

DISTRIBUTION OF THE ALGA, LEMANEA, IN INDIANA

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Lemanea is one of the fresh water red algae (Rhodophyceae) having a filamentous branching vegetative structure and a prominent generally green reproductive branch often several centimeters long and up to two millimeters thick. These reproductive structures are found often in large groups attached to rocks in streams with a rapid current. Two years ago, the writer reported this alga as having been found in six counties of the state.¹ A more complete study of its distribution has been made since that time.

The present known distribution of Lemanea includes fifteen counties, all of which are in the southern half of Indiana. From the eastern boundary of the state, these counties extend almost to the western boundary. Twenty-four collections or observations have been made by nine different people. The first record for the state was made in 1883 by Dr. L. M. Underwood for Owen County.² It is interesting to note that seven of the nine people report Lamanea for that county. There is no other county with more than two records.

The fifteen counties of Indiana in which Lamanea is now known to be present are, from east to west: Franklin, Ripley, Jefferson, Decatur, Jennings, Clark, Shelby, Bartholomew, Jackson, Harrison, Crawford, Monroe, Lawrence, Owen, and Putnam.

Specimens of the alga collected by Dr. L. M. Underwood, Dr. D. M. Mottier, Dr. M. S. Markle, Mr. Charles Deam, Mr. Robert Prettyman and the writer have been placed in the Butler University herbarium. The specimen of Dr. Underwood's material was sent to the writer by Prof. W. C. Muenscher of Cornell University.

While it seems difficult to distinguish between the various species, there apparently are six represented in the Indiana specimens. These six species, together with the location, date of collection, and name of the collector, are:

L. annulata Kütz. Shelby Co., 1932, Prettyman; Owen Co., 1883, Underwood.

L. australis Atk. Harrison Co., 1931, Palmer.

L. catenata Kütz. Owen Co., 1932, Palmer.

L. nodosa Kütz. Bartholomew Co., 1932, Prettyman; Decatur Co., 1932, Palmer; Jennings Co., 1932, Prettyman; Owen Co., 1932, Mottier; Putnam Co., 1933, Palmer; Ripley Co., 1932, Palmer.

L. pleocarpa Atk. Franklin Co., 1932, Palmer; Owen Co., 1932, Prettyman.

L. torulosa Sirodot. Clark Co., 1933, Palmer; Crawford Co., 1931,

¹ Palmer, C. M. The algae, Schizomeris and Lemanea, in Indiana. Proc. Ind. Acad. Sci. 40:111-113. (1930) 1931.

² Atkinson, G. F. Notes on the genus Lemanea in North America. Bot. Gaz. 92: 225-242. 1931.

Palmer; Jackson Co., 1930, Palmer; Jefferson Co., 1925, Markle; Jennings Co., 1930, Deam; Lawrence Co., 1930, Palmer; Owen Co., 1923, Bladyes.³

All of the six species are of the *Eu-Lemanea* group, there being none of the subgenus *Sacheria*.

The genus *Lemanea* seems not to have been found as yet in Michigan and Illinois. There are a few records of it in Kentucky and Ohio. Its present known distribution in Indiana is in agreement with the usual statement concerning the habitat of the plant, that is, that it tends to be restricted to streams with a swift current, which are of course frequent in the hilly area of the state.

ALGAE OF INDIANA: SECOND LIST OF ADDITIONS TO THE 1875-1928 CHECK LIST

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The original check list of Indiana algae was published in volume 38 of *The Proceedings of the Indiana Academy of Science*;¹ and in volume 40 a list of additions was published.² Since then four more papers listing algae of the state, which were published before 1928, have been found. Three counties (Franklin, Vanderburgh, and St. Joseph) not represented in the original check list nor the first additional list have algae recorded for them. Several species are new for the check list.

The discovery of these four papers brings the total notations of algae for Indiana to 894, published up to and including 1928. Since 1928, however, several papers have appeared giving algae of various counties of the state and as a result we now have a total of 2,105 notations. Since 1928, the number of counties represented has increased from twenty-two to forty-three, although thirteen of these have only one alga apiece. The counties with the largest number of notations of algae to date are: Monroe Co. 489, Vigo Co. 320, Marion Co. 303, Morgan Co. 153, and Marshall Co. 135. No other counties yet have over 100 entries. Such counties as Brown, Madison, Steuben, and Carroll are still in the zero column.

Three more corrections should be made to the original check list: page 110, line 13, the phrase "*Cylindrocapsa. C. geminella*. Monroe Co. 1909" should be removed to page 117 between lines 15 and 16; page 119, line 19, change "*Sphaerocystis*" to "*Sphaerocystis*"; page 117, line 37, change date after "Morgan Co." from "1910" to "1913." In the (1930) 1931 additions to the check list, the following correction should be made: page 107, in map (Fig. 1), place a figure "1" in Owen Co.

¹ Smith, B. H. The algae of Indiana. *Proc. Ind. Acad. Sci.* 41:177-206. 1931 (1932).

² Palmer, C. M. Algae of Indiana—A classified check list of those published between 1875 and 1928. *Proc. Ind. Acad. Sci.* 38:109-121. 1928 (1929).

³ Palmer, C. M. Algae of Indiana: Additions to the 1875-1928 check list. *Proc. Ind. Acad. Sci.* 40:107-109. (1930) 1931.