

THE ALGAE OF NEW JERSEY (U.S.A.)
V. CYANOPHYTA (BLUE-GREEN ALGAE)

MaryAnn Foote
Ecology Program, Rutgers University
New Brunswick, New Jersey 08903

This is the fifth paper in a series examining the distribution of algae in the State of New Jersey (U.S.A.). The genera are again arranged alphabetically. If no citation is given, the species was noted by the author.

The taxonomy and classification of the blue-green algae is in turmoil. Dr. Francis Drouet has intensely studied this algal group and he believes that some characteristics traditionally used to classify blue-green algae, such as sheath, protoplasmic granules, placement of spores, the presence of a gelatinous matrix, etc., are environmentally variable. Drouet, therefore, bases his classification upon cells or trichomes only.

Of course, not all phycologists agree with Drouet. In the following list, the algae are presented as named by the original investigator(s) and Drouet's suggestions for the taxa are noted in brackets.

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CYANOPHYTA

BLUE-GREEN ALGAE

- Anabaena circinalis (Kutz) Rab
Hackensack River; (Nostoc commune)
Anabaena cupressaphila Wolle
on trunks of trees growing in marshes near the water's edge
(1,8,9); (Calothrix parietina)
Anabaena flos-aquae (Lyngb) Breb
common on stagnant freshwater (1); (Microcoleus vaginatus)
Anabaena flos-aquae var. aestuartii Wolle
very abundant on pond at Dennisville (1); common on stagnant
freshwater (8); Pine Barrens (6); (Anabaina oscillarioides)
Anabaena flos-aquae var. circinalis (Rab) Kirch
very abundant on pond at Dennisville (1); (Nostoc commune)
Anabaena oscillarioides Bory
in brackish ditches, southern parts of the state (1); brackish
ditches (8,9)
Anabaena spiroides var. crassa Lemm
D/R Canal, Oct (7); (Nostoc commune)
Anabaena torulosa (Carm) Lag
marine, on decaying algae at Camden, Atlantic City and Newark Bay
(1); with other algae forming a brownish jelly in a pool east of
Camden, also Newark Bay, Atlantic City (8); (Anabaina
oscillarioides)
Anabaena variabilis Kutz
D/R Canal, Jul-Aug (7); freshwater, Somerset, pools, Bound Brook
(8); (Anabaina oscillarioides)

- Aphanizomenon flos-aquae (L) Ralfs
D/R Canal, Sept-Nov (7); Hackensack River; Oradell Reservoir,
abundant Jun-Aug (2); (*Microcoleus vaginatus*)
Aphanocapsa delicatissima W & G West
Hackensack River
Aphanocapsa virescens (Hass) Rab
on wet stones and rocks (1)
Aphanotheca prasina A Br
freshwater, occasional, floating on ponds (1,8)
Aphanotheca saxicola Nag
Hackensack River
Brachytrichia quoyi (C Ag) Born & Flah
marine, Atlantic City (1,8)
Calothrix brebissonii Kutz
freshwater, on stones in ponds, frequent (1,9)
Calothrix confervicola (Roth) Ag
marine, on rockweed in Atlantic City, Hoboken, Communipaw and New
York Bay (1,8); on various algae, Atlantic City (4); (*Calothrix*
crustacea)
Calothrix crustacea Schousbae & Thuret
marine, on rockweed (1,4,8)
Calothrix dillwynii Hass
frequent in freshwater swamps (1); swamps, etc. (9)
Calothrix fusca Born & Flah
state, Oct 1892 (8); Oradell Reservoir, common in plankton,
Jul-Aug (2)
Calothrix gypsophila Kutz
freshwater, rocky shores of Lake Hopatcong (1,9)
Calothrix lacucola Wolle
freshwater, Split Rock Pond (1,8,9)
Calothrix meneghiniana Kirch
freshwater, frequent on submerged wood, etc. (1)
Calothrix parietina (Nag) Thur
on submerged stones in shallow water (8)
Calothrix pulvinata (Mert) Ag
wharves, Atlantic City (1,4,8); (*Calothrix crustacea*)
Calothrix radiosa (Kutz) Kirch
freshwater, Morris Pond (1)
Calothrix scopulorum (Web & Mohr) Ag
wharves, Hoboken, Atlantic City, Beeseley's Point (1;8); on
woodwork, Atlantic City (4); (*Calothrix crustacea*)
Chaemosiphon incrustans Grun
on centric diatoms in the Hackensack River; (*Entophysalis*)
Chroococcus limneticus Lemm
D/R Canal, Jul-Feb (7); Hackensack River
Chroococcus limneticus var. subsalsus Lemm
Hackensack River
Chroococcus multicoloratus Wood
Hackensack River
Chroococcus rufescens (Breb) Naeg
terrestrial, frequent on moist rocks (1)
Chroococcus turgidus (Kutz) Lemm.
terrestrial, frequent on moist rocks (1;8); Pine Barrens (5); New
Brunswick (3); Hackensack River (*Anacystis dimidiata*)

