one species, paying particular attention to the node. Miss BARRATT[3] treats several species in a thorough manner, especially the anatomy of sporelings. Lady ISABEL BROWN[4] is continuing her painstaking studies of the anatomy of the cone, adding two more species to those now known in detail. She has also[5] given her attention more fully to the broader aspect of the comparative morphology. These students of *Equisetum* all present convincing evidence of great reduction in the vascular tissues. All are of the opinion that the internodal ring of vascular bundles represents a more extensive and continuous mass in ancestral forms, and believe the three separated xylem strands of each bundle to be the remains of one continuous strand, except that Miss BARRATT considers the protoxylem is always an independent strand. The phylogenetic unity of the individual bundle in *Equisetum* seems well established. Leaf gaps do not exist; the gaps in the cone stele have no morphological value. Nodes and internodes do not exist in the cone, and the sporangiophores are organs *sui generis*. No true secondary growth occurs at the nodal ring.—I. W. BAILEY.

Ecology.—Although one of the youngest members in the group of biological sciences, ecology in America has already passed two conspicuous milestones of progress. The first was the establishment in 1915 of the Ecological Society of America, which now has a membership of over 350, and usually supplements its annual meeting in December with a summer gathering upon the Pacific Coast. The appearance during 1920 of the four numbers constituting the first volume of a journal[6] devoted entirely to the interest of ecologists marks the passing of the second milestone.

The purpose of the new journal is well expressed in the "foreword" contained in the first number: "This journal is issued to meet the demand for the collective publication of articles on ecology. Its pages are open to all who have material of ecological interest from whatever field of biology. While the variety of fields may cause diversity of treatment, yet the ecological significance of the papers will make them of general interest. Specialization is inevitable, but makes more urgent the need for cooperation. To approach different subjects from similar points of view is to lay the foundation of cooperation." An examination of the first volume shows that all phases of the subject are being cared for. This is evidenced by the inclusion of 10 articles dealing with the more general aspects or including a discussion of both plants and animals, while an equal number deal rather exclusively with plants and six

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[3] BARRATT, KATE, A contribution to our knowledge of the vascular system of the genus *Equisetum*. Ann. Botany **34**: 173–200. *pls. 6, 7. figs. 24.* 1920.

[4] BROWN, ISABEL M. P., A third contribution to our knowledge of the anatomy of the cone and fertile stem of *Equisetum*. Ann. Botany **34**: 237–263. *pls. 8, 9. figs. 7.* 1920.

[5] ———, Phylogenetic considerations on the internodal vascular strands of *Equisetum*. New Phytol. **19**: 11–25. *figs. 7.* 1920.

[6] Ecology (continuing the Plant World). Quarterly Journal. BARRINGTON MOORE, editor; Brooklyn Botanic Garden, publisher. **1**: pp. 313. 1920.

articles relate to animal ecology. The new journal compares favorably in general appearance and typography with the *Plant World*, which it replaces, and seems likely to reflect credit upon its editor, with his associated editorial board, as well as upon the Ecological Society of America.—GEO. D. FULLER.

Marine algae of Beaufort.—HOYT[7] has published a very full account of the marine algae of the region adjacent to the biological station of the Bureau of Fisheries at Beaufort, N.C. The ecological data are fully covered in a general description of the region, the variation in the floras of different parts of it, the conditions of temperature, light, salt content of water, turbidity, water movements, and habitats, and finally the regional, seasonal, vertical, and horizontal distribution of algae. Methods for collecting and preserving algae are given, and also some account of their economic uses. In the classification and description of the algae of the region, 128 species are included, distributed as follows: Myxophyceae 10, Chlorophyceae 23, Phaeophyceae 25, and Rhodophyceae 70. An artificial key to genera and a full bibliography are also provided.

The Bureau of Fisheries is to be commended for such a publication. It feels called upon to give the following explanation: "The question may be asked, Why should the Bureau of Fisheries be interested in marine algae? Excluding purely scientific considerations, there may be recalled the well known fact that all animals depend on plants for food, and this is as true of water animals as of land animals."—J. M. C.

Ecology of algae.—In the sandhill region of western Nebraska are numerous small lakes, all comparatively shallow, and varying much in alkalinity. ANDERSEN and WALKER[8] have studied the algal vegetation of several of these and endeavored to measure the controlling factors. They found the means available for measuring light were entirely insufficient and resulted in nothing but the crudest approximations. The mineral and gas content of the water, however, showed a direct relation to the algal flora. A rather definite seasonable periodicity was manifest, and in the extensive lists of species this relationship is indicated.—GEO. D. FULLER.

Montane plants of the southern Rockies.—Continuing his studies of the flora of the Rockies, RYDBERG[9] has analyzed the plant population of the southern portion of the range. The formations distinguished are the pine forest, spruce forest, aspen and poplar groves, alder-willow swamps, copses, and sage brush. Lists of species are given for each formation.—GEO. D. FULLER.

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[7] Hoyt, W. D., Marine algae of Beaufort, N.C., and adjacent regions. Bull. Bur. Fisheries **36**:371–556. *pls. 84–119.* 1920.

[8] ANDERSEN, EMMA N., and WALKER, ELDA R., An ecological study of the algae of some sandhill lakes. Trans. Amer. Micr. Soc. **39**:51–85. *pls. 3–12. fig. 1.* 1920.

[9] RYDBERG, P. A., Phytogeographical notes on the Rocky Mountain region. IX. Wooded formations of the mountain zone of the Southern Rockies. Bull. Torr. Bot. Club. **47**:441–455. 1920.