

A SECOND LIST OF FRESHWATER ALGAE CHIEFLY
FROM NEW BRUNSWICK

HERBERT HABEEB AND FRANCIS DROUET

This paper is a continuation of the work initiated in 1947, and reported upon in RHODORA Vol. 50, March, 1948.

The material dealt with in this paper was collected during the years 1948–1951. In the winter of 1948–49 collections were made right through the cold months to show that the algal flora of our rivers and brooks is active the year round. In collections made from Little River and several brooks in the vicinity of Grand Falls during January and February of 1949, the following species are worth noting; *Batrachospermum moniliforme*, *Calothrix parietina*, *Chlorotylum cataractarum*, *Draparnaldia plumosa*, *Entophysalis rivularis*, *Leptosira Mediciana*, *Phormidium autumnale*, *P. purpurascens*, *P. Setchellianum*, *P. uncinatum*, *Rivularia haematites*, *R. rufescens*, *Rhizoclonium hieroglyphicum*, *Tetraspora gelatinosa*, *Tolypothrix penicillata*, and *Spirogyra Grevilleana*.—This last being in a sterile state.

The determinations were all made by Francis Drouet except that several numbers of *Characeae* were kindly determined for us by Mrs. Fay K. Daily, and that the naming of the *Zygnemataceae* is the responsibility of Herbert Habeeb. In this connection, it may be well to mention that all the species reported in this list are based upon dried herbarium macrospecimens. We are grateful to Rev. Irénée-Marie for his careful examination of two of the numbers for desmids. This resulted in his description of the novelty, *Staurostrum Habeebense*, from small ledge pools in the canyon at Grand Falls, New Brunswick.

The collection numbers given are those of Herbert Habeeb. Complete sets of the specimens are in the possession of the Cryptogamic Herbarium, Chicago Natural History Museum, and in the collections of Herbert Habeeb and Francis Drouet. Many of the numbers will be found duplicated in other herbaria.

Unless otherwise indicated, the specimens are from Victoria County, New Brunswick. A number of specimens are included that were collected in adjacent Aroostook County, Maine; these are indicated by placing "Maine" after the collection number. Also listed are a number of specimens from Mt. Albert in the

Gaspé region of Québec; these are indicated by placing "Gaspé" after the number. Some species from our first list of New Brunswick algae are again included to show recent changes in nomenclature and present appropriate synonymy.

AGMENELLUM THERMALE (Kütz.) Dr. & Daily. SYNONYMS: *Merismopoedia thermalis* Kütz. COLLECTION NUMBERS: 10940. 10982. In a brooklet.

ANABAENA OSCILLARIOIDES Bory. 10430. Wet swamp bottom.

A. VARIABILIS Kütz. 11682, Albert County. 11345, Maine. 11468, Maine. In a ledge pool. In a ditch. On exposed mud of a pond.

ANACYSTIS DIMIDIATA (Kütz.) Dr. & Daily. *Gloeocapsa dimidiata* (Kütz.) Dr. & Daily. *G. turgida* (Kütz.) Hollerb. 10582. 11414 in part. 11620 in part, Madawaska County. Ledge pool. Shore of a lake. In a pond.

A. MONTANA (Lightf.) Dr. & Daily. *Gloeocapsa alpicola* (Lyngb.) Born. 1792, Gaspé. 10456. 10476. 10556. 10558. 10586. 10646. 10687. 10704. 11474, York County. 11581, York County. 11582 in part, York County. 11651. 11672 in part. 11673 in part. 11674 in part. 11683 in part, Albert County. On ledge and canyon wall. In ledge pools. On vegetation in a brooklet. Off a twig in a lake. On a boulder near a spring. On a concrete water-tub at a spring. On a rock in a lake, top Mt. Albert.

A. MONTANA, f. MINOR (Wille) Dr. & Daily. 11491. In a shallow ledge pool.

A. THERMALIS (Menegh.) Dr. & Daily. *Gloeocapsa minuta* (Kütz.) Hollerb. *G. membranina* (Menegh.) Dr. & Daily. 10671. 10966 in part. 11414 in part. In ledge pools. Shore of a lake.

