

QUERCUS SHUMARDII VAR. STENOCARPA LAUGHLIN
STENOCARP SHUMARD OAK

Varietas nova

Kendall Laughlin (1890-)
165 Pine Ave., Chicago, Ill.

Haec varietas a forma typica speciei glandibus distat.

Glandes plerumque 24-26 cm longae; cupula leviter scutelliformis, 5.5-7 mm alta, 12.5-18 mm lata, intus glabra, tecta pallidis cinereo-brunneis arte adpressis lanceolatis vel triangulis glabris squamis; nux pallida rufo-brunnea, pallido cinereo tomentulo varia, oblonga, in apice rotunda et in summa cupula leviter angustata, 20-22 mm longa, (11.5-)14-16 mm lata, 1/10-2/9 conclusa in cupula; pedunculus 8 mm tenuis longus.

Holotypus: US.

Bark, winter buds and leaves as in the species.

Acorns usually 24-26 mm long; cup shallowly saucer-shaped, 5.5-7 mm high, 12.5-18 mm wide, glabrous inside, covered with light grayish brown closely appressed lanceolate or deltoid glabrous scales; nut pale reddish brown, mottled with light gray tomentulum, oblong, rounded at the apex and slightly narrowed at the top of the cup, 20-22 mm long, (11.5-)14-16 mm wide, one-tenth to two-ninths enclosed in the cup; peduncle up to 8 mm long.

DISCUSSION

I first encountered this taxon 25 Sep. 1944, when Professor A. E. Shirling of the Junior College of Kansas City, Mo. showed me material in their herbarium from a tree in Swope Park. The tree had been found by B. F. Bush and the material was labeled "Quercus leioclada," which was never described.

Professor Shirling told me where the tree was. I found it, growing below a ledge of the Bethany Falls limestone about 150 feet east of the asphalt path that connected the upper and lower levels of No. 2 Golf Course, overlooking the valley of Cave Spring Branch. It was 2 feet 5 inches in circumference in 1968. I call this tree #2. Leaves and acorns from it are illustrated herein.

On a visit 25 Oct. 1960 to Beall Woods, in the high bottom of the Wabash River 4½ miles southwest of

Mt. Carmel, Ill., I found that the biggest tree, in the southeast corner of the woods, had acorns identically similar to the tree in Swope Park. I measured and photographed this tree in October 1965. It had a circumference of 15 feet 11 inches, a height of 131 feet and a spread of 98 feet. It is the largest Shumard Oak in the Midwest. I am making this tree the type tree of stenocarpa and I call it #1.

The distinctive character of stenocarpa is its acorns, which have very narrow and shallow cups and very narrow nuts. On the average the cups of shumardii are heavier than rubra L., the Northern Red Oak, but since the cups of stenocarpa are even shorter than typical rubra, the tree described as stenocarpa has been regarded by some taxonomists as a form of rubra and by others as a distinct species. It might be embarrassing to tell how many times stenocarpa has been misidentified as rubra.

The undersurface of the leaves of stenocarpa have rusty hairs in the axils of the veins, which are characteristic of shumardii and not rubra.

It may be noted from the illustrations that there is considerable difference between the leaves of #1 and #2. The former are typical shumardii. The fact that the largest lobe of the leaves of #2 is scarcely broadened toward the apex and the primary veins meet the midrib at a smaller angle suggests the possibility of introgression into rubra.

Whether leaves collected from a tree are or may be rubra may be determined by the following rule:

If the ratio of the distance measured along the upper edge of the principal lateral lobe from the bottom of the sinus above it to the tip of the lobe to the distance across the central portion of the blade from this sinus to the nearest sinus on the opposite side is more than 1.4, the tree is not Quercus rubra.

This ratio in all collections of stenocarpa is more than 1.4.

The hybrid of rubra and shumardii (schneckii), Xriparia, was described by me in PHYTOLOGIA 9:101 from a tree on the bank of the Blue River in Swope Park. Since then two other trees of this hybrid have been found, all growing on the riverbank. These leaves have a short, broad terminal lobe, as illustrated on page 107, Vol. 9, unlike either parent and more like Q. kelloggii Newb. The leaves of stenocarpa are shaped differently and the acorns are very different.

Gray's Manual and Steyermark's "Flora of Missouri" state that the acorn-cup of shumardii is 2-3 cm wide. Since the acorn-cup of stenocarpa is only 12.5-18 mm wide, it must be something different. While the

acorns of schneckii are described as being smaller, its deep cups would not fit stenocarpa.

Mr. Louis M. Bottenberg of Kansas City has sent me acorns from a tree in Columbia, Mo. which fit the description of stenocarpa.

All three of the above localities are at or near the northern limit of the range of shumardii. Perhaps stenocarpa is confined to that zone.

