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MICROCOPY RESOLUTION TEST CHART
(ANSI and ISO TEST CHART No 2)
REPORT
OF THE
CANADIAN ARCTIC EXPEDITION
1913-18

VOLUME IX: ANNELIDS, PARASITIC WORMS,
PROTOZOANS, ETC.

PART B: POLYCHAETA

By RALPH V. CHAMBERLIN

SOUTHERN PARTY--1913-16

OTTAWA
THOMAS MULVEY
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1920

Issued November 16, 1920

VOLUME IX: ANNELEDs, PARASITIC WORMS, PROTOZOANS, ETC.

Part A: OLIGochaeta.
   Lumbriecêne. By Frank Smith.

Part B: POLYCHAETA. By Ralph V. Chamberlin. (In press).


Part D: GEPhyREA. By Ralph V. Chamberlin. (Issued June 20, 1920).

Part E: ACANTHOCLPHALA. By H. J. Van Cleave. (Issued April 7, 1920).


Part J: GORDIACCA.

Part K: NEMERTINi.


REPORT

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Issued November 16, 1920
The Polychaetes Collected by the Canadian Arctic Expedition, 1913-18.

By Ralph V. Chamberlin.


Polychaetes were collected by the Canadian Arctic Expedition at various points along the North American coast from southern Alaska northward and eastward to Bathurst inlet, Northwest Territories, and to greater amount of material coming from the regions about (Sta. stockwell) and Collinson point, Alaska, and from Dolphin and Union Strait and particularly Bernard Harbour, Northwest Territories. Twenty-five species were represented in the material secured east of the month of the Mackenzie river and twenty-two from the region west of this point. By far the greater part of the material was taken along shore at small depths. A few forms were pelagic and a few were dredged from a depth of a hundred meters in Dolphin and Union Strait. The pelagic forms include several spirid larvæ and one larva Paraspidia. The specimens were collected by Mr. F. Johnson on the expedition from 1913 to 1916.

This report covers also some other material from northern regions received for identification from the Canadian Geological Survey, this embracing collections made in Hudson Bay and Union Strait by the Neptun and Diana expeditions, a few forms from the eastern side of Hudson Bay collected by A. P. Low, and several additional forms from British Columbia and Halifax.

As was to be anticipated, the species represented are for the most part well-known and mostly widespread arctic and subarctic forms, the polychaete fauna of the Arctic being one of the longest studied and best known in the world. All the species taken by the Arctic Expedition east of the Mackenzie river were forms previously well known from Greenland and other arctic localities. West of the Mackenzie, where the rich Victoria Sea fauna was approached or entered, the collections yielded seven previously undescribed species. In addition a new Niphys is described from material taken by the Neptun in Hudson Bay and a new Clione from that taken by the Diana in Union Strait. Thus the report includes descriptions of nine new species from the total of forty-nine. The following lists indicate the forms secured at the several general localities.

**British Columbia.**

*Halosychna lardi* (Baird).

*Scrupula vermicularis* Linneé.

**Port Clarence, Alaska.**

*Harmaudoe inamaria* (Linneé).

*Arctonere sier. sp.*

*Pomacentritis sp.* larvæ.

*Psammonea aurantium* (Fabricius).

*Spionid larvæ.*

*Cistenodes granulata* (Linneé).

**Collinson Point, Alaska.**

*Antinca carlei* Kimberg.

*Ephestiella minuta* (Webster and Benedict).

*Spio minus* sp.

*Scolopendræts arcticus* (Næsje). 73027-41

*Ampria boreus*, n. sp.

*Terebellides streemi* Sars.

*Ampharetæ johnswi. n. sp.*

*Ampharetæ nudicata* n. sp.

**Other Alaskan Localities (mostly south of Point Barrow).**

*Aphrodite* sp. (Beaufort Sea, Sta. 297.)

*Antolythys prismaticus* (Fabricius). (Sta. 6, 14, 17, 21, 27.)

*Antolythys alexandri* (Malme). (Sta. 17.)

*Spionid larvæ* $B$. (Martin point, Sta. 32c.)

*Terebellides streemi* Sars. (Sta. 23.)

*Samylha sciuera* (Sars). (Sta. 23.)

*Ampharetæ eupalaea* n. sp. (Sta. 23.)

*Circius spirillum* (Linneé) (Prince William sound, Sta. 69a.).
DOLPHIN AND UNION STRAIT, NORTHWEST TERRITORIES.

Harmothoe imbricata (Linne).
Gattyana cirrhosa (Pallas).
Nepthys ciliata (Mueller).
Autolytus prismaticus (Fabricius).
Onuphis conchylica Sars.
Lumbrineris sp.
Spinoid, harva Ba.
Flabelligera affinis (Sars).
Cistenides granulata (Linne).
Spirorbis spirorbis (Linne).
Circeis spirillum (Linne).

BERNARD HARBOUR, NORTHWEST TERRITORIES.

Harmothoe imbricata (Linne).
Pholoe minuta (Fabricius).
Krasavichia impar (Johnston).
Antinoe sarsi Kimberg.
Gattyana cirrhosa (Pallas).
Anaitides gronlandica (Oersted).
Eteone longa (Fabricius).
Psammomataphrodiloides (Fabricius).
Nercis pelagicus Linne.
Cirratulus cirratus (O. F. Muller).
Arcinoea marina (Linne).
Flabelligera affinis (Sars).
Brada villosa (Rathke).
Nicolea venusta (Montagu).
Cistenides granulata (Linne).
Capitella capitata (Fabricius).
Euchone analis (Kroyer).

Spirorbis spirorbis (Linne).
Circeis spirillum (Linne).

BATHURST INLET, NORTHWEST TERRITORIES.

Travisia forbesi Johnston.

MELVILLE ISLAND, NORTHWEST TERRITORIES.

Anaitides gronlandica (Oersted).

Hudson Bay.

Harmothoe imbricata (Linne).
Nepthys hudsonica, n. sp.
Nercis pelagica (Linne).
Lumbrineris fragilis (O. F. Muller).
Cistenides granulata (Linne).

Hudson Strait.

Harmothoe imbricata (Linne).
Lagisca varriina (Sars).
Nercis pelagica Linne.
Paraxiothea eatenata (Malmgren).
Amphitrite cirrata (Muller).
Thelepus eincinatus (Fabricius).
Chone ungarana, n. sp.
Circeis spirillum (Linne).

HALIFAX, NOVA SCOTIA.

Spirorbis spirorbis (Linne).

POLYNOIDAE.

Harmothoe imbricata (Linne).

—. Aphrodita lepidata O. F. Muller, ibid., p. 218.
1865. Harmothoe imbricata Malmgren, Oeffers. af K. Vet.-Akad. Föhr., no. 1, p. 66, pl. 9, f. 8a–8e.

Numerous examples of this widespread species occur in the collection of the Canadian Arctic Expedition. The species is common in the Atlantic on the North American shore from the Arctic regions south to Cape Cod, and on the European.
shore to southern England. In the Pacific it ranges south to San Diego on the American coast, and to Japan on the Asiatic. It is well known from the shores of Greenland, Davis strait, etc., and the present collection extends its known distribution along the northern Canadian shores to Alaska.


Alaska: Port Clarence bay. Station 20g. August 4, 1913. Numerous mostly large, specimens taken at a depth of 2 to 3 fathoms on a muddy bottom among “thread alge.”

Dolphin and Union strait. Station 43c. September 14, 1915. Several specimens taken at a depth of 20 to 30 meters on a bottom of gray mud with stones and alge.


Northwest Territories: Bernard harbour. Station 37b. August 25, 1914. Several specimens taken at from 2 to 3 fathoms on a rocky and sandy bottom among Laminaria, etc.

Northwest Territories: Bernard harbour. Station 37c. September 1, 1914. Many specimens taken at from 1 to 3 fathoms on a sandy bottom among alge.


Lagisca rarisplna (Sars).


