

BOTANICAL NOTES.

FIG GROWING IN THE UNITED STATES.

It is doubtful whether the extent to which the fig is cultivated in this country is commonly known to botanists and others interested in plants. For this reason a recent bulletin of the United States Department of Agriculture, prepared by Dr. Gustav Eisen, is of more than ordinary interest. In it the author brings together the results of his many years of personal observation and study, added to those of growers and experimenters in California. A short chapter is given to the history and botany of the fig, and although the chapter is short many botanists will find it to be one of the best available summaries. Then follow chapters on fig culture in foreign countries, fig culture in California, the caprification of the fig, propagation, diseases, drying and curing, etc. The first fig trees in California were brought by the Franciscan missionaries a century or so ago, and from these came the 'Mission figs,' a coarse but hardy and fruitful variety. Other importations of trees were made from time to time during the latter half of the past century, when the United States Department of Agriculture took the matter in hand (1894) and imported sixty-six varieties from Italy, Spain and France. About the same time importations were made also of the *Blastophagæ* (*i. e.*, minute insects which aid in the pollination of the flowers), without which figs can not be grown on a large scale. Still later fig trees were imported from Asia Minor, and now we are able to grow 'Smyrna figs' successfully where the *Blastophagæ* are present. Details of the pollination (known as 'caprification' by fig growers) are given in the fourth chapter, and here the botanists will learn many things as to the structure and physiology of the fig which are not to be found in ordinary botanical works. Chapter XV. consists of a list, in part descriptive, of the varieties of figs, including over four hundred different kinds. Near the close of the volume the statement is made that 'California alone produces now at least one half of the quantity of dried figs consumed in the United States.'

SUMMER BOTANY AT WOOD'S HOLL.

THE announcement is made that the fifteenth session of the Wood's Holl Marine Biological Laboratory is to extend from July 2 to August 13. The work in botany is to be again under the general direction of Dr. Bradley M. Davis, of the University of Chicago, which is a guarantee that it will be of the high order of excellence maintained in previous years. Courses are offered on the marine algae, the fungi, ecology, plant physiology and cytology. The usual opportunities for investigation are offered for the benefit of those who are prepared for work of this kind. At the close of the session Dr. Cowles will conduct a four-week expedition to Mt. Katahdin and the Maine coast. The supply department of the Laboratory should be more widely known, as it undertakes to furnish type material suitable for class work in high schools and colleges. The importance of this department is probably as great to the country at large as that referred to above, since this may reach a far greater number of students in distant schools. Any agency which makes possible better work in the high schools of the country affects powerfully the work in the higher institutions, and is to be encouraged.

A JOURNAL FOR STUDENTS OF MOSSES.

FOUR years ago a little journal was started under the name of *The Bryologist* and continued to appear quarterly until the end of 1901. The publishers then made the announcement that with the January number it was to be issued every two months. This is a sign that the support has been such as to warrant the added outlay, and is a gratifying indication of increased interest in the plants to which the journal is devoted. Looking over the numbers of the past years one can not help considering such a journal a valuable aid to the beginner, and to the older student of mosses as well. Although we have not many professional bryologues (to use the handy French word), there should be many amateurs interested in these very interesting plants, and for such particularly this little journal must be quite indispensable. On the other hand so many new species of

mosses are described in its numbers that the professional also must have access to it. Latterly the illustrations have been improved, some of the half-tones being especially fine, so that in this particular it is a desirable addition to the periodical-shelf of any botanical library. Compared with the much older French journal *Revue Bryologique*, the American publication makes a very good showing indeed, and, while perhaps not quite so technically scientific, ours is quite the superior in illustrations, printing and arrangement of matter. For this country our journal is much more useful than the French one.

THE BOTANISTS AT PITTSBURG.

It is not too early for the botanists of the country to be planning for the Pittsburg meetings in and in connection with the American Association for the Advancement of Science, on June 30 and July 1, 2, 3. Coming so closely after the end of the college year, this should find an unusually large number of botanists free to attend the meetings, after which the practically unbroken vacation still lies before each one. On many accounts this should be a large meeting of the botanists. The place of meeting is within easy reach of both eastern and western botanists, and the region is one which should offer many botanical attractions quite out of the usual lines. If the local botanists do their duty, as doubtless they will, there should be some interesting excursions, and opportunities for the examination of recent and also of fossil vegetation. Botany includes the vegetation of the past as well as that of the present, and here will be an opportunity for studying the former which should not be allowed to pass unimproved. Botanists should not require the geologists to be the only ones interested in the plants of the earlier ages.

A NEW DISTRIBUTION OF FUNGI.

UNDER the title of 'Ohio Fungi Exsiccati,' Professor W. A. Kellerman, of the State University, Columbus, Ohio, has begun the distribution of sets of specimens of the fungi of Ohio, each accompanied by a copy of the original description of the species. Fascicles I. and II. have now appeared, and it is pos-

sible to make out the place and value such a collection will have for working botanists. In the prefatory statement accompanying the first fascicle we are told that the fascicles will appear from time to time as material may be available. "Original descriptions of all the species, or that given in connection with the first use of the binomial or technical designation, will be printed on the labels, in addition to the data usually given." Every botanist will see at once the importance of a distribution of this nature, and it is to be regretted that the edition is so small, the number of copies being but few more than those sent to working botanists. The first fascicle contains sixteen specimens, of which five are of *Puccinia*, three of *Æcidium*, four of *Cintractia*, and one each of *Peronospora*, *Phyllosticta*, *Septoria* and *Ustilago*. The second fascicle is larger, including twenty-six specimens, of which seven are species of *Puccinia*, five of *Uromyces*, three of *Ustilago*, two of *Gymniconia*, two of *Gymnosporangium*, and one each of *Æcidium*, *Glaeosporium*, *Melampsora*, *Pigotia*, *Polystictus*, *Stereum* and *Urocystis*. The specimens are ample and are put up in neat packets. Although these sets are intended for exchanges only, and not for sale, we are informed that a few copies may be obtained by those who wish to purchase them, at one dollar per fascicle.

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AERONAUTICS.

MR. WILBUR WRIGHT presented to the Western Society of Engineers, September 18, 1901, a notable paper describing experiments resembling those of Liliendahl, but decidedly more successful. Advances have been made rapidly in many directions during the past fifteen or twenty years in some directions of interest in connection with aeronautics. The motors have been greatly reduced in weight and special constructions have been made by Langley and others in which the motor weighs but ten pounds and even less per horse-power, where, not many years ago, weights of sixty pounds were exceptional and an engine weighing forty pounds per horse-power was a marvel. Little