

Algae of Putnam County, Indiana

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The collections of algae, from which the accompanying list was compiled, were made between December 1959 and April 1961. All collections were made in Putnam County. Farm ponds, temporary pools, streams, quarries and an artificial lake were the sources of the collections. All of the species and varieties are new reports for Putnam County with the exception of *Chara contraria* A. Braun (1), *Chara vulgaris* Vaillant ex. Linnaeus, *Chara globularis* Thuillier (2), *Draparnaldia plumosa* (Vaucher) C. A. Agardh (3), *Spirogyra borgeana* Transeau, and *Spirogyra majuscula* Kuetzing (4). The species and varieties marked by an asterisk are new reports for the state.

There are 42 families, 98 genera, 192 species and 15 varieties reported by the writer as being collected in Putnam County. As far as known, 1 family, 3 genera, 35 species and 5 varieties are new reports for the state.

The writer wishes to thank Dr. Winona H. Welch, under whose direction this work was conducted. To Mr. W. A. Daily and Mrs. Fay Kenoyer Daily for their suggestions and assistance in the determination of the Myxophyceae and Characeae, the writer extends his appreciation. The writer is indebted to the Indiana Academy of Science for a research grant and to DePauw University for the use of all necessary equipment, all of which have made possible this study.

All specimens collected for this study are deposited in the T. G. Yuncker Herbarium, of the Botany Department of DePauw University, at Greencastle, Indiana.

Chlorophyta

- Chlamydomonas globosa* Snow
- Phacotus lenticularis* (Ehrenberg) Stein
- Gonium pectorale* Mueller
- Pandorina morum* (Mueller) Bory
- Eudorina elegans* Ehrenberg
- Volvox aureus* Ehrenberg
- Sphaerocystis schroeteri* Chodat
- **Gloeocystis ampla* (Kuetzing) Lagerheim
- Tetraspora cylindrica* (Wahlenberg) C. A. Agardh
- Tetraspora gelatinosa* (Vaucher) Desvaux
- Tetraspora lubrica* (Roth) C. A. Agardh
- Ulothrix tenerrima* Kuetzing
- Geminella interrupta* (Turpin) Lagerheim
- **Radiofilum flavescens* G. S. West
- Cylindrocapsa geminella* Wolle
- Draparnaldia glomerata* (Vaucher) C. A. Agardh
- Draparnaldia plumosa* (Vaucher) C. A. Agardh
- Stigeoclonium stagnatile* (Hazen) Collins
- Chaetophora elegans* (Roth) C. A. Agardh
- Chaetophora incrassata* (Hudson) Hazen
- Chaetophora pisiformis* (Roth) C. A. Agardh
- **Chaetopeltis americana* (Snow) Collins
- Aphanochaete repens* A. Braun

- Protococcus viridis* C. A. Agardh
 **Coleochaete orbicularis* Pringsheim
Coleochaete scutata Brebisson
 **Chaetosphaeridium globosum* (Nordstedt) Klebahn
Cladophora glomerata (Linnaeus) Kuetzing
Rhizoclonium hieroglyphicum (C. A. Agardh) Kuetzing
Pithophora varia Wille
Basieladia chelonum (Collins) Hoffman and Tilden
Bulbochaete varians Wittrock var. *subsimplex* (Wittrock) Hirn
Oedogonium crenulatocostatum Wittrock
Oedogonium grande Kuetzing var. *aequatoriale* Wittrock
Oedogonium hirnii Gutwinski
Oedogonium inconspicuum Hirn
Oedogonium iowense Tiffany
Oedogonium mexicanum Wittrock
Oedogonium moniliforme Wittrock
Oedogonium plagiostomum Wittrock
Oedogonium rugulosum Nordstedt var. *minutum* (Hansgirg) Tiffany
Oedogonium vaucherii (Le Clerc) A. Braun
Oedogonium westii Tiffany
Oedogonium wyliei Tiffany
 **Characium ambiguum* Hermann
Characium pringsheimii A. Braun
 **Characium rostratum* Reinhard
Hydrodictyon reticulatum (Linnaeus) Lagerheim
Pediastrum boryanum (Turpin) Meneghini
Pediastrum duplex Meyen
Pediastrum duplex Meyen var. *rotundatum* Lucks
Pediastrum simplex (Meyen) Lemmermann var. *duodenarium* (Bailey) Rabenhorst
Pediastrum tetras (Ehrenberg) Ralfs
 **Pediastrum tetras* (Ehrenberg) Ralfs var. *tetrodon* (Corda) Hansgirg
Sorastrum spinulosum Naegeli
Coelastrum cambricum Archer
Coelastrum microporum Naegeli
Botryococcus braunii Kuetzing
Oocystis borgei Snow
Chlorella vulgaris Beyerinck
 **Quadrigula closterioides* (Bohlin) Printz
Planktosphaeria gelatinosa G. M. Smith
Gloeotaenium loitlesbeigerianum Hansgirg
Nephiocytium agardhianum Naegeli
Kirchneriella obesa (W. West) Schmidle
Ankistrodesmus convolutus Corda
Ankistrodesmus falcatus (Corda) Ralfs
 **Ankistrodesmus fractus* (West & West) Brunthaler
Ankistrodesmus spiralis (Turner) Lemmermann
Tetraedron caudatum (Corda) Hansgirg
 **Tetraedron constrictum* G. M. Smith
Tetraedron gracile (Reinsch) Hansgirg
 **Tetraedron limneticum* Borge