Eight specimens conforming to this species are in the collection from Hudson strait. Unfortunately they have lost all their eytra. The largest specimen is 46 mm. long. This species is common along the shores of Greenland and also occurs about Iceland, Spitzbergen, Norway and southward into the North sea, Finmark, Nova Zembla, and the Kara sea.


Polychaeta minuta (Fabricius).

1843. Pholoe minuta ÖSTERD, Groenl. Annul. Dorsibr., p. 169, pl. i. f. 3, 4, 8, 9, 16.

Locality.—Northwest Territories: Bernard harbour: inner harbour. Station 37e. September 1, 1914. Two fragments together composing a complete individual taken in a sandy bottom among alge.

Northwest Territories: Bernard harbour. Station 41e. July 28, 1915. Two pieces of a larger individual taken at 3-8 fathoms on a bottom of sandy mud with alge.
Arctonoe, n. gen.

Body of moderate length, tapering caudally. Number of segments moderate.

Prostomium bearing three tentacles which are inserted marginally. Cerato- 
phores distinct, the styles short and thick, each more or less enlarged proximal 
of the slender terminal filament. Palpi long, with a slender terminal filament. 
Two pairs of eyes, these typically on posterior half of prostomium.

Parapodia biramous, but with the notopodia much reduced. Noto
cirri with cirrophores large, the styles moderate, with terminal filaments. Neurocirri 
excepting the first, very small.

Both notopodial and neuropodial seta present, both simple. Noto
podials shorter, setose or scaled, distally notched or bidentate. Neuropodia of first 
posterioriinal segment slender, distally bidentate, scaled. The neuropodia 
of succeeding segments, excepting sometimes one group of those on second 
parapodia, coarser, with curved bastate heads and simple tips which are not 
prolonged, more weakly scaled or sculturate.

Elytra present on somites II, IV, V, VII, IX, etc., as in Halosyphua, with 
typically near thirty-five pairs present.

Genotype: Arctonoe lia, n. sp.

This genus is nearest to Halosyphua, of which H. patagonica Kimberg (= H. 
beckeheri Kimberg) may be regarded as the type. It is separated from this 
genus primarily because of the difference in the neuropodial setae, which are 
distally incised or bidentate, and in the neuropodia of the first parapodia, which 
are distally bidentate, instead of both neuropodia and vertopodia of 
these parapodia being prolonged into fine, hair-like, entire tips. Arctonoe 
includes also a second Pacific form, S. fragilis (Baird), which is closely related 
to the genotype.

Arctonoe lia, n. sp.

Type specimen. Catalogue No. 26, Victoria Memorial Museum, Ottawa. 
Paratypes, Victoria Memorial Museum, No.'s 27, 28: Museum Comparative 
Zoology, No.'s 2190 and 2191. Five specimens.

General colour of the body pale yellow. The elytra in general practically 
colourless, or slightly whitish, and translucent to transparent, or nearly so.

The body is of moderate length. It is widest over about the second fourth 
of its length in front of which it narrows a little and back of which it narrows 
continuously and decidedly. The type is 25 mm. long, with a maximum width, 
to ends of setae, of 1-5 mm. The number of segments appears to be typically 
between 53 and 60, though none of the type is entirely complete at the caudal 
end, the maximum number actually present being 56.

The prostomion continues into the ceratophores of the lateral tentacles 
anteriorly, though rising back of the base of each of these in a rounded elevation, 
the ceratophores often rather abruptly set off; with a median notch anteriorly 
in which the median tentacle is inserted. All tentacles short and proportionately 
big, with terminal filament as shown in Pl. 1, fig. 1. The palpi are much 
longer than the tentacles, subcylinidrical, distally abruptly narrowed into a 
terminal filament. Two pairs of eyes are present on the posterior half of the 
prostomion of which those of the anterior pair are slightly the larger and are 
much more widely separated. The posterior eyes are more strictly dorsal in 
position and are near the caudal border.

The tentacular cirri, i.e., the cirri of the peristomial parapodia, are attached 
at the level of the base of the ceratophores of the lateral tentacles. They exceed 
the tentacles, which they resemble in form, in length, and the ventral on each 
side is shorter than the dorsal.

The metapodial segments are moderately convex above and a little less 
so ventrally, with a distinct neural furrow. Intersegmental furrows distinct. 
Most segments divided above by a more or less distinct transverse sulcus.
Polychaeta

The parapodia are rather short and subcylindrical, but a little compressed antero-posteriorly. The neuropodia rise somewhat at the distal end above and show the usual subvertical setigerous groove across the end and above. The notopodia are small elevations arising from the dorsum of the parapodia toward the anterior side and distal of a cylindrical, finger-like process into which the acicula extends and the cirrophore. The notoecirri are attached at the bases of the parapodia above. The notoecirrophore is large, a little narrowed distad, and much exceeding the style in thickness. The latter is of moderate length, expands toward distal end, and terminates in a slender, abruptly set-off filament. Mesal of each cirrophore on the cirriiferous segments is a subconical process in line with the cirrophores than which it is smaller. The neuroecirri in general arise ventrally proximal of the middle, the position in the posterior region becoming more toward the caudal side. The cirrophores are proportionately very thick and distally truncate. The styles in general are abruptly narrower, short, and very thickly subfusciform or ovate, with abruptly thinner, filament tips short. (See Pl. 1, fig. 2). The neuroecirri of the first normal parapodia, however, are much longer, attaining or exceeding the end of the parapodia proper, and clavate in form proximal of the tip, being closely similar to the notoecirri.

The notoecirral setae are present, though reduced to very few in going caudad. They are numerous on the first parapodia, on the second are fewer while on those of the posterior region they are reduced to only one or two or none. They are much shorter than the neuropodial setae. They are flat and curved, sword-shaped, incised or bidentate at the tip, and scaled along one side. (Pl. II, fig. 1). The neuropodial setae, excepting those of the first parapodia, and sometimes in part of one or a few following, distally with moderately hastate heads which are curved. (Pl. 2, fig. 3). The neuropodial setae of the first parapodia are all bidentate at the tip and finely scaled along the convex edge of the head. (Pl. II, fig. 2). In the second parapodia the supraacicular group of setae remain of this same character, though coarser and longer, while the subaciculars are still coarser, with heads more strongly curved, the tips entire, and the edges smooth excepting for a few weak serrations. (See Pl. II, fig. 3). Farther caudad both supraaciculars and subaciculars have the latter, essentially smooth, form with entire tips. The notoecirral setae in the first parapodia are not thinner, though shorter, than the neuropodial setae but they are finer than the ordinary neuropodial setae farther caudad.

The eulaxa thin though moderately tough. They are subcircular in outline and are attached midway between their centres and their ecal edges. Surface smooth, appearing wholly to lack tubercles and cilia. (Pl. I, figs. 3, 4). While they overlap in the series along each side, those of the opposite sides do not overlap mesally, thus leaving a middorsal naked stripe. They occur upon somites II, IV, V, VII, IX, and similarly on alternate somites to XVI; then upon somites XXVI, XXVII, XXIX, XXXI, XXXIII, XXXV, etc., about twenty-five or more pairs being present.

Localities. Alaska: Grantley Harbor: Teller. Station 20b-e. July 30, 1913. Depth, 2-3 fathoms. Bottom, sand. Alaska: Port Clarence Bay. Station 20y. August 4, 1913. Same depth, etc. This species much resembles S. fragilis (Baird), a form common on the Pacific coast farther south. It is a rather more slender form with coarser setae. The notoecirral setae in general are much more numerous. The species may be distinguished at once by the setae of the second parapodia. fragilis lacking the special supraacicular group of apically bidentate neuropodial setae present in ita.

Evarnella impar (Johnston).

——. Lepidonotus impar GRUBE, Fami. Annul., p. 36.


