

## FOSSIL FLORA OF BRAIDWOOD, ILLINOIS

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Braidwood is situated fifty-nine miles southeast of Chicago on the Chicago and Alton Railroad. Two miles northeast of the Chicago and Alton Station is located a medium sized coal mine which was still working before the beginning of the strike, and which it is to be hoped will continue to be active for a long time to come after the strike is settled. It is the last coal mine in Mining District No. 1 (Longwall) which contains large numbers of excellent plant impressions. The owners, the Skinner brothers, are very friendly toward collectors, and the active member of the firm, Mr. David Skinner, together with his mine manager, Mr. William Oswald, cordially welcome and generously treat all serious-minded collectors of fossil plants who visit their mine. They receive every year several times, large and small geology classes from the University of Chicago, and give them every facility for studying their mine and their fossils. The author takes great pleasure in acknowledging his indebtedness to these two men.

The log of Skinner mine No. 2, the mine in question, is lost, but the log of the Maltby mine, located in the next section east, and abandoned in 1887, is still at hand. According to it, the workable coal seam begins at a depth of 48 ft., 4 in. This seam is 40 inches thick, with 20 inches of fire clay below it. Under this fire clay lies another coal seam 9 inches in thickness, and under it are 18 in. of fire clay. Above the workable coal seam is a layer of shale of a thickness of 25 ft., 4 in., above which follow 8 ft. of sandstone, 8 ft. of blue clay, 6 ft. of gravel, and 1 ft. of soil. The fossil plants occur in a zone of about 6 ft. in the shale, beginning immediately above the workable coal seam. They are most numerous next to the coal. The fossils appear in either calcareous concretions embedded in the shale, or as impressions directly in the shale.

The shale of Braidwood consists of various species of Calamites, Annularia, especially *A. Sphenophylloides*,

Lepidodendron, Sigillaria, Ulodendron, Stigmaria, Sphenophyllum, especially *S. marginatum*, Pecopteris, especially *P. unita* and *P. villosa*, Alethopteris, especially *A. lonchitica*, Callipteris, especially *C. Sullivanti*, Neuropteris, especially *hirsuta*, and various types of Sphenopteris, Odontopteris, and Palmatopteris. Also various seeds of Cycodofilicales, like *Trigonocarpus*, and leaves of *Cordaitea* are frequent.

The flora of Braidwood resembles closely the famous deposits of the Mazon Creek and Coal City, which are situated in the neighborhood. It is different from that of Colchester and Murphysboro, Ill., which also belong to horizons similar to those of Braidwood.

If we compare the Braidwood flora with the standard deposits of Pennsylvania and of Europe, we come to the conclusion that it corresponds to the lower Alleghany formation of Pennsylvania (Kitanning), and to the upper Westphalien and lower Stephanian of western Europe. The horizon of Mazon Creek was usually considered as lying at the basis of the Carbondale section of the Pennsylvania formation of Illinois immediately above coal No. 2.

Since lately the correlation of Illinoisian coal seams has become questioned, it may be wise to postpone a definite stratigraphic assignment of the Braidwood flora until the time when the horizons of the coal measures of Illinois are again definitely fixed.