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Fay Kenoyer Daily

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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. 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 Daubenmire, 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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NITELLA SPANIOCLEMA GROVES & BULLOCK-WEBSTER VAR. NIDIFICA, NOV. VAR., FROM ALABAMA

By Fay Kenoyer Daily

An interesting Nitella was collected in Alabama, June 6, 1947, by Francis X. Lueth of the Department of Conservation, State of Alabama. In an initial study, some bits of material found loose in the packet were tentatively identified as *Nitella spanioclema* Groves & Bullock-Webster (2), a species apparently known only from Ireland. After obtaining some cotyptic material, however, a complete study was made of the packet contents and a portion was seen to differ sharply in habit from the species. Whether the lax bits were broken from this "Tolypella-like" plant since it does show great variability or whether they represent other typical plants must remain for future collection to determine.

Primarily upon the basis of the difference in habit, a new variety is named.

*Nitella spanioclema* Groves & Bullock-Webster var. *nidifica*, nov. var. Plate I.

Cum habito *Tolypella nidifica*, ramulis verticilli varis 3-10, segmentis ultimis ramulorum usualiter longioribus quam segmentis primariis; ceterum ut in typo.

With the habit of *Tolypella nidifica*, branchlets of the verticils variable 3-10, ultimate segments (ultimate rays) of the branchlets usually longer than the primary segments (primary or axial rays); otherwise as in the type.

A complementary diagnosis follows:

HABIT: lower whorls lax of 3-4 branchlets, upper whorls crowded and producing several small adventitious branchlets and several branches at a verticel so that a "Tolypella-like" appearance is achieved; branches not only produced in the fundus of the verticel, but also arise in place of branchlets, often are aborted. MONOECIOUS. STEM: ca. 0.75 mm in diameter. STERILE BRANCHLET: simple one-celled or
PLATE 1. *Nitsella spanioclema* Groves & Bullock-Webster var. *nidifica*, nov. var.

1. Lax bit of plant, normal size. 2. "Tolypella-like" portion of plant, normal size. 3. Coronula of oogonium. 4. Bases or branchlets showing arrangement of adventitious branchlets at this node. 5. Oospore. 6. A small portion of the outer colored membrane of the oospore. 7. Simple sterile branchlet, greatly enlarged. 8. A portion from the "Tolypella-like" part of the plant, greatly enlarged. 9. A whorl from a lax bit of plant, greatly enlarged.
once furcate producing usually only one one-celled ultimate ray, the tip ranging from obtuse to acute. **FERTILE BRANCHLET:** 3-10 at a node, once or twice furcate, the ultimate ray usually longer than the axial ray, but often much reduced, bearing usually one one-celled ultimate ray (occasionally 2 but always one aborted), the tip ranging from obtuse to acute. **OOGONIA AND ANThERIDIA:** together or at different nodes. **OOGONIA:** single or 2-3 together; coronula deciduous, upper cells ca. 0.025-0.036 mm high, lower cells ca. 0.018 mm high. **OOSPORE:** red brown, ca. 0.525 mm long, ca. 0.375 mm broad, 6 sharp ridges; outer colored membrane granulate and scabrous, obscurely reticulate, red brown. **ANThERIDIUM:** (few seen) immature, ca. 0.33 mm in diameter, sometimes appearing to be stalked because of the reduction or abortion of rays produced at the node bearing an antheridium. Specimen seen: Alabama: Baldwin county; Mobile Delta south of Tensaw river bridge, Francis X. Lueth, June 6, 1947.

The American plant probably most nearly allied to the new variety is *Nitella californica* forma *nidifica* Allen (1) which differs primarily in having only once furcate branchlets and usually 2 ultimate rays at a node. Differences in compactness of form and the length of the ultimate rays are seen in contrasting *Nitella californica* Allen and the forma *nidifica* Allen. Differences of a similar nature serve to separate the new variety from *Nitella spanioclema* Groves & Bullock-Webster, but the contrast is more striking in this comparison.

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