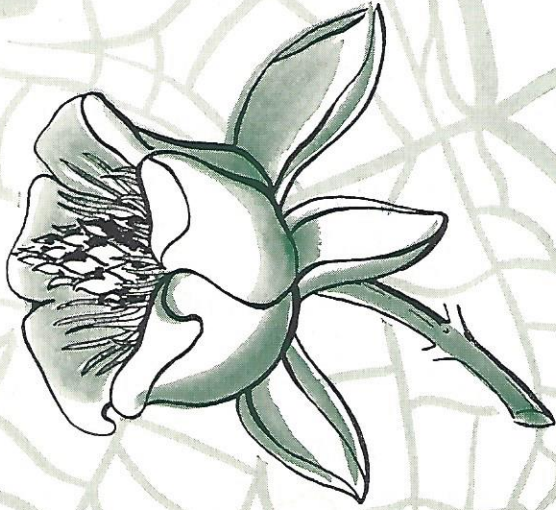


FIFTY TREES

OF INDIANA



*Blossom and Leaf
of the Tulip Tree,
State Tree of Indiana*

Fifty Common Trees of Indiana

By T. E. Shaw

*with the assistance of the Extension
Forestry Staff of Purdue University*

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Indiana white oak is famous for the high quality of its wood.

Fifty Common Trees of Indiana

By T. E. Shaw¹

THIS MANUAL is written for young Hoosiers who like the out-of-doors and who want to become acquainted with Indiana trees. Because it is written for beginners in this field of study, it employs simple methods and uses simple language.

As an example of the method used, suppose we consider how we identify people. Living on State Street is a boy named Jimmy Jones. Everybody in the neighborhood knows Jimmy because he "looks different" from the other boys. He has red hair, blue eyes, a pug nose and freckles, and he is short and stocky. Where he lives also helps to identify him.

Now, just like Jimmy Jones, our state tree, the tuliptree, has features which are different from other trees. It usually has a straight, single-stemmed trunk. The leaves (page 54) look as if someone had taken a pair of scissors and trimmed the tops into widespread notches. The flowers look like tulips. The fruit looks like a little, dry pineapple.

Some trees are not recognized as easily as the tuliptree, so we use a process of elimination. Let's say that we are looking at a tree which has leaves of several different shapes; some are unlobed, some have two lobes, and others have three lobes. Now there are only two trees which bear leaves of several different shapes: red mulberry (page 39) and sassafras (page 52). We have eliminated all but these two. Which one is it? Well, the twigs and inner bark of the sassafras have a spicy taste and odor which red mulberry does not possess. So the tree can be easily identified by breaking a twig and smelling or tasting it, or by cutting into the inner bark if the twigs are out of reach.

The process of elimination can be used in many different ways. Let's say that we are looking at a large tree which bears thorns. Only three large trees on our list of 50 trees bear thorns: Osage-orange (page 49), honey locust (page 36), and the black locust (page 35).² If the thorns are large and are branched, the tree is

¹ Associate Professor of Forestry, Department of Forestry and Conservation, Purdue University, until his death in January, 1956.

² One group of small trees, the hawthorns or red haws, which are not on our list of trees, also bear single, unbranched thorns.

the honey locust. If the thorns are small and are borne singly, it is the osage-orange. If the thorns are small and are borne in pairs, it is the black locust.

One of the first things to learn in studying the broadleaved trees is, which ones bear their leaves oppositely on the twigs, and which ones bear them alternately. Only six trees on our list of broadleaved trees bear their leaves oppositely on the twigs, so by learning these, it is possible to separate them from all the rest on the basis of this single feature. (Refer to the drawings on page 9.)

Another helpful thing to learn in identifying the broadleaved trees is: which ones have simple leaves (a single leaf on a leaf stem), and which have compound leaves (a number of leaflets on a leaf stem) or doubly-compound leaves (a number of leaflets on a leaf stem *which branches*). Only nine trees on our list of broadleaved trees have compound leaves, and only two have doubly-compound leaves.

