

REPORT OF THE SECOND NORWEGIAN ARCTIC EXPEDITION  
IN THE "FRAM" 1898—1902. No. 18.

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G. O. S A R S :

CRUSTACEA

(WITH 12 AUTOGR. PLATES)

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AT THE EXPENSE OF THE FRIDTJOF NANSEN FUND  
FOR THE ADVANCEMENT OF SCIENCE

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## Introduction.

The collections of Crustacea brought home from the 2nd Fram Expedition are rather extensive, having been made in many different places and at different times. As a rule, only the larger and more conspicuous forms were collected, and all these have turned out to belong to well-known arctic and circumpolar species; but by a careful examination of the bottom-residue of the large collecting bottles, I have been enabled also to acquire some information concerning the smaller forms of *Isopoda*, *Amphipoda* and *Cumacea*, as also the *Ostracoda* and *Copepoda*. Of the last-named order there are some apparently new species, which will be described and figured in the present Report, together with a few previously recorded, but still less perfectly known species. I give below a list of the several places (with dates) in which Crustacea were collected.

1898.

- April 30. Godthaab (fresh water).
- July 10.
- " 29. Egedes Minde.
- " 31. Disco.
- Aug. 4 & 5. Upernivik, 4—13 fath.
- Aug. 16. Faulke Fjord (fresh water).
- " 18. Rice Strait. 2—5 fath.
- " 19. Cape Sabine, Camp Clay.
- " — Bay at Rice Strait.
- " 22. Fresh water.
- " 24. Rice Strait.
- " 26. —
- " 29. Cape Rutherford (fresh water).
- Oct. 11. Haven in Rice Strait.

## 1899.

- June 17. Winter haven (brackish).  
 „ 30. Rice Strait.  
 July 21. Winter haven.  
 „ 24. Southern end of Penn Island, 6—10 fath.  
 July 29 & 30. Winter haven, 6 fath.  
 Sept. 3. The haven.  
 „ 5. The Bay (pelagic).

## 1900.

- March 7. Bay south of Sjøpølse Ness, 15—20 fath.  
 June 22. The skerry, 5 fath.  
 „ 23. Pelagic haul, 55 fath.  
 July 12. Bay at Last End.  
 „ 22. Winter haven, 6—30 fath.  
 „ 23. do., 6—20 fath.  
 „ 24. do., 45 fath.  
 „ 26. Western side of the mouth of Stordalen, 6-10 f., clay.  
 „ 28. Outside Ødedalen, 20 fath.  
 „ 30.  
 Aug. 1. Outside the mouth of Stordalen, 10 fath.  
 „ 3. do., 2—20 fath.  
 „ 7. Østcap, 10—25 fath.  
 „ 7. Sjøpølse Ness, 15—25 fath.  
 „ 8. Winter haven, 15 fath.  
 Sept. 19. Outside the Forvisnings Valley, 2—20 fath.  
 „ 20. Upper part of Gaase Fjord, 3—20 fath, clay and gravels.

## 1901.

- June 28. Mouth of Hvalros Fjord.  
 „ 29. Off the camping-ground.  
 July 5. The sound.  
 „ 8. Ren Bay, Ellesmere Land.  
 „ 9.  
 „ 18. Mouth of Gaase Fjord, 60 m.  
 Aug. 2. Upper part of Gaase Fjord.  
 „ 16. About 7 fath.  
 „ 30. 8 m., clay and gravel, with algæ.

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1902.

- July 5. Outside Havhest Fjord.  
„ 11. do., 3-7 fath.  
„ 17. East of the great glacier, North Devon, ca. 3 fath.  
„ 19. North Devon, off the camping-ground, 3-7 fath.  
Aug. 4. Gaase Fjord, north of the peninsula, 10-15 fath.

As all these localities lie within the same restricted area, I do not consider it necessary, as a rule, to enumerate all the places where each species was actually found.

In addition to the above-mentioned collections, a series of plankton-samples were taken by the aid of a fine-meshed tow-net during the voyage up Baffin's Bay. In some of these samples a number of pelagic Crustacea were found, and these will be mentioned together with the other species enumerated below.

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## Systematic List of Species.

### Order *Decapoda*.

#### Suborder *Carida*.

#### Fam. *Crangonidæ*.

1. *Sclerocrangon boreas* (PHIPPS).

Numerous specimens of this well-known arctic form, the greater number of them immature, are in the collection, having been taken in many different localities within the area investigated.

2. *Sabinea septemcarinata* (SAB.).

Of this form only 2 specimens were secured, both taken on Sept. 20, 1900, in the upper part of Gaase Fjord, at a depth of 3—25 fathoms.

#### Fam. *Hippolytidæ*.

3. *Spirontocaris grönlandica* (FABR.).

Several specimens of this large and distinct arctic species were taken in 10 different places.

4. *Spirontocaris polaris* (SAB.).

This form was found in great abundance in most of the localities investigated. Though undoubtedly, like the preceding species, of arctic origin, it extends along the whole Norwegian coast, as far south as the Christiania Fjord. On the other hand, it has not yet been found off the British Isles.

5. *Spirontocaris Gaimardi* (EDW.).

Some specimens of this well-known form were taken in 7 different places. Like the preceding species, it is distributed along the whole Norwegian coast, as far south as Egersund.

6. *Spirontocaris spinus* (SOWB.).

Of this form only 3 specimens were secured, 2 of them having been taken on July 22, 1900, in the Winter haven, 6-20 fath., and the third on June 28, 1901, at the mouth of Hvalros Fjord.

7. *Spirontocaris turgida* (KRØYER).

Numerous specimens of this form were taken on July 12, 1900, in the bay at Last End. It was also found occasionally in 8 other places. Off the Norwegian coast this form is wholly restricted to the arctic region.

Order *Schizopoda*.Suborder *Mysidacea*.Fam. *Mysidæ*.8. *Mysis oculata* (FABR.)

This arctic form was taken in 9 different places, both at the bottom and near the surface. In the latter case the specimens were chiefly immature.

Order *Cumacea*.Fam. *Leuconidæ*.9. *Eudorella truncatula* (Sp. BATE).

A solitary female specimen of this form, not yet recorded from the arctic region, was found in the bottom-residue of one of the bottles containing collections taken on July 12, 1909, from the bay at Last End.

Fam. *Diastylidæ*.10. *Diastylis scorpioides* (LEPECHIN).

Two specimens of this genuine arctic form were taken, one on Aug. 26, 1898, in Rice Strait, the other on July 26, 1900, off the mouth of Stordalen.

Fam. *Campylaspidæ*.11. *Campylaspis carinata*, HANSEN.

A solitary female specimen of this peculiar form, described by Dr. HANSEN from Disco Island, was found on Sept. 19, 1900, outside the Forvisnings Valley.

Order *Isopoda*.Suborder *Chelifera*.Fam. *Tanaidæ*.12. *Heterotanais limicola* (HARGER).

Some specimens of this form, also recorded by Dr. HANSEN from the coast of Greenland, were picked up from the bottom-residue of 3 of the bottles.

13. *Leptognathia longiremis* (LILLJEB.).

A single specimen, apparently belonging to this species, occurred in a bottle with collections taken on July 18, 1901, from the mouth of Gaase Fjord.

14. *Cryptocope arctica*, HANSEN.

Three specimens of this distinct species, first described by Dr. HANSEN from Novaja Sembla, were found in the same bottle as the preceding species.

Suborder *Valvifera*.Fam. *Arcturidæ*.15. *Arcturus baffini*, SAB.

This characteristic arctic form was taken in no less than 12 different places. Among the specimens there are some in which the dorsal spines are much reduced in size, thus apparently forming a transition to the form recorded by the present author under the name of *A. tuberosus*.

Fam. *Idotheidæ*.16. *Mesidotea Sabini* (KRØYER).

A solitary specimen of this form was taken on Aug. 4, 1902, in Gaase Fjord, north of the peninsula, from a depth of 10—15 fathoms. According to Miss H. RICHARDSON, the 2 arctic species *Idothea Sabini* and *I. entomon* cannot be referred either to the genus *Chiridotea* or to *Glyptonotus*, for which reason the new genus *Mesidotea* has been established by that distinguished naturalist.

Suborder *Asellota*.Fam. *Janiridæ*.17. *Janira tricornis* (KRØYER).

Some few, more or less mutilated specimens of this arctic species were picked up from the bottom-residue of 3 or 4 bottles.

Fam. *Munnidæ*.18. *Munna Fabricii*, KRØYER.

Several specimens of this form were found in the bottom-residue of 5 of the bottles.

19. *Munna Krøyeri*, GOODSIR.

Found together with the preceding species.

Fam. *Munnopsidæ*.20. *Munnopsis typica*, M. SARS.

A single specimen of this characteristic form was taken on Aug. 2, 1901, in the upper part of Gaase Fjord.

21. *Eurycope mutica*, G. O. Sars.

A few specimens of a small *Eurycope*, apparently referable to this species, were picked up from the bottom-residue of a bottle containing collections taken on July 30, 1900.

Suborder ***Epicarida.***Fam. *Dajidæ.*22. *Dajus mysidis*, KRØYER.

Found, as usual, attached to the interior of the marsupial pouch of *Mysis oculata* (FABR.).

Order ***Amphipoda.***Fam. *Hyperiidæ.*23. *Hyperia galba* (MONT.).

Several specimens of this form, young and adult, were collected on Aug. 18, 1898, off Cape Sabine.

24. *Ethemisto libellula* (MANDT.).

Only immature specimens of this common arctic form are in the collection, these having been taken, as usual, near the surface of the sea.

Fam. *Lysianassidæ.*25. *Socarnes bidentatus* (Sp. BATE).

Solitary specimens of this magnificent form were taken in 4 different places.

26. *Anonyx nugax* (PHIPPS).

Taken in 6 different places.

27. *Hoplonyx cicada* (FABR.).

One specimen only of this common form was taken on June 29, 1901, outside the camping-ground.

28. *Tryphosa compressa*, G. O. SARS.

A solitary specimen of this form was taken on July 8, 1901, in Ren Bay, Ellesmere Land.

29. *Onesimus Edwardsi* (KRØYER).

This form was found occasionally in 4 different places.

30. *Pseudalibrotus littoralis* (KRØYER).

Several specimens of this common arctic form are in the collection, these having been taken both at the bottom and near the surface of the sea.

Fam. *Pontoporeiidæ*.31. *Pontoporeia femorata*, KRØYER.

Some specimens of this form were taken on two different occasions in the bay in Rice Strait.

Fam. *Ampeliscidæ*.32. *Byblis Gaimardi* (KRØYER).

Taken occasionally in 4 different places.

33. *Haploops tubicola* (LILLJEB.).

Several specimens of this form are in the collection, these having been taken in 5 different places. In one of these localities, the haven in Rice Strait, it occurred in great abundance.

Fam. *Stegocephalidæ*.34. *Stegocephalus inflatus* (KRØYER).

This form occurred in no less than 11 different places, and in one of them, the bay at Land's End, it was found in considerable abundance.

Fam. *Stenothoidæ*.35. *Metopa Bruzelii* (Goës).

Found in great abundance on Hydroida from Rice Strait, and also found in the bottom-residue of another bottle.

36. *Metopa borealis*, G. O. SARS.

A solitary specimen of this form was found in the bottom-residue of a bottle with collections taken on July 18, 1901, at the mouth of Gaase Fjord, depth about 60 m.

37. *Metopa Boeckii*, G. O. SARS.

Several specimens of this form, not yet known from the arctic region, were found in the same bottle as the preceding species.

38. *Metopa carinata*, HANSEN.

Of this peculiar form, first described by Dr. HANSEN from the west coast of Greenland, some few specimens were collected on July 27, 1898, at Egedes Minde. Another specimen was found in a bottle of specimens taken on July 9, 1902, in Ren Bay, Ellesmere Land.

Fam. *Amphilochidæ*.39. *Amphilochus manudens*, Sp. BATE.

A solitary, somewhat defective specimen of this form occurred in a bottle of specimens taken on July 30, 1900.

Fam. *Oediceridæ*.40. *Paroedicerus lynceus* (M. SARS).

Two specimens of this form are in the collection, one taken on July 30, 1900, the other on July 17, 1902, east of the great glacier, North Devon.

41. *Acanthostepheia Malmgreni* (Goës).

This large and conspicuous arctic form was found in 5 different places, in some of them rather abundantly.

Fam. *Paramphithoidæ*.42. *Paramphithoe bicuspis* (KRØYER).

Three specimens of this form were found on Hydroida taken on Aug. 24, 1898, in Rice Strait.

Fam. *Epimeridæ*.43. *Acanthozone cuspidata* (LEPECHIN).

An immature specimen of this characteristic form was taken on July 30, 1900.

Fam. *Iphimediidæ*.44. *Odius carinatus* (Sp. BATE).

Solitary specimens of this small, but easily recognisable form were picked up from the bottom-residue of 2 of the bottles.

Fam. *Eusiridæ*.45. *Eusirus cuspidatus*, KRØYER.

A solitary specimen of this arctic form was taken on July 12, 1900, in the bay at Last End.

46. *Rhachotropis aculeata* (LEPECHIN).

Some specimens of this characteristic arctic form are in the collection, these having been taken in 3 different places.

Fam. *Calliopiidæ*.47. *Calliopijs Rathkei* (ZADDACH).

Several specimens collected on July 31, 1899, off Disco Island.

48. *Pontogeneia inermis*, KRØYER.

Found occasionally in 2 different places.

49. *Amphithopsis glacialis*, HANSEN.

Some more or less mutilated specimens of this genuine arctic form are in the collection, these having been taken in 5 different places, in some cases near the surface of the sea.

Fam. *Atylidæ*.50. *Atylus carinatus* (FABR.).

This characteristic arctic form was taken in no less than 16 different places, in some of them rather abundantly.

Fam. *Gammaridæ*.51. *Gammarus locusta* LIN.

Collected in 7 different places, in one of them very abundantly.

52. *Amathilla homari* (FABR.).

Several specimens of this form were secured, having been found in 5 different places.

53. *Amathilla pingvis* (KRØYER).

This genuine arctic form was also taken in several places.

54. *Gammaracanthus loricatus* (SAB.).

Magnificent specimens of this characteristic form were taken from 5 different places.

Fam. *Photidæ*.55. *Protomedeia fasciata*, KRØYER.

Only a single specimen of this form was found in a bottle of specimens taken on Aug. 2, 1901, in the upper part of Gaase Fjord.

Fam. *Podoceridæ*.56. *Ischyrocerus angvipes* (KRØYER).

Four specimens of this common arctic form were taken on July 17, 1902, east of the large glacier, North Devon, from a depth of about 3 fathoms.

