

above the ground, the smaller about nine inches. As shown in the photograph, the trunks were separate to a height of about eight feet, where they were united by a large protuberance which seemed to have its origin in the larger tree, as it partially enveloped its trunk. A section of this connection would be of an irregular oval shape, the longer dimension in line with the axes of the trunks. This longer diameter would measure about two feet. The union seemed to be of a healthy, woody growth, covered with rough bark.

Below the graft the trunks were about seven or eight inches apart and nearly parallel; above they diverged slightly.

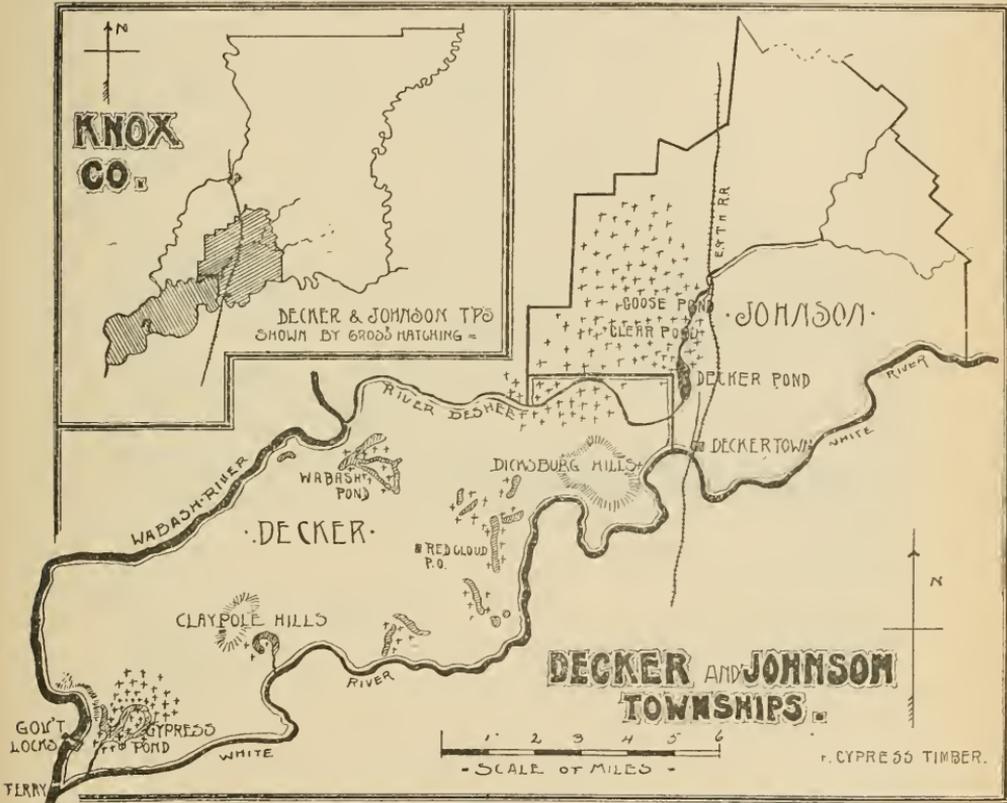
The lack of measuring appliances at the time of the examination prevents anything but an approximation of dimensions.

NOTES ON THE CYPRESS SWAMPS OF KNOX COUNTY, INDIANA.

By JOHN S. WRIGHT.

