



Figure 2. Twig from an unidentified shade tree featured in this key.

3. Leaves are simple. (Go to 4)

3'. Leaves are compound. (Go to 9)

Looking at our specimen we can see that a single leaf (blade) is directly attached to the twig (Figure 3; note the presence of a bud at the point of attachment). When this occurs a leaf is considered simple (see glossary), so we choose the first option and go to the fourth set of choices.



Figure 3. Twig and bud from an unidentified shade tree featured in this key.

4. Leaves are entire. (Go to 5)

4'. Leaves are serrated or lobed. (Go to 7)

Looking closer at the leaf margins (Figure 4) we can see they are devoid of any serrations, teeth, or lobes. Following the instructions for the first option, we move on to the fifth set of choices.

5. Leaf undersides appear silvery or white and are highly aromatic when crushed. (Camphor Tree, *Cinnamomum camphora*)

5'. Leaf undersides are not silvery or white. (Go to 6)

Flipping the leaf over (Figure 5) we observe that, while it is a lighter green than the top of the leaf, the underside of the leaf is neither silvery nor white. Noting this, we continue on to the sixth and final set of choices.

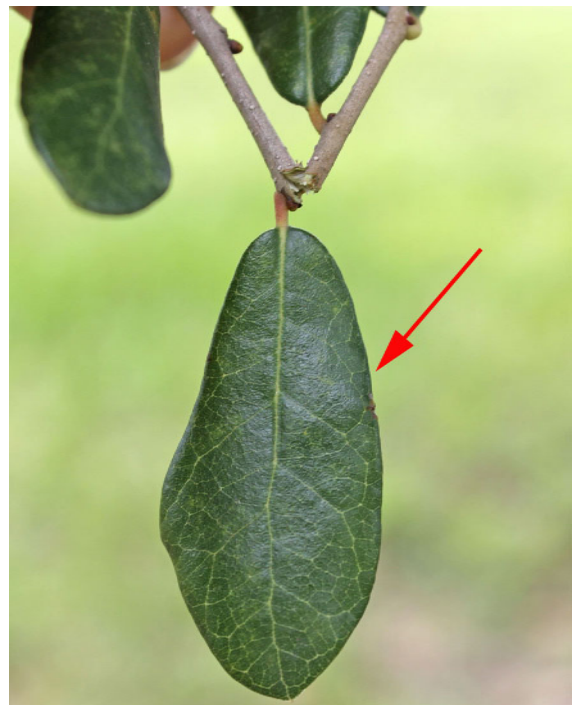


Figure 4. A close-up of a single leaf.

6. Leaves are leathery and revolute. (Live Oak, *Quercus virginiana*)

6'. Leaves are not leathery and are relatively flat. (Laurel Oak, *Quercus laurifolia*)

We have now come to the point where we may be able to make an identification. Neither of the two options listed above directs the user to go further into the key. Both terminate on one of two species of oak: live oak (*Quercus virginiana*) or laurel oak (*Quercus laurifolia*).



Figure 5. Underside of leaf.

If the tree we are identifying is a live oak (first option), the leaves should be leathery and revolute. Leathery is best assessed by touch; however, Figure 6 does show some distinct curling of the leaf margins, which means that the leaves are revolute (see glossary). As such, we have good evidence to make a final determination. The tree keyed out for this tutorial is a live oak (*Quercus virginiana*).



Figure 6. Curling of leaf margins.

As one nears the end of a key, the characteristics compared become more and more similar. Had we not been

completely convinced by the live oak description at this stage (e.g., not been able to assess if it was truly leathery), we could have compared the sample to the description for the alternative, laurel oak. If, based on the descriptions, the tree clearly was not a laurel oak, we could assume the tree in question was either a live oak or not included as a possibility in the key, depending on how strongly the leaves in question deviated from the stated characteristics in the key. When faced with this situation, it may be helpful to re-key the tree in question from a different side of the tree (using a different twig and leaf sample), as there can be morphological differences in another location of the tree.

Conclusion

Once you have successfully navigated this key to identify our example tree, you can use the same process to distinguish the remaining nine trees from one another. Given the broad scope of the key (broadleaf shade trees in the Tampa Bay Area) and its limited coverage (ten trees), this key is most effective when used as a tree-identification classroom activity where twig samples of the species have been procured ahead of time. The ten tree species included in this article were selected to introduce the user to the various leaf attributes that can be used for identification (leaf attachment, simple vs. compound, leaf margins, and other defining features). A comprehensive key and tree identification field guide, *Trees: North and Central Florida* (Koeser et al. 2015), produced through the University of Florida, is more suitable for field identification of trees found in North and Central Florida's urban and natural areas. Additionally, a list of field guides that incorporate keys into their navigation is included in the references section.

Additional References and Field Guides with Keys

Anderson, P. J. 2014. *A Resource for Pests and Diseases of Cultivated Palms: Identifying Commonly Cultivated Palms*. <http://idtools.org/id/palms/palmid/index.php>. Accessed March 3, 2015.

Andreu, M. G., E. M. Givens, and M. H. Friedman. 2013. *How to Identify a Tree*. For234. Gainesville, FL: University of Florida Institute of Food and Agricultural Sciences. <http://edis.ifas.ufl.edu/fr296>.

Godfrey, R. K. 1988. *Trees, Shrubs, and Woody Vines of Northern Florida and Adjacent Georgia and Alabama*. Athens, GA: University of Georgia press.

Harlow, W. M. 1954. *Fruit Key & Twig Key to Trees & Shrubs*. New York: Dover Publications, Inc.

Harrar, E. and J. G. Harrar. 1962. *Guide to Southern Trees*. New York: Dover Publications, Inc.

Koeser, A. K., G. Hasing, M. H. Friedman, and R. B. Irving. 2015. *Trees: North and Central Florida*. Gainesville, FL: University of Florida Institute of Food and Agricultural Sciences.

Nelson, G. 2011. *The Trees of Florida*. Sarasota, FL: Pine-apple Press, Inc.

Rushforth, K. and C. Hollis. 2006. *Field Guide to the Trees of North America*. Washington, D.C.: National Geographic Society.

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Glossary

Alternate—pertaining to bud or leaf arrangement, one leaf or bud at each node, situated at alternating positions along the stem. In this arrangement, the leaves are not directly across from each other.

Compound—leaf with two or more leaflets.

Entire—term describing a leaf margin without teeth.

Leaf base—bottom part of the leaf

Lobed—having leaf segments that project outward, creating voids between the segments.

Margin—the outer edge of a leaf

Once-compound leaves—a compound leaf that has leaflets attached directly to an extended petiole (rachis).

Opposite—pertaining to leaf or branch arrangement, leaves or branches situated two at each node, across from each other on the stem.

Petiole—stalk connecting the leaf blade to that of the main stem.

Revolute—rolled backward or underneath

Serrated—sawtooth margin of a leaf, with the teeth pointed forward.

Simple—single-bladed leaf, not composed of leaflets.

Twice-compound leaves—a compound leaf that has leaflets arranged on side branches off the main extended petiole (rachis).