

## Tree and Shrub Identification Part II

Last week I began this series with a description of how to learn to identify native trees and shrubs using some documents on my website. Today I want to discuss what characteristics one looks for in identifying woody plants. I hope to describe these characteristics well enough that those who do not wish to go to the website can still follow the discussion.

For those using the website, I will be referring to slide 2 of the Tree ID Key document on the Ecology page of [www.hillcountrynaturalist.org](http://www.hillcountrynaturalist.org).

The five characteristics one needs to study in order to identify a woody plant all have to do with the leaves. These four characteristics are leaf type, leaf arrangement, leaf shape and leaf margins and leaf size.

Leaf type may be the most difficult property for beginners to master. There are two basic types of leaves; those that are considered “simple” leaves and those that are considered “compound” leaves. Don’t confuse “simple” with “uncomplicated”, simple leaves, which are the most common type, can have many different shapes, sizes and arrangements.

Simple leaves are composed of the leaf itself, or “blade”, attached to the twig or branch by a stem that is called the “petiole”, and the part of the petiole that extends into the blade is called the “midrib”. Just above the point of attachment of the petiole to the branch, there will be a bud (sometimes almost invisibly small) which will become next year’s leaf.

A compound leaf is made up of what may appear to be several leaves, but are in fact “leaflets” that are all part of a single leaf. In the accompanying photo, the photo of a branch of an Escarpment black cherry (on the right) is made up of several (8) individual simple leaves, but the photo of a Texas mountain laurel on the left is a single compound leaf composed of 9 leaflets.

The arrangement of the leaflets that form a compound leaf can be a group of three leaflets (trifoliate) with the center leaflet usually longer (poison ivy, agarita, box elder), or a group of five leaflets (palmate) all attached at a central point (Virginia creeper, Red buckeye), or they can be in pairs on opposite sides of a central stem called a “rachis”, usually with a single end leaflet (the Texas mountain laurel in the photo, pecans and walnuts). These latter leaves are called pinnately compound leaves. Just to complicate our lives further, some pinnately compound leaves are further branched with the leaflets on the outermost branches (mesquite, mimosa, Chinaberry).

Leaf arrangement refers to the location of the attachment points of the leaves up and down the stem. If the leaves (either simple or compound) are more or less randomly attached up and down the stem but not attached directly across the stem for each other, then the arrangement is called “alternate”. If, on the other hand, the leaves are attached directly across the stem from each other, then the arrangement is called “opposite”. Alternate arrangements are more common than opposite.

Since the leaflets of a pinnately compound leaf are always arranged along the rachis opposite one another, it is sometimes difficult to tell the difference between an opposite arrangement of simple leaves and a pinnately compound leaf. In the latter, all of the leaflets will be in approximately the same plane and separated from each other by the same distance, whereas simple leaves arranged oppositely will be in different planes and at different distances. Also if a bud can be seen where the petiole attaches to the stem, everything from there outward is a single leaf.

Leaves can be many shapes from long and narrow, round, heart-shaped, or oblong to pointed at the tip or pointed at the base.

The term for the characteristic of the edge of a leaf is the “margin”. If you can run your finger along the edge of the leaf and it is smooth all the way around, it is said to be “entire” (live oak, ligustrum). If the edge has tiny teeth along the margin, it is called “toothed” (escarpment black cherry, elm). If there are bumps here and there it is called “lobed”. Some species have very shallow lobes (shin oak, Lacey oak) and some have deep lobes (Spanish oak, bur oak).

How we put all of the above together to identify native woody plants will have to wait for next week.

Until next time...

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