

**CIHM
Microfiche
Series
(Monographs)**

**ICMH
Collection de
microfiches
(monographies)**



Canadian Institute for Historical Microreproductions / Institut canadien de microreproductions historiques

© 1997

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming are checked below.

- Coloured covers / Couverture de couleur
- Covers damaged / Couverture endommagée
- Covers restored and/or laminated / Couverture restaurée et/ou pelliculée
- Cover title missing / Le titre de couverture manque
- Coloured maps / Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black) / Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations / Planches et/ou illustrations en couleur
- Bound with other material / Relié avec d'autres documents
- Only edition available / Seule édition disponible
- Tight binding may cause shadows or distortion along interior margin / La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure.
- Blank leaves added during restorations may appear within the text. Whenever possible, these have been omitted from filming / Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.
- Additional comments / Commentaires supplémentaires:

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- Coloured pages / Pages de couleur
- Pages damaged / Pages endommagées
- Pages restored and/or laminated / Pages restaurées et/ou pelliculées
- Pages discoloured, stained or foxed / Pages décolorées, tachetées ou piquées
- Pages detached / Pages détachées
- Showthrough / Transparence
- Quality of print varies / Qualité inégale de l'impression
- Includes supplementary material / Comprend du matériel supplémentaire
- Pages wholly or partially obscured by errata slips, tissues, etc., have been refilmed to ensure the best possible image / Les pages totalement ou partiellement obscurcies par un feuillet d'errata, une pelure, etc., ont été filmées à nouveau de façon à obtenir la meilleure image possible.
- Opposing pages with varying colouration or discolorations are filmed twice to ensure the best possible image / Les pages s'opposant ayant des colorations variables ou des décolorations sont filmées deux fois afin d'obtenir la meilleure image possible.

This item is filmed at the reduction ratio checked below /
Ce document est filmé au taux de réduction indiqué ci-dessous.

10x																			
														✓					
	12x		16x		20x		24x		28x		32x								

The copy filmed here has been reproduced thanks to the generosity of:

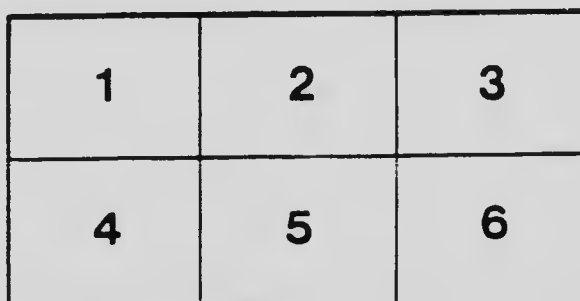
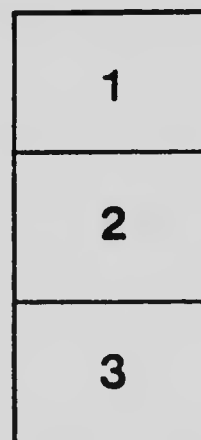
Stauffer Library
Queen's University

The images appearing here are the best quality possible considering the condition and legibility of the original copy and in keeping with the filming contract specifications.

Original copies in printed paper covers are filmed beginning with the front cover and ending on the last page with a printed or illustrated impression, or the back cover when appropriate. All other original copies are filmed beginning on the first page with a printed or illustrated impression, and ending on the last page with a printed or illustrated impression.

The last recorded frame on each microfiche shall contain the symbol \rightarrow (meaning "CONTINUED"), or the symbol ∇ (meaning "END"), whichever applies.

Maps, plates, charts, etc., may be filmed at different reduction ratios. Those too large to be entirely included in one exposure are filmed beginning in the upper left hand corner, left to right and top to bottom, as many frames as required. The following diagrams illustrate the method:



L'exemplaire filmé fut reproduit grâce à la générosité de:

Stauffer Library
Queen's University

Les images suivantes ont été reproduites avec le plus grand soin, compte tenu de la condition et de la netteté de l'exemplaire filmé, et en conformité avec les conditions du contrat de filmage.

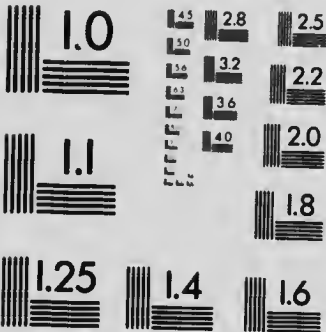
Les exemplaires originaux dont la couverture en papier est imprimée sont filmés en commençant par le premier plat et en terminant soit par la dernière page qui comporte une empreinte d'impression ou d'illustration, soit par le second plat, selon le cas. Tous les autres exemplaires originaux sont filmés en commençant par la première page qui comporte une empreinte d'impression ou d'illustration et en terminant par la dernière page qui comporte une telle empreinte.

