**Keys to Common Trees of the Southeast**

Cooperative Extension Service/The University of Georgia College of Agriculture/Athens

B-730

This key is designed to help you systematically identify common trees.  Technical terms are kept to a minimum so anyone interested in identifying trees can easily use this booklet.  A glossary and drawings are included to explain unfamiliar terms.

There are separate keys for "winter" and "summer" use.  The "winter" key primarily uses twig characteristics.  The "summer" key is based primarily upon leaf characteristics, but a stem sample is also needed.

Using a key is a lot like traveling down a road and deciding which fork you want to take.  Begin by reading the two number 1's located at the left.  Read both choices carefully.  Then decide which choice most accurately describes the plant you want to identify.  The number to the right of the choice refers you to the next set of decisions.  Continue making choices and following the key until you arrive at the name of the plant.  It is a good idea to check a tree identification book to confirm or refine the identity obtained from the key.  There are many good books with pictures and descriptions of various trees.

An attempt has been made to include common genera of trees, both native and naturalized, a beginner might encounter.  Both common and scientific names are used.  Scientific names are in bold type. An example of a scientific name is **Liquidambar styraciflua** used for sweetgum.  **Liquidambar** is the genus (plural, genera).  **Styraciflua** is the species name.  If a genus has two or more species in our area, we have not listed the species name.  If a genus only has one species in our area, we have included the species name.

Common names often vary from one locality to another.  For many species, several common names have been included.  A few of the genera included are shrubs which sometimes become tree-like.

**Glossary of Terms in Key**

Alternate - Leaves arranged singularly at intervals along the stem, one per node.

Angiosperm - Plants having covered seeds and producing flowers; in trees the flowers are often minute.

Aromatic - A pleasant spicy odor.

Awl-Shaped - Narrow leaves that taper to a point.

Axil - The position between the leaf and the stem.

Axillary Buds - Lateral buds that appear in the leaf axis.

Blade - The expanded, flattened portion of a leaf.

Bracts - Modified leaves beneath flower or flower cluster.

Bundle Scar - Scar where vascular bundle was attached between petiole and stem, found inside leaf scar.  A hand lens will be needed in many cases to observe the bundle scar.

Catkin - A dense, drooping cluster of small, compact flowers.

Chambered - See pith chambered.

Compound Leaf - A leaf composed of two or more blades called leaflets.

Continuous - See pith continuous.

Crenate - Leaf margins with rounded to blunt teeth.

Deciduous - Leaves shedding in fall or winter; leaves only on twigs of current season; leaves generally not leathery.

Diaphragmed - See pith diaphragmed.

Dicotyledons - A group of flowering plants having two cotyledons or seed leaves such as a bean.

Entire - Leaf margins smooth, without lobes or teeth.

Even-Pinnate - Pinnately compound leaves with an even number of leaflets.

Evergreen - Remaining green throughout its dormant or winter season; leaves on two or more seasons' growth; leaves usually leathery.

Fetid - Having an unpleasant odor.

Glabrous - Smooth, without hairs of any sort.

Glands - Small structures having the function of secretion.

Glandular - With numerous superficial or embedded oil or resin glands.

Globose - Spherical.

Globular - Shaped like a globe.

Gymnosperm - Plants with ovules exposed during some stage of development; in Southeast primarily conifers, or cone bearing trees.

Leaf Scar - A scar left on the stem when the leaf falls.

Leaflet - One division of a compound leaf.

Lenticels - Corky spots on the surface of twigs or stems.

Linear - Long and narrow with margins parallel or nearly so.

Lobed - A part of a leaf divided by deep clefts.

Lustrous - Glossy, shiny.

Monocotyledons - A group of flowering plants having only one cotyledon or seed leaf such as corn.

Node - Point on a stem which normally bears a leaf or leaves.

Odd-Pinnate - Pinnately compound leaves with an odd number of leaflets.

Opposite - Leaves paired at the same height, one on each side of the twig, two per node.

Palmately Compound - Leaf with a number of leaflets radiating from the summit of the leaf stem like the fingers from the palm of the hand.