Two specimens seeming fully to agree with this species so far as may be judged in the absence of eiytra, all of which are lost. The larger specimen is 21 mm. long, with a width across setae of 7-2 mm. Proboscis 5-8 mm. long.


**Antinoe sarsi** Kimberg.


This is another species common in arctic and northern waters of both hemispheres. It is abundant on the Siberian coast, in Bering sea and along Kamchatka, as well as on the European and North American coasts. It has been taken at several points along the coast of Greenland where nearly all the captures have been of single individuals. The Canadian Arctic Expedition took two specimens at each of the two first of the following stations and one at the third.


Alaska: off Collinson point. Station 27e. September 17, 1913.

At the last-named station was taken one specimen noted in the field journal as "pelagic under ice at one foot water." It is further noted by Mr. Johnsen that "the Polyneid came up with the water as the hole was cut in the ice. It swam quickly along by moving its parapodia successively (as a myriopod), but not (or only to a small degree) by wriggling its body as pelagic chaetopods generally do." The specimen is somewhat aberrant in structure from the ordinary non-pelagic form.

**Gattyana cirrhosa** (Pallas).

1766. *Aphroditina cirrhosa* Pallas, Miscell. Zool., p. 93, pl. 8, f. 3-4.


1815. *Aphroditina cirrhosa* Fabricius, ibid., p. 311.


1886. *Iphione muricata* Gibson, Ver. Liverpool, p. 150.


This northern form is exceedingly common in the fjords of Greenland and is known also from Davis strait. From this region it ranges along the American coast to the gulf of St. Lawrence, to the northern European shores and southward to Ireland. It has been dredged in the Atlantic at a depth of 580-630 fathoms (Porcupine). The collections of the Canadian Arctic Expedition extend the range westward to Bernard harbour and other points on Dolphin and Union strait.

**Localities.**—Northwest Territories: Bernard harbour. Station 377, October 19, 1914. Several specimens taken at a depth of about one fathom on a bottom of sandy mud among algae.

Northwest Territories: Dolphin and Union strait; west of Cockburn point. Station 43c, September 14, 1915. Several specimens from a depth of 20-30 metres on a bottom of grey mud with stones and algae.

**Halosynda lordii** (Baird).


**Locality.**—British Columbia: Queen Charlotte islands. One specimen.

The specimen has the characteristic cross-markings of dark pigment with the broader solid band across somite VIII. It is a common form on the western North American coast from San Diego northward to Alaska but is less common in the more southern part of this range.

**APHRODITIDAE.**

**Aphrodita** sp.

Two fragments of an *Aphrodita* taken from the stomach of a *Phoca hispida* Schreber are not in condition to permit specific identification. The *Phoca* was taken April 4, 1914, off the coast of Yukon Territory at Station 296 (latitude 70° 13' N., longitude 140° 50' W.) Water depth about 30 fathoms.

**NEPHYDIDAE.**

**Nephtys ciliata** (Muller).


Two fragments of this species are in the collection. This is a species of circum-polar distribution, having been previously recorded from Spitzbergen, Nova Zembla, Kara sea, Siberia, and Prince of Wales island, Davis strait, Greenland, Iceland, Faroe islands, and southward in the Atlantic to the United States and France.

**Locality.**—Northwest Territories: Dolphin and Union strait; off Cockburn point. Station 43a, September 13, 1915. Depth, about 100 metres. Bottom, mud with pebbles, no algae. Two fragments, an anterior and a posterior, perhaps parts of the same individual.
Nephtys hudsii n. sp.


The general colour of the type is light brown of a weakly pinkish tinge. There is a distinct median longitudinal dark line along the dorsum, the ventral neutral line being also somewhat darker. The paratype is darker, particularly so in spots proximal of some parapodia above and on part of the presetal lobes.

The type is composed of eighty-six somites. It has a total length of 63 mm., exclusive of the proboscis which is only partially protruded. The maximum width is 5 mm., this being at the anterior end near the eighth somite, this end of the body being relatively broader, much less narrowed cephalad, than, e.g., in N. ceca. From this widest region the body narrows at first more rapidly and then very gradually to the caudal end.

The prostomium is somewhat trapeziform, with middle of the narrower end somewhat angularly produced, the form thus somewhat subpentagonal; anterior margin broad, gently convex. Anterior region not protruding forwards as it does in ceca and cilia. Posterior tentacles attached on each side at ventral end of anterior margin but little farther caudal than the corresponding anterior tentacle. Tentacles proportionately short and thick, much less slender than in cilia, the posterior or outer ones shorter and a little longer than the inner ones (Pl. II, fig. 1). On each side at caudalateral angle is a prominent sensory papilla. The mouth appears not to be bordered by such fleshy lateral lips with papillae as are so prominent in ceca, etc. The broadly triangular membrane appearing at the caudal edge of the mouth like a lower lip shows transverse sulci or folds in place of the usual longitudinal ones.

The first setigerous somite is incomplete, being evident only on each side of the prostomium, from which it extends to the border of the mouth on each side, being thus incomplete both dorsally and ventrally. It bears only the notopodia as usual. The second somite, bearing also only notopodia, is complete above though the caudal angle of the prostomium extends into it and nearly bisects it. In the succeeding somites the parapodia are biseriate. (See Pl. II, fig. 4.)

The notopodia of the second somite are farther dorsal than those of the first and than those of the third, those of the succeeding somites descending to the sixth or seventh after which they remain at the same level. The first two pairs of notopodia have the same general structure as the succeeding ones, though slender and with the branchial appendages shorter and more conical, these being the so-called tentacular eri of Elders. In a typical parapodium the postsetal lamella of the notopodium is a low convex lobe highest subvertically and decreasing and disappearing distad in strong contrast with the prominent lobe of ceca and lower than usual in cilia, ordinarily not exceeding the summit of the lobe. The branchial appendage is long and ordinarily curved in a semicircle with its concavity cetusd. The cirrurus, arising from the base of the branchial appendage, is slender and subulate. The neuropodium is broad, widening distad and with the postdistal end, generally convex and mostly incised like that of the notopodium. Postsetal lamella low, short, scarcely exceeding the apex of the lobe. (See Pl. II, fig. 5, 6.)

The cirri are dark. The tip of each extends into a projecting conical papilla as usual. The setae have the usual general arrangement. The coarse posterior setae are dark, while the fine, ciliated anterior setae are pale. (See Pl. II, fig. 5.)

The anus is terminal. From its thickened ventral edge arises a median tapering cirrus of moderate length which reaches only to the penultimate setigerous segment.

The proboscis as extended in the paratype is 3.6 mm. long and widens from base to beyond middle where it is 3.4 mm. wide. Bearing twenty-two
longitudinal rows of papillae as in members of the *cilinata* group, with a similar long dorsal papilla.


This species resembles *cilinata* in the general form of the parapodia and shortness of its setae; but it is conspicuously different in the form and relations of the prostomium. In *cilinata* this is more quadrate, with the anterior region projecting farther forward obviously beyond the edge of the first segment with anterolateral corners subrectangular, and the posterior tentacles borne decidedly farther caudad on the nearly longitudinal free lateral edges instead of being at essentially the same level with the anterior pair as they are in the species above described.

**PHYLLODOCIDAE.**

**Analitides groenlandica** (Oersted).


This is a well-known northern form of apparently circumpolar distribution common on the shores of Greenland, Nova Zembla and Spitzbergen and less common on the shores of Finmark, Norway and Sweden and southward to Ireland and the gulf of St. Lawrence. It has also been recorded from Siberia, Bering strait, and Bering sea.

**Locality.** Northwest Territories; Bernard harbour, outer part. Station 41f. August 1, 1915. One specimen taken at a depth of 2 3 fathoms on a bottom of sandy mud with stones and algae.