Un des symboles suivants apparaîtra sur la dernière image de chaque microfiche, selon le cas: le symbole \rightarrow signifie "A SUIVRE", le symbole ∇ signifie "FIN".

Les cartes, planches, tableaux, etc., peuvent être filmés à des taux de réduction différents. Lorsque le document est trop grand pour être reproduit en un seul cliché, il est filmé à partir de l'angle supérieur gauche, de gauche à droite, et de haut en bas, en prenant le nombre d'images nécessaire. Les diagrammes suivants illustrent la méthode.

MICROCOPY RESOLUTION TEST CHART

(ANSI and ISO TEST CHART No. 2)



APPLIED IMAGE Inc

1653 East Main Street
Rochester, New York 14609 USA
(716) 432-0300 - Phone
(716) 286-5989 - Fax

REPORT
OF THE
CANADIAN ARCTIC EXPEDITION
1913-18

VOLUME VIII: MOLLUSKS, ECHINODERMS,
COELENTERATES, ETC.

PART C: ECHINODERMS

By AUSTIN H. CLARK



G
670
1913
C2t
v. 008
pt. C
c. 3

OTTAWA
J. de LABROUQUERIE TACHÉ
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1920

Issued April 6, 1920

Report of the Canadian Arctic Expedition, 1913-18.

VOLUME VIII: MOLLUSKS, ECHINODERMS, COELENTERATES, ETC.

- Part A: MOLLUSKS, RECENT AND PLEISTOCENE. By Wm. H. Dall. (*Issued*).
Part B: CEPHALOPODA AND PTEROPODA. By S. S. Berry and W. F. Clapp (*In preparation*).
Part C: ECHINODERMS. By Austin H. Clark (*In press*).
Part D: BRYOZOA. By R. C. Osburn (*In preparation*).
Part E: ROTATORIA. By H. K. Harring (*In preparation*).
Part F: CHAETOGNATHIA. By A. G. Huntsman (*In preparation*).
Part H: MEDUSAE AND CTENOPHORA. By H. B. Bigelow (*In press*).
Part I: HYDROIDS. By McLean Fraser (*In preparation*).
(PORIFERA, ACTINOZOA, and ALCYONARIA: material small in amount, and no
specialists selected).

REPORT
OF THE
CANADIAN ARCTIC EXPEDITION
1913-18

VOLUME VIII: MOLLUSKS, ECHINODERMS,
COELENTERATES, ETC.

PART C: ECHINODERMS

By AUSTIN H. CLARK



OTTAWA
J. de LABROQUERIE TACHÉ
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1921

1010 12

Station 20g. Port Clarence, Alaska; 2-3 fathoms; sandy grey mud, with algae (thread algae, *Laminaria*, etc.); August 1, 1913.

Three specimens, ranging in size from 65 mm. in horizontal diameter and 31 mm. in height to 7 mm. in horizontal diameter and 3 mm. in height. The test and tube feet are dull purplish, the spines dull olive, beneath becoming tinged with dull purplish in the distal half. Mr. Johansen notes that of the specimens collected at this station only the extremes in size were kept.

Station 20m. Beach at Port Clarence, Alaska; August, 1913.

One specimen, measuring 20 mm. by 10 mm.

Station 37p. Beach at Bernard harbour, Northwest Territories; October, 1911.

One specimen, measuring 17 mm. by 21 mm.

Station 41. Outer harbour, Bernard harbour, Northwest Territories; 10 metres; sandy mud with *Laminaria* and *Delesseria*; bottom temperature 32° .5 Fahrenheit; July 20, 1915.

One specimen, measuring 37 mm. by 18 mm.

Station 43c. West of Cockburn point, Dolphin and Union strait, Northwest Territories; 20-30 metres; grey mud with many stones and algae (*Laminaria*, *Delesseria*, and *Lithothamnion*); September 14, 1915.

Ninety-four specimens, of which the largest is 53 mm. by 28 mm. These are very dark in colour, deep dull purple, lighter and brighter beneath, the spines above usually dark olive, sometimes deep dull purple, below dark purple distally, becoming gradually olive in the proximal half or two-thirds, and often with a broad subterminal dusky band.

Station 44c. Beach at cape Barrow, Coronation gulf, Northwest Territories; August 3, 1915. J. J. O'Neill collector.

Five specimens, the largest measuring 19 mm. by 23 mm.

Station 44e. Kammyuk island, Bathurst inlet, Coronation gulf, Northwest Territories; 1 fathom; September 2, 1915. R. M. Anderson, collector.

One specimen, measuring 16 mm. in horizontal diameter. The colour is purple, with green spines.

Class HOLOTHUROIDEA.

Order PARACTINOPODA.

Family SYNAPTIDÆ.

Subfamily MYRIOTROCHINÆ.

Myriotrochus rinkii Steenstrup

Station 37c. Inner harbour at Bernard harbour, Northwest Territories; about 2 fathoms; sandy mud with algae; September 1, 1911.

