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# First reports for the algae *Borzia*, *Aulosira* and *Asterocytis* in Indiana

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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.

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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](http://www.butler.edu/herbarium).

# FIRST REPORTS FOR THE ALGAE BORZIA, AULOSIRA AND ASTEROCYTTIS IN INDIANA

By WILLIAM A. DAILY

Specimens cited here are to be found in the Herbarium of Butler University, the Cryptogamic Herbarium of the Field Museum and in the personal herbarium of the writer.

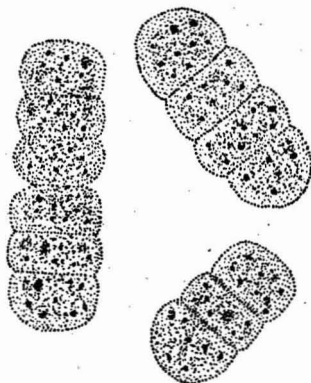
I gratefully acknowledge the suggestions and aid of Dr. Francis Drouet, Dr. C. Mervin Palmer and Fay K. Daily.

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

This Myxophyceean, a member of the Oscillatoriaceae, has not been reported previously for the Western Hemisphere. It closely resembles the isotypic specimen published in the Wittrock & Nordstedt, Alg. Exs. 12.587 (1883), and the description given by Gomont.

The trichomes are solitary, blue-green, without sheaths, constricted at the cross walls, and composed of from 3 to 8 cells. The cells are from 2-6 microns long, 6-7 microns wide, and the trichomes 9-20 microns long. Fig. 1.

The species associated with the specimen from Indiana are *Oscillatoria splendida* Gom. and *Gomphosphaeria aponina* Kütz. Specimens



seen: Indiana: Cass County: In debris on bottom of Lake Cicott near Logansport, F. K. & W. A. Daily 1019, Sept. 9, 1942. Sicily: Culta in aquario aquae dulcis in Breslau Germaniae anno 1883, ex

exemplaribus e Messina a.A. Borzi missis, F. Cohn leg. (Isotype of *Borzia trilocularis* Cohn in Wittr. & Nordst. Alg. exs. No. 587, in herb. of P. W. Wolle in Crypt. Herb. Field Museum).

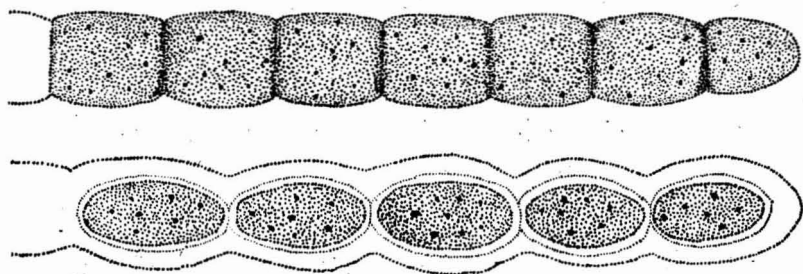
AULOSIRA IMPLEXA BORN. & FLAH.,  
Ann. Sci. Nat. VII Bot. 7:257. 1888.

This genus, a member of the Scytonemataceae, heretofore has been reported for only Louisiana in North America by Prescott, Trans. Amer. Micros. Soc. 61:116 (1942), although other specimens are present in the collection at Field Museum from Quebec, South Carolina, Florida, Illinois, Texas, California, Puerto Rico, and Sonora.

Filaments straight or curved, blue-green, mostly 4-12 microns wide. Sheaths thin, colorless. Cells granular, longer or shorter than wide, 4-9 microns wide, and slightly constricted at the cross walls. Spores yellow or brown, many in a filament, 5-12 microns wide, 15-32 microns long. Fig. 2.

Plant masses float in shallow water in thin or thick gelatinous strata.

Specimens seen: Laporte County: Floating in water, Mill Creek Bog, Mill Creek, W. A. Daily 91, July 22, 1939. Cass County: submerged in water, Lake Cicott, F. K. & W. A. Daily 1021, Sept. 9, 1942; floating on pond on west side of State Highway 24, 4 miles west of Logansport, F. K. & W. A. Daily 1029, Sept. 10, 1942. Lake County:



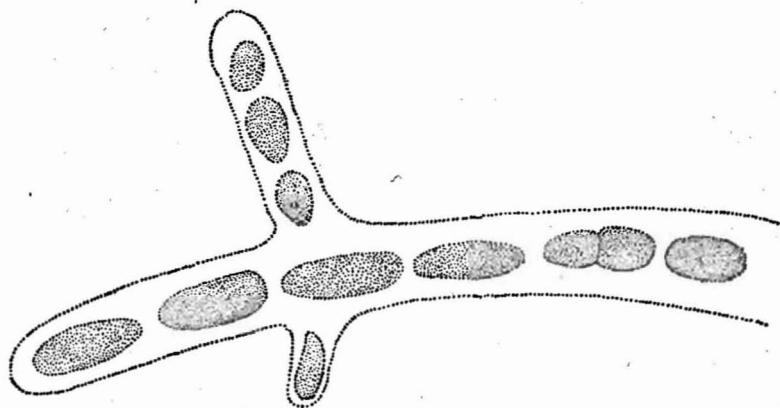
floating in shallow water of Calumet River, in sand dunes north of Miller Station, Paul D. Voth & Francis Drouet 2359, Sept. 28, 1938.

ASTEROCYTIS SMARAGDINA (REINSCH) FORTI,  
Syll. Myxophyc. 691. 1907

This alga has not been reported previously for Indiana. It is yet

uncertain whether *Asterocytis* is a member of the Myxophyceae or the Rhodophyceae.

The cells are nearly spherical to longer than wide, 4-7 microns wide and 10-14 microns long, blue-green and homogeneous. When mounted in Grams iodine a large deeply stained body irregular in outline is seen in each cell. In this body and thus in the approximate center of each cell is a small round lightly stained area. The cells are held together in uniseriate single or branched filaments by a common gelatinous matrix. Fig. 3. Specimens seen: Lake County: on *Cladophora* sp. on rocks in Calumet river north of Miller Station, Paul D. Voth & Francis Drouet 2366, Sept. 28, 1938.



#### LEGEND FOR FIGURES

- Fig. 1. *Borzia trilocularis* Cohn ex Gom.  
Fig. 2. *Aulosira implexa* Born. & Flah.  
    a. Vegetative filament.  
    b. Filament with spores.  
Fig. 3. *Asterocytis smaragdina* (Reinsch) Forti.