**Eteone longa** (Fabricius).


Three specimens of *Eteone* agree well with examples of *E. longa* from Greenland, the type locality, in the Museum of Comparative Zoology at Cambridge, Mass. The specimens are dark and the largest has a length of 52 mm. The species has not been previously recorded excepting from the shores of Greenland, where it seems to be common. The closely related *E. arctica* Malmgren, which may possibly have been confused to some extent with the present species, has an apparently circumpolar distribution, having been listed from Davis strait, Spitzbergen, Finmark, Great Britain, Siberia, and Bering strait.

**Locality.** Northwest Territories; Bernard harbour, outer part. Station 41. July 20, 1915. Depth, 3-5 fathoms. Sandy mud with algae.

**Paranaitis** sp. Larva.

A number of larvae of the species of this genus were secured in plankton along with spinoid larvae and numerous crustacea. They are in stages possessing from 13 to 20 setigerous segments. The fused first two segments in all form dorsally a conspicuous collar-like swelling. It is quite possible that these larvae pertain to *P. nulberghi* (Malmgren) which has been recorded from Bering sea by Wirén and is a common and widespread form.

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Locality.—Alaska: Grantley harbour. Station 20a, July 30, 1913. Surface.

SYLLIDAE.

**Autolytus prismaticus** (Fabricius).


——. *Neris bifrons* Fabricius, Ibid., p. 303 (Female).


Both sexes of the pelagic stage are represented in the collection, the males by many specimens. A female taken at cape Smyth, Alaska, bears a large broad-she which has broken open, allowing most of the eggs to escape.

This is a characteristically arctic species previously known from about Greenland, the type-locality, the North American Atlantic coast as far southward as Maine (Casco bay, Eastport), and Spitzbergen. The present records carry the known range in the Arctic westward to Alaska and Bering sea.

**Localities (all in surface).**—Off Alaska: Station 14 (latitude 54° 23' N., longitude 164° 45' W.) July 2, 1913. One small pelagic male.

Bering sea, off Alaska. Station 17a and 17b, c. (latitude 60° 9' N., longitude 167° 38' W.) July 6, 1913. About twenty-five pelagic males.

Off Alaska, Station 6b. (latitude 56° 20' N., longitude 133° 0' W.)

Alaska: Cape Smyth, Station 57a. August 8, 1916. One pelagic female (*Sacconereis*) and one male (*Polyzostrichus*).


**Autolytus alexandri** Malmsgren.

1867. *Autolytus alexandri* Malmsgren, Annal. Polychaet., p. 37 (156), pl. 7 f. 39-39k. (Female or Sacconereis.)


1874. *Stephanosyllis pietra* Verrill, ibid., pl. 4, f. 6. Also as *nomen nudum* in text, p. 43. (Stem form.)


1881. *Autolytus alexandri* Verrill, Trans. Conn. Acad., 4, p. 294, pl. 12, fig. 8-8a. (Male or *Polyzostrichus*.)


This species is represented by two epitokous, or pelagic, males taken in the plankton net in Bering sea. It was previously known from off the coasts of Spitzbergen and Greenland and southward in the Atlantic to the shore of New England.

**Locality.**—Alaska: Bering sea. Station 17a, b, c (latitude 60° 9' N., longitude 167° 38' W.) Surface.
HESIONIDAE.

Psammate aphroditoides (Fabricius).


One entire and two incomplete specimens from Bernard harbour are referable to this species, as are also several from Port Clarence, Alaska. The Bernard harbour specimens are the larger, the complete one having a length of 17 mm., and are darker in colour. The Port Clarence specimens measure under 10 mm. in length. They are pale fulvous, in part of a weakly greenish cast but no red lines, such as mentioned by Fabricius as frequently present, are detectable.

In the character of the parapodia these specimens conform to Fabricius' original description, though differing obviously from the form taken on the west coast of Ireland at a depth of 90-125 fathoms, and described and figured by McIntosh under the name Castalia arctica Malmgren. The parapodium in general form much more resembles that of P. punctata (O. F. Müller), excepting for the presence of notopodial seta in the latter. It terminates similarly in three conspicuous papillae as mentioned by Fabricius. McIntosh's figure shows the parapodium of his specimen to be strongly conical, relatively very deep at base, instead of having the longer, more nearly cylindrical form of the true arctica or aphroditoides, and to present but a single papilla at the end. The head of the British form is represented as anteriorly much more convex than in the specimens of aphroditoides secured by the Canadian Arctic Expedition. The British form seems not to be the same species, and may be tentatively designated as P. britannica, n. sp.

P. aphroditoides has been previously recorded from Greenland, Siberia, and Bering strait.


SPHAERODORIDAE.

Ephesiella minuta (Webster and Benedict).


Locality.—Alaska; off Colinson point. Station 273. October 3, 1913. Depth, 3 fathoms. Bottom, mud and gravel with alga.

Two specimens from this locality seem not to differ from minuta, which was previously known from the coasts of Maine and Spitzbergen. Each is near 5 mm. in length. No seta with appendage in place was found, the specimens having been considerably rubbed. The capsules and papillae of the general surface appear to be typical and the parapodia have a characteristic form and papillation.

1British Annelids, 1908, 2, pt. 1, p. 125, pl. 58, f. 14, pl. 63, f. 15, pl. 78, f. 3-3a.
NEREIDAE.

Nereis pelagica Linné.

1829. Lyngia margaritacea JOHNSTON, Zool. Journ., 1, p. 120.
1830. Lyngia viridis JOHNSTON, ibid., p. 119.
1842. Heteromurus arctic GORESTEK, Nat. Tidssk., 1, p. 117. (Epitokons female.)

Seven large specimens partly disintegrated, were taken from the stomach of Salalminus malma WALL, at the nard harbour. In the proboscis of these specimens the paragathat of VI vary from three to five, with four as the most frequent number, these being large in size as is typical. The paragathat of I vary from one to four, in the latter case being arranged as at the angles of a diamond-shaped area instead of in a line, as is more usual. The band across VII and VIII with the smaller caudal paragathat in all the specimens examined in fewer series than usual. A specimen from Port Burwell on Hudson strait is atypical in dentition, bearing in each area VI only two large stout teeth contiguous with each other in a transverse line. The minor posterior denticles of VII and VIII are comparatively few.

This is a cosmopolitan species widespread in the Arctic and Antarctic oceans and in the Atlantic and Pacific oceans along the European, American, and European coasts.


Northwest Territories: Bernard harbour. Station 10a. August 21, 1915. One specimen from the stomach of a 30-inch Salalminus malma WALL.


ONUPHIDIDAE.

Onuphis conchylega Sars.

1835. Onuphis conchylega Sars, Beskr. og Bidr., p. 61, pl. 10, f. 28a, 28c.


The anterior end, consisting of forty-two segments, of a single specimen was taken from in its tube. It is 10 mm long with a width, exclusive of papillae, of 3.5 mm. The anterior segments are crossed by reddish-brown stripes, a stripe across the anterior border of each segment. The tube is composed of cartilaginous, segmental shells and grains of sand in the type specimen.

This species is well-known from Norway, Fiammark, Nova Zembla, Iceland, Greenland, Davis strait, Labrador, the eastern coast of North America south to Florida, and the European north to Great Britain. In the more southern latitudes, it is usually taken at depths of 10 fathoms and below.

LUMBRINEREIDAE.

Lumbrineres fragilis (O. F. Müller).

1877 C. M. A. van Brincklant, Brincklant, Blad., 57, p. 192.
1883 C. M. A. van Brincklant, Brincklant, Brincklant, Blad., 57, p. 192.

One specimen referred to this species is among the material from Hudson bay. The specimen is 180 mm long, including a regenerated caudal region about 100 mm long, consisting of about forty-five segments. The prostomium appears approximately 3 mm broader across base than usual. The maxillae II with five teeth. The form is abundant in northern waters, as about Greenland, Nova Zembla, Spitzbergen, Siberia, and Bering strait, and extends southward in the Atlantic along both the North American and the European shores.


Lumbrineres sp.

A single specimen only 7 mm long of uncertain species.

