, Taf. V, Fig. 6.
1905. *Artemisina arcigera*, Lundbeck, The Danish Ingolf-Exp. VI, 2, 110, Pl. I, figs. 9—11, Pl. XIII, figs. 3a—f.

One specimen from East-Greenland without more particular locality (The Ryder-expedition 1891—92); Forsblad-Fjord <sup>30</sup>/<sub>8</sub> 1900, depth 50—90 fathoms, Hurry-Inlet <sup>11</sup>/<sub>8</sub> 1900, depth 50 fathoms, one specimen on each locality (The Amdrup-expedition 1900) (Lundbeck l. c.).

##### *A. apollinis* R. and D.

1887. *Amphilectus apollinis* Ridley and Dendy, Challeng. Rep. Monaxonida, XX, 124, Pl. XIX, figs. 3, 3a—c.
1905. *Artemisina apollinis*, Lundbeck, The Danish Ingolf-Exp. VI, 2, 114, Pl. XIII, figs. 4a—g.

Two fragments without other locality than East-Greenland (The Ryder-expedition 1891—92) (Lundbeck l. c.).

#### Myxilla O. Schmidt.

##### *M. incrustans* Johnst.

1842. *Halichondria incrustans* Johnston, A Hist. of Brit. Spong. and Litoph. 122, Pl. XII, fig. 3, Pl. XIII, fig. 5.

1905. *Myxilla incrustans*, Lundbeck, The Danish Ingolf-Exp. VI, 2, 132, Pl. IV, figs. 6—7, Pl. XIV, figs. 3 a—h.

Of this common and widely distributed species one specimen has been taken at Jan Mayen, depth 55 fathoms (The Amdrup-expedition 1900) (Lundbeck l. c.).

*M. perspinosa* Ldbck.

1905. *Myxilla perspinosa* Lundbeck, The Danish Ingolf-Exp. VI, 2, 147, Pl. V, fig. 1, Pl. XIV, figs. 7 a—e.

One specimen of this species was taken at Jan Mayen <sup>25/6</sup> 1900, depth 50—60 fathoms (The Amdrup-expedition 1900) (Lundbeck l. c.).

**Lissodendoryx** Tops.

*L. Sophia* Frstedt.

1887. *Esperia Sophia* Fristedt, Vega-Exp. vetensk. Iakttag. IV, 451, Pl. 25, figs. 30—32.  
1905. *Lissodendoryx Sophia*, Lundbeck, The Danish Ingolf-Exp. VI, 2, 156, Pl. V, fig. 6, Pl. XV, fig. 5.

One specimen was taken by the Swedish arctic expedition 1883 at the East-coast of Greenland, depth 130 fathoms (Fristedt l. c.).

*L. indistincta* Frstedt.

1887. *Hastatus indistinctus* Fristedt, Vega-Exp. vetensk. Iakttag. IV, 444, Pl. 25, figs. 13—19.  
1905. *Lissodendoryx indistincta*, Lundbeck, The Danish Ingolf-Exp. VI, 2, 162, Pl. V, fig. 10, Pl. XVI, figs. 3 a—h.

Two specimens taken at Hekla Havn, depth 5—12 fathoms (The Ryder-expedition 1891—92) (Lundbeck l. c.).

*L. complicata* Arm. Hans.

1885. *Reniera complicata* Armauer Hansen, The Norweg. North-Atlantic Exp. XIII, Spongiadæ, 7, Pl. I, fig. 8, Pl. VI, fig. 8.  
1905. *Lissodendoryx complicata*, Lundbeck, The Danish Ingolf-Exp. VI, 2, 166, Pl. V, fig. 11, Pl. XVI, figs. 4 a—g.

Some fragments have been taken south of Jan Mayen 70° 32' lat. N., 8° 10' long. W <sup>27/6</sup> 1891, depth 470 fathoms (The Ryder-expedition 1891—92) (Lundbeck l. c.). The species is a native of the cold area.

**Iophon** Gray.

*I. piceus* Vosm.

1881. *Alebion piceum* Vosmaer, Nederl. Arch. für Zool. Suppl. Band I, 42, Pl. I, fig. 19, Pl. III, figs. 75—78, 81—82.  
1887. *Esperia nigricans*, Fristedt, Vega-Exp. vetensk. Iakttag. IV, 448.  
1905. *Iophon piceus*, Lundbeck, The Danish Ingolf-Exp. VI, 2, 175, Pl. VI, figs. 1—2, Pl. XVII, figs. 3 a—1.

At Angmagsalik <sup>18/9</sup> 1900, depth 140 fathoms (The Amdrup-expedition 1900) (Lundbeck l. c.), and towards south on 59° 33' lat. N., 43° 25' long. W., depth 120 fathoms (The Swedish arctic expedition 1883; Fristedt l. c.).

*I. frigidus* Ldbck.

1886. *Esperella picea*, Levinsen, Dijnphna-Togtets zool. bot. Udbytte, 360, Tab. XXXI, figs. 1, 2 a—d.  
1905. *Iophon frigidus* Lundbeck, The Danish Ingolf-Exp. VI, 2, 183, Pl. XVII, figs. 5 a—f.

72° 25' lat. N., 19° 33' long. W., <sup>27/7</sup> 1891, depth 140 fathoms (The Ryder-expedition 1891—92) (Lundbeck l. c.).

**Iotrochota** Ridley.

*I. oxedata* Ldbck.

1905. *Iotrochota oxedata* Lundbeck, The Danish Ingolf-Exp. VI, 2, 186, Pl. VI, fig. 6, Pl. XVIII, figs. 2 a—f.

One specimen. The Ingolf-expedition station 94, 64° 56' lat. N., 36° 19' long. W., depth 204 fathoms (Lundbeck l. c.).

*I. rotulancora* Ldbck.

1905. *Iotrochota rotulancora* Lundbeck, The Danish Ingolf-Exp. VI, 2, 191, Pl. XVIII, figs. 6 a—g.

One specimen from Rathbone Ø off the Liverpool-Kyst, 70° 40' lat. N., depth 94 fathoms (The Amdrup-expedition 1900) (Lundbeck l. c.).

*I. affinis* Ldbck.

1905. *Iotrochota affinis* Lundbeck, The Danish Ingolf-Exp. VI, 2, 194, Pl. XVIII, figs. 8 a—e.

One specimen was taken at Cape Tobin, 70° 23' lat. N., 22° long. W., depth 57 fathoms (The Amdrup-expedition 1900) (Lundbeck l. c.).

**Forcepia** Cart.*F. fabricans* O. Schmidt.

Pl. XIV. Fig. 5.

1874. *Esperia fabricans* O. Schmidt, Die zweite deutsche Nordpolarfahrt, II, 2, 433.
1905. *Forcepia fabricans*, Lundbeck, The Danish Ingolf-Exp. VI, 2, 201, Pl. XIX, figs. 3 a—g.