The process of elimination can also be used in identifying the trees which bear needle or scale-like leaves. Only the pines have needle-like leaves in clusters of two to five and only white pine has needles in clusters of five. So, by knowing a few simple facts, it is possible to place trees in small groups, and then make a positive identification by knowing one or two additional facts about each individual tree.

Tree Communities

Many of the trees show preferences for certain kinds of growing conditions. For example, willow, cottonwood, river birch, silver maple, pin oak and sweet gum like wet situations. Trees that prefer similar conditions form forest communities.

The most common of these tree communities in Indiana is the oak-hickory association, which occupies more than half of the forest land in the state. The next most frequent tree community is the beech-maple association which occupies about one-third of the forest land.

Third is the tree community which occupies the overflow bottomlands and the more poorly drained soils of southern Indiana, the pin oak-sweet gum association. This community occupies 10 per cent of our forest land.

These communities are named for the kinds of trees which are found most frequently in them. For example, in the beech-maple community the most common trees are the beech and sugar maple.

But mixed with these will be found the black walnut, white ash, tuliptree, elms, and other trees, some of which are to be found in other communities.

There is no abrupt dividing line between these communities. They blend into one another, and it is not uncommon to find two or three different communities within one farm woods.

Tree Brothers and Cousins

Trees have relatives, just as people do. All the oaks are very closely related, and the beech is related to the oaks. You might say that the different oaks are like brothers, and the beech is one of their cousins. All the hickories are closely related, and the hickories are cousins of the walnuts.

Because of these relationships between trees, we usually study them in family groups. We find it easier this way, for the trees which are related to one another have many things in common. However, in this beginners' manual, the trees are listed alphabetically by common names. This separates some close relatives— for instance, the willows and cottonwood.

Tree Identification in Summer

We identify the broadleaved trees in winter by their bark, form, and certain features of the twigs (buds, leaf scars, pith, etc.); also by the fruit which a few trees retain far into the winter. But in summer we identify the broadleaved trees mainly by their leaves.

The fruit of some trees is very helpful to identification in summer. Basswood, sweet gum, osage-orange and persimmon fruits are examples of this. Other trees, such as beech, blue beech, and sycamore, can be identified by their bark. But in the main, we rely largely upon the leaves in summer.

The leaf drawings on the next page illustrate certain terms which are used in the individual tree descriptions. Study these drawings, and refer to them when necessary. One drawing needs some explanation. The "leaf clasps" pictured on the next page are small, leaflike growths which clasp the twig at the base of the leaf stem in such trees as sycamore, tuliptree, and black willow.

