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THE ALGAE OF SPIER LAKE, VANCOUVER ISLAND, B. C.

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by

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Spider Lake is a small lake about 40 miles north-west of Nanaimo, B.C. It is entirely surrounded by dense forest and is accessible only by a blazed trail about a mile long. It is of interest to the workers of the Biological Station at Nanaimo on account of the large numbers of small mouth black bass (Micropterus dolomieu) now present in its waters.

The flora of the lake strongly resembles that of the higher alpine lakes. The information presented here is the result of two short visits of about three hours each, the first in June 1930 and second the same month a year later. The macrophytic vegetation was in the earlier stages of development and only the following could be identified: Isetes bolanderi, Lobelia dortmanna, Nymphaea polysepala, Polygonum amphitium, Ranunculus aquatilis v. capillaceus, and a few species of Potamogeton. The algal material was secured from plankton samples, bottom deposits, and the surface of rocks and the larger plants. From these collections the following were identified:

Flagellata	3 species
Peridineae	5 species
Myxophyceae	22 species
Bacillariaceae	25 species
Chlorophyceae	
Desmidiaceae	76 species
other Chlorophyceae	<u>36</u> species
	167 species

One feature of particular interest is the occurrence of three species of Ceratium in the plankton, C. hirundinella, C. cornutum and C. curvirostre. The first named is common throughout Canada in the summer, C. cornutum is not nearly so frequent and C. curvirostre is only rarely found so the presence of all three is of great interest. In addition there are two desmids at present unidentified which are either very rare or new, one, a Cosmarium, also has the zygospore.

FLAGELIATA

Dinobryon stipitatum Stein
Euglena viridis Ehr.
Trachelomonas oblonga Lemm.

PERIDINEAE

Glenodinium pulvisculus Stein
Peridinium Willei Huitf.-Kaas.
Ceratium hirundinella Schrank
" cornutum (Ehr.) Clap & Lach.
" curvirostre Huitf.-Kaas.

MYXOTHYCAE

Chroococcales

Aphanocapsa elachistra W.A.G.S. West
v. conferta W.A.G.S. West
Aphanothece nidulans Richter
" prasina A.Br.
Chroococcus giganteus W. West
" limneticus Lemm.
" " v. subsalis Lemm.
" minutus (Kütz.) Næg.
" turgidus (Kütz.) Næg.
Coelosphaerium Kützingianum Næg.
Gloeocapsa crepidinum (Raben.) Thuret
Merismopedia glauca (Ehr.) Næg.
" tenuissima Lemm.

Homogoniales

Artthrospira Jenneri Sitz.
Calothrix parietina (Næg.) Thuret
Lyngbya limnetica Lemm.
Nostoc Kehlmani Lemm.
Oscillatoria curviceps Agh.
Spirulina major Kütz.
Stigonema mamillosum (Lyngb.) Agh.
" pumilioformis (Agh.) Kirch.
Tolypothrix distorta (Hofm.-Bang) Kutz.
" tenuis Kutz.

BACILLARIAE

Centricae

Melosira cremulata (Ehr.) Kutz.
" granulata Ehr.

Pennatae

Amphora ovalis Kutz.
Cymbella cuspidata Kutz.
" cymbiformis Kutz.
Epithemia turgida Ehr.
" Zebra Ehr.
Eunotia gracilis Ehr.
" robusta Ralfs v. hexagona Ehr.
" tetradon Ehr.

Gomphonema acuminatum Ehr.
" " v. *coronata* Ehr.
Hantzschia amphioxys (Kütz.) Grun.
Navicula major Kütz.
" *mesolepta* Ehr.
" *radiosa* Kütz. v. *acuta* (W. Sm.) Grun.
" *viridis* Ehr.
Nitzschia sigma Kütz.
Surirella biseriata Freb.
" *elegans* Kütz.
" *linearis* W. Sm.
" *robusta* Ehr.
" " v. *splendida* Kütz.
Tabellaria fenestrata Kütz.
" *flocculosa* Kütz.

