

DIATOMS OF NOVA SCOTIA: Collected by Alexander Howard MacKay, and determined, distributed and lists published by J. Tempère and H. and M. Peragallo, Paris, France, 1907-1915.—By A. H. MACKAY, LL.D., F.R.S.C.

(Read by title, 26 May, 1922)

These diatomaceous deposits were collected about thirty-five years ago by me, when Principal of the Pictou Academy. The species were named and distributed in PREPARED MICROSCOPIC SLIDES by Tempère and Peragallo, and the lists were published in the second edition of "Diatomées du Monde Entier" published from 1907 to 1915 in 30 "Fascicules" of 16 pages each, descriptive of 1000 microscopic slides of diatomaceous deposits from all parts of the world. The genera and species are arranged alphabetically for the convenience of future reference to the nomenclature.

(The number in brackets indicates the Serial No. of the slide of the set of 1000 containing a sample of material from the locality named.)

LIST OF SPECIES.

- Achnanthidium flexellum* Bréb. Grant Lake, Pictou Co. (374).
Amphora libyca Ehr. var. ? Grant Lake (374); Maclean Pond, Pictou Co. (394) and Earltown Lake, Colchester Co. (605).
 lineata, var. *euglypta*. Earltown Lake, Colchester Co., (605).
 ovalis Ktz. Maclean Pond, Pictou Co. (394).
 ovalis Ktz. *forma minor*. High Pond (372); Swamp Pond (373), Pictou.
Cocconeis lineata Ehr. Maclean Pond, Pictou Co. (394); Drakesville (679).
 placentula Ehr. Swamp Pond (373); Grant Lake (374); Drakesville (679).
Cyclotella Charetoni H. & M. P. Musquodoboit Lake, Halifax Co. (879).
 comta Ktz. High Pond, Pictou Co. (372).

Cyclotella

Temperii F. Heri. var. ? High Pond, Pictou Co. (372);
 Maclean Pond, Pictou Co. (394).

Terryana Temp. & Per. Mill's Pond, Morris River (395).
 var. *major*. Mill's Pond, Morris River (395).
 var. *minor*. Mill's Pond, Morris River (395).

Cymatopleura apiculata W. Sm. Mill's Pond, Morris River (395).

solea W. Sm. Mill's Pond, Morris River (395).

Cymbella arcus Ehr. Drakesville (679).

acutiuscula Cl. Grant Lake, Pictou Co. (374).

amphicephala Naeg. Besancon's Lake, Pictou Co. (733).

aspera Ehr. Cornwallis (992).

capitata M. Per. & F. H. Heribaud. Grant Lake (374)
 and Maclean Pond, Pictou Co. (394).

cistula Kirch. Swamp Pond (373); Grant Lake (374);
 Maclean Pond, Pictou Co. (394); Mill's Pond, Morris
 River (395).

cistula Hemp. Earltown, Colchester Co. (605); Drakes-
 ville (679).

var. *crassa*. Grant Lake, Pictou Co. (374).

cuspidata Ktz. Mackintosh Lake, Pictou Co. (14), (15).
 forma *major* (120 mu long). Grant Lake, Pictou Co.
 (374).

cymbiformis Bréb. Grant Lake, Pictou Co. (374);
 Drakesville (679).

Ehrenbergii Ktz. Grant Lake, Pictou Co. (374); Mac-
 lean Pond, Pictou Co. (394); Earltown Lake, Col. Co.
 (605); Cornwallis, N. S. (992).

var. *crassa* (New var.). Shorter and at the extremities
 more rostrate-truncate than that figure in A. S.
 Atlas 9:7. Grant Lake, Pictou Co. (374).

heteropleura Ralfs. Grant Lake, Pictou Co. (374); Mac-
 lean Pond, Pictou Co. (394); Earltown Lake, Col. Co.
 (605).

var. (?) Mackintosh Lake (14), (15).

lanceolata Ehr. Mackintosh Lake (14 & 15); Earltown
 Lake (605).

Cymbella

maculata Ktz. Maclean Lake (394).

naviculaeformis Auers. Grant Lake (374).

