

is due to the high osmotic pressure. It is suggested that in these plants absorption by aerial organs (involving both sea water and atmospheric water) may in nature supplement root absorption, although the latter doubtless is the more important.—H. C. COWLES.

Xerophytic fern prothallia.—The very delicate character of fern prothallia in general and their usual development under humid conditions have made it difficult to account for the establishment of various ferns in dry, rocky situations. Some light has recently been shed upon the subject by experimental cultures of the prothallia of *Camptosorus rhizophyllus* by PICKETT.²⁶ Exposed to conditions of desiccation arranged to simulate as far as possible those of dry limestone ledges under conditions of natural drought, the prothallia showed complete recovery after 34 days, and 25 per cent recovery after 55 days. Under rather more rigorous conditions, only 50 per cent of the prothallia died after 38 days' exposure to conditions of drought that killed all the prothallia of *Onoclea Struthiopteris* in 48 hours; while under the most rigorous aridity in a sulphuric acid desiccator a small proportion of the prothallia survived 4 days' exposure. All these tests go to prove that the drought-resisting character of the prothallia of *Camptosorus* must be a very important factor in the establishment of this fern in its characteristically xerophytic habitats.—GEO. D. FULLER.

Rhodophyceae of the Indian Ocean.—MRS. WEBER VAN BOSSE²⁷ has reported upon a collection of Rhodophyceae made in 1905 on the Percy Sladen Trust Expedition to the Indian Ocean. The geographical distribution shows a great resemblance between the algal flora of the Indian Ocean and that of the Malay Archipelago, as well as that of the east coast of Africa. A table shows the locality, bottom, depth, and distribution of each of the 79 species collected, among which there are 18 new species, and a new genus (*Pseudenosiphonia*) of Rhodemelaceae.—J. M. C.

Plant phyla.—BESSEY²⁸ has revised his *Synopsis of plant phyla*, making many changes in the arrangement of the orders and families. He recognizes 14 phyla, and gives the latest approximate enumeration of the known species of plants as 233,614. These species are distributed among the current large groups as follows: Thallophytes 79,450, of which the Ascomycetes and Basidiomycetes include 64,000; Bryophytes 16,600; Pteridophytes 4,524; Gymnosperms 540; Angiosperms 132,500.—J. M. C.

²⁶ PICKETT, F. L., Resistance of the prothallia of *Camptosorus rhizophyllus* to desiccation. Bull. Torr. Bot. Club. 40:641-645. 1913.

²⁷ WEBER VAN BOSSE, Mrs. A., Marine algae, Rhodophyceae, of the "Sealark" expedition, collected by Mr. J. STANLEY GARDINER. Trans. Linn. Soc. London Bot. II. 8:105-142. pls. 12-14. 1913.

²⁸ BESSEY, CHARLES E., Revisions of some plant phyla. Univ. Studies 14¹: 73. 1914. Lincoln, Nebraska.



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<https://doi.org/10.1086/331282>.

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DOI: <https://doi.org/10.1086/331282>

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