

Report on the Marine Copepoda collected during the Canadian Arctic Expedition.

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The marine copepod crustacea, collected by Mr. Frits Johansen during the Canadian Arctic Expedition from 1913 to 1915, covers a wide extent of coast-line from Vancouver island to Coronation gulf in the Northwest Territories of Canada, the whole embracing an area which has been only slightly explored in regard to its micro-crustacean fauna. The comparison of this fauna with that of the Atlantic coast of North America offers remarkable similarities mingled with dissimilarities, as indeed does every other division of the North Pacific fauna. The facts discovered justify the expectation that further data will throw light upon the relation of the pelagic copepods to the currents prevailing off the west coast. These insignificant copepods form the basis of the food-supply for pelagic fishes, especially for young fishes, whilst the littoral and bottom-dwelling species have nutritive value for the flat-fishes, either directly or indirectly.

The copepod contents of Mr. Johansen's samples were generally scanty, so that it was not always possible to indicate their percentage composition. In the present report several species are identified for the first time from the west and northwest coasts, but perhaps the most memorable marine copepod record for the entire expedition is that of *Limnocalanus grimaldii* from Collinson point, Alaska. It will be found that the collection secured by Mr. Johansen under such arduous circumstances presents several other features of interest. A notable deficiency is the absence, from all the gatherings, of *Calanus cristatus* which, according to Giesbrecht, is the most characteristic species of the Behring sea and has not been found south of that area. The explanation of its absence is to be looked for in the comparatively small number of stations made by the expedition on the voyage to the Arctic Ocean where their main objective lay.¹

The number of copepods of the subdivision Harpacticoida taken pelagically by horizontal towing of the plankton nets at or near the surface, in water lanes amid pack-ice or by vertical hauls through holes in the ice, makes a rather striking commentary on this collection. Just as the pelagic Calanoids make daily excursions to and from the deeper strata of water, so the benthonic or bottom-dwelling Harpacticoids evidently rise toward the surface from time to time. Only one pelagic Harpacticoid was recorded from the east coast waters during the Canadian Fisheries Expedition, 1914-15, namely, *Halithalestris eroni*. This species has not yet been found on the west coast. The clear-cut specific divergence of *Danielssenia stefanssoni*, in comparison with its Siberian congener, is another point worthy of special mention.

A. CALANOIDA.

1. *Calanus finmarchicus* (Gunnerus, 1765).

This prolific species is common to the North Pacific, North Atlantic, and Arctic oceans. According to the latitude, season, time, depth, and proximity to land or ice, in which it may be taken, it is found associated with very different companions.

¹Not. —Most of the microscopic forms in the Zooplankton (Fishes, Crustacea, Annelids, Medusae, etc.), were picked out before the samples were sent to Prof. Willey. —Frits Johansen.