East-Greenland, without more particular locality (The Ryder-expedition 1891—92); Forsblad-Fjord, depth 50—90 fathoms, two specimens (The Amtrup-expedition 1900) (Lundbeck l. c.). The original specimen was taken at East-Greenland at North-Shannon (Die zweite deutsche Nordpolarfahrt; Schmidt l. c.).

*F. groenlandica* Frstedt.

1887. *Forcepia groenlandica* Fristedt, Vega-Exp. vetensk. Iakktag. IV, 452, Pl. 25, figs. 40—46.
1905. — — — — —, Lundbeck, The Danish Ingolf-Exp. VI, 2, 209, Pl. XX, figs. 3 a—e.

This species was taken during the Swedish arctic expedition 1883 at East-Greenland, depth 125 fathoms (Fristedt l. c.).

**Melonanchora** Cart.*M. elliptica* Cart.

1874. *Melonanchora elliptica* Carter, Ann. Mag. Nat. Hist. 4, XIV, 216, Pl. XIII, figs. 6—12, Pl. XV, figs. 35 a—b.
1905. — — — — —, Lundbeck, The Danish Ingolf-Exp. VI, 2, 212, Pl. VII, figs. 4—6, Pl. XX, figs. 1 a—o.

This species was taken on the Swedish arctic expedition 1883 at East-Greenland, depth 130 fathoms (Fristedt l. c.). As I have mentioned in the place quoted, Thiele (Arch. für Naturgesch. 1903, I, 392) was of opinion, that Fristedt's species was not *elliptica*, but *emphysema* O. Schmidt, and this was also highly indicated by Fristedt's description and figures, but when I examined one of Fristedt's specimens, this proved to be *elliptica*.

*M. emphysema* O. Schmidt.

1875. *Desmacidon emphysema* O. Schmidt, Jahresber. der Comm. zur wissenschaft. Unters. der deutsch. Meere in Kiel für 1872—73, 1875, 118.

1905. *Melonanchora emphysema*, Lundbeck, The Danish Ingolf-Exp. VI, 2, 216, Pl. XX, figs. 2 a—d.

Two small specimens of this species were taken by the Ingolf-expedition on station 94, 64° 56' lat. N., 36° 19' long. W., depth 204 fathoms (Lundbeck l. c.).

**Tedania** Gray.*T. suctorica* O. Schmidt.

1870. *Tedania suctorica* O. Schmidt, Grundzüge einer Spongienf. des atlant. Gebiet. 43, Taf. V, Fig. 11.

One specimen from East-Greenland, depth 100 fathoms (The Ryder-expedition 1891—92); moreover it was taken by the Ingolf-expedition on station 94, 64° 56' lat. N., 36° 19' long. W., depth 204 fathoms.

**Histoderma** Cart.*H. physa* O. Schmidt.

1875. *Desmacidon physa* O. Schmidt, Jahresber. der Comm. zur wissenschaft. Unters. deutsch. Meere in Kiel für 1872—73, 118, Taf. I, Fig. 8—9.
1887. *Cornulum ascidioides* Fristedt, Vega-Exp. vetensk. Iakktag. 445, Pl. 25, figs. 1—2, Pl. 29, fig. 21.

This species has been taken by the Ingolf-expedition on station 94, 64° 56' lat. N., 36° 19' long. W., depth 204 fathoms. An examination of the type species of *Cornulum ascidioides* Frstedt. proved this to be identical with the present species.

**Cornulum** Cart.*C. textile* Cart.

1876. *Cornulum textile* Carter, Ann. Mag. Nat. Hist. 4, XVIII, 309, Pl. XII, fig. 9, Pl. XV, figs. 28 a—b.

One specimen of this interesting sponge was taken on 74° 17' lat. N., 15° 20' long. W., depth 127 fathoms (The Ryder-expedition 1891—92).

**Grayella** Cart.

(Yvesia Tops.)

*G. pyrula* Cart.

1876. *Cometella pyrula* Carter, Ann. Mag. Nat. Hist. 4, XVIII, 388, Pl. XIV, fig. 20, Pl. XV, fig. 38.

This curious species was taken by the Ingolf-expedition on station 94, 64° 56' lat. N., 36° 19' long. W., depth 204 fathoms.

**Hymedesmia** Bow.

(*Leptosia* Tops.)

*H. Dujardinii* Bow.

1866. *Hymeniacion Dujardinii* Bowerbank, Mon. Brit. Spong. II, 224, 38, et ibid. 1874, III, Pl. XXXVIII, figs. 1—4.

A specimen, growing on a shell of *Pecten imbrifer*, Forsblad-Fjord, depth 50—90 fathoms (The Amstrup-expedition 1900).

Besides this well known species there are in the collections still six species, all new and not yet described; this genus is thus represented at East-Greenland by seven species in all.

**Ectyodoryx** n. g.

In "Kieselschwämme von Ternate", II (Abhandl. der Senckenberg. nat. Gesell. XXV, 953) Thiele has shown, that the genus formerly called *Dendoryx* must have the name *Myxilla* with the typical species *rosacea* Lieberkühn, and *Dendoryx* is thus a synonym to *Myxilla*. In "The Danish Ingolf-Exp." VI, 2, 154, I have emended the genus *Lissodendoryx* in such a way, that *Myxilla* comprises species with ancoræ and *Lissodendoryx* species with chelæ. Both these genera belong to the subfamily *Mycalinae*; but in the subfamily *Ectyoninae* we then have the genus hitherto known as *Myxilla* i. e. a genus answering to *Myxilla* and with the skeleton reticulate, but with accessory spicules (the ectyonine character). This genus also must be divided in two, one with ancoræ and the other with chelæ, the first thus answering to *Myxilla* and the other to *Lissodendoryx*. — It is possible, that some old species in a Bowerbankian or other genus will be found to belong to those genera, and perhaps in such a way, that we therefrom should get the necessary names for the genera, but I am not able to decide this from the literature, and for the rest I think it not

at all probable. I then see no other way than the creating of new genera for the mentioned two groups of species. — The genus with chelæ I give the name *Ectyodoryx*, and for the genus with ancoræ, which is not represented in the material treated here, I propose the name *Ectyomyxilla*.

The generic diagnosis for the genus *Ectyodoryx* may then be the following:

Sponges with a reticulate skeleton, echinated (more or less sparingly) by accessory spicules. The skeleton spicules spined or smooth styli, the accessory spicules smaller, spined styli; the dermal spicules diactinal; microscleres isochelæ arcuatæ solely or together with other forms.

*E. foliatus* Frsttdt.

1887. *Hastatus foliatus* Fristedt, Vega-Exp. vetensk. Iakttag. IV, 443, Pl. 25, figs. 7—12.

This species of which I have examined the type specimen, is an *Ectyodoryx*, as it has accessory spicules (l. c. fig. 8) echinating the fibres, but the accessory spicules are few in number.

East-coast of Greenland, depth 130 fathoms (The Swedish arctic expedition 1883; Fristedt l. c.).

