ACCOUNT

OF THE

CRUSTACEA AND THE PYCNOGONIDA

COLLECTED BY

DR. V. NORDMANN IN THE SUMMER OF 1911

FROM NORTHERN STRÖMFJORD

AND GIESECKE LAKE IN WEST GREENLAND

BY

K. STEPHENSEN

WITH 8 PLATES AND A MAP

SÆRTRYK AF »MEDDELELSER OM GRØNLAND« LI

KØBENHAVN
BIANCO LUNOS BOGTRYKKERI
1913

In the summer of 1911 the Commission for the Direction of Geological and Geographical Exploration in Greenland appointed Dr. V. Nordmann to make a zoological investigation of Northern Strømfjord and Giesecke Lake in West Greenland.

This investigation is the first of a series of investigations of the animal life of the fjords of Greenland and consequently is of very great interest. That honour is due to Denmark for having made far more extensive investigations in Greenland waters than all the other nations taken together, will be evident from my list (which will shortly be published as a part of Conspectus Faunæ Groenlandicæ in Meddel. om Grønland, vol. 22) of all the habitats, known up to the present, of Greenland Crustacea and Pycnogonida; but no systematic investigation of the animal life at, as far as possible, all depths within a limited area has been made until now.

Previous expeditions have usually kept to rather shallow water or confined themselves to making scattered dredgings in deeper water; the Ingolf Expedition during the two summers 1895—96 had to investigate as far as possible all Greenland waters, and therefore naturally was not able to devote its attention to a single area. The Tjalfe Expedition of 1908—09 was confident that it had proved that the fjords of southern Greenland could be divided into two groups, viz. those in which the warm water of the Atlantic Ocean extends right to the head, and those which are cut off from Davis Strait by a ridge at the mouth so that the water of the Atlantic Ocean is kept out and the bottom water becomes arctic; therefore the Commission previously mentioned was of opinion that it was important to have these types of fjords investigated. As an example of the Arctic type Northern Strømfjord near Holstensborg was chosen, as mentioned above, and the result shows that all the Crustacea are true arctic or boreo-arctic species.

Last summer (1912) the Commission did me the honour of sending me to Greenland to investigate some fjords of the Atlantic type; as examples of such, Kvanefjord near Frederikshaab and Bredefjord and Skovfjord between Ivigtut and Julianehaab were chosen. Bredefjord, owing to its greater depth (above 900 metres), especially proved to be extremely interesting; an account of the results will probably soon be published.

But there are yet other Greenland fjords, the investigation of which will unquestionably yield very interesting results; first and foremost, Umanak Fjord which, although it is situated 5 degrees of latitude north of the ridge in Davis Strait yet, according to the Tjalfe Expedition, has bottom water of a temperature above freezing point.

The most interesting investigation will, however, be that of the great depth in Baffin Bay, as it is a vexed question, how far the fauna there is Arctic or Atlantic. Dr. TH. MORTENSEN thinks that he can prove, especially on the basis of the Echinodermata (Meddel. om Grønland, vol. 45, 1910 (1912), pp. 292—93) that the fauna is boreal, while the Malacostraca and the Pycnogonida appear to show that it is arctic with an admixture of a few boreal species (K. STEPHENSEN, Meddel. om Grønland, vol. 45, 1912, pp. 565—66); as, however, there are about five times as many Malacostraca as Echinodermata in Greenland we may be justified in concluding that the Malacostraca give the more reliable result as regards this point.

The present paper deals with 70 species in all. (In the following list the figures before the names of the species indicate the number allotted to each species).

Two species are new to science, viz.

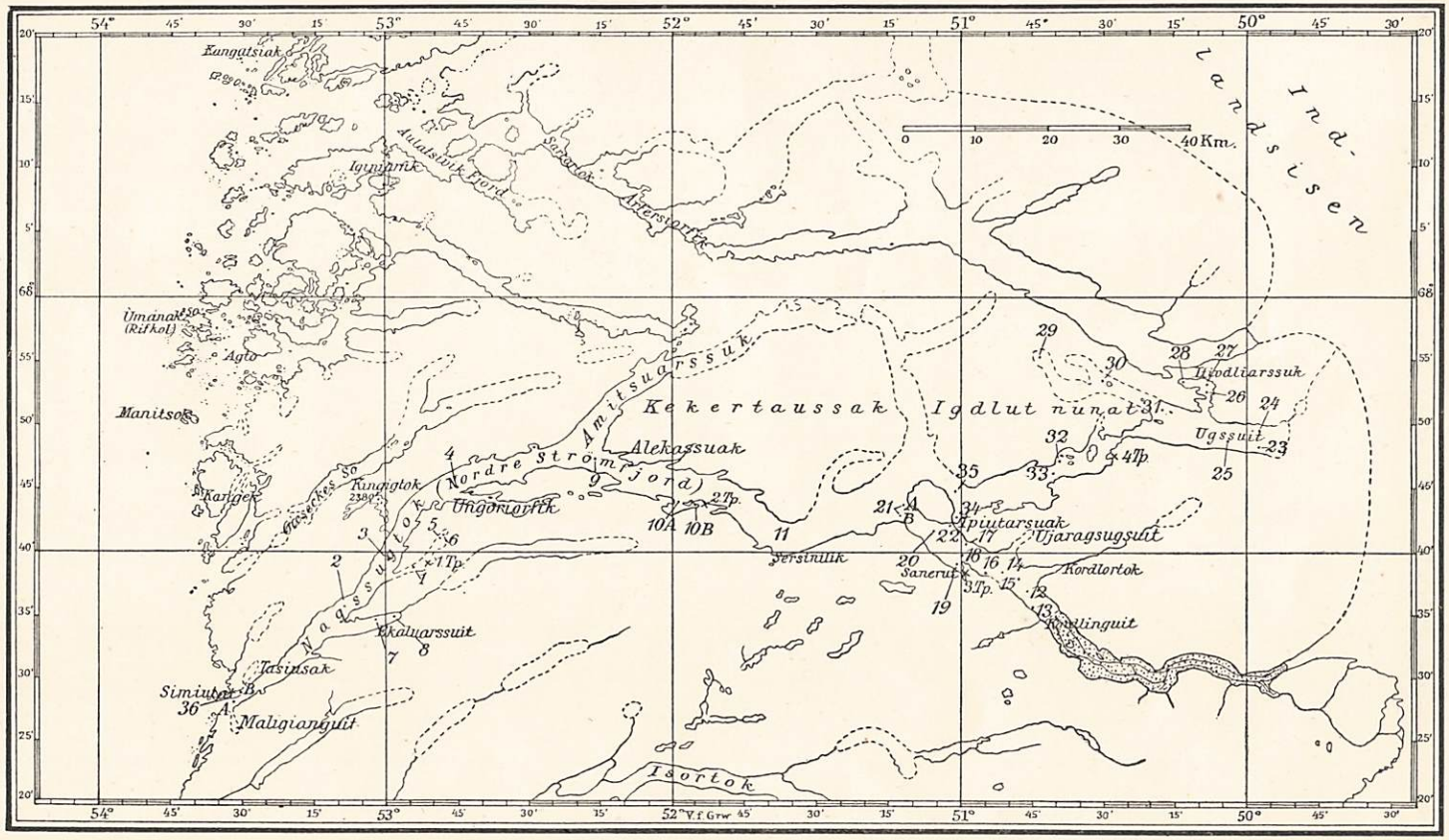
44. Janira Vilhelminæ and
62. Monstrilla Wandelii.

In addition to these, the following eight species are new to Greenland: —

19. Orchomenella pinguis,
23. Metopa leptocarpa,
36. Podocerus pusillus,
50. Balanus Hameri,
51. Lepas anatifera,
56. Centropages hamatus,
60. Ameira sp.,
61. Amphiascus Giesbrechtii.

Moreover, the following species should be noted, regarding whose distribution in Greenland only very little was known previously.

1 b. Brachyura larva (Hyas coarctatus?),
11. Spirontocaris microceros,
32. Haploops setosa,
39. Paradulichia typica,
42. Mesidothea Sabinei,
45. Janthe libbeyi,
46. Nebalia bipes,
55. Pseudocalanus elongatus (adult and Copepodites),
57. Acartia longiremis,
70. Diaptomus minutus.



Map of Northern Strømfjord. *1 Tp.—4 Tp. = 1.—4. tenting ground.*

1. Northern Strømfjord.

List of the stations and of the Crustacea from each station.

A. Benthos.

St. 1. Depth 41—21 m.; temp. — 0.5° to + 0.5°; salinity 33.3 ‰; bottom clayey sand.

Hyas coarctatus 1 spec.
Eupagurus pubescens 1 spec.
Spirontocaris spinus 2 spec.
— Fabricii 2 spec.
Opisa Eschrichtii 2 spec.
Ampelisca macrocephala 1 spec.
Haploops setosa 35 spec.
— tubicola 1 spec.
Paradulichia typica 1 spec.
Herpyllobius arcticus 1 spec.
Balanus porcatus 3 spec.

St. 3 A. 325—330 m.; — 0.1°; salinity 33.3 ‰; clay?

Hyas coarctatus 1 spec.
Eupagurus pubescens 2 spec.
Spirontocaris spinus 1 spec.
Aristias tumidus 4 spec.
Haploops setosa 8 spec.
Melita dentata 1 spec.
Podocerus latipes 4 spec.
— pusillus 2 spec.
Parapleustes pulchellus 2 spec.

St. 3 B. 14—38 m.; + o.3° to + 0.2°; salinity 31.9 ‰.

Eupagurus pubescens 1 spec.
Spirontocaris groenlandica 1 spec.
— Gaimardii 1 spec.
Aristias tumidus 2 spec.
Metopa leptocarpa 1 spec.
Janthe libbeyi 1 spec.
Balanus Hameri 1 spec.
— crenatus 8 spec.

St. 3 C. 200—240 m.

Eupagurus pubescens 4 spec.
Spirontocaris Gaimardii 3 spec.
Metopa pollexiana 12 spec.
Herpyllobius arcticus 1 spec.
Balanus porcatus 9 spec.
Pseudopallene circularis 1 spec.

St. 4 A. 400—410 m.; — 0.7°; mud and stones.

Eupagurus pubescens 8 spec.
Spirontocaris spinus 2 spec.
Stegocephalus inflatus 1 spec.
Acanthozone cuspidata 1 spec.
Acanthonotosoma serratum 1 spec.
Haploops tubicola 4 spec.
— setosa about 30 spec.
Janira Vilhelminæ n. sp. 22 spec.

St. 4 B. 48—46 m.; — 0.2°; stony bottom.

Eupagurus pubescens 3 spec.
Nectocrangon lar 1 spec.
Haploops setosa 1 spec.

St. 5.