57. *Ischyrocerus minutus* (LILLJEB.).

Very common on Hydroida taken on Aug. 24, 1898, in Rice Strait from a depth of 4—20 fathoms; also found occasionally in 2 other places.

Fam. *Corophiidæ*.58. *Neohela monstrosa*, BOECK.

A solitary, somewhat mutilated specimen of this peculiar form was taken on Aug. 2, 1901.

Fam. *Caprellidæ*.59. *Ægina spinosissima* (STIMPS).

Taken occasionally in 5 different places.

60. *Caprella septentrionalis*, KRØYER.

Several specimens of this common arctic species were taken on Aug. 4, 1898, at Upernivik.

Order *Branchiopoda*.Suborder *Phyllopoda*.Fam. *Apodidæ*.61. *Lepidurus arcticus* (PALLAS).

This arctic form was collected on Aug. 16, 1898, from fresh-water swamps on Faulke Fjord.

62. *Lepidurus apus* (Lin.).

Two specimens of this species, which has not yet been recorded from the arctic region, were taken on Aug. 29, 1898, from a fresh-water swamp at Cape Rutherford.

Fam. *Branchipodidæ*.63. *Branchinecta paludosa* (MÜLLER).

Found in several places, both in fresh and brackish water.

Suborder *Cladocera*.Fam. *Daphnidæ*.64. *Daphnia pulex* (DE GEER).

Numerous dark-coloured specimens of this form, most of them with ephippia, occurred in a sample taken on Aug. 22, 1898, from a fresh-water pond (the exact locality not indicated).

Fam. *Polyphemidæ*.65. *Evadne Nordmani*, LOVÉN.

Abundant in a plankton-sample taken on June 29, 1898, in lat. 57° 31' N., long. 1° 29' E.

Order *Copepoda*.Suborder *Calanoida*.Fam. *Calanidæ*.66. *Calanus finmarchicus* (GUNNER.).

This common species occurred abundantly in plankton-samples from many different places.

67. *Calanus hyperboreus*, KRØYER.

Found occasionally together with the preceding species.

Fam. *Euchætidæ*.68. *Euchæta norvegica*, BOECK.

Some immature specimens of this form occurred in one of the plankton-samples taken on July 10, 1898.

Fam. *Stephidæ*.69. *Stephos arcticus*, G. O. SARS, n. sp.

(Pl. I.)

Specific Characters. — Female. Body somewhat more slender than in the other known species, with the anterior division oblong oval in form, greatest width not attaining half the length. Last pedigerous segment not wholly confluent with the preceding one, a slight notch on each side indicating the limit between the two; lateral lobes rounded off and slightly unequal, the right one somewhat more prominent than the left. Urosome slender and narrow, attaining almost half the length of the anterior division, genital segment slightly asymmetrical, bulging somewhat on left side. Caudal rami about the length of the last segment, apical setæ rather slender, the innermost but one much the longest, and attaining about half the length of the body. Anterior antennæ shorter than the anterior division of the body, and, as in the other species, composed of 24 articulations. Posterior antennæ, oral parts and natatory legs of the structure characteristic of the genus. Last pair of legs extremely small, with the distal joint conical in form and scarcely denticulated.

Male somewhat smaller than female and of more slender form, with the urosome narrower and 5-articulate, 2nd segment the largest

and produced below to a conical recurved projection. Anterior antennæ of exactly the same structure as in female. Last pair of legs, however, very different and greatly developed, being built on the type characteristic of the genus; right leg more slender than left, and consisting of 4 joints, the penultimate one long and slender, sublinear in form, and produced at the end outside to a conical projection, terminal joint divided into 3 unequal lappets, the middle one the largest and somewhat spoon-shaped; left leg angularly bent in front of the middle, and distinctly 5-articulate, penultimate joint large and tumid, oval in form, and provided at the base inside with a slender spiniform appendage, outside which another much smaller projection occurs, lower face provided, in front of the middle, with a rounded projecting tubercle, terminal joint somewhat club-shaped, and provided at the end outside with about 6 lanceolate, leaf-like appendages, tip rounded off and fringed with a comb-like series of delicate, somewhat compressed spinules.

Length of adult female 1.20 mm., of male 1.05 mm.

Remarks. — In its external appearance this form somewhat resembles *S. Scotti*, G. O. Sars, but is of larger size and more slender shape. It also differs conspicuously both from this and the other known species in the structure of the last pair of legs in both sexes.

Occurrence. — One female and 2 male specimens of this form were found in a bottle containing specimens taken on July 12, 1900, in the bay at Land's End.

#### Fam. *Centropagidæ*.

##### 70. *Centropages hamatus* (LILLJEB.).

Found rather abundantly in a plankton-sample taken on June 29, 1898, in lat. 57° 31' N., long. 1° 29' E.

#### Fam. *Temoridæ*.

##### 71. *Temora longicornis* (MÜLL.).

Found in the same sample in which the preceding species occurred.

#### Fam. *Pontellidæ*.

##### 72. *Anomalocera Patersoni* (TEMPLT.).

Several specimens of this characteristic Atlantic form occurred in the same sample as the 2 preceding species.

Fam. *Acartiidæ*.73. *Acartia Clausi*, GIESBRECHT.

Together with the 3 preceding species.

Suborder *Harpacticoida*.Fam. *Misophriidæ*.74. *Misophria pallida*, BOECK.

Several specimens of this peculiar form were picked up from the bottom-residue of 4 different bottles. It has also been recorded by Dr. TH. SCOTT from Franz Josef Land.

Fam. *Ectinosomidæ*.75. *Ectinosoma neglectum*, G. O. SARS.

Not unfrequent in the bottom-residue of several bottles.

76. *Ectinosoma melaniceps*, BOECK.

Together with the preceding species, rather common.

77. *Bradya typica*, BOECK.

Some few specimens of this form were found in 2 of the bottles.

78. *Microsetella norvegica* (BOECK).

This form occurred in great abundance in a plankton-sample taken on July 10, 1898. 2 specimens were also found in a bottle with collections taken on June 26, 1899, in the Winter haven.

Fam. *Harpacticidæ*.79. *Harpacticus chelifer* (MÜLLER).

A solitary specimen of this species was taken on July 27, 1898, in the haven of Egedes Minde.

80. *Harpacticus uniremis*, KRØYER.

Found rather frequently in 5 different bottles.

81. *Zaus spinatus*, GOODSIR.

This form also occurred in 5 different bottles. The specimens agreed, perfectly, both in size and in their structural details with the form occurring off the Norwegian coast.

82. *Zaus Aurelii*, POPPE.

(Pl. II, figs. 1-6).

*Zaus Aurelii*, POPPE, Ueber die von Herrn Dr. ARTHUR and AUREL KRAUSE im nordlichen stillen Ocean und Behringsmeer gesammelten Copepoden. Arch. f. Naturgesch. 50. Jahrg. 1. Vol. p. 286, Pl. XX, figs. 7-9, Pl. XXI, figs. 5-15.

Specific Characters. — Female. Body somewhat less expanded than in the type species, the anterior division being oblong oval in form, with the cephalic segment evenly rounded in front. Rostral projection semicircular, deflexed. Urosome, as in the type species, much narrower than the anterior division, lateral expansions of the segments not much produced. Anterior antennæ comparatively shorter than in *Z. spinatus*, otherwise of a very similar structure. Posterior antennæ and oral parts as in that species. 1st pair of legs with the rami comparatively less robust, and the apical claws less thickly clothed with cilia. Natatory legs likewise somewhat more slender in shape. Last pair of legs with the distal joint oblong in form, more than twice as long as it is broad, and somewhat tapered at the end, inner expansion of proximal joint triangularly produced. Ovisac oblong oval in form, with only a limited number of ova.

Length of adult female 0.72 mm.

Remarks. — This form is closely related to *Z. spinatus* GOODSIR, but is of considerably larger size, and has the anterior division of the body somewhat less expanded. The several appendages are on the whole very similar to those in the type species, though on a closer comparison, some slight differences may be found to occur. The last pair of legs especially differ conspicuously in the narrower shape of the distal joint and the more produced inner expansion of the proximal joint.

Occurrence. — Some specimens of this form were found together with the preceding species in 3 of the bottles.

Distribution. — The Pacific in lat. 55° 56' N, long. 154° 7' W, on *Laminaria* and *Macrocystis* floating at the surface (POPPE); Novaja Semlja (SCOTT).

83. *Zaus abbreviatus*, G. O. SARS.

This form, as yet only known from the Norwegian coast, was found occasionally together with the preceding species.

84. *Zaus Goodsiri*, BRADY.

Two specimens only of this large and distinct species were found.

Fam. *Porcellidiidæ*.85. *Porcellidium fimbriatum*, CLAUS.

A solitary specimen of this easily recognisable form was found in a bottle of specimens taken on July 9, 1901.

Fam. *Idyidæ*.86. *Psamathe Arthuri* (POPPE).

(Pl. II, figs. 7-11).

*Stutellidium Arthuri*, POPPE, l. c. p. 291, Pl. XXI, figs. 1-4, Pl. XXII, figs. 1-12.

Specific Characters. — Female. Anterior division of body broad and depressed, with the lateral parts of the segments lamellarly expanded and angular behind. Cephalic segment about the length of the 4 succeeding segments combined, rostral projection broad and lamellar, obtusely truncated at the end. Penultimate segment of metasome scarcely narrower than the preceding ones, and having the hind edge almost straight. Last pedigerous segment, as in the type species, very small and firmly connected with the 1st caudal segment. Urosome comparatively shorter than in the type species, being scarcely more than  $\frac{1}{3}$  as long as the anterior division, genital segment somewhat dilated and much larger than the others. Caudal setæ slender and elongated, the innermost but one almost as long as the whole body. Anterior antennæ resembling in structure those in *P. longicauda*, the terminal part tapering abruptly, with the last 2 joints narrow linear in form. Posterior antennæ and oral parts exhibiting the structure characteristic of the genus. 1st pair of legs almost exactly as in the type species. Natatory legs likewise very similar. Last pair of legs, however, differing more conspicuously, the distal joint being comparatively shorter and less densely setous on the edge, tip obliquely truncated.

Length of adult female 1.32 mm.

Remarks. — This form is very nearly related to *P. longicauda* PHILIPPI (= *Scutellidium thisboides* Claus), but is of rather larger size and differs slightly in the general shape of the body, as also in the structure of the last pair of legs. The form recorded by TH. SCOTT from Franz Josef Land as *Scutellidium thisboides* CLS. is in all probability the present species and not that of CLAUS.

Occurrence. — A single fully adult female specimen and some immature ones of this form were found in a bottle of specimens taken on July 12, 1908, in the bay at Land's End.

Distribution. — Northern part of the Pacific together with *Zaus Aurelii* (POPPE); Franz Josef Land (SCOTT).

87. *Machairopus minutus*, G. O. SARS.

Some specimens of this form, described by the present author from the Norwegian coast, were found in 3 of the bottles.

88. *Idyæa*<sup>1</sup> *furcata* (BAIRD).

Found rather abundantly in several of the bottles.

89. *Idyæa ensifera* (FISCHER).

Several specimens of this form were also found in the bottles.

90. *Idyæa gracilis*, SCOTT.

Only a few specimens of this form were found in one of the bottles containing specimens taken on July 12, 1900, in the bay at Land's End.

91. *Idyæa finmarchica*, G. O. SARS.

Of this species, described by the present author from the Finmark coast, a solitary female specimen was found in the same bottle as the preceding species.

92. *Idyæa inflata*, G. O. SARS, n. sp.

(Pl. III).

Specific Characters. — Female. Body comparatively short and stout, sub-pyriform in outline, with the anterior division greatly inflated in its anterior part. Cephalic segment large and broad, obtusely rounded in front, with the rostral projection very slight. Epimeral parts

<sup>1</sup> By this slight change (the interposition of an *æ*) I think that the Philippian genus may be retained. The name *Idya* had been previously given by BLAINVILLE to a genus of Acalephæ.

of the 3 succeeding segments rounded and sub-contiguous; penultimate segment deeply emarginated behind. Last pedigerous segment very small. Urosome much narrower than the anterior division and scarcely attaining half its length, genital segment, as usual, much the largest; last segment very short. Caudal rami likewise short, broader than they are long, and transversely truncated at the end; apical setæ unusually short and less unequal than in the other species, the inner medial seta but little longer than the outer, and scarcely exceeding the urosome in length, being remarkably dilated for the greater part of its length; innermost seta longer than the outermost, both very thin. Anterior antennæ comparatively short, with the 2nd joint much the largest, the 2 succeeding joints gradually smaller, terminal part about twice the length of the preceding joint. Posterior antennæ rather small, but otherwise of normal structure. Mandibular palp with the inner ramus shorter and stouter than the outer. Anterior maxillipeds with the terminal claw very strong and abruptly bent at the tip, appendicular lobe extremely small with only a single minute bristle at the tip. Posterior maxillipeds comparatively more powerful than in the other species. 1st pair of legs exhibiting the structure characteristic of the genus, outer ramus exceeding half the length of the inner, and having the penicillate spines comparatively thin, inner ramus with the 1st joint rather dilated, 2nd joint not much narrowed and scarcely longer than the 1st, last joint very small, with 2 unequal claws at the tip, the inner one much the larger and distinctly penicillate. Natatory legs very fully developed, with the rami, especially those of the anterior pairs, rather broad and subequal in length; those of 4th pair, however, rather more slender. Last pair of legs not much produced, distal joint lamellar, oblong oval in form, and provided at the end with 4 comparatively short setæ, inner expansion of proximal joint short, triangular, and tipped with 2 unequal setæ. Ovisac oblong in form, and extending considerably beyond the tip of the caudal rami.

Male, as usual, much smaller and more slender than female, and having the anterior antennæ slightly transformed, subprehensile. Last pair of legs very small, with the inner expansion of the proximal joint quite obsolete. Genital lobes each with a strong spine and two small hair-like bristles.

Length of adult female about 1 mm.

Remarks. — This is a very distinct and easily recognisable species, being especially distinguished by the greatly inflated anterior division of the body and the unusually short caudal setæ.

Occurrence. — Several specimens of this form were found in the bottom-residue of 4 different bottles. In one of them, containing specimens taken on July 30, 1900, it occurred rather plentifully.

93. *Idyanthe*<sup>1</sup> *dilatata*, G. O. Sars.

One or two specimens of this peculiar form occurred in a bottle of specimens taken on July 12, 1900, in the bay at Land's End.

Fam. *Thalestridæ*.

94. *Thalestris gibba* (KRØYER).

This form occurred occasionally in a bottle of specimens taken on July 17, 1902, east of the great glacier, North Devon, from a depth of about 3 fathoms.

