



LEAF-ONLY TREE & SHRUB KEY

Be careful to READ THE DESCRIPTIONS CLOSELY and CAREFULLY!

Carefully compare the descriptions with your sample and your memory of what the tree and habitat looked like. Remember that words such as "often" and "usually" do NOT mean "always". Leaves often change appearance with tree age, leaf age, location on the tree, and site conditions. Working these keys takes practice. It is best to pick several leaves from a mature tree, rather than a seedling or sapling. Deciding if a small tree is just a shrub or if it is a young tree can be difficult.

Using only leaves to identify trees is not the best approach to tree identification. Most of our U.P. trees are without leaves for over half the year! There are about a dozen possible tree ID [characteristics](#), although only two or three typically need to be known for each particular tree species. The trick is learning which characteristics are most important for each species.

If you click on underlined [blue words](#), you will link to the glossary for a definition of that word. If the blue words are the name of a tree species, you can click to a species description page for similar-looking species. The number in (4) in red tells you where to go next.

If you're not sure how to use a tree identification key like this, [click here](#) (link to home page).

1. Conifers (2)
 2. Needles attached at base in [bundles](#) (3)
 3. Five needles, usually 2-3 inches long ([white pine](#))
 3. Two needles (4)
 4. 3+ inches ([red pine](#))
 4. <3 inches ([jack or Scotch pine](#))
 2. Needles clustered on [spur branches](#), about 1 inch long or less ([tamarack or larch](#))

- 2. Single needles, each attached separately to the twig (5)
 - 5. Flat needles (6)
 - 6. Hair-like stem holding needle to twig, needles about 1/2-inch long,
 - two white lines on underside of needle ([hemlock](#))
 - 6. No hair-like stem (7)
 - 7. Two white lines on underside of needles, needles 1/2 to 1 inch long ([balsam fir](#))
 - 7. No green lines on needles, needles 1/2 to 1 inch long ([yew](#))
 - 5. Round or square-ish needles (8)
 - 8. Needles not stiff and sharp, about 3/4-inch long ([Douglas-fir](#))
 - 8. Needles stiff and sharp (9)
 - 9. Needles usually under 1/2-inch, newest twigs may have a tiny hairs ([black spruce](#))
 - 9. Bluish color to needles, 1/2 to 1 inch long ([blue or white spruce](#))
 - 9. No bluish color, 1/2 to 1 inch long ([white or Norway spruce](#))
- 1. Hardwoods with compound leaves (10)
 - 10. Leaf is fan-shaped with seven [leaflets](#) ([horse-chestnut](#))
 - 10. Leaf is [compound](#) (branched), has numerous [leaflets](#) (11)
 - 11. Four or less pairs of [leaflets](#) (12)
 - 12. Clearly [toothed](#) leaf [margins](#) (13)
 - 13. Many small sharp teeth on margins ([elderberry](#))
 - 13. Larger teeth, ragged margins ([boxelder](#))
 - 12. Indistinct teeth or nearly smooth leaf margins (14)
 - 14. Short leaflet stems, under 1/8-inch ([bitternut](#) or [black ash](#))
 - 14. Longer leaflet stems, usually over 1/8-inch ([green](#) or [white ash](#))
 - 11. Five or more pairs of leaflets (15)
 - 15. Small leaflets, about 1 inch, smooth margins (16)
 - 16. Bluntly-pointed leaflet tips, may be [double-compound](#) ([honeylocust](#))
 - 16. Rounded leaflet tips, never double-compound

([black locust](#))

15. Larger leaflets, over 1 inch, with teeth (17)

17. Sharply [serrated](#) margins, leaflets under 3 inches or linear ([sumac](#) or [mountain ash](#))

17. Indistinct teeth, larger leaflets usually over 3 inches long ([butternut](#) or [black walnut](#))

1. Hardwoods with [simple](#) leaves (18)

18. Major [lobes](#) & [sinuses](#) (19)

19. Rounded lobe tips (20)

20. Lobes roughly evenly spaced ([white oak](#))

20. Club-shaped leaf, middle sinuses deep ([bur oak](#))

19. Pointy lobe tips (21)

21. Margins without teeth, maybe a few small points (22)

22. Branched veins (23)

23. Shallower sinuses (but variable), leaf longer than wide ([red oak](#))

23. Very deep sinuses, leaf about as wide as long

([scrub oak](#))

22. [Palmate](#) veins (24)