Eupagurus pubescens 1 spec.
Sclerocrangon boreas 1 spec.
Spirontocaris spinus 1 spec.
Ampelisca macrocephala 1 spec.

St. 6.

Hyas coarctatus 1 spec.
Spirontocaris Fabricii 1 spec.

St. 7. 51—54 m.; salinity 32.2 ‰; clayey sand bottom.

Eupagurus pubescens 2 spec.
Nectocrangon lar 5 spec.
Spirontocaris spinus 1 spec.

St. 8. 12—29 m.; + 4° to + 1.4°; salinity 31.4 ‰; sandy mud and numerous Laminariæ.

Eupagurus pubescens 1 spec.
Nectocrangon lar 2 spec.
Spirontocaris Fabricii 1 spec.
— Gaimardii 1 spec.
— polaris 4 spec.
Anonyx nugax 1 spec.
Nebalia bipes 10 spec.
Balanus crenatus 4 spec.
Diastylis scorpioides 1 spec.

St. 9 B. 44—64 m.; salinity 31.9 ‰; stony and rocky bottom.

Eupagurus pubescens 2 spec.
Haploops setosa 1 spec.
Aristias tumidus 25 spec.

St. 10 A. 58 m.; + 1.0°(?); salinity 32.5 ‰; sand, somewhat clayey.

Eupagurus pubescens 1 spec.
Nectocrangon lar 4 spec.
Sclerocrangon boreas 1 spec.
Spirontocaris spinus 1 spec.
Rhoda Raschii 2 spec.
Haploops tubicola about 50 spec.
Anonyx lagena 2 spec.
— nugax 1 spec.
Paroediceros lynceus 3 spec.
Diastylis scorpioides 4 spec.
— Rathkei 5 spec.
Nebalia bipes 1 spec.

St. 10 B. 5 m.; + 5°; salinity 31.9 ‰; bottom of black, sandy, evil-smelling mud with rotten sea-weed.

Orchomenella pinguis 1 spec.

St. 11 C. 65—98 m.; — 0.7°; salinity 33.3 ‰; stony bottom.

Eupagurus pubescens 1 spec.

St. 11 D. 380—360 m.; — 1.5°.

Eupagurus pubescens 1 spec.
Haploops setosa 16 spec.
— tubicola 350 spec.
Unciola leucopis 65 spec.
Erichthonius megalops 4 spec.
Eudorella emarginata 2 spec.

St. 13. 60—38 m.; — 1.2° to + 1.0°; salinity 33.3 ‰; gray clay.

Pontoporeia femorata 10 spec.
Gammarus locusta 22 spec.
Mesidothea Sabinei 1 spec.
Balanus balanoides about 20 spec.

St. 14. 40—45 m.; + 0.2° to 0°; salinity 32.2 ‰; gray clay.

Mesidothea Sabinei 4 spec.

St. 17. 56 m.; 0°; salinity 33.3 ‰; gray clay with a few stones.

Pontoporeia femorata 1 spec.
Mesidothea Sabinei 4 spec.

St. 18. 225—240 m.; — 1.5°; salinity 33.3 ‰; partly gray clay bottom, partly hard bottom.

Mesidothea Sabinei 15 spec.

St. 19. 40—20 m.; + 5°; salinity 33.5 ‰; gray clay and stones.

Nectocrangon lar 1 spec.
Sclerocrangon boreas 1 spec.
Spirontocaris Gaimardii 1 spec.
— microceros 1 spec.
Haploops tubicola 18 spec.

St. 21 B. 325 m.; — 1.0°.

Mesidothea Sabinei 1 spec.

St. 23. 50—52 m.; + 0.1° to + 0.2°; salinity 32.3 ‰; fine gray clay.

Eupagurus pubescens 1 spec.

St. 24. 6—18 m.; + 1.0° to + 0.5°; salinity 30.9 ‰; gray bole.

Eupagurus pubescens 1 spec.
Nectocrangon lar 1 spec.

St. 26. 33—50 m.; salinity 32.3 ‰; stones.

Spirontocaris spinus 2 spec.
— Fabricii 1 spec.
Eupagurus pubescens 7 spec.
Balanus porcatus 2 spec.

St. 27. 77 m.; — 1.2°; salinity 32.3 ‰; fine clay.

Spirontocaris Gaimardii 1 spec.
Haploops tubicola 2 spec.

St. 28. 28—36 m.; + 0.8°; salinity 32.3 ‰; clay with stones.

Spirontocaris spinus 3 spec.
— Gaimardii 2 spec.
Eupagurus pubescens 6 spec.

St. 29. 16 m.; + 1.5° to + 1.2°; salinity 32.7 ‰; sandy clay with stones.

Eupagurus pubescens 3 spec.
Acanthozone hystrix 2 spec.
Socarnes bidenticulatus 1 spec.

St. 31. 46—35 m.; + 1°; small stones.

Eupagurus pubescens 2 spec.
Nectocrangon lar 2 spec.
Sabinea septemcarinata 1 spec.

St. 32. 35—20 (16?) m.; + 0.7° to + 0.2°; salinity 34.3 ‰.

Eupagurus pubescens 4 spec.
Spirontocaris Gaimardii 2 spec.
— polaris 1 spec.
— Fabricii 3 spec.
Nectocrangon lar 3 spec.
Nymphon serratum 1 spec.
— grossipes 2 spec.

St. 33. 150 m.; — 1.1°; salinity 34.3 ‰.

Eupagurus pubescens 1 spec.
Spirontocaris groenlandica 1 spec.
Ægina spinosissima 1 spec.
Arcturus Baffini 1 spec.

St. 34. 8—21 m.; + 1° to + 0.5°; salinity 32.5 ‰; clayey sand bottom with Laminariæ and other algæ.

Eupagurus pubescens 2 spec.
Nectocrangon lar 2 spec.
Sclerocrangon boreas 1 spec.
Spirontocaris Fabricii 3 spec
Haploops tubicola 1 spec.
Diastylis scorpioides 9 spec.
— Rathkei 5 spec.

St. 35. 225—210 m.; — 1.2°; salinity 35.1 ‰.
Haploops tubicola 16 spec.

St. 36 A. 170—200 m.; salinity 33.5 ‰; shelly bottom.
Ischyrocerus anguipes 14 spec. | Caprella septentrionalis 8 spec.

St. 36 B. 21—24 m.; + 2°; stones and Laminariæ.
Hyas coarctatus 1 spec.

1. tenting ground.
Gammarus locusta, between high- and low-water marks, about 10 sp. | Balanus crenatus about 20 spec.

4. tenting ground.
Socarnes bidenticulatus 1 spec.

B. Plankton.

Between St. 2 and the mouth of the fjord, about 14 miles, 3.30 p. m. to 6 p. m., surface, Steenstrup's apparatus.

Brachyura larva (same species as that recorded from the Tjalfe Expedition); a few spec. (see p. 64).
Pseudocalanus elongatus, adult and Copepodites.
Acartia longiremis, some spec.
Centropages hamatus
Cirripedia: Cypris stages and Nauplii.

St. 2. 0—2 m.; + 3.5°.

Nauplii
Pseudocalanus elongatus: Copepodites.
A few scarcely determinable Copepoda.

St. 2. 300—240 m. (Nansen-net).

Pseudocalanus elongatus, both adult and Copepodites; numerous.
Calanus finmarchicus; a few.

St. 3. Surface.

Calanus finmarchicus; a few.
Pseudocalanus elongatus; numer.
Ameira sp., 1 spec.
Amphiascus Giesbrechtii, 1 spec.
Monstrilla Wandelii n. sp., 1 spec.
Cirripede Nauplii.

St. 3. 250—190 m. (Nansen-net); about 0°.

Calanus finmarchicus; numerous.
— hyperboreus; a few.
Pseudocalanus elongatus; Copepodites.
Metridia longa; a few.
Nauplii; numerous.

St. 4. 0—2 m.

Pseudocalanus elongatus; a few Copepodites.
a few Nauplii.

St. 4. 300—250 m. (Nansen-net); about 0°.

Pseudocalanus elongatus; a few Copepodites.	Metridia longa; a few. A few Nauplii.

St. 9.

Calanus finmarchicus; a few. — hyperboreus; a single specimen.	Pseudocalanus elongatus; numer. Metridia longa, 20—30 spec. Cirripede Nauplii.

St. 14. 0—1 m. (Steenstrup's apparatus).

A few Nauplii, or else no specimens.

St. 18.

Calanus hyperboreus, 1 ♀. — finmarchicus; a few. Pseudocalanus elongatus; numer.	Metridia longa, about 20. Cirripede Nauplii.

St. 33. 0—1 m.

Some hardly full-grown (about 1 mm. long) and therefore scarcely determinable *Calanidæ*; the supposition that they are not full-grown is based on the fact that they have neither sexual organs nor distinct female sexual opening.

Some Nauplii.	3 Cirripedia in Cypris-stage.

St. 33. 100—45 m. (Nansen-net); — 1°.

Pseudocalanus elongatus; many adult and a few Copepodites.	Metridia longa; a few.

Between St. 35 and St. 11. Surface, two hours (Steenstrup's apparatus) sunshine, 6 p. m. to 8 p. m.

Pseudocalanus elongatus, Copepodites. Several Harpactidæ (Idyæa sp.?).	Cirripedia: Cypris stages and Nauplii.

At the head of the fjord, across the two bays near Itivdliarsuk, surface (Steenstrup's apparatus); + 6°.

Acartia longiremis; numerous. Cirripede Nauplii and Cyprides.	Other Nauplii.

List of the Species.

The majority of the species mentioned here have been previously recorded from Greenland; as regards references to literature and distribution, so far as these species are concerned, the reader is referred to my list of the Greenland Crustacea and Pycnogonida in Conspectus Faunæ Groenlandicæ (Meddel. om Grønland, vol. 22, 1913); as this work is just now going through the press, it is unfortunately impossible for me at the present time to make references to the pages upon which the species are mentioned, but as the work in question will be provided with

a list of species in alphabetical order, any information desired will be easily found.

Only in connection with those species which have not previously been recorded from Greenland, or where other circumstances make it desirable, will any references to literature be made. New, or in other ways interesting, species are marked with ×.

Decapoda.

1. **Hyas coarctatus** Leach.

St. 1. 1 spec.; St. 3A. 1 spec.; St. 6. 1 spec.; St. 36B. 1 spec.

× **Brachyurid-larva (Hyas coarctatus** Leach?).