95. *Phyllothalestris frigida* (SCOTT).

(Pl. IV).

*Thalestris frigida*, TH. SCOTT, Marine and fresh water Crustacea from Franz Josef Land. Linn. Soc. Journ. Zoology. Vol. XXVII, p. 108, Pl. 7, figs. 17-23, Pl. 8, figs. 1, 2.

Specific Characters. — Female. Body comparatively strongly built, with the integuments highly chitinized. Cephalic segment large and deep, somewhat narrowed in its anterior part, and produced in front to a strong falciform deflexed rostrum terminating in a very acute point. Epimeral parts of the 3 succeeding segments less deep than in the type species, but terminating behind in a sharp angle. Last pedigerous segment short, but rather broad, with the lateral parts somewhat produced. Urosome not much narrower than the anterior division and somewhat exceeding half its length, genital segment broader than it is long, and somewhat depressed, exhibiting on each side, like the 2 succeeding segments, an obliquely transverse row of small denticles. Last segment well developed, though a little shorter than the preceding one. Caudal rami short, being scarcely longer than they are broad, and somewhat obliquely truncated at the tip, middle apical setæ rather slender, the inner one being, as usual, the longer. Anterior antennæ

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<sup>1</sup> The name *Idyopsis* having been previously given by Prof. A. AGASSIZ to a genus of Acalephæ, I propose the above change of the generic name.

scarcely exceeding half the length of the cephalic segment and rather densely setiferous, 1st joint much the largest, 2nd joint nearly as long as the 2 succeeding joints combined, terminal part rather narrow and about half the length of the proximal one. Posterior antennæ and oral parts of the structure characteristic of the genus. Posterior maxillipeds, as in the type species much less robust than in the genus *Thalestris*, the hand being narrow fusiform in shape, with the palmar edge nearly straight. 1st pair of legs with both rami rather slender and distinctly prehensile, the outer one a little longer than the inner, and having the 2nd joint long and slender, last joint small and armed with 2 strong subequal claws accompanied by a slender seta, outer edge of the joint moreover carrying 2 comparatively small spines; inner ramus with the outer 2 joints very short, the last one armed with a long slightly curved claw, outside which is a much thinner setiform spine. Natatory legs of normal structure. Last pair of legs very largely developed, though scarcely to such an extent as in the type species, extending about to the end of the 2nd caudal segment, both joints pronouncedly foliaceous, the distal one oblong oval in form and provided with 4 thickish, coarsely ciliated setæ, 3 of which are attached to the outer edge, the 4th to the inner edge near the end, the tip itself carrying 2 unequal very thin, hair-like bristles; inner expansion of proximal joint extending as far as the distal joint and broadly rounded at the end, marginal setæ 5 in number, the innermost not far remote from the others.

Male considerably smaller than female and exhibiting the usual sexual differences. 1st pair of legs with the spine attached to the inner corner of the 2nd basal joint falciform, incurved. Inner ramus of 2nd pair of legs transformed in a similar manner to that in the type species. Last pair of legs much smaller than in female, with the inner expansion of proximal joint quite short, and provided with only 3 setæ.

Length of adult female 1.30 mm.

Remarks. — This form has been described and figured, though somewhat imperfectly, by ТН. SCOTT in the above-quoted paper as a species of the genus *Thalestris*. According to the general form of the body, the shape of the rostrum, the structure of the posterior maxillipeds and the great development of the last pair of legs, it is undoubtedly referable to the genus *Phyllothalestris*, as defined by the present author in his account of the Norwegian Harpacticoida. It is distinguished from the type species, *P. mysis* CLAUS, by a number of well-marked characters pointed out in the above diagnosis.

Occurrence. — One female and 2 male specimens of this pretty form were found in a bottle of specimens taken on July 10, 1901, at the mouth of Gaase Fjord from a depth of about 60 m.

Distribution. — Franz Josef Land (SCOTT).

96. *Rhynchothalestris helgolandica* (CLAUS).

Found occasionally in 2 of the bottles.

97. *Microthalestris forficula* (CLAUS).

This form occurred not unfrequently in 7 different bottles.

98. *Dactylopusia vulgaris*, G. O. SARS.

Not uncommon in several places.

99. *Dactylopusia glacialis*, G. O. SARS, n. sp.

(Pl. V).

Specific Characters. — Female. Body moderately slender and slightly tapering behind, with the anterior division oval in form and not much dilated anteriorly. Cephalic segment exceeding in length the 4 succeeding segments combined; rostral projection slightly prominent and obtuse at the tip. Urosome about  $\frac{2}{3}$  as long as the anterior division, and having the segments rather sharply defined. Caudal rami very short, being twice as broad as they are long, and transversely truncated at the end; middle apical setæ rather slender. Anterior antennæ comparatively short, though distinctly 9-articulate, terminal part about the length of the 3 preceding joints combined. Posterior antennæ and oral parts of normal structure. 1st pair of legs rather strongly built, with both rami distinctly prehensile, the outer one nearly as long as the 1st joint of the inner, last joint short, spatulate in form, with all 4 claws well-developed and gradually increasing in length distally, inner ramus with the 2 outer joints, as usual, very short and abruptly incurved, the last one armed with 2 very strong claws of unequal length, seta of 1st joint attached about in the middle. Natatory legs of the usual structure. Last pair of legs comparatively large and pronouncedly foliaceous, distal joint very broad, rounded in shape, and scarcely exerted at the tip; inner expansion of proximal joint almost extending as far as the distal joint, 2 of the setæ on each joint very slender and elongated.

Male, as usual, smaller than female, and having the anterior antennæ distinctly hinged. Inner ramus of 2nd pair of legs with the

distal joint considerably narrowed in its outer part, spine of outer edge unusually short and attached beyond the middle, tip provided with a small spine and a long flexuous seta. Last pair of legs with the distal joint rather small, inner expansion of proximal joint well developed, but provided with only 3 short setæ.

Length of adult female about 1 mm.

Remarks. — This form is nearly allied to *D. vulgaris*, but is of considerably larger size, in which respect it about equals *D. thisboides* CLAUS. From both these species it is distinguished by the very broad rounded form of the distal joint of the last pair of legs in the female, as also by the more strongly built 1st pair of legs. From *D. thisboides* it moreover differs by the distinctly 9-articulate anterior antennæ. The structure of the inner ramus of the 2nd pair of legs in the male differs also conspicuously from that in the 2 species mentioned.

Occurrence. — This form was found rather abundantly in a bottle of specimens taken on July 30, 1900 (the exact locality not indicated). It also occurred occasionally in some of the other bottles.

#### 100. *Dactylopusia brevicornis*, CLS.

Some specimens of this distinct species occurred in a bottle of specimens taken on July 12, 1900, in the bay at Land's End.

#### 101. *Idomene coronata* (SCOTT).

(Pl. VI).

*Dactylopus coronatus*, TH. SCOTT, Additions to the Fauna of the Firth of Forth. 12th. Ann. Rep. of Fish. Board for Scotland, Part III, p. 255, Pl. IX, figs. 12–20.

Specific Characters. — Female. Body short and stout, pronouncedly depressed, with the anterior division broad and expanded, oval in outline. Cephalic segment large and evenly rounded in front, rostral projection somewhat deflexed, lamellar, obtusely rounded at the tip. Epimeral plates of the 3 succeeding segments sub-imbricate and acutely produced at the hind corner. Last pedigerous segment much narrower than the preceding ones, and without distinct epimeral plates. Urosome short, scarcely more than  $\frac{1}{3}$  as long as the anterior division, and much narrower, genital segment, as usual, the largest and, like the 2 succeeding segments, finely spinulose at the hind edge laterally. Caudal rami scarcely longer than they are broad, and spinulose at the inner corner, innermost apical seta not spiniform and shorter than the outermost, the 2 middle setæ slender and elongated. Anterior antennæ short and stout, 7-articulate, and densely clothed with setæ,

some of which are rather coarse and spinulose at the edges, terminal part 3-articulate and scarcely longer than the 2 preceding joints combined. Posterior antennæ of a similar structure to that in the type species. Mandibular palp, however, less fully developed, with the rami shorter, none of the setæ of the outer ramus spiniform. Posterior maxillipeds rather strong, with an oblique series of small spinules crossing the base of the hand. 1st pair of legs built on the same type as in *I. forficata* PHILIPPI, though having the 1st joint of the inner ramus less dilated and the outer 2 joints more produced, exceeding, when combined, half the length of the 1st. Natatory legs scarcely different in structure from those in the type species. Last pair of legs, however, rather unlike, distal joint confluent at the base with the proximal one and broadly rounded at the end, marginal setæ 5 in number, the 2 outermost remarkably strong and curved, spiniform, and edged outside with coarse cilia, the other 3 setæ long and slender; inner expansion of proximal joint extending as far as the distal joint and obtusely truncated at the end, carrying 5 rather unequal setæ, the outermost but one very long and slender, the innermost but one quite short. Ovisac comparatively large, extending far beyond the tip of the caudal rami, and oval in form.

Length of adult female 0.66 mm.

Remarks. — This is certainly not a *Dactylopusia*, as believed by TH. SCOTT, but seems to me more properly to be referable to the genus *Idomene* of PHILIPPI, though differing from the type species, *I. forficata* rather conspicuously in some points, especially as regards the structure of the mandibular palp, the last pair of legs and the caudal setæ.

Occurrence. — A solitary female specimen of this form was found in a bottle of specimens taken on July 18, 1901, at the mouth of Gaase Fjord from a depth of about 60 m.

Distribution. — Scottish coast (SCOTT).

#### 102. *Amenophia peltata*, BOECK.

Some few specimens of this easily recognizable form occurred in 3 of the bottles examined.

#### 103. *Westwoodia assimilis*, G. O. SARS.

A solitary specimen of a moderately large *Westwoodia*, which according to the distinctly bi-articulate outer ramus of the 1st pair of legs, must be referred to the above species described by the present author from the Norwegian coast, was found in a bottle of specimens taken on July 12, 1900, in the bay at Land's End.

Fam. *Diosaccidæ*.104. *Amphiascus nasutus*, BOECK.

This form occurred rather abundantly in several of the bottles.

105. *Amphiascus latifolius*, G. O. SARS, n. sp.

(Pl. VII).

Specific Characters. — Female. Body moderately slender and slightly tapering behind, with the anterior division oblong oval in form. Cephalic segment, excluding the rostrum, about the length of the 3 succeeding segments combined; rostrum well developed, lanceolate. Urosome somewhat shorter than the anterior division, last segment comparatively short, scarcely half as long as the preceding one. Caudal rami broader than they are long, and transversely truncated at the tip, inner medial seta conspicuously dilated for some part of its length, and about as long as the urosome. Anterior antennæ of moderate length and consisting of 9 well-defined articulations, the first four gradually diminishing in size, terminal part about half the length of the proximal one. Posterior antennæ and oral parts of the usual structure. 1st pair of legs with both rami pronouncedly prehensile and rather slender, the outer one fully as long as the 1st joint of the inner, last joint very short, spatulate in form, and armed with 3 strong claws gradually increasing in length distally and accompanied outside by a thin bristle, inside by a slender geniculate seta; inner ramus with the 1st joint linear in form and having inside, at a short distance from the end, a comparatively short seta, outer 2 joints very short and subequal in size, the last one armed with 2 slender claws of unequal length. Natatory legs well developed, with the full number of setæ. Last pair of legs comparatively large and pronouncedly foliaceous, distal joint of unusual size, rounded quadrangular in form, and provided with 6 rather slender setæ, one of them, issuing from the tip, very thin, hair-like; inner expansion of proximal joint triangular and extending about to the middle of the distal joint, marginal setæ 5 in number, the 2 outermost closely juxtaposed. Ovisacs of moderate size and oblong oval in form.

Male with the anterior antennæ hinged in the usual manner. Inner ramus of 2nd pair of legs conspicuously transformed, but rather unlike that in the other known species, middle joint faintly defined from the last, and without any spiniform appendage outside, last joint provided at the tip with a short spine and a slender seta, having moreover inside an ordinary seta, and outside near the end a short, peculiarly

formed spine originating with a broad lamellar base. Last pair of legs, as usual, much smaller than in female, distal joint oval in form and somewhat narrowed towards the end; inner expansion of proximal joint rounded off at the end, and provided with only 2 unequal setæ.

Length of adult female 0.92 mm.

Remarks. — This species belongs to the section of the genus in which both rami of the 1st pair of legs are distinctly prehensile and built upon a type somewhat similar to that in the genus *Dactylopusia*. It is, however, quite distinct from any of the known species. In only one of these, *A. nasutus*, BOECK, are the anterior antennæ composed, as in the present species, of 9 articulations; but from this species it differs conspicuously both in the greater length of the outer ramus of the 1st pair of legs, and in the shape of the distal joint of the last pair of legs in the female.

Occurrence. — This well-marked species was found not unfrequently in 3 of the bottles examined.

106. *Amphiascus minutus* (CLAUS).

Some few specimens of a small *Amphiascus*, apparently belonging to this species, were found together with the preceding one.

107. *Amphiascus congener*, G. O. SARS, n. sp.

(Pl. VIII, figs. 1-4).

Specific Characters. — Female. Body rather slender, almost cylindrical in form, or only very slightly attenuated behind. Rostrum of moderate size and somewhat obtusely pointed at the tip. Urosome nearly attaining the length of the anterior division, last segment a little shorter than the preceding one. Caudal rami of a similar form to that in *A. latifolius*, inner medial seta somewhat obliquely dilated at the base and scarcely longer than the urosome. Anterior antennæ of moderate length and, as usual, composed of 8 articulations, 4th joint longer than 3rd, terminal part not attaining half the length of the proximal one. 1st pair of legs with the rami less pronouncedly prehensile than in *A. latifolius* and very unequal, the outer one being scarcely more than half as long as the inner, last joint nearly as long as the middle one and armed with 3 claw-like spines, and inside these with 2 geniculated setæ; inner ramus with the 1st joint long and slender, carrying inside near the end a short seta, the 2 outer joints somewhat unequal in size, the last one being about twice as long as the preceding one and

armed at the tip with a slender claw and a still longer seta accompanied by a small bristle. Natatory legs normal. Last pair of legs of moderate size, distal joint obovate in form, with 6 not very long marginal setæ; inner expansion of proximal joint triangular, and scarcely extending to the middle of the distal joint, marginal setæ 5 in number.

Length of adult female 0.87 mm.

Remarks. — In its general form this species somewhat resembles *A. similis* (CLAUS). It is, however, of smaller size and moreover differs conspicuously in the structure of the first and last pairs of legs.

