

and sterile groups alternating. In most dimorphic species, this seasonal difference is more strongly marked because of the difference that also exists in the form of the two kinds of fronds.

NOTES ON AMERICAN FERNS: VIII.*

BY WILLIAM R. MAXON.

ANOTHER ALABAMA STATION FOR *TRICHOMANES PETERSII*.—At page 84 of volume VIII of the *Fern Bulletin* I published in 1900 a brief account of the known localities for *Trichomanes Petersii* in Alabama, particularly of those in Winston and Etowah Counties, and made mention of its reported occurrence in the "rock houses" at Pikeville, Marion County. Specimens collected during the summer of 1909 by Prof. H. H. Smith are now at hand from an additional locality in Marion County. These are from the gorge of the Bullahatchee River, 2 miles east of Hamilton, and occur closely imbricated into a dense mat which is said by the collector to have covered a large rock in talus at the foot of a cliff. They are perfectly characteristic of the species, and among them are many fertile fronds. Professor Smith writes that in his search for land shells he made no particular effort to secure ferns and may easily have overlooked the species in other localities. He adds: "The places to look for it would be the deep 'coves' of the Cumberland plateau of northern Alabama; also the coves of Sand Mountain." There is, of course, every reason to suppose that it is not uncommon in that general region, as was suggested in 1900. Since that time it has been collected near Saratoga, Mississippi, by Prof. S. M. Tracy, and near Tallulah Falls, Georgia, by Mr. A. B. Seymour. (See

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Torreya, 3: 18-19, 1903.) The habit of the plant, which has been often described, renders it inconspicuous and unpromising to the average collector of flowering plants. Unless especial search is being made, it is much more likely to be gathered by collectors of mosses and hepatics.

PTERIS LONGIFOLIA AT NEW ORLEANS.—This species was apparently first recorded from Louisiana by Mr. Clute in 1902 (*Fern Bulletin*, 10: 33), upon specimens collected by him from masonry in the "Girod street Cemetery" and the "old St. Louis Cemetery" in New Orleans. In the following year Clute and Cocks reported it (*Fern Bulletin* 11:4) as "abundant on the walls of most of the Cemeteries of New Orleans, and apparently well established." The original source of the specimens now growing in New Orleans can scarcely be determined with certainty, but that the species occurred there as long ago as 1889 is attested by plants recently received at the National Herbarium marked as having been collected at the St. Louis Cemetery, New Orleans, in December, 1889.

ANOTHER NEW JERSEY STATION FOR ASPLENIUM EBENOIDES.—In a collection of ferns recently received at the National Herbarium are two small fronds of *Asplenium ebenoides* Scott from the vicinity of Blairstown, New Jersey, collected August 2, 1883, the collector's name not given. They are similar to the form found near Baltimore, Maryland, by Dr. C. E. Waters and figured by him (*Fern Bulletin* 10:3, 1902), except that they are essentially pinnate at the base, the pinnae broadly triangular-cordate and sessile, or even minutely stalked. Both fronds show an occasional junction of the ultimate veinlets near the margin, also in this resembling Dr. Water's plants. They were received under the name *Asplenium pinnatifidum* Nutt.

AZOLLA CAROLINIANA IN ALASKA.—So far as the writer knows, *Azolla Caroliniana* has never been reported from Alaska. The present record relates to plants in the U. S. National Herbarium, unaccompanied by an original label, and marked simply "Alaska, Bischoff, 1868."

AN ADDITIONAL ASIATIC FERN IN THE UNITED STATES.—In the several articles in the last number of the *Bulletin*, relating to the probable identity of *Asplenium Ferrissi* of Arizona with the Old World *Asplenium alternans* (*Ceterach Dalhousiae*) mention might have been made of the similar case of *Asplenium exiguum*. This is a species, described from India by Beddome in 1863, which according to Christensen ranges from southern India to Central China. Several students have been of the opinion that it is doubtfully distinct from *Asplenium Glenniei* Baker, described from Mexico in 1874 and ranging to Conservatory Canyon, in the Huachuca Mountains, Arizona, where it was collected by Lemmon in 1882. The case is stated at some length by the late C. W. Hope, writing in the *Bulletin of the Torrey Botanical Club* for February, 1899, (26:58-62). Hope, whose paper will be found very interesting, had no doubt that the Asiatic and American plants were of the same species, a conclusion which seems to be substantiated by an examination of the material in the National Herbarium. A number of similar instances might be cited of tropical ferns which are common to both hemispheres,—species which even in these days of extreme segregation few writers would dare attempt to divide on grounds of geographic distribution. As to *A. Ferrissi*, its relationship to *A. alternans* was apparent to the writer upon the publication of the figure with the

original description. Two detached fronds received later were, however, of very different form, not at all characteristic of *A. alternans*, and the question of the distinctness of the American form was left in abeyance. The case has certainly been presented with sufficient completeness recently, leaving little doubt as to the proper reference of the Arizona plant.

THE HART'S-TONGUE IN TENNESSEE.

BY E. W. GRAVES.

Having made two trips to the South Pittsburg station of the hart's-tongue, I thought perhaps you might be interested in hearing how the fern was holding its own in that locality. The first trip I made on the sixth of May. At that time the fern had not made sufficient growth for me to tell just how many there were, so I made a second trip September 28. This was before any frost had touched the plants and they were at their best. They were not large plants—only five or six had fronds a foot long. The remainder were small. Some were just emerging from the gametophyte stage.

The numbers have greatly decreased since Mr. and Mrs. Joseph H. Lodge visited the sink in 1898, as they reported about two hundred at that time. By actual count I found there was only fifty-eight plants. I do not know what has been the cause of the decrease; it may be that the sides caving in has destroyed a good many.

There is another danger that now threatens the fern at this place and may ultimately cause its total extinction. About three years ago a million dollar cement plant was located at the foot of the mountain on which the fern grows, a young town has sprung up and the