The acorns of stenocarpa look more like texana, which grows in central Texas, than other varieties of shumardii. Study of specimens of texana in the herbarium of the Chicago Natural History Museum shows the following differences between texana and stenocarpa, based on averages. The leaf blades of texana are 4 cm shorter and have 1 less lobe; the largest lateral lobe is either narrow, or broad and roughly triangular without lobules, whereas this lobe of stenocarpa is pinnatifid with a lower lobule. The acorns of texana are 4.5 mm shorter; the cup is 3 mm wider; the nut of texana is ovoid, that of stenocarpa is oblong.

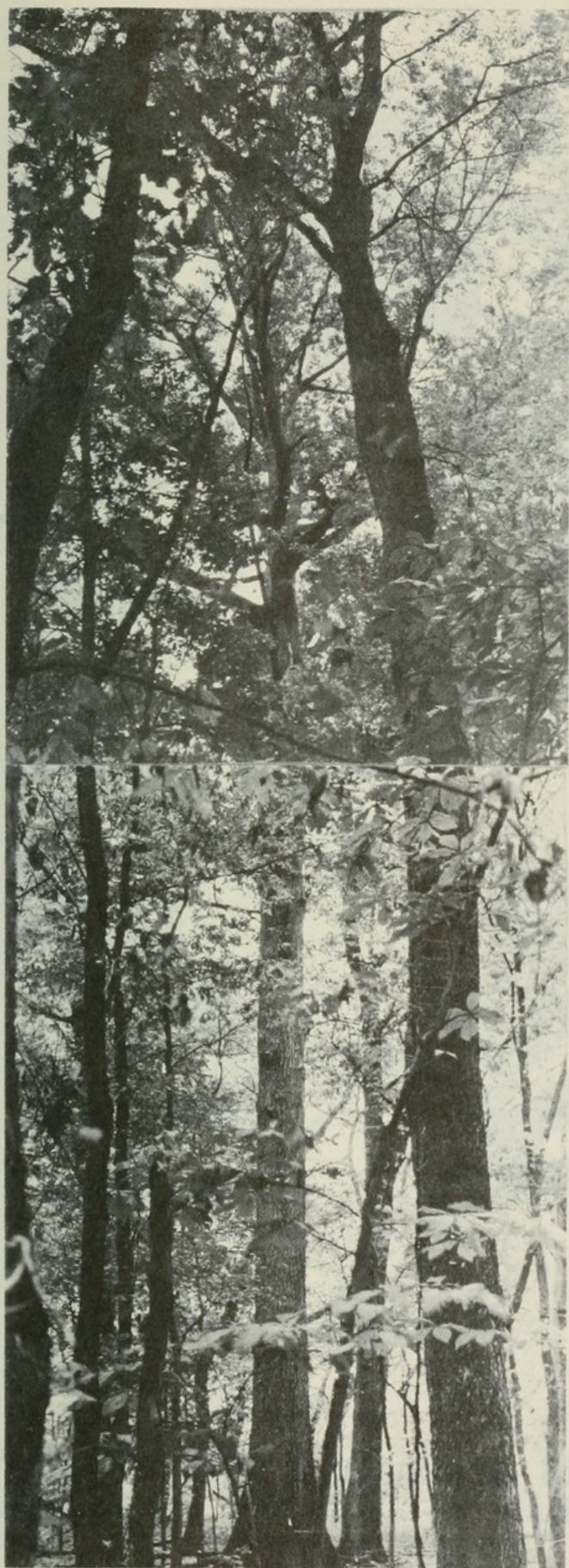
In his Key in "The Red Oak Complex in the United States" (Amer. Midland Nat. 27:739.1942.) Ernest J. Palmer placed trees with shallow acorn-cups less than 2 cm wide in the variety schneckii. Since the deep cups of schneckii are generally regarded as its distinctive character, it does not seem consistent to include shallow cups in this variety. The tree in Swope Park would fit Palmer's description above quoted; but nevertheless, this tree has been identified by different taxonomists under three different names, none of which was schneckii.

I have prepared the Key on the following page to clear up the taxonomy of the Northern varieties of shumardii. In using this Key, the figure shown in the "Weight" column should be put down in the appropriate column whose description matches the specimen's characters: the column with the largest total determines the identity of the specimen.

The holotype will be deposited in the United States National Museum, Washington, D.C.