- Tetraedron minimum* (A. Braun) Hansgirg
 **Tetraedron regulare* Kuetzing var. *incus* Teiling
Scenedesmus abundans (Kirchner) Chodat
Scenedesmus acutiformis Schroeder
Scenedesmus arcuatus Lemmermann var. *platydisca* G. M. Smith
Scenedesmus bijuga (Turpin) Lagerheim
Scenedesmus dimorphus (Turpin) Kuetzing
Scenedesmus opoliensis P. Richter
Scenedesmus quadricauda (Turpin) Brebisson
Scenedesmus quadricauda (Turpin) Brebisson var. *quadrispina* (Chodat)
 G. M. Smith
Crucigenia fenestrata Schmidle
Crucigenia irregularis Wille
Crucigenia lauterbornii Schmidle
Micractinium pusillum Fresenius
 **Errerella bornhemiensis* Conrad
Vaucheria geminata (Vaucher) DeCandolle
Vaucheria repens Hassall
Vaucheria sessile (Vaucher) DeCandolle
Spirogyra borgeana Transeau
Spirogyra ellipsospora Transeau
 **Spirogyra hatillensis* Transeau
Spirogyra juergensii Kuetzing
Spirogyra majuscula Kuetzing
 **Spirogyra parvula* (Transeau) Czurda
 **Spirogyra plena* (W. & G. S. West) Czurda
Spirogyra singularis Nordstedt
Spirogyra spreeiana Rabenhorst
Spirogyra varians (Hassall) Kuetzing
 **Mougeotia miamiana* Transeau
Mougeotia scalaris Hassall
Zygnema leiospermum DeBary
 **Zygnema sterile* Transeau
Micrasterias americana (Ehrenberg) Ralfs
Micrasterias radiata Hassall
Micrasterias truncata (Corda) Brebisson
Staurastrum setigerum Cleve var. *brevispinum* G. M. Smith
Cosmarium circulare Reinsch
 **Cosmarium porrectum* Nordstedt
Cosmarium reniforme (Ralfs) Archer
Euastrum interme Lundell
Euastrum pulchellum Brebisson
Euastrum verrucosum Ehrenberg
Pleurotaenium ehrenbergii (Brebisson) DeBary
Penium margaritaceum (Ehrenberg) Brebisson
Closterium ehrenbergii Meneghini
 **Closterium gracile* Brebisson var. *elongatum* W. & G. S. West
Closterium leibeinii Kuetzing
 **Closterium littorale* Gay
Closterium moniliferum (Bory) Ehrenberg
Closterium venus Kuetzing

- Onychonema filiforme* (Ehrenberg) Roy & Bissett
Onychonema laeve Nordstedt var. *latum* W. & G. S. West
 **Spondylosium planum* (Wolle) W. & G. S. West
Hyalotheca dissiliens (J. E. Smith) Brebisson
Desmidiium swartzii C. A. Agardh
Arthrodesmus convergens Ehrenberg
Chara contraria A. Braun ex. Kuetzing
Chara delicatula C. A. Agardh
Chara globularis Thuillier
Chara sejuncta A. Braun
Chara vulgaris Vaillant ex. Linnaeus