One specimen.

Station 41. Outer harbour at Bernard harbour, Northwest Territories; about 5 fathoms; sandy mud and *Laminaria*; July 20, 1915.

Six specimens.

Station 41c. Outer harbour at Bernard harbour, Northwest Territories; 3-8 fathoms; grey mud with *Laminaria* and *Delesseria*; July 28, 1915.

Thirty-nine specimens.

Station 43a. Off Cockburn point, Dolphin and Union strait; about 50 fathoms; sandy mud with pebbles, and no algae; September 13, 1915.

Three specimens.

Mr. Johansen writes that from the results of the investigations at Stations 37c, 41, 41c, and 43a it appears that *Myriotrochus rinkii*, the only holothurian

collected, is a very characteristic and common invertebrate in about 5 fathoms of water on a bottom of sandy mud in the vicinity of Bernard harbour, Dolphin and Union strait. There is here a rich algal flora consisting of *Laminaria* and other Fucoideæ, *Delesseria* and other Florideæ, green-thread algae, etc., constituting a *Laminaria* zone, and the dominating dark-brown colour of the algae influences the colour of the holothurians, some of which are dorsally, or even entirely, dark brown instead of the normal and typical transparent flesh-colour.

Many of the specimens collected contained well-developed embryos.

ECHINODERMA ASTORADIATA.

Class OPHIUROIDEA.

Order CMLOPHIURIDA.

Family OPHIOLEPIDIDÆ.

Stegophiura nodosa (Lütken)

Station 20g. Port Clarence, Alaska; 2-3 fathoms; sandy grey mud with algae (thread algae, *Laminaria*, etc.); August 4, 1913.

Twelve specimens, of which the largest has the disc 10 mm. in diameter and the arms 25 mm. long, and the smallest has the disc 3 mm. in diameter and the arms 5.5 mm. long.

Mr. Johansen records that in life these were red dorsally.

Station 23. Northeast of Icy cape, Alaska (70° 24' N., 161° 25' W.); 9-10 fathoms; mud and pebbles; August 19, 1913.

Four specimens, of which the largest is 10 mm. across the disc, with arms 16 mm. long.

Station 41c. Outer harbour at Bernard harbour, Northwest Territories; 3-8 fathoms; grey mud with *Laminaria* and *Delesseria*; July 28, 1915.

Ten specimens; the largest has the disc 9 mm. in diameter and the arms 19 mm. long, and the smallest has the disc 1.7 mm. in diameter and the arms 2.6 mm. long.

Mr. Johansen states that in life these were rose colour, darkest dorsally, with the dorsal surface of the disc purplish.

Ophiozea robusta (Ayres)

Station 43c. West of Cockburn point, Dolphin and Union strait, Northwest Territories; 20-30 metres; grey mud, with many stones and algae (*Laminaria*, *Delesseria*, and *Lithothamnion*); September 14, 1915.

Ten specimens, of which the largest has the disc 11 mm. in diameter; another has the disc 10 mm. in diameter and the arms 41 mm. long.

These vary much in colour, some being as dark, with as strongly contrasting white markings, as any from Kamehatka (*maculata* of Ludwig), while others are an almost uniform brownish grey.

Mr. Johansen writes that in life these showed a faint to strong contrast of black and grey spots and bands, and that the colours are well preserved in alcohol.

Ophiocten sericeum (Forbes)

Station 43a. Off Cockburn point, Dolphin and Union strait; about 50 fathoms; sandy mud with pebbles, and no algae; September 13, 1915.

Sixteen hundred and three specimens, all of which are small, not exceeding 9.5 mm. in diameter of disc.

Station 43b. Off Stapylton bay, Dolphin and Union strait; 25-30 fathoms; sandy grey mud with a few pebbles, and no algae; September 14, 1915.

One hundred and twelve specimens, of which the largest has the disc 15 mm. in diameter. Mr. Johansen writes that the colour in life varied from yellow brown to rose and dark grey-violet, the radial shields standing out from the surrounding portions of the disc through their more strongly red colouration.

Station 43c. West of Cockburn point, Dolphin and Union strait, Northwest Territories; 20-30 metres; grey mud, with many stones and algae (*Laminaria*, *Delesseria* and *Lithothamnion*); September 14, 1915.

Four specimens of which the largest has the disc 12 mm. in diameter and the arms 38 mm. long.

Order GNATHOPHURIDA.

Family AMPHURIDÆ.

Amphiodia craterodmeta H. L. Clark.

Station 20g. Port Clarence, Alaska; 2-3 fathoms; sandy grey mud, with algæ (threal algæ, *Laminaria*, etc.); August 4, 1913.

Five specimens, of which the largest has the disc 5 mm. in diameter and the arms 19 mm. long, and the smallest has the disc 2 mm. in diameter.