Occurrence. — Some few specimens of this form occurred in a bottle of specimens taken on July 30, 1900 (the exact locality not indicated).

108. *Amphiascus polaris*, G. O. SARS, n. sp.

(Pl. VIII, figs. 5–10).

Specific Characters. — Female. Body less slender than in the preceding species and of nearly uniform width throughout. Rostrum considerably prominent and exerted to a very acute point. Urosome not attaining the length of the anterior division, last segment scarcely shorter than the preceding one, and deeply incised behind. Caudal rami short and rather distant, inner medial seta slightly dilated at the base and nearly twice as long as the urosome. Anterior antennæ rather slender, 8-articulate, with the 4th joint much longer than 3rd, terminal part about equalling in length those joints combined. 1st pair of legs with the rami very unequal, the outer one scarcely exceeding half the length of the inner, and having all 3 joints of about equal size, the last one, as in *A. congener*, armed with 3 spines and 2 geniculated setæ; inner ramus with the 1st joint very slender and slightly curved, seta attached inside its end unusually long, outer 2 joints very unequal, the last one being almost 3 times as long as the other and linear in form, carrying on the tip a slender, evenly curved claw and a still longer seta accompanied by a small bristle. Natatory legs with the rami more slender than in the preceding species, otherwise of normal structure. Last pair of legs somewhat resembling those in *A. congener*, distal joint, however, less dilated, and oblong in form; inner expansion of proximal joint extending to about the middle of the distal joint, and having the 2 innermost setæ comparatively short and spiniform. Ovisacs oblong oval in form, and containing only a limited number of ova.

Male with the inner ramus of 2nd pair of legs transformed in the usual manner, the 2 outer joints, being wholly coalesced, outer edge

carrying at some distance from the tip a strong deflexed spiniform appendage accompanied by another much thinner appendage. Last pair of legs very small, distal joint quite short, with only 5 setæ, 2 of them attached to the inner edge; inner expansion of proximal joint tipped with 2 unequal setæ.

Length of adult female 0.77 mm.

Remarks. — The present form is easily distinguishable from the preceding species and also different from any other species known to me. In the shape of the rostrum and the 1st pair of legs it somewhat resembles *A. imus* (BRADY); but the body is far less slender, and the structure of the last pair of legs is also very different.

Occurrence. — Several specimens of this form occurred in a bottle of specimens taken on July 12, 1900, in the bay at Land's End.

109. *Amphiascus brevis*, G. O. SARS, n. sp.

(Pl. VIII, figs. 11-15).

Specific Characters. — Female. Body unusually short and stout, with the anterior division slightly dilated in the middle and somewhat narrowed both in front and behind. Rostrum of moderate size and obtusely pointed at the tip. Urosome considerably shorter than the anterior division, with the last segment about the length of the preceding one. Caudal rami broader than they are long, inner medial seta conspicuously dilated at the base and not quite twice as long as the urosome. Anterior antennæ rather slender, 8-articulate, with the 4th joint longer than the 3rd, terminal part about half the length of the proximal one. 1st pair of legs with the outer ramus exceeding half the length of the inner, and having the last joint about as long as the middle one, its armature as in the 2 preceding species; inner ramus with the 1st joint long and slender, seta of inner edge comparatively short, outer 2 joints less unequal than in *A. polaris*, the last one being only slightly longer than the other, and armed at the tip with a moderately slender, almost straight claw and a long seta accompanied by a small bristle. Natatory legs normal. Last pair of legs comparatively smaller than in the preceding species, distal joint narrow oval in form and somewhat exserted at the end, marginal setæ 7 in number, 2 of them being attached to the inner edge; inner expansion of proximal joint extending to about the middle of the distal joint and carrying 5 setæ. Ovisacs about as in *A. polaris*.

Length of adult female 0.52 mm.

Remarks. — This form is chiefly distinguished by its unusually short and stout body, as also by the increased number of setæ on the distal joint of the last pair of legs. It belongs to the smaller species of the present genus.

Occurrence. — Some specimens of this form were found in bottles from 3 different places.

110. *Amphiascus hispidus* (NORMAN).

Found occasionally in 2 of the bottles examined.

111. *Amphiascus affinis*, G. O. SARS.

This form occurred, though only sparingly, in no less than 4 different places.

112. *Amphiascus intermedius* (SCOTT).

A solitary specimen of this form, easily recognizable by the unusually short and thick caudal setæ, was found in a bottle of specimens taken on July 9, 1901, in Ren Bay, Ellesmere Land.

113. *Amphiascus typhlops*, G. O. SARS.

Of this peculiar form, also only a single specimen was found. It occurred in the same bottle as the preceding species.

114. *Stenhelia gibba*, BOECK.

Found occasionally in 2 of the bottles.

115. *Stenhelia palustris* (BRADY).

A solitary female specimen of this form occurred in a bottle of specimens taken on July 12, 1900, in the bay at Land's End.

Fam. *Canthocamptidæ*.

116. *Cantocamptus Nordenskjöldi*, LILLJEB.

(Pl. IX).

*Canthocamptus Nordenskjöldi*, LILLJEBORG, Three species novæ generis *Canthocampti*: Appendix to K. Svenska Vetensk. Akad. Handl. Vol. 28. No. 9, p. 8, Pl. I, fig. 7, Pl. II, figs. 1-7.

Specific Characters. — Female. Body rather slender, sub-cylindrical in form, with the anterior division only slightly wider than the posterior. Cephalic segment about the length of the 3 succeeding

ones combined and evenly rounded in front, rostral projection very slight, almost obsolete. Urosome nearly as long as the anterior division, segments finely spinulose at the hind edge ventrally and laterally, last segment almost as long as the preceding one, but somewhat narrower, anal opercle perfectly smooth. Caudal rami comparatively short and obliquely oval in form, with the outer edge very convex, almost angular in the middle, the inner nearly straight, tip obtusely rounded, dorsal face with a slight carina running along the proximal part as far as the small dorsal seta, and followed by a row of 4 rather strong denticles extending to the inner corner; outermost apical seta attached at some distance from the other three, apparently to the outer edge, seta of this edge attached considerably in front of the middle; outer medial seta somewhat bent outwards at the base, and about half as long as the inner, which about equals in length the urosome and last pedigerous segment combined. Anterior antennæ rather slender, though not attaining the length of the cephalic segment, 8-articulate, and only sparingly setiferous, terminal part about the length of the proximal one. Posterior antennæ and oral parts exhibiting the structure characteristic of the genus. 1st pair of legs moderately slender, outer ramus a little longer than the 1st joint of the inner, its last joint exceeding in length the middle one, and carrying on the tip 2 slender spines and 2 geniculate setæ; inner ramus with the 1st joint a little longer than the outer 2 combined, and having inside, at a short distance from the end, a comparatively short seta, last joint more than twice as long as the preceding one, sub-linear in form, and carrying on the tip a slender claw and a long seta. Natatory legs with the rami less slender than in the type species, but otherwise of a very similar structure. Last pair of legs with the distal joint comparatively small, oval in form, and armed with 5 marginal setæ, one of which, issuing from the tip, is very thin, hair-like, the others rather coarse and spinulose at the edges; inner expansion of proximal joint rather large, lamellar, extending almost as far as the distal joint, and broadly rounded at the end, which carries 6 coarse spinulose setæ of somewhat unequal length.

Male with the anterior antennæ hinged in the usual manner. Inner ramus of 2nd pair of legs with the 2 outer joints wholly coalesced; that of 3rd pair very conspicuously transformed, 3-articulate, 1st joint short, projecting outside in an acute corner and carrying inside a small bristle; 2nd joint likewise short, but produced inside to a long deflexed process terminating in a thin setiform point; last joint oblong fusiform in shape, and carrying on the tip 2 slender setæ of unequal length. Last pair of

legs smaller than in female, with the inner expansion of proximal joint much shorter and provided with only 3 spiniform setæ.

Length of adult female 1.08 mm.

Remarks. — The above-described form is unquestionably identical with the species recorded by Prof. LILLJEBORG under the above name from Siberia. It is about the same size as the type species, *C. staphylinus* (JURINE), which it also resembles in the general form of the body, though at once distinguished from it by the very different shape of the caudal rami and by the perfectly smooth anal opercle. Like all true *Canthocampti*, it is a genuine fresh-water form.

Occurrence. — Some specimens of this form occurred in a sample taken on June 26, 1899, from some fresh-water pools (the exact locality not indicated).

Distribution. — Northern part of Siberia, at Sopotschaja Korga near the mouth of the Jenisei, and on the peninsula Jalmal (LILLJEBORG).

117. *Ameira longipes*, BOECK.

Found rather abundantly in 6 different bottles.

118. *Ameira tau* (GIESBRECHT).

Some few specimen of this small species occurred together with the preceding form in one of the bottles.

119. *Parameira elongata*, G. O. SARS, n. sp.

(Pl. X).

Specific Characters. — Female. Body very slender and elongated, sub-cylindric in form, with the anterior division scarcely broader than the posterior. Cephalic segment about the length of the 3 succeeding segments combined; rostral projection almost obsolete. Urosome fully as long as the anterior division, and having the segments apparently perfectly smooth; last segment larger than the preceding one, and deeply incised behind. Caudal rami rather far apart and somewhat produced, being almost twice as long as they are broad; middle apical setæ rather slender and elongated. Anterior antennæ of moderate length and densely clothed with slender setæ, 8-articulate, terminal part exceeding half the length of the proximal one, and having the penultimate joint imperfectly divided in the middle. Posterior antennæ and oral parts exhibiting the structure characteristic of the genus. 1st pair of legs with the rami very unequal, the outer one extending to about the

end of the 1st joint of the inner, its last joint somewhat longer and narrower than the other 2, and armed with 3 spines and 2 geniculate setæ; inner ramus rather slender, with each of the joints carrying inside, near the end, a slender curved seta, 1st joint considerably longer than the other 2 combined, last joint armed at the tip with a slender claw and a curved seta. Natatory legs rather fully developed and resembling in structure those in the other species of the genus. Last pair of legs with the distal joint very narrow, sub-linear in form and finely ciliated on both edges, marginal setæ 5 in number and all issuing from the outermost part of the joint, one of them very thin, hair-like, innermost one the longest; inner expansion of proximal joint broadly triangular in form and scarcely extending to the middle of the distal joint, marginal setæ 5 in number, 2 of them attached to the inner edge.

Length of adult female 1.05 mm.

Remarks. — According to the structure of the posterior antennæ, the oral parts, and the anterior pairs of legs, this form should evidently be referred to the genus *Parameira*, as defined by the present author in his account of the Norwegian Harpacticoida. It differs conspicuously from the other known species of this genus, however, in the very slender form of the body, the greater length of the inner ramus of the 1st pair of legs, and finally in the shape of the last pair of legs, which more resembles that in the genus *Ameiropsis*, G. O. Sars. Also in size this form considerably exceeds any known species of the present genus.

Occurrence. — Two female specimens of this form were found in a bottle of specimens taken on July 7, 1900, off Sjøpølse Ness from a depth of 15-25 fathoms.

120. *Mesochra pygmæa*, BOECK.

This dwarf form occurred occasionally in 2 of the bottles examined.

Fam. *Laophontidæ*.

121. *Laophonte depressa*, SCOTT.

Some few specimens of this species, exactly agreeing with the form described by the present author from the Norwegian coast, were found in 2 of the bottles. Dr. TH. SCOTT records this species also from Franz Josef Land.

122. *Laophonte applanata*, G. O. SARS, n. sp.

(Pl. XI).

Specific Characters. — Female. Body very broad and flattened, with all the segments, except the last, lamellarly expanded laterally. Cephalic segment large and broad, exhibiting on each side, at about the middle, a distinct notch, edge of the segment finely ciliated; rostral projection horizontally produced, and of a rather peculiar appearance, being spatulate in form and terminating in 2 broadly rounded lobes densely clothed with fine hairs. Epimeral parts of the 3 succeeding segments rounded off and fringed with a dense row of spinules. Last pedigerous segment somewhat less broad than the 3 preceding segments. Urosome much shorter than the anterior division, lateral expansions of the anterior segments linguiform and slightly recurved, being, like those of the anterior division, densely fringed with spinules; last segment sub-quadrangular in shape, with the anal opercle smooth. Caudal rami somewhat far apart and scarcely twice as long as they are broad, both edges minutely spinulose, tip transversely truncated, with the inner medial seta rather slender and elongated, outer comparatively short. Anterior antennæ of moderate length and composed of 7 articulations, 2nd joint without any projection behind and much shorter than the 3rd, 4th joint still shorter, terminal part about the length of the 3rd joint. Posterior antennæ rather strongly built, with the spines of the distal joint very coarse, claw-like, outer ramus uniaarticulate, with 4 rather thick setæ. Oral parts exhibiting the structure characteristic of the genus. Posterior maxillipeds large and powerful. 1st pair of legs likewise greatly developed, with the inner ramus very strong, biarticulate, last joint tipped with a powerful claw; outer ramus, as usual, very narrow, triarticulate, and extending somewhat beyond the middle of the proximal joint of the inner. Natatory legs with the rami slender and built upon the type characteristic of the genus. Last pair of legs resembling in structure those in *L. depressa*, the distal joint being considerably produced, and tapering to a conical point carrying a very slender hair-like bristle, marginal setæ 5 in number, one of them issuing from the inner edge near the tip; inner expansion of proximal joint very small and narrow, with only 3 setæ. Ovisac of moderate size, rounded oval in form.

Male, as usual, smaller than female, and having the anterior antennæ strongly hinged, sub-cheliform. Inner ramus of 3rd pair of legs transformed in the usual manner, being distinctly triarticulate, with the

middle joint produced at the end to a slender sigmoid spine. Last pair of legs with the distal joint oblong quadrangular in form, and provided with 5 spiniform setæ, 3 of them issuing from the end; inner expansion of proximal joint still smaller than in female, and tipped with 2 slender setæ.

Length of adult female 0.80 mm.

Remarks. — The present form is easily distinguishable from any of the other known species of this genus by its broad and flattened body and the peculiar form of the rostral projection. In its structural details, however, it exhibits a close relationship to *L. depressa* SCOTT.

Occurrence. — Some specimens of this form were found in 4 of the bottles examined.

123. *Laophonte horrida*, NORMAN.

This characteristic form occurred occasionally in 5 of the bottles.

124. *Laophonte macera*, G. O. SARS.

Found in no less than 9 of the bottles.

125. *Laophonte perplexa*, SCOTT.

Some few specimens of this form occurred in one of the bottles containing specimens taken on July 30, 1900.

126. *Laophonte hyperborea*, G. O. SARS, n. sp.

(Pl. XII).

