

THE ALGAE SCHIZOMERIS AND LEMANEA IN INDIANA

C. MERVIN PALMER, Butler University

Schizomeris and *Lemanea* have been selected for special mention at this time for several reasons. Both algae are probably very common and abundant in Indiana. Both of these forms are comparatively large and conspicuous, due not only to size of individual plant but also to the large masses which they form. *Schizomeris* is an alga of unusual form, related to *Ulothrix*; *Lemanea* is a fresh water Red Alga (Rhodopyceae). *Schizomeris* has been reported in print for Indiana only once and *Lemanea* has never been listed for this state.

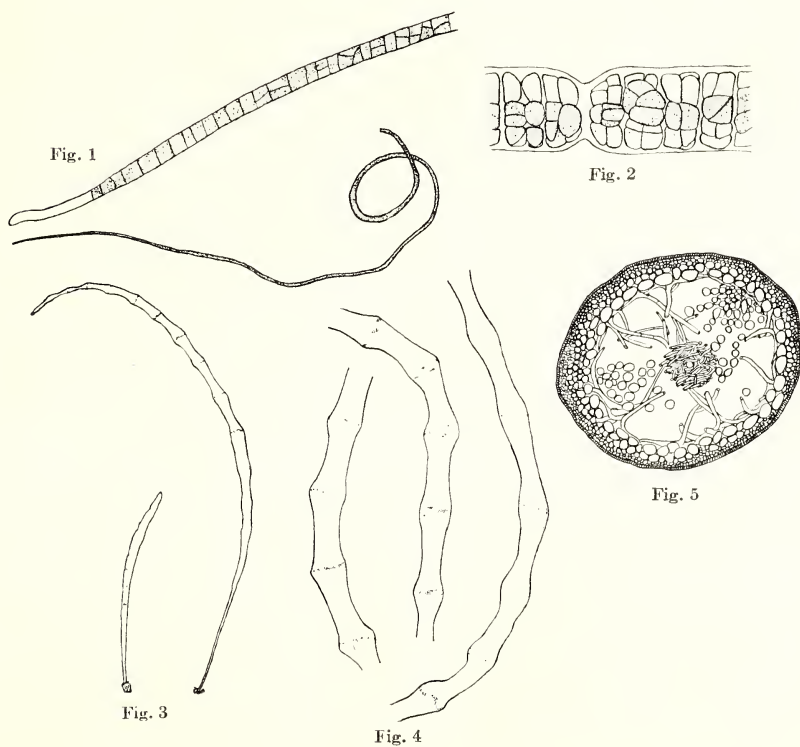


Fig. 1—*Schizomeris leibleinii* Kützing. Drawings showing general form of the plant and structure of the basal portion. Diameter of basal cells, about 29 microns.

Fig. 2—*Schizomeris leibleinii* Kützing. Drawing showing the nature of the upper part of the thallus which is parenchymatous. Longest diameter of segment shown, 76 microns.

Fig. 3—*Lemanea torulosa* Sirodot. Drawings of a young and a more mature sexual branch. The antheridia are located at the nodes. Length of young plant shown is 1 cm.

Fig. 4—*Lemanea torulosa* Sirodot. Drawings showing the grouping of the entheridia at the nodes. Length of internodes shown, about 2 cm.

Fig. 5—*Lemanea torulosa* Sirodot. Drawing of a cross-section through the sexual branch. Two groups of carposores are shown in the area occupied by the radial filaments. (Camera lucida drawing.) Diameter of nodes, up to 750 microns.

Schizomeris leibleinii Kützing was found in a small aquarium in a laboratory at Butler University during the month of February 1930 by the writer. It was growing with *Ulothrix* and *Oedogonium*, and was attached to the side of the glass container. In early September 1930, Mr. C. K. Calvert collected several samples of algae from White River below the Sewage Disposal Plant of Indianapolis, and one of these samples was found, by the writer, to contain *Schizomeris leibleinii*. This green alga is regarded as one of the Ulothrichaceae, which family includes such genera as *Ulothrix*, *Hormidium* and *Binuclearia*. It develops as an attached filament gradually expanding from base to apex and, except for the basal portion, becoming parenchymatous, that is, several cells wide and thick. This characteristic is only rarely found in the Chlorophyceae. The cells in the young filaments are almost exactly like those of *Ulothrix* in shape and in form of chloroplast. This alga was reported previously in 1920 for Marshall County by Evermann and Clark.

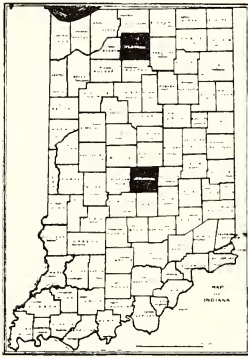


Fig. 6

Fig. 6—Map showing present reported distribution by counties of *Schizomeris leibleinii* Kützing.



Fig. 7

Fig. 7—Map showing present known distribution by counties of *Lemanea*, (*L. torulosa* Sirodot, in solid black).

Lemanea torulosa Sirodot was found by the writer in May 1930 in Lawrence County and Jackson County, Indiana. The conspicuous part of the plant is the sexual branch, which is a green, somewhat rigid, fleshy tube about one centimeter in length. These stalks are attached, large numbers in a group, to rocks in the rapids of streams. Dr. M. S. Markle has sent the writer a preserved sample of this alga, collected in May 1925 at Clifty Falls, Jefferson County, Indiana, and Mr. Charles Deam has forwarded specimens of it collected in July 1930 in Jennings County, Indiana. Letters received by the writer from three others throw light on the distribution of the genus. Dr. D. M. Mottier of Indiana University, reports observing *Lemanea* (species undetermined) in Monroe County in 1890, and in Owen County at McCormick's State Park. Dr. Paul Weatherwax of Indiana University reports the presence of *Lemanea* in Owen and Jefferson Counties. Miss Edna M. Morris of Quincy, Indiana reports *Lemanea* to be in several of the streams in Owen County.

The sexual branch of *Lemanea* develops enlargements which resemble nodes on a stem. It is at these swellings that the antheridia develop. Unlike *Schizomeris*, the stalk is large at the base and decreases in diameter to the blunt pointed tip. The rather complex structure of the sexual branch is shown in the drawing of a cross-section. *Lemanea*, a Red Alga, is regarded as one of the Nemaniales of the group Florideae. Thus with its carpospores, trichogynes and red pigment, it might well be considered in our courses in General Botany at the time when we are discussing the Rhodophyceae.