Diploneis elliptica Ktz. Grant Lake (374); Maclean Pond (394).

Smithia Bréb. Swamp Pond, Pictou Co. (373); Grant Lake (374); Maclean Pond (394).

Encyonema gracile Rab. High Pond, Pictou Co. (372); Earltown Lake (605); Besancon's Lake, Pictou Co. (733); Musquodoboit Lake (879).

lunula Grun. High Pond, Pictou Co. (372); Earltown Lake (605).

Mackayiana Temp. & Peragallo. New species. Similar to the form in Atlas A. S. pl. 10, fig. 49, 50, but at the center much more developed, with striae less radiant and strongly granulated to the number of 7 on the back and 8 on the belly in 10 mu. Length 60 mu., breadth 20 mu. Mill's Pond, Morris River (395).

turgidum Greg. Drakesville (679).

ventricosum Grun. Grant Lake (374); Besancon's Lake (733); Cornwallis (992).

Epithemia amphicephala Grun. Maclean Pond (394).

gibba Ktz. Maclean Pond (394); Earltown Lake (605); Drakesville (679).

turgida Ktz. Grant Lake (374); Maclean Pond (394); Earltown Lake (605); Drakesville (679).

turgida Ktz. var. *granulata*. Grant Lake (374); Maclean Pond (394); Earltown Lake (605).

turgida Ktz. var. *porcellus*, forma *excavata*. Grant Lake (374).

Westermanii Ktz. Drakesville (679).

Epithemia zebra Ktz. Grant Lake (374); Maclean Pond (394); Earltown Lake (605); Drakesville (879).

zebra Ktz. forma *minor*. Grant Lake (374).

forma *proboscidea*. Drakesville (679).

Eunotia arcus Ehr. Mackintosh Lake (14, 15); High Pond (372); Grant Lake (374); Besancon's Lake (733); Cornwallis (992).

Eunotia

- var. hybrida.* High Pond (372).
- var. uncinata.* Earltown Lake (605); Cornwallis (992).
- var. bidentula* W. Sm. High Pond (372); Besancon's Lake (733); Musquodoboit Lake (879).
- diodon* Ehr. Grant Lake (374).
- flexuosa* Bréb. var. (?) High Pond (372).
- formica* Ehr. Mackintosh Lake (14, 15).
- gracilis* Ehr. Mackintosh Lake (14, 15); Swamp Pond (373).
- Rab. Mill's Pond, Morris River (395).
- W. Sm. Besancon's Lake (733).
- Bréb. Musquodoboit Lake (879).
- impressa* Ehr. Grant Lake (374).
- incisa* Greg. High Pond (372); Swamp Pond (373); Grant Lake (374); Besancon's Lake (733).
- lunaris* Grun. High Pond (372); Maclean Pond (394); Musquodoboit Lake (879).
- var. *bilunaris*. High Pond (372).
- major* Rab. Mackintosh Lake (14, 15); High Pond (372); Swamp Pond (372); Grant Lake (374); Maclean Pond (394).
- minor* V. H. Grant Lake (374); Besancon's Lake (733).
- monodon* Ehr. Swamp Pond (373); Grant Lake (374); Maclean Pond (394); Besancon's Lake (733).
- forma curta.* Grant Lake (374).
- obtusiuscula* Grun. var. *incisa* Grun. Besancon's Lake (733).
- pectinalis* Rab. High Pond (372); Besancon's Lake (733).
- var. *undulata*. High Pond (372); Besancon's (733).
- venter* (?) Grant Lake (374); Besancon's (733)
- ventricosa.* High Pond (372).
- pentaglyphis* Ehr. Swamp Pond (373).
- praerupta* Ehr. Cornwallis (992).
- bidens.* Cornwallis (992).
- robusta* (Ehr). Ralfs. Mackintosh Lake (14,15) High Pond (372).

Eunotia

- var. (?) Musquodoboit Lake (879).
 var. *diadema*. Mackintosh Lake (14, 15).
 var. *hexadon*. High Pond (372); Besancon's (733).
 var. *octagon*. Swamp Pond, Pictou Co. (373).
 var. *polydon*. Mackintosh Lake (14, 15); Swamp Pond (373); Grant Lake (374); Besancon's Lake (733).

