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A QUANTITATIVE AND QUALITATIVE STUDY

OF THE PLANKTON OF

SOME LAKES IN

JASPER NATIONAL PARK, (Alta), 1925-1926.

Alexandr Bajkov.

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of Manitoba in partial fulfillment of the  
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INTRODUCTION.

The following account of the minute fauna and flora of certain of the Jasper Park Lakes is based upon extensive plankton collection made during the summer of 1925 by Messrs F. Neave, A. Mozley, and during the summer 1926 by Messrs F. Neave, A. Mozley, Miss R. Beare and by the writer under the direction of Professor Chas. H. O'Donnoghue at the request of the Biological Board of Canada.

The collection were obtained from 18 different lakes, situated from 3339 feet to 5550 feet above sea level and consist of more than five hundred samples. The high altitude makes the area very interesting for the investigation of fresh water plankton and on the other hand some of the highest lakes of Jasper Park (Maligne and Medicine Lakes) geologically are very young. The biggest and highest of the lakes examined is Maligne Lake situated 28 miles from Jasper, about 20 miles long and from 1 to 3 miles wide.

The maximum depth of this lake is about 80 mt. Geologically Maligne Lake, is extremely recent.

The largest collections were secured from Annette Lake (3344 f. Beaver Lake (3356 feet), Edith Lake (3339 feet), Pyramid Lake (3867 feet), Big Texeol Lake (3351 feet), Maligne Lake (5550 feet), Jacques Lake (4750 feet) and Caledonia Lake (3810 feet). Only a few collections were secured from Hibernia Lake (3954 feet), Medicine Lake (4600 feet) and Noi Lake near Getolke station.

Some samples were taken also from the other side of the Rocky Mountain Divide, namely from Yellowhead Lake, British Columbia (Trasser River System).

A quantitative study of the plankton and of the vertical distribution of different species during different hours of day and night was made at 8 lakes: Annette, Beauvert, Edith, Mildred, Jacques, Maligne, Pyramid and Caledonia. Diagrams showing the vertical distribution of plankton are included at the end of the present work.

The method of work in Jasper Park is one which the author has applied in Europe on the Lakes of South Moravia (Czechoslovakia), and the vertical distribution of the species common to both regions (*Ceratium hirundinella*, *Daphnia longispina*, *Polyarthra platyptera* etc.) agrees very closely in the two cases.

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