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REPORT

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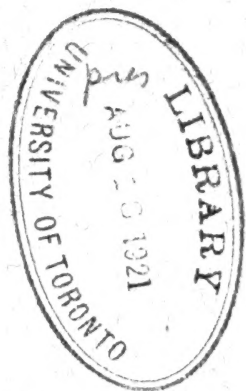
CANADIAN ARCTIC EXPEDITION 1913-18

VOLUME VII: CRUSTACEA

PART F: PYCNOGONIDA

By LEON J. COLE

SOUTHERN PARTY—1913-1916



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

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Report of the Canadian Arctic Expedition, 1913-18.

VOLUME VII: CRUSTACEA

- Part A: DECAPOD CRUSTACEANS. By Miss Mary J. Rathbun. (*Issued August 18, 1919*)
- Part B: SCHIZOPOD CRUSTACEANS. By Waldo L. Schmitt. (*Issued September 22, 1919*).
- Part C: CUMACEA. By W. T. Calman. (*Issued October 15, 1920*).
- Part D: ISOPODA. By Miss P. L. Boone. (*Issued November 10, 1920*).
- Part E: AMPHIPODA. By Clarence L. Shoemaker. (*Issued September 7, 1920*).
- Part F: PYCNOGONIDA. By Leon J. Cole. (*In press*).
- Part G: EUPHYLLOPODA. By Frits Johansen. (*In preparation*).
- Part H: CLADOCERA. By Chancey Juday. (*Issued June 23, 1920*).
- Part I: OSTRACODA. By R. W. Sharpe. (*In preparation*).
- Part J: FRESHWATER COPEPODA. By C. Dwight Marsh. (*Issued April 21, 1920*).
- Part K: MARINE COPEPODA. By Arthur Willey. (*Issued June 25, 1920*).
- Part L: PARASITIC COPEPODA. By Charles B. Wilson. (*Issued August 6, 1920*).
- Part M: CIRRIPIEDIA. By H. H. Pilsbry. (*In preparation*).

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Report on Pycnogonida Collected by the Canadian Arctic Expedition, 1913-1918.

By LEON J. COLE

University of Wisconsin

Arctic explorations extending back more than a century have resulted in what may perhaps be considered a fairly complete knowledge of the pycnogonid fauna in one half of the Arctic ocean, while that of the other half has remained almost wholly unknown. Numerous collections have been reported on from the Kara sea (limited by about the 70th meridian) on the east to Baffin bay and Smith sound (to nearly 80° W. long.) on the west. These include collections from the Kara sea, Barents sea, Franz Josef land, Spitzbergen, the north coast of Norway and the Norwegian sea, the north Atlantic, the shores of Greenland, Davis strait, Baffin bay and Smith sound. In contrast to this two or three early records and the reporting of two species of *Nymphon* at point Barrow (Murdoch, 1885)¹ apparently stood for many years as the only records for this group on the arctic coasts of Canada (to the westward of Baffin bay), Alaska and Siberia. The Russian Polar Expedition, 1900-1903 (Schimkewitsch, 1907a), added considerably to our knowledge of the Siberian pycnogonid fauna as far east as the New Siberian islands (to longitude 150° E.). The collections of the Canadian Arctic Expedition, while they contain only three species, help to fill in another gap, as they come from Dolphin and Union strait, approximately midway between Baffin bay and point Barrow.

There were transmitted to me through the Smithsonian Institution of Washington, for purposes of identification, two lots of Pycnogonida collected by the Canadian Arctic Expedition. These lots both came from the same station (43a) and comprise five specimens belonging to three different species of the Nymphonidæ. The labels give the following data for this station:

"Off Cockburn Point, Dolphin and Union Str., Arctic Can. Sta. 43a. Depth about 100 meters, Gray mud with pebbles, 4 ft. beam-trawl, about 1 hour. C.A.E.—F. Johansen."