Fragilaria capucina Desmaz. var. *mesoleia*. Drakesville (679).

- construens* Grun. var. *binodis*. Drakesville (679).
 var. *genuina*. Drakesville (679).
virescens Ralfs. Besancon's Lake (733).
undata W. Sm. Besancon's Lake (733).

Gomphonema acuminatum Ehr. Grant Lake (374); Maclean Pond (394); Earltown Lake (605); Drakesville (679).

- var. *coronatum*. Earltown Lake (605).
 var. *intermedia*. Grant Lake (374).
 var. *pusilla*. Grant Lake (374); MacLean Pond (394).
 var. *trigonocephala*. Maclean Pond (394).
 var. *Augur*. Maclean Pond (394).

Brebissonii Ktz. Cornwallis (992).

capitatum Ehr. High Pond (372); Maclean Pond (394); Drakesville (679).

constrictum Ehr. Grant Lake (374); Maclean Pond (394); Mill's Pond (395); Earltown Lake (605); Drakesville (679).

gracile Ehr. Cornwallis (992).

- var. *Atlas*. A. S. 236:31. High Pond (372).

intricatum Ktz. Grant Lake (374); Drakesville (679); Cornwallis (992).

montanum Schum. Cornwallis (992).

- var. *succisa*. Grant Lake (374); Maclean (394).

parvulum Ktz. High Pond (372).

Gomphonema turris Ehr. Drakesville (679).

Hantzschia amphioxys Grun. var. *elongata*. Earltown Lake (605).

- Melosira arenaria* Moore. Earltown Lake (605).
 crenulata Ktz. Grant Lake (374); Besancon's (733); Cornwallis (992).
 var. *Jonensis*. Earltown Lake (605).
 granulata Ralfs. Swamp Pond (373); Grant Lake (374).
 lineolata Grun. Cornwallis (992).
 tenuis Ktz. Maclean Pond (394); Besancon's Lake (733).
- Navicula acrospheria* Breb. Mill's Pond (395).
 var. *dilatata*. Maclean Pond (394).
 affinis Ehr. High Pond (372); Grant Lake (374); Besancon's (733).
 var. *amphirhynchus*. Grant Lake (374); Besancon's (733).
Americana Ehr. var. *bacillaris*. Grant Lake (374); Maclean (394).
amphigomphus Ehr. Mackintosh Lake (14, 15); High Pond (372); Swamp Pond (373); Drakesville (679); Besancon's Lake (733); Musquodoboit Lake (879).
amphirhynchus Ehr. Grant Lake (374); Maclean Pond (394); Earltown Lake (605).
 forma *curta*. Grant Lake (374).
amphisbaena Borz. MacLean Pond (394).
ampliata Ehr. Earltown Lake (605).
bacilliformis Grun. Grant Lake (374); Maclean Pond (394).
biceps Greg. var. *stauroneiformis*. Besancon's Lake (733).
bisulcata Lag. Swamp Pond (373); Besancon's Lake (733).
Bogotensis Grun. Besancon's Lake (733).
borealis Ehr. Cornwallis (992).
Braunii Grun. Grant Lake (374); Maclean (394); Mill's Pond (395).
Brebissonii Ktz. Mackintosh (14, 15); High Pond (372); Besancon's Lake (733); Musquodoboit Lake (879).
 var. *diminuta* Musquodoboit Lake (879)

