

The Crustacean Life of some Arctic Lagoons, Lakes and Ponds

By F. J. J. JONASSON

(Illustrated by seven plates.)

In this report some information is given about the bodies of fresh or brackish water examined during the period of the Canadian Arctic Expedition, principally in connection with their crustacean fauna (Amphipoda, Euphyllipoda, Cladocera, Copepoda and Ostracoda) treated in Parts I, C, II, I, J, in Volume VII.

1. Teller, Alaska.

The bodies of freshwater examined here were the large lake next to the town, a brackish pond between it and Port Clarence, various ponds on the higher tundra nearby, and a shallow artificial ditch just back of the now almost deserted town. The time I spent here was about a fortnight in the end of July and the beginning of August, 1913, at which time these bodies of water contained considerably less water than earlier in the season. Had a century or more ago the large lake in question was a larger lagoon, with an outlet to Port Clarence, and at high tide in connection with Grantley harbour. In the course of time, however, sand and gravel filled in the outlet and the tidal zone at both ends, and by evaporation the lagoon became a more limited lake, still, however, retaining in its deeper water layers and in the organisms (diatoms, etc.) inhabiting it, traces of its marine origin. The Grantley harbour side is now represented by a swamp and gravelly or sandy tundra plains, the Port Clarence side by a considerably higher gravel ridge with sand-dune and tundra vegetation, merging into the present beach on one side, and on the other into the tundra swamp surrounding the lake. In this tundra swamp are situated a couple of ponds or deep waterholes, and the brackish pond examined is one of these. On two sides the large lake is surrounded by higher tundra falling off in "bluffs" to the lake itself or to the gravel and sandy mud along its margin. The depth of the lake is unknown, but from my observations I believe it does not exceed 3 fathoms and is probably nearer two. A rich vegetation of *Carex*, *Eriophorum*, *Hippuris*, mosses, etc., grows along the sides and out into the lake, and at such places the shallow water with its sandy mud or gravel bottom occupies a large part of the lake.

The examination of the plankton and bottom sample secured in this lake indicates that the deeper part of it, say below one fathom, is probably brackish and contains marine organisms, though the surface-water seemed quite fresh. The conditions in this lake are probably very similar to those of the one at Bernard harbour (see p. 168), though both its elevation and depth are probably less; the distance from the beach is also less (about 300 feet). In addition to a number of insects, larvae, etc., *Lepidurus arcticus* and other Eutomotraca were secured in the marginal water of this lake.

The deepest of the ponds situated in the tundra swamp mentioned above was judged to be about one fathom deep and it contained practically no shallow, marginal water, but an exceedingly rich vegetation of submerged *Myriophyllum*, etc., all around and in it. Its water was distinctly brackish to the taste, and

¹ See Plate IV., Commander Trollope's chart of 1854; Bessey's narrative, Part II., pp. 531-64, etc.