Chrysophyta

- **Centritractus belanophorus* Lemmermann
Ophiocytium arbusculum (A. Braun) Rabenhorst
Botrydium granulatum (Linnaeus) Greville
 **Botrydium wallrothii* (Kuetzing) Mueller
Tribonema utriculosum (Kuetzing) Hazen
 **Mallomonas acaroides* Perty
 **Mallomonas caudata* Iwanoff
 **Mallomonas pseudocoronata* Prescott
Synura uvella Ehrenberg
 **Dinobryon calciformis* Bachmann
Dinobryon divergens Imhof
Dinobryon sociale Ehrenberg
Dinobryon tabellariae (Lemmermann) Pascher
Uroglenopsis americana (Calkins) Lemmermann
Asterionella formosa Hassall
 **Surirella splendida* (Ehrenberg) Kuetzing
Cymatopleura elliptica (Brebisson) Wm. Smith

Euglenophyta

- Euglena acus* Ehrenberg
Euglena ehrenbergii Klebs
Euglena spirogyra Ehrenberg
Euglena tripteris (Dujardin) Klebs
Phacus caudatus Huebner
Phacus longicauda (Ehrenberg) Dujardin
 **Phacus suecicus* Lemmermann
 **Phacus tortus* (Lemmermann) Skvortzow
Trachelomonas acanthostoma (Stokes) Deflandre
 **Trachelomonas armata* (Ehrenberg) Stein var. *longispina* (Playfair) Deflandre
 **Trachelomonas dybowskii* Drezepolski
 **Trachelomonas pulcherrima* Playfair
 **Trachelomonas robusta* Swirenko
 **Trachelomonas superba* (Swirenko) Deflandre
 **Trachelomonas superba* (Swirenko) Deflandre var. *duplex* Deflandre

Pyrrophyta

- Glenodinium quadridens* (Stein) Schiller
Peridinium cinctum (Mueller) Ehrenberg
Ceratium hirundinella (Mueller) Schrank

Cyanophyta

- Anacystis cyanea* (Kuetzing) Drouet & Daily
Anacystis dimidiata (Kuetzing) Drouet & Daily
Anacystis montana (Lightfoot) Drouet & Daily
Anacystis thermalis (Meneghini) Drouet & Daily
Agmenellum quadruplicatum (Meneghini) Brebisson
Agmenellum thermale (Kuetzing) Drouet & Daily
Gomphosphaeria aponina Kuetzing
Gomphosphaeria lacustris Chodat
Gomphosphaeria wichurae (Hilse) Drouet & Daily
Oscillatoria anguina (Bory) Gomont
Oscillatoria chalybea Mertens
Oscillatoria curviceps C. A. Agardh
Oscillatoria irrigua (Kuetzing) Gomont
Oscillatoria limosa C. A. Agardh
Oscillatoria ornata Kuetzing
Oscillatoria princeps Vaucher
Lyngbya aestuarii (Mertens) Liebmann
Lyngbya diguetii Gomont
 **Lyngbya epiphytica* Hieronymus
Spirulina major Kuetzing
Spirulina princeps (West & West) G. S. West
Microcoleus paludosus (Kuetzing) Gomont
Nostoc microscopicum Carmichael
Nostoc muscorum C. A. Agardh
Anabaena circinalis (Harvey) Rabenhorst
Anabaena flos-aquae (Lyngbye) Brebisson
 **Anabaena unispora* Gardner
Cylindrospermum muscicola Kuetzing
Aphanizomenon holsticum Richter
Scytonema myochrous (Dillwyn) C. A. Agardh
Scytonema ocellatum Lyngbye
Scytonema tolypotrichoides Kuetzing
Tolypothrix distorta Kuetzing
Tolypothrix lanata Wartmann
Tolypothrix tenuis Kuetzing
Calothrix parietina (Naegeli) Thuret
Gloetrichia pisum (C. A. Agardh) Thuret

Rhodophyta

- Batrachospermum* sp.
Lemanea sp.

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