

the difficulties at present in the way of a systematic arrangement of the species of this group, because of the uncertainties in regard to the position of certain forms, Mr. Moore very carefully identified and preserved about twenty species. This represents a very small number of the forms studied, and as the work is now being continued by him under Dr. Farlow's direction at Cambridge, it is expected that some substantial record may be made to this part of our flora.

The list of parasitic fungi reported from our vicinity has been increased by Mr. Olive, much of it during the class work in this subject, until we now have 175 species and 250 hosts, twenty-seven species and forty-three hosts being new to the list published in the proceedings of last year. About forty species yet remain to be determined.

Work in the phanerogams has been continued and 204 species added to our local list. These do not include those in the report of Mr. Gentry on trees and shrubs.

The local list of pteridophytes now amounts to *nineteen*. We are yet far from the desired condition, but yearly additions are giving us better insight into our flora and enabling us to work to far better advantage than heretofore.

THE FLOWERING PLANTS OF WABASH COUNTY. BY A. B. ULREY AND J. N. JENKINS.

REVISION OF THE PHANEROGAMIC FLORA OF THE STATE. BY STANLEY COULTER.

[ABSTRACT.]

A review of work done during the year, including list of families studied in detail, collections examined, with presentation before Academy of work as far as completed. Suggestions were also offered concerning collection of certain forms in which existing herbaria were strikingly deficient.

REPORT OF THE BOTANICAL DIVISION OF THE INDIANA STATE BIOLOGICAL SURVEY FOR 1894. BY LUCIEN M. UNDERWOOD.

[ABSTRACT.]

Account of work in the field accomplished by the survey during the year. Necessity of having an organized body of correspondents throughout the state. Issue of *excisator*, with terms of distribution. Statement of work on the higher flora. Difficulties inherent in the collection of the lower plants. Acknowledgments.

AN INCREASING PEAR DISEASE IN INDIANA. BY LUCIEN M. UNDERWOOD.

[ABSTRACT.]

Septoria piricala Desm., was first collected in the state by Dr. J. C. Arthur, in Tippecanoe County, in September, 1892. It was collected by the writer in Putnam County in October of the same year. Since that time its ravages are on the increase, and it has been seen in a number of pear orchards in central Indiana. The disease appears early in the summer and continues as long as the leaves remain on the trees. It manifests itself in the form of a series of brownish spots on the leaf where the chlorophyll-bearing tissue is destroyed by the fungus. On many leaves examined from one-fifth to one-half of the leaf was diseased. The effect was seen in the utter failure of the tree to produce fruit. In many cases it would be difficult to find a single leaf on a tree that was unaffected. It is evidently a good opportunity to introduce spraying with the usual Bordeaux mixture.

VALUE OF SEED CHARACTERS IN DETERMINING SPECIFIC RANK.

The purpose of this study was to see if sufficient differences existed in the seeds of plants to enable us to determine specific rank. The plants taken for this work were those of the family *Plantaginaceæ*, including the ordinary plantain. The seeds were examined as to color, shape, size, and character of surface. The seed coats were also studied to see if histological differences of classificatory value existed, while incidentally any striking features in cell contents or peculiarities in response to the action of various reagents were noted.

The seeds were first studied as to external characters, and it was found that according to color and surface they could be separated into three groups: *P. major*, *decipiens* and *eriopoda* being black; *P. maritima*, *Patagonica*, *pusilla* and *cordata*, brown, and *Virginia* yellow. By outline of cross section it was found that they could be separated into four groups. By the combination of these two groupings we find that each species has at least one characteristic that is not found in any of the others. *Virginia* and *Patagonica* resemble in cross section, but differ in color; *major* is easily distinguished by outlines; *pusilla* is different from all others in cross section; *major* and *cordata* resemble in cross section, but are distinguished by color and surface; *decipiens* and *eriopoda* are similar in cross section and color, but differ in the position of the hilum.

The seed coats are somewhat diverse in structure, showing five general types, but after comparing the results in all cases it is apparent that the species examined do not show sufficient differences to enable us, in all cases, to distinguish one from another. For while the seed coat of one species may be unlike all