
Quercus Quirks #1: Red Oaks and White Oaks

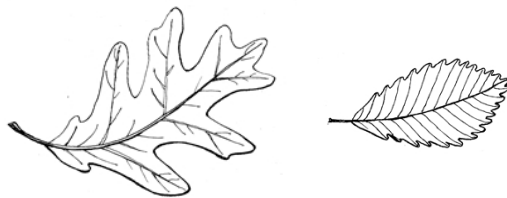
By Linnea West, TUFC

Tennessee is rich in oaks with 20 distinct native species, divided by foresters and the lumber industry into red oaks and white oaks. How can we tell them apart?

Close observation of a few key features will allow you to discover secrets of internal structure, wildlife and landscape benefits, and preferred lumber use.

Beginning at the tips of branches, we look first at the leaves...

White oaks generally have rounded lobes with V shaped sinuses between them.



Red oak leaves have pointed tips, usually with a bristle at the end and rounded sinuses.



The acorns, too, have key distinguishing features...

On white oaks, acorns mature in one year, the nut meat is mild tasting, and the inner cup and shell are smooth.

Red oak acorns take two growing seasons to mature (trees will have two sizes of acorns at the same time – the smaller, younger ones on the outer, new-season growth). Red oak nut meats are more bitter-tasting due to the high tannin content and commonly have tiny hairs inside cup and shell. Both acorns are valuable for wildlife and provide important protein, fats, and carbohydrates, complementing each other even in lean years.

Looking at the bark, we see...

White oaks are a light or medium gray and appear scaly when mature.

Red oak bark is darker gray, sometimes nearly black, with furrows running the length and cross-ridges of various depth and spacing depending on the species.

If we could peer inside these magnificent oak trunks, we would see that the red oak group has redder heartwood than the white, but also, in cross-section, very open pores throughout its growth rings. White oak pores are plugged with tyloses creating resistance to decay and rot. This is why white oak species can be used for building boats and outdoor furniture, while red oaks are appropriate for interior furniture and cabinets.

On our Botanic Garden grounds we have 15 labeled oak species. Pick up a Tree Map at the Visitors Center and using these clues, have fun determining which are red oaks and which are white.



Sources: *Native Trees of the Southeast*, Kirkman, Brown, Leopold 2007; *Field Guide to Native Oak Species of Eastern North America*, Stein, Binion, Acciavatti 2003; *Identifying Oak Trees Native to Tennessee UT Extension PB 1731*, Merker, Buckley, Ostby; *Peterson Field Guides Eastern Trees*, Petrides, Wehr 1988; *Forest Trees of the United States and Canada and How to Identify Them*, Little 1979; *Fruit Key and Twig Key to Trees & Shrubs*, Harlow 1946

MBG Arborist Chris O'Bryan talks trees

By Charity Siebert, Environmental Curriculum and Events Manager

During the summer at MBG, our camps get kids hooked on trees, wildlife, soil, gardening, and nature in general. In preparing for the Backyard Explorers Camp (July 20-24) for ages 10-12, I really wanted these tween-agers to receive input from local professionals in the natural sciences that their interests can turn into careers. For our day focused on trees and forests, who else would be my special guest other than our very own Garden Arborist?



Chris O'Bryan has been part of our team for over 5 years and became the Arborist 2 years ago. You might spot him in the Garden, just look up! A few weeks before the camp, I asked him to bring his tree climbing gear, talk about his job as the MBG Arborist, and give some fun tree facts that might instill an appreciation of trees. Getting up in front of kids can be daunting; all those skeptical, youthful stares while you're wondering if they have any interest at all in what you are saying. I assured him that the pre-teens would definitely like to know how he safely ascends our mighty giants.

The day came, and we had 45 minutes scheduled for his talk. We met in the shade of the lovely Pine Grove on a hot summer afternoon. Despite having walked across the Garden, then taking turns going into the building for water breaks, when Chris arrived with his gear and information the campers became contented little sponges. He proudly shared with them for almost an hour and a half, only stopping to get back to our class for parent pick-up.

He showed the kids tree trimming techniques and how different tools work, throw bags for preparing a climb, and he let them try on the waist belt. He talked about tree basics, like the difference between deciduous and coniferous trees, leaves and needles, and parts of a tree. The students prodded with many questions about things such as galls, life and nutrient cycle, and historic trees. They were excited to hear that, on October 3, they could come to the Garden to watch the tree-climbing championship during the Urban Forestry Conference! They were rapt. All the students were very interested in our special guest and the possibility of a future career in (the) trees.

Want to have Chris speak at your educational gathering? Contact Chris.Obryan@memphisbotanicgarden.com.



The 24th annual Urban Forestry Conference was recently held at the Memphis Botanic Garden with the theme of ‘Walking in Memphis-The Future of the Urban Forest.’ This conference focused on important issues facing urban forest resource issues.

The conference concluded with the 17th annual Tree Climbing Competition at the Garden. Contestants competed in five events and the Master’s Challenge for the state title.

This picture shows MBG staff Chris O’Bryan being ‘rescued’ as an injured climber, by instructor Wes Hopper, for teaching purposes..



In 2012, the Tennessee Urban Forestry Council designated Memphis Botanic Garden as the first Center of Excellence for Urban Forestry in Tennessee. As a Center of Excellence, the Garden will host educational programs, help with certification of arboretums in the region, and serve as a resource to the community for tree information and education.

The American Conifer Society recognized Memphis Botanic Garden's Conifer Collection as a certified Conifer Reference Garden in 2014.