Navicula

- cardinalis* Cl. Grant Lake (374); Maclean Pond (394).
 var. (?) B. Kitt. Earltown Lake (605).
- columnaris* Ehr. Swamp Pond (373); Maclean Pond (394).
- commutata* Grun. Grant Lake (374); Musquodoboit Lake (879); Cornwallis (992).
- costata* Ehr. Grant Lake (374).
- conspicua* A. S. Swamp Pond (373).
- cuspidata* Ktz. High Pond (372); Grant Lake (374); Maclean (394); Mill's Pond (395); Earltown (605); Drakesville (679).
 var. *gracilis* M. Per. (With all the characters of *N. cuspidata* but more slender or delicate, with striae stronger—13 in 10 mu. Found also with the craticular form which confirms this determination—1911). In Earltown Lake (605).
- Dactylis* Ehr. Mackintosh Lake (14, 15).
 Ktz. Swamp Pond (373); Grant Lake (374); Maclean (373); Musquodoboit Lake (879).
- Dariana* A. S. (Adolph Schmidt). Mill's Pond (395).
- decurrens* Ktz. Besancon's Lake (733).
- dicephala* Ehr. var. (?) Maclean Pond (394).
- dilatata* Ehr. Mackintosh Lake (14, 15); High Pond (372); Swamp Pond (373); Maclean Pond (394); Cornwallis (992).
- divergens* W. Sm. High Pond (372); Grant Lake (374); Maclean Pond (394); Cornwallis (992).
- dubia* Greg. High Pond (372).
- elliptica* Ehr. Mackintosh Lake (14, 15); Earltown Lake (605).
- esox* Ehr. Grant Lake (374).
 Ktz. Mill's Pond (395).
- eximia* Cl. Swamp Pond (373).
- firma* Ktz. High Pond (372); Grant Lake (374); Maclean Pond (394); Earltown (605); Besancon's (733); Cornwallis (992).
 var. *subampliata*. Maclean Pond (394); Mill's Pond (395).

Navicula, firma

- var. *subundulata*. High Pond (372).
- flexuosa* Cl. Grant Lake (374); Maclean Pond (394).
- follis* Ehr. Grant Lake (374).
- fusca* Pritch. Earltown Lake (605).
- gentilis* Donk. Maclean Pond (394); Cornwallis (992).
- gibba* Ehr. High Pond, Pictou Co. (372).
 Ktz. Swamp Pond, Pictou Co. (373).
 " Grant Lake, Pictou Co. (374).
 " Maclean Pond, Pictou Co. (394).
 " Earltown Lake, Col. Co. (605).
 " Besancon's Lake, Pictou (733).
 " Cornwallis (992).
- gigas* Ehr. Mackintosh Lake (14 & 15).
 " High Pond (372).
 Ktz. Swamp Pond (373).
 " Grant Lake (374).
 Ehr. Earltown Lake (605).
 Ktz. Besancon's Lake (733).
 " Musquodoboit Lake (879).
 Ehr. Cornwallis (992).
- hemiptera* Ktz. Grant Lake (374); Maclean Pond (394);
 Besancon's Lake (733); Cornwallis (992).
- heroina* A. S. Musquodoboit Lake (879).
- Hitchcockii* Ehr. Grant Lake (374); Maclean Pond
 (394); Earltown Lake (605).
- interrupta* W. Sm. Mill's Pond, Morris River (395).
- iridis* Ehr. High Pond (372); Grant Lake (374); Besan-
 con's Lake (733); Musquodoboit Lake (879).
- var. *ampliata*. Swamp Pond (373); Grant Lake
 (374); MacLean Pond (394); Besancon's (733).
- Legendrei* F.H. & M. Per. Grant Lake, Pictou Co.
 (374).
- legumen* Ehr. Swamp Pond (373); Grant Lake (374);
 Maclean Pond (394).
- Ktz. Mill's Pond, Morris River (395).