Clathrocystis roseo-persicina Cohn

on marshes, mud and small pebbles, Atlantic City (1); abundant, marshes, Atlantic City (4)

Coelosphaerium keutzingianum Nag

frequent on stagnant pools (1,8); D/R Canal (7); Hackensack River

Coelosphaerium naegelianum Unger

D/R Canal, Aug-Oct (7); Hackensack River

Cylindrospermum limnicola Kutz

wet places on dead wood, etc (1); (*Anabaina licheniformis*)

Cylindrospermum macrospermum Kutz

frequent in wet places on dead wood, etc (1); (*Anabaina oscillarioides*)

Cylindrospermum minutum Wood

forming with other algae a ferruginous brown, gelatinous mass, growing in a deep, shaded, very stagnant pool, and Spring Garden in wet places on dead wood (8)

Cylindrospermum stagnale (Kutz) Born & Flah

frequent in wet places on dead wood (8); (*Nostoc commune*)

Desmonema wrangelii (Ag) Born & Flah

swamps, Morris Pond (8)

Dichothrix meneghiniana (Kutz) DeToni

frequent on submerged wood in freshwater (8)

Entophysalis granulosa Kutz

marine, on shells at Atlantic City (1); on old shells at Atlantic City, forming a crumbly incrustation at the highwater mark and seeming to prefer lagoons or high-tide pools where the water is quite salt and where the level doesn't vary much (8); (*Entophysalis deusta*)

Eucapsis alpina Clem & Shantz

Pine Barrens (5)

Gloeocapsa alpicola (Lyng) Born

Hackensack River

Gloeocapsa crepidinum Thur

marine, on wharves at Atlantic City (1,4,8); (*Entophysalis deusta*)

Gloeocapsa magma (Breb) Kutz

terrestrial, frequent on shaded rocks (1,8)

Gloeocapsa rupestris Kutz

state (8)

Gloeotheca confluens Naeg

terrestrial, on wet rocks (1,8)

Gloeotrichia natans (Hedw) Thur

freshwater, frequent in small ponds and pools (1)

Gloeotrichia pisum (Ag) Thur

freshwater, parasitic on other aquatic plants (1)

Gomphosphaeria aponina Kutz

freshwater, in pools and ponds (1,8); Hackensack River

Gomphosphaeria lacustris Chod

Hackensack River

Gomphosphaeria wichurae (Hilse) Drouet & Daily

Hackensack River

Hapalosiphon braunii Kutz

in ponds, on submerged plants, Atsion and Hamonton (1)

