

ADDITIONS TO THE ALGAE OF OKLAHOMA*

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Previous to the year 1929 almost nothing was known about the algae of Oklahoma. There had been no systematic work done and consequently there were no published records. During that year the writer began a survey of the state in order to determine, as far as possible, the extent of its algal flora. The early work, which was limited to specific families, resulted in a series of reports concerning these groups. They were the Desmidiaceae (1931, 1934, 1937); the Oedogoniaceae (1935); the Vaucheriaceae (1937); and the Zygnemataceae (1934). This last report contained only new species described by Transeau and by the writer. These publications, with a report by Leake (1939), in which she described motile cells of *Basticiadta crassa* Hoffman and Tilden, constitute the only work on the Oklahoma algae.

During the preparation of the preceding reports, the writer found and determined from his collections a fairly large number of species and varieties which were not included at that time. It is the aim of the present paper to include these and consequently to bring up to date the list of known algae for the state. With the addition of these 180 records, the total number is increased to 458 species, varieties, and forms. Although this number is not large and not comparable to the number known from a state such as Michigan, it must be remembered that the work has been in progress a comparatively short time. It does indicate, however, that the algal flora is exceptionally rich and diverse in nature, and should act as a stimulus for further research.

The county distribution of each species is indicated by a number corresponding to the number which precedes each county name in the following list.

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|--------------|----------------|----------------|
| 1. Adair | 9. Delaware | 17. Nowata |
| 2. Alfalfa | 10. Garfield | 18. Oklahoma |
| 3. Canadian | 11. Grant | 19. Osage |
| 4. Carter | 12. Kingfisher | 20. Ottawa |
| 5. Choctaw | 13. Le Flore | 21. Sequoyah |
| 6. Cleveland | 14. Mayes | 22. Washington |
| 7. Comanche | 15. McCurtain | |
| 8. Craig | 16. Muncy | |

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SPECIES LIST

MYXOPHYCEAE

Chroococcales

- | | |
|--|----|
| <i>Aphanocapsa pulchra</i> (Kütz.) Rab. | 12 |
| <i>Aphanothece clathrata</i> W. & G. S. West | 12 |
| " <i>pallida</i> Rab. | 20 |

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<i>Chroococcus giganteus</i> W. West	20
" <i>limneticus</i> Lemm.	11
" <i>minutus</i> (Kütz.) Näg.	6
" <i>turgidus</i> (Kütz.) Näg.	6
<i>Coelosphaerium kuetzingianum</i> Näg.	11
" <i>naegelianum</i> Unger	10
<i>Dactylococcopsis smithii</i> R. & F. Chodat	20
<i>Gomphosphaeria aponina</i> Kütz.	7
<i>Merismopedia elegans</i> A. Br.	20
" <i>glauca</i> (Ehr.) Näg.	20
" <i>punctata</i> Meyen	9
" <i>tenuissima</i> Lemm.	8
<i>Microcystis flos-aquae</i> (Wittr.) Kirchn.	12

Chamaesiphonales

<i>Chamaesiphon incrustans</i> Grun.	20
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Hormogoniales

<i>Nodularia spumigena</i> Mertens	6
<i>Nostoc Huckia</i> (Roth) Bornet	6
<i>Oscillatoria princeps</i> Vauch.	20

RHODOPHYCEAE

Bangiales

<i>Compsopogon coeruleus</i> (Balbis) Mont.	9
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HETEROPHYCEAE

Heterococcales

<i>Botryococcus braunii</i> Kütz.	20
<i>Characiopsis acuta</i> (A. Br.) Borzi	15
<i>Ophiocytium arbusculum</i> (A. Br.) Rab.	13
" <i>capitatum</i> Wolle	15
" <i>cochleare</i> (Eichw.) A. Br.	20
" <i>desertum</i> Printz	15
" <i>parvulum</i> (Perty) A. Br.	15, 20

Heterotrichales

<i>Tribonema bombycina</i> (Ag.) Derbes and Sol.	20
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CHLOROPHYCEAE

Tetrasporales

<i>Aplocystis brauntiana</i> Näg.	20
<i>Gloeocystis gigas</i> (Kütz.) Lagerh.	13
" <i>vesiculosa</i> Näg.	20
<i>Sphaerocystis schroeteri</i> Chodat	4, 20
<i>Tetraspora gelatinosa</i> (Vauch.) Desv.	20
" <i>lacustris</i> Lemm.	20

Ultrichales

<i>Aphanochaete repens</i> A. Br.	20
<i>Chaetophora elegans</i> (Roth) Ag.	20
" <i>incrassata</i> (Huds.) Hazen	20
<i>Chaetosphaeridium globosum</i> (Nordst.) Klebahn	20
<i>Colocochaete divergens</i> var. <i>minor</i> Hansg.	8, 13
" <i>irregularis</i> Pringsh.	8
" <i>scutata</i> De Bréb.	7
" <i>soluta</i> (De Bréb.) Pringsh.	7

