stamens or petals, but do have much thickened, cutinized walls on the surface cells of the outer side of the blade. No trace was found in the male flower of the rudimentary carpels mentioned by Dammer. The very short internodes of the female spike, with the thickening up of the decussate pairs of ovaries, results in a fleshy, green, compound fruit looking a bit like that of an *Opuntia* or like the tuber of a potato. There is a transverse layer of cambium-like tissue in the style to which its elongation is evidently due. Some details of the development of the embryo-sac and seed have been reported elsewhere. At germination the soft pericarp decays while the highly differentiated tissue of the endocarp is burst by the swelling embryo. The latter, since its radicle points toward the axis of the spike, has also to push through the tough fruits of the opposite side of the spike. Seedlings have been raised to 3 years of age in the greenhouse in Baltimore without showing any signs of flowering. The presence and characters of the structures described should help greatly in determining the relationship of this monotypic Order, which, for a century, has been tossed from branch to branch of the phylogenetic tree.

THE STUDY OF ALGAE AT MOUNT DESERT ISLAND, 1933

HELEN E. HUBBARD, *Phoenix Junior College*

The work done in the summer of 1933, under the direction of Doctor Duncan S. Johnson, was for the purpose of studying the marine algae at Mount Desert Island. Much time was spent in collecting and preserving material for the study of the life history of various species of both red and brown algae. Especial attention was paid to the development of Chorda filum. The results obtained are preliminary and will be reported after further studies are completed.

A STUDY OF THE LIFE HISTORY OF *AGARUM TURNERI*, THE SEA COLANDER

W. R. HATCH, *Johns Hopkins University*

The gametophytes of *Agarum Turneri* have not heretofore been described.

This plant occurring only in the lowest tidepools was collected from Sea Wall, Seal Cove, Otter Cliffs, Schoodic Point and in the channel off Long Porcupine. In the great tidepools on Schoodic Point attached plants were discovered growing in abundance, but the finest stands of this kelp—to judge from dredging—were found in 20-50 feet of water on the shelving ledges that lie along the north shore of Long Porcupine.

Although believed to fruit only in the fall and winter months, little difficulty was experienced in collecting fruiting material. The sporangia in association with paraphyses comprise the sori which form irregular patches over the surface of the perforate blade.

In the laboratory discharge of the sporangia was induced and cultures were made in order to study the germination of the zoospores. Gametophytes thus obtained were followed in the course of their