Navicula

- limosa* Ktz. Grant Lake (374); Maclean Pond (394); Mill's Pond (395); Earltown Lake (605); Drakesville (679).
var. *gibberula*. Swamp Pond (373); Earltown (605).
lineolata Ehr. Besancon's Lake, Pictou County (733).
macilenta Ehr. High Pond (372); Swamp Pond (373); Maclean (394); Mill's Pond (395); Musquodoboit Lake (879).
Grun Besancon's Lake, Pictou Co (733).
major Ehr. Mackintosh (14, 15); Swamp (373); Musquodoboit (879); Cornwallis (992).
Ktz. Grant Lake (374); Maclean Pond (394); Mill's Pond (395); Besancon's Lake, Pictou Co. (733).
var. *asymetrica*. Swamp (373); Grant (374); Maclean (394); Mill's Pond, Morris River (395).
var. *subacuta*. Swamp Pond (373).
Ktz. Earltown Lake, col. Co. (605).
mesolepta Ehr. High (372); Grant (374); Maclean (394); Cornwallis (992).
mesolepta Ehr. var. *stauroneiformis*. High Pond (372); Grant Lake (374); Maclean (394); Besancon's Lake (733).
Ktz. var. *stauroneiformis*. Earltown Lake (605).
mesotyla Ehr. var. (?) Grant Lake (374); Maclean Pond (394).
microstauron O'Meara. Grant (374); Maclean (394); Cornwallis (992).
nobilis Ktz. Swamp (373); Grant (374); Maclean (394); Besancon (733); Cornwallis (992).
occidentalis C1. Grant Lake, Pictou Co. (374).
pachyptera Ehr. Grant Lake (374).
var. *parva* Ehr. Grant Lake (374).
Paulensis Grun. High (372); Swamp (373); Grant (374); Mill's (395); Musquodoboit Lake (879).
peregrina Ktz. Grant (374); Earltown (605); Drakesville (679).
polygonca Bréb. Mill's Pond (395).

Navicula

- popula* Ktz. Maclean Pond, Pictou Co. (394).
pupula Ktz. var. (?) Earltown Lake (605).
producta W. Sm. var. (?) Maclean Pond, Pictou Co. (394).
pseudobacillum Grun. Grant Lake (374); Earltown Lake (605).
radiosa Ktz. Grant (374); Maclean (394); Earltown (605); Drakesville (679).
rupestris Grun. Besancon's Lake, Pictou Co. (733).
Hantz. Musquodoboit (879); Cornwallis (992).
semen Ehr. Cornwallis (992).
serians Ktz. High (372); Swamp (373); Musquodoboit (879); Besancon (773).
var. *minor* High Pond (372).
stauropelta Grun. Maclean Pond (394).
streptoraphe Cl. Grant Lake (374); Maclean Pond (394).
subacuta Ehr. forma *minor*. Swamp Pond (373).
subsolaris Grun. High Pond, Pictou Co. (372).
tabellaria Ktz. Maclean Pond (394); Besancon's Lake (733).
var. *acrospheriaeformis*. (New variety). "Extremities as large (wide) as the middle. Axial area wide unto the ends which are like those of *N. acrosphera*. Mill's Pond (395).
tabellaria Ktz. var. *stauroneiformis*. Grant Lake, Pictou (374).
transversa A. S. Mackintosh (14, 15); Swamp (373); Grant (374); Maclean (394); Mill's (395); Earltown (605); Besancon (733).
trigonocephala Cl. Mill's Pond (395).
ventricosa Ktz. Grant (374); Maclean (394); Earltown (605).
viridis Ktz. Mackintosh (14, 15); Grant (374); Maclean (394); Mill's Pond (395); Besancon's Lake (733).
var. *commutata*. Earltown (605); Musquodoboit (879); Cornwallis (992).
var. *fallax*. High Pond (372); Maclean (394).
viridula Ktz. Earltown Lake (605).

Navicula viridula Ktz.

var. *major*. Earltown Lake (605).

(?) Adolf Schmidt's Atlas 44:22. Musquodoboit Lake (879).

Nitzschia scalaris W. Sm. Grant Lake (374).

sigmoidea W. Sm. Grant Lake (374); Mill's Pond (395).

spectabilis W. Sm. Mill's Pond (395).

Pleurostauron acuta W. Sm. Maclean Pond, Pictou Co. (394).

var. *maxima*. Swamp (373); Grant Lake (374).

sagitta Grun. Besancon's Lake, Pictou Co. (733).

Pseudo-Eunotia hemicyclus Grun. High Pond (372); Besancon's Lake (733).*Stauroneis amphilepta* Ehr. Grant Lake (374); Maclean Pond (394).

acuta W. Sm. Earltown Lake, Colchester Co. (605).

anceps Ehr. High (372); Grant (374); Maclean (394); Besancon's (733); Musquodoboit (879).

var. (?) Earltown Lake, Col. Co. (605).

var. *amphicephala*. High (372); Grant (374); Maclean (394); Besancon (733).

var. *elongata* (new variety). (Much longer and more lanceolate than var. *birostris*, less finely striated. 145 mu. long, 15 mu. broad, with 18 striae in 10 mu.) Mill's Pond, Morris River (395).

var. *fossilis*. Besancon's Lake (733).