Hapalosiphon brebissonii Kutz

in ponds, on submerged plants (1); Dennisville (9); Pine Barrens

- Hapalosiphon fontinalis (Ag) Born
on submerged plants in ponds at Dennisville, Atsion, Hammonton (8)
- H. fontinalis var. tenuissimus (Grun) Coll & Setch
state (8)
- Hapalosiphon fuscescens Kutz
frequent in ponds (1,9)
- Hapalosiphon tenuissimus Grun
ponds and wet ground (1,9); Pine Barrens (6)
- Hydrocoleum lyngbyaceum Kutz
on moist low grounds near Atlantic City (8); (Microcoleus lyngbyaceus)
- Hypheothrix coriacea forma meneghinii Kutz
damp earth (8)
- Hypheothrix pallida Kutz
forming reddish-brown stratum on dry ground, wet soil, old meadow grounds (8)
- Isactis caespitosa (Kutz) Wolle
freshwater, frequent on submerged stones in shallow water (1); state (9)
- Isactis fluviatilis (Rab) Kirch
freshwater, rocky margins of Green Pond (1)
- Isactis plana (Harv) Thur
stones and old oyster shells, Atlantic City (1,8,4)
- Leptothrix aeruginea (Kutz) Kirch
freshwater, frequent in ponds (1)
- Leptothrix ochracea Kutz
freshwater, in ditches and small pools, frequent (1)
- Leptothrix rigidula Kutz
marine, on algae, Atlantic City (1)
- Lyngbya aerugine-caerulea (Kutz) Gom
common, Jun-Jul, Nov (2)
- Lyngbya aestuarii (Mertens) Liebm
marine, brackish ditches at Hoboken, common in salt ponds and marshes about Newark Bay, Perth Amboy, Absecon (1); in pools of moist earth subject to inundation from flowing tides, in ponds and pools in salt water marshes, Perth Amboy, Absecon, brackish ditches at Hoboken, common on marshes on floating eel grass, Atlantic City, in salt marshes about Newark Bay, in salt ditches, Cape May (8); common on marshes, Atlantic City (4); Pine Barrens (6); (Microcoleus lyngbyaceus)
- Lyngbya aestuarii forma aeruginosa (Ag) Wolle
on ground or in brackish ditches (8)
- Lyngbya aestuarii forma minus Liebm
Absecon, Perth Amboy (9)
- Lyngbya arenarium (Kutz) Rab
on low moist grounds near Atlantic City (1,9)
- Lyngbya bergei G M Smith
D/R Canal, Jul-Dec (7)
- Lyngbya cataracta (Rab) Wolle
in rapid waters, frequent (1)
- Lyngbya lutea (Ag) Gom
on wharves, Atlantic City (8); (Oscillatoria lutea)

Lyngbya luteo-fusca Ag

Hoboken, wharves between tide marks, Atlantic City (1)

Lyngbya majuscula (Dillw) Harv

marine, Newark Bay, on stems of floating eel grass in Atlantic City, Cape May, New York area (1); Newark Bay, Hudson River and on eel grass at Atlantic City (8); not uncommon, floating (4); (*Microcoleus lyngbyaceus*)

Lyngbya obscura Wolle

freshwater, ponds and pools (1,9)

Lyngbya pallida (Naeg) Kutz

wet soil and old meadow grounds (1); exposed wet soil, old roadways, old meadow grounds (9)

Lyngbya phormidium Kutz

freshwater, on marsh bottoms, frequent (1)

Lyngbya rupestre (Ag) Kutz

on rocks, Palisades (1)

Lyngbya semiplens (C Ag) J Ag

Hudson, Hoboken, on wharves between tide marks at Atlantic City (8); (*Microcoleus lyngbyaceus*)

Lyngbya tenerrima Thur

marine, on wharves, Atlantic City (1); in small quantity, among other algae, Atlantic City (4)

Lyngbya vulgaris (Kutz) Kirch

freshwater, on moist soil, frequent (1)

Lyngbya wollei Farlow

freshwater, Lake Hopatcong, Swartswood Pond (1); widely distributed, pond near Stanhope (9)