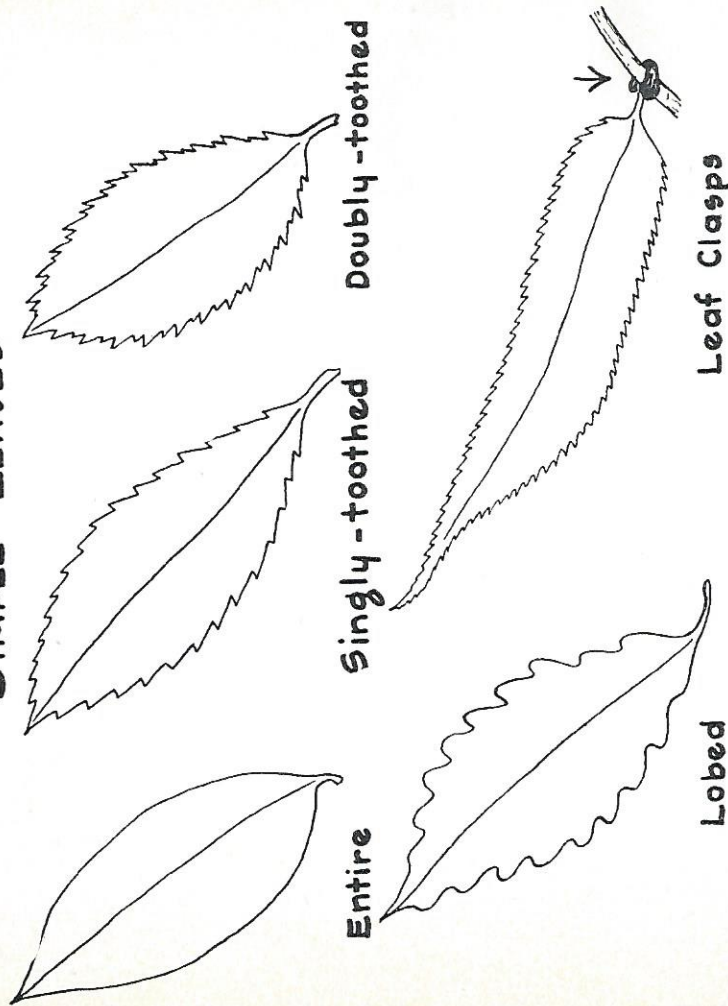
LEAF ARRANGEMENT



Alternate

Opposite

SIMPLE LEAVES



Entire

Lobed

Singly-toothed

Doubly-toothed

Leaf Clasps

COMPOUND LEAVES



The Broadleaved Trees

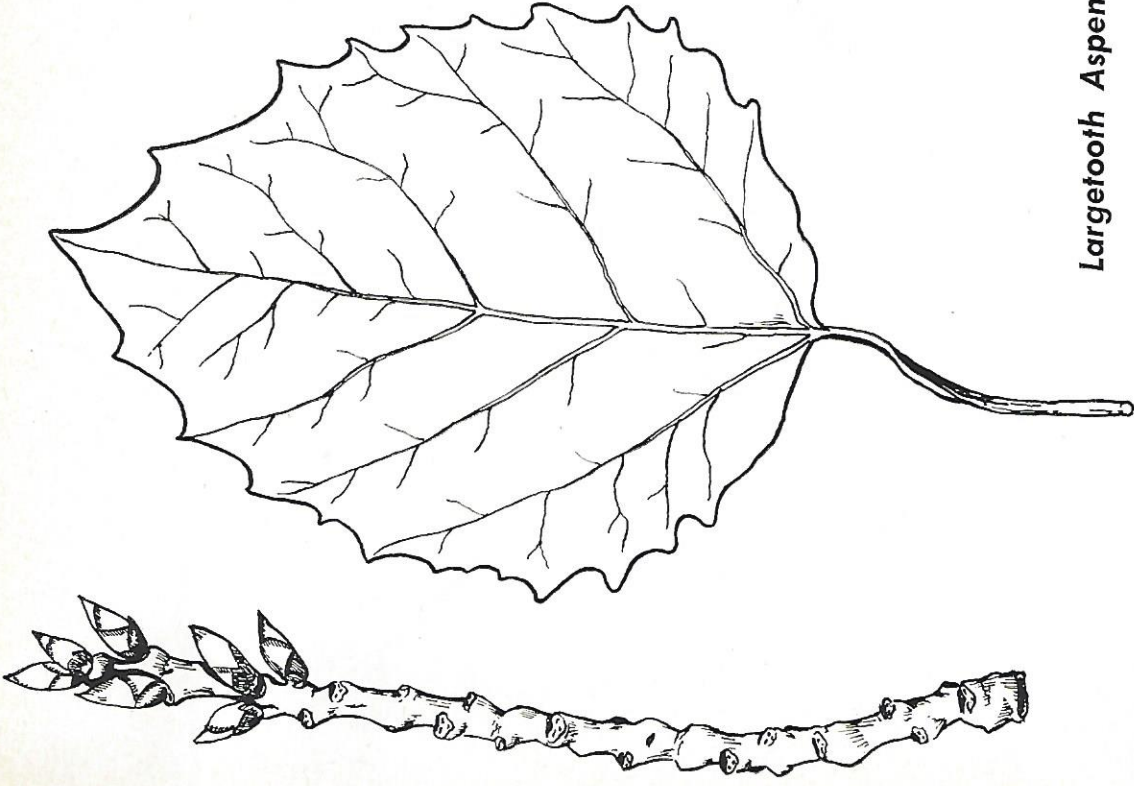
The Ashes

Five ashes are native to Indiana. The separation of the ashes is difficult for even the advanced student of trees, so the beginner would do well to learn the white ash, and leave the others for further study.