Class ASTEROIDEA.

Order PHANERIZONIA.

Family PORCELLANASTERIDÆ.

Subfamily CTENODISCINÆ.

Ctenodiscus crispatus (Retzius)

Station 43a. Off Cockburn point, Dolphin and Union strait; about 50 fathoms; sandy mud with pebbles, and no algae; September 13, 1915.

One specimen; R=35 mm., r=15 mm.; the rays are slightly narrower than usual. In life, according to Mr. Johansen, the colour was a uniform greyish yellow brown.

Order SPINULOSA.

Family SOLASTERIDÆ.

Crossaster papposus (Linué)

Station 43c. West of Cockburn point, Dolphin and Union strait, Northwest Territories; 20-30 metres; grey mud with many stones and algae (*Laminaria*, *Delesseria*, and *Lithothamnion*); September 14, 1915.

One specimen; R=60 mm., r=28 mm. Mr. Johansen notes that in life the colour was dorsally bright red.

Order FORCIPULATA.

Family ASTERIIDÆ.

Subfamily ASTERIINÆ.

Urasterias linkii (Müller and Troschel)

Station 43b. Off Stapylton bay, Dolphin and Union strait; 25-30 fathoms; sandy grey mud, with a few pebbles, and no algae; September 14, 1915.

Twelve specimens, of which the largest measures $R=72$ mm., $r=8$ mm., and the smallest $R=6$ mm., $r=1.5$ mm. The colour in life, as recorded by Mr. Johansen, was dorsally white or pale transparent rose with the violet pyloric coeca showing through laterally, the spines and clusters of pedicellariæ and the ventral surface white.

Asterias polythela Verrill.

Station 20g. Port Clarence, Alaska; 2-3 fathoms; sandy grey mud, with algae (thread alga, *Laminaria*, etc.); August 4, 1913.

Three specimens, of which the largest measures $R=90$ mm., $r=16$ mm.

Asterias acervata borealis Perrier.

Station 22. North of the mouth of the Kukpowruk river, Alaska ($69^{\circ} 35'$ N., $163^{\circ} 27'$ W.); 11-12 fathoms; rock and sand, with algae; August 17, 1913.

One specimen; $R=100$ mm., $r=23$ mm.

Asterias anomala (Verrill)

Station 20g. Port Clarence, Alaska; 2-3 fathoms; sandy grey mud, with algae (thread alga, *Laminaria*, etc.); August 4, 1913.

One specimen, measuring $R=46$ mm., $r=12$ mm.

The genus *Allasterias*, in which this species was originally described, is not tenable. The character relied upon to separate it from *Asterias*, restricted, is one of the most striking features of *Asterias rubens* and all of its close relatives.

Asterias nortonensis (Verrill)

Station 20 b and c. Grantley harbour, Alaska; 2-3 fathoms; sandy mud with algae; July 30, 1913.

Twenty-seven specimens, all of approximately the same size. The largest measures $R=94$ mm., $r=23$ mm.

Ctenasterias cribraria (Stimpson)

Station 37b. Inner harbour at Bernard harbour, Northwest Territories; 2-3 fathoms; sandy mud, with many algae (*Laminaria*, etc.); August 25, 1914.

Five specimens, of which the largest measures $R=34$ mm., $r=8$ mm.

Station 41. Outer harbour at Bernard harbour, Northwest Territories; about 5 fathoms; sandy mud and *Laminaria*; July 20, 1915.

Fourteen specimens, the largest measuring $R=15$ mm., $r=3.5$ mm.

Station 43c. West of Cockburn point, Dolphin and Union strait, Northwest Territories; 20-30 metres; grey mud with many stones and algae (*Laminaria*, *Delesseria* and *Lithothamnion*); September 1, 1915.

One specimen; $R=13$ mm., $r=2.5$ mm.

Stenasterias macropora Verrill

Station 20*g*. Port Clarence, Alaska; 2-3 fathoms; sandy grey mud, with algae (thread algae, *Laminaria*, etc.); August 4, 1913.

One specimen, measuring R=62 mm., r=10 mm.

Leptasterias arctica (Murdoch)

Station 22. North of the mouth of the Kukpowruk river, Alaska (69° 35' N., 163° 27' W.); 11-12 fathoms; rock and sand, with algae; August 17, 1913.

Two specimens, of which the larger measures R=15 mm., r=3.5 mm.

Station 43*c*. West of Cockburn point, Dolphin and Union strait, Northwest Territories; 20-30 metres; grey mud with many stones and algae (*Laminaria*, *Delesseria* and *Lithothamnion*); September 11, 1915.

Two specimens; one measures R=12 mm., r=3 mm., the other R=11 mm., r=3 mm.

Leptasterias epichlora (Brandt)

Station 20*g*. Port Clarence, Alaska; 2-3 fathoms; sandy grey mud, with algae (thread algae, *Laminaria*, etc.); August 4, 1913.