*E. sp.*

We have another species of this genus, not yet described, from Rathbone Ø, depth 94 fathoms, and from Angmagsalik, depth 140 fathoms (The Amstrup-expedition 1900).

**Pocillon** Tops.

*P. sp.*

A species of this genus has been taken at Angmagsalik, in shallow water (Kruuse).

**Stylostichon** Tops.

The views of the two genera *Plumohalichondria* Cart. and *Stylostichon* Tops. have been somewhat confused so that I shall say some words about them. — In 1892 Topsent has (Ré-

sultats des camp. scient. du Prince de Monaco, Fasc. II, 111) divided Carter's genus *Plumohalichondria* in two genera, one with the fibres formed of smooth, diactinal spicules, echinated by spined spicules, and the other with the fibres formed of spined, monactinal spicules and echinated by similar spicules. For the first genus, with the fibres formed of smooth, diactinal spicules, he maintained Carter's name *Plumohalichondria*, but unfortunately he placed Carter's type of the genus, *P. microcionides* in the other genus; evidently he had not examined this species, and thus he mistook it as having the fibres formed of spined styli, while it in reality has them composed of long, smooth oxea; as a consequence the genus with the fibres formed of smooth, diactinal spicules must have the name *Plumohalichondria* Cart., with the type *microcionides* Cart.

To the other genus, with the fibres composed of spined styli, Topsent gave the name *Stylostichon*, and as he at the same place described a new species *S. Dendyi*, I see no reason why this should not be the type of his genus, to which also *plumosum* Mont. and *frondosum* R. and D. seem to belong. Thiele (Arch. für Naturgesch. 1903, 387) declares, that Topsent's genus *Stylostichon* can only be a synonym to *Plumohalichondria*, as he placed the type of this, *microcionides* in *Stylostichon*, but as Topsent, as said, at the same time described the species *Stylostichon Dendyi*, I do not see why his simple mistake with regard to the species *microcionides* should cause his genus to fall; on the contrary it seems natural, that when *microcionides* is removed from *Stylostichon* to *Plumohalichondria*, the former genus stands with the type *Dendyi*.

In the place quoted Thiele thinks it not necessary to divide the old genus *Plumohalichondria*, but I think the dividing character, the difference in the spicules composing the fibres, is of no small value. Thiele seems also to think only on the species *microcionides* and *mammillata* Cart. = *incrustans* Cart., and both these species have the fibres formed of smooth diac-

tinals, but *mammillata*, which has spined dermal spicules, seems not to belong here, and is by Thiele, I think quite correctly, referred to the genus *Pytheas* Tops = *Crella* Gray. *Stylostichon* and *Plumohalichondria* both have smooth dermal spicules.

#### *S. hospitalis* O. Schmidt.

1870. *Cribrella hospitalis* O. Schmidt, Grundzüge einer Spongienf. des atlant. Gebiet. 56, Taf. IV, Fig. 12.  
 1876. — — — , Carter, Ann. Mag. Nat. Hist. 4, XVIII, 313, Pl. XIII, fig. 18, Pl. XV, figs. 36 a—b.  
 1887. — — — , Fristedt, Vega-Exp. vetensk. Iakktag. IV, 453, Pl. 25, figs. 47—50, Pl. 29, fig. 20.

Besides the above mentioned species of this genus there is still one more known, the *Cribrella hospitalis* mentioned by Fristedt being, after my examination of the type specimen, a *Stylostichon*. I can for the present not with certainty decide, whether the *Cribrella hospitalis* described by Carter (l. c.) is identical with the present species, but it is very probable; should this prove to be the case, it will be probable that also *C. hospitalis* Schmidt is the same, as Carter says, that he has compared his species with a slide of the original specimen, and then *C. hospitalis* Schmidt which is at present taken to be a *Grayella* (*Yvesia* Tops.) will be in reality a *Stylostichon*.

A fine, pedicellated specimen has been taken at East-Greenland, depth 125 fathoms (The Swedish arctic expedition 1883; Fristedt l. c.).

#### *Hymenaphia* Bow.

*H.* sp.

At Angmagsalik, depth 140 fathoms. (The Amstrup-expedition 1900).

#### *Crella* Gray. (*Pytheas* Tops.)

Of this genus three species have been taken, at Angmagsalik, depth 140 fathoms, and at Rathbone Ø, depth 94 fathoms (The Amstrup-expedition 1900, and Kruuse).

**Echinoclathria** Cart.*E. sp.*

From Angmagsalik, depth 140 fathoms, the Amstrup-expedition 1900 has brought home a large, flabelliform species which present the characteristic honeycombed structure. It appears to be undescribed.

**Plocamia** O. Schmidt.

Two species of this genus have been collected at Cape Tobin, depth 57 fathoms, and at Angmagsalik, depth 140 fathoms (The Amstrup-expedition 1900). Further we have it from the East-coast, without particular locality (The Ryder-expedition 1891—92).

Fam. **Axinellidae**.**Phakellia** Bow.*P. ventilabrum* Johnst.

1842. *Halichondria ventilabrum* Johnston, Brit. Spong. and Lithophyt., 107, Pl. VII.

1864. *Phakellia ventilabrum*, Bowerbank, Mon. Brit. Spong. I, 186, et ibid. 1866, II, 122, et 1874, III, Pl. XXII, figs. 1—7.

We have two specimens of this species, both of flabelliform shape, but somewhat irregular; the skeleton has rather strong fibres, composed in the common way of long and strong "vermicular" spicules. The largest specimen has a height of 110 mm.

The Ingolf-expedition, station 94, 64° 56' lat. N., 36° 19' long. W., depth 204 fathoms.

*P. Bowerbanki* Vosm.

1885. *Phakellia Bowerbanki* Vosmaer, Bijdrag. tot de Dierk. 12te Afl. 3die Gedeelte, 24, Pl. V, figs. 45—47.

We have of this sponge two pieces, one being a lower and the other an upper part, both parts certainly belonging to one individual; below there is a short and robust stalk, to which some bottom material still adheres; from the stalk the sponge rises into a funnel-shaped part, but this shape disappears a little way above the stalk, and only one side of the funnel continues

its growth, the sponge thus assuming a fan-shaped exterior. The specimen in hand is rather large, it has a height of 42 cm, and the plate has a greatest breadth of about 30 cm, the sponge is rather thin, the thickness is 3 mm as an average. The spicules quite agree with those figured by Vosmaer.

At Angmagsalik <sup>18/9</sup> 1900, depth 140 fathoms (The Amstrup-expedition 1900).

*P. rugosa* Bow.

1866. *Dictyocylindrus rugosus* Bowerbank, Mon. Brit. Spong. II, 119; ibid. 1874, III, Pl. XX, figs. 1—4.

1887. *Axinella rugosa*, Fristedt, Vega-Exp. vetensk. Iakttag. IV, 461.

I have seen a fragment of Fristedt's specimen, but from this I am not able to judge with certainty about the determination.