It has been stated frequently that in Knox County, Indiana, are the northernmost cypress swamps. According to the manual of Britton and Brown, the range of the cypress (*Taxodium distichum* (L.) L. C. Rich) is given as "Delaware (possibly in southern New Jersey), Florida, west to Texas, north in the Mississippi Valley region to southern Indiana, Missouri and Arkansas." Gray's Manual also gives this range. The latitude of the swamps of Knox county is about $38^{\circ} 30'$, so that if cypress ranges over any considerable portion of southern Delaware it is in a higher latitude than that of Knox county, since Delaware extends from about $38^{\circ} 28'$ to about $39^{\circ} 50'$. Cypress of New Jersey would also be above this latitude, since Cape May, the most southern point, is about $38^{\circ} 50'$. While it may be that the cypress swamps of Knox county are the most northern characteristic growths of this kind, they certainly do not mark the northern limit of the range of the cypress. The swamps of Knox county are located, so far as I could learn, almost wholly in the townships of Decker and Johnson, both southern townships, and bounded on the south by the White River. Decker Township, forming what is known as the pocket of Knox county, is the triangular tract included by the Wabash and White rivers near their confluence. (See map.) A very large part of this territory is below extreme high-water level. Much of the southern and southwestern portions of Johnson, and a very considerable part of Decker Township, is

inundated by the waters of the White and the Wabash when these streams are very high. In Decker Township there are three groups of hills, which are far above high water, viz., the Dicksburg and Claypole and a group of limestone hills along the Wabash River above the Government locks. Many farms in the interior are also above the level of the overflow.



In examining the swamps, comparatively little cypress is now found standing, though many of them are still heavily timbered with oaks and many other of our common forest trees. Nearly all the cypress of value as timber had been cut out in every swamp visited. In Johnson Township (see map) cypress was found to have been distributed over the area indicated. The territory is all very low, some of it boggy, though little water stands in the places indicated as ponds during the dry seasons, since the country has been partially ditched.

In the vicinity of Goose Pond and Clear Pond a few old trees were standing in clear open spaces once covered by water, but dry and good pasture land in September of 1897. These old trees were of large diameter at the ground, one measuring 15 feet at the surface of the ground. This expanded trunk contracted suddenly into a bench at a height of about



SKETCH FROM A PHOTOGRAPH.

four feet. The larger of the two diverging trunks ascending from this base was not over $3\frac{1}{2}$ feet in diameter 8 feet above the ground. (See cut.)

Many of the scattering cypress trees of this swamp and the surrounding woodland were very tall and graceful, being fine representatives of the species. A lumberman estimated the height of several of these, by a rough but fairly accurate method, to be 110, 125 and 130 feet, with trunk diameter of $3\frac{1}{2}$ to 4 feet, 4 feet above the ground.

In the work the southwestern portion of Johnson Township was pretty well covered, and cypress noted in the parts indicated on the map. Decker Township was traversed the entire length four times over three slightly different routes. Cypress was found sparsely distributed throughout the heavily timbered country in the vicinity of "Cypress Pond." At one time it was abundant there, but it has been nearly all cut out.

Lumbermen reported cypress in the following localities: "Wabash Pond," "Claypole Hills" and in low ground near White River east of "Red Cloud." "Wabash Pond" was not visited, and none was found in the vicinity of the Claypole Hills, although it is probably to be found there, as it is found in some other localities, represented by a few scattering trees, which have been left in the general destruction of this timber, occasioned by the demands for mill material. Oak is the most valuable and abundant timber now left in this region. A temporary railroad track runs from Decker (Deckertown) west and north about ten miles, and is used exclusively, or nearly so, in transporting logs and lumber from the mills and forests of that region to the mill at Decker and to the Evansville & Terre Haute Railroad at that point.

From an examination of the woodlands of Decker and Johnson Townships, it is evident that within recent years cypress was an abundant or predominant tree over territory aggregating 18 or 20 square miles. At present it is fast disappearing, and in all of the localities mentioned it is of minor importance in estimating the lumber resources.

SOME INDIANA CROW ROOSTS. BY A. W. BUTLER.

When winter approaches, crows are observed to become much scarcer in many localities and very much more numerous in others. In October and November they begin to collect in places in companies of greater or less size and form "crow roosts." These are to be found in the woods in different parts of the country. Some are small, containing but a few hundred individuals. It is estimated that others contain as many as a quarter of a million, or more, crows. The Division of Ornithology and Mammalogy of the United States Department of Agriculture issued Bulletin No. 6, which contains the most complete account of the crow and its habits that has been published. It mentions a number of