KEY DISTINGUISHING VARIETIES OF QUERCUS SHUMARDII

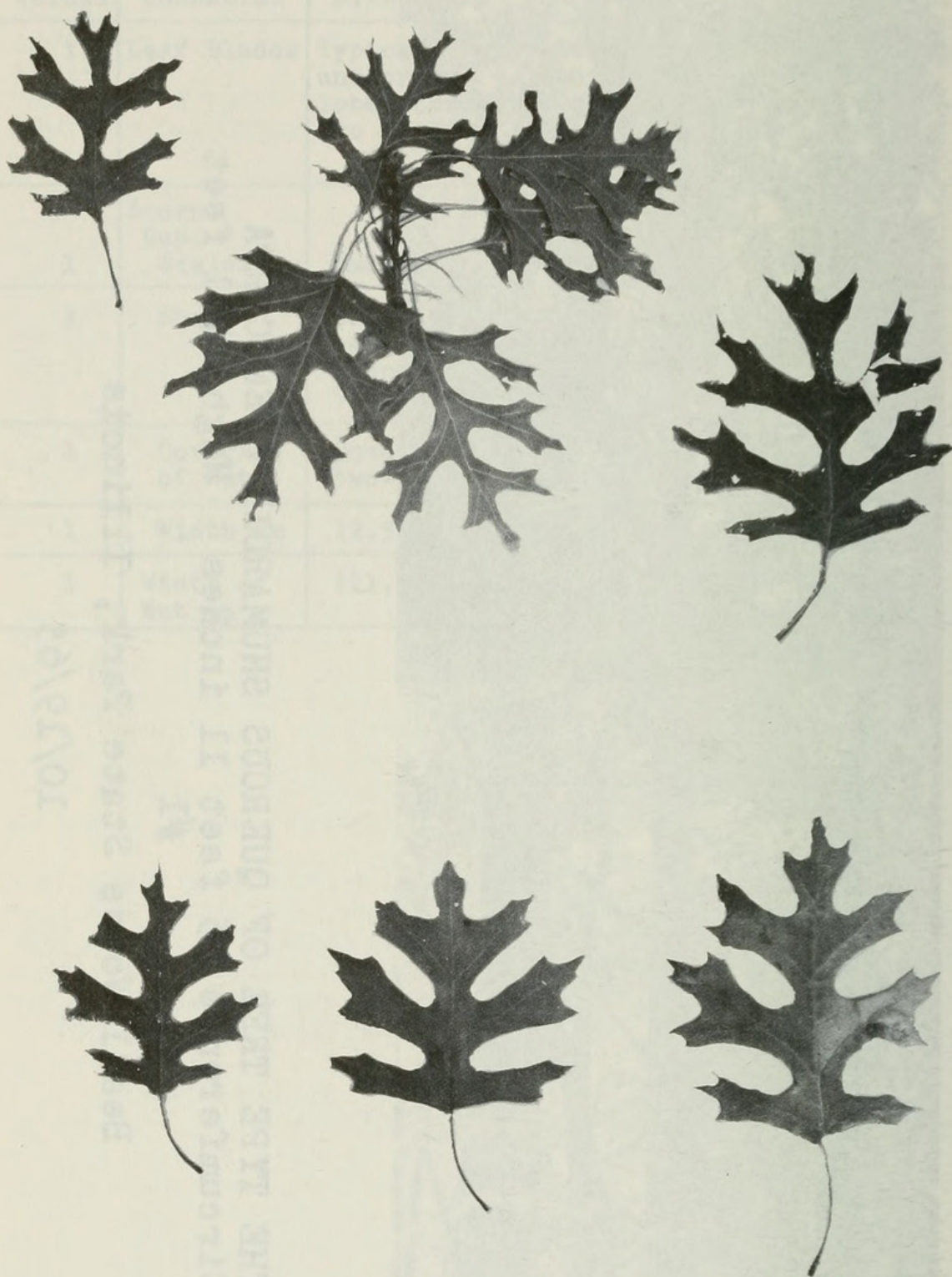
WEIGHT	CHARACTER	STENOCARPA	SHUMARDII	SCHNECKII
1	Leaf Blades	Typically and uniformly lobed thruout the tree.	Lower leaves shorter and less deeply lobed than upper leaves.	Typically and uniformly lobed thruout the tree.
1	Acorn: Cup: Scales	Smooth	Tuberculate	Smooth
3	Shape	Shallowly saucer-shaped, 5.5-7 mm high.	Saucer-shaped, 7-11 mm high.	Bowl-shaped or hemispheric, at least 10 mm high.
1	Coverage of Nut	One-tenth to two-ninths.	Two-ninths to one-third.	More than one-third.
1	Width mm	12.5-18	More than 21.	19-21
1	Width of Nut mm	(11.5-)14-16	16-21	16-21



THE TYPE TREE OF QUERCUS SHUMARDII STENOCARPA
Circumference 15 feet 11 inches Height 131 feet
#1

