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Notes on the Algae -- I, II

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Butler University
Botanical Studies
(1929-1964)

Edited by

Ray C. Friesner

The *Butler University Botanical Studies* journal was published by the Botany Department of Butler University, Indianapolis, Indiana, from 1929 to 1964. The scientific journal featured original papers primarily on plant ecology, taxonomy, and microbiology. The papers contain valuable historical studies, especially floristic surveys that document Indiana's vegetation in past decades. Authors were Butler faculty, current and former master's degree students and undergraduates, and other Indiana botanists. The journal was started by Stanley Cain, noted conservation biologist, and edited through most of its years of production by Ray C. Friesner, Butler's first botanist and founder of the department in 1919. The journal was distributed to learned societies and libraries through exchange.

During the years of the journal's publication, the Butler University Botany Department had an active program of research and student training. 201 bachelor's degrees and 75 master's degrees in Botany were conferred during this period. Thirty-five of these graduates went on to earn doctorates at other institutions.

The Botany Department attracted many notable faculty members and students. Distinguished faculty, in addition to Cain and Friesner, included John E. Potzger, a forest ecologist and palynologist, Willard Nelson Clute, co-founder of the American Fern Society, Marion T. Hall, former director of the Morton Arboretum, C. Mervin Palmer, Rex Webster, and John Pelton. Some of the former undergraduate and master's students who made active contributions to the fields of botany and ecology include Dwight W. Billings, Fay Kenoyer Daily, William A. Daily, Rexford Daudenmire, Francis Hueber, Frank McCormick, Scott McCoy, Robert Petty, Potzger, Helene Starcs, and Theodore Sperry. Cain, Daudenmire, Potzger, and Billings served as Presidents of the Ecological Society of America.

Requests for use of materials, especially figures and tables for use in ecology text books, from the *Butler University Botanical Studies* continue to be granted. For more information, visit www.butler.edu/herbarium.

NOTES ON THE ALGAE—I, II

By WILLIAM A. DAILY

Specimens cited here are to be found in the writer's personal herbarium which is on file in the Herbarium of Butler University and the Cryptogamic Herbarium of the Chicago Natural History Museum.

I gratefully acknowledge the suggestions and aid of Dr. Francis Drouet and Fay K. Daily.

MYXOPHYCEAE—I

JOHANNESBAPTISTIA PELLUCIDA (DICKIE). TAYLOR & DROUET, Bull. Torrey Bot. Club 65: 285-292. May, 1938.

In North America, this peculiar alga heretofore has been reported found only in saline and subsaline pools along the coasts. This specimen was found in a planktonic collection from Lake Wehi, Wayne county, Indiana, an artificial fresh-water lake of some 40 years of age. The alga is not as abundant in number of plants as is found in the saline habitats, but it is hoped that future collections from fresh-water bodies of water will prove otherwise.

For a taxonomical and morphological discussion of this interesting alga, see F. Drouet, "Notes on Myxophyceae I-IV," Bull. Torrey Bot. Club. 65: 285-292. May 1938, and F. Drouet, "Myxophyceae of the G. Allan Hancock Expedition of 1934," collected by William R. Taylor. Univ. Calif. Publ. Hancock Pacific Exped. 3: 16, pl. 2, f. 3, 4 (1936). Frémy, Pierre. 1935. "Trois Cyanophycées nouvelles de l'afrique du Nord." Bull. Soc. Hist. nat. Afr. Nord. 26: 89-101. Frémy, P. & De Toni, Giuseppe. 1940. "Osservazioni intorno al valore sistematico del genere *Johannesbaptistia* G. de Toni 1934 P. Fémy 1935 emend. (Cianoficee)." Estratto dagli Atti Del Rea Le Instituto Ueneto Di Scienze, Lettere Ed Arti Anno accademico 1939-40. vol. 99. Part II: Ce. di Scienze mat. e nat.

