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James A. Grieg

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**Decapoda Crustacea**

from the West Coast of Norway and  
the North Atlantic

Bergens Museums Aarbok 1926.  
Naturvidenskabelig række  
Nr. 7.



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With 1 figure in the Text.

In his work "Die decapoden Crustaceen" Professor Appelløf gives a list of the Decapods collected on the Norwegian west coast, south of Stat. Mr. Wollebæk in his "Report on Decapod Crustaceans" mentions some of the species and so does Mr. Nordgaard in "Faunistiske og biologiske iakttagelser ved den Biologiske station i Bergen". Grieg has also in "Bidrag til kundskaben om Hardangerfjordens fauna" a list of the Decapods from the Hardangerfjord.

In the present paper I am going to describe some rare Decapods, which in recent years have been collected on the west coast of Norway. And I shall also give a list of the many Decapods collected by the "Michael Sars" from 1900 to 1914 during her expeditions along the Norwegian coast and in the Northern Atlantic. The decapod material obtained by the "Michael Sars" in 1910 in the North Atlantic is, however, going to be described by Mr. O. Sund in the "Report of the Scientific Results of the "Michael Sars" North Atlantic Deep Sea Expedition 1910".

Though, as stated before, both Appelløf and Wollebæk have already reported on the Decapods from the "Michael Sars", and though Sund has described the genus *Pasiphaea*, no proper list of all the Decapods has ever been published before.

There were also a great many larvae of Decapods in the plankton, but as this material is not yet worked up, I am not including them in this paper.

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## NATANTIA.

### *Sergestes arcticus*, Kr.

This species was first found by Metzger in the Korsfjord, 620 m. Later Sars obtained it off Florø, ca. 200 m. and at Mosterhavn, ca. 300 m. and Wollebæk has got it in the Radøfjord, 170 m. and the Nordalsfjord near Florø, ca. 90 m. In 1906 the "Michael Sars" obtained it between Øystese and Herand in the Hardangerfjord, 860 m. (St. 310). And it was collected by the "Armauer Hansen" in the Sognefjord: off Kvamsø, 700 m., 800 m., 1200 m. and 1600 m. wire, between the Finnefjord and Vangsnes, 1600 m. wire, and off Frønningen, 900 m. and 1200 m. wire. In the Aardalsfjord, 1000 m. wire and in the Lysterfjord, ca. 200 m. *Sergestes arcticus* is also known from the Bergenfjord, 400—450 m., from the Hjeltefjord, 500 m. wire and from the Mangerfjord, 200—300 m. Nordgaard has taken the larvae of this species in the Bergenfjord and Johnsen has found it in the Gansfjord near Stavanger, 160 m.

*Sergestes arcticus* was obtained by the "Michael Sars" in the following localities:

- |           |        |  |                  |                                   |
|-----------|--------|--|------------------|-----------------------------------|
| 1900, St. | 7,     | Lat. 63° 6' N.,  | Long. 2° 46' E., | 915 m.—1.07° C.                   |
| "         | 46,    | " 69° 13' N.,  | " 10° 40' E.,    | vertical dredging,<br>1000—0 m.   |
| 1902, "   | 82,    | Lat. 61° 9' N.,  | " 9° 54' W.,     | vertical dredging,<br>200—150 m.  |
| 1906, "   | 99,    | Off Aalesund, 850 m. wire.                               |                  |                                   |
| "         | 297,   | The Hjørundfjord, 439 m.                                 |                  |                                   |
| "         | 310,   | Between Øystese and Herand in the Hardangerfjord, 860 m. |                  |                                   |
| "         | 366,   | Lat. 66° 5' N.,  | Long 3° 14' E.   |                                   |
| "         | 381,   | " 68° 50' N.,  | " 12° E.,        | 200 m. wire.                      |
| "         | 398 a, | The Hjørundfjord, 400 m.                                 |                  |                                   |
| "         | 450,   | The Hjørundfjord, 400 m.                                 |                  |                                   |
| 1907, "   | 77,    | Lat. 65° 57' N.,   | Long. 6° 38' E., | vertical dredgings,<br>250—200 m. |

- 1907, St. 78, Lat.  $65^{\circ} 59' N.$ , Long.  $4^{\circ} 48' E.$ , horizontal dredging, 75 m. (young specimens), 100 m. (rather older specimens) 350—300 m. (full grown specimens).  
 „ 79, Lat.  $65^{\circ} 41' N.$ , Long.  $8^{\circ} 35' E.$ , vertical dredging, 350—300 m.

As well as from these localities in the Sognefjord, the “Armauer Hansen” has found *Sergestes arcticus* (May 1914) at the following two stations outside “Tampen”.

- St. 2, Lat.  $63^{\circ} 2' N.$ , Long.  $2^{\circ} 41' E.$ , 900 m. wire.  
 „ 3, „  $62^{\circ} 1' N.$ , „  $0^{\circ} 8' E.$ , 1000 m. and 1500 m. wire.

***Hymenodora glacialis*, Buchh.**

This species was taken by the “Michael Sars” at the following stations:

- 1900, St. 7, Lat.  $63^{\circ} 6' N.$ , Long.  $2^{\circ} 46' E.$ , 915 m.—1.07 C.  
 „ 10, „  $64^{\circ} 53' N.$ , „  $10^{\circ} W.$ , 630 m.—0.69 C., and a horizontal dredging in 1000 m. wire.  
 „ 34, Lat.  $70^{\circ} 15' N.$ , Long.  $2^{\circ} 30' W.$ , vertical dredging 1000—500 m.  
 „ 46, Lat.  $69^{\circ} 13' N.$ , Long.  $10^{\circ} 40' E.$ , horizontal dredging 1000 m. wire.  
 1902, „ 36 b, Lat.  $63^{\circ} 12' N.$ , Long.  $1^{\circ} 56' E.$ , 1320 m.  
 „ 55, „  $62^{\circ} 40' N.$ , „  $1^{\circ} 56' E.$ , 670 m.—0.21 C.  
 „ 102, „  $63^{\circ} 13' N.$ , „  $6^{\circ} 32' W.$ , 1783 m.—0.41° C.  
 1905, „ 10, „  $63^{\circ} 44' N.$ , „  $2^{\circ} 33' W.$ , horizontal dredging 1000 m. wire.  
 „ 11, Lat.  $64^{\circ} 1' N.$ , Long.  $3^{\circ} 23' W.$ , horizontal dredging 1000 m. wire.

In May 1914, the “Armauer Hansen” obtained this species at the following localities:

- St. 2, Lat.  $63^{\circ} 2' N.$ , Long.  $2^{\circ} 41' W.$ , 900 m. wire, the temperature at the depth of 600 m. was  $0.11^{\circ} C.$   
 „ 3, Lat.  $62^{\circ} 10' N.$ , Long.  $0^{\circ} 8' E.$ , 1000 m. and 1500 m. wire. At the depth of 500 m. the temperature was  $-0.36^{\circ} C.$  and at about 1400 m. it was  $-0.74^{\circ} C.$  (bottom).

St. 4, Lat. 62° 15' N., Long. 0° 15' E., 1000 m. wire. The temperature at the depth of 600 m. was 1.7° C., at 700 m. it was -0.78° C. and at ca. 800 m. it was -0.23° C. (bottom).

For information concerning *Hymenodora glacialis* present in the two last localities see Grieg (2).

### *Pasiphæa multidentata*, Esm.

This species, which most authors refer to as *Pasiphæa tarda*, Kr, (cf. Sund) seems to be widespread in the fjords of our west coast. There are in the Bergen Museum specimens from the Ryfylkefjord, the Korsfjord, the Hjeltefjord, the Bergenfjord, the Herdlaifjord, the Mangerfjord, the Frøisjø and the Sognefjord, where it goes as far in as Lyster. Sars (2) speaks of it, as *Pasiphæa norvegica*, from Mosterhavn and from Utne in the Hardangerfjord.

It seems that *Pasiphæa multidentata* has been recorded along the Norse coast from the Oslofjord to the Malangen.

The "Michael Sars" has collected it at the following stations:

|       |         |                      |                   |                |                   |
|-------|---------|----------------------|-------------------|----------------|-------------------|
| 1900, | St. 97, | Lat. 63° 6' N.,      | Long. 2° 46' E.,  | 915 m.,        | -1.07° C.         |
| 1902, | " 37,   | " 62° 43' N.,        | " 1° 26' E.,      | 775 m.         |                   |
|       | " 79b,  | " 61° 7' N.,         | " 7° 50' W.,      | 1100 m.,       | 8.07° C.          |
| 1904, | " 212,  | " 57° 41' N.,        | " 5° 35' E.,      | 100 m.,        | 6° C.             |
| 1905, | " 8,    | " 62° 35' N.,        | " 0° 49' W.,      | 9 m.,          | (Young specimen). |
|       | " 24,   | Lat 64° 39' N.,      | " 1° 53' W.,      | 600 m.         |                   |
| 1906, | " 4,    | The Hjeltefjord,     |                   | 180 m.         |                   |
|       | " 84,   | One mile E. S E. off | Skallerskjær,     | Bud.           |                   |
|       | " 90,   | Lat. 60° 43' N.,     | Long. 4° 27' E.,  | 380 m.         |                   |
|       | " 99,   | " 62° 31' N.,        | " 9° 6' E.,       | 85 m. wire.    |                   |
|       | " 297,  | The Hjørundfjord,    |                   | 439 m.         |                   |
|       | " 304,  | The Sulenfjord,      | Sunnmør,          | 400 m.         |                   |
|       | " 316,  | Off Risør,           |                   | 200-80 m.      |                   |
|       | " 398a, | The Hjørundfjord,    |                   | 400 m.         |                   |
|       | " 450,  | The Hjørundfjord,    |                   | 400 m.         |                   |
| 1907, | " 82,   | Lat. 65° 27' N.,     | Long. 11° 48' E., | about 300 m.   |                   |
|       |         |                      |                   | and 200-150 m. |                   |
| 1908, | " 125,  | Jelsa, Ryfylke,      |                   | 40 m.          |                   |
| 1911, | " 9,    | The Sognefjord,      |                   | 650 m.         |                   |

Some females in berry of this species were taken by Nordgaard on July 16th 1897, and June 16th 1902 in the Herdlafjord. Among the Bergen Museum material I have found females in berry, with the following data:

- January 16th. 1899, The Beistadjord, some of the embryos with eyes developed.
- „ 18th. 1899, Gulosen, the embryos not yet showing eyes.
- „ „ „ Korsfjord, the embryos not yet showing eyes.
- April 14th. „ Malangen, the embryos not yet showing eyes.
- March 28th. 1902, The Herdlafjord. Embryos far advanced.
- May 5th. 1917, The Sognesjø, the embryos not yet showing eyes.
- „ 22th. „ The Sognefjord, the embryos not yet showing eyes.
- June 16th. 1904, the "Michael Sars" St. 212, the embryos not yet showing eyes.
- „ 29th. 1902, the "Michael Sars" St. 37, embryos with eyes developed.
- July 17th. 1916, The Bergensfjord, the embryos not yet showing eyes.
- „ 30th. 1902, Torungen, embryos with eyes developed.
- August 14th. 1902, the "Michael Sars" St. 79 b, embryos with eyes developed.
- „ 15th. 1902, The Grønsfjord, Farsund. Some of the embryos with eyes developed.
- „ 14th. 1902, Drøbaksund, Some of the embryos with eyes developed.
- September 2d. 1913, The Bergensfjord, embryos far advanced.

It is obvious that the breeding season of this species must stretch over a longer period, for berried females of *Pasiphæa multidentata*, were found in the same month with the eggs at quite a different stage of development. Still more convincing evidence is given by the fact that mature eggs with embryos in advanced stage were found in March and in September. It cannot be due to hydrographical conditions, as the Herdlafjord and the Bergensfjord join each other, it is therefore, as Wollebæk (2) points out, very likely there are two breeding seasons.

***Pasiphæa principalis*, Sund.**

The "Michael Sars" has collected this species at the following stations:

- 1900, St. 13, Lat. 66° 42' N., Long. 26° 14' W., 550 m., 0.1° C.  
 „ 46, „ 68° 13' N., „ 10° 40' E., horizontal dredging 400 m., vertical dredging 1000—0 m.  
 1901, „ 43, Lat. 68° 57' N., Long. 12° 48' E., vertical dredging 1000—0 m.  
 N. of Andenæs, horizontal dredging 250 m. and 450 m.  
 1902, „ 76b, Lat. 59° 23' N., Long. 7° 50' W., 1100 m., 8.07° C.  
 „ 79b, „ 61° 7' N., „ 9° 33' W., 750 m.  
 1911, „ 9, The Sognefjord, 650 m. and 750 m.

A specimen of *Pasiphæa principalis* was found on June 5th. 1919 in the Mangerfjord among the *Pasiphæa multidentata*. Besides the material from the "Michael Sars" we have in the Bergen Museum a specimen taken by Nordgaard on February 17th. 1899 in the Øxsund, 600 m.

From St. 79b (August 14th. 1902) there was a female specimen in berry where the embryos were not yet showing eyes.

***Pasiphæa tarda*, Kr.**

This species was obtained by the "Michael Sars" at the following stations:

- 1901, St. 101, Lat. 58° 10' N., Long. 9° 53' E., 430—300 m.  
 „ 102, „ 58° 14' N., „ 9° 55' E., 515—430 m.

In the eggs of one female specimen from St. 101 (September 9th. 1901) the embryos had not yet developed eyes.

***Pasiphæa sivado*, Risso.**

This species was taken by the "Michael Sars" at the following station:

- 1002, St. 88, Lat. 63° 9' N., Long. 13° 27' W., 880 m., 5.07° C.



A few specimens of this species have lately been taken in the Mangerfjord, 200–300 m., and in the Hjeltefjord, 300 m. and 500 m. wire. In the Bergen Museum there are specimens from the Oslofjord and the Langesundfjord. Sars (3) says he has obtained the species from several places along our west coast.

***Acanthephyra multispina*, Cout.**

This species was got by the "Michael Sars" at the following station:

1902, St. 76b, Lat. 59° 23' N., Long. 7° 50' W., 1100 m., 8.07 °C.

***Nematocarinus sp.***

The „Michael Sars" obtained this species at the following station:

1902, St. 76b, Lat. 59° 23' N., Long. 7° 50' W., 1100 m., 8.07° C.  
The specimen was very badly mutilated.