Baileyi Ehr. High (372); Swamp (373); Grant (374); Maclean (394); Mill's Pond (395); Besancon (733); Musquodoboit (879); Cornwallis (992).*gracilis* Sm. Mackintosh (14, 15); High (372); Swamp (373); Grant (374); Maclean (394); Mill's (395); Earlton (605); Besancon (733).*lanceolata* Ktz. Musquodoboit Lake (879).*Phoenicenteron* Ehr. Mackintosh (14, 15); High (372); Swamp (373); Grant (374); Maclean (394); Mill's (395); Earlton (605); Besancon's (733); Cornwallis (992).

Stauroneis

var. maxima. Maclean Pond (394).

var. lanceolata. Mill's Pond (395).

var. elegans (new variety). (Larger than the type, carries sometimes a central granule in the middle of the median nodule. 150 mu. long by 30 wide. 3 to 15 striae in 10 mu.). Mill's (395).

producta Grun. Earltown Lake, Col. Co. (605).

Stodderi Greenl. var. *superba*. (new variety). (Area stauroneiform, large and recurved towards the borders on which are seen longitudinal ribs. 90 to 125 mu. long. 9 longitudinal ribs in 10 mu., 15 transverse striae.) High Pond, Pictou Co. (372).

Stenopterobia anceps Breb. High (372); Besancon (733); Musquodoboit (879).

Surirella Baileyi Laevis. High Pond, Pictou Co. (372).

bifrons Ktz. Mackintosh (14, 15); Swamp (373); Ehr. Besancon Lake (733); Musquodoboit Lake (879).

var. Adolf Schmidt, Atlas 23:2. High Pond (372).

biseriata Breb. Mackintosh Lake (14, 15).

elegans Ehr. Grant (374); Maclean (394); Mill's Pond (395).

cardinalis Kitt. Grant Lake (374); Mill's Pond (395).

cruciata A. S. var. (?) Swamp Pond (373).

Kittonii A. S. var. (?) Mill's Pond (395).

linearis W. Sm. Besancon Lake (733); Musquodoboit Lake (879).

var. commutata. Earltown Lake (605).

Surirella linearis W. Sm. var. *constricta*. High (372); Besancon (733); Musquodoboit (879).

var. elliptica. Musquodoboit Lake (879).

oblonga Ehr. High Pond, Pictou Co. (372).

Rattrayi A. S. Musquodoboit Lake (879).

robusta Ehr. Grant (374); Maclean (394); Earltown (605); Besancon (733).

Saxonica Auers. High (372); Swamp (373); Mill's (395); Besancon (733).

Surirella

- splendida* Ehr. Besancon's Lake, Pictou Co. (733).
forma minor. Mackintosh Lake (14, 15).
striatula Turp. Musquodoboit Lake (879).
tenera Greg. High (372); Maclean (394); Mill's (395); Besancon (733).
var. *nervosa*. Maclean Pond (394).

Thuringiaca Hantz. High Pond, Pictou Co. (372).

Synedra biceps Ktz. Mill's Pond, Morris River (395).
capitata Ehr. Drakesville (679).
ulna Ehr. Drakesville (679).

Tabellaria fenestrata Ktz. High (372); Grant (374); Maclean (394); Besancon (733).
floculosa Ktz. Besancon's Lake (733).

Vanheurckia rhomboidea Bréb. High (372); Besancon (733);
Musquodoboit (879).
forma major. High Pond (372).

NOTE

The location of "Drakesville" cannot yet be identified in Nova Scotia, altho given with the other Nova Scotian localities simply as "in Canada." Morris Lake, near Dartmouth, Nova Scotia, empties as a small stream into the Atlantic in Halifax County.

Mackintosh Lake is on the boundary of Pictou and Colchester Co.