Locality. Arctic Canada: Dolphin and Union strait, off Cockburn point, Station 430, September 13, 1915. Depth, 100 meters. Bottom, gray mud and pebbles. No algae.
SPIONIDAE.

Spiro mimus, n. sp.

The one specimen of this form secured is about 15 mm. long. It is broadest anteriorly near the ninth somite, in front of which it is pointed and caudad of which it narrows continuously to the posterior end at first gradually and then more strongly. The specimen is complete and consists of forty-five segments or near that number.

Type specimen. Cat. No. 37, Victoria Memorial Museum, Ottawa.

The prostomium protrudes anteriorly in a rounded process much as in S. filicornis. The sides are subparallel back to the level of the first parapodia from where they converge caudad, the caudal end of the prostomium being narrowly rounded and lying at the anterior edge of the second setigerous somite. The median ridge of the prostomium rises posteriorly and expands into a rounded elevation on which the eyes are borne. There are two pairs of eyes with slight pigmentation on one side indicating a possible intermediate eye. The posterior eyes are smaller and much nearer to each other than the anterior ones. (See Pl. III, fig. 1)

Parapodia all of the usual well-developed biramous type. Both notopodium and neuropodium throughout have well-developed postsetal lamellae which in general are low, vertically elongate and evenly rounded. The neuropodial lamella at the posterior end becomes relatively longer, more cuneiform. The dorsal lamella is fused at the base with the branchiae. It remains at the same general form over most of the body but at the posterior end becomes gradually increased in length and finally much elongate and branchiform. The branchiae are present on all parapodia excepting the last two pairs. The first branchiae are short, the following ones increasing in length and soon attaining the maximum when they ordinarily extend more or less obviously beyond the middorsal line and are proportionately heavy. At the posterior end the branchiae become reduced and in the last few pairs are much exceeded in length and thickness by the dorsal lamella which in the meantime has become cuneiform and sometimes a little clavate. The last branchiae occur on the third pair of parapodia from the last and are merely slight tubercles. (See Pl. III, fig. 3.)

Only capillary setae are present in the first sixteen or seventeen pairs of parapodia. Those of the posterior series are broad, bilaminate setae with fine, often curving tips. The anterior setae are finer. The superior dorsals are of the finer capillary type. On the seventeenth parapodia crochets make their appearance in the neuropodial fascicle, at first one and two in number, and then increasing to nine, which seems to be the prevailing number. The crochets are of nearly uniform width over most of their length, the free portion moderately evenly curving. At the distal end of the shaft narrows to a rather slender neck above which it terminates in two teeth of which the apical is much smaller and acute. Distal end completely sheathed, the sheath widening distad and then rounded at the end. Shaft strongly fibrillate. (See Pl. III, fig. 4.)

The caudal end of the body ends in four papille of which the ventral are much stouter than the dorsals, reversing the condition e.g., in S. mesnili (Euphio McIntosh). (See Pl. III, fig. 2.)

Locality. Alaska; Collinson point. Station 270. September 20, 1913.

Pelagic under 5 inches of ice over 1 foot of water. Lagoon at Collinson point.

One specimen.

This species resembles S. filicornis (O. F. Muller). It differs in the character of parapodia and branchiae in the posterior region, the great reduction of the branchiae and the elongate, cuneiform or subcuneiform character of the lamellae, etc. Contrasting conspicuously with the condition in filicornis, in which the branchiae remain long and the lamellae are not thus modified. The crochets first appear farther caudad than in filicornis, etc.
**Polychele**

*Scolelepidopterus arcticus*, n. sp.


The type is about 23 mm. long, with a width of 1.7 mm. It consists of about seventy-five setigerous segments. The body is flattened dorso-ventrally and is pointed at both ends.

The prostomium is long, pointed behind and broad, and truncate in front. Posteriorly it reaches to the second setigerous somite. Four indistinct eyespots are present in the same position as in *benhami* but with those of the anterior pair nearer to each other than the posteriors instead of the reverse. The appendages are attached at the antero-lateral angles somewhat beneath, as in *benhami*; they are cylindrical and are proportionately much shorter than in the latter species. No tentacular cirri are present. (Pl. III, fig. 5).

The parapodia are of the usual biramous type. Each notopodium and neuropodium has a prominent, flattened, postsetal lobe of which the notopodial lobe is longer than the neuropodial. The postsetal lobe in the anterior region is vertically subelliptic with one edge attached (Pl. III, fig. 6), but in the posterior region it becomes proportionately narrower vertically and at the same time higher (Pl. III, fig. 7). The postsetal lobes decrease notably in size in the caudal region.

Branchiae are present on somites beginning with the first setigerous. They are free from the notodendal lobes excepting at their bases. Cylindrical and filiform. They are moderately long in the anterior region though in no case equaling the width of the somite and behind the narrow pointed region scarcely surpassing the mid-dorsal line. The branchiae remain of nearly uniform length and thickness until about somite XX when they begin to decrease in length and thickness and practically cease on somite XIX, though represented in the form of nodules as rudiments at the bases of the postsetal processes. Posterior region wholly free from branchiae.

The setae in both notopodia and neuropodia are in two series, an anterior and a posterior one, in addition to those of the inferior ventral group and superior dorsal group. In both branches of all parapodia occur fine capillary, apparently non-inmate setae in an anterior series, and broader, limbate setae in a posterior series. In going caudal a limited number, mostly three or four, hooded crochet-replace setae of the posterior setae, first in the neuropodia and then in the notopodia, the setae of the anterior series remaining unchanged. The setae of the inferior ventral group are limbate, distally pointed, the tips curving caudally and ventrally. The superior dorsal setae are much more elongate than the more ventral ones. In a typical neuropodium of the middle and posterior regions, at least, there is also a corresponding dorsal neuropodial group of more elongate capillary setae, though these were not detected in all cases. (See Pl. III, fig. 7). The crochets are of the usual general form, distally narrowed and bidentate, and hooded. The hooded region colorless, more or less transparent; the shaft in part strongly fibrillate. (See Pl. IV, fig. 1).

Anna surrounded with numerous short papillae.

Locality.—Alaska: Collinson point. Station 276. September 20, 1913. Mr. Johansen's field-note accompanying these specimens states that they were "Pelagic under 5 inches of ice over 1 foot of water in lagoon at Collinson point."


This species, so far as appears from Elders' account of *S. benhami*, is congeneric with the latter, the only other known *Scolelepidopterus*. The type of *S. benhami* was taken by Prof. Benham at Moeraki, South New Zealand.
present species is a less slender form than the genotype and consists of a much smaller number of somites, seventy-five as against two hundred and six. The branchiae in \textit{benhami} become much longer, at their maximum equaling the width of the segments; they continue to the eighty-sixth segment, instead of terminating near the twenty-ninth or earlier. In \textit{arctius} the fine, elongate capillary setae of the superior group of neuropodia, and in part, at least, of neuropodia, seem to form a characteristic feature.

\textbf{Anaspio,} n. gen.

Prostomium without corma, rounded anteriorly and prolonged caudad; without uveal cirrus. In genotype one pair of eyes. Branchiae in genotype two pairs, on third and fourth somites, wholly free from the parapodial lamelle. Parapodia all free from each other, none of the neuropodia being connected by a membrane; no interparapodial pouches. Anterior parapodia bearing only capillary setae. Hooded crochets appearing in neuropodia caudad but neuropodia remaining with only capillary setae. Crochets with beak bifid and lacking apical tooth.

Genotype. \textit{J. boreus,} n. sp.

Close to \textit{Spionides} but wholly lacking the characteristic lateral pouches of the latter and the uveal cirrus. The crochets seem to be of distinctive form.

\textbf{Anaspio boreus,} n. sp.

Type specimen. Cat. No. 38, Victoria Memorial Museum, Ottawa. One specimen.