Twenty-four specimens, all with five rays; the largest measures R=19 mm., r=5 mm.

Leptasterias? dispar Verrill

Station 43*c*. West of Cockburn point, Dolphin and Union strait, Northwest Territories; 20-30 metres; grey mud with many stones and algae (*Laminaria*, *Delesseria* and *Lithothamnion*); September 11, 1915.

One specimen; R=20 mm., r=5 mm.

?Leptasterias, sp.

Station 23. Northeast of Icy cape, Alaska (70° 24' N., 161° 25' W.); 9-10 fathoms; mud and pebbles; August 19, 1913.

One specimen.

THE ASSOCIATION OF SPECIES.

Station 16*c*. Off Kuskokwim bay, Alaska (59° 24' N., 165° 14' W.); 12½-13 fathoms; black sand; July 5, 1913.

Echinocochinus parma (dead only)

Station 20*b* and *c*. Grantley harbour, Alaska; 2-3 fathoms; sandy mud, with algae; July 30, 1913.

Strongylocentrotus droebachiensis

Asterias northonensis

Station 20*g*. Port Clarence, Alaska; 2-3 fathoms; sandy grey mud, with algae (thread algae, *Laminaria*, etc.); August 4, 1913.

Strongylocentrotus droebachiensis

Asterias polythala

Stegophiura nodosa

Asterias anomala

Amphiodia crateroducta

Stenasterias macropora

Leptasterias epichlora

Station 20m. Beach at Port Clarence, Alaska; August, 1913.

Strongylocentrotus dröbachiensis

Station 22. North of the mouth of the Kukpowruk river, Alaska (69° 35' N., 163° 27' W.); 11-12 fathoms; rock and sand, with algae; August 17, 1913.

Asterias accreta borealis

Leptasterias arctica

Station 23. Northeast of Icy cape, Alaska (70° 24' N., 161° 25' W.); 9-10 fathoms; mud and pebbles; August 19, 1913.

Stegophiura nodosa

(?) *Leptasterias*, sp.

Station 37b. Inner harbour at Bernard harbour, Northwest Territories; 2-3 fathoms; sandy mud, with many algae (*Laminaria*, etc.); August 25, 1914.

Ctenasterias cribraria

Station 37c. Inner harbour at Bernard harbour, Northwest Territories; about 2 fathoms; sandy mud, with algae; September 1, 1914.

Myriotrochus rinkii

Station 37p. Beach at Bernard harbour, Northwest Territories; October, 1914.

Strongylocentrotus dröbachiensis

Station 41. Outer harbour, Bernard harbour, Northwest Territories; 16 metres; sandy mud, with *Laminaria* and *Delesseria*; July 20, 1915.

Strongylocentrotus dröbachiensis

Myriotrochus rinkii

Ctenasterias cribraria

Station 41c. Outer harbour at Bernard harbour, Northwest Territories; 3-8 fathoms; grey mud, with *Laminaria* and *Delesseria*; July 28, 1915.

Myriotrochus rinkii

Stegophiura nodosa

Station 43a. Off Cockburn point, Dolphin and Union strait; about 50 fathoms; sandy mud, with pebbles, and no algae; September 13, 1915.

Myriotrochus rinkii

Ophiocten sericeum

Ctenodiscus crispatus

Station 43b. Off Stapylton bay, Dolphin and Union strait; 25-30 fathoms; sandy grey mud, with a few pebbles, and no algae. September 14, 1915.

Ophiocten sericeum

Urasterias linkii

Station 43c. West of Cockburn point, Dolphin and Union strait, Northwest Territories; 20-30 metres; grey mud, with many stones and algae (*Laminaria*, *Delissaria* and *Lithothamnion*); September 11, 1915.

Strongylocentrotus dröbachiensis

Crossaster papposus

Ophiocera robusta

Ctenasterias cribraria

Ophiocera sericeum

Leptasterias arctica

Leptasterias (?) dispar

Station 14c. Bench at cape Barrow, Coronation gulf, Northwest Territories; August 3, 1915. J. J. O'Neill collector.

Strongylocentrotus dröbachiensis

Station 14c. Kannynuk island, Bathurst inlet, Coronation gulf, Northwest Territories; 1 fathom; September 2, 1915. R. M. Anderson, collector.

Strongylocentrotus dröbachiensis

ADDENDA.

The following Echinoderms were collected by the Northern Party of the Canadian Arctic Expedition and received in Ottawa after the above report had been written:

Strongylocentrotus dröbachiensis (O. F. Müller).

Stations 63c, d. Walker bay, Prince of Wales strait, Victoria island. J. Hadley, October 2, 1916. 15 specimens. Identified by Austin H. Clark.

Psolus phantapus (Strussenfeldt) Jäger.