Following are the species represented:

1. *Nymphon sluiteri* Hoek.

One specimen, adult.

The shape of the eye-tubercle and the shape and relative proportions of the terminal claw to the second tarsal joint are diagnostic.

According to the tabular summary of the distribution of temperate and arctic Pycnogonida given by Norman (1908) this species has previously been reported from the following regions:

- a. British area.
- b. East Arctic—Siberia to East Finmark.
- c. High Arctic—Spitzbergen, Franz Josef land, &c.
- d. West Arctic—Jan Mayen, Iceland, east Greenland.

It has also been reported from west Greenland (Coutts inlet, Rodger, 1893)², while the records of the Russian Polar Expedition from Kara sea, Taimur bay,

¹Through the kindness of Dr. Paul Bartsch, Curator of Marine Invertebrates in the U.S. National Museum, I have recently had the privilege of examining the point Barrow specimens and have been able to verify Murdoch's identification of them as *Nymphon longitarse* and *Nymphon grossipes*.

²Mr. Fritz Johansen has called my attention to the record of two pycnogonids reported in Sutherland's (1852) "Journal of a Voyage in Baffin's Bay and Barrow Straits, in the years 1850-1851" (Vol. II, Appendix, pages ccvii and ccviii), which appears to have been overlooked by the authors dealing with this region. The descriptions, by Mr. Adam White, are very inadequate, and the illustrations are little better for specific determination. As Mr. Johansen suggests, his *Nymphon crassipes* is probably a *Chatonymphon* (though the hairiness is not mentioned except on the palps, and is not represented in the figure), and might perhaps be *Chatonymphon hirtipes*. The other species, which he describes as a species of *Nymphon* similar to the *Pycnogonum grossipes* of Otto Fabricius but smaller and "more slim" would appear to be very close to *Nymphon sluiteri* or *Nymphon longitarse*, though the proportionate lengths of the joints of the legs as represented do not agree with the latter species. It would, however, be worse than useless to attempt to assign these forms definitely to known species on the basis of the descriptions furnished. The specimens came from Union bay (about 75°N., 92°W.) At our suggestion, Dr. W. T. Calman has kindly made search for these specimens in the collections of the British Museum, but has been unable to find them.

and north of the New Siberian islands (Schimkewitsch, 1907a) add it to the Siberian arctic area. The present record, from what may be called the American Arctic area¹ completes the circle, making this a truly circumpolar species.

2. *Nymphon longitarse* Kröyer.

One specimen, adult.

The known distribution of *N. longitarse* is even more extensive than that of the preceding species. Norman (1908) has collected records from:

- a. British area.
- b. Scandinavian—Norway, South and West.
- c. East Arctic.
- d. High Arctic.
- e. West Greenland².
- f. North-east American to lat. 35° N. (Cape Hatteras).

The American records for this species range from the region of Smith sound (Ortmann, 1901), Baffin bay and Davis Strait (Meinert, 1899; Vanhöffen, 1907), to extreme south Greenland (Stephensen, 1913, 1916); and according to Wilson (1878, 1880) it extends as far south along the east coast of North America as Massachusetts bay. The present record forms a link to the westward with that from point Barrow (Murdoch, 1885). Schimkewitsch (1907 b) reported it from the Okhotsk sea,³ but it does not appear to have been taken by the Russian Polar Expedition, though its otherwise circumpolar distribution would lead to the presumption that it occurs also in the Siberian Arctic.

3. *Chaetonymphon hirtipes* (Bell).

One adult male; one adult female; one immature.

