Nuts and Acorns of Sewanee's Forest

The forest of The University of the South is dominated by oaks and hickories; as such, it is a forest of nut-producing trees. Here, too, there is plenty of wildlife: nuts and acorns are a food source for many birds, such as wild turkeys, ruffed grouse, blue jays, woodpeckers, and grackles. In addition, mammals, including raccoons, deer, mice, and the ubiquitous gray squirrels, count them as an important part of their diet.

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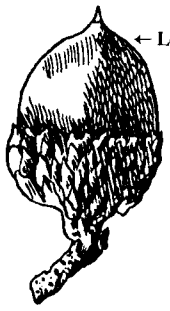
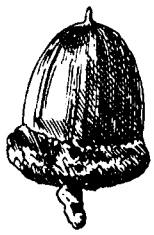
Late-autumn hikers on the Domain cannot help but notice a variety of acorns and hickory nuts scattered over the forest floor. Most know that oaks produce acorns—and hickory nuts must come from hickories—but beyond that, how can one determine the species of tree that produces each of these?

What Oak Will This Acorn Become?

Oak trees are of two main types: red and white. The simplest way to differentiate between the two groups is to look at the leaf lobes: those of red oaks are bristle-tipped, while those of white oaks are smooth. The oak's fruit is the acorn, seated in a scaly cup. It takes two years for red oak acorns to mature, whereas those of white oaks mature in just one season. Because of their higher tannin content, red oak acorns are not as palatable to mammals as are those of white oaks.



Scarlet Oak



Northern Red Oak

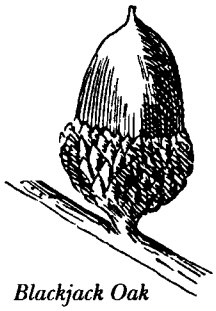
The Red Oaks

In Sewanee, the most common red oaks are scarlet, Northern red, black, and blackjack. The acorn of scarlet oak (*Quercus coccinea* Muenchh.) is probably the easiest to distinguish: the nut usually has concentric rings around its tip. The tree's relatively slender twigs and deeply divided leaves are good diagnostic features. It can be found on some of the drier sites on the Domain, often in the company of black or chestnut oaks.

The oak whose acorn has the shallowest cup is Northern red oak (*Q. rubra* L.). This saucer-shaped cup encases only the very base of the nut. The leaves are not very deeply divided, the sinuses extending only halfway to the midrib. Northern red oak prefers the moist slopes along the sides of the plateau. Look for it where you find shagbark hickory or black walnut.

A shiny-leafed oak growing in very poor soil may well be blackjack oak (*Q. marilandica* Muenchh.). The sandstone outcrops around Piney Point are its typical habitat. The cup, made of long-pointed scales, covers about half of the nut. Another lustrous-leafed tree is black oak (*Q. velutina* Lam.). It can be found on moderately moist to dry sites. Note

that the relatively thin scales of this cup are free from each other for nearly their entire length.



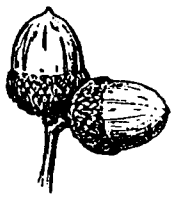
Blackjack Oak

Black Oak

The White Oaks

White oak acorns germinate soon after they fall—maybe in hopes of evading hungry squirrels! Given the choice, a squirrel will probably eat a white oak acorn and bury the more bitter red oak acorn for later. In Sewanee, the most common species in the white oak group are chestnut, post, and white.

Along the Perimeter Trail, chestnut oak (*Q. prinus* L.), so named because its leaves somewhat resemble those of the chestnut tree, is frequently encountered. In many places, massive chestnut oaks grow out over the sandstone cliffs, anchored by their sturdy roots. This acorn is long and lustrous; the cup covers about a third of the nut.