East-coast of Greenland, depth 130 fathoms (The Swedish arctic expedition 1883; Fristedt l. c.).

**Tragosia** Gray.*T. Sluiteri* Vosm.

1882. *Cribrochalina Sluiteri* Vosmaer, Nederl. Arch. für Zool. Suppl. Band I, 36, Pl. I, figs. 16—17, Pl. III, figs. 67—69, Pl. IV, figs. 145—147.

1885. — — Vosmaer, Bijdrag. tot de Dierk. 12te Afl., 3die Gedeelte, 22, Pl. I, fig. 10, Pl. IV, figs. 4—6.

1886. — — , Levinsen, Dijnphna-Togtets zool. bot. Udbytte. 352, Pl. XXIX, figs. 6—9. Pl. XXX, fig. 6.

Of this species there is a fine, funnel-shaped specimen in the collection; it has a total length of 120 mm, the stalk being 50 mm long.

Jan Mayen <sup>28/6</sup> 1900, depth 55 fathoms (The Amstrup-expedition 1900).

**Bubaris** Gray.*B. vermiculata* Bow.

1866. *Hymenaphia vermiculata* Bowerbank, Mon. Brit. Spong. II, 141, et ibid. 1874, III, Pl. XXV, figs. 1—3.

1887. — — var. *erecta* Cart., Fristedt, Vega-Exp. vetensk. Iakttag. IV, 461.

A small specimen, growing on a *Retepora*.

Angmagsalik, <sup>18/9</sup> 1900, depth 140 fathoms (The Amstrup-expedition 1900). Further it has been taken at the East-coast of Greenland, depths 130 fathoms and 350 fathoms (The Swedish arctic expedition 1883; Fristedt l. c.). Our specimen is a small, flate specimen; the specimens mentioned by Fristedt on the contrary are erect, branched or unbranched, thus belonging to Carter's var. *erecta*; the largest of Fristedt's specimens reaches a height of 100 mm. Topsent declares (Résultats des camp. scient. du Prince de Monaco, Fasc. XXV, 1904, 145) that he thinks these forms, the encrusting and the erect, to be specifically identical, and I shall for the present not enter into the question.

#### Hadromerina.

#### Fam. Spirastrellidae.

#### *Latrunculia* du Bocage.

*L.* sp.

A species of this genus has been taken on 70° 32' lat. N., 8° 10' long. W., depth 470 fathoms (The Ryder-expedition 1891—92).

#### Fam. Polymastiidae.

#### *Polymastia* Bow.

*P. uberrima* O. Schmidt.

Tab. XIV. Fig. 4.

1870. *Rinalda uberrima* O. Schmidt, Grundzüge einer Spongienf. des atlant. Gebiet., 51, Taf. VI, Fig. 3.

Of this species we have seven specimens from East-Greenland. Most specimens are somewhat different from the common form as to their exterior, being rather high and more or less globular, one specimen is quite globular and has even a short stalk (Pl. XIV, fig. 4), thereby getting a somewhat curious appearance. The skeleton and the spicules on the other hand are quite of the common construction and shape.

70° 32' lat. N., 8° 10' long. W., <sup>27/6</sup> 1891, depth 470 fathoms; Hekla-Havn <sup>21/9</sup> 1892 (The Ryder-expedition 1891—92); Forsblad-Fjord <sup>30/8</sup> 1900, depth 50—90 fathoms; at Angmagsalik <sup>18/9</sup> 1900, depth 140 fathoms (The Amstrup-expedition 1900).

#### *P. mammillaris* O. F. Müll.

1806. *Spongia mammillaris* O. F. Müller, Zool. Dan. IV, 44, Tab. CLVIII, Fig. 3—4.

1866. *Polymastia mammillaris*, Bowerbank, Mon. Brit. Spong. II, 71, et ibid. 1874, III, Pl. XII, figs. 1—11.

1887. *Polymastia penicillus*, Fristedt, Vega-Exp. vetensk. Iakttag., IV, 434.

Of this species we have only a very small specimen, only measuring 4 mm in diameter, and with only one papilla; yet I think the determination is sure.

70° 32' lat. N., 8° 10' long. W., depth 470 fathoms (The Ryder-expedition 1891—92); further it has been taken at the East-coast of Greenland, depth 130 fathoms (The Swedish arctic expedition 1883; Fristedt l. c.).

*Remarks:* I am very inclined to think, that *Spongia mammillaris* of Müller is in reality identical with *Rinalda uber-rima* Schmidt, as already noted by Levinsen (Dijmphna Togtets zool. bot. Udbytte, 346), but as we have only the figure to judge from, and as we can therefore only speak of probability but not of certainty, I shall here make no alteration in the use of the names.

#### *P. paupera* Frsttdt.

1887. *Polymastia paupera* Fristedt, Vega-Exp. vetensk. Iakttag. IV, 434, Pl. 24, fig. 21.

I have seen a small fragment of the type of this species, but I am not able from this to say anything certain about it.

East-coast of Greenland, depth 130 fathoms (The Swedish arctic expedition 1883; Fristedt l. c.).

#### *Trichostemma* Sars.

#### *T. hemisphaericum* Sars.

1872. *Trichostemma hemisphaericum* Sars, On some remark. forms of animal life, I, 62, Pl. VI, figs. 1—15.

1887.? *Radiella spinularia* Fristedt, Vega-Exp. vetensk. Iakttag. IV, 435.



We have four specimens; the smallest one which has a diameter of 12 mm is very conical downwards, but flat above; the largest specimen, of a diameter of about 40 mm, is hemispherical above and somewhat hollowed below. — I have seen a small fragment of Fristedt's specimen of *Radiella spinularia*, and I think it is *Trichostemma*.

Forsblad-Fjord <sup>30/s</sup> 1900, depth 50—90 fathoms (The Amdrup-expedition 1900); East-coast of Greenland, depth 130 fathoms (The Swedish arctic expedition 1883; Fristedt l. c.).

#### Quasillina Norman.

##### *Q. brevis* Bow.

1861. *Euplectella brevis* Bowerbank, List. Brit. Marine Invert. Faun. (Brit. Assoc.) 71.  
 1866. *Polymastia brevis* Bowerbank, Mon. Brit. Spong. II, 64, et ibid. 1874, III, Pl. XI, figs. 1—9.

Of this species we have a single, small specimen.

74° 17' lat. N., 15° 20' long. W., depth 127 fathoms (The Ryder-expedition 1891—92).

#### Tentorium Vosm.

##### *T. semisuberites* O. Schmidt.

1870. *Tecophora semisuberites* O. Schmidt, Grundzüge einer Spongienf. des atlant. Gebiet. 50, Taf. VI, Fig. 2.  
 1874. — — — O. Schmidt, Die zweite deutsche Nordpolarfahrt, II, 2, 430.  
 1887. — — — , Fristedt, Vega-Exp. vetensk. Iakttag. 433.

This common and nearly cosmopolitan species is present in the collections in rather great numbers; there are specimens of all sizes from a height of 30 mm down to only 3 mm.