***Pandalus borealis*, Kr.**

This species was obtained by the „Michael Sars" at the following stations:

|           |        |                    |                     |              |                 |
|-----------|--------|--------------------|---------------------|--------------|-----------------|
| 1900, St. | 15,    | Lat. 66° 45' N.,   | Long. 15° 36' W.,   | 200 m.,      | 2.39° C.        |
|           | „ 52,  | Østerbotten,       | the Porsangerfjord, | 90–100 m.    | — 1.15° C.      |
|           | „ 54,  | The mouth of the   | Porsangerfjord,     | 280 m.       |                 |
|           | „ 62,  | Lat. 74° 19' N.,   | Long. 16° 50' E.,   | 280 m.       |                 |
| 1901, „   | 83,    | Twentytwo quarters | of a mile S. E. of  | Bear Island, | 130 m., 0.5° C. |
|           | „ 87,  | Green Harbour,     | Spitzbergen,        | 140 m.,      | 1.1° C.         |
|           | „ 88,  | The Icefjord,      | Spitzbergen,        | 260 m.,      | 1.4° C.         |
|           | „ 96,  | Lat. 70° 49' N.,   | Long 33° 46' E.,    | 215 m.,      | 1.6° C.         |
|           | „ 103, | „ 58° 20' N.,      | „ 9° 50' E.,        | 550 m.       |                 |
| 1902, „   | 47,    | „ 60° 57' N.,      | „ 3° 42' E.,        | 350 m.,      | 6.16° C.        |
| 1904, „   | 275,   | „ 57° 9' N.,       | „ 1° 30' W.,        | 96 m.,       | 6.15° C.        |

- 1904, St. 281, Lat. 58° 34' N., Long. 3° 6' E., 107 m., 6.4° C.  
 „ 293, „ 59° 42' N., „ 0° 42' E., 123 m.  
 1905, „ 72, „ 74° 12' N., „ 17° 18' E., 200—215 m.,  
 1.82—2° C.  
 1906, „ 4, The Hjeltefjord, 180 m.  
 „ 56 a, The Hjørundfjord, 253 m.  
 „ 311, Three quarters of a mile off Obrestad, Jæren,  
 150—230 m.  
 „ 316, Off Risør, 80—200 m.  
 „ 324, Lat. 57° 44' N., Long. 9° 33' E., 85—100 m.  
 „ 326, Thirty quarters of a mile N. off Hirshals., 170 m.  
 1907, „ 77, Lat. 65° 57' N., Long. 6° 35' E., 250—200 m.  
 „ 78, „ 65° 59' N., „ 4° 48' E., 200 m.  
 „ 79, „ 65° 41' N., „ 8° 35' E., 300—250 m.  
 „ 81, „ 65° 36' N., „ 10° 50' E., ca. 100 m.  
 „ 82, „ 65° 27' N., „ 11° 48' E., ca. 300 m.  
 1908, „ 113, Tungenes in SE. to S., Alsteinen in SW., ca. 100 m.  
 „ 115, Abreast of Kopervik, Karmsund, 108 m.  
 1909, „ 108, Lat. 70° 32' N., Long. 18° 17' E., (Nordreisa), 300 m.  
 „ 146, The Kaafjord, Lyngen.  
 „ 174, The Plateau off Tromsø, 210 m.  
 1914, „ 5, Lat. 70° 7—8' N., Long. 30° 52—54' E., 227 m.,  
 2.43° C.  
 „ 6, Lat. 70° 9—10' N., Long. 30° 52—55' E., 199—209 m.  
 „ 53, „ 74° 4' N., Long. 34° 7' E., 300 m., 0.70° C.

In the Bergen Fjords berried females are met in September to February and March, in Northern Norway in August to April (Dons, Kjær). At Spitzbergen the first berried individuals are seen early in July (Grieg 3).

*Pandalus montagui*, Leach.

This species was obtained by the "Michael Sars" at the following stations:

- 1900, St. 40, Ofoten, 0—6 m.  
 „ 52, Østerbotten, the Porsangerfjord, 90—100 m.  
 — 1.15° C.

- 1900, St. 53, Kistrand, the Porsangerfjord, littoral.  
 ,, 59, Honningsvaag, littoral.  
 1901, ,, 60, The Baadsfjord, 60—70 m.  
 1902, ,, 31, The Borgundfjord, Sunnmør, 80 m.  
 ,, 44, Lat.  $62^{\circ} 16' N.$ , Long.  $6^{\circ} 6' W.$ , 110 m.  
 ,, 51, ,,  $61^{\circ} 40' N.$ , ,,  $3^{\circ} 11' E.$ , 400 m.,  $6.34^{\circ} C.$   
 ,, 83, ,,  $62^{\circ} 29' N.$ , ,,  $7^{\circ} 37' W.$ , 120 m.,  $8.71^{\circ} C.$   
 ,, 90, ,,  $64^{\circ} 17' 3'' N.$ , Long.  $14^{\circ} 44' E.$ , 75 m.,  $5.12^{\circ} C.$   
 1903, ,, 181, ,,  $66^{\circ} 13' N.$ , Long.  $25^{\circ} 10' W.$   
 ,, 194, The Seydisfjord, Iceland.  
 1904, ,, 269, Lat.  $56^{\circ} 50' N.$ , Long.  $1^{\circ} 36' W.$ , 86 m.,  $8.4^{\circ} C.$   
 ,, 271, ,,  $57^{\circ} 12' N.$ , ,,  $1^{\circ} 8' W.$ , 63 m.,  $8.4^{\circ} C.$   
 ,, 273, ,,  $57^{\circ} 11' N.$ , ,,  $0^{\circ} 11' E.$ , 78 m.,  $7^{\circ} C.$   
 ,, 278, ,,  $57^{\circ} 37' N.$ , ,,  $3^{\circ} 37' E.$ , 77 m.,  $6.7^{\circ} C.$   
 ,, 281, ,,  $58^{\circ} 34' N.$ , ,,  $3^{\circ} 6' E.$ , 107 m.,  $6.4^{\circ} C.$   
 ,, 295, ,,  $60^{\circ} 30' N.$ , ,,  $0^{\circ} 24' W.$ , 107 m.  
 ,, 351, ,,  $59^{\circ} 35' N.$ , ,,  $1^{\circ} 30' E.$ , 110 m.  
 ,, 352, ,,  $59^{\circ} 10' N.$ , ,,  $3^{\circ} 48' E.$ , 123 m.  
 1906, ,, 4, The Hjeltefjord, 180 m.  
 ,, 69, Giske, Sunnmør, 10—40 m.  
 ,, 98, Lat.  $61^{\circ} 49' N.$ , Long.  $0^{\circ} 9' E.$ , 224 m.  
 ,, 170, ,,  $62^{\circ} 45' N.$ , ,,  $7^{\circ} 40' E.$   
 ,, 222, ,,  $62^{\circ} 30' N.$ , ,,  $5^{\circ} 44' E.$ , 150 m.  
 ,, 269, Flemsø, Fjertoft, Sunnmør, 110 m.  
 ,, 284, Lat.  $61^{\circ} 43' N.$ , Long.  $1^{\circ} 16' E.$ , 190 m.,  $7.7^{\circ} C.$   
 ,, 290, ,,  $60^{\circ} 40' N.$ , ,,  $2^{\circ} 34' E.$ , 130 m.  
 ,, 297, The Hjørundfjord, 439 m.  
 ,, 299, The Skreigrund off Aalesund, 75—80 m.,  $6.8^{\circ} C.$   
 ,, 304b, The Sulenfjord, 68—100 m.  
 ,, 304d, The Sulenfjord, 100 m.  
 ,, 311, Three quarters of a mile off Obrestad, Jæren,  
 150—230 m.  
 ,, 324, Lat.  $57^{\circ} 44' N.$ , Long.  $9^{\circ} 53' E.$ , 85—100 m.  
 ,, 326, Thirty quarters of a mile N. off Hirshals, 170 m.  
 ,, 395, The Hjørundfjord, 200 m.  
 1914, ,, 4, Lat.  $70^{\circ} 11-12' N.$ , Long.  $30^{\circ} 41' E.$ , 115—124 m.,  
 $4.2^{\circ} C.$

Norman (3) mentions this species from Finnmark; Birula (1) reports it from the coast of Murman, and Hoek and D'Urban from the Barent Sea. (The "Willem Barents" 1878, St. 11. Lat.  $76^{\circ} 58' N.$ , Long.  $45^{\circ} 40' E.$ , 110 fathoms).

Nordgaard (1) has found females of this species with the eggs showing eyed embryos in the months of March and April (the Beistadfjord March 3d. 1900, Malangen April 15th. 1899, and Stønnesbotten April 15th. 1899). In the eggs of one female from Malangen the embryos had not yet developed eyes. Nordgaard (2) speaks of a female with well developed eggs from Røvær, March 3d. 1902. In the Bergen Museum there is also among the material of the "Michael Sars" a female with embryos not yet showing eyes; it was taken at St. 98, April 18th. 1906. Two females with the embryos far advanced were obtained at St. 60, June 7th. 1901, the Baadsfjord. I find the material too small, for one to draw any conclusion from it as to the spawning season of *Pandalus montagui*; but at least it does not seem to confirm Wollebæk's (2) statement that "the breeding season is much the same as that of *Pandalus borealis*". Dons has found the breeding season variabel. Little developed eggs are met from March to June.

### *Pandalus propinquus*, G. O. Sars.

We have this species collected by the "Michael Sars" at the following stations:

- 1904, St. 380, The Norwegian channel south of Arendal, 600 m.
- 1906, ,, 297, The Hjørundfjord, 439 m.
- ,, 307b, Storeggen, 310 m.

Among the material in the Bergen Museum there are females in berry taken on the following dates:

- 1919, November 28th., The Mangerfjord, the embryos not yet showing eyes.
- 1902, March 10th., The Selbjørnfjord, the embryos with eyes developed.
- ,, 12th., Bømmelhuk, the embryos with eyes developed (cf. Nordgaard 2).

1899, March 28th., The Tysfjord, the embryos with eyes developed.  
 April 14th., Malangen. Embryos far advanced (cf. Nordgaard 1).

Judging from this material it looks as though the spawning season for this species is the same as that of *Pandalus borealis*. Wollebæk (2) has also come to the same conclusion.

***Pandalus bonnieri*, Caull.**

This species was obtained by the "Michael Sars" at the following stations:

|           |       |                              |                  |                  |
|-----------|-------|------------------------------|------------------|------------------|
| 1902, St. | 37,   | Lat. 62° 43' N.,             | Long. 1° 26' E., | 775 m.           |
| "         | 47,   | " 60° 47' N.,                | " 3° 42' E.,     | 350 m., 6.16° C. |
| "         | 48,   | " 61° N.,                    | " 2° 53' E.,     | 275 m., 7.94 C.° |
| "         | 50,   | " 61° 14' N.,                | " 2° 13' E.,     | 155 m.           |
| "         | 51,   | " 61° 40' N.,                | " 3° 11' E.,     | 400 m., 6.34° C. |
| 1904, "   | 284,  | " 58° 21' N.,                | " 4° 30' E.,     | 292 m., 5.9° C.  |
| 1906, "   | 56 a, | The Hjørundfjord, 150—200 m. |                  |                  |
| "         | 120,  | The Hjørundfjord, 420 m.     |                  |                  |
| "         | 284,  | Lat. 61° 43' N.,             | Long. 1° 16' E., | 190 m., 7.2° C.  |
| "         | 286,  | " 61° 15' N.,                | " 1° E.,         | 170 m., 7.2° C.  |
| "         | 295,  | The Hjørundfjord, 250—350 m. |                  |                  |
| "         | 297,  | The Hjørundfjord, 439 m.     |                  |                  |

***Pandalina brevirostris*, Rathke.**

This species was taken by the "Michael Sars" at the following stations:

|           |      |                         |                  |                 |
|-----------|------|-------------------------|------------------|-----------------|
| 1904, St. | 281, | Lat. 58° 34' N.,        | Long. 3° 6' E.,  | 107 m., 6.4° C. |
| "         | 351, | " 59° 35' N.,           | " 1° 30' E.,     | 110 m.          |
| "         | 352, | " 59° 10' N.,           | " 3° 48' E.,     | 123 m.          |
| 1905, "   | 30,  | " 62° 43' N.,           | " 3° 42' E.,     | 200 m.          |
| 1906, "   | 4,   | The Hjeltefjord, 180 m. |                  |                 |
| "         | 222, | Lat. 62° 30' N.,        | Long. 5° 44' E., | 270 m.          |
| "         | 283, | The Borgundfjord, 80 m. |                  |                 |
| "         | 284, | Lat. 61° 43' N.,        | Long. 1° 16' E., | 190 m., 7.7° C. |
| "         | 286, | " 61° 15' N.,           | " 1° E.,         | 170 m., 7.2° C. |

- 1906, St. 299, The Skreigrund off Aalesund, 75—80 m., 6.8° C.  
 „ 304b, The Sulenfjord, 65—75 m.  
 „ 311a, Three quarters of a mile off Obrestad, Jæderen,  
 50—100 m.  
 „ 314, Three quarters of a mile E. off Risør, 50—75 m.  
 1908, „ 113, Tungenes in SE. to S., Alsteinen in SW., ca. 100 m.

Concerning this species Wollebæk (2) remarks, “In contradistinction, to *Pandalus borealis* we see that *Pandalina brevirostris* spawns in the spring, and that the larvae are hatched in the summer”. I have taken in June and July at Jondal in the Hardangerfjord and in June at Vik in the Sognefjord several females in berry at which the ova were quite recently issued from the ovaries.

I give below a list of the material of this species in the Bergen Museum.

- March 14th. 1902, Røvær, the embryos not yet showing eyes.  
 „ 23th. 1900, The Østnesfjord, the embryos not yet showing eyes.  
 „ 26th. „ Balstad, the embryos not yet showing eyes.  
 „ 31st. „ Arnø, the embryos not yet showing eyes.  
 April 5th. „ The Saltenfjord, the embryos not yet showing eyes.  
 June 18th. 1902, Vindenespol, the embryos not yet showing eyes.  
 „ 25th. 1906, “Michael Sars” St. 286, the embryos with eyes developed.  
 „ „ „ The Borgundfjord, the embryos with eyes developed.  
 „ 26th. 1899, Vindenespol, the embryos not yet showing eyes.  
 July 3d. 1908, “Michael Sars” St. 113, the embryos not yet showing eyes.  
 „ 4th. 1902, The Herdlafjord, the embryos not yet showing eyes.  
 August 27th. 1904, “Michael Sars” St. 351, the embryos not yet showing eyes.  
 „ 28th. „ “Michael Sars” St. 352, the embryos not yet showing eyes.

From this list it is seen that the larvae may hatch out during the summer, but undoubtedly the bulk of them are hatched during the autumn.

