

# A CHECK-LIST OF ILLINOIS ALGAE WITH SOME ADDITIONS FROM COOK COUNTY

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In 1938 the writer began a survey of the algae of the Chicago Region, including counties in Michigan, Indiana, Illinois, and Wisconsin. Over one thousand samples are now preserved in the writer's herbarium and are in the process of taxonomic treatment. Only a few of the Illinois collections have been worked over thus far, but a few forms from Cook County have been identified and are presented in the following alphabetic list. Of these twenty genera and thirty-five species and varieties, eleven have not been previously recorded in the published reports of Illinois algae, and fourteen additional species are unrecorded for Cook County.<sup>1</sup>

- \**Aphanothece clathrata* W. & G. S. West
- \*\**Chroococcus turgidus* (Kütz.) Nägeli
- \*\**Closterium acerosum* (Schrang) Ehr.
- \*\**Closterium acerosum* var. *elongatum* Breb.
- \**Closterium lanceolatum* Kützing
- \**Closterium littorale* Gay
- \**Closterium moniliferum* (Bory) Ehr.
- \**Coleochaete orbicularis* Pringsheim
- \**Cosmarium cucumis* (Corda) Ralfs
- \**Cosmarium sexangulare* forma *minima* Nordst.
- \*\**Cylindrocapsa geminella* var. *minor* Hansgirg
- Dinobryon sertularia* Ehrenberg
- \*\**Merismopedia convoluta* Breb.
- \*\**Microthamnion kuetzingianum* Nägeli
- \**Oocystis crassa* Wittrock
- \**Oocystis elliptica* W. West
- \*\**Ophiocytium cochleare* (Eichwald) A. Braun
- \*\**Ophiocytium parvulum* (Perty) A. Braun
- Pandorina morum* Bory
- \*\**Phacus pleuronectes* (O.F.M.) Dujardin
- Pediastrum boryanum* (Turpin) Meneghini
- Pediastrum duplex* Meyen
- Pediastrum tetras* (Ehr.) Ralfs
- \**Pediastrum tetras* var. *tetraodon* (Corda) Hansgirg
- \**Scenedesmus acutiformis* Schröder
- \**Scenedesmus armatus* (Chodat) G. M. Smith
- Sphaerocystis schroeteri* Chodat
- \*\**Stigeoclonium stagnatile* (Hazen) Collins
- \*\**Stigeoclonium subsecundum* Kützing
- \*\**Tetraedron minimum* (A. Braun) Hansgirg
- \*\**Tribonema viride* Pascher
- \*\**Tribonema minus* Hazen
- \*\**Ulothrix tenerrima* Kützing
- \*\**Ulothrix variabilis* Kützing
- Ulothrix zonata* (Weber & Mohr) Kützing

Early in this investigation of Illinois algae, it became desirable to compile an adequate check-list of those algae appear-

ing in the published literature from Illinois. Accordingly a bibliography of 86 titles, representing the reports of 55 workers, has been assembled and a complete list of the algae, so far as is now known by the writer, has been accumulated in a classified check-list. This list includes all known species which have been reported from Illinois counties, adjacent rivers—the Mississippi, Ohio and Wabash and the Illinois portions of Lake Michigan.

Although the number of papers mentioning Illinois algae is relatively large, the fact is that but few represent very extensive taxonomic treatment. A large number of the papers are duplications of previous lists, in whole or in part, of the original or subsequent workers. Some of the included reports are of monographic nature or are general comprehensive treatments. The list of papers is further increased by reports dealing with fish-food and pollution studies in which only a few species, or even only genera, of algae are mentioned.

The principal contributor to our knowledge of Illinois algae has been E. N. Transeau whose *Annotated list of the Algae of Eastern Illinois* (1913), among other papers, represents the most extensive list thus far published for the State. Other papers which have presented notable lists are those of C. A. Kofoid, S. Eddy, L. N. Johnson and C. B. Atwell, W. G. Solheim and W. T. Penfound, and L. H. Tiffany. Lake Michigan studies in the vicinity of Chicago have resulted in lists from S. A. Briggs, H. H. Babcock, H. D. Thomas and H. H. Chase, and E. H. Ahlstrom, to mention only the more extensive ones. The work of P. S. Galtsoff, M. Leighton, and W. C. Purdy has added several species from the Illinois, Mississippi, and Ohio Rivers. Among papers dealing with fish-food and pollution studies, should be mentioned those of S. A. Forbes and R. E. Rich-

<sup>1</sup> The writer gratefully acknowledges the aid of Dr. L. H. Tiffany in the preparation of this report.