At Sabine-Island <sup>10/7</sup> 1900, depth 110 fathoms; Forsblad-Fjord <sup>30/s</sup> 1900, depth 50—90 fathoms; Hurry-Inlet <sup>11/s</sup> 1900, depth 50 fathoms; Cape Tobin <sup>21/s</sup> 1900, depth 57 fathoms (The Amdrup-expedition 1900); East-Greenland, without particular locality (The Ryder-expedition 1891—92); at Angmagsalik, depth 50 fathoms (Kruuse); East-coast of Greenland (The

Swedish arctic expedition 1883; Fristedt l. c.); at North-Shannon (Die zweite deutsche Nordpolarfahrt; Schmidt l. c.).

#### Fam. Suberitidae.

##### Prosuberites Tops.

##### *P. sp.*

We have two specimens of a not yet determined species of this genus.

At Angmagsalik, depth 140 fathoms (The Amdrup-expedition 1900).

#### Ficulina Gray.

##### *F. ficus* L.

1767. *Alcyonium ficus* Linné, Systema Natura. Ed. XII, 1295.  
 1867. *Ficulina ficus*, Gray, Proc. Zool. Soc. 1867, 523.  
 1887. *Suberites montalbidus*, Fristedt, Vega-Exp. vetensk. Iakttag. IV, 428.

Of this common and widely distributed species a large, massive specimen is brought home; it has a greatest extent of 10 cm.

Angmagsalik <sup>22/s</sup> 1901 (Søren Nielsen); 65° 40' lat. N., 35° 32' long. W., depth 25—40 fathoms (The Swedish arctic expedition 1883; Fristedt l. c.).

#### Suberites Nardo.

##### *S. carnosus* Johnst.

Pl. XIV. Fig. 1.

1842. *Halichondria carnosus* Johnston, Brit. Spong. and Lithophyts. 146, Pl. XIII, figs. 7—8.  
 1900. *Suberites carnosus*, Toppent, Arch. de zool. exp. et gén. VIII. 233, Pl. VII, figs. 1—5.  
 1885. *Suberites* sp. Vosmaer, Bijdrag. tot de Dierk. 12te Afl. 3die Gedeelte. 21, Pl. I, figs. 9a—b, Pl. II, fig. 33.

Several specimens of this species have been taken; the specimens are all of an erect, cylindric shape, and more or less ramose, thus they agree well with the figures given by Vosmaer l. c. The oscula are scattered on the surface, they are somewhat conical, spout-shaped. With regard to the skeleton

the fibres form in the middle a kind of axis, and from here the fibres go to the surface; these facts are also noted by Vosmaer. I think it certain that the specimens belong to *S. carnosus*, it is quite agreeing with the form *ramosus* of this species, and with regard to this form of the sponge Topsent l. c. declares, that the skeleton is constructed in a similar way as described above. Thus *Suberites carnosus* seems to occur in the arctic seas only in the form *ramosus*.

At Angmagsalik <sup>18/9</sup> 1900, depth 140 fathoms (The Am-  
drup-expedition 1900).

*S. sp.*

We have a small specimen of a not yet determined species of *Suberites*.

74° 17' lat. N., 15° 20' long. W., depth 127 fathoms (The  
Ryder-expedition 1891—92).

### *Tetractinellida.*

Sigmatophora.

Fam. Tetillidae.

*Craniella* O. Schmidt.

*C. cranium* O. F. Müll.

1789. *Alcyonium cranium* Müller, Zool. Dan. IV, 42, Tab. CLVII, Fig. 1—2.  
1885. *Craniella Mülleri* Vosmaer, Bijdr. tot de Dierk. 12te Afl. 3die Gedeelte,  
6, Pl. II, figs. 9—15, Pl. V, figs. 1—2.  
1888. *Craniella cranium*, Sollas, Challeng. Rep. XXV, 51.

Of this species there has been collected a rather great material; the specimens are very varying in size; the largest one, which is of ellipsoidal shape, is 60 mm high, and then there are all sizes down to not more than 1 mm in diameter.

70° 32' lat. N., 8° 10' long. W. <sup>27/6</sup> 1891, depth 470 fathoms;  
72° 25' lat. N., 19° 33' long. W., <sup>27/7</sup> 1891, depth 140 fathoms  
(The Ryder-expedition 1891—92); East-Greenland, depth about  
350 fathoms (The Swedish arctic expedition 1883; Fristedt l. c.).

Astrophora.

Fam. Theneidae.

*Thenea* Gray.

*T. muricata* Bow.

1858. *Tethea muricata* Bowerbank, M. S. Phil. Trans., 148, II, 308, Pl. XXV,  
fig. 18.  
1887. *Tethya muricata*, Fristedt, Vega-Exp. vetensk. Iakttag. IV, 436.  
1888. *Thenea muricata*, Sollas, Challeng. Rep. XXV, 95, Pl. VII, fig. 3.

This species, which is very common and widely distributed in the arctic and North-Atlantic ocean, is likewise common at East-Greenland and has been brought home in rather great numbers.

72° 25' lat. N., 19° 35' long. W. <sup>27/7</sup> 1891, depth 140 fathoms;  
70° 21' lat. N., 8° 25' long. W., <sup>26/6</sup> 1891, depth 160 fathoms  
(The Ryder-expedition 1891—92); south-east of Sabine-Island  
<sup>10/7</sup> 1900, depth 110 fathoms, a great many specimens (The  
Am-  
drup-expedition 1900); the East-coast of Greenland, depth  
130 fathoms (The Swedish arctic expedition 1883; Fristedt l. c.).

Fam. Geodiidae.

*Geodia* Lamarck.

*G. Barretti* Bow.

1858. *Geodia Barretti* Bowerbank, Phil. Trans. Roy. Soc., 279.  
1882. — — —, Vosmaer, Nederl. Arch. für Zool. Suppl. Band I, 23,  
Pl. III, figs. 50—51, Pl. IV, figs. 120—122.  
1887. — — —, Fristedt, Vega-Exp. vetensk. Iakttag. IV, 463.  
1888. — — —, Sollas, Challeng. Rep. XXV, 250.

Of this species we have a somewhat damaged specimen, it measures 10 cm in greatest diameter.

At Angmagsalik <sup>18/9</sup> 1900, depth 140 fathoms (The Am-  
drup-  
expedition 1900); further it has been taken at East-Greenland,  
depth 130—140 fathoms (The Swedish arctic expedition; Fri-  
stedt l. c.).

*Hexactinellida.*

## Hexasterophora.

## Fam. Rossellidae.

*Schaudinnia* Schulze.*S. rosea* Frstdt.

1887. *Hyalonema rosea* Fristedt, Vega-Exp. vetensk. Iakktag. IV, 411, Pl. 23, figs. 1—11, Pl. 25, fig. 5.