Between St. 2 and the mouth of the fjord a few specimens of the same *Brachyurid* larva which I have described in the report of the Tjalfe Expedition (Vid. Meddel. Naturh. Foren., Kbhvn., vol. 64, 1912 (1913), p. 127, fig. 33) were taken in the surface Plankton. In the place above cited I mention that it greatly resembles the larva of *Hyas araneus*, from which it differs, however, in some respects. Now, we have here before us the interesting case, that of the three crabs which are found in Greenland (*Chionoecetes opilio*, *Hyas araneus* and *H. coarctatus*), Dr. NORDMANN's collections only contain specimens of the one species, *Hyas coarctatus*, and as both the other species are larger forms, it is inconceivable that they should not have been included in his material if they really occur in the fjord. True, the larva was found at the mouth of the fjord, so that it is possible that the specimens originated from adult crabs from Baffin Bay; but yet I think, on account of the close resemblance to the larva of *Hyas araneus*, that there is little doubt that the larva in question is that of *Hyas coarctatus*.

2. **Eupagurus pubescens** Kr.

St. 1. 1 spec.; St. 3A. 2 spec.; St. 3B. 4 spec.; St. 3C. 4 spec.; St. 4A. 8 spec.; St. 4B. 3 spec.; St. 5. 1 spec.; St. 7. 2 spec.; St. 8. 1 spec.; St. 9B. 2 spec.; St. 10A. 1 spec.; St. 11C. 11 spec.; St. 11D. 1 spec.; St. 23. 1 spec.; St. 24. 1 spec.; St. 26. 7 spec.; St. 28. 6 spec.; St. 29. 3 spec.; St. 31. 2 spec.; St. 32. 4 spec.; St. 33. 1 spec.; St. 34. 1 spec.

3. **Sclerocrangon boreas** Phipps.

St. 5. 1 spec.; St. 10A. 1 spec.; St. 19. 1 spec.; St. 34. 1 spec.

4. **Sabinea septemcarinata** Sabine.

St. 31. 1 spec.

5. **Nectocrangon lar** Owen.

St. 4B. 1 spec.; St. 7. 5 spec.; St. 8. 1 spec.; St. 10. 4 spec.; St. 18. 1 spec.; St. 19. 1 spec.; St. 24. 1 spec.; St. 31. 2 spec.; St. 32. 3 spec.; St. 34. 2 spec.

6. **Spirontocaris Fabricii** Kr.
St. 1. 2 spec.; St. 6. 1 spec.; St. 9B. 1 spec.; St. 26. 1 spec.; St. 32. 3 spec.; St. 34. 3 spec.

7. **Spirontocaris Gaimardii** M.Edw.
St. 3B. 1 spec.; St. 3C. 3 spec.; St. 8. 1 spec.; St. 19. 1 spec.; St. 27. 1 spec.; St. 28. 2 spec.; St. 32. 2 spec.

8. **Spirontocaris polaris** Sabine.
St. 9B. 4 spec.; St. 32. 1 spec.

9. **Spirontocaris groenlandica** J. C. Fabr.
St. 3B. 1 spec.; St. 33. 1 spec.

10. **Spirontocaris spinus** Sow.
St. 1. 1 spec.; St. 2. 1 spec.; St. 3A. 1 spec.; St. 4A. 2 spec.; St. 5. 1 spec.; St. 7. 1 spec.; St. 10A. 1 spec.; St. 26. 2 spec.; St. 28. 3 spec.

× 11. **Spirontocaris microceros** Kr.
St. 19. 1 spec.

The finding of this species is one of the most interesting results of the Expedition. In our zoological museum there are some 50 old specimens of this Greenland species, from four localities in West Greenland, ranging from Nanortalik (60°8′ N.) to Prøven (72°23′ N.) (see H. J. Hansen's list from 1887, p. 49). Since the publication of H. J. Hansen's paper it has not been found by any Danish or any foreign expedition, until now that it has been taken in N. Strømfjord; and it has never been found out of West Greenland. As, according to its last habitat, it appears to be a coast-form (Dr. Nordmann obtained it from a depth of 40—20 metres; in connection with the specimens previously known nothing is stated regarding the depth) it is very strange that so little is known regarding its distribution.

Euphausiacea.

12. **Rhoda Raschii** M. Sars.
St. 10A. 2 spec.

Cumacea.

13. **Diastylis scorpioides** Lepech.
St. 8. 1 spec.; St. 10A. 4 spec.; St. 34. 9 spec.

14. **Diastylis Rathkei** Kr.
St. 10A. 5 spec.; St. 34. 5 spec.

15. **Eudorella emarginata** Kr.
St. 11D. 2 spec.

Amphipoda.

16. **Socarnes bidenticulatus** Bate.
St. 29. 1 spec.; 4. tenting ground, 1 spec.

17. **Aristias tumidus** Kr.
St. 3A. 4 spec.; St. 3B. 2 spec.; St. 9B. 25 spec.

18. **Anonyx lagena** Kr. + **A. nugax** Phipps.
St. 8. 1 spec. (*A. nugax*); St. 10A. 2 spec. (*A. lagena*) + 1 spec. (*A. nugax*).

In Conspectus Faunæ Groenlandicæ I briefly explain that *A. lagena* and *A. nugax* are without doubt synonyms.

× 19. **Orchomenella pinguis** A. Boeck.

Anonyx pinguis A. Boeck, Forhandl. 8. Skand. Naturforskermøde, 1861, p. 642.
Orchomene pinguis, — Skand. og Arkt. Amphip., 1876, vol. 1, Pl. 5, fig. 1, vol. 2, p. 176.
* Orchomenella — G. O. Sars, Account, vol. 1, 1895, pp. 67 and 683, Pl. 24, fig. 2.
— — Stebbing, Tierreich, 1906, p. 82 (ubi lit. et syn).

St. 10B. 1 spec. New to Greenland.

Previously recorded distribution: Arctic Ocean, northern Atlantic Ocean, North Sea, Skagerak, Siberia, S. and W. Norway, Malangenfjord in Finmark and Mediterranean (STEBBING, l. c.).

20. **Opisa Eschrichtii** Kr.
St. 1. 1 spec.

21. **Pontoporeia femorata** Kr.
St. 13. 10 spec.; St. 17. 1 spec.

22. **Stegocephalus inflatus** Kr.
St. 4A. 1 spec.

× 23. **Metopa leptocarpa** G. O. Sars.

Metopa leptocarpa G. O. Sars, Oversigt af Norges Crust. 1, Christiania Vid. Selsk. Forhandl., 1882, No. 18, p. 91, Pl. 4, fig. 3.
* — — G. O. Sars, Account, vol. 1, 1895, p. 265, Pl. 93, fig. 2.
— — Stebbing, Tierreich, 1906, p. 178.

SARS writes (l. c. 1895) "I have only seen a solitary specimen, an ovigerous female, of this interesting form. It was collected, many years ago, at Christianssund, west coast of Norway, from a depth of 60—80 fathoms. Out of Norway, it has not yet been recorded."

St. 3B. 1 spec. New to Greenland. The specimen agrees exactly with SARS's description and figures.

24. **Metopa pollexiana** Bate.
St. 3C. 12 spec.

25. **Paroediceros lynceus** M. Sars.
St. 10A. 3 spec.

26. **Parapleustes pulchellus** G. O. Sars.
St. 3A. 2 spec.

27. **Acanthonotosoma serratum** O. Fabr.
St. 4A. 1 spec.

28. **Acanthozone hystrix** Kr. (= **A. cuspidata** Lepech.).
St. 4A. 1 spec.; St. 29. 2 spec.

29. **Gammarus locusta** L.
St. 13. 22 spec.; 1. tenting ground, between high- and low-water marks, about 10 spec.

30. **Melita dentata** Kr.
St. 3A. 1 spec.

31. **Ampelisca macrocephala** Lillj.
St. 1. 1 spec.; St. 5. 1 spec.

32. **Haploops setosa** Boeck.
St. 2. 35 spec.; St. 4A. about 30 spec.; St. 4B. 1 spec.; St. 9B. 1 spec.; St. 11D. 16 spec. This species appears otherwise to be rather rare in Greenland.

33. **Haploops tubicola** Lillj.
St. 2. 1 spec.; St. 4A. 4 spec.; St. 10A. about 50 spec.; St. 11D. about 350 spec.; St. 19. about 20 spec.; St. 27. 2 spec.; St. 34. 1 spec.; St. 35. 16 spec.

34. **Podocerus (Ischyrocerus) anguipes** Kr.
St. 36A. 14 spec.

35. **Ischyrocerus latipes** Kr.
St. 3A. 4 spec.

× 36. **Podocerus pusillus** G. O. Sars.
(partim) Podocerus falcatus A. Boeck, Skand. og Arkt. Amphip., 1876, vol. 2, p. 605, Pl. 28, fig. 2.
* Podocerus pusillus G. O. Sars, Account, vol. 1, 1895, p. 596, Pl. 212, fig. 1.
Jassa pusilla Stebbing, Tierreich, 1906, p. 655 (ubi lit. et syn.).
St. 3A. 2 spec. New to Greenland.
Previously recorded distribution: Arctic Ocean, northern Atlantic Ocean, Irish Sea, Skagerak, S. and W. Norway (37—188 m. on Hydroids), British Isles, and France (Stebbing, l. c.).

37. **Erichthonius megalops** G. O. Sars.
St. 4A. 8 spec.; St. 11D. 4 spec.

38. **Unciola leucopis** Kr.
St. 11D. 65 spec.

× 39. **Paradulichia typica** Boeck.
St. 2. 1 spec.
This otherwise rather rare species has previously been found only once in Greenland, viz. in Olrik Bay, north of Cape York at 15—20 fathoms (ORTMANN, 1901).

40. **Ægina spinosissima** Stimpson.
St. 33. 1 spec.

41. **Caprella septentrionalis** Kr.
St. 36A. 8 spec.

Isopoda.

42. **Mesidothea Sabinei** Kr.
St. 13. 1 spec.; St. 14. 4 spec.; St. 17. 4 spec.; St. 18. 15 spec., of which the largest (a ♂) was 98 mm. long; St. 21B. 1 spec.. These localities are of great interest, the species previously having been known only from four localities in West Greenland (not from East Greenland).

43. **Arcturus Baffini** Sab.
St. 33. 1 spec.