***Spirontocaris lilljeborgi*, Dan.**

The "Michael Sars" collected this species at the following stations:

- |       |         |   |                     |
|-------|---------|---|---------------------|
| 1900, | St. 54, | The mouth of the Porsangerfjord,                | 280 m.              |
| 1901, | „ 60,   | The Baadsfjord,                                 | 60—70 m.            |
| 1902, | „ 31,   | The Borgundfjord,                               | 80 m.               |
| 1903, | „ 141,  | Lat. 57° 11' N., Long. 1° 50' W.,               | 100 m.              |
| 1904, | „ 263,  | „ 55° 44' N., „ 1° 49' E.,                      | 77 m., 7.1° C.      |
|       | „ 265,  | „ 56° 7' N., „ 0° 42' E.,                       | 80 m., 6.7° C.      |
|       | „ 269,  | „ 56° 50' N., „ 1° 36' W.,                      | 68 m., 8.4° C.      |
|       | „ 271,  | „ 57° 12' N., „ 1° 8' W.,                       | 63 m., 8.4° C.      |
|       | „ 281,  | „ 58° 54' N., „ 3° 6' E.,                       | 107 m., 6.4° C.     |
|       | „ 291,  | „ 59° 38' N., „ 1° 48' E.,                      | 132 m.              |
|       | „ 349,  | Ling Bank, the North Sea,                       | 120 m.              |
|       | „ 351,  | Lat. 59° 35' N., Long. 1° 30' E.,               | 110 m.              |
| 1906, | „ 286,  | „ 61° 15' N., „ 1° E.,                          | 170 m., 7.2° C.     |
|       | „ 291,  | „ 60° 38' N., „ 2° 35' E. (The Viking Bank)     | 110—115 m., 6.9° C. |
|       | „ 307b, | Storeggen,                                      | 310 m.              |
|       | „ 326,  | Three quarters of a mile N. off Hirshals,       | 170 m.              |
| 1909, | „ 108,  | Lat. 70° 32' N., Long. 18° 17' E., (Nordreisa), | 300 m.              |
|       | „ 174,  | The plateau off Tromsø,                         | 210 m.              |

Females in berry of this species have been taken on our south coast (the Langesund- and the Breviksfjord) and on the west coast (the Manger- and the Radøfjord) in November. The eggs showed fully developed embryos in March (the Lysefjord 17.3. 1902.) It seems that the development of the ova is somewhat later in the north of Norway than it is on the west coast. I have females with fully developed eggs from Landego (March 30th. 1900), from the Beiersfjord and the Morsdalfjord (March 31st. 1900) and from the Skjærstadfjord (April 4th. 1900), but none of the eggs were as developed as in the females from the Lysefjord; one female in

particular, from the Skjerstadvfjord showed eggs in a very early stage of development. The berries were of a shining green, which beautifully contrasted with the red colour of the animal.

***Spirontocaris turgida*, K.**

The "Michael Sars" caught this species in 1914 at St. 36, Lat.  $74^{\circ} 9' N.$ , Long.  $19^{\circ} 18' E.$ , 106 m.

The "Heimdal" has taken it at "Østisen" (St. 10, Lat.  $70^{\circ} N.$ , Long.  $43^{\circ} 10' E.$ , 94 m.,  $2.65^{\circ} C.$ ).

***Spirontocaris spinus*, Sow.**

The "Michael Sars" collected this species at the following stations:

1900, St. 52, Østerbotten the Porsangerfjord, 90—100 m. —  $1.15^{\circ} C.$

1901, ,, 87, Green Harbour, Spitzbergen, 140 m.,  $1.1^{\circ} C.$

1903, ,, 191, Lat.  $66^{\circ} 13' N.$ , Long.  $25^{\circ} 10' W.$

1914, ,, 63, ,,  $74^{\circ} 9' N.$ , ,,  $19^{\circ} 18' E.$ , 106 m.

The eggs of the specimens of this species taken in July (St. 63, 16:7:1914, and St. 87, 26:7:1901) were very little developed; the same was true of the females taken in August (St. 52, 24:8:1900, and Green Harbour at the end of the month 1912). Among the material I have examined, no well developed eggs were found till the month of February (Henningsværstrømmen 13:2:1899) but I have found females in the month of April where the eggs showed fully developed embryos (the Skjærstadvfjord, 3:4:1900, and the Jøkelfjord, 21:4:1899). I have also in the same month come across females with slightly developed eggs; this was the case, for instance, with a few specimens from Stønnesbotten (15:4:1899), where the eggs were much less developed than those from Henningsværstrømmen.

***Spirontocaris polaris*, Sab.**

The "Michael Sars" has got this species at the following stations:

1900, St. 10, Lat,  $64^{\circ} 53' N.$ , Long  $10^{\circ} W.$ , 630 m. —  $0.69^{\circ} C.$

,, 12, The Dyrafjord Iceland, 6—16 m.



- 1900, St. 13, Lat.  $66^{\circ} 42' N.$ , Long.  $16^{\circ} 40' W.$ , 590 m.,  $0.11^{\circ} C.$   
 „ 15, „  $66^{\circ} 45' N.$ , „  $15^{\circ} 36' W.$ , 200 m.,  $2.39^{\circ} C.$   
 „ 25, Jan Mayen, 100 m. —  $0.4^{\circ} C.$   
 „ 29, Jan Mayen, 400 m. —  $0.1^{\circ}$  to —  $0.2^{\circ} C.$   
 „ 52, Østerbotten, the Porsangerfjord, 90—100 m. —  
 $1.15^{\circ} C.$   
 „ 53, Kistrand, the Porsangerfjord, littoral.  
 „ 62, Lat.  $74^{\circ} 19' N.$ , Long.  $16^{\circ} 50' E.$ , 280 m.,  $2.1^{\circ} C.$   
 1901, „ 56, „  $70^{\circ} 9' N.$ , „  $31^{\circ} E.$ , 200 m.,  $2.2^{\circ} C.$   
 „ 60, The Baadsfjord, 60—70 m.  
 „ 88, The Icefjord, Spitzbergen, about the middle of the  
 fjord, 260 m.,  $1.4^{\circ} C.$   
 1902, „ 31, The Borgundfjord, 80 m.  
 „ 37, Lat.  $62^{\circ} 43' N.$ , Long.  $1^{\circ} 26' E.$ , 775 m.  
 „ 90, „  $64^{\circ} 17' N.$ , „  $14^{\circ} 44' W.$ , 75 m.,  $5.12^{\circ} C.$   
 „ 91, „  $64^{\circ} 27' N.$ , „  $13^{\circ} 27' W.$ , 150 m.,  $4.5^{\circ} C.$   
 „ 96, „  $64^{\circ} 58' N.$ , „  $11^{\circ} 12' W.$ , 550 m.,  $0.32^{\circ} C.$   
 1904, „ 269, „  $56^{\circ} 50' N.$ , „  $1^{\circ} 36' W.$ , 86 m.,  $8.1^{\circ} C.$   
 „ 275, „  $57^{\circ} 9' N.$ , „  $1^{\circ} 30' E.$ , 96 m.,  $6.15^{\circ} C.$   
 „ 284, „  $58^{\circ} 21' N.$ , „  $4^{\circ} 30' W.$ , 292 m.,  $5.9^{\circ} C.$   
 „ 295, „  $60^{\circ} 30' N.$ , „  $0^{\circ} 24' W.$ , 107 m.  
 „ 351, „  $59^{\circ} 35' N.$ , „  $1^{\circ} 30' E.$ , 110 m.  
 1906, „ 4, The Hjeltefjord, 180 m.  
 „ 26, Lat.  $62^{\circ} 60' N.$ , Long.  $5^{\circ} 2' E.$ , 150 m.  
 „ 212, „  $62^{\circ} 30' N.$ , „  $5^{\circ} 44' E.$ , 270 m.  
 „ 269, Flemseø, Fjærtøft, Sunnmør, 110 m.  
 „ 297, The Hjørundfjord, 439 m.  
 „ 304 b, The Sulenfjord, 68—100 m.  
 „ 307 b, Storeggen, 310 m.  
 1908, „ 178, Lat.  $59^{\circ} 24' N.$ , Long.  $4^{\circ} 50' E.$ , 75 m.  
 1900, „ 108, „  $79^{\circ} 32' N.$ , „  $18^{\circ} 17' E.$ , (Nordreisa), 300 m.  
 „ 146, The Kaafjord, Lyngen.  
 „ 174, The Plateau off Tromsø, 210 m.  
 1914, „ 28, Lat.  $70^{\circ} 16—17' N.$ , Long.  $32^{\circ} 20—27' E.$ , 157—  
 275 m.,  $1.86^{\circ} C.$   
 „ 63, Lat.  $74^{\circ} 9' N.$ , Long.  $19^{\circ} 18' E.$ , 106 m.

In November 28th. 1919, I came across a female from the Mangerfjord where the eggs not yet showing eyes. Nordgaard(2)

has taken females in the same stage both in the Hjeltefjord (14:11:1901) and in the Radøfjord (15:7:1902). The eggs of this species are greenish coloured, just like those of *Spirontocaris lilljeborgi*.

***Spirontocaris gaimardi*, M. Edw.**

This species was collected by the "Michael Sars" at the following stations:

- 1900, St. 25, Jan Mayen, 100 m.  
 „ 26, Jan Mayen, 100—150 m.  
 „ 40, Ofoten, littoral.  
 „ 52, Østerbotten, the Porsangerfjord, 90—100 m.  
 — 1.15° C.  
 „ 53, Kistrand, the Porsangerfjord, littoral.  
 „ 59, Honningsvaag, littoral.  
 1901, „ 87, Green Harbour, Spitzbergen, 140 m., 1.1° C.  
 „ 91, Bellsund, Spitzbergen, 10 m.  
 1906, „ 60, Giske, Sunnmør, 10—60 m.  
 „ 291, Lat. 60° 38' N., Long. 2° 35' E. (The Viking Bank),  
 110—115 m., 6.9° C.  
 1909, „ 146, The Kaafjord, Lyngen.  
 1914, „ 63, Lat. 74° 9' N., Long. 19° 18' E., 106 m.

The "Heimdal" has collected this species at the following localities in the Barents Sea.

- 1900, St. 10, Lat. 70° N., Long. 43° 10' E., 94 m., 2.65° C.  
 „ 14, „ 71° 48' N., Long. 49° 38' E., 110—130 m., 1.08° C.

There were no females in berry among the material from the "Heimdal" in the month of May, but in July and August there were females in berry at Spitzbergen, and from the coast of Finnmark and the Barents Sea (cf. Dons). I have never come across females in berry on our west coast during the summer months. The very earliest date at which I have obtained any was in September at Fløholmen, Herdla (6:9:1922), but they are very frequently found in November (Krabbevaag, Sælø, Tysnes, 23:11:1909, and also at Aalesund medio November, 1906). The eggs were well developed in March (Ossund, Herdla, 15:3:1926,

the Hjeltefjord, 23:3:1923, Giske, Sunnmør, 3:3:1906). Females having eggs nearly ready to hatch are also found at similar dates along the coast of Nordland and Tromsø, (The Skjærstadvjord, 3:4:1900, the Saltenfjord, 5:4:1900, Grøtø, 7:4:1900, the Kanstadvjord, 17:3:1899, Risvær, 10:3:1899, and Troldsund, 23:4:1899).

***Spirontocaris pusiola*, Kr.**

This species was got by the "Michael Sars" at the following localities:

- 1900, St. 12, The Dyrafjord, Iceland, 6—16 m.  
 1904, „ 271, Lat. 57° 12' N., Long. 1° 8' W., 63 m., 8.4° C.  
 „ 281, „ 58° 34' N., „ 3° 6' E., 170 m., 6.4° C.  
 „ 351, „ 59° 35' N., „ 1° 30' E., 110 m.  
 „ 552, „ 59° 10' N., „ 3° 48' E., 123 m.  
 1906, „ 4, The Hjeltefjord, 200 m.  
 „ 21, Lat. 61° 52' N., Long. 1° 8' E., 220 m.  
 „ 60, Giske, Sunnmør, 40—60 m.  
 „ 269, Flemsø, Fjørtoft, Sunnmør, 110 m.  
 „ 311 a, Three quarters of a mile off Obrestad, Jæren, 50—100 m.

***Hippolyte varians*, Leach.**

The "Michael Sars" took this species at the following two stations:

- 1906, St. 3, Sjellanger, Herdla, 3—5 m.  
 „ 4, The Hjeltefjord, 0 m.

***Caridion gordonii*, Bate.**

This species was obtained by the "Michael Sars" at the following stations:

- 1904, St. 252, Lat. 57° 20' N., Long. 8° 2' E., 57 m., 7.9° C.  
 „ 284, „ 58° 21' N., „ 4° 30' E., 292 m., 5.9° C.  
 „ 351, „ 59° 35' N., „ 1° 30' E., 110 m.  
 1906, „ 304b, The Sulenfjord, 68—100 m.  
 „ 307, Storeggen, 340 m.

1906, St. 311 a, Three quarters of a mile off Obrestad, Jæren,  
50—100 m.

„ 313, Off Arendal, 75—100 m.

The species is known from Florvaags-skjær, near Bergen, 400 m. There are earlier records of it from the Hardangerfjord: Utne (Danielssen), Jondal (Grieg), 60—100 m. and Mosterhavn (Sars), 190 m. Nordgaard has obtained it in the Selbjørnfjord, 300—400 m., and I have taken it myself at Vik in the Sognefjord and at Bryggen in the Nordfjord, 120—160 m.

### *Cryptocheles pygmæa*, G. O. Sars.

In the Hardangerfjord Norman has taken this species at Lervik, 370 m. I have got it off Straumastein, Jondal 200—400 m., and Sars obtained it off Hesthammer, Utne, 190—280 m., where it was quite common. Appelløf records it from the Osterfjord, 550 m., and I have found it at Bryggen in the Nordfjord, 550 m.

There is only one specimen of this species among the materiel from the “Michael Sars”, but no locality is given on the label.

### *Bythocaris leucopis*, G. O. Sars.

This species was collected by the “Michael Sars” at the following stations:

|           |      |                 |                  |                    |
|-----------|------|-----------------|------------------|--------------------|
| 1900, St. | 7,   | Lat. 63° 6' N., | Long. 2° 46' E., | 915 m. — 1.07° C.  |
| „         | 9,   | „ 63° 55' N.,   | „ 6° 22' W.,     | 1960 m. — 1° C.    |
| 1902, „   | 36b, | „ 63° 12' N.,   | „ 1° 30' E.,     | 1320 m.            |
| „         | 37,  | „ 62° 43' N.,   | „ 1° 26' E.,     | 775 m.             |
| „         | 55,  | „ 62° 40' N.,   | „ 1° 56' E.,     | 670 m. — 0.21° C.  |
| „         | 102, | „ 63° 13' N.,   | „ 6° 32' W.,     | 1783 m. — 0.41° C. |

Females in berry of this species were found at St. 36 b (28:6:1902) and St. 102 (29:8:1902). There is also recorded a female in berry obtained by the “Vøringen” St. 295 (4:7). Sars (4).

In 1914 the „Armauer Hansen“ got a specimen of this species off „Tampen” (St. 3, Lat. 62° 10' N., Long. 0° 8' E., ca. 1400 m. — 0.74° C.

***Bythocaris payeri*, Heller.**

The „Michael Sars” obtained this species at the following localities:

- 1900, St. 10, Lat.  $64^{\circ} 53' N.$ , Long.  $10^{\circ} W.$ , 630 m. —  $0.69^{\circ} C.$   
 „ 13, „  $66^{\circ} 42' N.$ , „  $16^{\circ} 40' W.$ , 590 m.,  $0.11^{\circ} C.$   
 „ 29, Jan Mayen, 526 m. —  $0.1^{\circ}$  to  $-0.2^{\circ} C.$   
 1902, „ 55, Lat.  $62^{\circ} 40' N.$ , Long.  $1^{\circ} 56' E.$ , 670 m. —  $0.21^{\circ} C.$

There were some females in berry from St. 10, (28:7:1900) and St. 13 (3:8:1900).

The „Armauer Hansen” caught, in 1914, six specimens of this species at St. 4. (Lat.  $62^{\circ} 15' N.$ , Long.  $0^{\circ} 15' E.$ , ca. 800 m. —  $0.23^{\circ} C.$ ).

