

MEASUREMENTS OF STRAINS INDUCED IN PLANT CURVATURES. BY D. T. MAC-  
DOUGAL.

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THE STOMATES OF CYCAS. BY EDGAR W. OLIVE.

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THE BUCKEYE CANOE OF 1840. BY W. P. SHANNON.

One of the campaign devices of 1840, in this State, was a buckeye canoe on wheels. General Harrison, the Whig candidate, was a citizen of the Buckeye state and the hero of the battle of Tippecanoe. Hence, the Buckeye Canoe embodied the ideas that caught the selfish pride of two states. The purpose of this paper is to give some idea of the size of the tree from which this canoe was made.

The dimensions of the canoe and of the tree were given to me by Mr. Robert Cones, of Muncie, a man that I have known all my life, and his statements agree well with those that I have obtained from others. Mr. Cones was one of those who guarded the canoe of nights, while it was being made. It was fifty feet long, well dressed both outside and inside. On the inside, boards were placed crosswise for seats, and three persons could sit comfortably on one seat.

During the campaign it was hauled from place to place over the state, appearing at Indianapolis, at Richmond and the Battle Ground. The dimensions of the canoe show that the tree was immense. We have seen yellow poplar or tulip trees big enough for such a canoe, but it hardly seems credible that there ever existed such a buckeye tree.

The tree, standing, measured 27 feet 9 inches in circumference at two feet from the ground, and was 90 feet from the ground to the first limb. The foliage was reduced to a bunch at the summit of the stem, which caused some who saw the tree to compare it to the palmetto. The tree had no spur roots, it stood in the ground like a post, it was as straight as an arrow and held its thickness remarkably well. This tree grew in the southeast corner of Rush County, and was recognized as a sweet buckeye. If so, it was *Jesculus flava*. On account of its size and majesty it was known far and wide, and was visited as a great curiosity by men from different parts of the United States. Occasionally a man from a distant city, a merchant from Philadelphia, for instance, having business in Comersville, Brookville, or Rushville, would drive from 10 to 15 miles to see the "Big Buckeye."

I have never found *Jesculus flava* in Decatur County, a region where I have given some attention to the forest trees. It is not in Mr. Meyneke's published

list of the Phanerogams of Franklin County. It does not appear in the catalogue of Indiana plants published in connection with the Botanical Gazette a few years ago, in 1882, I believe. But according to Dr. Collins it occurs in Dearborn County. Dr. Phinney places it among the forest trees of Delaware County. It has been reported, I know not by whom, from Jefferson County. Hence Rush County seems to be in the region inhabited by the Sweet Buckeye.

The comparative sizes of *Aesculus glabra* and *Aesculus flava*, as given by the authors, is good evidence that the tree in question was *Aesculus flava*, and not the common buckeye, *Aesculus glabra*. According to Gray, *glabra* is a large tree, and *flava* a large tree or shrub. According to Wood, *glabra* is a small, ill-scented tree, and *flava* a large tree, 30 to 70 feet high, common in the southern and western states. Then he adds by way of parenthesis: In Columbia County, Georgia, only 4 to 6 feet high. This seems to explain the shrub of Gray, and indicates that it is not only an extreme, but narrowly local variety. In Sargent's Forest Trees of North America, *glabra* is a small and medium-sized tree, and *flava* a tree sometimes 60 feet in height, with a trunk 2 to 3 feet in diameter. According to Apgar, *glabra* is a small to a large tree, sometimes only a shrub 6 to 7 feet high, and is found from Virginia to Indiana and southward.

If this big buckeye was *Aesculus flava*, and the evidence shows that it was, we have an example of a gigantic individual growing near the limits of the range of the species.

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EMBRYO SAC OF JEFFERSONIA DIPHYLLA. BY FRANK M. ANDREWS.

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SOME NOTES ON THE AMEBA. BY A. J. BIGNEY.

Students and teachers in biology usually have considerable difficulty in finding an abundant supply of this interesting little animal. The directions generally given in our text-books will enable one to find plenty in the course of time, but the teacher does not have very much time to devote to this part of the work, and in many cases the animal must be omitted because it can not be found when it is needed.

I hope that no member of this Academy has ever had any difficulty in this line, but I fear my wish can not be realized. It may be that the method of finding them here presented is not new to this Academy, but I have not as yet met with it after examining almost scores of texts and talking with many of the leading biologists of this country. If it be old to some, it will be new to others.