The type is incomplete caudally, at present embracing the head and thirty-six setigerous somites. It is only 12 mm. long. Body depressed, moderately convex above, more flattened beneath, covered in part anteriorly by the foliaceous developments of the parapodia.

The prostomium is elongate, narrowly subtrigonal with base cephalad. Anterior end weakly convex. Posteriorly it is prolonged to or nearly to the third setigerous segment in a thick palpaloid process fused with the dorsum throughout. Just in front of the beginning of this posterior region is one pair of eyes; these are small and wide apart. Vaginal pigment spots may represent a second pair of eyes farther forward and farther apart. (Pl. IV, fig. 2).

The peristomium forms the lower lip and the usual lateral cephalic lobes, the latter broadly rounded posteriorly and narrowing cephalad. Tentacular cirri lost. (Pl. IV, fig. 2).

The parapodia are prominent and conspicuous, particularly anteriorly. They are broadly attached, with two lobes almost continuous. Presanal lobes low, but the postsetal lamelle large and foliaceous. The postsetal lamelle of notopodia I of moderate size, rising above in a triangular tip. The corresponding lamelle of the second, third, and fourth parapodia are much longer, being longer all along the setigerous line with the dorsomesial ends much more prolonged than those of the third parapodia largest, overlapping above the dorsum. The notopodial lamelle of the fifth and sixth parapodia are abruptly smaller and more widely separated, though still large and pointed above. The following ones rapidly lose their dorsal prolongations, becoming lower and evenly rounded, their dorsomesial edges in the first few extended mesad and conspicuously connected across dorsum in a low ridge or integumental fold, this fold becoming less marked posteriorly. Posteriorly the postsetal lamelle both of notopodia and of neuropodia become low and inconspicuous. The postsetal lamelle of the anterior neuropodia vertically much shorter than those of the neuropodia, but high, decreasing in size in correspondence with the reduction of the dorsal lamelle.

There are only two pairs of branchiae, these occurring on the third and fourth setigerous segments. They are thick, subconical processes free from...
the notopodial lamellae above the tips of which they do not rise and by which they are largely concealed.

As usual, only capillary setae are found in both branches of the anterior parapodia. In both notopodia and neuropodia they are very numerous and are arranged in the usual two series. Crochets first appear on or near the eleventh parapodia, one or two in each, increasing in number caudad. The ordinary capillary setae are characterized by being densely and coarsely puncate, the punctae in part elongate or in form of short lines. The crochets are hooded, the membranous shields somewhat slavately widening distal and extending completely over the head. The head is large and extends at right angles to the axis of the adjacent part of the shaft; it lacks an apical denticle and the process is cleft somewhat like the beak of a bird. (See Pl. IV, fig. 1.)

Locality. Unfortunately the locality label with the type, after its separation, was displaced. There seems little doubt, however, that it was from Collinson point, Alaska, probably from Station 270.

**LARVAL SPOMINID A.**

Two larvae of this form were secured in plankton among the more numerous phyllodocid larvae (Paromalus sp.). These are Nereine-like forms. The prostomium is anteriorly pointed, the point less prolonged and less acute than in corresponding stages of *Nereis cirrata*. Two pairs of eyes are present. Palpi well-developed, thick. In one specimen twenty setigerous segments are present. The development of the parapodial lamellae has progressed considerably, the postsetal notopodial lamellae on the anterior segments showing already a distal elongation. Capillary setae alone are present on the first thirteen pairs of parapodia. On the fourteenth hooded crochets appear in the neuropodia and continue to the last, the maximum number attained being three. (See pl. IV, fig. 6.) No crochets were detected in any of the notopodia. Length 1.5 mm. The general form and structure of the specimen is shown in Pl. IV, fig. 5.

The second specimen is of nearly the same length, but is proportionately more slender and presents twenty-four or twenty-five setigerous segments. It is otherwise similar in general form and structure to the other specimen.

**Locality.** Alaska; Grantley harbour. Station 20a. July 30, 1913.

**LARVAL SPOMINID B.**

With the field notes made by the marine zoologist of the expedition (Mr. Johansen) are two sketches of larvae which are obviously sporodians. Specimens of these forms, however, were not in the material submitted for study, so that various desirable details cannot be ascertained with reference to them.

(a) The first sketch represents a spoomid, noted as less than 1 mm. in length, in which both anterior and preanal ciliary rings are present. There are fourteen setigerous segments. The palpi are subconical, distally rounded and not subterminal. Across the anterior end of the prostomium are shown eight eyes, of which three on each side form a triangular group. The prostomium is anteriorly slightly indented, not at all pointed.

**Locality.** Dolphin and Union strait (off Bernard harbour), Station 9c. June 7, 1915. Pelage. Ice 6 feet, over 9 feet of water.

(b) The second sketch is of an apparently older larva about 2 mm. long. It is similar in general appearance to the preceding. Nineteen setigerous segments are represented. Both anterior and preanal ciliary bands represented as still present. Prostomium and palpi similar to those of (a). Only four eyes, two of each outer group of the preceding form being absent. The sketch also represents the eyes as further caudad than in the other form, being shown, in fact, as just behind the ciliary band instead of in front of it.

CIRRATULIDAE.

Cirratulus cirratus (O. F. Müller).

—. Cirratulus flavescens Johnston, ibid., p. 219.

The one small specimen of Cirratulus in the collection is apparently this species. It is a small specimen measuring not more than 15 mm. in length. It lacks all branchiae at present; but the scars show a group of seven special branchiae on each side of the first setigerous segment to have been present. The eye bands are conspicuous and of the typical form. The specimen at present is dark brown.

This is a widely distributed species known from Scandinavia, Finnmark, Greenland, Labrador, Siberia, and Bering Sea, and from southward in the Atlantic to the coasts of the United States and Great Britain.


OPHELIIDAE.

Travisia forbesii Johnston.

1843. Ophelia marina Oersted, Annul. Dorsibr., p. 53, pl. 8, f. 103, 112, 114, 119 120.

A form ranging from Great Britain northward to Scandinavia, Spitzbergen, Iceland, and to Greenland, and from there southward to New England.


ARENICOLIDAE.

Arenicola marina (Linné).

1775. Lumbricus littoralis Olausen and Porsen, Reise durch Island, 2 p. 478, pl. 5, f. 8.
1780. Lumbricus papillatus Fabricius, Firma Grenland., p. 279.
1816. Arenicola tintoria Lach., Encycl. Brit., Suppl. to ed. 4-6, 1, p. 452.


This, the common lugworm, is primarily a north Atlantic and Arctic form occurring at Spitzbergen, Kara sea, about Iceland and Greenland, and southward on the North American coast to New England and on the European to Great Britain and Portugal. It also occurs rather rarely in the Mediterranean. A specimen collected by Middendorf in eastern Siberia and identified by Grube (1851) as A. pisatorum, is with little doubt the present species, which seems thus to have a circumpolar distribution. It is supplanting in the north Pacific by A. pasilla Quatrefages. It is somewhat doubtfully recorded from Chile, the Marquesas, etc., in the southern Pacific.

Locality.—Northwest Territories: Bernard harbour. Station 136; June 17, 1916.

A single specimen of the species was taken from the stomach of an 8-75 inches long sculpin, Cottus sp., caught in about 2 fathoms of water.

FLABELLIGERIDAE.

Flabelligera affinis (SARS).

1829. Flabelligera affinis SARS, Bidrag til Skøvde, Nat., 1, p. 31, pl. 3, f. 16.


1842. Siphonostomum rugiferum H. Rathke, Nova Acta Acad. Leop.-Carol., 20, p. 211, pl. 11, f. 3-10.


Many large specimens of this species were secured. It is a form common on the shores of Greenand and is known to occur as well at Iceland, Spitzbergen, Scandinaavia, Finnmark, and Bering sea, and southward along the coasts of North America to the northern shores of the United States and along the European shore to Ireland.