× 44. **Janira Vilhelminæ** n. sp. (Pl. 1—2).
St. 4A. 22 spec. (♂ and ♀).
At this station Dr. NORDMANN took an *Asellot*, the determination of which has given me some difficulty. As may be seen from the figure, it has a striking resemblance to *Janthe speciosa* Bovallius (Janthe, a new genus of Isopoda; Bihang Kgl. Vet. Akad. Handb., vol. 6, No. 4, 1881, p. 5, Pl. 1—3) if we imagine the dorsal spines to be absent and the lateral processes of the head and of the segments to be somewhat more rounded at the apex. *Janthe speciosa* Bovallius again stands near to *Janthe spinosa* Harger (Marine Isop. New England; Report U. S. Commission Fish and Fisheries, pt. 6, for 1878, p. 323, Pl. 2, fig. 10) and nearer still to *Jolella glabra* H. Richardson (Some New Isopoda Aselloidea from N. America; Proc. U. S. Nat. Mus., vol. 35, 1908, p. 71, fig. 1). The resemblance to the latter species is especially striking; we know that Asellote Isopods can vary highly (see, e. g. *Iæra marina* in H. J. HANSEN, Revider. Fortegn. over Danmarks marine Arter af Isop., Tanaid., Cumac., Mysid. and Euphaus.; Vid. Meddel. Naturh. Foren., Kbhvn., 1909 (1910), p. 208, figs. 1—6). Of the species mentioned, the present one stands unquestionably nearest to *Jolella glabra* Richardson, and at first I thought it was a somewhat divergent form of that species. Miss RICHARDSON has only had a single specimen for investigation; she gives but a short description of it without mentioning its size, and only one, not particularly good, figure of it; but my specimens agree perfectly with her description, when she ends by saying: "This species is very similar to *Jolella spinosa* (Harger) and differs chiefly from that species in lacking spines on the dorsal surface of the body."

Of the species mentioned, the only one whose limbs are figured is *Janthe speciosa* Bovallius. This species has been established on a single large specimen (♂) and resembles *Janira spinosa* Harger so closely that H. J. Hansen (West Greenland, 1887, p. 191) unites them into one species. Miss Richardson on the other hand regards them as two species in her Monograph Isop. N. America, 1905, pp. 458 and 460, and writes in addition (ibid. footnote p. 460) "This species (*Jolella speciosa*) is considered by Hansen and Ortmann to be a synonym of the preceding species (*Jolella spinosa*). Since my manuscript went to press, the types of *J. spinosa* have been sent me from Yale University, and I find it distinct from *J. speciosa*."

I find it unnecessary to give a complete description of the species taken by Dr. Nordmann as all details may be seen in the figures; only I think that the following characters should be pointed out: — Flagellum of first antenna has, in the ♂, about 45 joints and in the ♀ about 30 joints; in second antenna the flagellum has about 225 joints. The eyes are oblong as are those in the species established by Harger and by Bovallius, not round as in *J. glabra*. The length is 14 mm.

Although on account of the absence of dorsal spines the specimens most resemble *J. glabra*, yet they cannot be this species; this belief is based partly on the fact of the eyes being oblong and not round, and partly on the habitat. *Jolella glabra* has been taken off Cape Hatteras, at 888 fathoms, in blue mud and fine sand, and consequently belongs to the Atlantic-boreal deep-sea fauna. But the species in question was taken in a true arctic locality and the Malacostraca which originate from the same station (see above in the list of the stations) are all good arctic or boreo-arctic species; at any rate none of them is a boreal deep-sea species (see my zoo-geographical account of the Greenland Malacostraca and Pycnogonida of the Danmark Expedition; Meddel. om Grønland, vol. 45, 1912, pp. 554 sqq.).

It is practically impossible that an Atlantic deep-sea species could possibly be found in arctic conditions north of the ridge in Davis Strait and the few cases known to me where this happens with regard to the Greenland Malacostraca and Pycnogonida are the following: — *Pandalus borealis* and *Pseudomma parvum* (Danmark Expedition, l. c. pp. 566 and 579) extend really right into Umanak Fjord; but here the water is not arctic, registering + 1° at the bottom; besides as regards *Pandalus borealis*, it is extremely eurythermic. Whether this is also true of *Pseudomma parvum* cannot be decided now that it is only known from S.W. Ireland (Tattersall, 1911) as well as from the head of Umanak Fjord. On the other hand *Aconthoniscus typhlops* has been taken south of the ridge in Davis Strait (63°24′ N., 53°10′ W.; 892 m.) and west of the Lofoten, consequently, north of the ridge in the Atlantic Ocean (68°21′ N., 10°41′ E.; 457 fathoms; — 0.70°) (Danmark Expedition, l. c. p. 615). Very much the same applies to *Janthe laciniata*: its West Greenland habitat

is, however, situated so far north (66°45′ N., 56°30′ W.; 200 fathoms) that it must almost be said to occur upon the ridge. Still harder it is to understand the case of *Cordylochele* (*Pallene*) *malleolata* which, besides having been found in the cold area of the North Sea, is also said to have been taken by the Ingolf Expedition not only in Davis Strait, but also right out in the Atlantic Ocean (64°18′ N., 27°0′ W., 295 fathoms; 5.8°) (Danmark Expedition, l. c. p. 616); at any rate as regards the last habitat it can apparently be explained only by the fact that an erroneous locality has been recorded on the label; for that the animal in question (a young specimen) has been correctly determined I have convinced myself by personal observation. I am quite unable to understand the case of *Acanthoniscus typhlops* and *Janthe laciniata*; the specimens determined by me (Malac., Tjalfe Expedition; Vid. Meddel. Naturh. Foren., Kbhvn., vol. 64, 1912 (1913), p. 99) do not differ in any point from SARS's drawings.

Janira Vilhelminæ I have had much pleasure in naming after Mrs. V. Nordmann, who helped her husband to collect the animals in Greenland.

× 45. **Janthe libbeyi** Ortmann (Pl. 3).

Jolanthe libbeyi Ortmann, Princeton University Bulletin, vol. 11, No. 3, 1900, p. 39.

* Tole — — , Proc. Acad. Nat. Sc. Philadelphia, 1901, p. 157, with fig.

Janthe — Richardson, Monograph Isop. N. America, 1905, p. 463, fig. 518 (Reproduced from Ortmann l. c. 1901).

— — K. Stephensen, Danmark-Exp., 1912, p. 583.

St. 3B. 1 spec.

The description which ORTMANN has given of this species agrees excellently with the specimen taken by Dr. NORDMANN. As ORTMANN's figure is, however, very incomplete, I have thought it of importance to give some more detailed drawings; these will be found in Pl. 3. ORTMANN does not mention that each of the lateral angulations on the head terminates in a spine which is articulated into it; similar spines are also found upon all the lateral angulations of the segments and especially on the pleon. As the whole dorsal surface of the animal is quite smooth without any sculpture whatever I have regarded it as sufficient to give a mere outline of the entire animal.

The locality is very interesting; previously the species has been known only from Cape Alexander, north of Cape York; 27 fathoms (Ortmann).

Leptostraca.

× 46. **Nebalia bipes** O. Fabr.

St. 8. 9 spec.; St. 10A. 1 spec.

Nebalia has previously been known, on the whole, from only some ten Greenland localities; therefore these new habitats are of great interest,

as they show, as do my own investigations in some fjords in Greenland last summer (1912), that the species is in reality far more widely distributed than has previously been known.

Cirripedia.

47. **Balanus porcatus** da Costa.
St. 1. 3 spec.; St. 3C. 4 spec.; St. 26. 2 spec..

48. **Balanus balanoides** L.
St. 13. about 20 spec.

49. **Balanus arenatus** Brug.
St. 3B. 8 spec.; St. 9B. 4 spec.; 1. tenting place, about 20 spec.

× 50. **Balanus Hameri** Ascanius.
Lepas Hameri Ascanius, Icones rerum naturalium 1767, Pl. 10.
* Balanus — Darwin, Monogr. Cirriped., Balanidæ, 1854, p. 277, Pl. 7, fig. 5.
St. 3B. A large living specimen. The species is new to Greenland.

× 51. **Lepas anatifera** L.
Lepas anatifera Linné, Systema Naturæ, ed. 12, vol. 1, pt. 2, 1767, p. 1109.
* — — Darwin, Monogr. Cirrip., Lepadidæ, 1851, p. 73, Pl. 1, fig. 1.

This species has been included here, although it does not originate from Dr. Nordmann's collections; but Porsild has given some specimens to our Museum, which were obtained, Oct. 1910, from drift wood at the Danish Arctic Station in Godhavn, Disco. The species is new to Greenland; hitherto it has been recorded only from Arctic Seas (teste Hoek in Nord. Plankton) from Spitzbergen (Weltner, Fauna arctica, vol. 1, 1900).

Cirripede nauplii and *Cypris stages* have been taken in several places (see list of localities).

Copepoda.

52. **Herpyllobius arcticus** Steenstrup & Lütken.
St. 1. 1 spec.; St. 3C. 1 spec.

53. **Calanus finmarchicus** Gunnerus.
St. 2. 300—240 m.; St. 3, surface; St. 3. 250—190 m.; St. 9; St. 18.

54. **Calanus hyperboreus** Kr.
St. 3. 250—190 m.; St. 9; St. 18.

× 55. **Pseudocalanus elongatus** Boeck (Pl. 4—5: 3rd Copepodite).
Between St. 2 and the mouth of the fjord, surface, adult and Copepodites; St. 2. 0—2 m., Copepodites; St. 2. 300—240 m., adult and Copepodites; St. 3, surface; St. 3. 250—190 m., Copepodites; St. 4. 0—2 m., Copepodites; St. 4. 300—350 m., Copepodites; St. 9; St. 33.

100—45 m., adult and Copepodites. Between St. 35 and St. 11, surface, Copepodites.

This species is an excellent example of how insufficiently the Plankton of the Greenland seas is known. VANHØFFEN (1897) was the first to record it as Greenlandic (from Lesser Karajak Fjord in Umanak Fjord, West Greenland). Since then it has only been recorded from Greenland Seas from the following places in East Greenland: 74°15′ N., 18°15′ W., 250 m. (CLEVE, 1900) and 77°35½′ N., 18°12′ W., 75 m. (and from a few places in the neighbourhood; but the determination is not reliable) (Duc d'Orléans, 1909). According to the above it is the most common Copepod at any rate in Northern Strømfjord.

The material contained not only adults but also many in the Copepodite stages, chiefly in the 3rd stage. The Copepodites are very easily distinguishable by their urosomes which seen from the side are rather rounded in the middle (see Pl. 4). OBERG has given a fairly exhaustive description of the development of this species in Wiss. Meeresuntersuch. d. Deutsch. Meere, Abt. Kiel, vol. 9, 1906, pp. 40, 46, 47, 48, 49, etc., Pl. 1; Pl. 6, fig. 3A—D; Pl. 7, fig. 5A (also in his thesis for a doctor's degree, which bears the title: Die Metamorphose d. Plankton-Copepoden d. Kieler-Bucht, 1906; but here all the plates are omitted). A record, accompanied by the more important figures is found in v. BREEMEN, Nordisches Plankton, vol. 8, 1908, p. 231; some notes on the growth, etc., are given by F. KRAEFFT in Ueber das Plankton in Ost- u. Nordsee etc. mit bes. Berucksichtigung der Copepoden; Wiss. Meersuntersuchungen, K. Komm., Abt. Kiel, vol. 11. As OBERG, however, does not give drawings of all the limbs of any single stage, I have in the accompanying Pl. 4—5 given figures of the entire animal and drawings of all the limbs in the 3rd Copepodite stage, to which stage almost all the specimens in hand appear to belong. I think it unnecessary to give descriptions of the figures; for these I refer the reader to OBERG.