White Ash

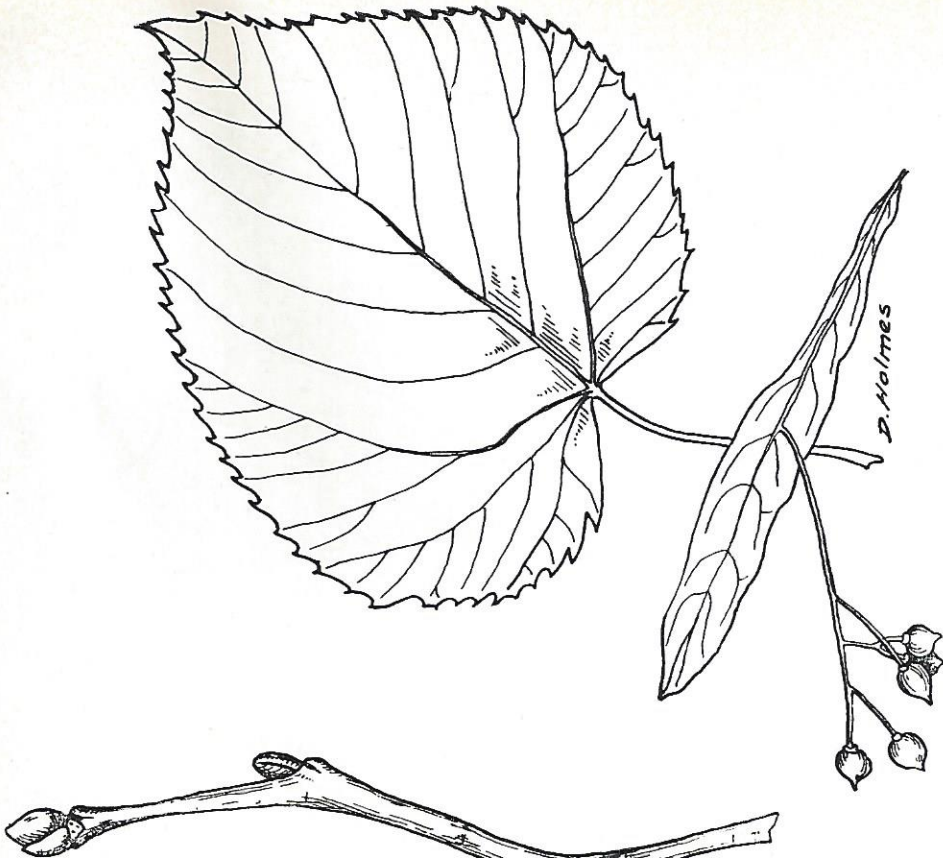
Shiny, compound leaves, usually with seven leaflets, arranged oppositely on stout, smooth twigs. Leaflets stalked. Twigs flattened where joined by the leaves. The winged seeds hang in dense clusters. The bark on older trees feels "corky" and has deeply divided ridges. This is one of the three trees on our list with opposite compound leaves. The others are boxelder and Ohio buckeye.



Largetooth Aspen

Triangular to round leaves, with prominent, coarse teeth on the leaf margins, borne alternately on the twigs. Leaf stems long, slender and flat. The bark on young trees, and the upper bark on older trees, is smooth and olive-green in color. The older bark is rough and furrowed. Largetooth aspen is found in nearly all parts of the state.