Specific Characters. — Female. Body rather slender and tapering gradually behind, with the segments sharply marked off from each other and somewhat raised dorsally. Integuments coarse and exhibiting a pitted sculpture. Cephalic segment large and tumid, seen dorsally almost quadrangular in form; rostral projection broadly triangular, with the tip minutely bilobular. Epimeral parts of the 3 succeeding segments not expanded laterally. Last pedigerous segment slightly produced on each side. Urosome about the length of the anterior division, and having the lateral parts of the anterior segments slightly produced at the hind corners. Last segment fully as long as the preceding one, but rather narrower, anal opercle smooth. Caudal rami considerably produced, exceeding in length the anal segment, and tapering gradually distally, tip narrowly truncated, with the inner medial seta about as long as the urosome. Anterior antennæ comparatively

short, 7-articulate, 2nd joint the largest and without any projection behind; terminal part about the length of the 2 preceding joints combined. Posterior antennæ and oral parts of the usual structure. 1st pair of legs less robust than in *L. applanata*, outer ramus very small, not even attaining half the length of the proximal joint of the inner, and composed of only 2 joints, the distal one much the longer; inner ramus rather slender, with the apical claw long and only slightly curved. Natatory legs of a structure similar to that in *L. perplexa* SCOTT. Last pair of legs likewise rather similar, though differing somewhat in the shape of the distal joint, which is not, as in the latter species, truncated at the end, but is obliquely produced.

Male with the anterior antennæ very strongly hinged, the last joint of the proximal part being almost globularly dilated. 2nd pair of legs scarcely larger than in female, but with one of the setæ of the inner ramus, as in *L. brevirostris* CLAUS, peculiarly transformed. Inner ramus of 3rd pair of legs transformed in quite a normal manner, being 3-articulate, with the middle joint produced outside to a comparatively short spiniform projection, outer ramus, on the other hand, scarcely different from that in female. 4th pair of legs with the outer ramus somewhat stronger than in female, and having all the spines of the outer edge coarsely denticulate. Last pair of legs very small, with the inner expansion of proximal joint quite obsolete.

Length of adult female 0.95 mm.

Remarks. — This form is closely allied to *L. perplexa*, SCOTT, but is of considerably larger size, and moreover differs conspicuously in the more produced caudal rami, the comparatively shorter anterior antenna, and the shape of the distal joint of the last pair of legs. Finally, the male exhibits in its sexual characters several well-marked differences, as pointed out in the above diagnosis.

Occurrence. — Several specimens of this form occurred in 2 of the bottles examined.

#### Fam. *Cletodidæ*.

##### 127. *Cletodes similis*, SCOTT.

A solitary female specimen of this form was found in a bottle containing specimens taken on July 12, 1900, in the bay at Land's End.

#### Fam. *Tachidiidæ*.

##### 128. *Danielssenia typica*, BOECK.

This form occurred occasionally in 3 of the bottles examined.

Suborder *Cyclopoida*.*Gnathostoma*.Fam. *Oithonidæ*.129. *Oithona similis*, CLAUS.

From plankton taken on June 29, 1898, in lat. 57° 31' N., long. 1° 29' E.

Fam. *Cyclopidæ*.130. *Cyclops agilis*, KOCH.

Rather abundant in a sample taken on Aug. 22, 1898, from a fresh-water pond (the exact locality not indicated).

131. *Euryte longicauda*, PHILIPPI.

Found in 4 of the bottles examined.

132. *Cyclopina gracilis*, CLAUS.

A solitary female specimen of this form occurred in a bottle of specimens taken on July 5, 1901, in the Sound at Hell Gate.

133. *Cyclopina littoralis*, BRADY.

2 females of this form were found in a bottle containing specimens taken on July 12, 1900, in the bay at Land's End.

*Siphonostoma*.Fam. *Asterocheridæ*.134. *Dermatomyzon nigripes* (BRADY).

Found occasionally in 3 of the bottles examined.

Fam. *Artotrogidæ*.135. *Bradypontius magniceps* (BRADY).

An adult female and 2 immature specimens of this form occurred in a bottle of specimens taken on Sept. 19, 1900, outside Forvisnings Valley, from a depth of 2-20 fathoms.

Suborder **Caligoida.**Fam. *Caligidæ.*136. *Lepeophtheirus* sp.

Three specimens of a Caligoid in the *metanauplius* stage, apparently belonging to a species of the above genus, were found in a bottle of specimens taken on July 12, 1900, in the bay at Land's End.

Order **Ostracoda.**Suborder **Myodocopa.**Fam. *Cypridinidæ.*137. *Philomedes brenda* (BAIRD).

Female specimens of this form occurred not unfrequently in 3 of the bottles examined.

Suborder **Cladocopa.**Fam. *Polycopidæ.*138. *Polycope orbicularis*, G. O. SARS.

A solitary specimen of this peculiar form was found in a bottle of specimens taken on July 12, 1900, in the bay at Land's End.

Suborder **Podocopa.**Fam. *Cytheridæ.*139. *Cythereis concinna*, BRADY.

Found not unfrequently in 4 of the bottles examined.

140. *Cythereis emarginata*, G. O. SARS.

Together with the preceding species, but less frequent.

141. *Cythereis angulata*, G. O. SARS.

Only 2 specimens found.

142. *Cytherura atra*, G. O. Sars.

A male specimen, apparently of this species, occurred in a bottle of specimens taken on July 18, 1901, at the mouth of Gaase Fjord from a depth of about 60 m.

143. *Xestoleberis depressa*, G. O. Sars.

Found not unfrequently in 3 of the bottles examined.

144. *Sclerochilus contortus* (Norman).

Several specimens of this form were found in 4 different bottles.

145. *Cytheropteron subcircinatum*, G. O. Sars.

Only 2 specimens found.

146. *Paradoxostoma variabile* (Baird).

Rather abundant in some of the bottles.

147. *Paradoxostoma obliquum*, G. O. Sars.

Two specimens of this distinct species, which, in the shape of the shell, somewhat resembles a barnacle-larva in the pupa stage, were found in a bottle of specimens taken on July 13, 1900, in the bay at Land's End.

### Order *Cirripedia*.

#### Suborder *Thoracica*.

##### Fam. *Balanidæ*.

148. *Balanus balanoides*, Linn.

On small stones on the beach, from 2 different places.

149. *Balanus porcatus*, Costa.

Large clusters of this characteristic form were taken up in the dredge from moderate depths in many different places.

150. *Verruca Strömi* (Müll.).

On old shells taken on July 26, 1900, off the western shore, at the mouth of the Stordal.

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## Subclass

***Pycnogonidea.***Fam. *Pallenidæ.*151. *Pseudopallene circularis* (GOODSIR).

A single specimen of this form was taken on July 12, 1900, in the bay at Land's End.

Fam. *Nymphonidæ.*152. *Nymphon grossipes*, KRØYER.

Two adult and a young specimen of this form were taken on Aug. 16, 1901, from about 7 fathoms.

153. *Chætonymphon hirtipes* (BELL).

Two specimens of this common arctic form are in the collection, the one from Gaase Fjord, the other from Ren Bay, Ellesmere Land.

Fam. *Eurycydidæ.*154. *Eurycyde hispida* (KRØYER).

One specimen taken on Aug. 7, 1900, at Östkap.

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## Explanation of the Plates.

### Pl. I.

#### *Stephos arcticus*, G. O. Sars.

- Fig. 1. Adult female, dorsal view, magnified 80 diameters.  
 " 2. A male specimen, viewed from left side; same amplification.  
 " 3. Posterior antenna.  
 " 4. Masticatory part of mandible.  
 " 5. Mandibular palp.  
 " 6. Anterior maxilliped.  
 " 7. Posterior maxilliped.  
 " 8. Leg of 1st pair.  
 " 9. Leg of 2nd pair.  
 " 10. Leg of 3rd pair.  
 " 11. Leg of last pair in female.  
 " 12. Last pair of legs in male, viewed from the posterior face.  
 " 13. Terminal joint of left leg of same, more highly magnified and viewed from the outer side.

### Pl. II.

#### *Zaus Aurelii*, POPPE.

- Fig. 1. Adult ovigerous female, dorsal view, magnified 104 diameters.  
 " 2. Rostral plate, with right anterior antenna.  
 " 3. Posterior maxilliped.  
 " 4. Leg of 1st pair.  
 " 5. Leg of 3rd pair.  
 " 6. Leg of last pair.

#### *Psamathe Arthuri* (POPPE).

- Fig. 7. Adult female, dorsal view, magnified 68 diameters.  
 " 8. Anterior antenna.  
 " 9. Mandible with palp.  
 " 10. Leg of 1st pair.  
 " 11. Leg of last pair.

## Pl. III.

*Idyœa inflata*, G. O. SARS.

- Fig. 1. Adult ovigerous female, dorsal view, magnified 104 diameters.  
 " 2. Anterior antenna.  
 " 3. Posterior antenna.  
 " 4. Mandible with palp.  
 " 5. Maxilla.  
 " 6. Anterior maxilliped.  
 " 7. Posterior maxilliped.  
 " 8. Leg of 1st pair.  
 " 9. Leg of 2nd pair.  
 " 10. Leg of 4th pair.  
 " 11. Leg of last pair.  
 " 12. Left caudal ramus with adjoining part of urosome, exhibiting the peculiar structure of the caudal setæ.  
 " 13. Anterior antenna of male.  
 " 14. Leg of last pair in same.  
 " 15. Genital lobe of same.

## Pl. IV.

*Phyllothalestris frigida* (SCOTT).

- Fig. 1. Adult female, dorsal view, magnified 86 diameters.  
 " 2. Same viewed from left side.  
 " 3. Anterior antenna.  
 " 4. Posterior antenna.  
 " 5. Posterior maxilliped.  
 " 6. Leg of 1st pair in male.  
 " 7. Inner ramus of 2nd pair of legs in same.  
 " 8. Leg of last pair in female.  
 " 9. Same leg in male.

## Pl. V.

*Dactylopusia glacialis*, G. O. SARS.

- Fig. 1. Adult female, dorsal view, magnified 104 diameters.  
 " 2. Rostral projection.  
 " 3. Anterior antenna.  
 " 4. Posterior antenna.  
 " 5. Mandible with palp.  
 " 6. Maxilla.  
 " 7. Anterior maxilliped.  
 " 8. Posterior maxilliped.  
 " 9. Leg of 1st pair.  
 " 10. Leg of last pair.  
 " 11. Left caudal ramus.  
 " 12. Leg of 2nd pair in male.  
 " 13. Leg of last pair in male.

## Pl. VI.

*Idomene coronata* (SCOTT).

- Fig. 1. Adult ovigerous female, dorsal view, magnified 104 diameters.  
 " 2. Rostral plate with left anterior antenna.  
 " 3. Posterior antenna.  
 " 4. Mandible with palp.  
 " 5. Maxilla.  
 " 6. Anterior maxilliped.  
 " 7. Posterior maxilliped.  
 " 8. Leg of 1st pair.  
 " 9. Leg of 2nd pair.  
 " 10. Leg of 4th pair.  
 " 11. Leg of last pair.

## Pl. VII.

*Amphiascus latifolius*, G. O. SARS.

- Fig. 1. Adult ovigerous female, dorsal view, magnified 124 diameters.  
 " 2. Rostrum with left anterior antenna.  
 " 3. Posterior antenna.  
 " 4. Mandible with palp.  
 " 5. Maxilla.  
 " 6. Anterior maxilliped.  
 " 7. Posterior maxilliped.  
 " 8. Leg of 1st pair.  
 " 9. Leg of 3rd pair.  
 " 10. Leg of last pair.  
 " 11. Left caudal ramus, with adjoining part of urosome.  
 " 12. Inner ramus of 2nd pair of legs in male.

## Pl. VIII.

*Amphiascus congener*, G. O. SARS.

- Fig. 1. Adult female, dorsal view, magnified 124 diameters.  
 " 2. Rostrum with right anterior antenna.  
 " 3. Leg of 1st pair.  
 " 4. Leg of last pair.

*Amphiascus polaris*, G. O. SARS.

- Fig. 5. Adult ovigerous female, dorsal view, magnified 124 diameters.  
 " 6. Rostrum with left anterior antenna.  
 " 7. Leg of 1st pair.  
 " 8. Leg of last pair.  
 " 9. Inner ramus of 2nd pair of legs in male.  
 " 10. Leg of last pair of same.

*Amphiascus brevis*, G. O. SARS.

- Fig. 11. Adult ovigerous female, dorsal view, magnified 124 diameters.  
 " 12. Rostrum.  
 " 13. Anterior antenna.  
 " 14. Leg of 1st pair.  
 " 15. Leg of last pair.

## Pl. IX.

*Canthocamptus Nordenskjöldi*, LILLJEB.

- Fig. 1. Adult female, dorsal view, magnified 104 diameters.  
 " 2. Anterior antenna.  
 " 3. Posterior antenna.  
 " 4. Mandible with palp.  
 " 5. Maxilla.  
 " 6. Anterior maxilliped.  
 " 7. Posterior maxilliped.  
 " 8. Leg of 1st pair.  
 " 9. Leg of 2nd pair.  
 " 10. Leg of 3rd pair.  
 " 11. Leg of 4th pair.  
 " 12. Leg of last pair.  
 " 13. Left caudal ramus.  
 " 14. Inner ramus of 3rd pair of legs in male.  
 " 15. Leg of last pair of same.

## Pl. X.

*Parameira elongata*, G. O. SARS.

- Fig. 1. Adult female, dorsal view, magnified 104 diameters.  
 " 2. Anterior antenna.  
 " 3. Posterior antenna.  
 " 4. Mandible with palp.  
 " 5. Maxilla.  
 " 6. Anterior maxilliped.  
 " 7. Posterior maxilliped.  
 " 8. Leg of 1st pair.  
 " 9. Leg of 2nd pair.  
 " 10. Leg of 3rd pair.  
 " 11. Leg of 4th pair.  
 " 12. Leg of last pair.  
 " 13. Left caudal ramus with adjoining part of the anal segment.