A. THERMALIS, f. MAJOR (Lagerh.) Dr. & Daily. *Gloeocapsa limnetica* (Lemm.) Hollerb. 11657 in part. In a lake.

ANKISTRODESMUS FALCATUS (Corda) Ralfs. 10623. 10663 in part. On ledge above river surface. In a ledge pool.

APHANOCHAETE REPENS A. Br. 10368. 10627. 10706. In ledge pools. Bog part of a small lake.

AULOSIRA IMPLEXA B. & F. 10772. On wet ground.

BULBOCHAETE MINOR A. Br. 10332. In a ledge pool.

CALOTHRIX PARIETINA (Näg.) Thur. *Calothrix parietina* B. & F. 1778, Gaspé. On debris in a pool, top Mt. Albert.

CAPSOSIPHON FULVESCENS (Ag.) Setch. & Gard. 13475, Sussex County. In a well at the salt springs, Sussex.

CHAETOPHORA INCRASSATA (Huds.) Haz. 10347. 10613. 10839. 11206. 11208. 11538. 11625. On vegetation, rocks, etc. in lakes, brooks and ponds.

CHARA GLOBULARIS Thuill. 11543. In a lake. Determined by Mrs. Fay K. Daily.

CLADOPHORA CRISPATA (Roth) Kütz. 1966, Gaspé. In a falls, 10½ miles "North" of the hotel at Mt. Albert.

COCCOCHLORIS ELABENS (Bréb.) Dr. & Daily. 10349. 11157. 11414 in part. 11437. 11522. 11650. 11655. 11657 in part. In lakes.

C. PENIOCYSTIS (Kütz.) Dr. & Daily. 11087. In a lake.

C. STAGNINA Spreng., *Anacystis rupestris* (Lyngb.) Dr. & Daily. 10917. 10927. 11218. 11416. In a ledge pool. On ledge near falls. In lakes.

COLEOCHAETE SCUTATA Bréb. 11623. On clam shells in a lake.

CYLINDROCYSTIS CYLINDROSPORA (Bréb.) Dr. & Daily. *Cylindrocystis Brebissonii* Menegh. 1779 in part, Gaspé. 10521. 10573. 10575. 11264. 11269. 11270. 11271. 13429 in part. In ledge pools. Ditches. Shore of a small lake, top Mt. Albert.

DESMIDIUM SWARTZII Ag. 10518. 10599, Maine. Wet bog. In a small pond.

DICHOTHRIX ORSINIANA (Kütz.) B. & F. 11494. 13403 in part. In trickling water on a ledge. In a ledge pool.

ENTOPHYSALIS LEMANIAE (Ag.) Dr. & Daily. *Entophysalis Brebissonii* (Menegh.) Dr. & Daily. 10407 in part. On rocks in a brooklet.

E. RIVULARIS (Kütz.) Dr. *Chamaesiphon polonicus* (Rostaf.) Hansg. 1967, Gaspé. 10424 in part. 10425, in part. 10447. 10453. 10500 in part. 10562. 10658. 10667. 10707 in part. 10957 in part. 10993. 11016. 11108. 13353 in part. 13372. 13373. 13375. 13405. 11480 in part, York County. On wet ledges. Ledge pools. On rocks, etc. in brooks. On ledge in a falls 10½ miles "North" of the hotel at Mt. Albert.

E. RIVULARIS, f. PAPILLOSA (Kütz.) Dr. & Daily. 11446. 11681, Albert County. On wall of a garden pool. On rocks in a spring.

EREMOSPHERA VIRIDIS DeBary. 11171. In a pond.

FISCHERELLA AMBIGUA (Näg.) Gom. *Fischerella ambigua* (B. & F.) Gom. 1783, Gaspé. Between wet stones, top Mt. Albert.

GLOEOTRICHIA PISUM (Ag.) Thur. 11399. 11609. 11611 in part. 11624. In a pond. On moss and clam shells in a lake.

GOMPHOSPHERA APOINIA Kütz. 11463, Madawaska County. 11466, Madawaska County. 11620 in part, Madawaska County. In a pond.

G. LACUSTRIS Chod. 10849. In a pool of a brooklet.

GONGROSIRA DEBARYANA Raben. 10472. 10954. 11177. 13482, Sussex County. On rocks, etc. in springs and brooks.

