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Fay Kenoyer Daily

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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, Daubenmire, Potzger, and Billings served as Presidents of the Ecological Society of America.

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# "CLADOPHORA BALLS" COLLECTED IN STEUBEN COUNTY, INDIANA

By FAY KENOYER DAILY

On June 17, 1951, W. A. Daily and the author found some "Cladophora balls" washed out on shore and in the shallow water of Long Lake in the northwestern part of Steuben County, Indiana. These are hemispherical growths about one and one-half to two centimeters in diameter (Fig. 1A) and are formed from intertwined algal filaments of a felt-like nature (Fig. 1B).

The formation of "Cladophora balls" has been attributed to the result of wave action. Acton (1) in 1916 thought that the plant mass as it is rolled back and forth on the bottom of the lake assumes the spherical shape. Other plant tissues, pine needles, hair and the like have been found to form balls in a similar manner. Comparatively shallow lakes are usually the habitat necessary for "Cladophora ball" formation. Long Lake fits this category with an area of one hundred acres, an average depth of fifteen feet and a maximum of thirty-one feet.

The classification of the Cladophora found in these growths was made tentatively as *Cladophora* (formerly *Aegagropila*) *holsatica* Kütz. This was substantiated by Dr. Francis Drouet of the Chicago Natural History Museum, who pointed out, however, that Dr. Harry K. Phinney (2) included both *C. holsatica* and *C. Sauteri* in a broader classification under the name of *Cladophora aegagropila* (L.) Kütz.

The occurrence of "Cladophora balls" is common in Europe, but has been rarely reported for the United States. Apparently, there have been four records for this country. In his publication on the *Freshwater Cladophoraceae* in 1945, Phinney (2) reported *Cladophora aegagropila* (L.) Kütz. from Massachusetts and Wyoming. Dr. G. M. Smith (3) in his *Fresh-water Algae of the United States* reported "Cladophora balls" from Massachusetts and Minnesota. The latter is an error, this reference was to the collection made by Dr. L. A. Kenoyer in Michigan. A collection not cited by either Phinney or Smith was that reported by Dr. B. H. Smith (4) in *The Algae of Indiana* in 1932. *Cladophora Sauteri* was reported from

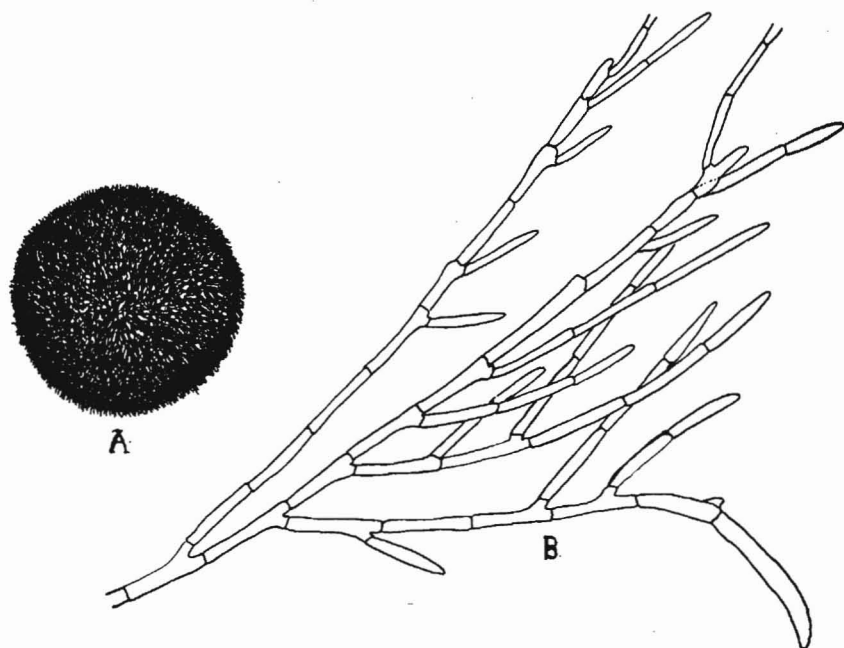


FIGURE 1  
A. "Cladophora ball." B. Portion of a filament.

Kosciusko County, Indiana. A list of reported collections of *Cladophora aegagropila* (L.) Kütz should then include:

Collector	State Found	Date	Habit
F. S. Collins	Massachusetts	Sept., 1895	Washed ashore
W. G. Solheim	Wyoming	July, 1937	Floating
L. A. Kenoyer	Michigan	Aug., 1925	Shallow water along shore
B. H. Smith	Indiana	June, 1931	?

Portions of all reported specimens except the collection made by B. H. Smith have been examined. They may be found at the Chicago Natural History Museum. Collection 293 B made by W. A. Daily and the author may be found there also as well as in the herbarium at Butler University. Dr. Kenoyer's collection may be found at Butler University also.

The author is indebted to Dr. Kenoyer for stimulating an interest in this curious alga and for cooperating by sending a copy of his paper presented before the Michigan Academy of Science in 1939 in which he reported his collection of *Cladophora holsatica* Kütz. at Millcoquins Lake near Naubinway, Mackinac County, Michigan in 1925.

It will be interesting to note further occurrence of this alga.

#### LITERATURE CITED

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