× 56. **Centropages hamatus** Lilljeborg.

Ichthyophorba hamata Lilljeborg, De Crust. ex ordinibus tribus Clad., Ostrac., Copep., 1853, p. 185, Pl. 21, 26, figs. 9—12.

Centropages hamatus Giesbrecht u. Schmeil, Tierreich, 1898, p. 56 (ubi lit. et syn.).

* — — G. O. Sars, Account, vol. 4, 1903, p. 76, Pl. 52.

Between St. 2 and the mouth of the fjord, surface. New to Greenland. Previously recorded distribution: North Atlantic Ocean with adjacent waters between 41° and 66° N., but chiefly the European side (SARS, l. c.).

× 57. **Acartia longiremis** Lilljeborg.

Between St. 2 and the mouth of the fjord, surface; at the head of the fjord, across the two bays near Itivdliarsuk, surface.

This species also is an example of our deficient knowledge of the Plankton of Greenland; from Greenland it has hitherto been recorded only by VANHØFFEN (1897).

58. **Metridia longa**
St. 4. 300—250 m.; St. 9; St. 18; St. 33. 100—45 m.

59. **Idyæa** sp.?
Between St. 35 and St. 11, surface.

× 60. **Ameira** sp.
St. 3, surface. The genus is new to Greenland.

× 61. **Amphiascus Giesbrechtii** G. O. Sars.
Amphiascus Giesbrechtii G. O. Sars, Account, vol. 5, 1911, p. 157, Pl. 98.
Stenhelia ima Giesbrecht (teste Sars l. c.; as GIESBRECHT (also according to SARS) has recorded it from Kielerfjord, the species is probably established by GIESBRECHT in his paper: "Die Freileb. Copep. d. Kieler Føhrde," 1882; but I have not had access to this paper.
St. 3, surface, 1 spec. New to Greenland.
Previously known distribution: Norway (Sars), Kielerfjord (Giesbrecht).

× 62. **Monstrilla Wandelii** n. sp. (Pl. 6).
St. 3, surface, 1 spec. (♀).
In the above locality a single specimen of a *Monstrilla*, ♀, 2 mm. long, has been taken. The specimen is very defective, the greater part of the right antenna is missing, and several of the hairs are wanting; thus, on the right branch of the furca there are 5, and on the left 4 only, and the apex is wanting from all of them except from the small dorsal hair.
In Nordisches Plankton, vol. 8 (Lief. 7), 1908, pp. 201, seqq., v. BREEMEN has given an account of the few known northern Monstrillas. Since then only 10 species more (A. Scott, Siboga-Copep. 1, 1909, pp. 234—41, Pl. 57 and 58) have been described, but none of them agrees with the new Greenland species. It agrees closest with *Monstrilla anglica* Lubbock (see v. BREEMEN, l. c., p. 209, figs. 221—22 and TH. SCOTT, 22 Ann. Report Fishery Board f. Scotland, pt. 3, 1904, p. 246, Pl. 13, fig. 13; Pl. 14, figs. 12—14), but that it is not this species may be seen, among other things, from the fact that p. 5 has an entirely different form with a fairly large inner branch, and there are hairs on the furca. That the specimen from Greenland has only 5 pairs of furcal hairs is of less significance, as the one pair is perhaps lost (besides, on the right branch there is one more than on the left); but the dorsal hair is seated on the outer side and not above the parting between the two innermost hairs. Moreover, the carapace of the new species is reticulated (see Pl. 6,

fig.: Ceph. retic.); of species with reticulation, as far as I know, there exists only one, viz. *M. longipes* (A. SCOTT l. c., 1909, p. 238, Pl. 58, figs. 3—4) and that species is in other respects quite different.

For these reasons I think that there can be no doubt that it is really a new species; in the figures I have indicated all I have been able to see.

This species I have ventured to name after his Excellency, Vice Admiral C. F. WANDEL who, both as the Head of the Commission for Greenland, and also in several other ways has rendered great services with regard to the exploration of Greenland.

Pycnogonida.

63. **Pseudopallene circularis** Goodseer.
St. 3C. 1 spec.

64. **Nymphon serratum** G. O. Sars.
St. 32. 1 spec.

65. **Nymphon grossipes** Fabr. var. **mixta** Kr.
St. 32. 2 spec.

2. Giesecke Lake (Giesecke-Sø).

Giesecke lake is situated north of, and also parallel with, the outermost part of N. Strømfjord. As the surface of the water is situated at a level of only about 10 metres above that of the sea there was reason to believe that its fauna would include relicts. Whether such have been found belonging to the other groups of animals I do not know, as they have not as yet been worked out; but all the Crustacea are typical freshwater species.

List of the localities investigated and the animals from each locality.

1. Just off the mouth of Ekalugssuit Bay, 43 m. (bottom) to 0 m., surface 9° (10. 8. 1911).
   Bosmina obtusirostris, about 10 specimens (with young).
   ?Daphnia pulex, 1 defective specimen.
   Cyclops strenuus, ♀ with eggs.
   Diaptomus minutus, many hundreds including many ♀ with eggs.
2. Between the eastern point of Ekalugssuit Bay and the shell-bank, 0—2 m., 7½° to 12½° (4. 8. 1911).
   Bosmina obtusirostris, a few, including some with eggs in the ephippium.
   Diaptomus minutus, many hundreds, but none with eggs.
   Copepode Nauplii.

3. Ekalugssuit Bay, 0—1 m., 10 minutes of rowing, 9° (10. 8. 1911).
   Bosmina obtusirostris, a few (with eggs).
   Diaptomus minutus, thousands, a few with eggs.
   Cyclops sp. jun. 1 specimen.
   Nauplii.
4. Quite shallow water (about 30 cm.) between the shell-bank and the mouth of the stream, 12½° to 15° (4. 8. 1911).
   Bottom sample (sand, fragments of leaves and suchlike), in which occurred one Cyclops sp. jun.
5. From the shell-bank to Fotografipynten, 0—1 m. below the surface, 8° (4. 8. 1911).
   Diaptomus minutus, some hundreds, none with eggs.
   Copepode Nauplii.
6. 85—0 m., surface, 6½° (9. 8. 1911).
   Diaptomus minutus, a few specimens without eggs, or else no specimens.
7. 40—0 m., about 40 to 6½° (9. 8. 1911).
   Bosmina obtusirostris, a few specimens with eggs.
   Diaptomus minutus, some hundred specimens, a few with eggs.
   Cyclops sp. jun., 1 specimen.
8. 85—0 m., 4° to 6½° (9. 8. 1911).
   One very defective specimen of Bosmina sp.?
   Diaptomus minutus, about 100, a few with eggs.
   Cyclops sp. jun., 1 specimen.
   Copepode Nauplii.
9. From Fotografipynten across the bay, 0—1 m., 8°, 15 minutes of rowing (4. 8. 1911).
   Bosmina obtusirostris, a few (without eggs).
   Diaptomus minutus, several thousands, only a very few with eggs.
   Cyclops sp. jun., 1 specimen.
   A few Copepode Nauplii.
10. From Maagefjældet to Fotografipynten, 20 minutes of rowing, 0—2 m., about 7° (5. 8. 1911).
    Ceriodaphnia quandrangula, 1 specimen.
11. From Fotografipynten to the S.E. of the bay, 15 minutes of rowing, 0—1 m., 7½° (5. 8. 1911).
    ?Bosmina obtusirostris, a few specimens.
    Diaptomus minutus, several thousands, including a few with eggs.
    Cyclops strenuus, 1 specimen.
    Copepode Nauplii, numerous.
12. Somewhat outside the mouth of Ekalugsuit Bay, 20 m. (bottom) to 0 m., surface 9° (10. 8. 1911).
    Bosmina obtusirostris, a few (with eggs).
    Cyclops sp. jun., a few specimens.
    Some Copepode Nauplii.

13. From the S.E. of the bay to Maagefjældet, 15 minutes of rowing, 0—1 m., 7½° (5. 8. 1911).
Bosmina obtusirostris, 1 specimen with eggs.
Diaptomus minutus, several thousands.
Cyclops sp. jun., 1 specimen.
14. Ekalugsuit Bay, 0—2 m., 9°, 10 minutes of rowing (10. 8. 1911).
Bosmina obtusirostris, a few, including some with eggs.
Diaptomus minutus, several thousands, a few with eggs.
Copepode Nauplii.

List of the species.

Cladocera.

66. **Bosmina obtusirostris** G. O. Sars.

? 67. **Daphnia pulex** de Geer.

68. **Ceriodaphnia quadrangula** O. Fr. Müller.

Copepoda.

69. **Cyclops strenuus** Fischer.

× 70. **Diaptomus minutus** Lilljeborg (Pl. 7—8).
Diaptomus minutus Lilljeborg, in Guerne et Richard, Révision des Calanides d'eau douce; Mém. Soc. Zool. de France, vol. 2, 1889, pp. 50—51, Pl. 1, figs. 5, 6, 14; Pl. 3, fig. 25.
— — Marsh, On the deepwater Crust. of Green lake; Transact. Wisconsin Acad. of Sc., Arts and Letters, Madison, vol. 8, 1891, p. 212.
— — Marsh, On the Cyclopidæ and Calanidæ of Central Wisconsin; ibid. vol. 9, 1893, pp. 199—200, Pl. 4, figs. 1, 2, 3.
— — Herrick & Turner, Synopsis of the Entomostraca of Minnesota; Geol. & Nat. Hist. Survey, Minnesota, 2. Report, State Zoologist, 1895, p. 59, Pl. 8, fig. 9.
— — Schacht, The North American Species of Diaptomus; Bull. Illinois State Laboratory of Nat. Hist., Urbana, vol. 5, 1897, pp. 156—58, Pl. 30, figs. 5—8.
— — Giesbrecht u. Schmeil, Copep., Tierreich, 1898, p. 79.
— — Marsh, Revision of the North American species of Diaptomus; Transact. Wisconsin Acad. of Sc., Arts & Letters, vol. 15, pt. 2, Madison, 1907, pp. 426—28, Pl. 17, figs. 7, 11; Pl. 18, figs. 1, 7.

? Diaptomus silicis var. imperfectus Forbes, On some Lake Superior Entomostraca; Report U. S. Comm. Fish and Fisheries, 1887, p. 703 (teste Marsh l. c. 1897, p. 8, and Giesbrecht u. Schmeil l. c. 1898).

The above list contains everything I have been able to find in literature about this species with the exception of a short note by GUERNE & RICHARD in Compt. Rend., 1889 (Sur la faune des eaux douces du Groenland) where it is just mentioned that it has been taken in some places in Greenland.

In the following I shall give a short list of the contents of the papers cited, especially of the figures.