\* Species or variety not previously reported for Illinois.

\*\* Species or variety not previously reported for Cook County.

ardson, both of whom included some algae in their various reports.

The earliest report of Illinois algae known to the writer is that of J. W. Bailey whose brief list of *Infusoria* from the Mississippi River at St. Louis appeared in 1845. Papers by Babcock and Briggs (1872), H. L. Smith (1878), and S. A. Forbes (1880-1888) represent a few of the earlier reports. Of the entire list of publications, 28 appeared in the period 1872-1900, 28 from 1901-1925, and 29 from 1926 to date. Of the latter group, 17 papers have been contributed by four writers; namely, Ahlstrom, Eddy, Tiffany and Transeau.

The check-list represents all forms reported which occur in modern classifications of the algae. Synonymy has been brought up to date in all cases.

The following summary of algal families and classes, including the above list, includes 177 genera and 746 species and varieties which have been reported from 56 of the 102 Illinois counties.

	Genera	Species and Varieties		
Class: Myxophyceae.....	27	74		
Family:				
Chroococaceae.....	10	17		
Oscillatoriaceae.....	7	35		
Nostocaceae.....	5	16		
Scytonemataceae.....	3	3		
Rivulariaceae.....	2	3		
Class: Rhodophyceae.....	2	2		
Family:				
Batrachospermaceae.....	1	1		
Thoreaceae.....	1	1		
Class: Heterophyceae.....	4	12		
Family:				
Botryococcaceae.....	1	2		
Ophiocytaceae.....	1	5		
Tribonemataceae.....	1	3		
Botrydiaceae.....	1	2		
Class: Chrysophyceae.....			7	15
Family:				
Mallomonadaceae.....		2		4
Syncriptaceae.....		1		1
Synuraceae.....		1		1
Ochromonadaceae.....		2		9
Rhizochrysidaceae.....		1		
Class: Diatomophyceae.....			40	220
Family:				
Coscinodiscaceae.....		3		14
Eupodiscaceae.....		1		1
Rhizosoleniaceae.....		1		2
Tabellariaceae.....		1		2
Meridionaceae.....		1		1
Diatomaceae.....		1		3
Fragilariaceae.....		3		24
Eunotiaceae.....		1		5
Achnantheaceae.....		3		7
Naviculaceae.....		13		82
Gomphonemataceae.....		2		19
Cymbellaceae.....		4		24
Nitzschaceae.....		3		14
Surirellaceae.....		3		22
Class: Chlorophyceae.....			89	378
Family:				
Polyblepharidaceae.....		1		1
Chlamydomonadaceae.....		2		1
Volvocaceae.....		6		10
Sphaerellaceae.....		1		1
Palmellaceae.....		2		3
Tetrasporaceae.....		2		3
Ulotrichaceae.....		2		6
Microsporaceae.....		1		2
Cylindrocapsaceae.....		1		1
Chaetophoraceae.....		5		20
Protococaceae.....		1		1
Colocephataceae.....		2		5
Cladophoraceae.....		4		12
Oedogoniaceae.....		2		94
Ulvaaceae.....		1		0
Schizomeridaceae.....		1		1
Schizogoniaceae.....		1		0
Chlorococaceae.....		2		1
Endosphaeraceae.....		1		1
Characiaceae.....		1		2
Hydrodictyaceae.....		3		10
Coelastraceae.....		1		3
Oocystaceae.....		18		36
Scenedesmataceae.....		5		19
Vaucheriaeae.....		2		12
Zygnemataceae.....		5		94
Mesotaeniaceae.....		4		3
Desmidiaceae.....		12		36
Class: Dinophyceae.....			3	11
Class: Euglenophyceae.....			5	34
Family:				
Euglenaceae.....		4		32
Colaciaceae.....		1		2
Total.....			177	746