Of this species we have an entire specimen which is elongately sack-shaped; it has a length of 90 mm and a diameter of about 30 mm, the body wall is at most 5 mm thick; above it is somewhat constricted towards the osculum which has a diameter of scarcely 15 mm and is provided with a marginal fringe. Further we have some fragments of a larger specimen in which the body wall is considerably thicker, up to 14 mm. The description which Fristedt gives of his *Hyalonema rosea* shows that he has only had fragments, and therefore he has got a wrong idea of the shape of the sponge. The spicules in my specimens agree completely with those described and figured by Fristedt. — I think it also beyond doubt, that the species is identical with *Schaudinnia arctica* Schulze (Faun. Arctica, I, 1900, 87, Tab. I, Fig. 1—6, Tab. II—III); the author declares (l. c. 108), that besides the three species of arctic Hexactinellids described in the work cited, only two other arctic species are known, collected on the Albatross-expedition; he thus evidently has overlooked the work of Fristedt. — The only thing which does, that I am not quite sure in my identification of the two species *rosea* and *arctica* is, that I have not been able to find the discohexasters, and such were not found by Fristedt too; otherwise the description by Schulze is quite agreeing, and f. inst. the pentactine hypodermalia with strong spines on the tangential rays are quite the same, and likewise the various forms of oxyhexasters and derivate-oxyhexactines as also the autodermal diactines.

With regard to the absence of the discohexasters I dare for the present say nothing sure, should they prove to be quite wanting, it seems to me, that the species would belong to the genus *Bathydorus*.

Forsblad-Fjord <sup>30</sup>/<sub>s</sub> 1900, depth 50—90 fathoms (The Amdrup-expedition 1900); Fristedt had the species from East-Greenland, depth 125 fathoms (The Swedish arctic expedition 1883). Schulze had his specimens from north of Spitzbergen in a depth of 530 fathoms.

Besides the above mentioned species we have further an indeterminable fragment of a species belonging to the *Rossellinae*, taken at Angmagsalik, depth 140 fathoms (The Amdrup-expedition 1900).

*Calcarea.*

## Homocoela.

## Fam. Asconidae.

*Leucosolenia* Bow.*L. coriacea* Mont.

1818. *Spongia coriacea* Montagu, Mem. Wernerian. II, 116.

1872. *Ascetta coriacea*, Haeckel, Die Kalkschwämme, II, 24, Taf. 3, Taf. 5, Fig. 2 a—c.

1898. *Leucosolenia coriacea*, Britfuss, Arch. für Naturgesch. 1898, 20.

This species is somewhat richly represented in the material; one specimen is of the *Nardorus*-form the others are of the *Auloplegma*-form; the largest specimen of these latter has a greatest extent of 25 mm. The colour is brown or grey.

Tasiusak <sup>1</sup>/<sub>6</sub> 1899, depth 25—30 fathoms (The Amdrup-expedition 1898—99); Tasiusak <sup>23</sup>/<sub>s</sub> 1902, depth 30—50 fathoms (Kruuse); 70° 32' lat. N., 8° 10' long. W., depth 470 fathoms (The Ryder-expedition 1891—92).

*L. Lamarckii* Haeck.

1872. *Ascaltis Lamarckii* Haeckel, Die Kalkschwämme, II, 60, Taf. 9, Fig. 5, Taf. 10, Fig. 4 a—d.

1874. — — Haeckel, Die zweite deutsche Nordpolarfahrt, II, 434.

This species is not represented in our collections; it has been taken at North-Shannon (Die zweite deutsche Nordpolarfahrt; Haeckel l. c.).

*L. Nanseni* Breiffuss.

1898. *Leucosolenia Nanseni* Breiffuss, Zool. Jahrbüch. XI, 166, Taf. 12, Fig. 1—9.

1898. — — Breiffuss, Arch. für Naturgesch. 1898, 21.

A number of small, cylindrical, but only slightly connected individuals, each with an osculum, growing on a Hydroid; the whole has an extent of about 8 mm. I think it probable, that the *Ascaltis coriacea* mentioned by Fristedt (Vega-Exp. vetensk. lakttag. IV, 405, Pl. 22, figs. 1—2) belongs to the present species, with which the mentioned and figured spicules seem to agree.

Angmagsalik <sup>23</sup>/<sub>3</sub> 1901 (Søren Nielsen). In case Fristedt's *A. coriacea* belongs here, it has also been taken at East-Greenland, depth 350 fathoms (The Swedish arctic expedition 1883).

*Ascandra* (Haeck) v. Lendenf.

*A. complicata* Mont.

1818. *Spongia complicata* Montagu, Mem. Wernerian., II, 97.

1872. *Ascandra complicata*, Haeckel, Die Kalkschwämme, II, 93, Taf. 15, Fig. 1 a—k.

1898. — — , Breiffuss, Arch. für Naturgesch. 1898, 22.

Of this species we have a specimen which may be termed a *Soleniscus*-form, creeping on the leaf of a *Fucus*; it is extended along the leaf to a length of 35 mm.

Hekla-Havn, depth 5—12 fathoms (The Ryder-expedition 1891—92).

*A. Fabricii* O. Schmidt.

1870. *Leucosolenia Fabricii* O. Schmidt, Grundzüge einer Sponginf. des atlant. Gebiet. 73.

1872. *Ascartis Fabricii*, Haeckel, Die Kalkschwämme, II, 71, Taf. 11, Fig. 3, Taf. 12, Fig. 3 a—i.

1898. *Ascandra Fabricii*, Breiffuss, Arch. für Naturgesch. 1898, 22.

Of this species we have two small specimens, both be-

longing to the *Auloplegma*-form; the largest one grows on a *Lithothamnion* and has a greatest extent of about 15 mm.

East-Greenland, without more particular locality (The Ryder-expedition 1891—92); Tasiusak <sup>4</sup>/<sub>5</sub> 1899, depth 5—19 fathoms (The Amdrup-expedition 1898—99).

*A. variabilis* Haeck.

1872. *Ascandra variabilis* Haeckel, Die Kalkschwämme, II, 106, Taf. 16, Fig. 4 a—l, Taf. 18.

1898. — — , Breiffuss, Arch. für Naturgesch. 1898, 23.

Of this species we have a small specimen of the *Soleniscus*-form; it has an extent of only 5 mm.

Jan Mayen <sup>26</sup>/<sub>6</sub> 1900, depth 15 fathoms (The Amdrup-expedition 1900).

*Heterocoela*.

Fam. Syconidae.

*Sycon* Risso.

*S. ciliatum* O. Fabr.

1780. *Spongia ciliata* O. Fabricius, Faun. groenl. 448.

1872. *Sycandra ciliata*, Haeckel, Die Kalkschwämme, II, 296, Taf. 51, Fig. 1 a—t, Taf. 59, Fig. 9.

1898. *Sycon ciliatum*, Breiffuss, Arch. für Naturgesch., 1898, 23.

Of this for Greenland classical sponge there are only two specimens in the material, and they are both very small, of a length of only 5 mm.