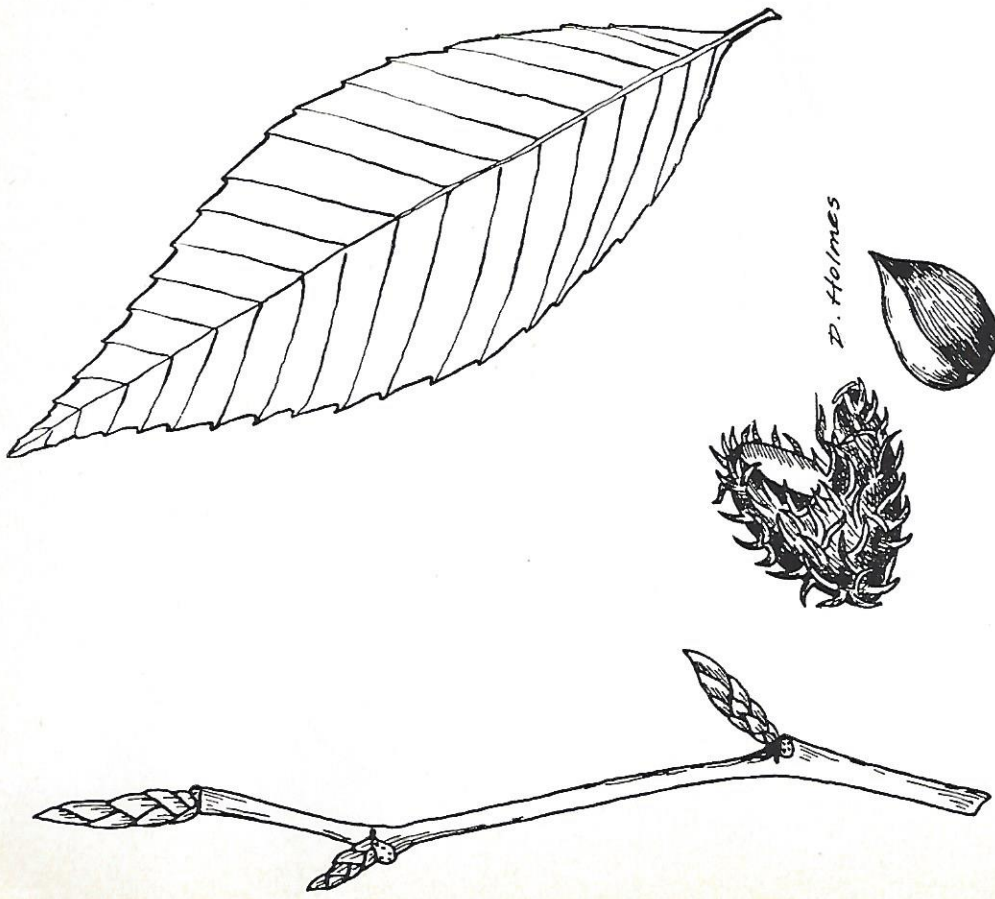
The trembling aspen, which is found in northern Indiana, is a close relative. It can be distinguished from largetooth aspen by having more finely cut leaf margins and finer twigs.



Basswood

Heart-shaped leaves with finely toothed leaf margins, lopsided bases, smooth upper surfaces and long leaf stems, arranged alternately on the twigs. The twigs grow "zig-zag." The clusters of small, nutlike seeds (1/3 inch in diameter) are attached by a stem to a leaflike wing. Older basswood trees often have a ring of sprouts around the base of the tree. In Indiana, this tree is known commonly as "linn."

Note: Check the leaves of this tree carefully with the unlobed leaves of red mulberry, which are rough, and have coarsely toothed margins.



Beech

Thin, smooth, oblong leaves with singly toothed leaf margins and with straight-line veins from the midrib to the teeth on the margin. The leaves are borne alternately on slender twigs. The slender buds are sometimes an inch long. The outstanding feature of beech, however, is its smooth, gray bark in which thoughtless people carve their initials. The fruit is a bur, 3/4 inch long, covered with spines, usually enclosing two triangular-shaped nuts.