Marsoneilla elegans Lemm

D/R Canal, Oct (7)

Mastigonema aerugineum (Kutz) Kirch

freshwater, common in small ponds (1); state (9)

Merismopedia convolutum Breb

freshwater, frequent in ponds (1,8)

Merismopedia elegans A Br

D/R Canal, Jul-Oct (7); Hackensack River; (*Agmenellum thermale*)

Merismopedia glauca (Ehr) Nag

D/R Canal, Oct (7); Hackensack River

Merismopedia punctata Meyen

Pine Barrens (5); (*Agmenellum quadruplicatum*)

Merismopedia tenuissima Lemm

D/R Canal, Jul-Sep (7); Hackensack River

Microcoleus chthanoplastes Thur

marine, on marshes, Atlantic City (1); brackish pools, Atlantic City, moist earth (8); on marshes, mixed with other algae (4); Hackensack River; (*Schizothrix arenaria*)

Microcoleus anguiformis Harv

terrestrial (1); Pine Barrens (6)

Microcoleus hyalinus (Kutz) Kirch

freshwater, in ponds on sphagnum (1); ponds (9)

Microcoleus lacustris

Pine Barrens (6)

Microcoleus pulvinatus Wolle

mill race, Bamber (1,9); the thalli of all possible sizes from 1-10" in diameter are attached to stones and grasses looking like

boulders in the bottom of a mill race with rapidly running water (8); Pine Barrens (6)

Microcoleus terrestris Desmog
terrestrial, on moist earth, frequent (1)

Microcoleus vaginatus (Vaucher) Gom
on moist earth (8)

Microcystis ichthyoblabe Kutz
occasional in small ponds (8)

Microcystis pallida (Farlow) Lemm
on decaying algae, Atlantic City (8)

Microcystis progenita (Bres) Rab
terrestrial, wet timbers, trunks of trees, etc (1)

Nostoc alpinum Kutz
dripping rocks, Palisades (1); (Nostoc commune)

Nostoc austinii Wood
growing amidst mosses on rocks, near Gloucester (8); (Nostoc commune)

Nostoc caeruleum Lyngb
in ponds and on dripping rocks (1)

Nostoc comminutum Kutz
on pond water, frequent (1,8); (Nostoc commune)

Nostoc commune Vauch
on wet ground, common (1); common on wet ground, dripping rocks, Palisades (8)

Nostoc depressum Wood
attached to a brook moss, growing in a rapid rivulet in the northern part of the state (8); (Nostoc commune)

Nostoc microscopium Carm
frequent on moist rocks (8); (Nostoc commune)

Nostoc pruniforma Ag
in ponds (1); (Nostoc commune)

Nostoc punctatum Wood
damp ground, Sep (8); (Nostoc commune)

Nostoc rupestre Kutz
on moist rocks, frequent (1); (Nostoc commune)

Nostoc sphaericum Vauch
on wet rocks, abundant (1,8)

Oncobyrsa cesatiana Rab
New Brunswick (3)

Oscillatoria amphibia Ag
New Brunswick (3)

Oscillatoria angustissima West & West
Hackensack River

Oscillatoria brevis Kutz
freshwater, in marshes (1, 8); Hackensack River; (Arthrospira neapolitana)

Oscillatoria formosa Bory
Oradell Reservoir, occasional, Jul (2); New Brunswick (3); Hackensack River

Oscillatoria froelichii Kutz
freshwater, on sluggish and stagnant water (1)

Oscillatoria gracillima Kutz
freshwater on small ponds (1)

Oscillatoria imperator Wood

freshwater, frequent in ponds and pools (1)

Oscillatoria leptotricha Kutz

brackish water (9)

Oscillatoria limnmetica Lemm

New Brunswick (3)

Oscillatoria limosa Ag & Gom

terrestrial, on wet earth, frequent (1); Stapleton and Tomkinsville, Staten Island, frequent on wet earth (8); New Brunswick (3); Hackensack River