Beall Woods State Park, Illinois

10/19/65



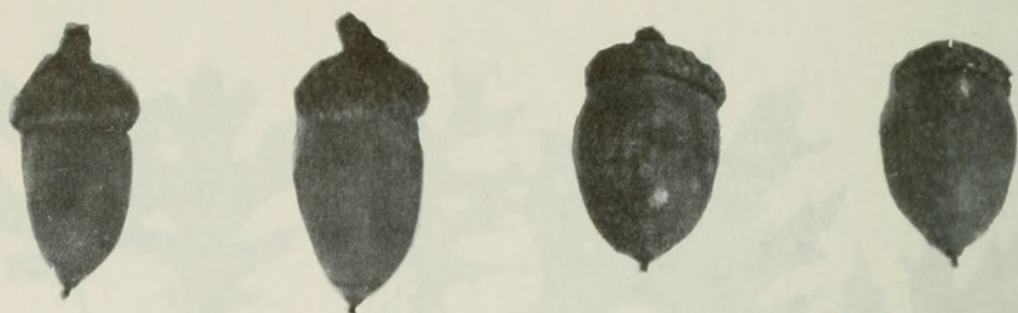
LEAVES OF QUERCUS SHUMARDII STENOCARPA #1

X $\frac{1}{4}$

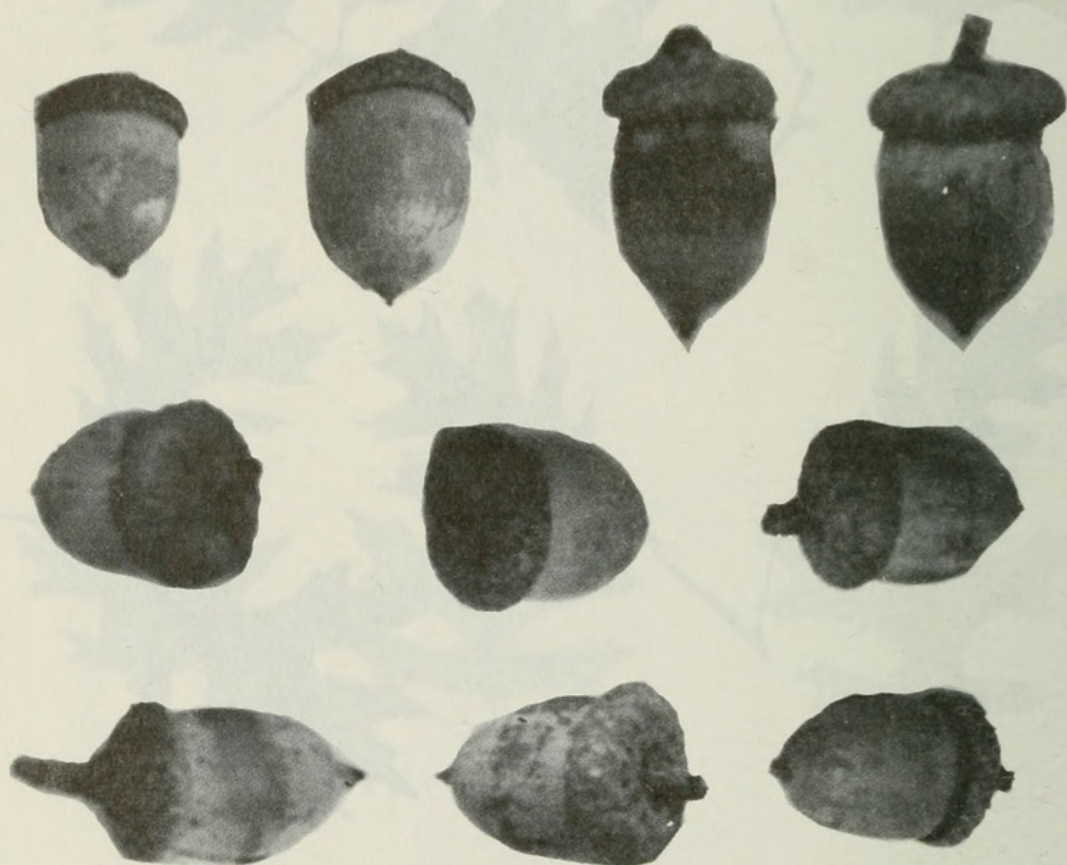


LEAVES OF QUERCUS SHUMARDII STENOCARPA #2

X $\frac{1}{4}$



FROM TREE #2
ACORNS OF QUERCUS SHUMARDII STENOCARPA
X 92%



FROM TREE # 1
ACORNS OF QUERCUS SHUMARDII STENOCARPA
X 92%



Laughlin, Kendall. 1969. "Quercus shumardii var. stenocarpa Laughlin, stenocarp shumard oak." *Phytologia* 19(2), 57-64.

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