***Bythocaris simplicirostris*, G. O. Sars.**

This species was taken by the “Michael Sars” at the following stations:

- 1900, St. 10, Lat.  $64^{\circ} 53' N.$ , Long.  $10^{\circ} W.$ , 630 m. —  $0.69^{\circ} C.$   
 One specimen.  
 „ 13, Lat.  $66^{\circ} 42' N.$ , Long.  $16^{\circ} 40' W.$ , 590 m.,  $0.11^{\circ} C.$   
 Eight specimens and three of them were females in berry (3:8:1900).

1904, „ 284, Lat.  $58^{\circ} 21' N.$ , Long.  $4^{\circ} 30' E.$ , 292 m.,  $5.9^{\circ} C.$  Of the two specimens obtained at this station one was identified by Professor Sars, and the rest of the material is in accordance with this specimen. They have all the same long, strongly built rostrum, long peduncless, colourless eyes, two teeth on the carina etc. On three of the berried females, from St. 13. there were short hairs scattered along the carapace and abdomen.

At the Norwegian coast *Bythocaris simplicirostris* was first recorded by G. O. Sars (1) from Skraaven in the Lofoten, 500 m. Later on, it was obtained by Nordgaard (1) in the Tranø deep 607—640 m. and Malangen 100—200 m. Norman (2) got it in the Trondhjemsfjord, and Metzger at Mandal. Birula (1) records it from the Murman coast, and it was collected by the „Vøringen” between Finnmark and Bear Island (St. 290, Lat.  $72^{\circ} 27' N.$ , Long.

20° 51' E., 349 m., 3.5° C.) and west of Spitzbergen (St. 359, Lat. 78° 2' N., Long. 9° 25' E., 0.8° C.). It is described by Buchholz from the East coast of Greenland (North Shannon, 60 m.) as *Hyppolyte panschii*. Kolthoff collected it between Bontekoe Island and Mackenzie Bay, 250 m., (Ohlin), and Amdrup has found the species at Pendulum Island, 220 m. The „Ingolf” expedition collected it south—east of Iceland (St. 4, Lat. 64° 7' N., Long. 11° 12' W., 474 m., 2.5° C.), and Wandel has obtained it at the Faroe Islands, Lat. 61° 23' N., Long. 5° 4' W., 5.10 m., 0° C. (H. J. Hansen).

### *Leander squilla*, Lin.

This species is very common at Inderøpollen at Os, near Bergen, (0—2 m.), and it is also common in the canal at the Marineholm in Bergen; but the other species *Leander adspersus* seems to be the most widespread palæmonid on our west coast. I have collected this form out among the skerries as well as in the inner part of the fjords.

*Leander squilla* has, as a rule, 7—8 teeth on the dorsal, and 3 teeth on the ventral side of the rostrum. In a few specimens from Risør I found, however, that the numbers of teeth on the rostrum were 9 and 4.

### *Crangon vulgaris*, Fabr.

In the summer of 1925 this species was very frequently found at Paddeholen, a small, shallow bay on the north side of Valen, Herdla. I have also obtained it in very shallow waters at Herdlabukten and Rydland. The specimens from Herdlabukten and Paddeholen (taken on 17th. of March 1926) had eggs with highly developed embryos. The same was true of some specimens taken on the 6th. of May, 1926.

Three specimens of this species were collected by the “Michael Sars” in 1900, at Ofoten 0—6 m., and one specimen at Østerpollen the Porsangerfjord, littoral.

*Crangon almanni*, Kin.

This species was caught by the "Michael Sars" at the following localities:

- 1902, St. 32, At the mouth of the Sulenfjord, 80 m.  
 " 90, Lat.  $64^{\circ} 17' N.$ , Long.  $14^{\circ} 44' W.$ , 75 m.,  $5.12^{\circ} C.$   
 1903, " 140, "  $58^{\circ} 39' N.$ , "  $1^{\circ} 20' W.$ , 110 m.  
 " 141, "  $57^{\circ} 11' N.$ , "  $1^{\circ} 50' W.$ , 100 m.  
 1904, " 212, "  $57^{\circ} 44' N.$ , "  $5^{\circ} 35' E.$ , 100 m.  
 " 269, "  $56^{\circ} 50' N.$ , "  $1^{\circ} 36' W.$ , 86 m.,  $8.1^{\circ} C.$   
 " 273, "  $57^{\circ} 11' N.$ , "  $0^{\circ} 11' E.$ , 78 m.,  $7^{\circ} C.$   
 " 278, "  $57^{\circ} 4' N.$ , "  $4^{\circ} 14' E.$ , 65 m.,  $6.9^{\circ} C.$   
 " 283, "  $57^{\circ} 50' N.$ , "  $4^{\circ} 47' E.$ , 100 m.,  $6.8^{\circ} C.$   
 " 291, "  $59^{\circ} 38' N.$ , "  $1^{\circ} 48' E.$ , 132 m.  
 " 293, "  $59^{\circ} 42' N.$ , "  $0^{\circ} 42' E.$ , 123 m.  
 " 349, Ling Bank, the North Sea, 120 m.  
 " 351, Lat.  $59^{\circ} 35' N.$ , Long.  $1^{\circ} 30' E.$ , 110 m.  
 " 352, "  $59^{\circ} 10' N.$ , "  $3^{\circ} 48' E.$ , 123 m.  
 1906, " 60, Giske, Sunnmør, 40—60 m.  
 " 284, Lat.  $61^{\circ} 43' N.$ , Long.  $1^{\circ} 16' E.$ , 190 m.,  $7.2^{\circ} C.$   
 " 286, "  $61^{\circ} 15' N.$ , "  $1^{\circ} E.$ , 170 m.,  $7.2^{\circ} C.$   
 " 292, "  $60^{\circ} 42' N.$ , "  $2^{\circ} 53' E.$ , 180-190 m.,  $6.9^{\circ} C.$   
 " 311c, Three quarters of a mile off Obrestad, Jæren, 50—150 m.  
 " 328c, Great Fisher Bank, 66 m.  
 1908, " 248, Off Førde, the Jøsenfjord, Ryfylke.

This species was very frequently found by mr. Johnsen in the autumn of 1917 in the Baadsfjord, 160—180 m., and in the Gansfjord near Stavanger at 160 m.

*Sclerocrangon boreas*, Phipps.

This species was obtained by the "Michael Sars" at the following stations:

- 1900, St. 52, Østerbotten, the Porsangerfjord, 90—100 m.,  
 —  $1.15^{\circ} C.$   
 " 53, The Porsangerfjord, (the middle of the fjord),  
 200 m.,  $3.61^{\circ} C.$

- 1900, St. 61, Lat.  $74^{\circ} 6' N.$ , Long.  $18^{\circ} 50' E.$ , 90 m. —  $0.19^{\circ} C.$   
 " 62, "  $74^{\circ} 15' N.$ , "  $16^{\circ} 50' E.$ , 280 m.,  $2.10^{\circ} C.$   
 1901, " 60, The Baadsfjord, 60—70 m.  
 " 62, Lat.  $74^{\circ} 43' N.$ , Long.  $17^{\circ} 10' E.$ , 200 m.  
 " 85 a, "  $75^{\circ} 12' N.$ , "  $16^{\circ} 56' E.$ , 280 m.,  $2.2^{\circ} C.$   
 " 87, Green Harbour, Spitzbergen, 140 m.,  $1.1^{\circ} C.$   
 1902, " 90, Lat.  $64^{\circ} 17' 3' N.$ , Long.  $14^{\circ} 44' W.$ , 75 m.,  $4.5^{\circ} C.$   
 1904, " 32, Røst, Lofoten, littoral.  
 1905, " 72, Lat.  $74^{\circ} 12' N.$ , Long.  $17^{\circ} 38' E.$ , 200—215 m.  
 1906, " 33, "  $62^{\circ} 51' N.$ , "  $3^{\circ} 13' E.$ , (Storeggen), 150 m.  
 1908, " 108, Lat.  $70^{\circ} 32' N.$ , "  $18^{\circ} 17' E.$ , (Nordreisa), 200 m.  
 " 146, The Kaafjord, Lyngen.  
 1914, " 62, Lat.  $74^{\circ} 15' N.$ , Long.  $20^{\circ} 36' E.$ , 159 m.,  $0.62^{\circ} C.$   
 " 63, "  $74^{\circ} 9' N.$ , "  $19^{\circ} 18' E.$ , 106 m.

***Sclerocrangon salebrosus*, Owen.**

The "Michael Sars" collected this species at the following localities:

- 1900, St. 10, Lat.  $64^{\circ} 53' N.$ , Long.  $10^{\circ} 40' W.$ , 630 m. —  $0.69^{\circ} C.$   
 " 13, "  $66^{\circ} 43' N.$ , "  $16^{\circ} W.$ , 590 m.,  $0.11^{\circ} C.$   
 " 25, Jan Mayen, 100 m. —  $0.4^{\circ} C.$   
 " 26, Jan Mayen, 100—150 m.  
 " 29, Jan Mayen, 400 m., —  $0.14^{\circ} C.$   
 1902, " 34, Lat.  $62^{\circ} 53' N.$ , Long.  $4^{\circ} 14' E.$ , 820 m.  
 " 96, "  $64^{\circ} 58' N.$ , "  $11^{\circ} 12' W.$ , 550 m. —  $0.32^{\circ} C.$

***Sabinea septemcarinata*, Sab.**

This species was taken by the "Michael Sars" at the following stations:

- 1900, St. 15, Lat.  $66^{\circ} 45' N.$ , Long.  $15^{\circ} 36' W.$ , 200 m.,  $2.39^{\circ} C.$   
 " 26, Jan Mayen, 100—150 m.  
 " 52, Østerbotten, the Porsangerfjord, 90—100 m.  
 —  $1.15^{\circ} C.$   
 1901, " 60, The Baadsfjord, 60—70 m.  
 " 64, Six quarters of a mile off Lille Ekerø, the Varangerfjord, 200 m.,  $1.5^{\circ} C.$



- 1901, St. 65, Seven quarters of a mile off Vardø, the Varangerfjord, 200 m., 2.6° C.  
 „ 83, Twentytwo quarters of a mile SE. off Bear Island, 130 m., 0.5° C.  
 „ 87, Green Harbour, Spitzbergen, 140 m., 1.1° C.  
 1903, „ 181, Lat. 66° 13' N., Long. 25° 10' W.  
 1905, „ 72, „ 74° 12' N., „ 17° 38' E., 200—215 m.  
 1914, „ 4, „ 70° 11—12' N., Long. 30° 41—46' E., 115—124 m., 4.2° C.  
 „ 62, Lat. 74° 15' N., Long. 20° 36' E., 159 m., 062° C.  
 „ 63, „ 74° 9' N., „ 19° 18' E., 106 m.

Sars (2) obtained a full grown specimen of this arctic species off Mosterhavn, 150—190 m., along with a few young ones. Metzger records it from Jæren, 212 m., which is the boundary of its distribution to the south.

### *Sabinea Sarsi*, Smith.

The "Michael Sars" got this species at the following stations:

- 1900, St. 52, Østerbotten, the Porsangerfjord, 90—100 m. — 1.15° C.  
 „ 62, Lat. 74° 19' N., Long. 17° 10' E., 280 m.  
 1901, „ 82, The Plateau off Bear Island, 200 m., 2° C.  
 „ 84, Lat. 74° 43' N., Long. 17° 10' E., 100 m., 2.3° C.  
 1902, „ 45, „ 62° 17' N., „ 4° 57' W., 265 m.  
 „ 85, „ 62° 53' N., „ 9° 6' W., 450 m., 3.98° C.  
 1904, „ 351, „ 59° 35' N., „ 1° 30' E., 110 m.  
 1905, „ 30, „ 62° 43' N., „ 3° 42' E., 200 m.  
 „ 72, „ 74° 12' N., „ 17° 38' E., 200—215 m.  
 1906, „ 27, W. off Stat, 150 m.  
 „ 326, Thirty quarters of a mile N. off Hirshals, 170 m.  
 1908, „ 112, Tungenes in SE. to S., Alsteinen in SW., ca. 100 m.

Sars is of the opinion that *Sabinea Sarsi* occurs pretty frequently on our west coast, and extends as far south as Stavanger. In the Bergen Museum we have specimens of this species from the Hillefjord, Stavanger, 180 m. (Wollebæk), Ferkingstad-

ørne, Haugesund, 60—100 m. (Wollebæk), Haakonsund in the Korsfjord (Danielssen and Koren), the Osterfjord (Nordgaard), the Herdlafjord, 120—200 m. (Wollebæk) and Herdlabukten 100 m. (Grieg). There are also some specimens collected by Wollebæk in the Brevikfjord, 120—140 m. From the localities given above, it would seem that *Sabinea Sarsi* occurs all along the Norwegian coast.

***Phlocheras echinulatus*, M. Sars.**

This species was found by the "Michael Sars" at the following stations:

- 1902, St. 48, Lat. 61° N., Long. 2° 53' E., 275 m., 7.94° C.  
 1906, " 286, " 61° 15' N., " 1° E., 170 m., 7.2° C.  
 1907, " 79, " 65° 41' N., " 8° 35' E., 250—300 m.  
 1908, " 113, Tungenes in SE. to S., Alsteinen in SW., ca. 100 m.  
 1909, " 174, The Plateau off Tromsø, 218.

There is also a specimen from the North Sea, 1903, but there is no locality given on the label.

***Phlocheras bispinosus*, Hailst. & Westw.**

The "Michael Sars" collected this species at the following localities:

- 1904, St. 228, Lat. 57° 47' N., Long. 10° 51' E., 40 m., 10.2° C.  
 " 266, " 56° 26' N., " 0° 10' E., 94 m., 6.7° C.  
 " 273, " 57° 11' N., " 0° 11' E., 78 m., 7° C.  
 " 275, " 57° 9' N., " 1° 30' E., 96 m., 6.15° C.  
 " 281, " 58° 34' N., " 3° 6' E., 107 m., 6.4° C.  
 " 291, " 59° 38' N., " 1° 48' E., 132 m.  
 " 352, " 59° 10' N., " 3° 48' E., 123 m.  
 1906, " 60, Giske, Sunnmør, 40—60 m.  
 " 284, Lat. 61° 43' N., Long. 1° 16' E., 190 m., 7.2° C.  
 " 286, " 61° 15' N., " 1° E., 170 m., 7.2° C.  
 " 290, " 60° 40' N., " 2° 34' E., 130 m.

*Pontophilus norvegicus*, M. Sars.