HAPALOSIPHON FONTINALIS (Ag.) Born. *Hapalosiphon pumilus* (Kirchn.) B. & F. 1790 in part, Gaspé. 1791, Gaspé. 1807 in part, Gaspé. 1899 in part, Gaspé. On wet ground, wet ledges, in tiny lakes, top Mt. Albert.

HORMOTILA MUCIGENA Borzi. 10963. On rock in a brook.

HYALOTHECA DISSILIENS (Sm. & Sow.) Bréb. 11150, Maine. 11210. 11220 in part. 11590, Maine. In a ditch. Ponds. Lake shore.

H. MUCOSA (Dillw.) Ehrenb. 11336. In a river.

PALMELLA MYOSURUS (Ducluz.) Lyngb. *Hydrurus foetidus* (Vill.) Trevis. 10420. 10454. 10661. 11680, Albert County. In a ledge pool. In brooklets and springs.

LEPTOSIRA MEDICIANA Borzi. 11012. On a rock in a brooklet.

LYNGBYA DIGUETH Gom. 13471 in part, Sussex County. Well at the salt springs, Sussex.

L. VERSICOLOR (Wartm.) Gom. 10742. 11626. 11673 in part. In a ledge pool. Off wood in a lake. On concrete water-tub at a spring.

MESOTAENIUM RUBESCENS (Bréb.) Dr. & Daily. *Mesotaenium macrococcum* (Kütz.) Roy. 1787, Gaspé. 10555. 11546, Madawaska County. 11675. In a ledge pool. On concrete water-tub at a spring. On bare ground. On ground, top Mt. Albert.

MICROCOLEUS RUPICOLA (Tild.) Dr. 10623 in part. 10633. 10910 in part. 11117. 13474 in part, Sussex County. On ground and ledges along rivers. On salty mud at the salt springs, Sussex.

MICROSPORA AMOENA (Kütz.) Rabenh. 11106. In a brook.

MOUGEOTIA LAETEVIRENS (A. Br.) Wittr. 11536. 11615. In a lake.

NETRIUM DIGITUS (Ehrenb.) Itzigs. & Rothe. 10527. 10971. 11338 in part. 13398. Bog end of a lake. Ledge pool. In a brooklet. In a river.

N. INTERRUPTUM (Bréb.) Lutkem. 11400 in part. 11401. In a pond.

NITELLA FLEXILIS Ag. 10888, York County. In the St. John River, Fredericton. Determined by Mrs. Fay K. Daily.

NOSTOC COMMUNE Vauch.? 1744, Gaspé. On ledge, top Mt. Albert.

N. PRUNIFORME (L.) Ag. 11158. 11159. 11436. 11457. In lakes.

N. MICROSCOPIUM Carm. *Nostoc microscopicum* B. & F. 1921, Gaspé. 1925, Gaspé. 1926, Gaspé. 1934, Gaspé. 1991, Gaspé. 1992, Gaspé. On mosses and hepatics in a ditch 2 miles "North" of the hotel at Mt. Albert. On mosses, swampy ground, 2 miles "North" of Cap-Chat.

N. SPHAERICUM Vauch. 10583. 11438. 11458. 11520. 11654. In lakes. Ledge pool.

N. VERRUCOSUM Vauch.? 1919, Gaspé. On a boulder, Mt. Albert.

OOCYSTIS BORGEI SNOW. 10381 in part. On wet ledge.

O. CRASSA Wittr. 10656. In a ledge pool.

OPHIOCYTIUM COCHLEARE (Eichw.) A. Br. 1788, Gaspé. 10363 in part. 11168. 11306, Maine. In ponds. Bog end of a lake. Bottom of a tiny pool, top Mt. Albert.

O. PARVULUM (Perty) A. Br. 11069 in part, Maine. 11074, Maine. 11079, Maine. 11081, Maine. 11223. 11249 in part, Madawaska County. 11398. In ponds, ditches, etc.

OSCILLATORIA AMOENA (Kütz.) Gom. 10426. 10625. 10828. 11103. 11211. 11289. 11424. 11515 in part. 11578 in part. 11601. 11631. 11638. 13380. 13381. 13414. On rocks, gravel, ledges, etc. in brooks and rivers.

O. ANGUINA (Bory) Gom. 10364 in part. 11439 in part. 11440. 11459. In a lake. Bog end of a lake. Pool on shore of a lake.