70° 32' lat. N., 8° 10' long. W. <sup>27</sup>/<sub>6</sub> 1891, depth 470 fathoms (The Ryder-expedition 1891—92).

*Grantia* Flem.

*G. arctica* Haeck.

1872. *Sycandra arctica* Haeckel, Die Kalkschwämme, II, 353, Taf. 55, Fig. 1 a—v.

1898. *Grantia arctica*, Breiffuss, Arch. für Naturgesch. 1898, 26.

There are several specimens of this species in the material; they are all single persons with a long and fine oscular fringe which reaches a length of up to 10 mm. The largest specimen

has a height of 23 mm, including the oscular fringe. The specimens are cylindrical or somewhat pyriform.

Hurry-Inlet <sup>21</sup>/<sub>7</sub> and <sup>7</sup>/<sub>8</sub> 1900, depths 7 and 20 fathoms (The Amdrup-expedition 1900); Tasiusak <sup>1</sup>/<sub>6</sub> 1899, depth 25—30 fathoms (The Amdrup-expedition 1898—99) and Tasiusak <sup>22</sup>/<sub>8</sub> 1902, depth 30—50 fathoms (Kruuse).

*G. mirabilis* Frstedt.

1887. *Ascandra mirabilis* Fristedt, Vega-Exp. vetensk. Iakttag. IV, 406, Pl. 22, figs. 3—13, Pl. 26, figs. 1—2.  
1898. ———, Breiffuss, Arch. für Naturgesch. 1898, 26.

This species I have not examined; it is strange that Breiffuss l. c. records it as an *Ascandra*, since it is evident from the description by Fristedt, and especially from his figures, that the sponge is a *Grantia*; without examination of the type specimen it is impossible to say anything certain about the species, yet I am somewhat inclined to think it identical with *G. arctica*.

65° 40' lat. N., 35° 32' long. W., depth 25—30 fathoms (The Swedish arctic expedition 1883; Fristedt l. c.).

*G. capillosa* O. Schmidt.

1862. *Ute capillosa* O. Schmidt, Spong. des adriat. Meeres, 17, Taf. I, Fig. 6, 6 b.  
1872. *Sycandra capillosa*, Haeckel, Die Kalkschwämme, II, 317, Taf. 51, Fig. 3 a—t.  
1898. *Grantia capillosa*, Breiffuss, Arch. für Naturgesch. 1898, 26.

Of this species we have five specimens; they are cylindrical or somewhat compressed, and slightly curved, and they have a shorter or longer oscular fringe; the largest specimen has a height of 20 mm. When the dermal rhabds are not torn off the surface is highly and uniformly hispid. I determine the species as *capillosa*, but I must remark, that the dermal rhabds are not straight but generally somewhat curved.

Jan Mayen <sup>26</sup>/<sub>6</sub> 1900, depth 57 fathoms (The Amdrup-expedition 1900); Angmagsalik, depth 10—15 fathoms (Kruuse).

*G. pennigera* Haeck.

1872. *Sycandra compressa* var. *pennigera* Haeckel, Die Kalkschwämme, II, 362, Taf. 55, Fig. 2 sp.  
1898. *Grantia pennigera* Breiffuss, Arch. für Naturgesch. 1898, 27.

To this species I refer with some doubt three cylindrical, tubular specimens without oscular fringe; the specimens are not at all compressed; the largest specimen has a length of about 12 mm, the diameter is up to 2 mm, the body wall is very thin, only 0.25 mm. The surface is only slightly hispid. My reason for determining the species as *pennigera* is the shape of the dermal rhabds which is chiefly agreeing with the figure by Haeckel.

Hurry-Land <sup>21</sup>/<sub>7</sub> 1900, depth 20 fathoms (The Amdrup-expedition 1900).

*G. utriculus* O. Schmidt.

1870. *Ute utriculus* O. Schmidt, Grundzüge einer Spougienf. des atlant. Gebiet., 74, Taf. II, Fig. 27.  
1872. *Sycandra utriculus*, Haeckel, Die Kalkschwämme, II, 370, Taf. 55, Fig. 3 a—t, Taf. 58, Fig. 4.  
1898. *Grantia utriculus*, Breiffuss, Arch. für Naturgesch. 1898, 27.

Of this species there are six specimens in the collections; they are all sack-shaped, cylindrical or compressed, and they have all a single osculum; the osculum is not quite bare but in some of the specimens provided with a short fringe. (Specimens with a fringed osculum are also mentioned by Fristedt: Vega-Exp. vetensk. Iakttag. IV, 1887, 410). The specimens are not large, the largest one has a height of 26 mm. All specimens have the characteristic network, formed of strings of small rhabds, in the gastral cavity. In two respects the specimens seem to be somewhat different from the common description of the species; first the subgastral quadriradiates are present in very small number, and next the distal cones are somewhat visible; on account of these facts the sponge must be very nearly related to *Sycon lingua*, though the two species are for the present placed in different genera. It must

be remembered, that the presence of a network of small rhabds in the gastral cavity seems not to be a valid character, since Breitfuss has found the same gastral network in specimens of *Sycon raphanus* (Zool. Jahrbüch. Abth. für Systematik, XI, 1898, 110), and the same author also mentions (Mém. de l'Acad. Imp. de St. Petersb. VI, 1898, 22) specimens of *Grantia capillosa* which showed slight distal cones and which he therefore declares to be nearly related to *Sycon raphanus*.

Jan Mayen <sup>25</sup>/<sub>6</sub> 1900, depth 50—60 fathoms (The Amdrup-expedition 1900); Tasiusak <sup>25</sup>/<sub>5</sub> 1899, depth 15—20 fathoms, and <sup>1</sup>/<sub>6</sub> 1899, depth 25—30 fathoms (The Amdrup-expedition 1898—99); 70° 32' lat. N., 8° 10' long. W., depth 470 fathoms (The Ryder-expedition 1891—92).

#### Amphoriscus v. Lendenf.

##### *A. glacialis* Haeck.

1872. *Sycaltis glacialis* Haeckel, Die Kalkschwämme, II, 269, Taf. 45, Fig. 4—7.  
1874. — — Haeckel, Die zweite deutsche Nordpolarfahrt, II, 2, 435.  
1898. *Amphoriscus glacialis*, Breitfuss, Arch. für Naturgesch. 1898, 28.

This species I have not examined as it is not represented in our material; it was taken at North-Shannon (Die zweite deutsche Nordpolarfahrt; Haeckel l. c.).

#### Ebnerella v. Lendenf.

##### *E. Schulzei* Breitfuss.

1898. *Ebnerella Schulzei* Breitfuss, Zool. Jahrbüch. Abtheil. für Systematik, XI, 113, Taf. 13, Fig. 39—52.

We have of this interesting species only a small, tubular specimen of a length of 6 mm.

Forsblad-Fjord <sup>30</sup>/<sub>5</sub> 1900, depth 50—90 fathoms (The Amdrup-expedition 1900).