Oscillatoria littoralis Carm

marine, salt water marshes, frequent (1,9)

Oscillatoria major Vauch

freshwater, on sluggish and stagnant waters (1,8)

Oscillatoria natans Kutz

freshwater, on ponds (1)

Oscillatoria nigra Vauch

D/R Canal, May-Dec (7); in wet places (1,8)

Oscillatoria ornata Kutz

New Brunswick (3)

Oscillatoria princeps Vauch

freshwater, on pools, Dennisville (1,8); Pine Barrens (5)

Oscillatoria sancta (Kutz) Gom

Hackensack River

Oscillatoria splendida Kutz

on small freshwater ponds, in ditches of brackish water (8); Hackensack River

Oscillatoria subtarulosa (Breb) Farlow

marine, brackish water and pools, Atlantic Co (1); found with

Oscillatoria subuliformis, Atlantic City (4)

Oscillatoria subuliformis Kutz

marine, in brackish water and pools, Atlantic Co (1,8); mixed with other algae, Atlantic City (4); (*Porphyrosiphon notarisii*)

Oscillatoria tenuis Ag

stagnant water (1,8); Pine Barrens (5); Oradell Reservoir, occasional, Jun-Aug (2); New Brunswick (3); Hackensack River

Oscillatoria tenuis var. natans (Kuet) Gom

freshwater ponds, frequent (8)

Phormidium autumnale (Ag) Gom

on moist soil (8); (*Microcoleus vaginatus*)

Phormidium incrustatum var. cataractarum (Naeg) Gomont

rapid water (8)

Phormidium retzii forma rupestris (Kutz) Gom

on rocks, Palisades (8)

Phormidium uncinatum (Ag) Gom

New Brunswick (3)

Plectonema tomasinianum (Kutz) Born

frequent on stones in ponds or floating, Hamonton (8)

Plectonema wollei Farlow

the floating mass was fully 10 yards long, 2-4 yards wide, a foot or more in thickness and so densely matted it was impossible to break through with a rowboat, in pond near Stanhope, also Sussex, Lake Hopatcong, Swartswood Pond (8)

Polycystis aeruginosa Kutz

D/R Canal, Jul-Oct (7); Hackensack River

- Polycystis flos-aquae (Wittr) Kirc
Hackensack River
- Polycystis ichthyoblabe Kutz
freshwater, occasional in small pools (1)
- Polycystis pallida (Kutz) Farlow
marine, on decaying algae, Atlantic City (1,4)
- Rivularia atra Roth
stones at Atlantic City (1,8);(Calothrix crustacea)
- Rivularia dura Kutz
freshwater, attached to other aquatic plants in ponds, frequent (1,8);(Calothrix parientina)
- Rivularia haematites (D C) Ag
rocky margins of Green Pond (8)
- Rivularia hospita Thur
on an oyster shell, Atlantic City (4)
- Rivularia natans (Hedwig) Welw
small ponds and pools (8)
- Rivularia polyotis (J Ag) Born & Flah
marine, on roots of Spartina and on oyster shells, Atlantic Co (1,8);(Calothrix crustacea)
- Schizothrix hyalina Kutz
in ponds on sphagnum (8)
- Scytonema austinii Wood
forming a sort of miniature turfy cushion upon the rocks, Little Falls (8)
- Scytonema calotrichoides Kutz
on submerged sticks in ponds (1,9)
- Scytonema cinerum Menegh
Godwinville, on moist rocks (1,9)
- Scytonema gracile Kutz
on rocky shores of Morris Pond (1,9)
- Scytonema guyanese (Mont) Born & Flah
forming an extended olive green stratum, a little above the water level on the plank sides of a neglected basin of sea water, Perth Amboy, July, 1878 (8)
- Scytonema hafmanni Ag
on moist earth, wood and rocks (8)
- Scytonema immersum Wood
forming a flocculent, greenish black, slimy coating to the stems and finely dissected leaves of Ranunculus aquetilis in Shepherds Mill Pond, near Greenwich (8)
- Scytonema mirabile (Dillw) Born
frequent on submerged sticks in ponds (8)
- Scytonema myochrous (Dillw) Ag
on moist ground, Closter, Morris Pond (1,8)
- Scytonema naegelii Kutz
moist rocks, Closter and Godwinville (1)
- Scytonema natans Breb
floating in ponds, Hammonton and elsewhere (1)
- Scytonema ocellatum Lyng
on moist rocks, Godwinville (8)
- Scytonema tolypotherichoides Born & Flah
frequent on wet rocks (1,8);Pine Barrens (5)
- Sirosiphon compactus Kutz