O. ARTICULATA Gardn. 10850. 10673. In a ledge pool. Bottom of a pool on a brooklet.

O. CHLORINA (Kütz.) Gom. 10343 in part. 10355 in part. In lakes.

O. CURVICEPS Ag. 11391. In a pond on a brook.

O. GRANULATA Gardn. 10364 in part. 11434 in part. In a lake. Bog part of a lake.

O. IRRIGUA (Kütz.) Gom. 10342. 10353 in part. 10477. 10595, Maine. 10942. 10969 in part. 11004. 11413. 11435. 11441. 11539. 11540. 11597? 11602? In lakes. In brooklets. Pond on a brooklet.

O. LIMOSA (Roth) Ag. 10777. 10779. On bottom and floating in an inlet to the St. John River.

O. ORNATA (Kütz.) Gom. 11161. In a lake.

O. PRINCEPS Vauch. 10342 in part. 10343 in part. 11252, Madawaska County. 11411. 11439 in part. 11443 in part. 11451. 11452. In a pond. In lakes.

O. SIMPLICISSIMA Gom. 11207. 11214. In lake. Pool on shore of a lake.

O. SPLENDIDA Grev. 10526. 10549. 11531, Maine. 11553. 11554. 11559. 11562. In a bog. In ponds and lakes.

O. TENUIS, var. TERGESTINA (Kütz.) Rabenh. 10341 in part. 10353 in part. 10355. 11180, Maine. 11198, Maine. In lakes. In a ditch. Brooklet from a swamp.

PALMOGLOEA PROTUBERANS (Sm. & Sow.) Kütz. *Gloeocystis Grevillei* (Berk.) Dr. & Daily. *G. confluens* (Kütz.) Richt. 1743 in part, Gaspé. 1745, Gaspé. 1746, Gaspé. 1757, Gaspé. 1769, Gaspé. 1785 in part, Gaspé. 1786, Gaspé. 1807, Gaspé. 1946, Gaspé. 1964, Gaspé. 1984, Gaspé. 1987, Gaspé. 2034, Gaspé. On wet ledge, on moss, on peat, in a small lake, etc., top Mt. Albert. On a boulder in a ditch, 2 miles "North" of the hotel at Mt. Albert. On ledge at a falls, 10½ miles "North" of the hotel at Mt. Albert. In falls of a brook, 4 miles "North" of Cap-Chat. On moss on a stump, 2 miles "North" of Cap-Chat. On moss on a ledge near the St. Lawrence River, 3 miles "North" of Grosses Roches, Matane County.

PENIUM MARGARITACEUM (Ehrenb.) Bréb. 11408 in part. In a pasture pond.

PHORMIDIUM INUNDATUM Kütz. 10977. 13371 in part. 11307, Maine. On ledge in a brook. On a log in a brooklet. In a pond.

P. PURPURASCENS (Kütz.) Gom. 10907. 11007a. 11596. 11291. In a brooklet.

P. RETZII (Ag.) Gom. 11298, Maine. 11557. On rocks in a brooklet. In a lake outlet.

P. VALDERIANUM Gom. 11093 in part. 11094 in part. 11097. 11098. 11102 in part. In water near shore of a lake, and in a nearby spring pool.

PLECTONEMA NOSTOCORUM Born. *Plectonema Nostocorum* Gom. 1927, Gaspé. Off moss in a ditch, 2 miles "North" of the hotel at Mt. Albert.

P. TOMASINIANUM (Kütz.) Born. 11037. On rocks in Little River.

PLEUROTAENIUM TRABECULA (Ehrenb.) Näg. 10411. Pond on a brooklet.

RHIZOCLONIUM HIEROGLYPHICUM (Ag.) Kütz. 10720. 11008. 11023.

11030. 11619, Madawaska County. In trickling water in canyon. In brooklets. In a pond.

R. RIPARIUM (Roth) Harv. 13471, Sussex County. 13472, Sussex County. In wells at the salt springs, Sussex.

RIVULARIA HAEMATITES (DC.) Ag. 10992. On rock in a brooklet.