Northwest Territories: Bernard harbour, Station 126; September 3, 1915. Several specimens taken from the stomach of a large female beard ed sea, Erinathus barbatus (Exelleicht).

Northwest Territories: Dolphin and Union strait : Cockburn point. Station. October 3, 1914. Many specimens were taken at this station from the stomach of a male Erinathus barbatus (Exeddarben), 80 inches long.

Northwest Territories: Bernard harbour, outer part. Station 141; August 1, 1915. Depth, about 5 meters. Bottom, sandy mud with stones and brown algae. One small specimen (11 mm. long). A colored sketch of this specimen made in the field by Mr. Johansen shows that in life the colors were essentially typical, the green branchiae, etc., being prominent.
Brada villosa (Rathke).


**Locality.**: Northwest Territories: Bernard harbour, outer part. Station 41. July 20, 1915. Two specimens from a depth of 3-5 fathoms on bottom of sandy mud with alga.

**MALDANIDAE.**

Paraxiothea catenata (Malmgren).


This is essentially a purely arctic species, the more southern records, as those about Scotland, being apparently due to misidentification. It has a circumpolar distribution, having been previously recorded from White sea, Spitzbergen, Greenland, Siberia, and Bering strait. In the material of the present collection is a fragment consisting of 18 or ten segments. It is 57 mm. long, with a maximum diameter of 4.5 mm.

**Locality.**—Ungava: Port Burwell. *Neptune* Expedition, 1903.

**TEREBELLIDAE.**

Amphitrite cirrata Müller.


One specimen of this species is in the collection. A species widespread in boreal and arctic regions of the Atlantic ocean and its branches and ranging to the Mediterranean. It is common about fecland and along the shores of Greenland frorn where it extends southward along the North American coast. Wirch doubtfully refers a specimen from the Bering strait to this species.


Nicolea venustula (Montagu).


Polychaeta

Well known from the Arctic and North Atlantic, and occurring as far south as the Mediterranean sea. On the American side it has been previously recorded from Greenland and Davis strait, Labrador, New England, and Bering sea.

_Thelepus cincinnatus_ (Fabricius).


— _Phenacia terebellides_ Quatrefages, op. cit., p. 375.
— _Phenacia pulchella_ Parfitt.
— _Phenacia reingada_ Claparede, ibid., p. 403, pl. 18, f. 7.

Locality.—Hudson strait Ungava: King George’s sound. September 9.
1897. _Diana_ Expedition. Low and Wakeham. One specimen in poor condition, with tube.

A species of exceedingly wide distribution, occurring in the Antarctic as well as the Arctic region, where it is abundant, and also found in both the Atlantic and Pacific oceans, probably more or less continuously between the two polar regions.

_Terebellides stroemi_ Sars.

1835. _Terebellides Stroemi_ Sars, Beskriv. og Iakttag., p. 48, pl. 13, f. 31a d.


Two specimens which seem fully to conform to this species. It is a widespread and commonly abundant species in Arctic and northern waters, and extends southward in the Atlantic to the Mediterranean on the eastern and to southern New England on the western coast and in the Pacific to Japan.

**AMPHARETIDAE.**

_Samytha seccirrata_ (Sars).


One specimen of typical structure. Scars show the normal three pairs of branchiae to have been present in two separated groups; but only one branchia remains in place on the specimen at present.

This is a primarily Arctic species of probably circumpolar distribution. It was previously known from the waters of Sweden, Spitzbergen, Greenland, Davis strait, Labrador, and New England.

**Ampharete johanseni**, n. sp.


This species seems generally to be readily recognizable from the characteristics of the branchiae. The branchiae of the two groups are only very narrowly separated at the middle line and the two mesal ones are connected at base by a rather high membrane. The first, second, and fourth branchiae on each side counting from the most cefal, are in a transverse line and are of the same general size; but the third is crowded often a little caudal of the others and is characteristically much smaller in size, though varying considerably in the amount of its reduction.

The palate number typically from nine to twelve on each side. Slightly attenuated to a fine tip, but the latter not at all abruptly set off. (See Pl. V, fig. 1.)

There are thirteen setigerous thoracic somites. The setae narrowly limbate and finely tipped as usual. The uncini have only four teeth in each series, the plate as a whole subquadrate, with the abdental edge evenly curved, not shouldered or angular. (See pl. V, fig. 2.)

First abdominal mecinagerous tori large, with edges rounded, the others progressively reduced in going caudad. No cirri were detected on any of them.

The type is 16 mm. long. A second specimen, which is incomplete caudally, is considerably broader.


The tubes are composed of grains of sand adhering to a tough lining membrane.

**Ampharete reducta**, n. sp.


A species somewhat suggesting *A. arctica* in the form of the palate, but the tips are much more elongate and less abruptly set off, not sharply mucronate. (See Pl. V, fig. 3.) Also the palae are only half or less as numerous as in *arctica*, the number in each group being five or six. The palae are obviously coarser than in *johanseni*.

The branchiae have the ordinary general arrangement, but with the cefal one of each group caudad of the general line, in the type being almost caudad of the adjacent one.

The usual fourteen pairs of fasciae of capillary thoracic setae. These setae limbate and finely tipped, as shown in Pl. V, fig. 5.

The uncini are of the same general type as in *johanseni*; but they are smaller and there are five teeth in each series in place of four and the end away from which the teeth are directed is less rounded, being slightly indented as in *arctica* but without so distinct an angle or shoulder as in the latter. (See pl. V, fig. 4.)

Length, 20 mm.


Found with specimens of *johanseni*. The tubes of the two species are alike in structure and appearance.
Ampharete eupalea, n. sp.

Type specimen. — Cat. No. 31, Victoria Memorial Museum, Ottawa. One specimen.

The branchial are large and equal. They form a continuous straight line across the dorsum, the two mesal ones in contact, leaving no indication of an hiatus between the two groups.

The palae on each side are arranged in a strongly curved series forming about two-thirds of the circumference of a circle. In the type they number twenty-two or twenty-three in each series. The palae on the mesal end of the series on the dorsal side of the curve are much reduced in size. Each palae is acutely pointed distally, the tip not truly mucronate, though with a slight tendency toward that condition. The tip is curved gently toward the centre of the circle limited by the series. (See Pl. V, fig. 6.)

The thoracic notopodial setae narrowly limbate and finely tipped as usual. The uexini of the type are obviously larger than any of the two preceding species. There are five teeth in each series, plate slightly indented at the end, the corners rounded. (See Pl. V, fig. 7.)

The type is incomplete, embracing only the anterior region of the thorax ten setigerous somites being present. The diameter is 3 mm.


AMPHICTENIDAE.

Cistenides granulata (Linneé).


A species of circumpolar distribution.


Northwest Territories: Dolphin and Union Strait, west of Cockburn point. Station 43c. September 11, 1915. Depth, 20 30 meters. Bottom, gray mud with stones, Laminaria, Lithothamnium, etc. Many of the characteristic tubes, all empty.

Hudson bay: Cape Fullerton, "shore of island." Neptun Expedition, September 25 29, 1903. Several tubes with animals in situ and preserved dry.


Alaska: Grantley harbour. Station 20b, c. July 30, 1913. Bottom, sandy mud with algae. A number of tubes with little doubt pertaining to this species. They are darker and rather more opaque than usual.

CAPITELLIDAE.

Capitella capitata (Fabricius).

1780. Lumbricus capitata Fabricius, Fauna Groenlandica, p. 279.
1863. **Valva ciliata** JOHNSTON, Cat. Worms, Brit. Mus., p. 68.
**Capitella intermedia** CZERNIAWSKY, ibid., p. 312.
**Capitella similis** CZERNIAWSKY, ibid., p. 16.

An extremely widespread species. Aside from occurring in the Arctic and northern waters, as about Greenland, Iceland, Spitzbergen, and Scandinavia, it extends southward in the Atlantic along both the North American and European coasts, and is found as well in the Mediterranean sea, Black sea, and other European waters. Madeira, straits of Magellan, Kerguelen, and the Antarctic region generally.