This species was obtained by the "Michael Sars" at the following stations:

|       |         |  |                               |          |          |
|-------|---------|--|-------------------------------|----------|----------|
| 1900, | St. 15, | Lat. 66° 45' N.,   | Long. 15° 36' W.,             | 200 m.,  | 2.39° C. |
|       | „ 54,   | The Porsangerfjord, (the middle of the fjord), 280 m.    |                               |          |          |
| 1902, | „ 47,   | Lat. 60° 57' N.,   | Long. 3° 42' E.,              | 350 m.,  | 6.16° C. |
|       | „ 51,   | „ 61° 40' N.,  | „ 3° 11' E.,                  | 400 m.,  | 6.34° C. |
|       | „ 76,   | „ 59° 23' N.,  | „ 7° 50' W.,                  | 1100 m., | 8.07° C. |
|       | „ 86,   | „ 62° 59' N.,  | „ 10° 37' 5" W.,              | 460 m.,  | 3.36° C. |
| 1904, | „ 284,  | „ 58° 21' N.,  | „ 4° 30' E.,                  | 292 m.,  | 5.9° C.  |
| 1905, | „ 30,   | „ 62° 43' N.,  | „ 3° 42' E.,                  | 200 m.   |          |
| 1906, | „ 56,   | The Hjørundfjord, 150—250 m.                             |                               |          |          |
|       | „ 60,   | Giske, Sunnmør, 40—60 m.                                 |                               |          |          |
|       | „ 98,   | Lat. 61° 49' N.,   | Long. 0° 9' E.,               | 224 m.   |          |
|       | „ 120,  | The Hjørundfjord, 424 m.                                 |                               |          |          |
|       | „ 295,  | The Hjørundfjord, 250—350 m.                             |                               |          |          |
|       | „ 297,  | The Hjørundfjord, 439 m.                                 |                               |          |          |
|       | „ 307b, | Storeggen, 310 m.  |                               |          |          |
|       | „ 311c, | Three quarters of a mile off Obrestad, Jæren, 150—230 m. |                               |          |          |
| 1909, | „ 108,  | Lat. 70° 32' N.,   | Long. 18° 17' E. (Nordreisa), | 200 m.   |          |

*Pontophilus spinosus*, Leach.

This species was caught by the "Michael Sars" at the following stations:

|       |         |               |                  |         |          |
|-------|---------|---------------|------------------|---------|----------|
| 1902, | St. 48, | Lat. 61° N.,  | Long. 2° 53' E., | 275 m., | 7.94° C. |
| 1904, | „ 351,  | „ 59° 35' N., | Long. 1° 30' E., | 110 m.  |          |
|       | „ 352,  | „ 59° 10' N., | „ 3° 48' E.,     | 123 m.  |          |
| 1906, | „ 21,   | „ 61° 52' N., | „ 1° 8' E.,      | 220 m.  |          |
|       | „ 170,  | „ 62° 45' N., | „ 5° 40' E.      |         |          |
|       | „ 284,  | „ 61° 43' N., | „ 1° 16' E.,     | 190 m., | 7.2° C.  |
|       | „ 286,  | „ 61° 15' N., | „ 1° E.,         | 170 m., | 7.2° C.  |
|       | „ 290,  | „ 60° 40' N., | „ 2° 34' E.,     | 130 m.  |          |

This species was quite frequently found at St. 284 and St. 286. In this case, also, we have a specimen from the North Sea where no locality is given on the label.

There are earlier records of *Pontophilus spinosus* from the Osterfjord (Appelløf and Nordgaard) and from Jondal in the Hardangerfjord (Grieg). Recently it has been taken at Ask, 60 m., and at Herdla, 100 m. Appelløf got it in the Nordfjord, Risør, and Wolløbæk records it from the Brevikfjord, 100—120 m., where it seems to be fairly common. The species is obtained from our south and west coast to the Lofoten Islands.

## REPTANTIA.

### *Nephrops norvegicus* Lin.

This species was taken by the „Michael Sars” at the following localities:

|       |         |                  |                  |                 |
|-------|---------|------------------|------------------|-----------------|
| 1902, | St. 28, | Lat. 61° 28' N., | Long. 1° 15' E., | 180 m.          |
| „     | 48,     | „ 61° N.,        | „ 2° 53' E.,     | 275 m. 7.94° C. |
| „     | 50,     | „ 61° 14' N.,    | „ 2° 13' E.,     | 155 m.          |
| „     | 103,    | „ 58° N.,        | „ 9° 45' E.,     | 160—180 m.      |
| 1906, | „ 286,  | „ 61° 15' N.,    | „ 1° E.,         | 170 m. 7.2° C.  |
| 1912, | „ 141,  | „ 57° 35' N.,    | „ 8° 10' E.,     | 156 m.          |

### *Nephropsis atlantica* Smith.

The „Michael Sars” got this species at the following two stations:

|       |          |                  |                  |                      |
|-------|----------|------------------|------------------|----------------------|
| 1902, | St. 76b, | Lat. 59° 33' N., | Long. 7° 50' W., | 1100 m., 8.07° C.    |
|       |          |                  |                  | One specimen.        |
| „     | 79 b,    | Lat 61° 7' N.,   | Long. 9° 33' W., | 750 m. One specimen. |

### *Munida bamffica* Penn.

This species was collected by the „Michael Sars” at the following stations:

|       |         |                  |                   |                 |
|-------|---------|------------------|-------------------|-----------------|
| 1900, | St. 57, | Lat. 71° 36' N., | Long. 25° 15' E., | 300 m. 3.09° C. |
| 1901, | „ 75,   | Andenes,         |                   | 200 m.          |

- 1902, St. 50, Lat.  $61^{\circ} 14' N.$ , Long.  $2^{\circ} 13' E.$ , 145 m.  
 „ 54, „  $62^{\circ} 29' N.$ , „  $4^{\circ} 52' E.$ , 200 m.  $6.93^{\circ} C.$   
 „ 82, „  $61^{\circ} 9' N.$ , „  $7^{\circ} 54' W.$ , 330 m.  $8.46^{\circ} C.$   
 1905, „ 30, „  $62^{\circ} 43' N.$ , „  $3^{\circ} 42' E.$ , 200 m.  
 1906, „ 4, The Hjeltefjord, 180 m.  
 „ 21, Lat.  $61^{\circ} 52' N.$ , Long.  $1^{\circ} 8' E.$ , 220 m.  
 „ 56 a, The Hjørundfjord, 150—200 m.  
 „ 98, Lat.  $61^{\circ} 49' N.$ , Long.  $0^{\circ} 9' E.$ , 224 m.  
 „ 120, The Hjørundfjord, 424 m.  
 „ 170, Lat.  $62^{\circ} 45' N.$ , Long.  $5^{\circ} 40' E.$ , 200 m.  
 „ 284, „  $61^{\circ} 43' N.$ , „  $1^{\circ} 16' E.$ , 190 m.,  $7.2^{\circ} C.$   
 „ 285, „  $61^{\circ} 55' N.$ , „  $0^{\circ} 56' E.$ , 245—300 m.,  
 $7.2^{\circ} C.$   
 „ 286, Lat.  $61^{\circ} 15' N.$ , „  $1^{\circ} E.$ , 170 m.  $7.2^{\circ} C.$   
 „ 295, The Hjørundfjord, 250—350 m.  
 „ 300, The Depth at Bredsund, Aalesund, 80—230 m.,  
 $6.9^{\circ} C.$   
 „ 304b, The Sulenfjord, 100 m.  
 „ 307b, Storeggen, 310 m.  
 1907, „ 82, Lat.  $65^{\circ} 27' N.$ , Long.  $11^{\circ} 48' E.$ , ca. 300 m.  
 1908, „ 113, Tungenes in SE. to S., Alsteinen in SW., ca. 100 m.  
 „ 248, Off Førde, the Jøsenfjord, Ryfylke.  
 1909, „ 108, Lat.  $70^{\circ} 32' N.$ , Long.  $18^{\circ} 17' E.$  (Nordreisa),  
 300 m.  
 „ 174, The Plateau off Tromsø, 210 m.

***Munida tenuimana*** G. O. Sars.

This species was obtained by the “Michael Sars” at the following stations:

- 1901, St. 102, Lat.  $58^{\circ} 14' N.$ , Long.  $9^{\circ} 55' E.$ , 430m.  
 1902, „ 76b, „  $59^{\circ} 23' N.$ , „  $7^{\circ} 50' W.$ , 1100m.,  $8.07^{\circ} C.$   
 „ 78, „  $60^{\circ} 55' N.$ , „  $8^{\circ} 56' W.$ , 125m.,  $9.33^{\circ} C.$   
 „ 79, „  $61^{\circ} 8' N.$ , „  $9^{\circ} 46' W.$ , 840m.  
 1906, „ 120, The Hjørundfjord, 424 m.  
 „ 297, The Hjørundfjord, 439 m.

***Galathea nexa***, Emb l.

The "Michael Sars" caught this species at the following localities:

|           |       |  |                  |         |          |
|-----------|-------|--|------------------|---------|----------|
| 1902, St. | 49,   | Lat. 61° 3' N.,  | Long. 2° 13' E., | 120 m., | 6.78° C. |
| "         | 78,   | " 60° 65' N.,  | " 8° 56' W.,     | 125 m., | 9.33° C. |
| "         | 83,   | " 62° 29' N.,  | " 7° 37' W.,     | 110 m., | 8.71° C. |
| 1903, "   | 139,  | " 61° 12' N.,  | " 0° 9' W.,      | 164 m.  |          |
| "         | 140,  | " 58° 39' N.,  | " 1° 20' W.,     | 110 m.  |          |
| 1904, "   | 256,  | " 56° 4' N.,   | " 6° 45' E.,     | 41 m.,  | 8.7° C.  |
| "         | 269,  | " 56° 50' N.,  | " 1° 36' W.,     | 86 m.,  | 8.1° C.  |
| "         | 345,  | Ling Bank, the North Sea, 120 m.                                 |                  |         |          |
| 1906, "   | 60,   | Giske, Sunnmør, 12—40 m.   |                  |         |          |
| "         | 269,  | Flemsø, Fjærtøft, Sunnmør, 110 m.                                |                  |         |          |
| "         | 284,  | Lat. 61° 43' N.,   | Long. 1° 16' E., | 190 m., | 7.2° C.  |
| "         | 286,  | " 61° 15' N.,  | " 1° E.,         | 170 m., | 7.2° C.  |
| "         | 287,  | " 60° 52' N.,  | " 0° 36' E.,     | 130 m., | 7.6° C.  |
| "         | 304b, | The Sulenfjord, 68—100 m.  |                  |         |          |
| "         | 310,  | Between Øystese and Herand, the Hardangerfjord, 860 m.           |                  |         |          |
| "         | 311a, | Three quarters of a mile off Obrestad, Jæren, 50—100 m., 5.9° C. |                  |         |          |

***Galathea squamifera***, Leach.

This species was taken by the "Michael Sars" at the following two stations:

|           |      |                  |                  |        |
|-----------|------|------------------|------------------|--------|
| 1903, St. | 141, | Lat. 57° 11' N., | Long. 1° 50' W., | 100 m. |
| 1906, "   | 21,  | " 61° 52' N.,    | " 1° 8' E.,      | 220 m. |

***Galathea intermedia***, Lilljb.

The "Michael Sars" got this species at the following two localities:

|           |      |                  |                 |        |         |
|-----------|------|------------------|-----------------|--------|---------|
| 1904, St. | 252, | Lat. 57° 20' N., | Long. 8° 2' E., | 57 m., | 7.9° C. |
| "         | 256, | " 54° 4' N.,     | " 6° 45' E.,    | 41 m., | 8.7° C. |

***Munidopsis tridentatus*, E s m.**

In July, 1874, Danielssen and Koren obtained a specimen of this species at Haakonsund, (the Korsfjord), 200—300 m., and Sars records it from the same locality. It is also known from other localities along the Bergen coast e. g. from Totlandsholmen at Bryggen in the Nordfjord, 300—400 m. where I found it on a specimen of *Paramuricea placomus*, and in the Osterfjord. Sars (2 p. 256) found it quite abundant among *Lophohelia prolifera* at Mosterhavn. Nordgaard obtained this species in the Nerstrandfjord, Ryfylke, 450—700 m.

*Munidopsis tridentatus*, seems to be distributed along the west coast of Norway from the Boknfjord to the Lofoten Islands.

***Lithodes maja*, L i n.**

This species the "Michael Sars" obtained at the following stations:

- 1901, St. 52, Lat. 71° N., Long. 29° 55' E., 300 m.  
 1904, „ 275, „ 57° 9' N., „ 1° 30' E., 96 m., 6.15° C.  
 „ 345, Ling Bank, the North Sea, 120 m.  
 1906, „ 288, Lat. 60° 50' N., Long. 0° 35' E., 138 m., 6.5° C.  
 1907, „ 82, „ 65° 27' N., „ 11° 48' E., ca. 300 m.

***Ebalia tuberosa*, P e n n.**

A specimen of this species was taken in August, 1911, at Turøen, Solsvik, 20—30 m.

The "Michael Sars" has got the species at the following localities:

- 1904, St. 271, Lat. 57° 12' N., Long. 1° 8' W., 63 m., 8.4° C. Three specimens.  
 1906, „ 284, Lat. 61° 43' N., Long. 1° 16' E., 190 m., 7.2° C. One specimen.

***Ebalia tumefacta*, M o n t.**

The "Michael Sars" obtained four specimens of this species in 1906, at St. 314, three quarters of a mile E. of Risør, 50—75 m.

***Ebalia cranchi*, Leach.**

In September, 1909, a specimen of this species was found at Solsvik, 70—80 m. The "Michael Sars" has taken it at the following localities:

- 1904, St. 240, Lat. 57° 38' N., Long. 8° 57' E., 56 m., 8.4° C. One specimen.  
 „ 257, Lat. 56° 3' N., Long. 6° 5' E., 47 m., 8° C. One specimen.  
 1906, „ 284, Lat. 61° 43' N., Long. 1° 16' E., 190 m., 7.2° C. One specimen.  
 „ 290, Lat. 60° 40' N., Long. 2° 34' E., 130 m. A young specimen.

***Corystes cassivelaunus*, Penn.**

The "Michael Sars" collected this species in 1904, at St. 255, Lat. 56° 21' N., Long. 7° 13' E., 32 m., 10.4° C. There were seven males and six females, of which one carried eggs. The length of the largest male is 35 mm. and its breadth, 25 mm. The largest female is 32 mm. long and 23 mm. broad and the female in berry measured 31 mm. and 23 mm. The eggs were very little developed. This agrees with Bell's statement that the ova are extruded from the ovaries in April and May; this female was caught on June 30th.

***Portunus depurator*, Lin.**

This species was caught by the "Michael Sars" at the following stations:

- 1901, St. 193, E. off Vardø, 52 m.  
 „ 222, E. off Vardø, 64 m.  
 1902, „ 109, Lat. 58° 41' N., Long. 3° 31' E., 75 m.  
 1904, „ 238, „ 57° 32' N., „ 9° 21' E., 19 m., 12.2° C.  
 „ 240, „ 57° 38' N., „ 8° 57' E., 56 m., 8.4° C.  
 „ 259, „ 56° 1' N., „ 4° 49' E., 38 m., 10.4° C.  
 „ 263, „ 55° 44' N., „ 1° 49' E., 77 m., 7.1° C.  
 „ 270, Off Aberdeen, 25 m., 10.5 C.  
 „ 345, Ling Bank, the North Sea, 120 m.