## Pl. XI.

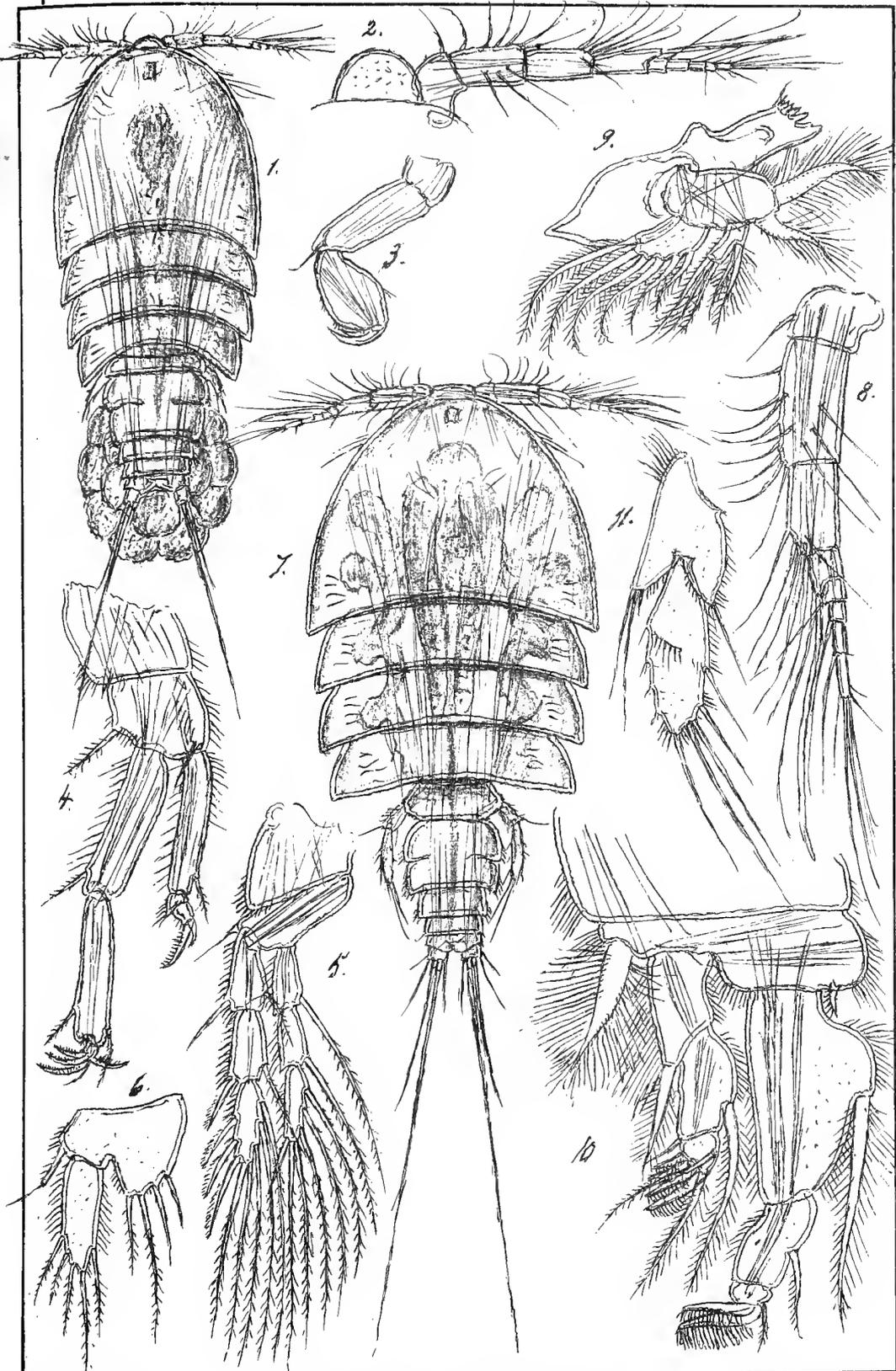
*Laophonte applanata*, G. O. SARS.

- Fig. 1. Adult ovigerous female, dorsal view, magnified 124 diameters.  
 " 2. Rostral projection with right anterior antenna.  
 " 3. Posterior antenna.  
 " 4. Posterior maxilliped.  
 " 5. Leg of 1st pair.  
 " 6. Leg of 2nd pair.  
 " 7. Inner ramus of a leg of 3rd pair.  
 " 8. Inner ramus of a leg of 4th pair.  
 " 9. Leg of last pair.  
 " 10. Left caudal ramus.  
 " 11. Inner ramus of a leg of 3rd pair in male.  
 " 12. Leg of last pair in same.

## Pl. XII.

*Laophonte hyperborea*, G. O. Sars.

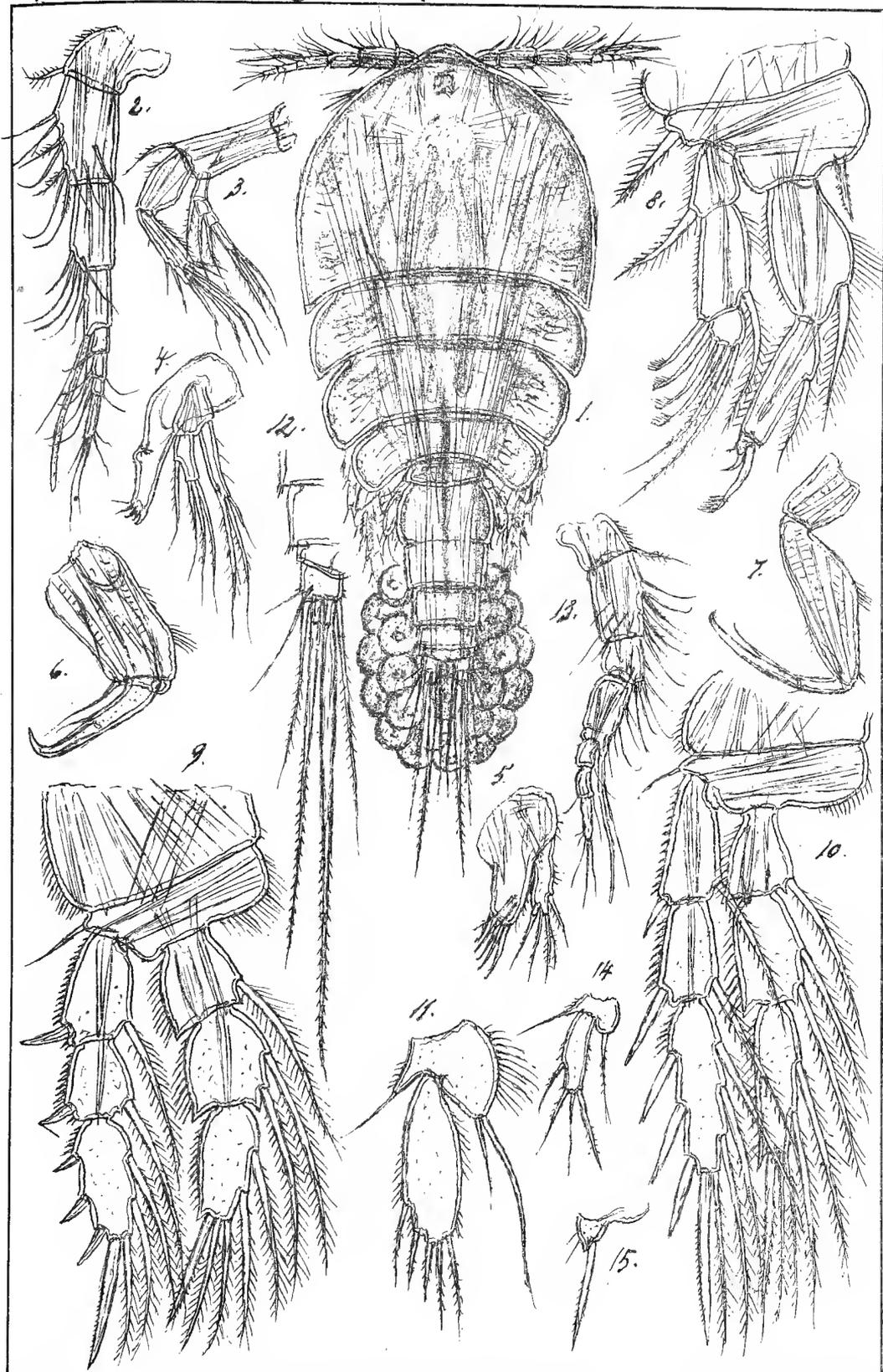
- Fig. 1. Adult female, dorsal view, magnified 124 diameters.  
" 2. Same viewed from left side.  
" 3. Rostral projection with left anterior antenna.  
" 4. Posterior antenna.  
" 5. Posterior maxilliped.  
" 6. Leg of 1st pair.  
" 7. Leg of 2nd pair.  
" 8. Leg of last pair.  
" 9. Inner ramus of a leg of 2nd pair in male.  
" 10. Male, inner ramus of a leg of 3rd pair.  
" 11. Same, leg of 4th pair.  
" 12. Same, leg of last pair.
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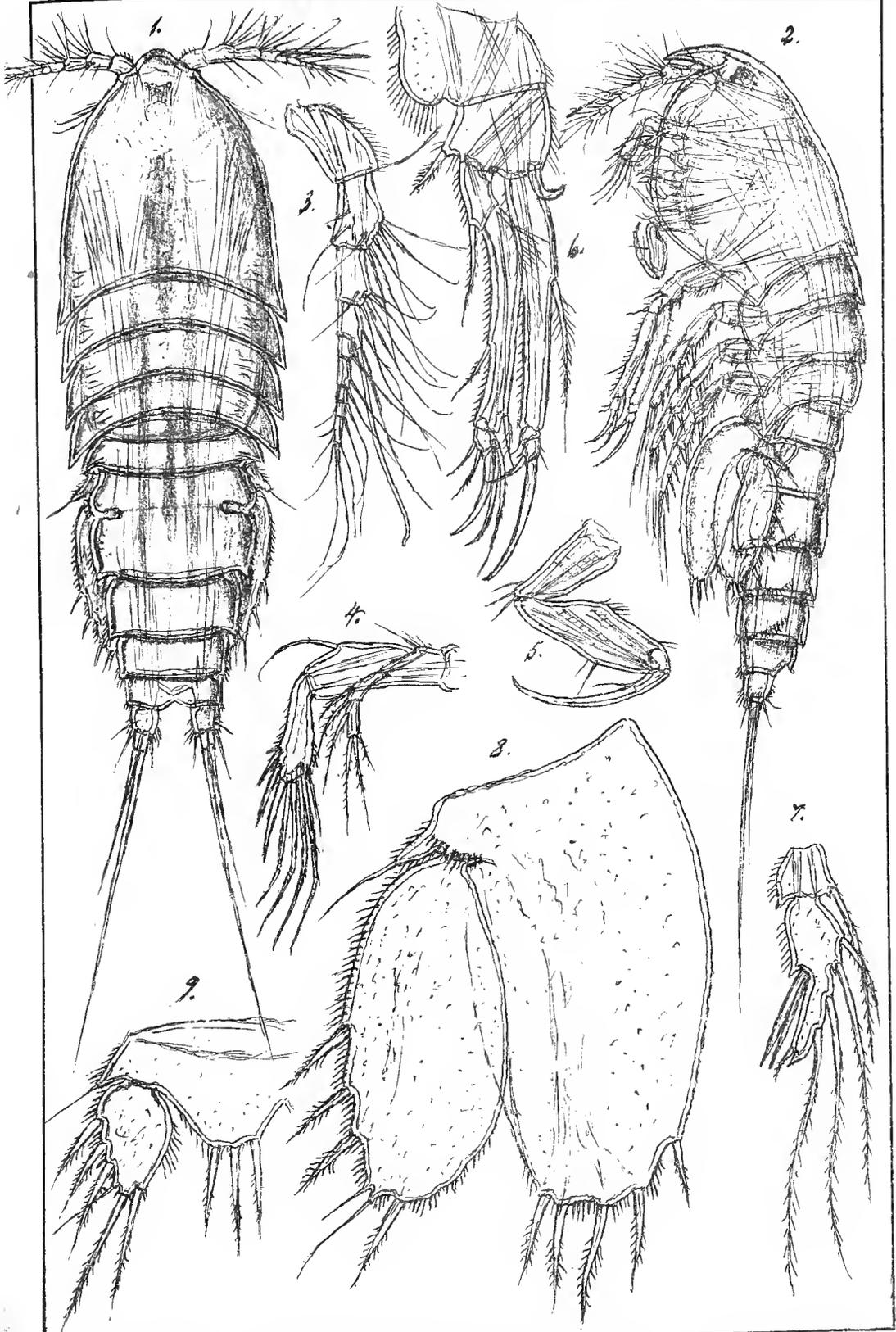


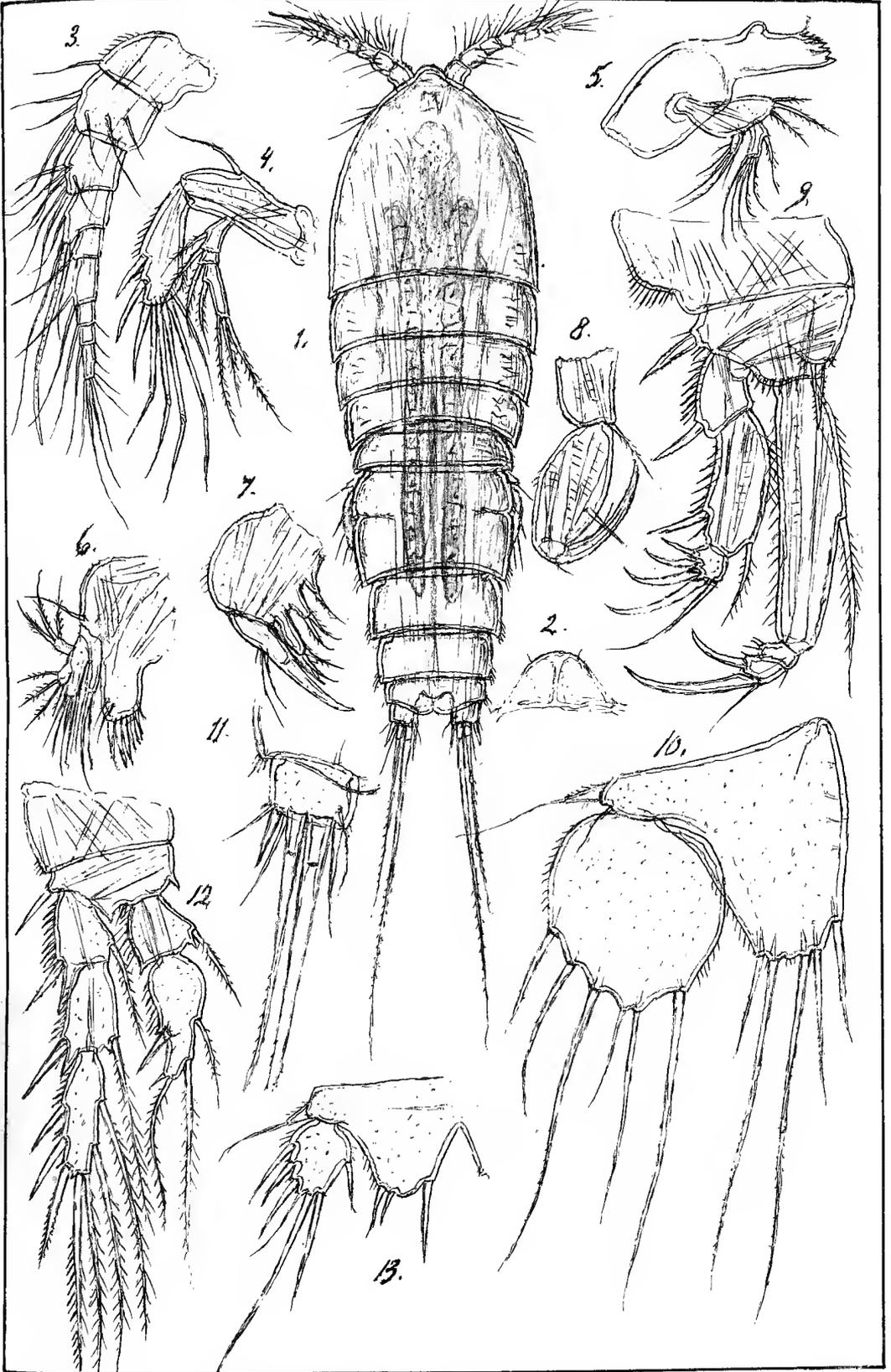
G.O. Sars, autogr.