CHLOROPHYCEAE

1. excluding Desmidiaceae

Botryococcus Braunii Kütz.
Bulbochaete nana Wittr.
Bumilleria pumila W. & G.S. West
Chaetophora elegans (Roth) Agh.
Chaetosphaeridium globosum (Nordst.) Klebs
Characium ambiguum Herm.
Coelastrum cambriacum Archer
" *microporum* Nag.
Crucigenia quadrata Morron
" *rectangularis* (Nag.) Ray
Dactyococcopsis acicularis Lemm.
Eudorina elegans Ehr.
Gloeocystis infusionum W. & G.S. West
Gonium pectorale Mill.
Kirchneriella obesa W. West) Schmidle
Oedogonium sp?
Ophocytium cochleare A.Br.
Pandorina morum (Müll.) Bory
Pediastrum araneosum Racib. v. *rugulosum* (G.S.W.) G.M. Smith
" *Boryanum* (Turp.) Menegh.
" " v. *longicornis* Racib.
" *duplex* Meyen
" " v. *clathretum* A.Br.) Lagerh.
Quadriula Ghodati (Tanner-Fullm.) G.M. Smith
Rhodonema lineare Schum. & Lamb.
Scoecodesmus bijuga (Turp.) Lagerh. v. *alternans*
(Reinsch) Borge
" *denticulatus* Lagerh.
" *quadricauda* (Turp) Freb.
Selinastrum acuminatum G.M. Smith
Sorastrum americanum (Bohlin) Schmidle
Spirogyra sp?
Tetrasedron minima (A.Br.) Hansgr.
" *regulare* Kütz.
" " *forma bicorne*

Volvox aureus Ehr.

2. Desmidiaceae

Arthrodesmus convergens Ehr.

" *Incus* Hass.

Closterium Archerianum Cleve

" *intermedium* Ralfs

" *lunula* (Mull) Nitzsch.

" *moniliferum* Ehr.

" *rostratum* Ehr.

Cosmarium binum (Turp.) Ehrenb.

" *Botyrtis* Menegh.

" " *v. tumidum* Wolle

" *commissurale* Breb.

" *connatum* Breb.

" *Cucumis* (Corda) Ralfs

" *Cucurbita* Breb.

" *dentatum* Wolle

" *granatum* Breb.

" *impressulum* Elfv.

" *margaritatum* (Lund.) Roy & Biss.

" *moniliforme* (Turp.) Ralfs

" " *f. panduriformis* Heimerl.

" *ornatum* Ralfs

" *ovale* Ralfs

" *polygonum* (Nag.) Arch.

" *Portianum* Arch.

" *pseudocannatum* Nordst.

" *quadrum* Lund.

" *subtumidum* Nordst

Euastrum ansatum Ralfs

" *bidentatum* Nag.

" *denticulatum* Kirchn.) Gay.

" *Didelta* (Turp.) Ralfs

" *oblongum* (Grev.) Ralfs *v. cephalophorum* West

" *verrucosum* Ehrenb.

Gonatozygon Kinahini (Arch.) Raben.

Microsterias americana (Ehrenb.) Ralfs

" *apiculata* (Ehr.) Menegh. *v. brachyptera* (Lund) W.G.

" " *v. fimbriata* (Ralfs) Nordst.

" *crenata* Breb.

" *denticulata* Breb.

" *depauperata* Nordst.

" *laticeps* Nordst.

" *oscitans* Ralfs.

" *papillifera* Breb. *v. glabra* Nordst.

" *radiata* Hass.

" *rotata* (Grev.) Ralfs.

" *Thomsonii* Arch.

Netrium Digitus (Ehrenb.) Itzigsh. & Rothe

Pleurotaenium coronatum (Breb.) Raben.

" *Ehrenbergii* Kutz.

Staurastrum anatinum Cooke & Wills

" *arcticoon* (Ehrenb.) Lund.

" *curvatum* West v. *elongatum* G.M. Smith

" *cuspidatum* Breb.

" *cyrtocerum* Breb.

" *defectum* Breb.

" *Dickiei* Ralfs v. *circulare* Turn.

" *dilatatum* Ehrenb.

" *minnesotense* Wolle

" *muticum* Breb.

" *orbiculare* Ralfs

" *paradoxum* Meyen

" " v. *longipes* Nordst.

" *senarium* (Ehrenb.) Ralfs

" *setigerum* Cleve

" *Sebaldi* Reinsch v. *ornatum* Nordst.

" *tohopekaligense* Wolle v. *brevispinum* G.M. Smith

" *teliferum* Ralfs

" *vestitum* Ralfs

Sphaerososma excavatum Ralfs

Spondylosum planum W. & G.S. West

Spirotaenia condensata Breb.

Tetmemorus laevis (Kutz.) Ralfs

Xanthidium antilopaem (Breb.) Kutz. v. *hebridarum* W. & G.S. West

" " v. *polymazon* Nordst.

" *subhastiferum* West