Lilljeborg, 1889: Description; p. 5, ♂ (Pl. 1, fig. 5); p. 5, ♀ (fig. 6); apex of right antenna, ♂ (fig. 14); abdomen ♀ (Pl. 3, fig. 25).

Marsh, 1891: Short note.

— 1893: Short note; p. 5, ♂ (Pl. 4, fig. 1); p. 5, ♀ (fig. 2); apex of right antenna 1, ♂ (fig. 3).

— 1897: Short note; p. 5, ♂ (Pl. 7, fig. 3, taken from Marsh, 1893, Pl. 4, fig. 1); p. 5, ♀ (fig. 4).

Herrich & Turner, 1895: I have not had access to this paper.

Schacht, 1897: Reproduction of Lilljeborg's description and copies of his figures.

Giesbrecht u. Schmeil, 1898: Description.

Marsh, 1907: Description; p. 5, ♀ (Pl. 17, fig. 7); apex of right antenna 1, ♂ (fig. 11); abdomen ♀ (Pl. 18, fig. 1); p. 5, ♂ (Pl. 18, fig. 7).

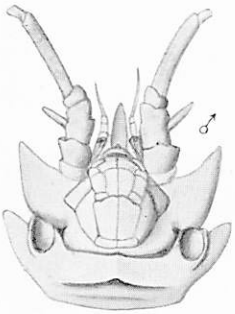
As may be seen, it is nearly always the same limbs which are figured. *Diaptomus silicis* var. *imperfectus* Forbes is regarded by MARSH (l. c. 1897) and GIESBRECHT u. SCHMEIL, 1898, as a synonym of this species (the two last, however, with a ?); but SCHACHT (l. c. 1897, p. 158) says that this form is probably not synonymous with *D. minutus*, but with *D. ashlandi* Marsh.

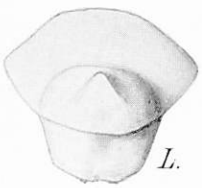
Consequently, as there are no figures of the entire animal I have given in Pl. 7—8 figures of the entire animal and drawings of all the limbs. On the whole my specimens agree excellently with the descriptions of LILLJEBORG (1889) and MARSH (1907); but I have not been able to find the small spine on either side of the genital segment of the ♀.

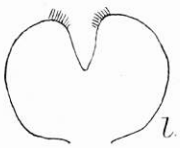
LILLJEBORG mentions that the ♀ has only two eggs, but MARSH says, that six is the usual number. Almost all my specimens have six eggs, lying in one plane, as seen in the figure in dorsal view; in the figure of a ♀ seen from the side, they have been pressed into another position by the cover-glass.

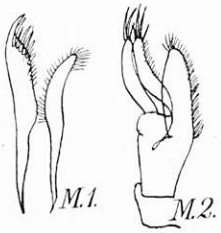
Several ♀ specimens had a long spermatophore; a single of these specimens was however abnormal as the genital segment was divided into two (see Fig. on Pl. 7 ♀ Uros. abn.).

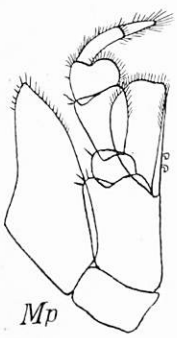
In the other cases it will suffice for me to refer to my figures.