The present record extends the range of this well-known species to the westward. Norman (1908) lists it from:

- a. British Area.
- b. Scandinavian.
- c. East Arctic.
- d. High Arctic.
- e. Faroe Channel.
- f. West Arctic.
- g. West Greenland.²
- h. North-East American

It has been found widely distributed on the East and West coast of Greenland (see Stephensen, 1913 and 1916, for detailed localities) and according to Wilson (1878, 1880), like *Nymphon longitarse* extends south to Massachusetts bay on the American coast. Carpenter (1898) has said of this form: "*C. hirtipes* is one of the most familiar Arctic pycnogons; and from the numerous localities from which it has been dredged, it would appear to have a complete circumpolar range." It should be noted, however, that in this last respect it does not yet equal either of the foregoing species as it does not appear up to this time to have been found between Dolphin and Union strait and the Kara sea.

The Canadian Arctic Expedition specimens had a number of Foraminifera attached to them, identified by Dr. J. A. Cushman of Boston as *Truncatulina lobatula* (Walker and Jacob). See Report of Canad. Arct. Exped., Vol. IX, Part M, p. 9M.

¹This term is suggested, rather than Canadian Arctic, to include the whole Arctic area adjacent to the North American continent from Baffin bay to Bering strait. Should there be reason for doing so it can be subdivided into the Canadian Arctic and Alaskan Arctic, the division point being practically Mackenzie bay, at the mouth of the Mackenzie river. These two sub-areas differ strikingly in that one is composed of the straits and sounds among the islands of the Arctic Archipelago, while the other is an open coast.

²See also footnote 2, p. 3f.

³Schimkewitsch (1913) has later described a new variety (*N. longitarse* var. *minus*) from this region, which he says is only about half the size of the European form.

Other Records for the North American (west of Long. 80°W.) and East Siberian (east of Long. 70° E.) Arctic.

At least three other species have been reported from the half of the Arctic ocean here considered, making a total of six in all. This is a great contrast to the forty-eight species recorded by Norman (1908) as occurring in the East Arctic, High Arctic, Faroe Channel, West Arctic and West Greenland areas combined. This difference is doubtless due in part to the great discrepancy in the amount of marine exploration of the two regions, but the half of the Arctic above the Atlantic Ocean is more varied and more open to southern influence, and may accordingly have a more varied fauna.

The species referred to are as follows:

***Nymphon grossipes* O. Fabr.**

Reported by Murdoch (1885) as "rather plenty but small off Point Franklin [near Pt. Barrow] in 13½ fathoms," and from Norton sound in Bering sea. Aside from these records this species has a wide distribution, corresponding roughly to that of *Chaetonymphon hirtipes*.

***Boreonymphon robustum* (Bell).**

Bell (1855) described this species as *Nymphon robustum* from specimens collected by the Belcher Expedition at their winter quarters in Northumberland sound, 76° 52' N., 97° W.