- on moist rocks (1)
Sirosiphon coralloides Kutz
on rocky shores of Green Pond (1,9); Pine Barrens (6)
Sirosiphon ocellatus Kutz
in swampy places on submerged sticks (1)
Sirosiphon pulvinatus Breb
on moist rocks (1)
Sphaerozyga carmichaelii Harv
common on muddy flats and in shallow pools in marshes
(4); (Anabaina oscillarioides)
Sphaerozyga polysperma Kutz
freshwater, in pools, Bound Brook (1); (Anabaina oscillarioides)
Sphaerozyga saccata Wolle
Cranbury Pond (9); (Hapalosiphon)
Spirulina laxa G M Smith
New Brunswick (3); Hackensack River
Spirulina princeps West & West
Hackensack River; (Spirulina subsalsa)
Spirulina subsalsa Oersted
mixed with Oscillatoria, Atlantic City, also Swimming River,
mixed with other minute forms, Atlantic City (8)
Spirulina tenuissima Kutz
marine, Atlantic City, mixed with other minute forms, Swimming
River (1); in small quantity, mixed with Oscillatoria, Atlantic
City
Stigonema informe Kutz
on stones constantly washed by the waves, along the rocky shores
of Green Pond (8)
Stigonema ocellatum (Dillw) Thur
forming, with various other species of algae, a gelatinous
blue-green or brown stratum, in a very stagnant pool, on
submerged sticks in swampy places or in dark brown waving tufts,
about a half inch in length, Bamber Lake (8)
Stigonema panniforme (Ag) Kirchner
frequent on moist rocks (8)
Stigonema turfaceum (Breb) Cooke
growing on exposed faces of rocks (8); Pine Barrens (5)
Symplocastrum friesii (Ag) Kirck
shaded clay banks, Bergen (8)
Symphosiphon austinii Wood
on wet rocks, Little Falls (1,9)
Symphosiphon hafmanni (Ag) Kutz
on moist earth, wood and rocks (1)
Symploca lucifuga Harv
terrestrial, on shaded clay banks, Bergen Co (1,9)
Symploca muralis Kutz
Pine Barrens (5)
Symploca muscorum (Ag) Gom
on marsh bottoms (8)
Tolypothrix aegogropila (Kutz) Kirck
Budd Lake (1,9)
Tolypothrix distorta Kutz
in ponds (1); rocky shores of Morris Pond (7)
Tolypothrix lanata (Desv) Wartm

clusters torn from attachment by storm, Budd Lake (8)
Tolypothrix muscicola Kutz
frequent in sluggish water (1)
Tolypothrix penicillata (Ag) Thur
on moist rocks, Closter and Godwinville (8)
Tolypothrix tenuis Kutz
in ponds, often very abundant (1,8)
Tolypothrix tenuis forma bryophila Rab
ponds, very abundant (8,9)
Wollea saccata (Wolle) Born & Flah
frequent in cranberry pond, Sussex Co (1); (Hapalosiphon)
Xenococcus schoushoei Thur
marine, growing on Lyngbya luteo-fusca at Atlantic City
(1,8); (Entophysalis conferta)

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