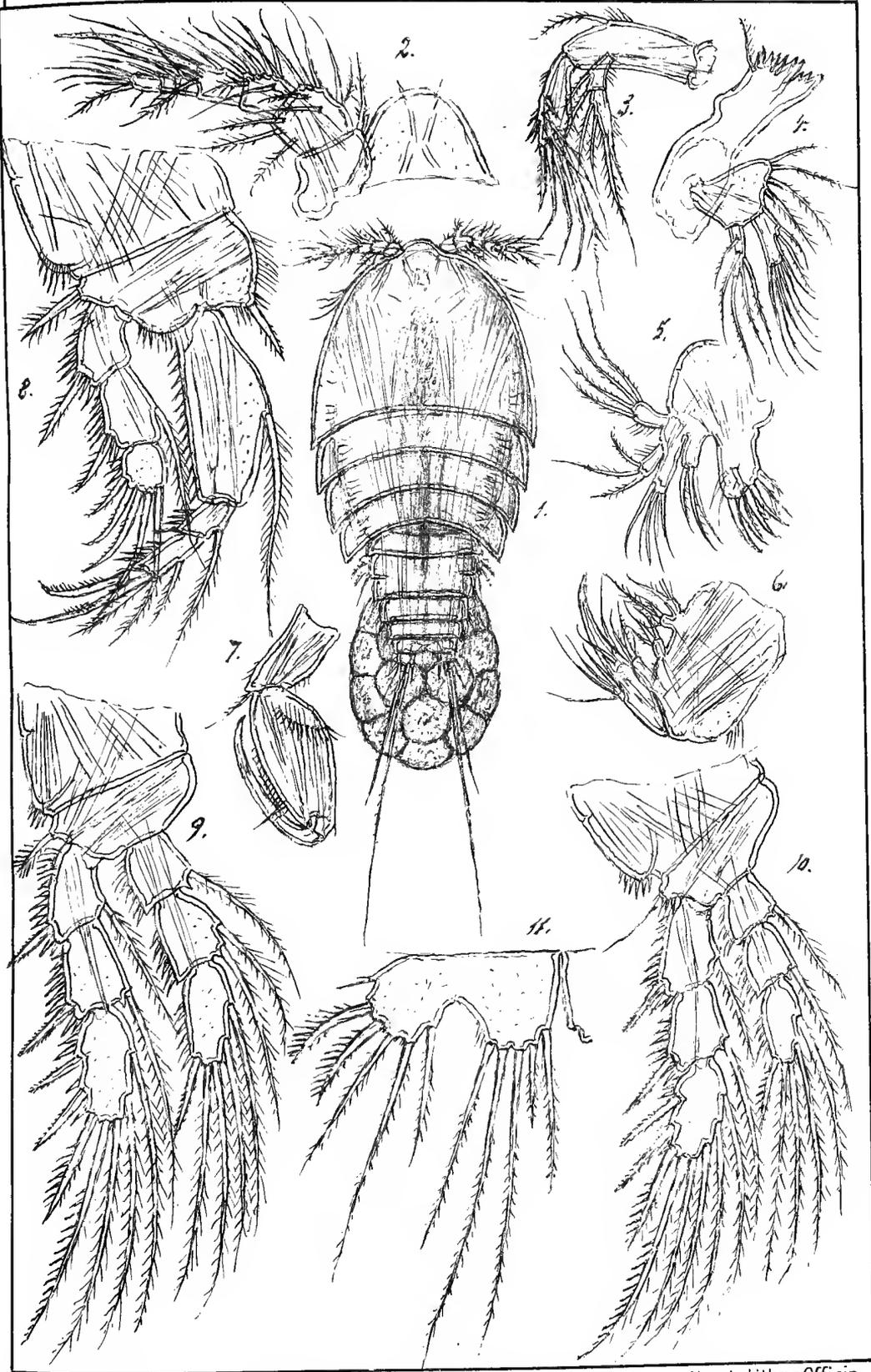
1-6 *Zaus Aurelii*, Poppe  
7-11 *Psamathe Arthuri*, (Poppe)

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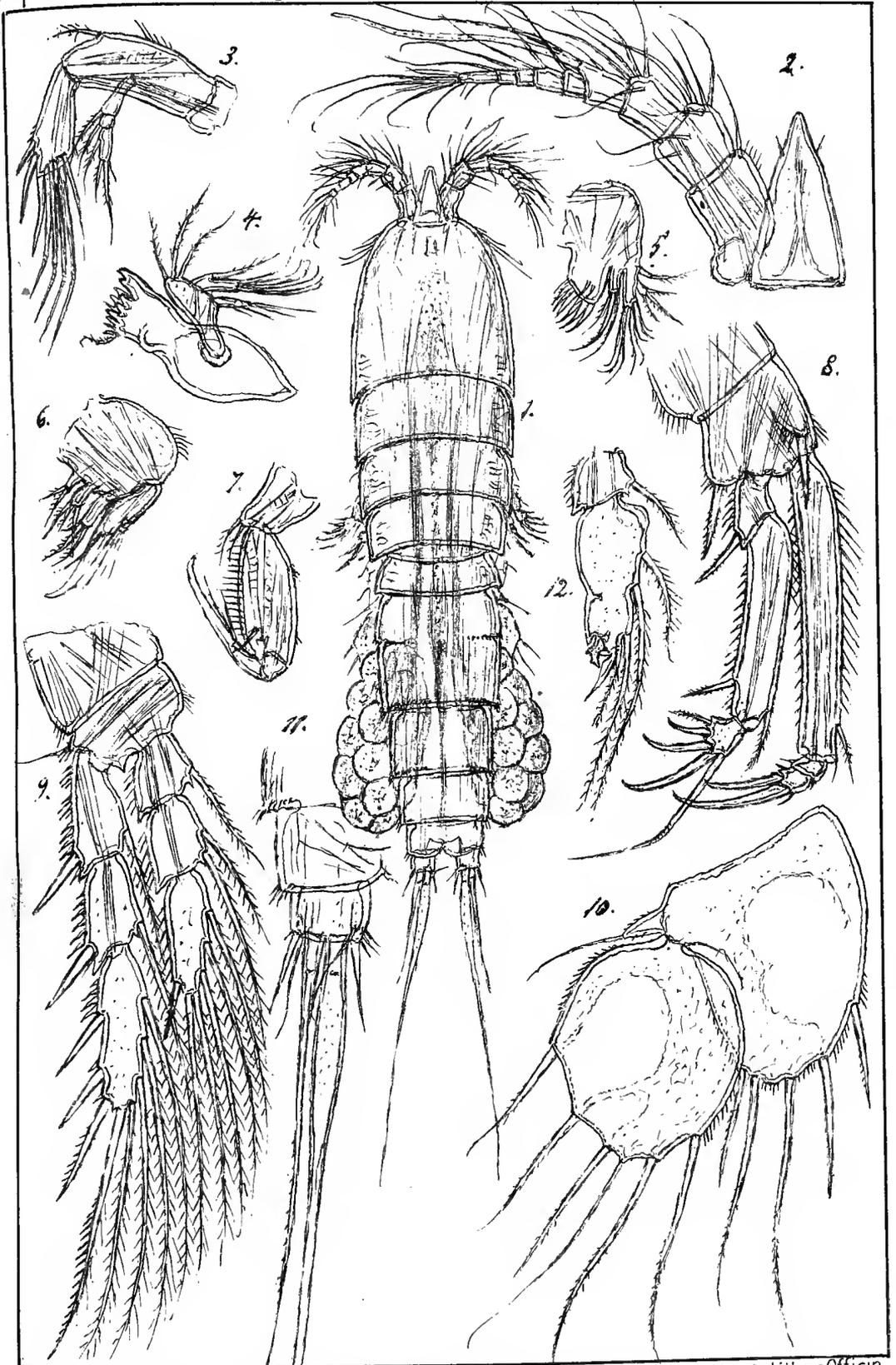




G.O.Sars, autogr.

*Idomene coronata* (Scott)

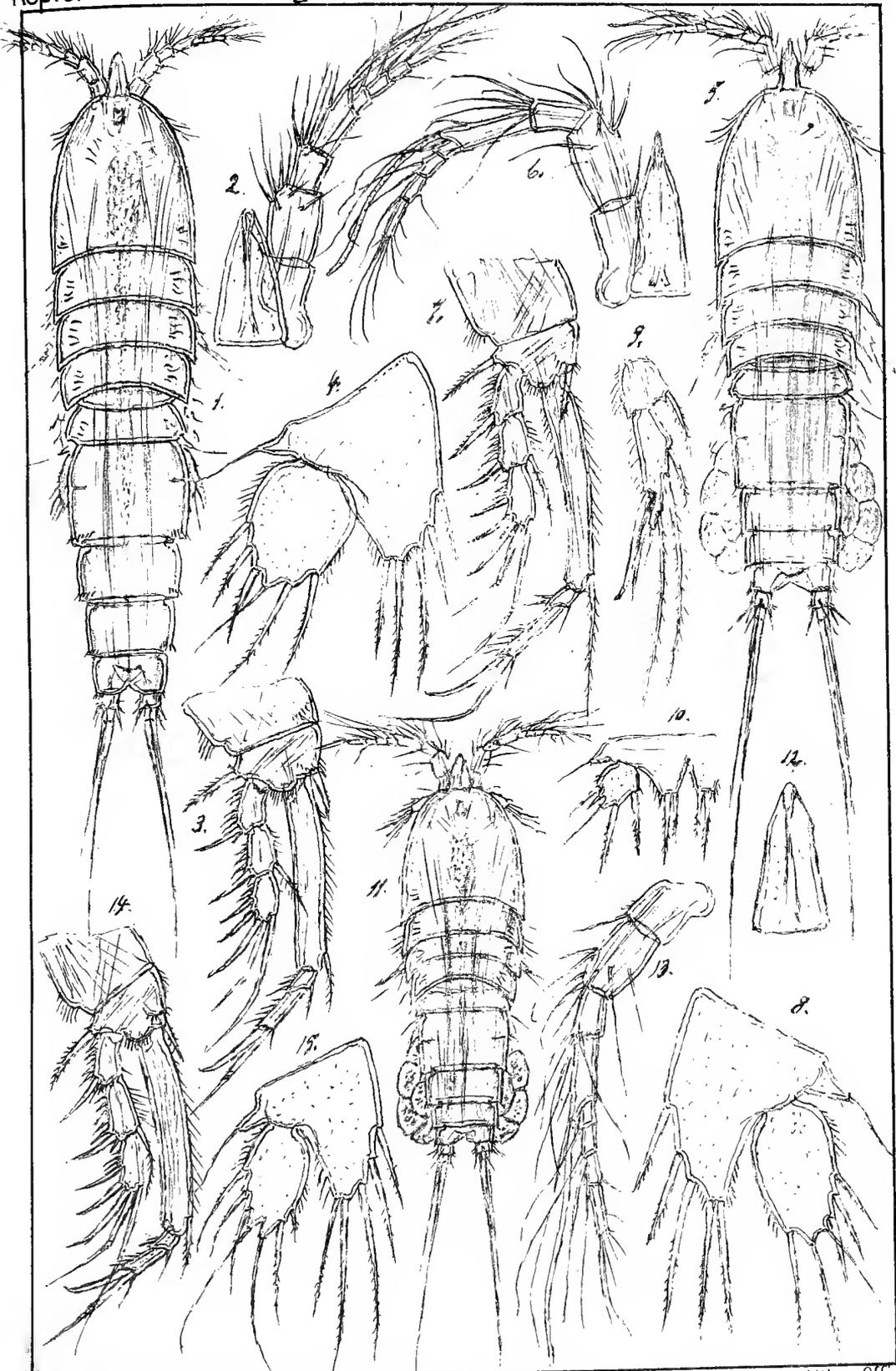
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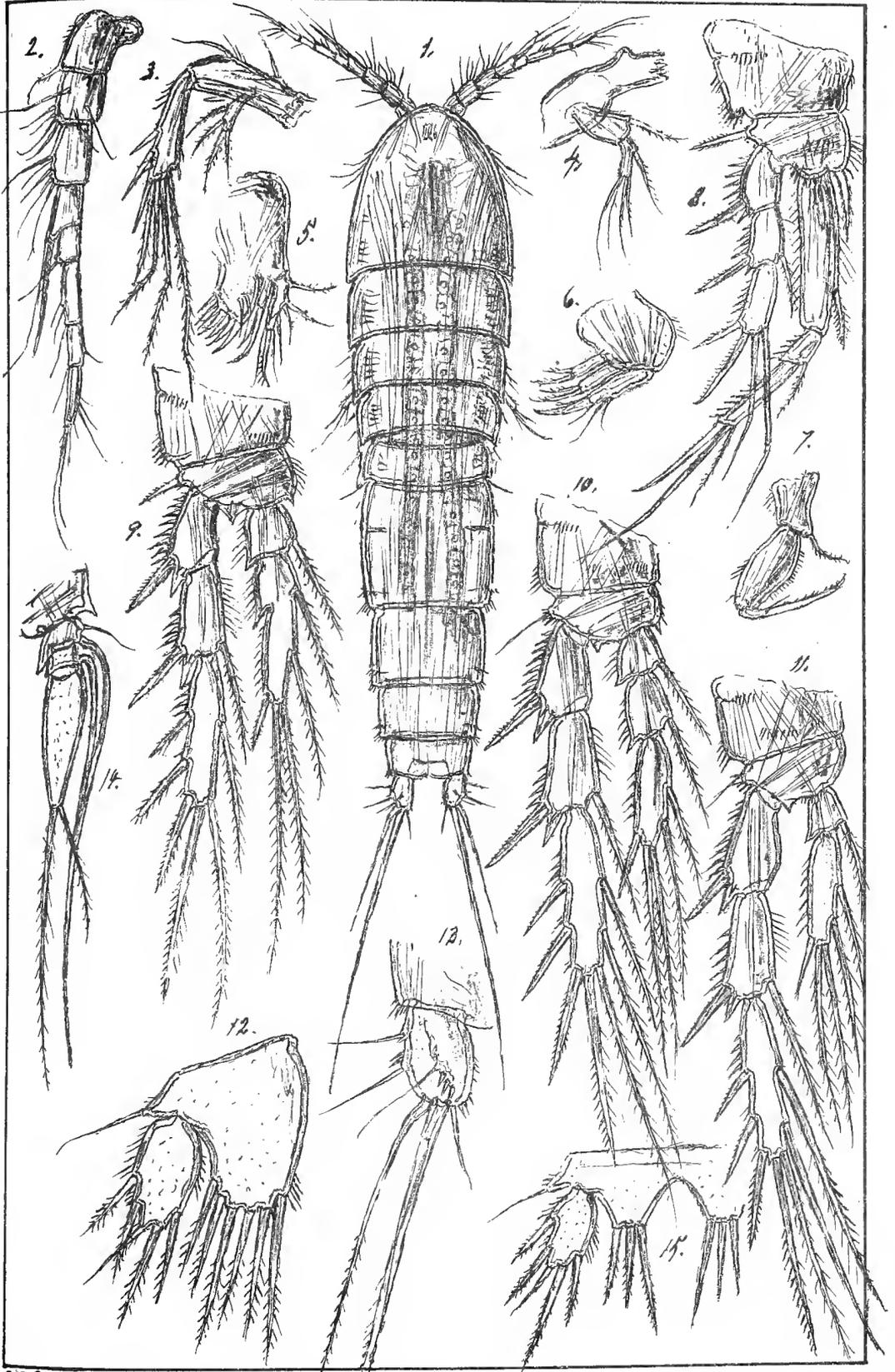
G.O.Sars, autogr.