- 1906, St. 21, Lat.  $61^{\circ} 52' N.$ , Long.  $1^{\circ} 8' E.$ , 220 m.  
 „ 60, Giske, Sunnmør, 12—40 m.  
 „ 248, Lat.  $61^{\circ} 52' N.$ , Long.  $1^{\circ} 16' E.$ , 190 m.,  $7.2^{\circ} C.$   
 „ 304b, The Sulenfjord, 100 m.  
 „ 323, N. off Hirshals 70 m.  
 „ 325, NW. off Hirshals, 15—20 m.  
 „ 330, Great Fisher Bank, the North Sea.

***Portunus holsatus*, Fabr.**

The “Michael Sars” collected this species at the following localities:

- 1904, St. 257, Lat.  $56^{\circ} 3' N.$ , Long.  $6^{\circ} 5' E.$ , 40 m.,  $8^{\circ} C.$   
 1906, „ 323, N. off Hirshals, 70 m.  
 „ 325, NW. off Hirshals, 15—20 m.

Appelløf is of the opinion that this species is rather rare off the coast of Bergen, but I have quite frequently come across it at Rognesund and Ulvesund, Herdla.

***Portunus tuberculatus*, Roux.**

The “Michael Sars” obtained this species at the following stations:

- 1902, St. 48, Lat.  $61^{\circ}$  N., Long.  $2^{\circ} 53' E.$ , 275 m.,  $7.94^{\circ} C.$   
 „ 50, „  $61^{\circ} 14' N.$ , „  $2^{\circ} 13' E.$ , 155 m.  
 1906, „ 284, „  $61^{\circ} 43' N.$ , „  $1^{\circ} 16' E.$ , 190 m.,  $7.7^{\circ} C.$   
 „ 286, „  $61^{\circ} 15' N.$ , „  $1^{\circ}$  E., 170 m.,  $7.2^{\circ} C.$   
 „ 292, „  $60^{\circ} 42' N.$ , „  $2^{\circ} 53' E.$ , 180-190m.,  $6.9^{\circ} C.$

***Porcellana longicornis*, Lin.**

A specimen of this species was caught in August 1911, at Turøen, Solsvik, 20—30 m. The “Michael Sars” took the species at the following two localities:

- 1904, St. 255, Lat.  $56^{\circ} 21' N.$ , Long.  $7^{\circ} 13' E.$ , 32 m.,  $10.9^{\circ} C.$   
 11 specimens.  
 „ 256, Lat.  $56^{\circ} 4' N.$ , Long.  $6^{\circ} 45' E.$ , 41 m.,  $8.7^{\circ} C.$   
 8 specimens.

***Calocaris macandrea*, Bell.**

The "Michael Sars" got this species in 1902, at St. 32, the Borgundfjord, Sunnmør, 80 m. In the Bergen Museum we have several specimens of this species obtained in the fjords close to Stavanger (the Boknfjord, the Hillefjord and the Høgsfjord).

Off the Bergen coast *Calocaris macandrea* has been taken only in the entrance to the fjords (cf. Wollebæk (3) and Ruunstrøm). Sars got it in the Hardangerfjord at Mosterhavn, and Nordgaard at Bømmelen, but it has never been caught at Jondal or Utne. It occurs in the same way in the Sognefjord, where it has also only been obtained at Skjærgehavn and the Eidsfjord in Gulen. In the vicinity of Bergen, Norman (1) has taken it in the Osterfjord, where also Wollebæk (3) has got it. The species seems, however, never to occur in any abundance. I have lately worked with Pettersen's badger round about Herdla, Setrevikosen, Ideosen and north in the Herdla fjord. In 47 samples at 4 stations in the Setrevikos, 90—130 m., I got 5 specimens. There were 2 specimens per square metre at the one station, and at the others there were between  $1\frac{2}{3}$  specimens per square metre. In Ideosen, 50—58 m., I have taken 65 samples and got 7 specimens, i. e. about 1 specimen per square metre. But if we take into consideration the number of specimens caught at every station in Setrevikosen and Ideosen, the number per square metre is considerably less. In the Herdla fjord, 138 m., I got 1 specimen from 6 samples.

***Calocarides coronatus*, Tryb.**

This form was taken by the "Michael Sars" at the following two stations:

- 24th. of April 1906, St. 120, Sæbø—Leknes, the Hjørundfjord, 424 m.,  
 ten specimens (one of these was a  
 female in berry).  
 „ 297, The Hjørundfjord, 439 m., one specimen.

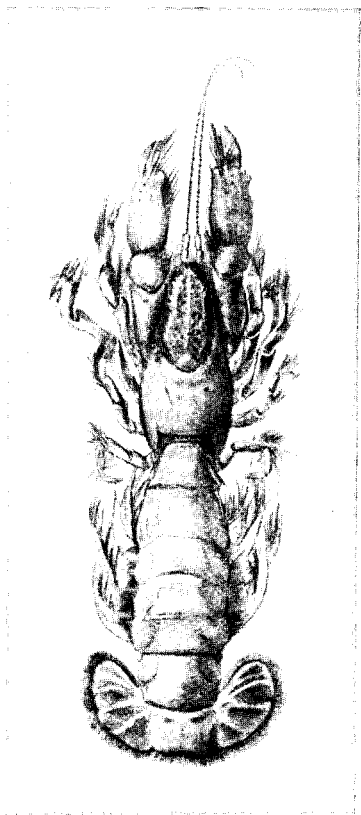
*Calocarides coronatus* is known on the coast of Bergen from the following localities:

The Bømmelfjord, 300—360 m. Nordgaard caught here (12:3:1902) a female in berry. The Bergensfjord ca. 400 m., 25. 9. 1907. Three specimens (Wollebæk).

The "Armauer Hansen" obtained a female in berry (10:5:1917) off Lifjell, in the Sognefjord, 425 m. There were 48 eggs, and the diameter of these was 1.5 mm.

*Calocarides coronatus* was earlier recorded from Skage Rack, 410—500 m. and from the Klosterfjord in the Bohuslen 230 m.

Dr. Trybom describes two species of the genus *Calocarides* (Eiconaxius): *C. coronatus* and *C. crassipes*, but a closer investigation of the two forms seems to prove that *C. crassipes* is only a young stage of *C. coronatus* (cf. Lagerberg).



*Upogebia stellata*  
from Vestre Omø, Ryfylke.

### *Upogebia stellata*, Mont.

This species is omitted from Dr. Appelløf's list of Decapods from the coast of Bergen. A specimen was obtained, however, in 1870, near Bergen by Friele (unfortunately, no particulars are given on the label). This specimen is in the Bergen Museum and is 37 mm. long (carapace and rostrum measuring 15 mm.).

Some specimens of the same form have also been found (20:11:1921) at Østre Omø in Ryfylke. They were found in a layer of shelly sand at a depth of one metre, and two of these specimens Mr. Bjelland sent to the Bergen Museum. They are 66 mm. and 65 mm. long, and the length of carapace and rostrum in both specimens is 22 mm.

*Upogebia stellata* has earlier been recorded on the Norwegian coast from Bogen near Tønsberg, Farsund and from the Flekkefjord (Sars 3).

***Eupagurus bernhardus*, Lin.**

This species was collected by the "Michael Sars" at the following stations:

|       |          |  |
|-------|----------|--|
| 1900, | St. 59,  | Honningsvaag, Finnmarken, littoral.                                |
| 1901, | " 107,   | Northern parts of the North Sea, 135 m.                            |
| 1902, | " 44,    | Lat. 62° 16' N., Long. 6° 6' W., 110 m.                            |
| 1903, | " 139,   | " 61° 12' N., " 0° 9' W., 164 m.                                   |
| 1904, | " 240,   | " 57° 38' N., " 8° 57' E., 56 m., 8.4°C.                           |
|       | " 255,   | " 56° 21' N., " 7° 13' E., 32 m., 10.4°C.                          |
|       | " 259,   | " 56° 1' N., " 4° 49' E., 38 m., 10.8°C.                           |
|       | " 260,   | " 55° 56' N., " 3° 49' E., 55 m., 10.3°C.                          |
|       | " 263,   | " 55° 44' N., " 1° 49' E., 77 m., 7.1°C.                           |
|       | " 269,   | " 56° 50' N., " 1° 36' W., 86 m., 8.1°C.                           |
|       | " 270,   | Off Aberdeen, 25 m., 10.3°C.                                       |
|       | " 273,   | Lat. 57° 11' N., Long. 0° 11' E., 78 m., 7°C.                      |
|       | " 275,   | " 57° 9' N., " 1° 30' E., 96 m., 6.15°C.                           |
|       | " 278,   | " 57° 4' N., " 4° 14' E., 65 m., 6.9°C.                            |
|       | " 273,   | " 57° 50' N., " 4° 47' E., 100 m., 6.8°C.                          |
|       | " 345,   | " 59° 35' N., " 1° 30' E., 120 m.                                  |
| 1906, | " 56 a,  | The Hjørundfjord, 150—200 m.                                       |
|       | " 287,   | Lat. 60° 57' N., Long. 0° 36' E., 130 m., 7.6°C.                   |
|       | " 290,   | " 60° 40' N., " 2° 34' E., 130 m.                                  |
|       | " 291,   | " 60° 38' N., " 2° 35' E. (the Viking Bank),<br>110—115 m., 6.9°C. |
|       | " 292,   | Lat. 60° 42' N., Long. 2° 53' E., 180—190 m., 6.9°C.               |
|       | " 323,   | N. off Hirshals, 70 m.   |
|       | " 324,   | Lat. 57° 44' N., Long. 9° 33' E., 85—100 m.                        |
|       | " 325,   | N. off Hirshals, 15—20 m.  |
|       | " 327,   | Twenty quarters of a mile NE. ½ E. off Hanstholm, 78 m.            |
|       | " 328,   | Twenty quarters of a mile NE.—E. off Hanstholm, 20—60 m.           |
|       | " 328 c, | Great Fisher Bank, 66 m.   |
|       | " 330 b, | Great Fisher Bank.   |

*Eupagurus pubescens*, Kr.

The "Michael Sars" got this species at the following localities:

|       |         |   |                  |  |
|-------|---------|---|------------------|--|
| 1900, | St. 52, | Østerbotten, the Porsangerfjord,                  | 90—100 m.        |  |
|       |         | —   | 1.15° C.         |  |
|       | „ 53,   | The Porsangerfjord (the middle of the fjord),     | 280 m.           |  |
|       | „ 57,   | Lat. 71° 36' N., Long. 25° 15' E.,                | 300 m., 3.09° C. |  |
|       | „ 58,   | „ 72° 40' N., „ 23° 10' E.,                       | 300 m., 3.21° C. |  |
|       | „ 59,   | Honningsvaag,                                     | littoral.        |  |
| 1901, | „ 53,   | Kiberg, the Varangerfjord,                        | 150 m.           |  |
|       | „ 60,   | The Baadsfjord,                                   | 60—70 m.         |  |
|       | „ 83,   | Twentytwo quarters of a mile SE. off Bear Island, | 130 m., 0.5° C.  |  |
|       | „ 87,   | Green Harbour, Spitzbergen,                       | 140 m., 1.1° C.  |  |
|       | „ 96,   | Lat. 70° 49' N., Long. 33° 46' E.,                | 215 m., 1.6° C.  |  |
|       | „ 98,   | N. NE. off the Skagen lightship,                  | 64 m.            |  |
|       | „ 107,  | Northern parts of the North Sea,                  | 135 m.           |  |
| 1902, | „ 39,   | Lat. 62° 23' N., Long. 2° 35' E.,                 | 400 m., 6.11° C. |  |
|       | „ 44,   | „ 62° 16' N., „ 6° 6' W.,                         | 110 m.           |  |
|       | „ 47,   | „ 60° 57' N., „ 3° 42' E.,                        | 350 m., 6.16° C. |  |
|       | „ 49,   | „ 61° 3' N., „ 2° 13' E.,                         | 130 m., 6.78° C. |  |
|       | „ 50,   | „ 61° 14' N., „ 2° 13' E.,                        | 155 m.           |  |
|       | „ 57,   | „ 62° 29' N., „ 5° 17' W.,                        | 350 m.           |  |
|       | „ 79b,  | „ 61° 7' N., „ 9° 33' W.,                         | 750 m.           |  |
|       | „ 104,  | „ 56° 55' N., „ 3° 55' E.,                        | 65 m.            |  |
| 1903, | „ 139,  | „ 61° 12' N., „ 0° 9' W.,                         | 164 m.           |  |
| 1904, | „ 260,  | „ 55° 56' N., „ 3° 49' E.,                        | 55 m., 7.6° C.   |  |
|       | „ 261,  | „ 55° 52' N., „ 3° 11' E.,                        | 70 m., 6° C.     |  |
|       | „ 263,  | „ 56° 44' N., „ 1° 49' E.,                        | 77 m., 7.1° C.   |  |
|       | „ 265,  | „ 56° 7' N., „ 0° 42' E.,                         | 80 m., 6.7° C.   |  |
|       | „ 269,  | „ 56° 50' N., „ 1° 36' W.,                        | 68 m., 8.4° C.   |  |
|       | „ 272,  | „ 57° 11' N., „ 0° 31' W.,                        | 88 m., 7.2° C.   |  |
|       | „ 273,  | „ 57° 11' N., „ 0° 11' E.,                        | 78 m., 7° C.     |  |
|       | „ 274,  | „ 55° 10' N., „ 0° 48' E.,                        | 97 m., 6.3° C.   |  |
|       | „ 275,  | „ 57° 9' N., „ 1° 30' E.,                         | 96 m., 6.15° C.  |  |
|       | „ 279,  | „ 57° 37' N., „ 3° 37' E.,                        | 77 m., 8.7° C.   |  |
|       | „ 283,  | „ 57° 50' N., „ 4° 47' E.,                        | 98 m., 6.8° C.   |  |
|       | „ 351,  | „ 59° 35' N., „ 1° 30' E.,                        | 110 m.           |  |

|       |          |  |                      |                     |
|-------|----------|--|----------------------|---------------------|
| 1904, | St. 352, | Lat. 59° 10' N.,   | Long. 3° 48' E.,     | 123 m.              |
| 1905, | " 62,    | " 70° 3' N.,   | " 36° E.,            | 160 m., 1.92-2°C.   |
| "     | " 72,    | " 74° 12' N.,  | " 17° 38' E.,        | 200—215 m.          |
| 1906, | " 21,    | " 61° 52' N.,  | " 1° 8' E.,          | 220 m.              |
| "     | " 26,    | " 62° 20' N.,  | " 5° 2' E.,          | 150 m.              |
| "     | " 222,   | " 62° 30' N.,  | " 5° 44' E.,         | 270 m.              |
| "     | " 284,   | " 61° 43' N.,  | " 1° 16' E.,         | 190 m., 7.2°C.      |
| "     | " 285,   | " 61° 55' N.,  | " 0° 56' E.,         | 245-300 m., 7.2°C.  |
| "     | " 287,   | " 60° 52' N.,  | " 0° 36' E.,         | 130 m., 7.6°C.      |
| "     | " 290,   | " 60° 40' N.,  | " 2° 34' E.,         | 130 m.              |
| "     | " 291,   | " 60° 38' N.,  | " 2° 35' E.,         | 110-115 m., 6.9°C.  |
| "     | " 292,   | " 60° 42' N.,  | " 2° 53' E.,         | 180-190 m., 6.9°C.  |
| "     | " 297,   | The Hjørundfjord, 439 m.                                 |                      |                     |
| "     | " 299,   | The Skreigrund off Aalesund, 75—80 m.                    |                      |                     |
| "     | " 304b,  | The Sulenfjord, Sunnmør, 68—100 m.                       |                      |                     |
| "     | " 304d,  | The Sulenfjord, Sunnmør, 100 m.                          |                      |                     |
| "     | " 307a,  | Storeggen, 260 m.  |                      |                     |
| "     | " 307b,  | Storeggen, 310 m.  |                      |                     |
| "     | " 318,   | Two quarters of a mile S. SW. off Færder, 80 m.          |                      |                     |
| "     | " 328b,  | Twenty quarters of a mile NE.—E. off Hanstholm, 20—60 m. |                      |                     |
| "     | " 328c,  | Great Fisher Bank, 66 m.                                 |                      |                     |
| "     | " 330b,  | Great Fisher Bank.                                       |                      |                     |
| 1907, | " 82,    | Lat. 65° 27' N.,   | Long. 11° 48' E.,    | ca. 300 m.          |
| 1908, | " 248,   | Off Førde, the Jøsenfjord, Ryfylke.                      |                      |                     |
| 1909, | " 108,   | Lat. 70° 32' N.,   | Long. 18° 17' E.,    | 300 m. (Nordreisa). |
| "     | " 174,   | The Plateau off Tromsø, 210 m.                           |                      |                     |
| 1914, | " 6,     | Lat. 70° 9—10' N.,                                       | Long. 32° 52—55' E., | 199—209 m.          |
| "     | " 14,    | " 71° 6' N.,   | " 31° 25' E.,        | 273 m., 3.04°C.     |
| "     | " 74,    | " 70° 40—43' N.,   | " 20° 50—57' E.,     | 168—220 m., 6.17°C. |

*Eupagurus prideauxi*, Leach.

