

PROPOSED ALGOLOGICAL SURVEY OF OHIO.

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Little or no attention has been paid to the Ohio Algæ, except by a few persons in a few localities, and it is therefore proposed that botanists, collectors and amateurs, unite in an effort to make known, the coming season, the character and distribution of our State Algological flora. To this end all who may be interested—and it is hoped this number will include persons in every county in Ohio—and are willing to make observations and contributions are invited to send specimens for examination to the Botanical Department, Ohio State University. Mr. W. W. Stockberger of Denison University, Granville, will assist in working up the material and tabulating the results. If the suggestions here are not ample, interested parties are requested to send letters of inquiry.

Many media or solutions for temporarily preserving Algæ have been recommended—such as a weak solution of carbolic acid, two per cent. solution of formalin, Riport and Petit's solution, one per cent. solution of chrome-alum, and camphor water (small piece of gum camphor in water)—but we have concluded that nothing is better than a tiny drop of carbolic acid in the vial of water containing the Alga.

Homeopathic vials, or still better, shell vials, say two drachm capacity, with cork stoppers, will be found suitable, and large enough in most cases to contain ample material. Slender forceps are very convenient for securing the Algæ and placing them in the bottles, though subtle fingers must never be underrated in natural history work. It is desirable that the collector note the habitat of each species taken and add any other notes that might suggest themselves for record.

Numbers could be written with ink on the cork stopper, but it is preferable to use paper attached to the vials. A sheet of gummed paper can be obtained at any book store and this cut in narrow and short strips will be found most convenient. A continuous or serial numbering ought to be adopted by every one who sends material. No number should ever be repeated in sending natural history specimens of any kind, and the collector should always keep a record of the numbers, with notes of habits, localities, etc. If reports are desired on the material sent to the State Herbarium, they will be made, and reference to specimens will always be by number.

Such specimens may be sent by mail, but only when enclosed in a box so as to prevent them from being crushed and thereby endangering other mail matter. The rate of postage is one cent per ounce. The name and address of the sender should be written

on the outside of the package, numbers only enclosed with the specimens. Contributions are earnestly solicited.

To make *exsiccata*, or dried specimens, for the herbarium is a very simple matter, and I suggest a method of procedure for the benefit of those who may be interested in this phase of the work. If the Alga is a large one, for example a coarse filamentous pond-scum (*Spirogyra*), or very branching form from running water (*Cladophora*), place a small portion of the material in a basin of water. Then insert under it a piece of writing paper (book paper is not satisfactory, it must be sized), say three inches square or perhaps $2\frac{1}{2} \times 4$ inches, and very slowly bring it to the surface of the water, in the meantime gently spreading out the Alga over it so as to show advantageously and naturally on the white paper. For this a camel's hair brush will be found useful, particularly for spreading the more delicate filaments. When the paper is lifted and drained of the excess of water, the Alga being spread satisfactorily, it should be laid in the plant-press or put between folds of paper under pressure to dry; but first spread over the specimen a piece of muslin (do not use a new piece of cloth), or worn-out handkerchief will serve as well, thus preventing the drying papers from coming in direct contact with the Alga. The next day when the mounted specimens are examined, it will be found that the Alga adheres firmly to the paper, the covering cloth being easily removed.

But for the smaller specimens, and especially for the colonies of gelatinous or slimy forms, it is preferable to use smaller pieces of mounting paper, and let the Alga dry without pressure. That is, put a small quantity of the Alga on a piece of paper, leaving it exposed till all the water evaporates, when the specimen will remain attached. Small pieces of mica are preferable for such mounting, since when later the material is moistened to remove a portion for study and microscopic examination, the remainder is less disturbed than might be the case when paper is used for mounting. I usually mount specimens on both paper and mica; on the former the mass shows to better advantage.

Those who wish to make a careful study of our Algæ will scarcely find a good pocket lens sufficient even for general examination. But a compound microscope with a comparatively low objective will be quite satisfactory. To study the various kinds of spore formation and modes of reproduction would be as interesting as it is difficult, but beginners and amateurs need not by reason of this hint anticipate insurmountable difficulties.

The accompanying plate, will give a general though crude idea of the variety of forms that are comprised in the greater portion of our Algological flora. The delicacy and beauty of the numerous species can only be realized when one enters upon their enthusiastic study.