*Amphiascus latifolius*, G.O.Sars.

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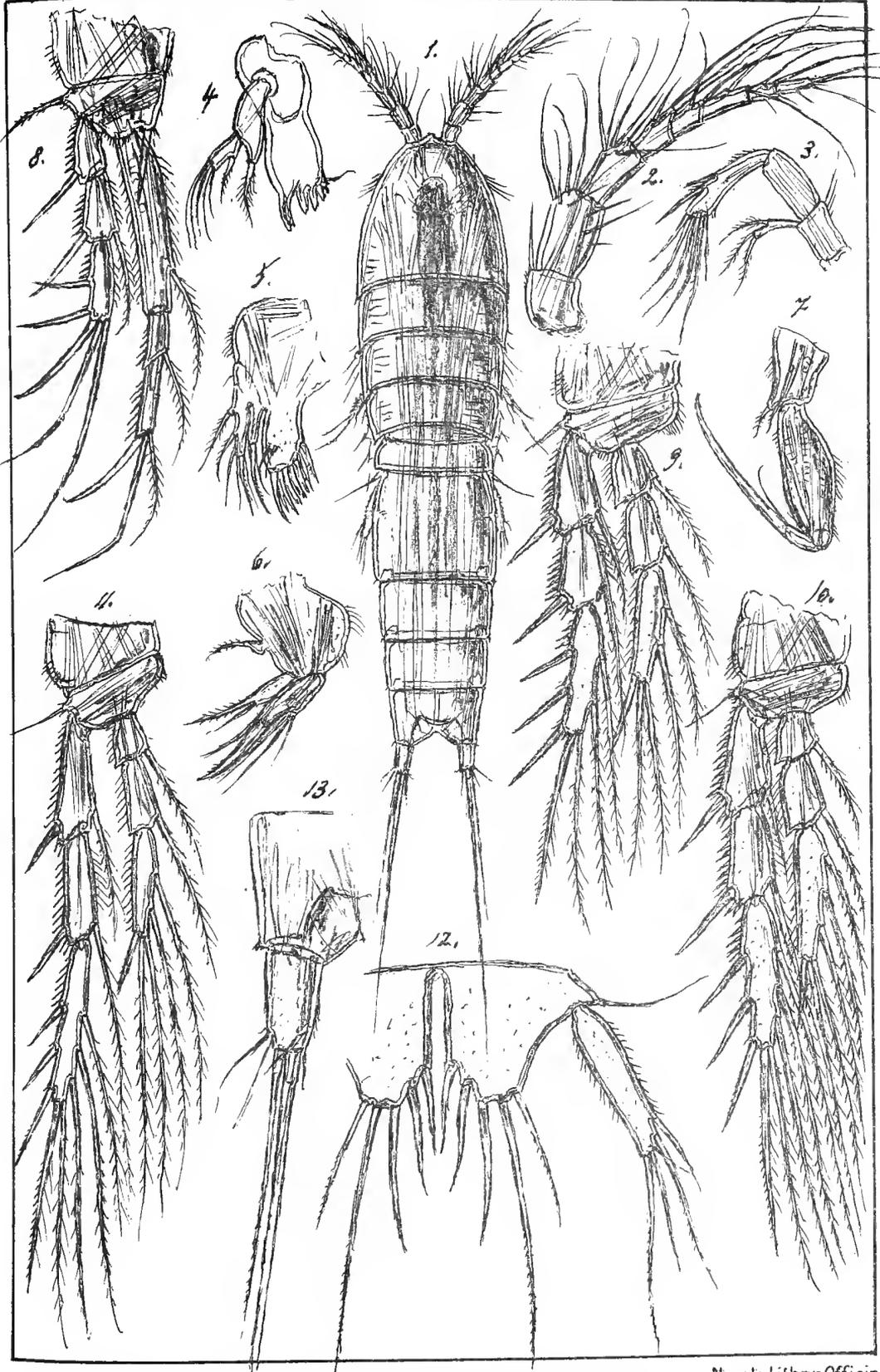
G.O. Sars, autogr. 1-4 *Amphiascus* congener, G.O. Sars. Norsk Lithogr. Officin  
 5-10 " " polaris, G.O. Sars.  
 brevis, G.O. Sars



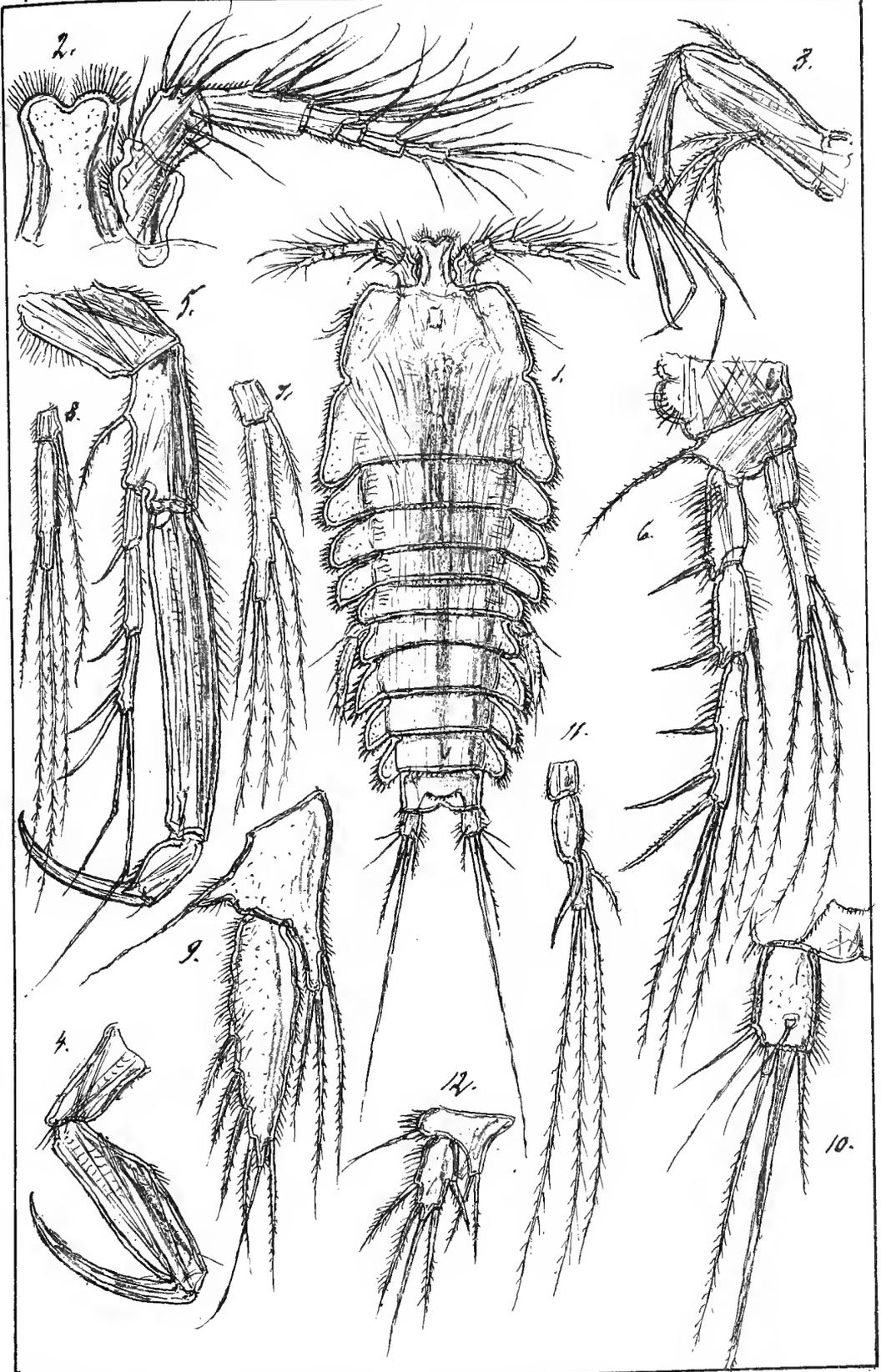
G.O. Sars, autogr.

**Canthocamptus Nordenskjöldi Lilljeb.**

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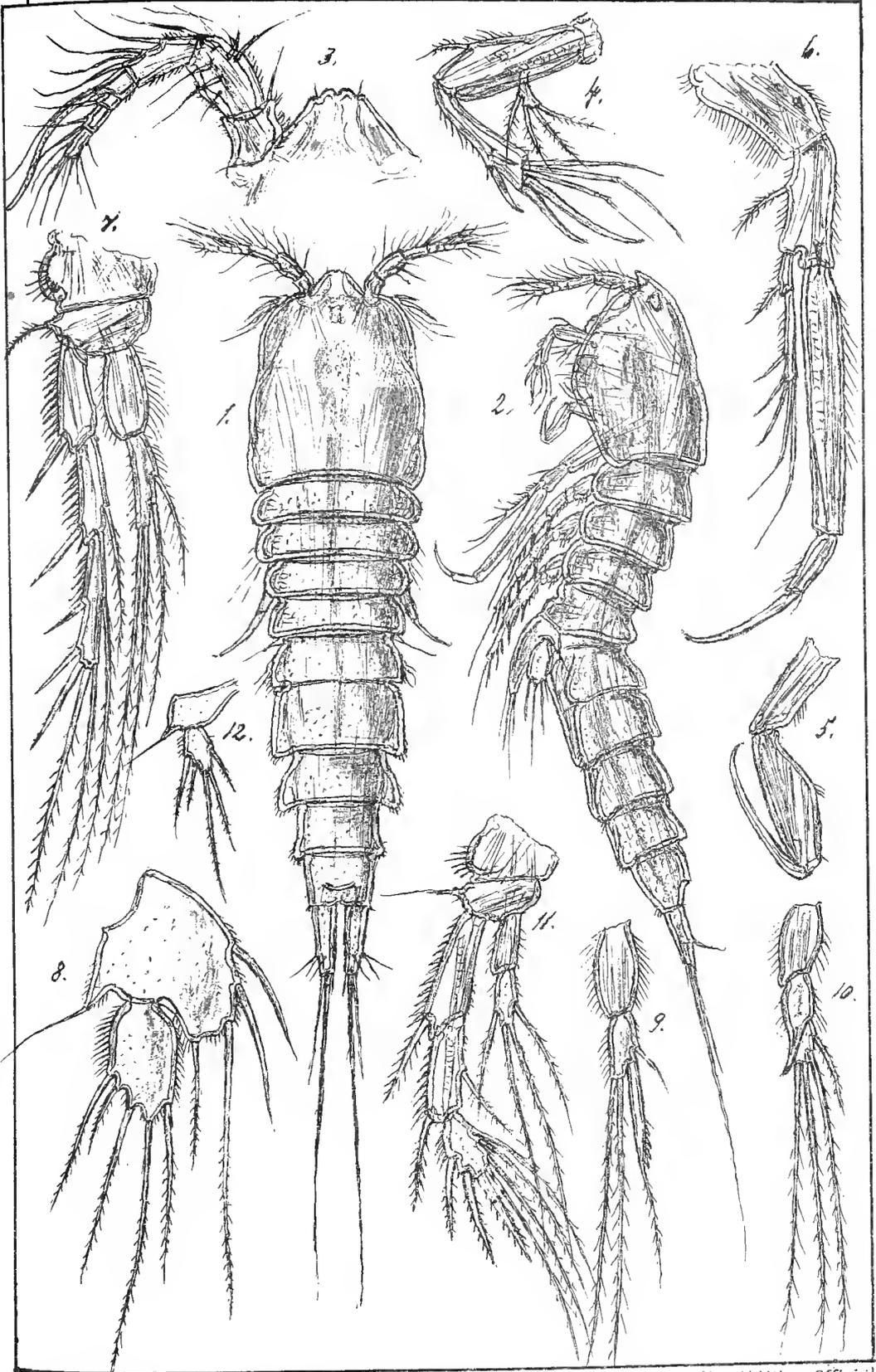
G.O. Sars, autogr. *Parameira elongata*, G.O. Sars.



G.O.Sars, autogr.

*Laophonte applanata*, G.O.Sars.

Norsk Lithogr. Officin



G.O.Sars, autogr.

*Laophonte hyperborea*, G.O.Sars.

Norsk Lithogr. Officin