This species was obtained by the "Michael Sars" at the following stations:

|       |          |                  |                 |        |
|-------|----------|------------------|-----------------|--------|
| 1903, | St. 139, | Lat. 61° 12' N., | Long. 0° 9' W., | 164 m. |
| "     | " 141,   | " 58° 39' N.,    | " 1° 20' W.,    | 110 m. |

|                |                  |                  |         |         |
|----------------|------------------|------------------|---------|---------|
| 1906, St. 284, | Lat. 61° 43' N., | Long. 1° 16' E., | 190 m., | 7.2° C. |
| „ 286,         | „ 61° 15' N.,    | „ 1° E.,         | 170 m., | 7.2° C. |
| „ 287,         | „ 60° 57' N.,    | „ 0° 36' E.,     | 130 m., | 7.6° C. |

***Eupagurus variabilis*, M. Edw. & Bouv.**

The "Michael Sars" got this species at the following stations:

|                |                  |                 |                    |
|----------------|------------------|-----------------|--------------------|
| 1903, St. 139, | Lat. 61° 12' N., | Long. 0° 9' W., | 164 m.             |
| 1906, „ 284,   | „ 61° 43' N.,    | „ 1° 16' E.,    | 190 m., 7.2° C.    |
| „ 285,         | „ 61° 55' N.,    | „ 0° 56' E.,    | 245-300m., 7.2° C. |
| „ 286,         | „ 61° 15' N.,    | „ 1° E.,        | 170 m., 7.2° C.    |
| „ 287,         | „ 60° 57' N.,    | „ 0° 36' E.,    | 130 m., 7.6° C.    |
| „ 292,         | „ 60° 42' N.,    | „ 2° 53' E.,    | 180-190m., 6.9° C. |

Appelløf describes this species as *Eupagurus excavatus* and *Eupagurus excavatus* var. *meticulosus* from the Herdlafjord, 30—35 m. and 95 m., and Nordgaard (2) describes it also from the same locality, as *Eupagurus excavatus*, and Sars (3 p. 4) from Storeggen (Vøringen, St. 24), as *Eupagurus meticulosus*. Odhner (p. 10) has examined the whole materiel, and he proves that neither of the specimens are *Eupagurus excavatus* or var. *meticulosus*, but that they belong to *Eupagurus variabilis* described by Milne Edwards and Bouvier (cf. Selbie 2).

***Anapagurus lævis*, Thoms.**

This species was taken by the "Michael Sars" at the following localities:

|               |                 |                  |         |          |
|---------------|-----------------|------------------|---------|----------|
| 1902, St. 49, | Lat. 61° 3' N., | Long. 2° 13' E., | 130 m., | 6.78° C. |
| „ 50,         | „ 61° 14' N.,   | „ 2° 13' E.,     | 155 m.  |          |
| 1903, „ 139,  | „ 61° 12' N.,   | „ 0° 9' W.,      | 164 m.  |          |
| 1904, „ 253,  | „ 56° 54' N.,   | „ 8° 10' E.,     | 20 m.,  | 12.6° C. |
| „ 259,        | „ 56° 1' N.,    | „ 4° 49' E.,     | 38 m.,  | 10.9° C. |
| „ 269,        | „ 56° 50' N.,   | „ 1° 36' W.,     | 68 m.,  | 8.4° C.  |
| „ 272,        | „ 57° 11' N.,   | „ 0° 31' E.,     | 88 m.,  | 7.2° C.  |
| „ 274,        | „ 57° 10' N.,   | „ 0° 48' E.,     | 97 m.,  | 6.3° C.  |
| 1905, „ 30,   | „ 62° 43' N.,   | „ 3° 42' E.,     | 200 m.  |          |
| 1906, „ 21,   | „ 61° 52' N.,   | „ 1° 8' E.,      | 220 m.  |          |

- 1906, St. 284, Lat.  $61^{\circ} 43' N.$ , Long.  $1^{\circ} 16' E.$ , 190 m.,  $7.2^{\circ} C.$   
 „ 286, „  $61^{\circ} 15' N.$ , „  $1^{\circ}$  E., 170 m.,  $7.2^{\circ} C.$   
 „ 290, „  $60^{\circ} 40' N.$ , „  $2^{\circ} 34' E.$ , 130 m.  
 „ 292, „  $60^{\circ} 42' N.$ , „  $2^{\circ} 53' E.$ , 180-190m.,  $6.9^{\circ} C.$   
 „ 304d, The Sulenfjord, Sunnmør, 100 m.  
 „ 314, Three quarters of a mile E. off Risør, 50—75 m.  
 „ 326, Thirty quarters of a mile N. off Hirshals, 170 m.  
 1909, „ 108, Lat.  $70^{\circ} 32' N.$ , Long.  $18^{\circ} 17' E.$ , (Nordreisa), 300 m.

***Parapagurus pilosimanus*, Smith.**

In 1902, took the “Michael Sars” several of this species at St. 79b, Lat.  $61^{\circ} 7' N.$ , Long.  $9^{\circ} 33' W.$ , 750 m.

***Pirimela denticulata*, Leach.**

In August 1912, a specimen of this rare species was obtained by Mr. Sund at Korshavn, Lindesnes. The specimen is 11 mm. long and 13 mm. broad. Its colour was reddish, and the large knobs on the carapace were almost white. The species was previously recorded by G. O. Sars from Nevlunghavn, Manger, Kalvaag and Kristiansund. Appelløf caught it at Kvitesøy, and Koren obtained it at the Korsfjord near Bergen, 20—60 m.

***Xantho rivulosus*, Risso.**

The specimen described by Appelløf was got at Solsvik. Since then four other specimens have been obtained one at Solsvik, 10—40 m. and the other three at Tursen, 20—30 m. They were all females and measured 7—9—10.5—11 mm. in length, and 9—11—14—15 mm. in breadth. The species had previously been taken only at Haugesund by Lilljeborg.

***Atelecyclus septemdentatus*, Mont.**

The “Michael Sars” collected this species at the following stations:

- 1901, St. 107, The northern parts of the North Sea, 135 m., one specimen.  
 1902, „ 50, Lat.  $61^{\circ} 14' N.$ , Long.  $2^{\circ} 13' E.$ , 155., one specimen.



1904, St. 271, Lat.  $57^{\circ} 12' N.$ , Long.  $1^{\circ} 8' E.$ , 63 m., 8.4 C., one specimen.

1906, „ 284, Lat.  $61^{\circ} 43' N.$ , „  $1^{\circ} 16' E.$ , 190m., 7.2C. Two small specimens.

The largest of the specimens was a male (St. 107). It is 29 mm. long and 31 mm. broad. A female in berry from St. 271, (5:7:1904) is 25 mm. long and 26.5 mm. broad.

### *Geryon tridens*, Kr.

In "Oversigt af Norges Crustaceer" G. O. Sars says that this species is not at all uncommon at the inner part of the Oslofjord, but there was only one specimen obtained at Haakonsund, the Korsfjord (cf. Appelløf). *Geryon tridens* has, however, lately been recorded from two more localities, Vistebukten and the Skutefjord near Stavanger; and two other young specimens have been got at Haakonsund. The specimens at our west coast measured:

|             |             |   |        |       |        |        |
|-------------|-------------|---|--------|-------|--------|--------|
| Haakonsund  | 5:9:1914,   | ♀ | 18 mm. | long, | 25 mm. | broad. |
|             |             | ♂ | 19     | „     | 27     | „      |
| Vistebukten | 3:8:1898,   | ♀ | 42     | „     | 66     | „      |
| Skutefjord  | 10:12:1925, | ♂ | 58     | „     | 71     | „      |
| Haakonsund  | July 1874,  | ♂ | 58     | „     | 73     | „      |

The species has been taken by the "Michael Sars" at the following stations:

1902, St. 76b, Lat.  $59^{\circ} 23' N.$ , Long.  $7^{\circ} 50' W.$ , 1100m., 8.07° C. one young female.

1904, „ 350, Lat.  $59^{\circ} 35' N.$ , Long.  $1^{\circ} 30' E.$ , 140 m., one full-grown male.

1906, „ 326, Thirty quarters of a mile N. off Hirshals, 170 m. one full-grown male.

„ 327, Twentytwo quarters of a mile NE.  $\frac{1}{2}$  E. off Hanstholm 78 m., one full-grown male.

### *Inachus dorsettensis*, Penn.

The „Michael Sars" caught this species in 1906, at station 314, three quarters of a mile E. off Risør, 50—75 m.

***Inachus dorynchus*, Leach.**

This species was collected by the "Michael Sars" at the following localities:

|           |      |                  |                  |         |          |
|-----------|------|------------------|------------------|---------|----------|
| 1902, St. | 78,  | Lat. 60° 55' N., | Long. 8° 56' W., | 125 m., | 9.33° C. |
| 1904, „   | 256, | „ 56° 4' N.,     | „ 6° 45' E.,     | 41 m.,  | 8.7° C.  |
| „         | 269, | „ 56° 50' N.,    | „ 1° 36' W.,     | 86 m.,  | 8.1° C.  |
| 1906, „   | 284, | „ 61° 43' N.,    | „ 1° 16' E.,     | 190 m., | 7.2° C.  |

***Inachus leptochirus*, Leach.**

The "Michael Sars" took this species (15:8:1902) at station 50, Lat. 61° 14' N., Long. 2° 13' E., 155 m. There were caught two males and a female with advanced eggs. The largest male was 28 mm. long and 22 mm. broad, the female 25 mm. and 18 mm.

At station 78, Lat. 60° 55' N., Long. 8° 56' W., 125 m., two young males were obtained.

***Stenorynchus longirostris*, Latr.**

In 1902, caught the "Michael Sars" two specimens of this species at station 78, Lat. 60° 55' N., Long. 8° 56' W., 125 m., 9.33° C.

***Hyas araneus*, Lin.**

This species was taken by the "Michael Sars" at the following stations:

|           |      |  |              |         |          |
|-----------|------|--|--------------|---------|----------|
| 1900, St. | 12,  | The Dyrafjord, Iceland.                              |              |         |          |
| „         | 52,  | Østerbotten, the Porsangerfjord, 90—100 m., 1.15° C. |              |         |          |
| „         | 52b, | Østerbotten, the Porsangerfjord, littoral.           |              |         |          |
| „         | 53,  | Kistrand, the Porsangerfjord, littoral.              |              |         |          |
| „         | 61,  | Lat. 74° 6' N., Long. 18° 50' E., 90 m. — 0.19° C.   |              |         |          |
| 1901, „   | 180, | Green Harbour, Spitzbergen, 140 m., 1.1° C.          |              |         |          |
| 1902, „   | 44,  | Lat. 62° 16' N., Long. 6° 6' W., 110 m.              |              |         |          |
| „         | 78,  | „ 60° 55' N.,  | „ 8° 56' W., | 125 m., | 9.33° C. |
| „         | 255, | „ 56° 21' N.,  | „ 7° 13' E., | 32 m.,  | 10.4° C. |
| „         | 60,  | Giske, Sunnmør, 12 m.                                |              |         |          |

*Hyas coarctatus*, Leach.