Station 63a. Walker bay, Prince of Wales strait, Victoria island. J. Hadley, July 30, 1917. 1 specimen. Identified by Hubert Lyman Clark.

Additional data for the Report on Echinoderms of the Canadian Arctic Expedition, based upon specimens from the "Neptune" and other Eastern Arctic Expeditions.

By A. H. CLARK.

ECHINOIDEA.

Strongylocentrotus dröbachiensis (O. F. Müller).

Port Leopold, North Somerset, Northwest Territories; *Neptune* Expedition, August 17, 1904. 3 specimens.

Richmond gulf, east side of Hudson bay (ca. 56° lat. N.); 15-30 fathoms. A. P. Low, June, 1899. 2 specimens.

Near mouth of Povungnituk river, east side of Hudson bay (ca. 60° lat. N.); 5-6 fathoms. A. P. Low, August, 1898. 2 specimens.

Northwest side of Hudson bay, Northwest Territories; beach. G. Comer, 1907-09. 2 medium-sized specimens.

Winter harbour, Melville island, Northwest Territories; beach. *Arctic Expedition*, July, 1900. 1 small specimen.

HOLOTHUROIDEA.

Lophothuria fabricii (Düben and Koren).

Port Burwell, Ungava; *Neptune Expedition*, July 28, 1904. 8 specimens.

Near mouth of Povungnituk river, east side of Hudson bay; 5-6 fathoms. A. P. Low, August, 1898. 1 specimen.

King George sound, Hudson strait, Ungava; 40 fathoms. *Diana Expedition*, Low and Wakeham, September 9, 1897. 1 specimen.

Cucumaria frondosa (Gunnerus).

North Somerset, Northwest Territories; *Neptune Expedition*, August, 1904. 10 specimens.

Near mouth of Povungnituk river, east side of Hudson bay; 5-6 fathoms. A. P. Low, August, 1898. 2 specimens.

Cucumaria calcigera (Stimpson) Selekua.

Richmond gulf, east side of Hudson bay; 15-30 fathoms. A. P. Low, June, 1899. 1 specimen. Identified by H. L. Clark.

ASTEROIDEA.

Crossaster papposus (Linnaeus).

Port Leopold, North Somerset, Northwest Territories; *Neptune Expedition*, August 17, 1904. 2 specimens.

Fort Churchill, Hudson bay, "after a gale thrown up on the beach; not seen before by natives." J. M. Macoun; September, 1910. 1 specimen.

Solaster endeca (Linnaeus).

Port Leopold, North Somerset, Northwest Territories; *Neptune Expedition*; August 17, 1904. 1 specimen.

Hudson strait, July or August, 1897. *Diana Expedition*. 1 specimen.

Urasterias linckii (Müller and Troschel).

Richmond gulf, east side of Hudson bay; 15-30 fathoms. A. P. Low, June, 1899. 1 specimen.

Asterias acervata borealis (Perrier).

Port Burwell, Ungava, Dr. Robert Bell. 1 specimen.

Asterias sp. (young).

Nottingham island, Hudson strait. J. McKenzie, 1886. 1 specimen.

Stephanasterias albula (Stimpson).

Neptune Expedition. 4 specimens.

Port Burwell, Ungava. *Neptune Expedition*, July 28, 1904. Dredged. 1 specimen.

OPHUROIDEA.

Stegophiura nodosa (Lütken).

Port Burwell, Ungava: *Neptun* Expedition; July 28, 1901. Dredged. 1 specimen.

Ophiozea robusta (Ayres).

Port Burwell, Ungava: *Neptun* Expedition, July 28, 1901. Dredged. 15 specimens.

Nottingham island, Hudson strait. J. McKenzie, 1886. 1 medium-sized specimen.

Ophiura sarsii (Lütken).

Port Burwell, Ungava: *Neptun* Expedition, July 28, 1901. Dredged. 21 specimens.

Near Fort Churchill, Hudson bay, 20 miles off river in 30 fathoms; bottom clay with gravel; *Diana* Expedition, September 2, 1897. Disc, 24 mm. in diameter. 1 specimen.

Port Burwell, Ungava: 15 fathoms. Dr. Robert Bell, August, 1884. 14 specimens.

Richmond gulf, east side of Hudson bay; 15-30 fathoms. A. P. Low, June, 1899. 1 specimen.

Ophiocten sericeum (Forbes).

Winter harbour, Melville island, Northwest Territories; *Arctic* Expedition; May, 1909. "Attached to ship's anchor, in 7 fathoms." 8 specimens.

Richmond gulf, east side of Hudson bay; 15-30 fathoms. A. P. Low, June, 1899. 8 specimens.