***Colossendeis proboscidea* (Sabine).**

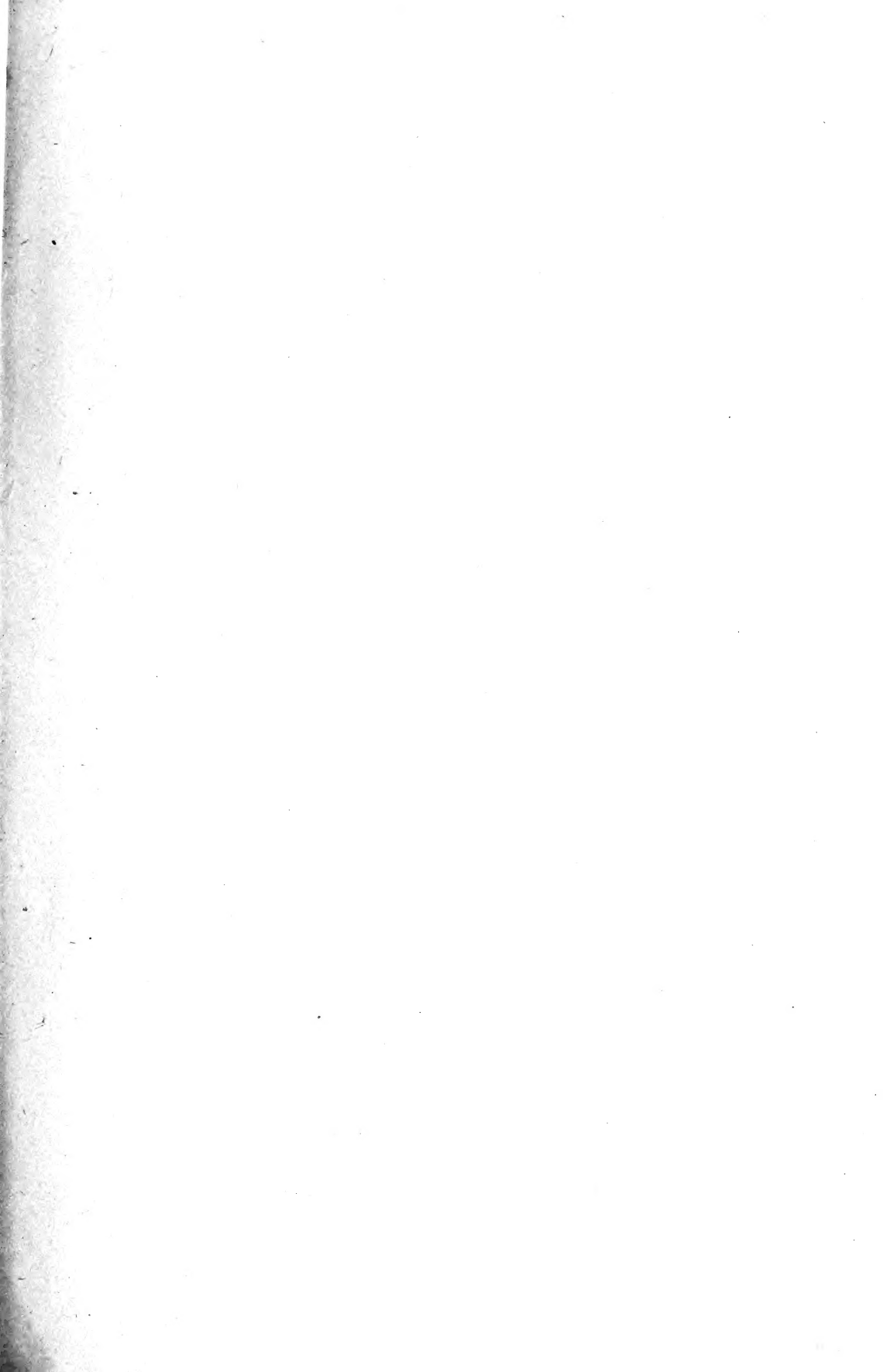
This species was described as *Phoxichilus proboscideus* by Sabine (1824) from specimens collected on the Parry Expedition, at North Georgia island (one of the Parry islands, about lat. 75° N., long. 100° W.).

In the narrative of the voyage of the "*Vega*" (Nordenskiöld, 1881, Vol. 1, p. 349) is a figure of an unnamed specimen of *Colossendeis* which resembles *C. proboscidea* very closely in appearance, particularly in the shape and size of the proboscis. It was taken off the northeast coast of the Taimur peninsula. Lönnberg (1902, p. 359) evidently refers to this record in discussing the distribution of this species, but does not cite his authority for its identification¹. If the identification is correct it adds another known species to the little-known half of the Arctic previously referred to.

¹ "The original report of the "*Vega*" expedition has not been available to me, but Dr. Bartsch, who has been so kind as to look it up, states that on page 709 of the "*Vega-Expeditionen Vetenskapliga Iakttagelser*," volume I (1882) is a picture labelled *Colossendeis gigantea*. This is given as a synonym for *C. proboscidea* by Sars (Pycnogonida of the Norwegian North-Atlantic Expedition, 1891, p. 138). The figure is the same one used in the English translation of the "*Vega*" narrative.

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