Palmately Veined - Net vained leaf with three or more secondary veins branching from the base of the leaf like the fingers from the palm of the hand.

Pedicle - Short stalk that supports flower or fruit.

Persistent - Evergreen; remaining attached.

Petiole - Stalk of a leaf.

Pinnetely Compound - Compound leaf with leaflets arranged on opposite sides along a common leaf stem.

Pinnately Veined - Net veined leaf with midrib extending length of leaf with secondary veins branching off at intervals.

Pith - The soft central part of a twig.

Pith Chambered - Central portion of  twig is divided into empty horizontal chambers by cross partitions.

Pith Continuous - Solid pith; central portion of twig is homogeneous, not divided into compartments.

Pith Diaphragmed - With cross membranes of denser material extending across the pith.

Pubescent - With fine, soft, short hairs.

Rachis - Principal stem of a compound leaf.

Serrate - With sharp teeth pointing forward, toothed like a saw.

Sessile - Without a stalk on pedicle of any kind, leaf directly joining the stem.

Simple leaf - A leaf on one blade, not divided into leaflets.

Stalked - With a narrow neck-like base.

Stipular Lines - Lines formed by stipules, running to the sides at the top of the leaf scar.

Stipular Scars - Scar left on twig by a fallen stipule.

Stipule - Small leaf-like appendages, usually in pairs, at the base of a leaf or stem.

Superposed - A bud located above the normal axillary bud.

Terminal Bud - The bud located at the end of a stem.

Thrice Compound - Divided three times.

Truncate - Straight or nearly so, as if cut off.

Twice Compound - Doubly compound; bipinnately compound; divided two times.

Two-Ranked - Having leaves arranged in only two rows along stem.

Undulated - Wavy.

Whorled - Leaves arranged in a circle around the twig at a node, three or more per node.

