Identifying trees takes sleuthing

By Susan Yost

Have you ever wanted to identify a tree in winter? If the tree is evergreen, like American holly (Ilex opaca) or southern magnolia (Magnolia grandiflora), your job is easy. But even without leaves, trees have clues to their identity. Some features, like bark and fruits, may be obvious; others, like buds, pith, leaf scars and bundle scars, often need closer inspection.

Bark easily discloses the identity of American sycamore and London plane (Platanus spp.); it breaks off in large plates and looks like camouflage cloth in shades of tan, grayish green, whitish and yellow. American beech (Fagus grandifolia) also has distinctive bark, which is smooth and light gray (and unfortunately attracts some people to carve their initials).

Beech trees also have beautiful copper-colored dead leaves that tend to stay on the tree through the winter. The younger branches of cherry trees (Prunus spp.) have shiny reddish-black bark, marked by horizontal lines, which are the lenticels (openings in the bark for gas exchange).

Other trees have fruits that give away their identity in winter. Some trees have bright red fruits that attract birds which disperse the seeds; for example, female holly, and Hawthorn (Crataegus spp.). Sweet gum trees (Liquidambar styraciflua) have spiky, round, brown fruits (“gumballs”) that are familiar to many, including children who use them as projectiles and call them “monkeyballs”.

A side note — tree play outdoors is an important way in which children learn the local flora and fauna; this is discussed in a recent book, “Last Child in the Woods, Saving our Children from Nature-Deficit Disorder,” by Richard Louv.

Buds are another feature to observe. The relatively large buds at the ends of twigs often contain both flowers and leaves. The end buds of flowering dogwood (Cornus florida) are spherical; tulip tree (Liriodendron tulipifera), duck-bill-shaped; beech, long and pointed; oaks (Quercus spp.), clustered; black willow (Salix nigra), covered by a single yellow cap; and red maple (Acer rubrum), covered by several red scales.

If you cut a twig open lengthwise, the pith in the center is often uniform in appearance. However, some tree pith is surprising, like black walnut (Juglans nigra) which is chambered (spaces separated by brown partitions), and tulip tree which is diaphragmed (solid but with cross-walls).

Leaf scars (yes, there is a scar left on the twig when a leaf is shed!) are just below the buds on a twig, and vary in shape and size — large and shield-shaped in black walnut, U-shaped in white ash (Fraxinus americana), and forming a ring around the bud in sycamore/London plane.

If all this fails, there are even more subtle clues, such as the tiny “bundle scars” inside the leaf scars. Have fun looking for the three bundle scars of maple, or the smile shape formed by the many bundle scars of white ash.

The position of the leaf scars and buds is a good clue. Most trees have leaves (and therefore leaf scars, side buds, and branches) that alternate along the stem. However, certain trees have leaves that are opposite (directly across from each other); “MAD Cap Horse” may help you to remember these — maple, ash, dogwood, caprifoliaceous (the honeysuckle family), horse chestnut.

So, be a winter tree sleuth — go out to your backyard, woods, or street trees, and find the clues that are visible even now!

Garden Tales

Sweet gum trees (Liquidambar styraciflua) have distinctive fruits, or “gumballs,” in winter.

Submitted photo/Delaware State University

Editor’s note: On the campus of Delaware State University, the Claude E. Phillips Herbarium is Delaware’s center for research, education, and outreach about plant identifications, locations, and uses. Call 857-6452 (Dr. Susan Yost) to arrange a tour of the herbarium, or for more information about this article.