Professor Pierre Frémy and Giuseppe De Toni (loc. cit.), suggest that the genus *Johannesbaptistia* G. De Toni 1934, P. Frémy 1935 emend. is but a growth-form of *Lyngbya lutea* Gomont. The latter species does not occur in the Lake Wehi collection. I agree

with Dr. F. Drouet that *Johannesbaptistia pellucida* (Dickie) Taylor and Drouet be allowed to stand appended to the Chroococcaceae.

The filaments are solitary, straight or tortuous and composed of a single row of protoplasts. The filaments vary in width from 6 to 14 microns. The discoid protoplasts are blue-green, 5 to 9 microns wide, 2 to 4 microns long, homogeneous to slightly granular. The protoplasts often have the appearance of being in pairs, but soon become separated from each other by sheath material. The gelatinous sheaths and matrix appear to be unstratified. Fig. 1. Drawn from herbarium specimen.

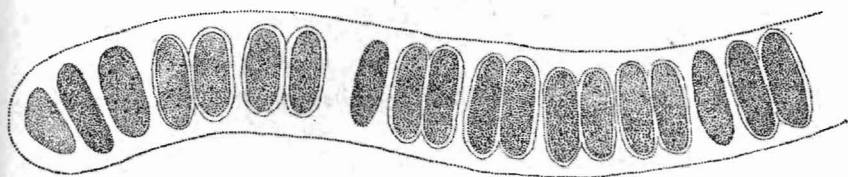


Fig. 1. *Johannesbaptistia pellucida* (Dickie) Taylor and Drouet.

Other species in the collection from Indiana are *Chroococcus turgidus* (Kütz.) Nag., *Merismopedia tranquilla* (Ehrenb.) Trevis. and *Ceratium* sp. Specimen seen: Indiana: Wayne county: A plankton collection with debris from bottom of Lake Wehi, $\frac{1}{2}$ mile south of Germantown, F. K. & W. A. Daily 1185, July 16, 1944.

BORZIA TRILOCULARIS COHN. ex Gom., Monogr. Oscill. 2: 118. 1893.

In the Butler Univ. Stud. 6: 84. 1943, the writer reported this species as a first report for Indiana. B. H. Smith cited this species previously in the Proc. Ind. Acad. Sci. 41: 183. 1931.

This species is extremely rare, and evidently the writer's collection remains the only available herbarium specimen in Indiana.

CHLOROPHYCEAE—II

PLATYDORINA CAUDATA KOFOID, Bull. Illinois State Lab. of Nat. Hist. 5: 419-440. 1899.

According to published reports, *Platydorina caudata* Kofoid heretofore has been found in California, Illinois, Iowa, Kentucky, Minnesota, Missouri, Ohio and Tennessee. Indiana is now added to that list.

The chief distinguishing characteristic of this genus from other Volvocaceae other than being a flattened horseshoe-shaped colony, is the presence of 3 to 5 conical projections at the posterior end. Fig. 2. Drawn from herbarium specimen.

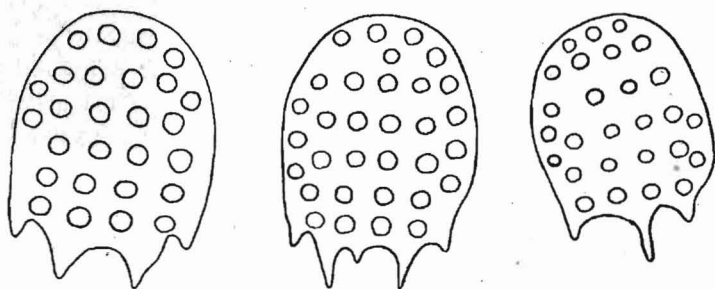


Fig. 2. *Platydorina caudata* Kofoid.

Specimens seen: Indiana: Carroll county: With *Lyngbya Birgei*, planktonic in Lake Freeman, Monticello, W. A. Daily 31, July 23, 1938. Tow in Lake Freeman, Monticello, F. K. & W. A. Daily 1016, Sept. 8, 1942.

The Herbarium
Butler University