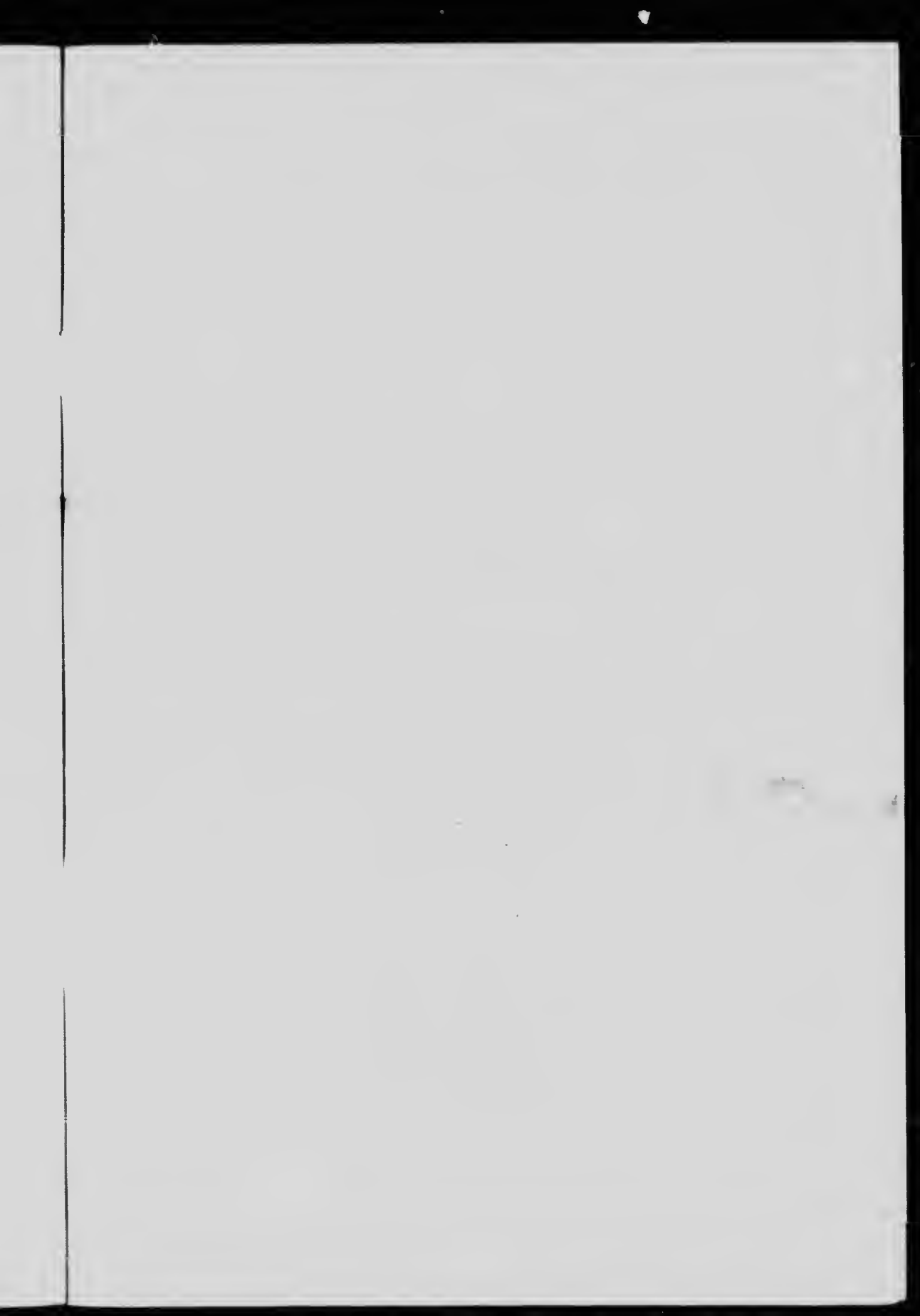
Ophiopholis aculeata (Linnaeus).

Southampton island, Hudson bay; south shore harbour; Captain George Comer, 1907-09. 3 specimens.

Richmond gulf, east side of Hudson bay; 15-30 fathoms. A. P. Low, June, 1899. 1 specimen.

King George sound, Hudson strait, Ungava; 40 fathoms. *Diana* Expedition, Low and Wakham, September 9, 1897. 1 small specimen.





Report of the Canadian Arctic Expedition, 1913-18.

CONTENTS OF PARTS IN PREPARATION.

Volume I: General Introduction, Narrative, Etc.

- Part A. Northern Party, 1913-18.
Part B. Southern Party, 1913-16. By Rudolph Martin Anderson. *In preparation.*

Volume II: Mammals and Birds.

- Part A. Mammals. By Rudolph Martin Anderson. *In preparation.*
Part B. Birds. By R. M. Anderson and P. A. Pasvator. *In preparation.*

Volume III: Insects.

