

TREE BARK FOR WINTER IDENTIFICATION

by Donald W. Jackson

Many features are present during spring, summer and fall to help amateur botanists differentiate among forest tree species; leaf morphology, autumn color, and floral characteristics (size, shape, color, duration) are most frequently used. Much confusion arises, however, in identification of woody plants by those who visit wooded areas in winter.

A few species have persistent fruit, but many do not, and due to competition, the growth habit or form of trees is rarely helpful unless they are located in open areas. Even when its development is unrestricted, a tree's shape is not always a reliable clue to identification, since some species do not possess truly characteristic form, and it is common for the outline of many to change with maturity. Buds are often used as a distinguishing trait and represent a tremendous aid in winter botany, but they are frequently out of reach as competition forces the development of long, narrow crowns with few branches near ground level.

One of the best and, unfortunately, most overlooked characteristics for tree identification during the leaf-less season is the use of bark. The trained eye can quickly and easily recognize a surprisingly large number of species by the color and pattern (exfoliating, ridge and furrow, scaly etc.) of their bark. Although such examples as the paper or yellow birch (*Betula papyrifera* and *B. alleghaniensis*, respectively) are exceedingly easy to identify by their bark, most species require a little more practice.

The shagbark hickory (*Carya ovata*) is a large tree attaining heights of one hundred feet or slightly more. Often found growing in a wide variety of soil types, this species can be readily identified by the long, narrow, grayish colored plates of bark which exfoliate in large numbers from the main stem. Hickory wood is often used for tool handles, such as axes, where its combination of strength and shock resistance are desirable qualities.

A number of oak species can also be identified by their bark features. The chestnut oak (*Quercus prinus*) is a medium-to-large tree which normally reaches heights to 75 feet, although the trunk diameter of mature

individual specimens can reach massive proportions. This species is most often found inhabiting dry, rugged sites on the slopes or tops of ridges. Possessing a dark colored, deeply cut, ridge and furrow design, the bark of this tree is very characteristic and cannot be easily confused with other species.

The bark of the chestnut oak has a fairly high content of tannin, a natural product which can be used in the processing of leather as well as in other industries. The wood of this species, a member of the white oak group, is a valuable resource, and its acorns represent an important food source for wildlife.

Although the bark patterns of the white oak (*Q. alba*) are not as distinctive as those of the two previously mentioned species, it is not hard to learn its features. Most white oaks are light gray in color and acquire characteristics which appear slightly scaly, despite the tendency of some individual trees to produce more blocky textures. Found growing in a wide variety of soil types, the white oak is a large tree which can attain ninety to one hundred feet in height. When grown in open, unrestricted areas, the form of this species is very broad and rounded at maturity. An important timber species, the white oak is cut for many product uses including cooperage and furniture, to name just a few. Several states have also claimed the white oak as their state tree.

Another common oak closely related to the chestnut and white oaks is the northern red oak (*Q. rubra*). A large tree which normally reaches heights to one hundred feet, the northern red oak grows well in the drained soils of upland areas. The grayish bark of young trees is quite smooth but darkens considerably with age and assumes a roughened texture, especially on the lower trunk. Like the white oak, the acorns of this species are a valuable food source for wildlife, and the wood has many important commercial uses.

A small, shade-tolerant tree often found growing near creeks in the moist areas of the forest understory, the American hornbeam (*Carpinus caroliniana*) possesses a very distinctive bark. The smooth, bluish-gray bark is easily recognized and is characterized by long, broad ridges which run perpendicularly to the trunk. Even though the wood of this species is not commercially important because of its slow growth and small stature, it

is cut, where locally abundant, for firewood.

Another small tree quite common in wooded areas with a distinctive bark pattern is the eastern hop hornbeam (*Ostrya virginiana*). Brownish-gray in color, this species has numerous small strips of bark which exfoliate from the main trunk and provide a very noticeable and pleasing pattern. Better able to tolerate a greater diversity of soil types than its relative, the American hornbeam (both species are members of the birch family), the eastern hop hornbeam is shade-tolerant.

One of the most distinctive and economically valuable woodland tree species is the black cherry (*Prunus serotina*). The bark of the young trees is smooth, reddish-brown in color, and has numerous laterally arranged, lenticled areas (tissues used by the plant for gas exchange with the atmosphere). As the tree matures, the bark assumes a coarse, patchy appearance and darkens considerably. Black cherries can be located on a variety of soil types, although their best growth occurs on moist, fertile sites. The fruit of this species is, of course, a valuable wildlife food and is sought after by numerous species of birds and mammals. The black cherry boasts beautifully colored wood, highly sought after for a number of uses, especially fine furniture and veneer.

Basswood (*Tilia americana*), often called American linden, is a large species often maturing to ninety feet or more in height. The bark of the basswood varies in color through the grays and brown, but it often has a reddish tinge when young. As the basswood matures, its vertically arranged, flattened ridges become more pronounced and combine with the previously mentioned colors to make the bark of this species easy to identify with a little practice. Frequently found inhabiting moist, well drained sites, the basswood has a medium-to-fast growth rate and is browsed by deer. The wood is light in color and weight and is harvested for veneer as well as a number of other uses.

The black locust (*Robinia pseudo-acacia*) is a fairly common, fast growing tree which attains up to seventy-five feet of height. The combination of its dark brown color and deeply cut, ridge and furrow, interlocking pattern allows the bark of this woodland native to be easily recognized. At home in a variety of sites, the black locust grows best in moist areas and matures

well in soils of limestone origin. The wood of this species is very durable and is frequently used for fence posts.

The sassafras (*Sassafras albidum*) is a small native species and a member of the laurel family, known for its scented foliage, brilliant orange--yellow-scarlet autumn color, and famous tea which can be made from its roots. Its brown-colored bark is often tinged with red and is complimented by the characteristic and somewhat flat-topped, ridge and furrow pattern. The sassafras is not overly particular with respect to soil types, but it does prefer a moist site with good drainage. The September-maturing fruit is eaten by many bird species.

The tuliptree (*Liriodendron tulipifera*), also called yellow or tulip poplar, is one our largest native hardwood species. Although it often reaches one hundred feet, it can mature to much loftier proportions. A number of its features are eye-catching, including its flowers, leaf shape, and bark characteristics. Although somewhat light colored on young specimens, the bark matures to a dark, brownish-gray and has an interlocking ridge and furrow pattern. With age the furrows become quite deeply cut, and the overall appearance is very coarse. The best growth of this species occurs in moist soils, but good drainage is required. The wood of the tuliptree is used for furniture and many other products.

The identification of trees is only the first step in understanding how they function and enjoying them fully. Winter botany is a fascinating subject requiring time and patience but yielding many rewards. Even though bark characteristics represent only one phase of this study, it is an important and interesting one indeed, which can be pursued casually as family recreation or with great intensity as a lifelong hobby, since the list of available subjects is almost endless.

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