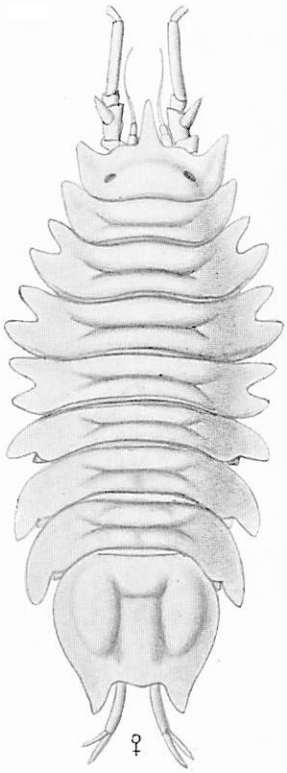


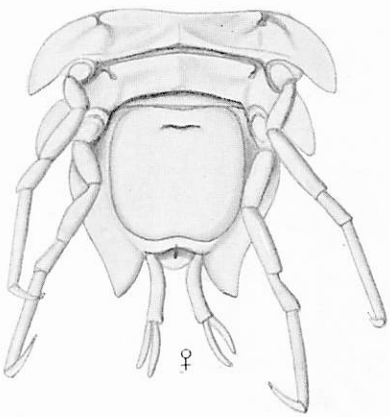


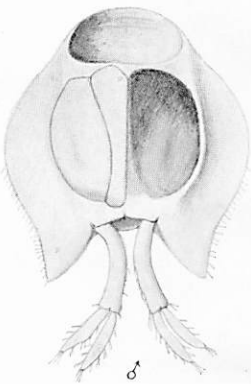


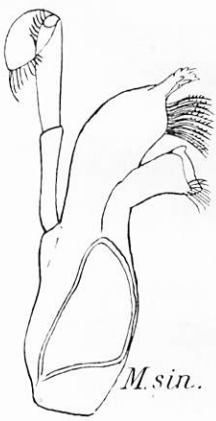








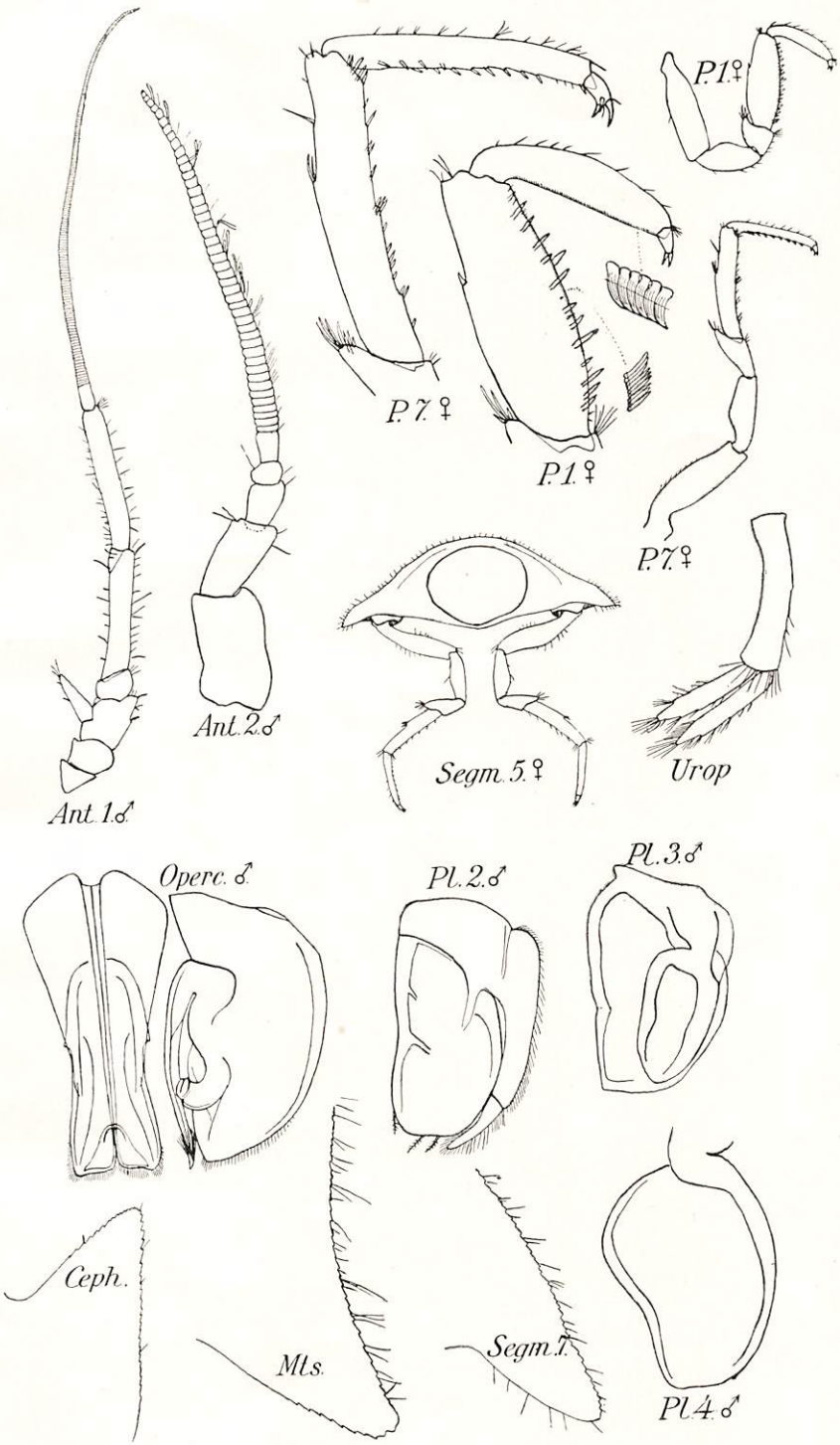




K. Stephensen del.

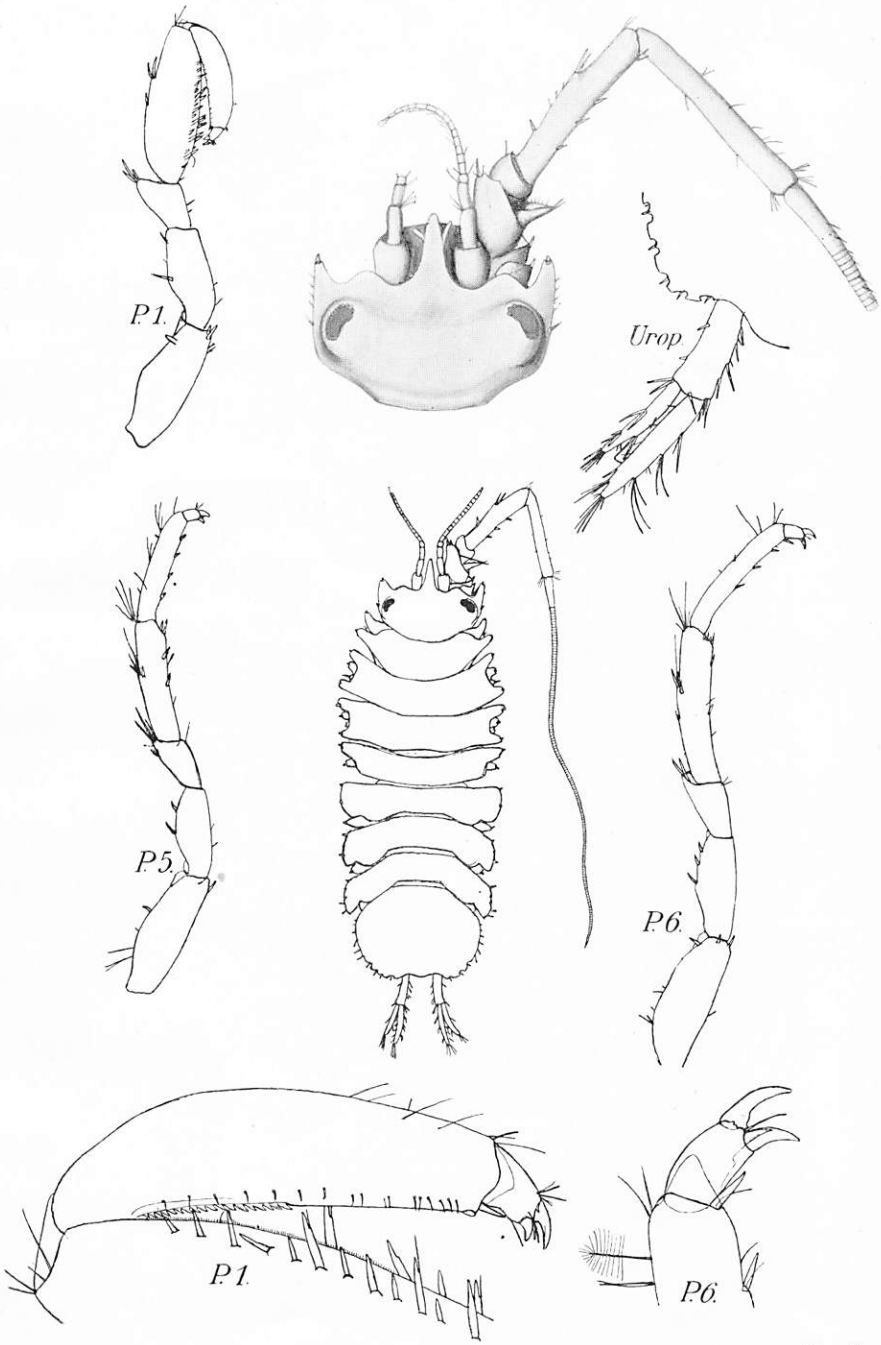
Janira Vilhelminæ n. sp. (No. 44, p. 68).
(*M. dext. pulp.* = the palp of M. dext).

Typ. Bianco Luno.



K. Stephensen del. Typ. Bianco Luno.

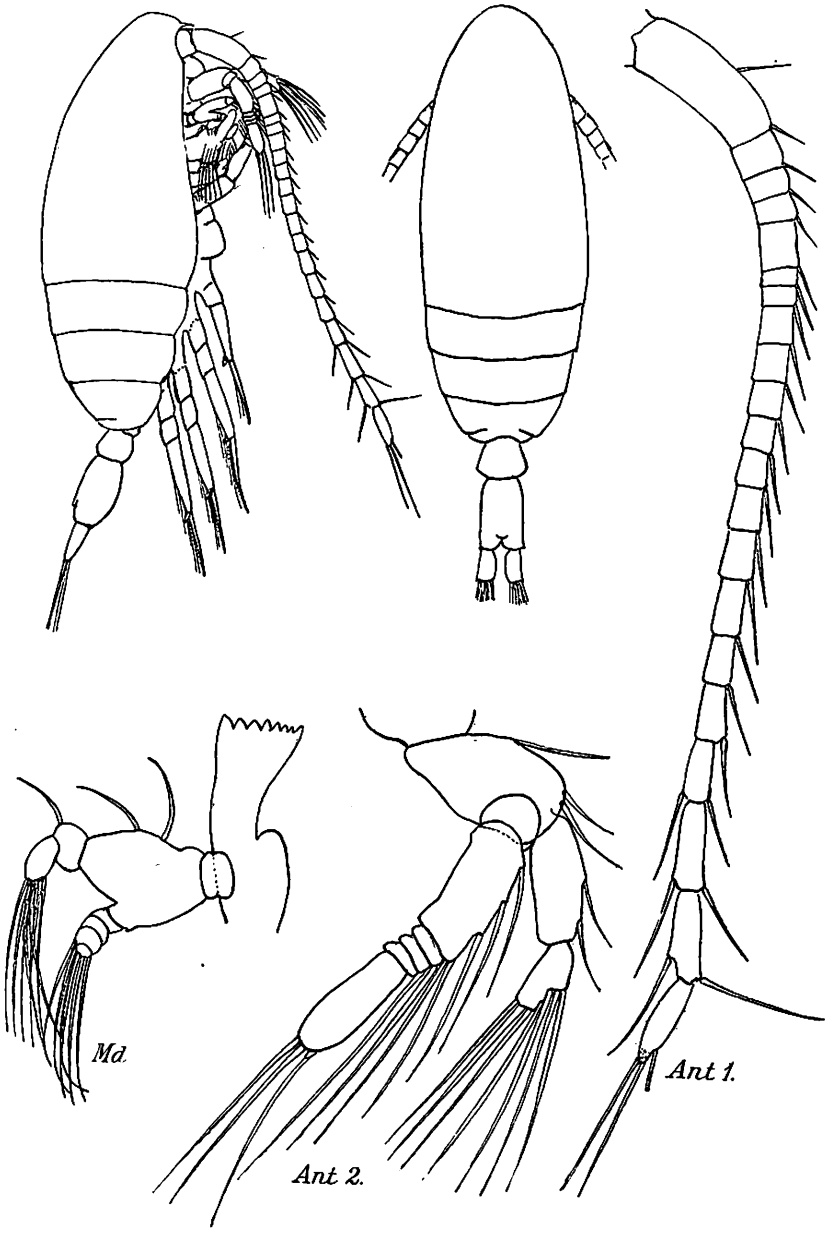
Janira Vilhelminæ n. sp. (No. 44, p. 68).



K. Stephensen del.

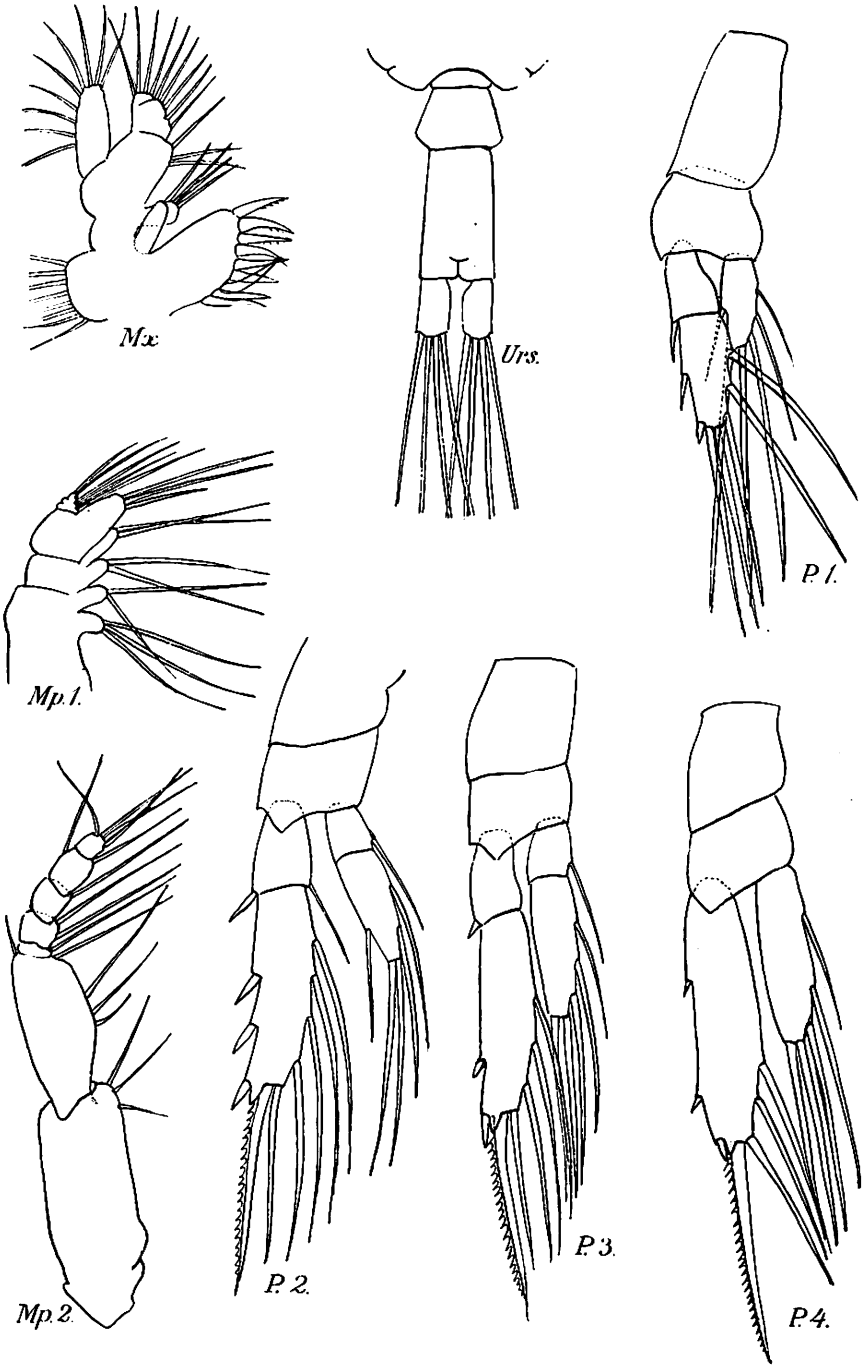
Typ. Bianco Luno.

Janthe libbeyi Ortm. (No. 45, p. 70).