- Part A. Collembola. By Justus W. Tolson. *Issued.*
Part B. Neuropteroid Insects. By Nathan Banks. *Issued.*
Part C. Diptera. By Chas. W. Alexander, Harrison G. Deane, and E. R. Mclaugh. *Issued.*
Part D. Mallophaga and Anoplura. By A. W. Baker, G. F. Lewis, and G. H. F. Nuttall. *Issued.*
Part E. Coleoptera. By I. M. Swaine, H. C. Fallis, W. Long, and E. D. Sherman, Jr. *Issued.*
Part F. Hymenoptera. By I. P. Van Duzee. *Issued.*
Part G. Hymenoptera and Plant Galls. By Alex. D. MacGillivray, Charles T. Brues, P. W. L. Sladen, and E. Porter Telf. *Issued.*
Part H. Spiders, Mites, and Myriapods. By J. H. Emerton, Nathan Banks, and E. Ralph V. Chamberlin. *Issued.*
Part I. Lepidoptera. By Arthur Gibson. *Issued.*
Part J. Orthoptera. By I. M. Walker.
Part K. General Observations on Insect Life in the Arctic. By Erits Johanson. *In preparation.*

Volume IV: Botany.

- Part A. Freshwater Algae and Freshwater Diatoms. By Charles W. Lowe. *In preparation.*
Part B. Marine Algae. By E. Collins. *In preparation.*
Part C. Fungi. By John Dearness. *In preparation.*
Part D. Lichens. By K. L. Merrill. *In preparation.*
Part E. Mosses. By R. S. Williams. *In preparation.*

Volume V: Botany.

- Part A. Flowering Plants and Ferns. By James M. Macoun, and others. *In preparation.*
Part B. General Notes on Arctic Vegetation. By Erits Johanson. *In preparation.*

Volume VI: Fishes, Tunicates, Etc.

- Part A: Fishes. By E. Johanson. *In preparation.*
Part B: Ascidians, etc. By A. G. Huntsman. *In preparation.*

Volume VII: Crustacea.

- Part A. Deep-sea Crustaceans. By Mary J. Rathbun. *Issued.*
Part B. Shallow-sea Crustaceans. By Waldo L. Schmitt. *Issued.*
Part C. Cummacea. By W. T. Culman. *In preparation.*
Part D. Isopoda. By Miss P. L. Boone. *In preparation.*
Part E. Amphipoda. By Clarence R. Shoemaker. *In press.*
Part F. Pantopoda. Leon J. Cole. *In preparation.*
Part G. Euphyllipoda. By F. Johnson. *In preparation.*
Part H. Chelicerata. By Clarence J. Boyce. *In press.*
Part I. Ostracoda. By R. W. Sharpe. *In preparation.*
Part J. Freshwater Copepoda. By C. Dwight Marsh. *In press.*
Part K. Marine Copepoda. By A. Willoy. *In press.*
Part L. Parasitic Copepoda. By Chas. B. Wilson. *In press.*
Part M. Cirripedia. By H. A. Pilsbry. *In preparation.*

Volume VIII: Molluscs, Echinoderms, Coelenterates, Etc.

- Part A. Mollusks, Recent and Pleistocene. By Wm. H. Dall. *Issued.*
Part B. Cephalopoda and Pteropoda. By S. S. Berry and W. F. Chapp. *In preparation.*
Part C. Echinoderms. By Austin H. Clark. *In press.*
Part D. Bryozoa. By R. C. Osburn. *In preparation.*
Part E. Rotatoria. By H. K. Harring. *In preparation.*
Part F. Chaetognatha. By A. G. Huntsman. *In preparation.*
Part H. Medusae and Ctenophora. By E. B. Buelow. *In press.*
Part I. Hydroids. By McLean Fraser. *In preparation.*
(Porifera, Actinozoa, and Alcyonaria—material small in amount, and no specialists selected.)

Volume IX: Annelids, Parasitic Worms, Protozoans, Etc.

- Part A. Oligochaeta. By Frank Smith and Paul S. Welch. *Issued.*
Part B. Polychaeta. By Ralph V. Chamberlin. *In press.*
Part C. Hirudinea. By J. P. Moore. *In preparation.*
Part D. Geophyrea. By Ralph V. Chamberlin. *In press.*
Part E. Acanthocephala. By H. J. Van Cleave. *In press.*
Part F. Nematoda. By N. A. Cobb. *In preparation.*
Part G. Trematoda. By A. R. Cooper. *In preparation.*
Part H. Cestoda. By A. R. Cooper. *In preparation.*
Part I. Turbellaria. By A. Hassell. *In preparation.*
Part J. Gordiacea.
Part K. Sporozoa. By J. W. Mavor. *In preparation.*
Part M. Foraminifera. By J. A. Cushman. *Issued.*

Volume X: Plankton, Hydrography, Tides, Etc.

- Part A. Plankton. Marine Diatoms.
Part B. Tidal Observations. By W. Bell Dawson. *In press.*
Hydrography.

