

downward and suck up water, while the rest form a dense cluster at the top. The peculiar structure of these mosses allows them to absorb and hold water like a sponge, for which reason they are used by gardeners for packing around plants and flowers." This moss has, during the present war, been used as a substitute for absorbent cotton in the hospitals in Europe.

The sporophytes of the Sphagnum Mosses develop during July, but are not plentiful. Collect specimens and read up an account of this moss in some good textbook on Botany.

The mosses comprise a large class of plants, over 12,000 different species have been described and named. See book notice, on another page of the REVIEW, for description of a work that names and describes the common mosses of the Acadian Region.

#### CLUB MOSSES.

There is subject matter for several interesting lessons in plant development in the study of mosses and ferns, and many other points of interest arise when we direct our attention to the Club Mosses and their allies.

The Club Mosses belong to the genus *Lycopodium*, and are represented in our region by about thirteen species and varieties. They are all low plants, of moss-like appearance, with elongated prostrate stems, often much branched, clothed with small persistent leaves, and either trailing along the surface of the ground as in the case of the Common Club Moss, *Lycopodium clavatum*, or just beneath the surface, not more than three or four inches at most, as in *Lycopodium obscurum*.

In the axil of the leaves, either the ordinary leaves or specialized ones, set apart in zones or spikes for that purpose, the sporangia with numerous spores are produced. From this fact we conclude that this leafy plant is the sporophyte phase of the Club Moss.

The spores mature about midsummer, and are very abundant. In the mass they form an inflammable fine yellow powder, known as vegetable brimstone and lycopodium powder, which is used in pharmacy and in the manufacture of fireworks.

The spores produce small, very obscure, gametophytes, which in turn, through the union of their gametes, eggs and sperms, give rise to the sporophyte phase—the main vegetative phase or generation in the life cycle of this plant.

The following is a list of our native Club Mosses, named according to Gray's New Manual of Botany. We trust it may help students of Botany to a further study of this interesting group of plants, and lead them to note carefully the degree of specialization among the leaves in the matter of spore production.

*Lycopodium Selago*\* L.,—local. Leaves *uniform*, spore cases arranged in zones from near the base to near the apex, with sterile regions intervening.\*

*L. lucidulum* Michx.,—common. Leaves *slightly differentiated*; in zones, alternately shorter and longer; the shorter bearing the spore cases.

*L. inundatum* L.,—local. Spore cases only in the axils of the upper leaves, forming a spike, with the fertile scarcely or not at all modified. Plants growing in low marshy ground as its specific name indicates.

*L. annotinum* L.,—common. Leaves with spore cases forming a spike, scale-like and yellowish, very different from its foliage leaves. Creeping stem very near the surface of the ground, the numerous upright branches mostly simple or sparingly forked.

*L. obscurum* L.,—common. Much like the last, but creeping stem deeper in the ground, the few upright branches divided. When the upright branches are repeatedly forked and tree like, and uniformly leafy on all sides, the plant is a variety of the last,—

*L. obscurum* L., var. *dendroideum* D. C. Eaton.

*L. clavatum* L.,—common. Stem creeping, fertile branches bearing from two to four slender cylindrical spike, on a slender peduncle. When the peduncle bears but one spike it is the variety.

*L. clavatum* L., var. *monostachyon* Grev & Hook.,—local.

*L. complanatum* L.,—local. Creeping stem at or near the surface of the ground; upright stems irregularly branched or forked, very flat, few forked; the fertile branches bearing peduncles with one to three erect spikes.

When the branches are "bright green, and several-forked, and spreading in a fan-like manner and the peduncles mostly four spiked, it is the variety,

*L. complanatum* L., var. *flabelliforme* Fernald — common.

The following forms are also said to be in our region, but the writer has not found them: