

NOTES ON AMERICAN FERNS: IV *

BY WILLIAM R. MAXON.

THE HART'S-TONGUE IN TENNESSEE. At the New York Meeting of last summer I presented a paper "On the Occurrence of the Hart's-tongue in America."† Two localities for the fern in Tennessee were described, neither one of which I had at that time seen. In the following August, however, a collecting trip in the South afforded me an opportunity of visiting both. I have since described ‡ somewhat more fully the South Pittsburg station; the present note is merely to call attention to the supposed absence of the fern at Post Oak Springs, the other locality from which it had been reported.

Post Oak Springs is but two or three miles from the railway station of Cardiff, some 75 miles north of Chattanooga. With the aid of a guide I was able to locate the two caves mentioned by Dr. Gattinger; but a half day's careful exploration in the vicinity of the "dry cave" proved fruitless so far as *Phyllitis* is concerned; *Asplenium parvulum*, *A. ruta-muraria*, *A. angustifolium*, *Pellaea atropurpurea* and *Camptosorus rhizophyllus* were common. The situation naturally is altogether favorable to the Hart's-tongue; but the wonderfully cool draughts issuing from the cave, the picturesque scenery and the delightful shaded slopes render the vicinity an ideal picnic-ground, and it is small wonder that any particular species of plant should disappear, especially if of an unusual type, as the Hart's-tongue is. Dr. Gattinger now writes that he observed the plant only on one occasion; but as the species is one with which he was familiar in Germany there is no reason for doubting the record of its former occurrence at Post Oak Springs. Either forest fires or cattle may have been responsible for the havoc I have charged to the picnicker. Dr. Gattinger is inclined to regard fires as the most potent factor in extermination, and he writes that he once fought a fire on this very "Cave Spring" farm. The plant *may* have persisted here through various vicissitudes to the present, but if this be the case better eyes than the subscriber's are needed to find it!

POLYPODIUM FALCATUM A WESTERN "TREE FERN." Exception

* Published by permission of the Secretary of the Smithsonian Institution.

† Since published in Fernwort Papers, pp. 30-46. 1900.

‡ Plant World, 4: 129-132. 1900.

must be taken to the statement of Mr. Parish in the last number of the FERN BULLETIN (p. 40) that *Polypodium scouleri* alone of the Pacific coast ferns grows upon the "mossy trunks of trees." Mounted on a sheet with specimens of *P. falcatum* I find in the D. C. Eaton herbarium the following note addressed to Professor Eaton, under date of January 2, 1885, by Miss Jennie R. Bush of San Jose, California:

"With this I take the liberty of sending to you a species of fern gathered by the school children from the trees near the school house at Garberville, Humboldt County, Cal. I suppose you may have the same. The interesting point to me was the fact of its edibility when roasted. The children call it "licorice." Raw it tastes much like the "ground-nut," but sweeter; when roasted, it (the "roots" of course) tastes like a very sweet fine-grained sweet potato. It grows in the moss on oaks, madrones, and other moss-covered trees—not in the "gray moss"—and adds a remarkable graceful beauty to the forests along the river in that part of Humboldt County."

In the same herbarium is another sheet of specimens collected by A. V. Kautz in 1855 at Port Orford, Oregon, with the following note: "Grows upon maple trees most abundantly, but sometimes is found on the cedar, fir and other trees. Roots used as an emolient and expectorant; taste resembles licorice." Several other sheets in the Eaton and National Herbaria give the habitat as "on trees," thus substantiating the two very specific statements here recorded. "Licorice fern" is given by Lawson* as a common name for this species, but the licorice-like taste is characteristic of most, is not all, of the western polypodies. Indeed, the rootstock of *P. hesperium* is so intensely sweet as to be almost nauseating.

SCIENTIFIC NAME OF THE SILVERY SPLEENWORT. The following is a correction of the synonymy for this species as given in my recent paper in Volume XXIII of the Proceedings of the U. S. National Museum: *Athyrium acrostichoides* (Sw.) Maxon, comb. nov.—*Asplenium acrostichoides* Sw. Schrad. Journ. Bot. 1800²: 54. 1801.—*Asplenium thelypteroides* Michx. Fl. Bor. Am. 2: 265. 1803.—*Athyrium thelypteroides* Desv. Mém. Linn. Soc. Paris 6: 266. 1827.

Swartz's original description is seemingly inadequate, and if his specific name were to rest on this alone we would hardly be

* Fern Fl. Canada [25], 1889.

justified in accepting it in place of Michaux's *thelypteroides*, published two years later. Swartz, however, in his *Synopsis Filicum* (1806), after repeating his early diagnosis (p. 82) publishes a fuller description (p. 275) and assigns a definite locality to the fern. The longer description points definitely to our plant of eastern North America, and it seems but just to interpret his early characterization in the light of his amended description, even though Michaux's name had been published in the interim. There is of course the alternative of holding to Michaux's as the first recognizable diagnosis, in which event *Athyrium thelypteroides* (Michx.) Desv. should be taken up. The fact that in 1836 the name *Athyrium acrostichoideum* Bory was published, applied to a wholly different plant, does not, according to current practice, militate against the transference of Swartz's specific name to the genus *Athyrium*.

THE GENUS EQUISETUM WITH REFERENCE TO THE NORTH AMERICAN SPECIES.

BY ALVAH A. EATON.

EIGHTH PAPER.

E. PALUSTRE L.

RHIZOME 7 angled, shining brown or black, without felt or tubercles $1\frac{1}{2}$ "-6" thick, solid at center, but with large vallecular cavities separated by dissepiments only two cells thick. Fertile and sterile stems alike, save that the former is terminated by a fruit-spike about 1' long, raised on a short pedicel. They are prominently 5-10 angled, usually naked and nearly smooth below, branched and rough above, with distinct irregular cross bands of silica traversing the ridges and grooves; ridges narrow, sharply elevated but rounded on the back, $\frac{1}{3}$ as broad as the deep grooves; stomata abundant, usually broadly oval, disposed in a broad irregular band of 10 to 12 rows; sheaths gradually widening upward, green or variously marked with brown or black, leaflets convex, keeled below the middle with a distinct carinal groove which extends into the teeth. Teeth broadly lanceolate sharply pointed, usually black, with a broad white hyaline border. Branches 4-7 angled, rough with abundant cross bands of silica; teeth and sheaths similar to those of the stem, but the latter usually green, the former deltoid or narrowly lanceolate, with a carinal groove. A section of the stem shows all three kinds of