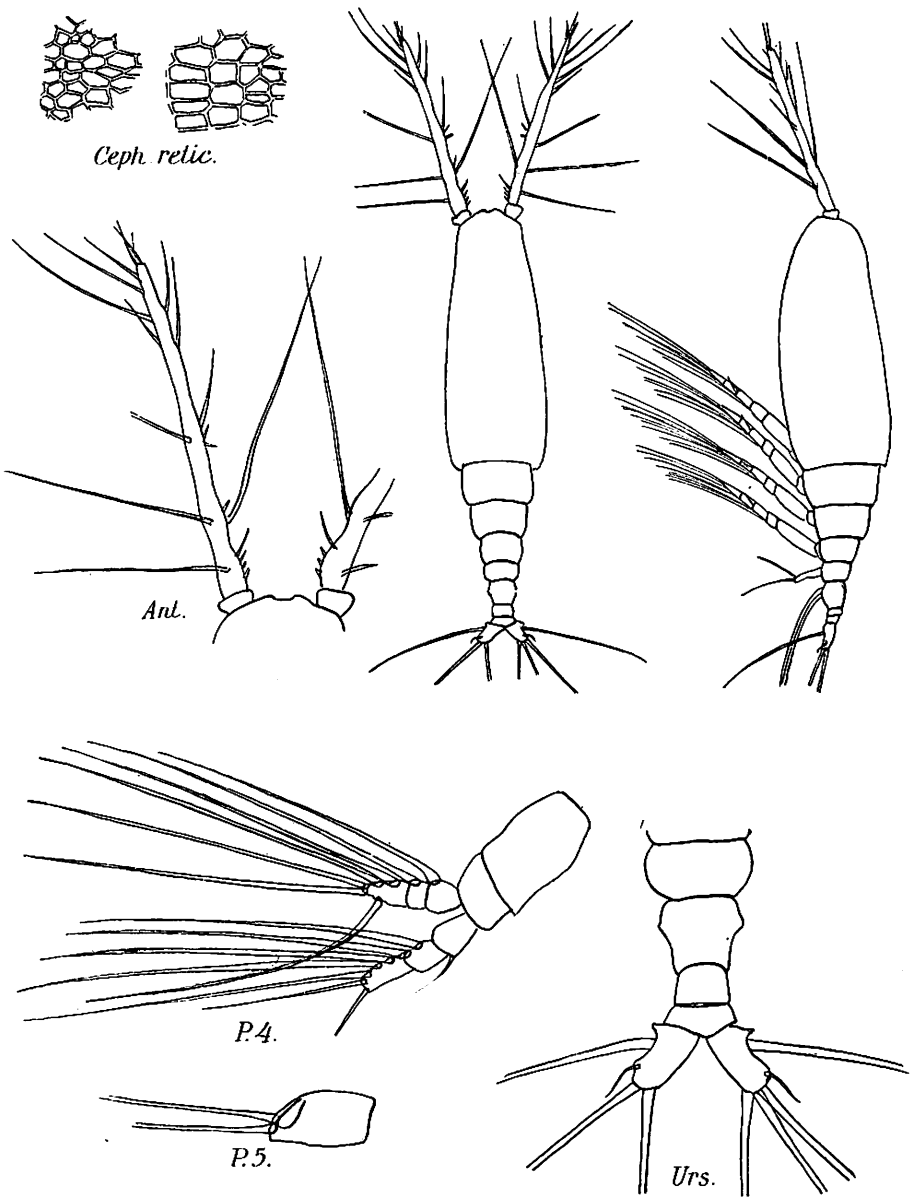
K. Stephensen del. Typ. Blanco Luno.

Pseudocalanus elongatus Boeck, 3rd Copepodite (No. 55, p. 71).



K. Stephensen del. Typ. Blanco Luno.

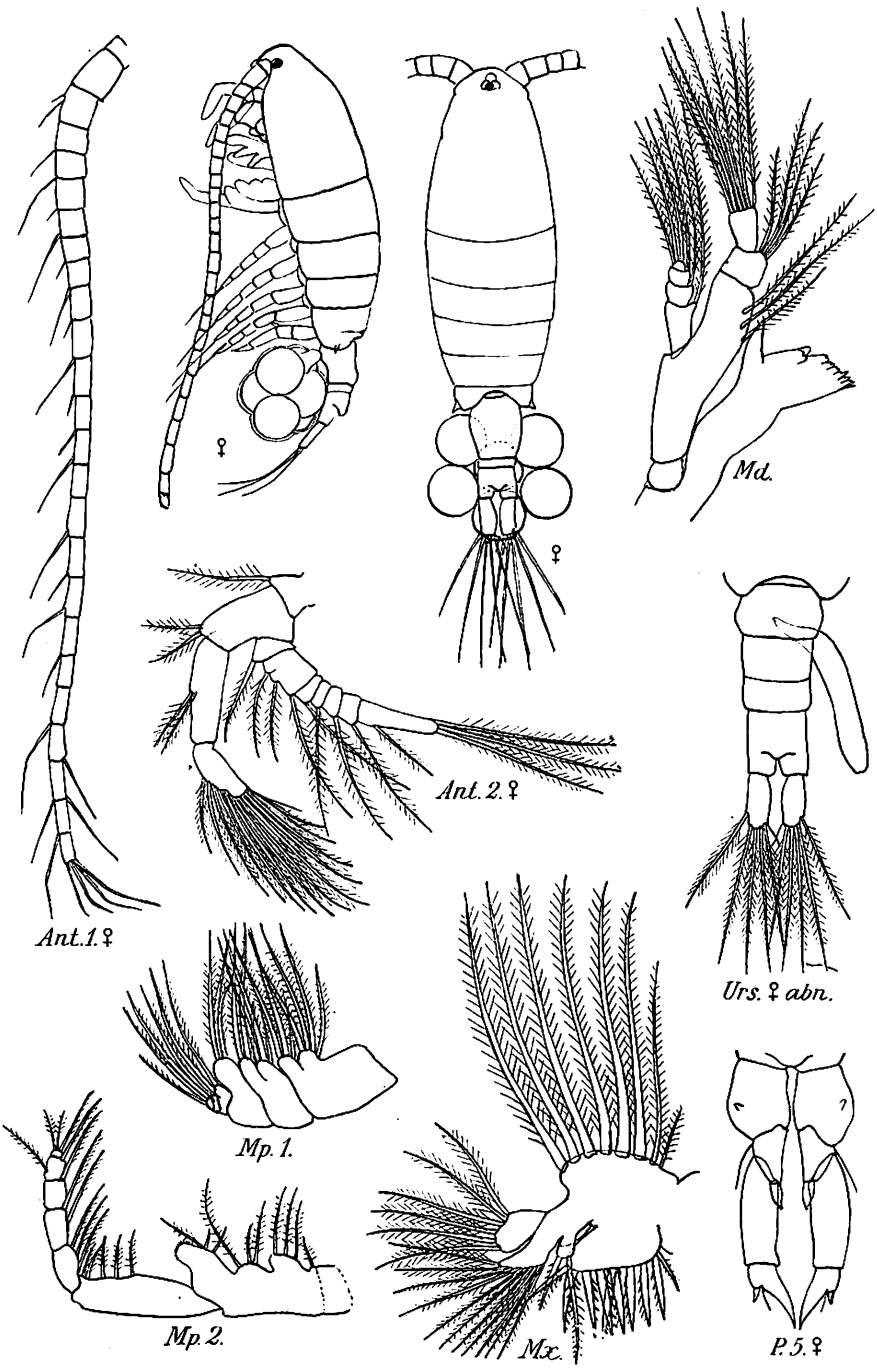
Pseudocalanus elongatus Boeck, 3rd Copepodite (No. 55, p. 71).



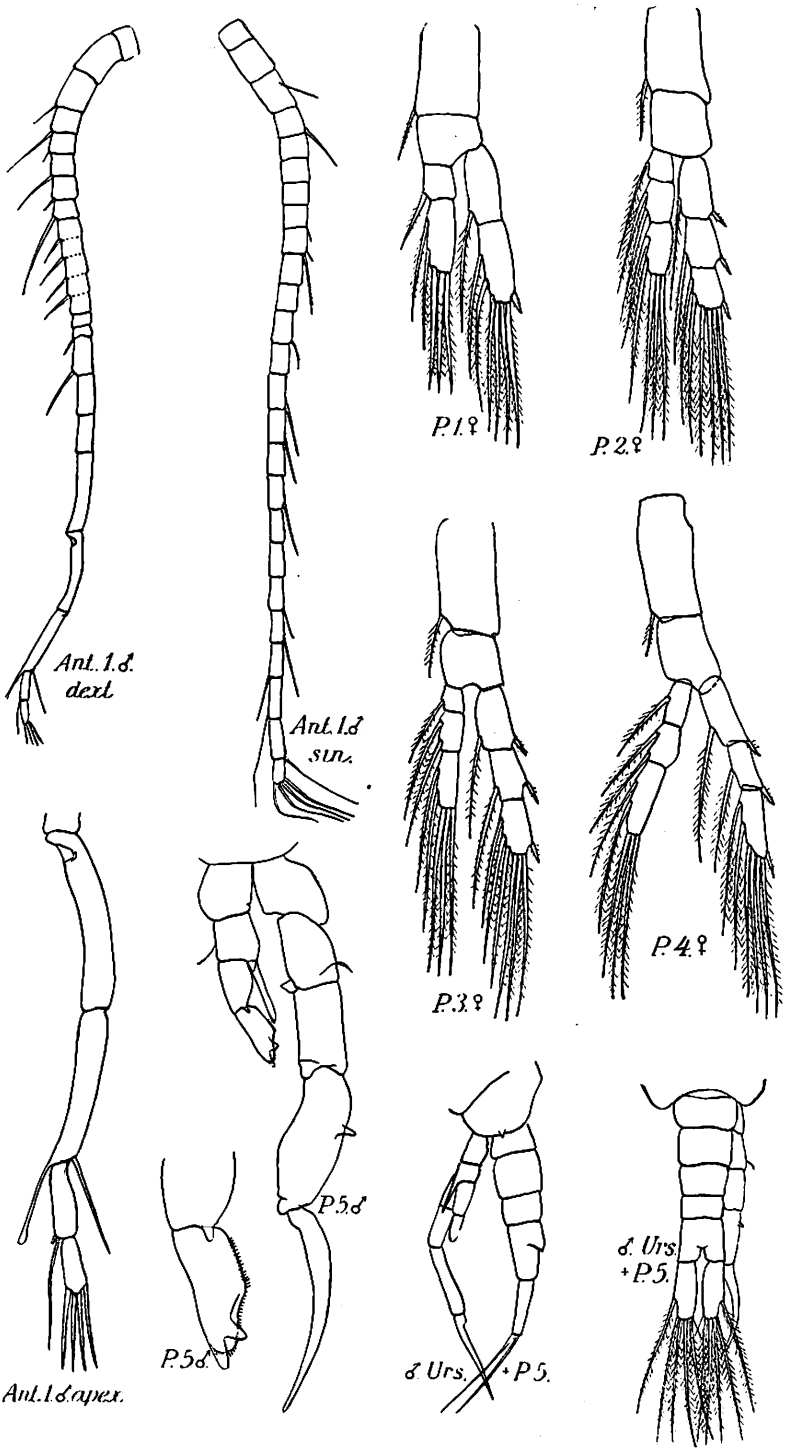
K. Stephensen del.

Typ. Blanco Luno.

Monstrilla Wandelii n. sp. (No. 62, p. 73).
(*Ceph. retic.* = the reticulation of the carapace).



K. Stephensen del. Diaptomus minutus Lilljb. (No. 70, p. 76). Typ. Blanco Luno.
(*Urs.* ♀ *abn.* = abnormal urosome of ♀ with spermatophore).



K. Stephensen del. Typ. Bianco Luno.

Diaptomus minutus Lilljb. (No. 70. p. 76).