#### Fam. Leuconiidae.

##### *Leuconia* Grant.

##### *L. Egedii* O. Schmidt.

1870. *Sycinula Egedii* O. Schmidt, Grundzüge einer Spongienf. des atlant. Gebiet., 74.

1872. *Leucandra Egedii*, Haeckel, Die Kalkschwämme, II, 173, Taf. 32, Fig. 1 a—d.

1898. *Leuconia Egedii*, Breitfuss, Arch. für Naturgesch. 1898, 29.

We have two specimens of this species, both single persons, one is somewhat compressed, and with a well developed oscular fringe, the other is of an irregular shape, with a small circular osculum which is turned to one side and has a small fringe. The specimens have a height of about 10 mm.

Jan Mayen <sup>25</sup>/<sub>6</sub> 1900, depth 50—60 fathoms (The Amdrup-expedition 1900); Tasiusak <sup>19</sup>/<sub>5</sub> 1899, depth 20 fathoms (The Amdrup-expedition 1898—99).

It will be seen, that according to the above list fifteen *Calcareia* are at present known to occur in the sea at East-Greenland, viz:

- Leucosolenia coriacea* Mont.  
*Leucosolenia Lamarckii* H.  
*Leucosolenia Nanseni* Breitf.  
*Ascandra complicata* Mont.  
*Ascandra Fabricii* O. S.  
*Ascandra variabilis* H.  
*Sycon ciliatum* O. Fabr.  
*Grantia arctica* H.  
*Grantia mirabilis* Frstdt.  
*Grantia capillosa* O. S.  
*Grantia pennigera* H.  
*Grantia utriculus* O. S.  
*Amphoriscus glacialis* H.  
*Ebnerella Schulzei* Breitf.  
*Leucandra Egedii* O. S.

Hitherto only four species were known, viz:

- Leucosolenia coriacea* (? = *Nanseni* se under this species).  
*Leucosolenia Lamarckii*.

*Grantia mirabilis.**Amphoriscus glacialis.*

These species were published respectively by Haeckel (Die zweite deutsche Nordpolarfahrt 1874), and by Fristedt (Vega-Exp. vetensk. Iakttag. IV, 1887). Breitfuss has published at list of the arctic *Calcarea* in which their distribution in the various subregions are given (Mém. de l'Acad. Imp. de St. Petersb. VI, 1898, 7), and here he has under «Öst-Grönland» sixteen species, but this is erroneous, as there were at that time only known the above mentioned four species; Breitfuss has evidently made the error of counting all at that time known species, both from West- and East-Greenland as East-Greenlandic. In the same authors "Katalog der arktischen Kalkschwämme" (Arch. für Naturgesch. 1898, 19) he also gives the locality East-Greenland only to the four species enumerated above.

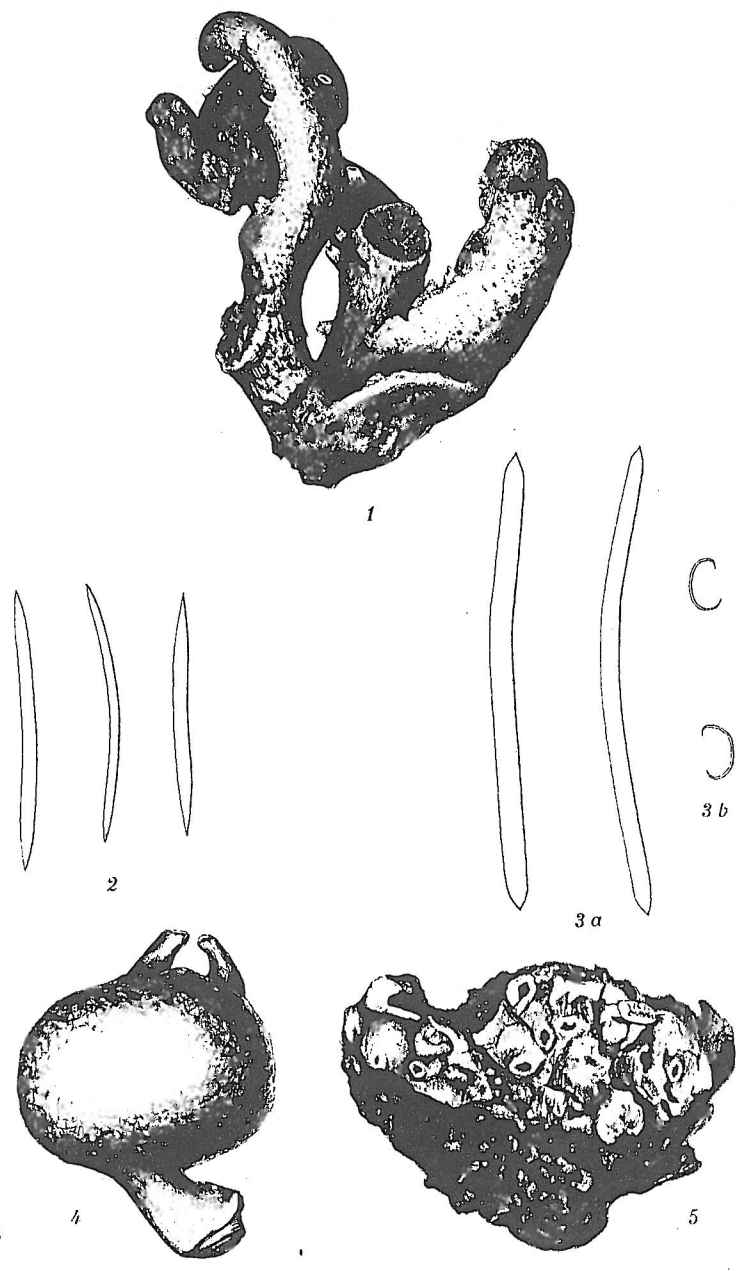
*Myxospongia.*Fam. *Halisarcidae.**Halisarca* Dujardin.*H. Dujardini* Johnst.

1842. *Halisarca Dujardini* Johnston, Brit. Spong. and Lithophyt., 192,  
Pl. XVI, fig. 8.  
1874. — — —, Haeckel, Die zweite deutsche Nordpolarfahrt,  
II, 2, 436.

This species is not present in our collections, but it has been taken at East-Greenland, North-Shannon (Die zweite deutsche Nordpolarfahrt; Haeckel l. c.).

## Plate XIV.

- Fig. 1. *Suberites carnosus* Johnst., a richly branched specimen, several spout-shaped oscula are seen  $\frac{1}{1}$ .  
Fig. 2. *Reniera cinerea* Grant, oxea  $\times 225$ .  
Fig. 3. *Gellius varius* Bow., a. oxea, b. sigmata  $\times 225$ .  
Fig. 4. *Polymastia uberrima* O. S., a curious, globular, stalked specimen.  $\frac{1}{1}$ .  
Fig. 5. *Forcepia fabricans* O. S., a fragment: oscular papillæ are seen.



E. Bang et Lundbeck del.

Pacht & Grøne phototyp.