The "Michael Sars" obtained this species at the following stations:

|       |         |  |
|-------|---------|--|
| 1900, | St. 54, | The mouth of the Porsangerfjord, 280 m.              |
|       | „ 56,   | Lat. 71° 5' N., Long. 26° 16' E., 200-300m., 3.93°C. |
|       | „ 58,   | „ 72° 40' N., „ 23° 10' E., 300m., 3.21°C.           |
| 1901, | „ 45,   | „ 71° 22' N., „ 27° 55' E., 390m., 2.5—3°C.          |
|       | „ 47,   | The Kongsfjord, 100 m.                               |
|       | „ 52,   | Lat. 71° N., Long. 29° 55' E., 300 m.                |
|       | „ 60,   | The Baadsfjord, 60—70 m.                             |
| 1902, | „ 44,   | Lat. 62° 16' N., Long. 6° 6' W., 110m.               |
|       | „ 45,   | „ 62° 17' N., „ 4° 57' W., 265m.                     |
|       | „ 54,   | „ 62° 29' N., „ 4° 52' E., 200m., 6.93°C.            |
|       | „ 65,   | „ 62° 13' N., „ 4° 15' W., 340m.                     |
|       | „ 78,   | „ 60° 55' N., „ 8° 56' W., 125m., 9.33°C.            |
|       | „ 83,   | „ 62° 29' N., „ 7° 37' W., 110m., 8.71°C.            |
|       | „ 90,   | „ 64° 17' 3'' N., „ 14° 44' W., 75m., 5.12°C.        |
|       | „ 91,   | „ 64° 27' N., „ 13° 27' W., 150m., 4.5°C.            |
|       | „ 104,  | „ 56° 55' N., „ 3° 55' E., 34m.                      |
| 1903, | „ 141,  | „ 58° 39' N., „ 1° 20' E., 110m.                     |
|       | „ 181,  | „ 66° 13' N., „ 25° 10' W.                           |
| 1904, | „ 212,  | „ 57° 41' N., „ 5° 35' E., 100m., 6°C.               |
|       | „ 240,  | „ 57° 38' N., „ 8° 57' W., 56m., 8.4°C.              |
|       | „ 255,  | „ 56° 21' N., „ 7° 13' E., 32m., 10.9°C.             |
|       | „ 259,  | „ 56° 1' N., „ 4° 49' E., 38m., 10.8°C.              |
|       | „ 263,  | „ 55° 44' N., „ 1° 49' E., 71m., 7°C.                |
|       | „ 265,  | „ 56° 7' N., „ 0° 42' E., 80m., 6.7°C.               |
|       | „ 269,  | „ 56° 30' N., „ 1° 36' W., 68m., 8.4°C.              |
|       | „ 271,  | „ 57° 12' N., „ 1° 8' W., 63m., 8.4°C.               |
|       | „ 277,  | „ 57° 6' N., „ 2° 58' E., 68m., 6.7°C.               |
|       | „ 278,  | „ 57° 4' N., „ 4° 14' E., 65m., 6.9°C.               |
|       | „ 280,  | „ 58° 3' N., „ 3° 56' E., 74m., 6.7°C.               |
|       | „ 283,  | „ 57° 50' N., „ 4° 47' E., 98m., 6.8°C.              |
|       | „ 345,  | Ling Bank, the North Sea, 120m.                      |
| 1905, | „ 72,   | Lat. 74° 12' N., Long. 17° 38' E., 200—215m.         |
| 1906, | „ 60,   | Giske, Sunnmør, 12—40m.                              |
|       | „ 269,  | Fjærtøft, Flemsø, Sunnmør, 110m.                     |

- 1906, St. 286, Lat.  $61^{\circ} 15' N$ , Long.  $1^{\circ} E$ , 170m.  $7.2^{\circ} C$ .  
 „ 291, „  $60^{\circ} 38' N$ , „  $2^{\circ} 35' E$ , 110-115m.,  $6.9^{\circ} C$ .  
 „ 292, „  $60^{\circ} 42' N$ , „  $2^{\circ} 35' E$ , 275m.,  $6.9^{\circ} C$ .  
 „ 299, The Skreigrund off Aalesund, 75—80 m.  
 „ 304b, The Sulenfjord, 68—100m.  
 „ 307b, Storeggen, 310m.  
 „ 327, North off Hirshals, 70 m.  
 „ 328, Great Fisher Bank, 66 m.  
 „ 330, Great Fisher Bank.  
 1908, „ 248, Off Førde, the Jøsenfjord, Ryfylke.  
 1900, „ 108, Lat.  $70^{\circ} 32' N$ , Long.  $18^{\circ} 17' E$ . (Nordreisa), 300m.  
 1914, „ 4, „  $70^{\circ} 11-12' N$ , Long.  $30^{\circ} 41-46' E$ , 115-124 m.  
 $4.2^{\circ} C$ .

***Euryonome aspersa*, Penn.**

A specimen of this rare species was obtained in August 1908, at Solsvik, 20—30 m. Appelløf and I got a specimen at Fitjar, 20—40 m., in June 1890. Appelløf has also recorded the species from Solsvik, 20—60 m. and from Hanø in the Hjeltefjord, 6—20 m. There is in the Bergen Museum, besides these specimens, another one taken near Bergen at an earlier date.

***Lispognathus thomsoni*, Norm.**

The “Michael Sars” got five specimens of this species in 1902, at station 76b, Lat.  $59^{\circ} 23' N$ , Long.  $7^{\circ} 50' W$ , 1100 m.,  $8.07^{\circ} C$ .

***Scyramathia carpenteri*, Norm.**

This species was collected by the “Michael Sars” at the following two stations:

- 1902, St. 76b, Lat.  $59^{\circ} 23' N$ , Long.  $7^{\circ} 50' W$ , 1100 m.,  $8.07^{\circ} C$ .  
 Six specimens.  
 „ 79b, Lat  $61^{\circ} 7' N$ , Long.  $9^{\circ} 23' W$ , 750m. One specimen.

In addition to the Decapod Crustacea from the "Michael Sars" and the West Coast of Norway, I give below a list of Decapods collected by the "Armauer Hansen" on her expedition to the Northern Atlantic betw. the Hebrides and ca.  $31\frac{1}{2}^{\circ}$  W. Long. and betw.  $54^{\circ}$  and  $59\frac{1}{2}^{\circ}$  N. Lat. Young fishtrawl and net were used horizontally at depths from 100 to ca. 900 m. The material is from 8 stations.

***Sergestes arcticus*, Kr.**

- St. 2, Lat.  $56^{\circ} 58'$  N. Long.  $14^{\circ} 39'$  W., 350 m., salinity at 200 m. depth 35.32 ‰; 400 m. wire, net.  
,, 4, Lat.  $54^{\circ} 42'$  N., Long.  $18^{\circ} 44'$  W., 400 m. wire, young fish-trawl; 600 m. wire, net.  
,, 5, Lat.  $54^{\circ}$  N., Long.  $23^{\circ}$  W., temp. and salinity at 600 m.  $8.18^{\circ}$  C. and 35.165 ‰; at 800 m.  $5.075^{\circ}$  C. and 35.03 ‰; 630 m. wire, net; 1030 m. wire, net.  
,, 7, Lat.  $54^{\circ} 5'$  N., Long.  $26^{\circ} 8'$ , temp. at a depth of 200 m.,  $5.475^{\circ}$  C., salinity 35 ‰; 1000 m. wire, net.  
,, 11, Lat.  $56^{\circ} 5'$  N., Long.  $30^{\circ} 31'$  W., 150 m. wire, net; 600 m. wire, net; 1300 m. wire, young fish-trawl.  
,, 14, Lat.  $59^{\circ} 30'$  N., Long.  $20^{\circ} 40'$  W., temp. at 400 m.  $8.58^{\circ}$  C., salinity 35.25 ‰; temp. at 600 m.  $7.34^{\circ}$  C. and salinity 35.14 ‰; 150 m. wire net; 600 m. wire, net; 1000 m. wire, net; 1300 m. wire, young fish-trawl.  
,, 17, East of Rockall, 1860 m., at 800 m. the temperatur and salinity were  $7.715^{\circ}$  C. and 35.27 ‰; at 1000 m. they were  $7.715^{\circ}$  C. and 35.255 ‰; 1000 m. wire, net; 1300 m. wire young fish-trawl.

At station 11, there were only one full-grown specimen; the rest were young ones.

***Sergestes robustus*, Smith.**

- St. 17, East of Rockall, 1860 m., temperatur and salinity were at 400 m.  $9^{\circ}$  C. and 35.31 ‰; at 800 m. they were  $7.715^{\circ}$  C. and 35.27 ‰; at 1000 m.  $7.715^{\circ}$  C. and 35.255 ‰; 600 m. wire, net, one young specimen. 1300 m. wire, young fish-trawl. A full-grown and two young specimens.

*Amalopenæus elegans*, Smith.

- St. 5, Lat. 54° N., Long. 23° W., temperature and salinity at 600 m. 8.18° C. and 35.165 ‰; 1030 m. wire, net, five specimens.
- „ 9, Lat. 54° 51' N., Long. 28° 15' W., temperature and salinity at 400 m. were 6.23° C. and 34.99 ‰; at 800 m. they were 4.22° C. and 34.94 ‰; at 1000 m. 3.71° C. and 34.94 ‰; 600 m. wire, net. Three specimens. 1300 m. wire, young fish-trawl. One specimen.
- „ 11, Lat. 56° 5' N., Long. 30° 31' W., 1300 m. wire, young fish-trawl. Seven specimens.
- „ 14, Lat. 59° 30' N., Long. 20° 40' W.; at 400 m. temp. 8.58° C. sal. 35.25 ‰, at 600 m. temp. 7.34° C. sal. 35.14 ‰; 100 m. wire, net. One specimen. 1000 m. wire, net, five specimens. 1300 m. wire, young fish-trawl. Two specimens.
- „ 17, East of Rockall, 1860 m., at 600 m. temp. 8.59° C.; salinity 35.29 ‰, at 800 m. temp. 7.715° C.; 35.32 ‰, at 1000 m. temp. 7.715° C.; salinity 35.255 ‰; 1000 m. wire, net. Eight specimens. 1300 m. wire, young fish-trawl. Six specimens.

*Amalopenæus valens*, Smith.

- St. 7, Lat. 54° 5' N., Long. 26° 8' W., at 600 m. temp. 5.475° C.; salinity 35 ‰; 1000 m. wire, net. One specimen.
- „ 9, Lat. 54° 51' N., Long. 28° 15' W., at 400 m. temp. 6.23° C., salinity 34.99 ‰, at 600 m. temp. 4.935° C., salinity 34.95 ‰, at 800 m. temp. 4.22° C., salinity 34.94 ‰; 600 m. wire, net. One specimen. 1000 m. wire net. Thirteen specimens.
- „ 11, Lat. 56° 5' N., Long. 30° 31' W.; 1000 m. wire, net. Sixteen specimens, 1300 m. wire, young fish-trawl. One specimen.
- „ 14, Lat. 59° 30' N., Long. 20° 40' W., at 600 temp. 7, 34° C. salinity 35.14 ‰. 1000 m. wire, net. One specimen, 1300 m. wire, young fish-trawl. One specimen.

- St. 17, East of Rockall, 1860 m., at 600 m. temp. 8.59° C. salinity 35.29 ‰, at 800 m. temp. 7.715° C. salinity 35.27 ‰, at 1000 m. temp. 7.715° C. salinity 35.255 ‰, 1000 m. wire, net. Seven specimens. 1300 m. wire, young fish-trawl. Six specimens.

***Hymenodora glacialis*, Buchh.**

- St. 9, Lat. 54° 51' N., Long. 28° 15' W., at 800 m. temp. 4.22° C., salinity 34.94 ‰, at 1000 m. temp. 3.71° C., salinity 34.94 ‰. 1300 m. wire, young fish-trawl. Three specimens.

***Parasiphæa sulcatifrons*, Smith.**

- St. 5, Lat. 54° N., Long. 23° W., at 600 m. temp. 8.18° C., salinity 35.165 ‰, at 800 m. temp. 5.075° C., salinity 35.03 ‰. 1030 m. wire net. Five specimens.
- „ 7, Lat. 54° 5' N., Long. 26° 8' W., at 600 m. temp. 5.475° C., salinity 35 ‰. 1000 m. wire, net. Two specimens.
- „ 9, Lat. 54° 51' N., Long. 28° 15' W., at 800 m. temp. 4.22° C., salinity 34.94 ‰, 1000 m. temp. 3.71° C., salinity 34.94 ‰. 1000 m. wire, net. One specimen. 1300 m. wire, young fish-trawl. Four specimens.
- „ 11, Lat 56° 5' N., Long. 30° 31' W., 1000 m. wire, net. Three specimens. 1300 m. wire, young fish-trawl. Four specimens.
- „ 14, Lat. 59° 30' N., Long. 20° 40' W.; at 600 m. temp. 7.34° C., salinity 35.14 ‰. 1000 m. wire, net. Three specimens. 1300 m. wire, young fish-trawl. One specimen.
- „ 17, East of Rockall, 1860 m., at 600 m. temp. 7.34° C., salinity 35.14 ‰. 1000 m. wire, net. One specimen. 1300 m. wire, young fish-trawl. Two specimens.

***Acanthephyra multispina*, Cout.**

- St. 5, Lat. 54° N., Long. 23° W., at 600 m. temp. 8.18° C., salinity 35.165 ‰, at 800 m. temp. 5.075° C., salinity 35.03 ‰. 1030 m. wire, net. Two specimens.

- St. 7, Lat. 54° 5' N., Long. 26° 8' W., at 800 m. temp. 5.475 C°, salinity 35 ‰. 100 m. wire, net. Nine specimens.
- „ 9, Lat. 54° 51' N., Long. 28° 15' W., at 600 m. temp. 4.935° C., salinity 34.95 ‰, at 800 m. temp. 4.22° C., salinity 34.94 ‰, 1000 m. temp. 3.72° C., salinity 34.94 ‰. 1000 m. wire, net. One specimen. 1300 m. wire, young fish-trawl. Two specimens.
- „ 11, Lat. 56° 5' N., Long. 30° 31' W., 1000 m. wire, net. One specimen. 1300 m, wire, young fish-trawl. Three specimens.
- „ 14, Lat. 59° 30' N., Long. 20° 40' W., at 400 m. temp. 8.58° C., salinity 35.25 ‰, at 600 m. temp. 7.34° C., salinity 35.14 ‰. 600 m. wire, net. Two specimens. 1000 m. wire, net. Three specimens. 1300 m. wire, young fish-trawl. Four specimens.
- „ 17, East of Rockall, 1860 m., at 600 m. temp. 8.59° C., salinity 35.29 ‰, at 800 m. temp. 7.717° C., salinity 35.27 ‰, at 1000 m. temp. 7.715° C., salinity 35.255 ‰. 1000 m. wire, net. Five specimens. 1300 m. wire, young fish-trawl. Seven specimens.

*Systemaspis debilis*, M. E d w.

- St. 2, Lat. 56° 58' N., Long. 14° 39' W., 370 m. at 200 m. salinity 35.32 ‰. 400 m. wire, net. Three young specimens.
- „ 5, Lat. 54° N., Long. 23° W. at 400 m. temp. 8.95° C., salinity 35.26 ‰. 630 m. wire, net. Two specimens. The total length of the larger of the two specimens measured 54 mm., carapace and rostrum 25 mm., rostrum alone 17 mm.
- „ 11, Lat. 56° 5' N., Long. 30° 31' W., 150 m. wire, net. One young specimen.
- „ 14, Lat. 59° 30' N., Long. 20° 40' W., at 600 m. temp. 7.34° C., salinity 35.14 ‰. 1000 m. wire, net. One young specimen.
- „ 17, East of Rockall, 1860 m., at 800 m. temp. 7.715° C., salinity 35.27 ‰, at 1000 m. temp. 7.715° C., salinity 35.255 ‰. 1300 m. wire, young fish-trawl. Four young specimens.



*Eryoneicus faxoni*, Bouv.

St. 11, Lat. 56° 5' N., Long. 30° 31' W., 1300 m. wire, young fish-trawl. One specimen.

|                          |        |
|--------------------------|--------|
| Total length .....       | 32 mm. |
| Length of carapace ..... | 17 „   |
| — „ abdomen .....        | 16 „   |
| — „ antennulae .....     | 9 „    |
| — „ cheliped .....       | 26 „   |

The spines along the dorsal line on the carapace were 2—1—2—1—1—c—2—2—1—2. (c. indicates the cervical groove).

The specimen has thus the same formula as they described by Selbie and Bouvier. But the spines along the mid-dorsal line of the abdomen vary considerably. In this specimen the formula is 1—1—3—3—2—1, but in the one described and pictured by Selbie (1) it is 1—3—3—3—3—1—1 (cf. Bouvier 4).

*Eryoneicus faxoni* must, however, be considered merely as a young specimen of *Polycheles sculptus*, Smith (cf. Sund 2). It was first collected by the "Talisman" off Cape Cantin, Morocco, 2200 m.; later on it has been recorded by the Prince of Monaco from the west side of the Mediterranean, 0—2800 m. and between the Azores and New York, 0—2000 m. (Bouvier). It is also known from some localities off the west coast of Ireland. (Selbie).

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