

The use of a 2 per cent. solution is too strong for all grains, even with a short application.

A $\frac{1}{2}$ per cent. solution is about right for oats, and the treatment may be continued for as long as two hours without injury to the seed.

For wheat a treatment with a $\frac{1}{4}$ -per-cent. solution for one-half hour is safe, while a $\frac{1}{2}$ per cent. solution for the same time will not decrease the germinating power of the seeds to any considerable extent.

Corn may be treated for two hours with a $\frac{1}{2}$ per cent. solution without injury.

Rye is injured in a $\frac{1}{4}$ per cent. solution for one hour.

When germination is slightly retarded by the treatment, the plants soon equal in their development those of the untreated seeds.

A LIST OF THE MYCETOZOA COLLECTED NEAR CRAWFORDSVILLE, INDIANA. BY
E. W. OLIVE.

The accompanying list comprises forty-three Myxomycetes, thirty-two of which are not reported in Dr. Underwood's "List of Cryptogams of Indiana," in the Proc. Ind. Acad. Sci., 1893, p. 30.

Duplicates have been deposited in the herbarium of Prof. M. B. Thomas, Wabash College, Crawfordsville, and in the Cryptogamic Herbarium of Harvard University.

The determinations have been made according to the descriptions in the Monograph of the Mycetozoa, by A. Lister.

The collections were made mostly in August, 1897, and with few exceptions the species seemed to be comparatively abundant, several gatherings being made of many of them. The majority of the species were found upon decaying stumps and logs, while a few were fruiting upon living leaves and stems, and still others on moss and fallen leaves.

Two instances were noted of a curious growth of the very abundant *Physarum cinereum* Pers. A circle about six feet in diameter was clearly outlined in both cases by the grayish sporangia fruiting upon the living leaves and stems of grass and *Plantago*. The border of the ring was pretty regular and five or six inches broad. Here and there within the ring were small groups of sporangia, but the most were confined to the outer border. The plasmodium had probably been feeding upon the dead grass stems lying close upon the ground, and, as it grew

in size, crawled outward from the center, when a dry and hot day caused simultaneous fruiting, thus resulting in a regular ring of sporangia. The formation is thus quite similar to the circles formed by the "fairy-ring mushroom," or *Marasmius*.

MYXOMYCETES.

- Arcyria albida* Pers.
Arcyria flava Pers.
Arcyria punicea Pers.
Badhamia hyalina, Berk.
Ceratiomyxa mucida Schroet, var. *genuina* List.
Ceratiomyxa mucida Schroet, var. *flexuosa* List.
Chondrioderma michelii Rost.
Chondrioderma reticulatum Rost.
Chondrioderma testatum Rost.
Comatricha typhoides Rost.
Craterium leucocephalum Ditm.
Cribraria aurantiaca Schrad.
Cribraria intricata Schrad. var. *dictyoides* List.
Diachæa elegans Fries.
Diachæa splendens Peck.
Dietydium umbilicatum Schrad. (a form.)
Didymium clavus Rost.
Didymium effusum Link.
Enteridium (olivaceum?) Ehreub. with free spores.
Fuligo septica Grueelin.
Hemitrichia clavata Rost.
Hemitrichia rubiformis Lister.
Hemitrichia serpula Rost.
Lycogala miniatum Pers.
Oligonema nitens Rost.
Perichena populina Fries.
Physarella mirabilis Peck.
Physarum bivalve Pers.
Physarum cinereum Pers.
Physarum contextum, Pers.
Physarum leucopus Link.
Physarum nutans Pers.
Physarum (rubiginosum?) Fries.

- Physarum variabile* Rex.
Physarum viride Pers.
Spumaria alba DC.
Stemonitis ferruginea Ehreub.
Stemonitis fusca Roth.
Stemonitis splendens Rost.
Trichia affinis De Bary.
Trichia favoginea Pers.
Trichia persimilis Karst.
Tubulina fragiformis Pers.

ACRASIEAE.

- Chondromyces lichenicolus* Thaxter.
Myrococcus stipitatus Thaxter.
Myrococcus rubescens Thaxter.

 THE GERM OF PEAR BLIGHT. BY LILLIAN SNYDER.

It is certainly an established fact that the well-known disease of Pear Blight, which causes such devastation among our pear, apple and quince trees, is caused by bacteria within the growing tissue of the tree. The germ which causes the disease was discovered by T. J. Burrell, and was first described and named by him in 1882.*

The germ I have isolated from the pear tree, and which I think I can say without a doubt causes the disease of the tree, I shall designate by the name used by other writers, and originated by Prof. Burrell; that is, *Micrococcus amylovorus*. Whether the above germ spoken of is the same as the one handled and studied by Prof. Burrell, and also by J. C. Arthur,† I leave to be gathered from the results of my experiments. Early in March, 1897, I attempted to separate the germ which causes the blight of the tree. Various methods were used, such as cutting pieces of diseased bark of pear, with a sterilized knife, and placing in bouillon; also by inserting a platinum needle between the bark and wood of diseased tissue and streaking upon agar. The latter proved the most success-

* Eleventh Report of the Illinois Industrial University, p. 42.

† Proceedings of the Philadelphia Academy of Nat. Sciences, 1886, pp. 322-341.