<i>Draparnaldia glomerata</i> (Vauch.) Ag.	20		
" <i>plumosa</i> (Vauch.) Ag.	20		
" <i>ravenelii</i> Wolle	20		
<i>Microspora floccosa</i> (Vauch.) Thur.	20		
" <i>loefgrenii</i> Lagerh.	20		
<i>Pithophora kewensis</i> Wittr.	6		
<i>Protococcus viridis</i> Agardh	6		
<i>Rhizoclonium hieroglyphicum</i> (Ag.) Kütz.	6		
<i>Stigeoclonium aestivale</i> (Hazen) Collins	20		
" <i>glomeratum</i> (Hazen) Collins	20		
" <i>lubricum</i> (Dillw.) Fries	21		
" <i>tenue</i> (Ag.) Kütz.	20		
<i>Ulothrix aequalis</i> Kütz.	20		
" <i>tenuissima</i> Kütz.	20		
" <i>variabilis</i> Kütz.	20		
" <i>zonata</i> (Web. & Mohr) Kütz.	14, 20		
Ulvales			
<i>Schizomeris leibleinii</i> Kütz.	20		
Chlorococcales			
<i>Ankistrodesmus falcatus</i> (Corda) Ralfs	20		
" " var. <i>mirabilis</i> (W. & G. S. West)	G. S. West	20	
" " var. <i>tumidus</i> (W. & G. S. West)	G. S. West	20	
" <i>spiralis</i> (Turner) Lemm.	20		
<i>Charactium acuminatum</i> A. Br.	11		
" <i>ambiguum</i> Hermann	20		
" <i>pringsheimii</i> A. Br.	20		
<i>Coelastrum microporum</i> Näg.	20		
" <i>reticulatum</i> (Dangeard) Senn.	7		
<i>Crucigenia irregularis</i> Wille	20		
" <i>truncata</i> Smith	8		
<i>Dictyosphaerium ehrenbergianum</i> Näg.	15		
" <i>pulchellum</i> Wood	20		
<i>Hydrodictyon reticulatum</i> (L.) Lagerh.	11		
<i>Kirchneriella lunaris</i> var. <i>irregularis</i> Smith	8		
<i>Nephroclytium agardhianum</i> Näg.	4		
<i>Oocystis borget</i> Snow	20		
" <i>elliptica</i> W. West	20		
" <i>gigas</i> forma <i>minor</i> ? West	15		
" <i>parva</i> W. & G. S. West	8		
<i>Pediastrum boryanum</i> (Turp.) Menegh.	11		
" " var. <i>longicorne</i> Racib.	11		
" <i>constrictum</i> Hassall	11		
" <i>duplex</i> Meyen	20		
" " var. <i>clathratum</i> (A. Br.) Lagerh.	20		
" <i>muticum</i> var. <i>brevicorne</i> Racib.	16		
" <i>simplex</i> (Meyen) Lemm.	7		
" <i>tetras</i> (Ehr.) Ralfs	20		
<i>Planktosphaeria gelatinosa</i> G. M. Smith	8		
<i>Scenedesmus abundans</i> var. <i>longicauda</i> G. M. Smith	15		
" <i>acuminatus</i> (Lagerh.) Chodat	20		
" <i>acutiformis</i> Schroeder	7, 20		
" <i>arcuatus</i> Lemm.	8		
" " var. <i>platydisca</i> Smith	20		
" <i>armatus</i> (Chodat) Smith	7		
" " var. <i>bicaudatus</i> Gugl.	7		
" <i>bijuga</i> (Turpin) Lagerh.	8		
" " var. <i>alternans</i> (Reinsch) Borge	8		

<i>Scenedesmus dijuga</i> var. <i>flexuosus</i> Lemm.	3
" <i>braziliensis</i> Bohlén	20
" <i>denticulatus</i> Lagerh.	20
" <i>dimorphus</i> (Turpin) Kütz.	8, 20
" <i>hystrix</i> Lagerh.	20
" <i>incrassatulus</i> Bohlén	11
" <i>obliquus</i> (Turpin) Kütz.	20
" <i>opoliensis</i> P. Richter	20
" <i>quadricauda</i> (Turpin) De Bréb.	11
" " var. <i>westii</i> Smith	11, 15
<i>Schroederia judayi</i> G. M. Smith	20
" <i>setigera</i> (Schroeder) Lemm.	15
<i>Selenastrum gracile</i> Reinsch	20
" <i>minutum</i> (Näg.) Collins	8
<i>Sorastrum spinulosum</i> Næg.	4
<i>Tetraedron caudatum</i> var. <i>longispinum</i> Lemm.	15
" <i>gracile</i> (Reinsch) Hansg.	4
" <i>lobulatum</i> var. <i>polyfurcatum</i> Smith	20
" <i>minimum</i> (A. Br.) Hansg.	12
" <i>trigonum</i> var. <i>minor</i> Reinsch	12
<i>Treubaria crassispina</i> G. M. Smith	9

Siphonales

<i>Vaucheria aversa</i> Hassall	2
" <i>geminata</i> (Vauch.) De Candolle	9
" " var. <i>racemosa</i> (Vauch.) Walz.	21
" <i>hamata</i> (Vauch.) De Candolle	17
" <i>ornithacephala</i> Agardh forma?	17
" <i>sessilis</i> (Vauch.) De Candolle	14, 20

Zygnematales¹

<i>Mougeotia boodlei</i> (W. & G. S. West) Collins	20
" <i>calcareo</i> (Cleve) Wittr.	19
* " <i>celestis</i> Transeau	20
* " <i>cherokeana</i> Taft	7
" <i>cyanea</i> Transeau	5
* " <i>floridana</i> Transeau	17
" <i>gracillima</i> (Hass.) Wittr.	20
* " <i>miamiana</i> Transeau	20
* " <i>micropora</i> Taft	15
" <i>nummuloides</i> (Hass.) De Toni	19
* " <i>operculata</i> Hass.	20
* " <i>pawhuskae</i> Taft	19
" <i>quadrangulata</i> Hass.	15
" <i>robusta</i> (De Bary) Wittr.	20
" <i>scalaris</i> Hass.	19
" <i>tenuis</i> (Cleve) Wittr.	17, 22
" <i>tumidula</i> Transeau	15
<i>Strogantium illinoisenses</i> (Transeau) G. M. Smith	21
" <i>stitticum</i> (Engl. Bot.) Kütz.	9
<i>Spirogyra affinis</i> (Hass.) Petit	20
" <i>dorgeana</i> Transeau	6
" <i>catenaeformis</i> (Hass.) Kütz.	2
" <i>communis</i> (Hass.) Kütz.	20
" <i>condensata</i> (Vauch.) Kütz.	11
* " <i>corrugata</i> Transeau	11

¹ The species names preceded by an asterisk were previously reported (1934). They are included so that the list of Zygnemataceae may be complete.

<i>Spirogyra crassa</i>	Kütz.	11	
"	<i>daedalea</i> Lagerh.	10	
"	<i>decimina</i> (Mueller) Kütz.	20	
"	" var. <i>plena</i> W. & G. S. West	11	
"	<i>echinata</i> Tiffany	20	
"	<i>ellipsozona</i> Transeau	4	
"	<i>farlowii</i> Transeau	11, 21	
"	<i>foveolata</i> (Skuja) Czurda	17	
"	<i>inflata</i> (Vauch.) Rab.	11	
"	<i>juerjensii</i> Kütz.	20	
"	<i>lagerheimii</i> Wittr.	20	
"	<i>longata</i> (Vauch.) Kütz.	20	
"	<i>majuscula</i> Kütz.	4, 20	
"	<i>maxima</i> var. <i>minor</i> Moebius	20	
"	<i>nitida</i> (Dillw.) Link	20	
"	<i>porticalis</i> (Mueller) Cleve	6	
"	<i>protecta</i> Wood	20	
"	<i>quadrata</i> (Hass.) Petit	11	
"	<i>reticulata</i> Nordst.	20	
"	<i>singularis</i> Nordst.	20	
"	<i>tenuissima</i> (Hass.) Kütz.	11	
"	<i>varians</i> (Hass.) Kütz.	1	
"	<i>velata</i> Nordst.	17	
"	<i>wederi</i> Kütz.	19	
* <i>Zygnema</i>	<i>areolatum</i> Taft and Transeau	15	
"	<i>azureum</i> Taft	11	
"	<i>carinatum</i> Taft	19	
"	<i>carinthiacum</i> Beck	11	
"	<i>collinstanum</i> Transeau	6	
"	<i>conspicuum</i> (Hass.) Transeau	15	
"	<i>cruciatum</i> (Vauch.) Agardh	7, 20	
"	<i>cylindricum</i> Transeau	19	
"	<i>decussatum</i> (Vauch.) Transeau	1, 5	
"	<i>excompressum</i> Transeau	1	
"	<i>excrassum</i> Transeau	7, 20	
"	<i>frigidum</i> Taft	13	
"	<i>insigne</i> (Hass.) Kütz.	20	
"	<i>laetevirens</i> Klebs	20	
"	<i>lawtonianum</i> Taft	7	
"	<i>micropunctatum</i> Transeau	19	
"	<i>normani</i> Taft	19	
"	<i>ornatum</i> (Li) Transeau	6	
"	<i>pawhuskae</i> Taft	19	
"	<i>pawneanum</i> Taft	5, 15	
"	<i>pectinatum</i> (Vauch.) Agardh	18	
"	<i>peltosporum</i> Wittr.	6, 11	
"	<i>sterile</i> Transeau	6	
"	<i>subcruciatum</i> Transeau	7	
"	<i>substellinum</i> Taft	17	
"	<i>synadelphum</i> Skuja	7	
"	<i>tenuis</i> Kütz.	5, 6, 7, 19	
"	<i>vaucherii</i> Agardh	17	
* <i>Zygnemopsis</i>	<i>cruciata</i> (Price) Transeau	6	
"	<i>decussata</i> Transeau	20	

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