

## A Rare Fern.

**T**HIRTEEN miles from Bowling Green, Kentucky, I found, September 10, 1892, a specimen of the rather rare Fern, Bradley's Spleenwort (*Asplenium Bradleyi*). About a quarter of a mile from Young's Ferry, Warren County, a hill extends for a mile or more, crowned by perpendicular sandstone cliffs. On the side of the bluff sloping from the river, shaded and protected from the winds by the overhanging cliffs, the Mound Builders or Indians evidently made their homes. In some places the cliff is almost a perpendicular wall of sandstone, at others the rock is worn and broken into picturesque ravines and grottoes. Into one cleft an immense stone has fallen and lodged between the walls, resembling in miniature the well-known Flume of the White Mountains. In other clefts are grotto-like places resembling parts of Mammoth Cave. Over and above these caves, through shrubs and Ferns, could be caught glimpses of the sky.

The soil along the river at this point and in the adjoining counties is rich in asphaltum. At the foot of the hill is a grove of magnificent Beeches. The hill itself is covered with a stunted growth of Sassafras and other trees and a tangle of Blackberries. On the sand-stone cliff and ridge is a growth of Laurel (*Kalmia latifolia*), Huckleberries (*Vaccinium arboreum*) and *V. vacillans* and Sourwood (*Oxydendrum arboreum*). On the ridge I found the grass *Erianthus alopecuroides* and the still rarer White Gentian (*Gentiana ochroleuca*). The view from the top of the ridge is fine in the extreme, being a panorama of the knobs and valleys for miles around, and overlooking three counties. On the cliff above and below are masses of Ferns drooping in the greatest profusion, the smaller ones growing in mats in the moss on the rocks. The latter were common Polypody (*Polypodium vulgare*), Walking-leaf Fern (*Camptosorus rhyssophyllus*), called by the country people Wall-link, Maiden-hair Spleenroot (*Asplenium trichomanes*), and with them Liverworts and Partridge-berry.

The larger Ferns, some of them over three feet in height, were *Aspidium spinulosum*, var. *intermedium*, *A. marginale* and a few of the Cinnamon Flowering Fern (*Osmunda cinnamomea*). But the gem of all in point of interest, if not of beauty, was the one specimen of *Asplenium Bradleyi*. Here in a crevice of the moist sandstone, shaded and protected from the wind, grew this rare Fern, first found in 1872 in the Cumberland Mountains, near Cold Creek, East Tennessee, by Professor F. H. Bradley, and described by Professor Eaton soon after. The mature fronds are seven and a half by one and a half inches, linear oblong, pinnate, pinnæ numerous, oblong ovate, the largest pinnatifid, fruit-dots short, stipe black, tufted, the lower half of rachis black also; root-stock very short and covered with black scales.

Professor Williamson, in his *Kentucky Ferns*, says that though he botanized throughout the entire state where *A. Bradleyi* was likely to be, he failed to find it. Professor Hussey, in his report, wrote that he found one specimen in Edmonson County, near Green River and Mammoth Cave, and, though he searched a hundred similar localities, failed to find another. The only other report of it I have heard is by Mr. C. C. Hoskins, in 1876, from near Big Clifty, Grayson County. A specimen is now in the herbarium of the University of Indiana, but where this was gathered I do not know. Professor Eaton, in his *Ferns of North America*, mentions that a single specimen of a less-developed form has been collected near Newburgh, New York; also, that Williamson found a plant in Estill and Rockcastle Counties, Kentucky. This must have been since the publication of his *Kentucky Ferns*. He adds that it will probably prove to be less rare than is supposed, and to have a wider range, since the Newburgh plant is manifestly identical with the plant found in Kentucky. However, this work was published in 1880, and few, if any, specimens have been reported, at least to my knowledge, since that time. I should very much like to know whether there are other botanists who have found this Fern during recent years, and if it is still considered a comparatively rare species.

Professor Hussey thus described the place where he found it, in Edmonson County, Kentucky: "Under the overhanging sandstone, sheltered from the sun and sweeping winds, are sometimes spaces of vast extent, where the aborigines had their homes, as evinced by the numerous fragments of flint, and by the mortar-holes in the detached masses of sand-rock. On one of these sandstone cliffs I found the *Asplenium Bradleyi*, and, recognizing it as new, sent it to a botanical correspondent, from whom I learned it had already been described by Professor Eaton. . . . Under a moist overhanging rock, a few hundred yards distant, was found the *Trichomanes radicans*, shut out from direct sunlight, and where there was constant dampness."

This is a perfect description of this point near Green River, where I found the plant of *A. Bradleyi*, and not three feet away, under an overhanging rock, grew the rare *Trichomanes radicans*. Flint fragments were picked up and a large mortar-stone stood near by, in front of the grotto. The rock was about five feet in diameter, two feet high; near one side was a mortar-hole about five inches in diameter and about ten inches deep.

I have since visited the Old Indian Fort, a natural fort, seven miles from this point, and other similar cliffs in this locality, but have failed to find another plant of this Fern.