R. MINUTULA (Kütz.) B. & F. 10755. 11610. On ledges and rocks in Little River. On rocks in a pond.

R. RUFESCENS (Näg.) B. & F. 11029. 11032. 11508. On rocks and ledge in springs and brooklets.

SCENEDESMUS BIJUGA (Turp.) Lagerh. 10579. 10697. 10929. 11535, Maine. 11603, Maine. In ledge pools. Permanent puddle. Road-side pool.

SCHIZOCHLAMYS AURANTIA (Ag.) Dr. & Daily. *Schizochlamys gelatinosa* A. Br. 11153, Maine. 11524. 11656. In a lake. On vegetation in swamp water.

SCHIZOTHRIX ARENARIA (Berk.) Gom. 10770. 10920. On ledge near falls, and on rocks in the St. John River.

S. CALCICOLA (Ag.) Gom. 10375. 10738. Ledge pools.

S. DAILYI Dr. 10425 in part. In a brooklet.

S. LACUSTRIS A. Br. *Schizothrix lacustris* Gom. 1794, Gaspé. Border of a tiny pool, top Mt. Albert.

S. LAMYI Gom. 1749, Gaspé. 1785 in part, Gaspé. On peat, shore of a small lake, top Mt. Albert.

S. LARDACEA (Ces.) Gom. 10967. 11561 in part. 11664 in part. On a boulder, shore of a lake. Side of a ledge pool. On wet wood in a lake outlet.

S. LATERITIA (Kütz.) Gom. 10928. In a ledge pool.

S. MELLEA Gardn. 1742 in part, Gaspé. 1776, Gaspé. In a water trickle on a ledge, top Mt. Albert. On peat, shore of a small lake, top Mt. Albert.

S. MUELLERI Næg. 11486 in part, York County. On ground in forest.

S. PURPURASCENS (Kütz.) Gom. 11486 in part, York County. On ground in forest.

SCYTONEMA DENSUM (A. Br.) Born. 1752, Gaspé. On wet ledge, top Mt. Albert.

S. MIRABILE (Dillw.) Born. *Scytonema figuratum* B. & F. 1742 in part, Gaspé. In a water trickle on a ledge, top Mt. Albert.

S. TOLYPOTRICHOIDES Kütz. 11442. 11636. In a brooklet. Lake shore.

SPHAERELLA LACUSTRIS (Girod.) Wittr. 1750, Gaspé. On rocks in a tiny pool, top Mt. Albert.

SPIROGYRA CATENAEFORMIS (Hass.) Kütz. (Also spelled CATENIFORMIS). 10780. 10781. 10812. 10820. 10837. 10841. 10846 in part. 10939. 11068, Maine. 11073, Maine. 11176. 11287. 11384, Restigouche County. 11385, Restigouche County. 11447? 11594 in part. In brooklets, freshwater pools, springs, ponds, etc.

S. COMMUNIS (Hass.) Kütz. 11349, Maine. In a pond.

S. CONDENSATA (Vauch.) Kütz. 11277. 11278. 11279. 11280. 11281 in part. 11282. 11341. Inlet of the Tobique River. Pond, bed of the Tobique River. In a spring, shore of the Tobique River.

S. CRASSA Kütz. 11430 in part. 11444 in part. 11465, Madawaska County. In lakes and ponds.

S. DUBIA Kütz. 10530. 10533. 10543. 10545. 10547. 10548. 10594, Maine. 11350, Maine. 11351 in part. 11429 in part. 11456, Maine. In a ditch. Lakes and artificial ponds.

S. FLUVIATILIS Hilse. 10915. 10925. 10926. 11110. 11472, Maine. 11495. In a ledge pool. On and between rocks in a pond outlet, Caribou.

S. GRACILIS (Hass.) Kütz. 11137 in part, Maine. 11235, Maine. 11309 in part, Maine. In a pond. Ditches.

S. GREVILLEANA (Hass.) Kütz. 10930. 10989. 11066 in part, Maine. 11067 in part, Maine. 11113, Maine. 11138 in part, Maine. 11142, Maine. 11304, Maine. In a ledge pool. Brooklet. In ditches.

S. HANTZSCHII Rabenh. 11147, Maine. 11183, Maine. 11293, Maine. 11342, Maine. 11343, Maine. In a ditch.

Our material is a perfect match with the type itself except for the ornamentation of the inner membrane of the spores. In all probability, our material was not ripe enough to show an ornamentation of the inner membrane.