24. Deep sinuses, whitish underleaf ([silver maple](#))

24. Canada flag shaped leaf (25)

25. Purplish or very dark green ([Norway maple](#))

25. Normal leaf green ([sugar maple](#))

21. Margins with many teeth (26)

26. Branched veins, several small lobes with teeth ([hawthorne](#))

26. Palmate veins (27)

27. Deep sinuses, rough teeth ([red maple](#))

27. [Double-toothed](#), usually with 3 main lobes ([moosewood](#))

27. Coarsely-toothed, usually with 5 main lobes ([mountain maple](#))

18. Unlobed, not clearly lobed, variable shapes (28)

28. Oval or roundish shaped leaves, may or may not have a pointed tip (29)

- 29. Leaves usually under 2 inches long ([apple](#) or [buckthorn](#))
- 29. Leaves over 2 inches long, flattened leaf stems (30)
 - 30. Small teeth ([quaking aspen](#))
 - 30. Coarse, larger teeth ([bigtooth aspen](#))
 - 30. Triangular shaped leaves with blunt teeth ([cottonwood](#))
- 28. Linear, heart-shaped, triangular, or somewhat lobed shaped leaves (31)
 - 31. Long & narrow ([black or other willow](#))
 - 31. Not long & narrow (32)
 - 32. Triangular or tear-drop shaped
 - 33. Triangular with blunt teeth ([cottonwood](#))
 - 33. Tear-drop shaped with smooth leaf margins ([lilac](#))
 - 32. Other shapes (34)
 - 34. Wavy margins, large teeth ([witch hazel](#))
 - 34. Small lobes with coarse teeth ([hawthorne](#) or [tag alder](#))
 - 34. Heart-shaped, uneven [leaf bases](#) ([basswood](#))
 - 28. Elliptical leaves (35)
 - 35. Uneven [leaf bases](#) (36)
 - 36. [Double-toothed](#) margins, leaves usually with a sandpapery feel ([elms](#))
 - 36. Not sandpapery (37)
 - 37. Heart-shaped, may have linear fruit [bracts](#) ([basswood](#))
 - 37. Leaves usually at least twice as long as wide ([hackberry](#))
 - 35. Even leaf bases (38)
 - 38. Toothed margins with large secondary teeth ([hawthorne](#) or [tag alder](#))
 - 38. Single-toothed or barely-toothed margins (39)
 - 39. Coarse teeth about 1/4-inch apart, sharp points ([beech](#))
 - 39. Blunt teeth, not obvious, may have rusty color, especially later in season

[\(balm-of-Gilead\)](#)

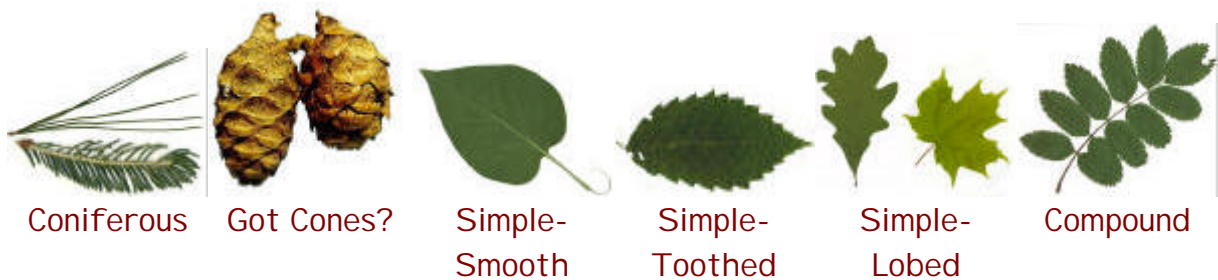
- 39. Margins with fine teeth (40)
 - 40. Somewhat shaggy looking margins, leaves are thin and flimsy (41)
 - 41. Leaf bases rounded, somewhat uneven ([yellow birch](#) or [ironwood](#))
 - 41. Leaf bases even, mostly symmetrical ([paper birch](#) or [musclewood](#))
 - 40. Evenly-spaced very fine teeth (42)
 - 42. Rusty-colored fuzz along mid-vein on underside of leaf ([black cherry](#))
 - 42. No fuzz ([pin cherry](#), [choke cherry](#), or [Juneberry](#))
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If this is too difficult, try the [step-by-step key](#).

Click [HERE](#) to return to the Tree ID home page.

A note to teachers about this site, [click here](#).

To view thumbnail collections of leaves, click on the leaf pattern below that looks most like your leaf.



This site created and maintained by Bill Cook, MSU Extension Forester for the Upper Peninsula of Michigan. Editing and modification is ongoing. Submit suggestions, questions, and corrections to cookwi@msu.edu or call 906-786-1575.