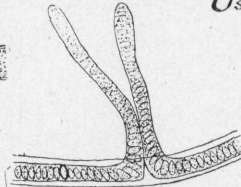
Spirogyra



Oscillatoria



Ulothrix
-Normiscia-



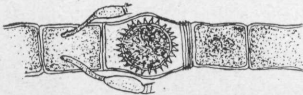
Scytonema



Zygnema



Cladophora



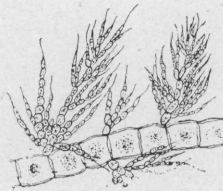
Oedogonium



Desmids



Lemanea



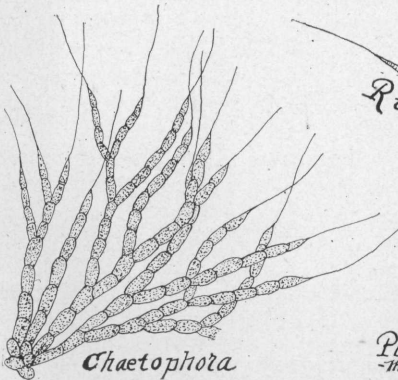
Draparnoldia



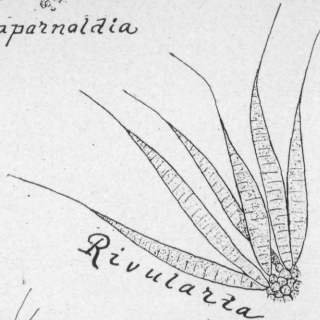
Nostoc



A Diatom



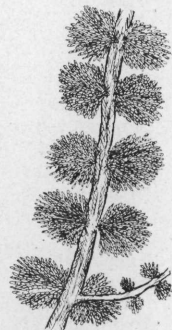
Chaetophora



Rivularia



Pleurococcus
-Mougeotia-



Batrachospermum

Appended is an alphabetical list of species hitherto reported as occurring in Ohio, the nomenclature according in the main with that used by DeToni in the *Sylloge Algarum*.

LIST OF ALGÆ REPORTED AS OCCURRING IN OHIO.

ANABAENA	CONFERVA	LEMANEA
oscillarioides	bombycina	torulosa
stagnalis	glacialisoides	LYNGBYA
APHANOSCHAETE	rhytophila	pallida
repens	tenerri. rhytophila	vulgaris
BATRACHOSPERMUM	COSMARIUM	MICROSPORA
moniliforme	botrytis	floccosa
BOTRYDIUM	brebissonii	fontinalis
granulatum	biretum	vulgaris
BULBOCHAETE	broomei	MICRASTERIAS
crenulata	contractum	truncata
CHAETOPHORA	intermedium	MICROCOLEUS
cornu-damae	latum	gracilis
elegans	orbiculatum	MOUGEOTIA
pisiformis	ralfsii	columbiana
CHANTRANSIA	seelyanum	genuflexa
pygmaea	tinctum	NOSTOC
violacea	CYLINDROCAPSA	commune
violacea beardleei	amoena	muscorum
CHARA	CYLINDROSPERMUM	rupestre
contraria	macrospERMUM	sphaericum
coronata	DESMIDIUM	tenuissima
flexilis	swartzii	OEDOGONIUM
foetida	DRAPARNAUDIA	borisianum
fragilis	glomerata	capillare
gymnopus michauxii	glomerata maxima	capilliforme
intermedia	plumosa	cardiacum
CHARACIUM	ravenelii	crispum
sessile	EUASTRUM	cryptoporum
CLADOPHORA	elegans	fonticolum
crispata	rostratum	fragile
crispata vitrea	EUDORINA	gracillimum
fracta	stagnale	paludosum
glomerata	EUGLENA	polymorphum
glomerata clavata	viridis	wolleanum
glomerata pumila	GLOEOCYSTIS	ONOCHRONEMA
glomerata rivularis	gigas	filiforme
linnaei	GLOEOTRICHIA	OSCILLATORIA
CLOSTERIUM	natans	anguina
acerosum	pisum	elegans
dianae	HAEMATOCOCCUS	froelichii
lineatum	lacustris	froelichii fusca
moniliferum	HORMISCIA	imperator
parvulum	flaccida	limosa
strigosum	subtilis	major
COLEOCHAETE	subtilis variabilis	nigra
scutata	HYALOTHECA	princeps
soluta	mucosa	sancta
	HYDRODICTYON	subtilissima
	reticulatum	tenerrima
		tenuis

PANDORINA	dubia	STIGEOCLONIUM
morum	dubia longe-articu.	nanum
PEDIASTRUM	elongata	radicans
angulosum	fluviatilis	tenue-genuinum.
boryanum	grevilleana	TETRASPORA
simplex	herricki	bullosa
tetras	inflata	explanata
PITHOPHORA	insignis	lubrica
oedogonia	longata	THOREA
PLEUROTAENIUM	lutetiana	ramosissima
trabecula	majuscula	VAUCHERIA
PROTOCOCCUS	maxima	dichotoma
viridis	nitida	dillwynii
RAPHIDIUM	porticalis	geminata
polymorphum	porticalis jurgensii	geminata racemosa
SCENEDESMUS	rivularis	sessilis
quadricaudatus	setiformis	terrestris
polymorphus	tenuissima	VOLVOX
SPIROGYRA	varians	globator
adnata	weberi	ZYGNEMA
bellis	STAUSTRUM	cruciatum
communis	anatinum	insigne
crassa	inconspicuum	stellium
decimina	polymorphum	
	pseudopachyrynchum	