**Localities** Northwest Territories: Bernard harbour, Station 41, July 29, 1913. One specimen taken at a depth of 3-5 fathoms on a bottom of sandy mud among algae.

Northwest Territories: Bernard harbour: inner harbour, Station 37c, September 1, 1914. Several broken specimens taken at 2 fathoms on a sandy bottom among algae.

**SABELLIDAE.**

**Chone ungavana**, n. sp.

Type specimen. — Cat. No. 53, Victoria Memorial Museum, Ottawa. One specimen.

Total length, inclusive of branchiae, about 42 mm. Length of branchiae, 10 mm. Diameter, 1.6 mm.

Branchiae, nine pairs. Their bases not concealed by the collar. All broad, united by a membrane to within about one mm. of the tips. The free tips broad, foliaceous, acuminate, with barbs absent from a terminal region of a little more than one-half mm. length.

Collar simple, on each side folded into the dorsal sinus, with small mesal fold subacute. Ventrally the collar not at all incised at the median line, but on the contrary, there slightly produced in a very obtuse angle.

Eight setigerous and one non-setigerous somite in the thorax and about forty-eight somites in the abdomen. The body is in general cylindrical, but is pointed at the caudal end. The thoracic and the anterior and median somites of the abdomen are bimamulate. The feet with three toes are deeper and more distinct in the caudal region of the abdomen in the usual way.

The thoracic notopodial setae are delicate and colorless and are of two general types. The superior ones are acute tapering capillary setae which are narrowly limbate and finely tiped. The inferior setae are much shorter and are of a subspatulate form, with one edge much straighter than the other; they are finely macerate, the mucon long, asymmetrical situated at the angle adjacent to the straighter side. (See Pl. VI, fig. 1). The thoracic neuropodials are crochets with long manubria distally curving back, thus elevating the head of the tube. Head with beak large and nearly at right angles to adjacent part of the praeceeding axis, the crest pectinate in the usual way. (See Pl. 6, fig. 2). The tori of the abdomen are semielliptical with beaks long and less divergent than in most other species, the sinuses enclosed between the beak and body of uncini narrowest at its opening than at bottom. (See Pl. VI, fig. 3, 1).

**Locality.** Ungava: Hudson strait: King George's sound, September, 1897. Depth, 40 fathoms. **Diana** Expedition. Low and Wakeham. One specimen.
This species suggests C. dumeri Malme in the form of the abdominal uncini; but the beak is proportionately longer and less divergent and the body of the uncini much narrower below, more uniform. The spatulate thoracic setae are somewhat similarly asymmetrical but the naroch is much more divergent from the axis as shown in the figure. The species seems conspicuously different from dumeri in the characters of the branchiae, which are united much farther distal, with the free apical region proportionately much broader, widely winged, and the tip free from bars much shorter. In this respect the form approaches the Alaskan C. gracilis Mood., though the free tips of the branchiae in the latter are also longer. In gracilis the collar is notched ventrally, whereas in the present species it is more weakly angular. The spatulate seta of gracilis are symmetrical, or nearly so, instead of strongly asymmetrical. The beak of the crochets is more elevated, making a greater angle with the axis. And the abdominal uncini are different, the beak being more divergent and the body proportionately wider and more strongly curved. Moore (1898) has recorded as Chase sn, a caudal fragment from Egg harbour, Labrador, which is quite possibly the present species. At least it would seem to have uncini very similar to those of ungurana.

**Euchone analis** (Kröyer).


A common arctic form of circumpolar distribution, being known from Bering sea, Davis strait, Greenland, Spitzbergen, etc.

**Serpulidae.**

**Serpula vermicularis** Linné.

1841. *Serpula contortuplicata* SAVIGNY (see Linne), Syst. Annel., p. 73.
— *Serpula zeloudica* BAIK, ibid., p. 21.


British Columbia: Port Simpson. Beach. Winter, 1911-15. C. M. Barbeau, collector. Parts of two tubes probably this species. On them are
the tubes of \textit{Circeis spirillum}. The tubes of both the \textit{Serpula} and the \textit{Circeis} are in part tinged with green.

A species of circumbarcal distribution extending as well in both the Atlantic and Pacific oceans to corresponding southern latitudes, as straits of Magellan, New Zealand, Australia, etc. It is common on the Pacific coast of North America from Alaska to California.

\textbf{Spiroblois spirorbis} (Linne).


**Localities.** Northwest Territories: Bernard harbour, outer part. Station 1 if. August 1, 1915. Depth about 5 meters. Bottom, muddy with stones and algae. One of the tubes is largely dereloped, the others of the flat, sinistral spiral form.


Northwest Territories: Dolphin and Union strait: off Cockburn point. Station 43a. Bottom, gray mud with pebbles; no algae. 100 meters.


\textbf{Circeis spirillum} (Linne).


A common and widespread species in Arctic and temperate regions both in the Atlantic and Pacific. It occurs frequently on kelp (\textit{Laminaria}, etc.), hydroids, etc. The specimens from Station 43c on \textit{Laminaria} have the shell in the typical flat dextral spiral form. Those from station 41c are some of the same form and a few in part derolled or of the ascending form (\textit{lucidus-type}).
PLATE I.

Fig. 1. *Arctopus lat.* n. sp. Anterior end, dorsal view.

* 2. *Arctopus lat.* n. sp. Second parapodium.

* 3. *Arctopus lat.* n. sp. First left elytron.

* 4. *Arctopus lat.* n. sp. Sixth right elytron (eleventh segment).
PLATE II.

Fig. 1. Arctone bu, n. sp. Notopodial seta, first parapodium.


3. Arctone bu, n. sp. Coarser neurapodial, parapodium from middle region of body, middle of series.


6. Nephys kolesweta, n. sp. Notocirrus and branchial appendage of the thirty-third parapodium. x
PLATE III.

Fig. 1. *Pra m anus*, n. sp. Anterior end, dorsal view

Fig. 2. *Pra m anus*, n. sp. Caudal end, dorsal view

Fig. 3. *Pra m anus*, n. sp. Thirteenth parapodium, caudal view

Fig. 4. *Pra m anus*, n. sp. Crochet from twenty-seventh setigerous segment

Fig. 5. *Sedcolepides arctius*, n. sp. Anterior end, dorsal view

Fig. 6. *Sedcolepides arctius*, n. sp. Twenty-third parapodium, anterior view

Fig. 7. *Sedcolepides arctius*, n. sp. Twenty-fourth parapodium from caudal end, anterior view
PLATE IV.

Fig. 1. *Scolopendipes arctic*, n. sp. Crochet from twenty-third parapodium from caudal end.

2. *Anaspis borus*, n. sp. Anterior end, dorsal view.

3. *Anaspis borus*, n. sp. Tenth right parapodium, anterior view.


5. Spionid larva A. dorsal view.

PLATE V.

Fig. 1. Amphiparce johnsonii, n. sp. Palea.

* 2. Amphiparce johnsonii, n. sp. Uncinus.

* 3. Amphiparce redacta, n. sp. Distal portion of palea.

* 4. Amphiparce redacta, n. sp. Uncinus.

* 5. Amphiparce cupulata, n. sp. Notopodial seta, thirteenth setigerous segment.

* 6. Amphiparce cupulata, n. sp. Three palea from dorsal part of series.

* 7. Amphiparce cupulata, n. sp. Uncinus.
Polyehneta
PLATE VI.

Fig. 1. *Chone ungarana*, n. sp. Inferior spatulate thoracic seta from somite V.

" 2. *Chone ungarana*, n. sp. Thoracic uncini or crochets.

" 3. *Chone ungarana*, n. sp. Abdominal uncini.

" 4. *Chone ungarana*, n. sp. A second uncinum from same torus nearer end of series.
Report of the Canadian Arctic Expedition, 1913-18.

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