S. INFLATA (Vauch.) Kütz. 10490. 11066 in part, Maine. 11067 in part, Maine. 11138 in part, Maine. 11141, Maine. 11400 in part. In a pond. Freshwater pool. In ditches.

S. JUERGENSENII Kütz.? 10819. In a ledge pool.

S. LONGATA (Vauch.) Kütz. 11136, Maine. 11139, Maine. 11348, Maine. 11351 in part, Maine. 11392 in part. In ponds.

S. MAXIMA (Hass.) Wittr. 11430 in part. 11433. 11444 in part. 11445. In a lake.

S. NEGLECTA (Hass.) Kütz. 10600, Maine. 10601, Maine. 10906. 11167. 11173. 11174. 11175. 11319. 11393. 11394. 11395. 11429 in part. 11616, Maine. Common in artificial ponds forming dense floating mats.

S. MAJUSCULA Kütz. *Spirogyra orthospira* (Näg.) Kütz. 11412. 11454. In a lake.

S. WEBERI Kütz. 11118. 11228. 11257, Madawaska County. 11258, Madawaska County. 11259, Madawaska County. 11299, Maine. 11403. In ponds. Ledge pool. Slow part of a brooklet.

STIGONEMA MAMILLOSUM (Lyngb.) Ag. 10515 in part. In a lake.

S. PANNIFORME (Ag.) B. & F. 1742 in part, Gaspé. 1777, Gaspé. 1779 in part, Gaspé. 1790 in part, Gaspé. 1793, Gaspé. 1797, Gaspé. 1807 in part, Gaspé. On wet ledge, pool bottom, shore of a small lake, and in a tiny lake, top Mt. Albert.

SYMPLOCA DUBIA (Näg.) Gom. 11489. On ledge in falls.

S. MURALIS Kütz. 10692 in part. 11686, Albert County. 11517. In ledge pools. With *Philonotis* sp. on a damp ledge.

TETMEMORUS GRANULATUS (Bréb.) Ralfs. 11322. In a ditch.

TETRAEDRON MINIMUM (A. Br.) Hansg. 10557. 10570. Ledge pools.

TRIBONEMA BOMBYCINUM, f. *TENUE* Haz. 11146, Maine. In a ditch.

TOLYPOTHRIX DISTORTA (Hofm.-Bang) Kütz. 10522. Bog shore of a lake.

T. LANATA (Desv.) Wartm. 10362. 11164. 11418. Lake and bog part of lake. In a swamp pool.

T. PENICILLATA (Ag.) Thur. 10407 in part. 10471. 10489. 10788. 10956. 10974. 11005. 11035. 11038. 11044. 11048. 11488. On rocks and ledge in Little River and its tributaries.

T. TENUIS Kütz. 10515 in part. 11163. 13477, Sussex County. 11498. 11611 in part. 11622. 11627. 11628. On clam shells, vegetation, etc. in lakes. In a well at the salt springs, Sussex.

ULOTHRIX IMPLEXA Kütz. 13478, Sussex County. Salt springs, Sussex.

VAUCHERIA AVERSA Hass. 11085, Maine. 11302, Maine. 11311, Maine. In ditches.

V. GEMINATA, var. *RACEMOSA* (Vauch.) Walz. 11111. 11308 in part, Maine. 11370, Restigouche County. In a brook. Small pond. In a ditch.

ZYGNEMA CYANOSPORUM Cleve? 11337. 11634. In a spring. In a pool, bed of Little River.

Z. DECUSSATUM (Vauch.) Ag. 11292 in part. In a brooklet.

Z. INSIGNE (Hass.) Kütz. 11570. 11588, Maine. 11589, Maine. In a ditch. Pasture pool.

Z. PECTINATUM (Vauch.) Ag. 11281 in part. 11292 in part. 11340. In a brooklet. Inlet of the Tobique River.

ZYGOGONIUM ERICETORUM Kütz. 1795, Gaspé. 10663 in part. 10664. 10665. 11420. Path surface through a bog. Ledge pools. In a flow-way between pools, top Mt. Albert.—GRAND FALLS, NEW BRUNSWICK, and the CHICAGO NATURAL HISTORY MUSEUM.



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