Chestnut Oak

White Oak

White oak (*Q. alba* L.) is a generalist: although it does not frequent the driest ridges, it seems at home both on the dry plateau top and in the moist coves. The acorn cup is made of tightly appressed scales and covers approximately one-fourth to one-third of the nut. The leaf shape is very variable, the sinuses sometimes shallow, often deep.

The more-or-less cruciform leaf of post oak (*Q. stellata* Wangenh.) is sometimes compared to a Maltese cross. The cup is shaped like a top, covering about a third of the nut. Look for post oak growing on poor or sandy soil, often in the company of blackjack oak.

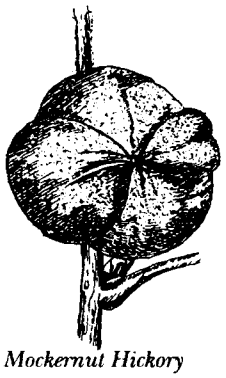
Post Oak

The Hickories, and a Relative

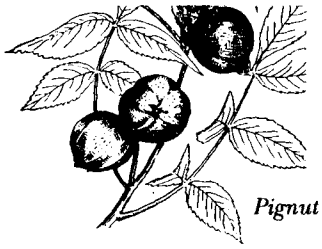
Our hickories have compound leaves, composed of five to 11 leaflets, depending on the species. The fruit is a nut, covered by a four-part husk. It is a real challenge to distinguish among the hickories. Most people recognize two groups: the shagbarks in one group and all the rest in the other. It is possible to do better than that!

Shagbark hickory (*Carya ovata* (P. Mill.) K. Koch), with its loose (yes, shaggy) bark, is the easiest to recognize. Frequently, the bark strips are free and curling away from the trunk at both ends. Look for it in the moist coves. Its nut, encased in a husk that splits open nearly to the base, is sweet and good to eat.

Another hickory whose nut's husk splits nearly to the base is mockernut (*C. alba* (L.) Nutt. *ex* Ell.). This tree's common name refers to the very thick husk which belies the presence of a disappointingly small—but sweet—nut. Mockernut hickory is common on top of the plateau.

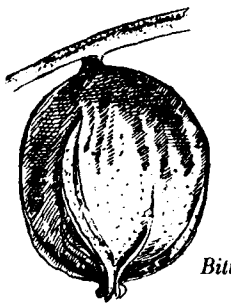


Mockernut Hickory



Pignut Hickory

The elongated base of a pignut hickory nut (*C. glabra* var. *glabra* (P. Mill.) Sweet) may somewhat resemble the snout of a pig. This thin-shelled fruit can vary in size and shape quite a bit, however, as can the flavor. The nut of pale hickory (*C. pallida* (Ashe) Engl. & Graebn.) has a husk which is covered in short hairs and yellow scales. It has been said that only squirrels, boys, and botanists know to seek out the sweet nut of this lesser-known hickory. A good recommendation!



Bitternut Hickory

Bitternut hickory (*C. cordiformis* (Wangenh.) K. Koch) has a thin husk which encloses an inedible nut, easy

to crack, but not worth the effort. In contrast, black walnut (*Juglans nigra* L.), a close relative of the hickories, has a fleshy, thick husk that is almost impossible to break open. But the rewards are sweet! Because of their commercial value, large black walnut trees are becoming rare. They thrive in the moist forests of Shakerag Hollow and Dick Cove where they are often among the tallest trees.

The Biodiversity on the Mountain series is produced by the Biology Department of the University of the South. This guide was written by Mary Priestley of the Sewanee Herbarium. For more complete information on these and other trees, *Comparative Description of the Native Trees of the Sewanee Area* by Stephen E. Puckette is an excellent resource. The Sewanee Herbarium web site gives a more complete listing of the oaks and hickories located on the Domain of the University of the South. The address is: http://biology.sewanee.edu/herbarium.

Taxonomy follows Kartesz, John T. 1994. A *Synonomized Checklist of the Vascular Flora of the United States, Canada, and Greenland.* Timber Press, OR.

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