

Species Status for *Quercus acerifolia*

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Quercus shumardii Buckl. var. *acerifolia* Palmer is elevated to species *Q. acerifolia*. It is restricted to the north-facing bluffs of Magazine Mountain, Logan County, Arkansas. A comparison of certain morphological features with *Q. shumardii sensu lato* is made.

Quercus shumardii Buckl. var. *acerifolia* Palmer (Maple-leaf Oak) was described in 1927 from specimens that E. J. Palmer collected in 1923 from Magazine Mountain, Arkansas. In the interim, no additional localities for this taxon have been discovered. It was included in the Report on Endangered and Threatened Plant Species of the United States (U.S. Fish and Wildlife Service 1975) in the category of Threatened Species, and more recently in Category 2 (possible listing may be appropriate, but sufficient data are not available to support listing now) of the Federal Register of Endangered and Threatened Wildlife and Plants (1985) by the U.S. Fish and Wildlife Service.

The single known locality for the Maple-leaf oak occurs

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on land within the Ozark National Forest. The Ozark National Forest has issued a special use permit to the Arkansas Department of Parks and Tourism for development of a state park on Magazine Mountain. Ownership of the land in the eventuality of park development will remain with the U.S. Forest Service.

Quercus shumardii var. *acerifolia* clearly is related to typical *Q. shumardii*. *Quercus shumardii sensu lato* also has

included other varieties such as *schneckii* (Britt.) Sarg. and *texana* Buckley *sensu* Trelease (= *Q. buckleyi* Nixon and Dorr). We have visited the type locality for var. *schneckii* along the bottomland of the Wabash River in Illinois. The key morphological feature separating var. *shumardii* from var. *schneckii* is the shape of the acorn cupule (saucer shape = var. *shumardii*; turbinate = var. *schneckii*). Trees with both types of

Table 1. Comparisons of certain morphological features of the *Quercus shumardii* complex.

Feature	<i>Q. acerifolia</i>	<i>Q. shumardii</i>
Habit	Shrub or small tree, 3-6 (-15) m tall, multiple stems	Tree, 15-30 (-40) m tall, single stem
Branch (yr 1)		
color	Brown	Brown
pubescence	Stellate, glabrescent	Stellate, glabrescent
Leaf		
habit	Wider than long	Longer than wide
length	7-14 cm	8-17 (-20) cm
width	8-15 (-18.5) cm	6-15 (-16) cm
length/width x	0.81 (n = 39)	1.22 (n = 83)
# lobes	5 (-7)	5-7 (-9)
Bud		
color	Apex dark brown, lower scales tan, hyaline margins	Apex brown, lower scales tan, hyaline margins
pubescence	Glabrous	Glabrous
Acorn		
cupule		
depth	(2-) 3-5 (-6) mm	(4-) 6-12 mm
width	(12.4-) 14-17 (-18) mm	(16.5-) 18-26 (-28) mm
nut		
length	13-17 (-17.5) mm	(16-) 18-26 (-29) mm
Distribution	Logan Co., AR	US from PA s to FL w to TX, OK and KS.

acorn cupules occur at this locality. At this time, because the key morphological characteristic separating the two varieties and bottomland habitat (= var. *shumardii*) versus upland habitat (= var. *schneckii*) do not hold up, we do not recognize a distinction between these two taxa. Two other taxa, *Q. texana sensu* Dorr and Nixon (1985) (= *Q. nuttallii* Palmer) and possi-

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Quercus acerifolia (Palmer) Stoyhoff & Hess, Brown Spring, Magazine Mountain, Arkansas USA

bly *Q. georgiana* M.A. Curtis make a part of the *Q. shumardii* complex. It is not the purpose of this paper to address the relationships of these taxa, although we are studying them for a later report.

Stoyhoff and Hess have accumulated data to warrant raising *Quercus shumardii* var. *acerifolia* to species status. Petzold and Kirchner (1864) were the first to use *Q. acerifolia*, but as a synonym of *Q. rubra* and without a description. Consequently, it was not a valid publication and *Q. acerifolia* is not a later homonym and available for the oak from Magazine Mountain. We are gathering and analyzing data (especially from seedling stock), which will form the basis of comparative studies. Because of EIS reviews, we believe it is important to propose the change in status now,

rather than waiting for full confirmation. This may be the rarest species of oak known and deserves very special preservation efforts and status.

Quercus acerifolia (Palmer) Stoyhoff & Hess, stat. nov. — Basionym: *Quercus shumardii* Buckl. var. *acerifolia* Palmer, J., Arnold Arbor. 8:24— 55. 1927, non *Quercus acerifolia* Petzold & Kirchner, nom. nud.

Arbor. Muscav. p. 656. 1864. Type: United States. Arkansas: Logan County: rocky (sandstone) top of Magazine Mountain, 8 Oct. 1924, Palmer 26434 (Isotype: AA, MOR!).

Table 1 is a comparison of certain morphological features of *Quercus*

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acerifolia with its closest relative *Q. shumardii*. The Maple-leaf oak is a shrub or small tree growing to five (occasionally to 15) meters tall. Typically, several ascending stems originate near the base at or below ground level. The leaves are broader than long and quite distinct from typical *Q. shumardii* leaves, which are longer than broad (Fig. 1). It has acorns (nuts only) that rarely are more than 17mm long, 1/4 to 1/3 smaller than those of *Q. shumardii* (Fig. 2).

Quercus acerifolia grows on the north-facing bluffs of Magazine Mountain at an elevation of 2,600 feet. There are two populations, one at Brown Spring and the other between 1.3 and 2.0km west along the cliffs. They occur mostly within 75m of the 65m high bluffs on level ground, or, more commonly, on gentle slopes (in what would have been a savannah-like zone) and along the rocky rim.

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References

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