**Summer Key for Trees**

1. Are the leaves less than 3mm wide, or resemble needles or scales?

Yes - **Gymnosperms**  3

No - **Angiosperms**  10

**Gymnosperms**

3.  Do the leaves resemble feathers?

Yes – **Taxodium Distichum**, Baldcypress Tree ID 12

No - 4

4.  Do the leaves have scales?

Yes - 8

No - 5

5.  Do the leaves resemble needles in clusters of 2 – 5?

Yes - **Pinus**, Pine Tree ID 1-10

No –**Tsuga Canadensis**, Eastern Hemlock Tree ID 11

8.  Do the cones resemble small blue berries?

Yes - **Juniperus**, Red-cedar, Cedar

No - **Chamaecyparis**, Atlantic white-cedar, White cedar

**Angiosperms - Dicotyledons**

10.  Are the leaves alternate?

Yes - 11

No - 13

11.  Are the leaves simple or compound?

Simple - 12

Compound - 25

12.  Are the leaves evergreen?

Yes - 37

No - 50

**Dicotyledon** with opposite or whorled leaves

13.  Are the leaves compound or simple?

Compound - 14

Simple - 16

14.  Do leaves come off of the end of the stem, or different points?

Just the end – **Aesculus Sylvatica**, Buckeye Tree ID 81

Different points of the stem - 15

15.  How many leaflets are on the stem?

5 or more - **Fraxinus**, Ash Tree ID 90-91

Less than 5 - **Acer negundo**, Boxelder Tree ID 80

16.  Are the leaves heart shaped?

Yes -  **Catalpa bignonioides**, Southern Catalpa Tree ID 92

No - 18

18.  Are the leaves lobed?

Yes - **Acer**, Maple Tree ID 77-79

No – **Cornus Florida**, Dogwood Tree ID 86

**Dicotyledon**with alternate compound leaves

25.  Are the leaves compounded more than once?

Yes - **Gleditsia Tricanthos**, Locust, Honeylocust Tree ID 71

No - 29

29.  Do the stems have thorns?

Yes – 30

No – 31

30. Do the stems have an even number of leaflets?

Yes - **Gleditsia Tricanthos**, Honeylocust Tree ID 71

No - **Robinia pseudo-acacia**, Black locust, Locust Tree ID 72

31.  If stem is cut long ways, are there little chambers inside?

Yes - **Juglans**, Walnut Tree ID 15-16

No - 32

32.  Are the leaves serrated all the way around?

Yes – **Carya**, Hickory, Hockory-nut, Pecan Tree ID 17-24

No - **Robinia pseudo-acacia**, Black locust, Locust Tree ID 72

**Dicotyledon** with simple, alternative, evergreen leaves

37.  If the stem is cut open, is there a star shape in the cross section?

Yes - **Quercus**, Oak Tree ID 35-52

No - 38

38.  Is the terminal bud large and possibly wooly?

Yes - **Magnolia**, Magnolia Tree ID 59-63

No - **Ilex**, Holly Tree ID 74-76

**Dicotyledon**with alternate, simple, deciduous leaves

50.  Are leaves and buds clustered at the ends of branches

Yes - **Quercus**, Oak Tree ID 35-52

No - 51

51.  Are there any lobed leaves?

No – 52

Yes - 93

52.  Do the leaves attach to 2 opposite side of the twig?

Yes – 53

No - 71

53. Do the leaves have 1 large vein going down the middle of the leaf blade?

Yes – 57

No - 54

54.  Are the leaves smooth along the edges?

Yes - 55

No - 56

55.  Are the leaves heart shaped, with more than 4 main veins near the base of the leaf?

Yes – **Cercis Canadensis**, Eastern Redbud Tree ID 73

No - **Celtis**, Sugarberry, Hackberry Tree ID 56-57

56.  Are the leaves as wide as they are long?

Yes – **Tilia Heterophylla**, White Basswood Tree ID 82

No - **Celtis**, Sugarberry, Hackberry Tree ID 56-57

57.  Are the leaves smooth all the way around the edges?

Yes - 59

No - 60

59.  Are the leaves pinnately veined or palmately veined?

Pinnate - **Diospyros virginiana**, Common persimmon Tree ID 88

Palmate - **Celtis**, Sugarberry, Hackberry Tree ID 56-57

60.  Do the petioles, leaf stems, have at least 1 gland near the leaf blade?

Yes - **Prunus**, Cherry, Black cherry, Wild cherry Tree ID 69

No - 61

61.  Are the serrations teeth more than 5mm apart?

Yes - 62

No - 63

62.  Do the teeth have bristly tips?

Yes - **Castanea**, Chestnut, Chinkapin Tree ID 33-34

No - **Fagus grandifolia**, Beech Tree ID 32

63.  If stem is cut long ways at the nodes, are there little chambers inside?

Yes- **Celtis**, Sugarberry, Hackberry Tree ID 56-57

No - 64

64.  Does the bark peel off in large papery sheets?

Yes - **Betula**, Birch Tree ID 28-29

No - 66

66.  Are the petioles, leaf stems, over 2.5 cm long?

Yes - 67

No - 68

67.  Are there buds at the end of the twigs?

Yes – **Amelanchier Arborea**, Serviceberry, Sarvice, Shadbush Tree ID 68

No - **Tilia Heterophylla**, White Basswood Tree ID 82

68.  Are the leaves noticeably uneven at the base?

Yes - **Ulmus**, Elm Tree ID 53-55

No - 70

70.  Are the leaves doubly serrate or mostly once serrate?

Doubly serrate - **Carpinus caroliniana**, American hornbeam, Blue-beech, Ironwood Tree ID 30

Mostly once serrate - **Oystrya virginiane**, Eastern hophornbeam Tree ID 31

71.  Do the twigs have thorns?

Yes - 74

No - 76

74.  Do the petioles, leaf stems, have at least 1 noticible gland near the leaf blade?

Yes - **Prunus**, Plum Tree ID 69

No - **Crataegus**, Hawthorn, Thorn, Red haw, May haw Tree ID 70

76.  Are there little buds, without scars, directly above main buds on the twig?

Yes - **Halesia**, Silverbell Tree ID 89

No - 78

78.  Are the leaf margins smooth along the edge?

Yes - 82

No - 84

82.  Are the stipular scars around the twig nodes?

Yes - **Magnolia**, Magnolia Tree ID 59-63

No - 83

83.  Is there a true terminal bud present?

Yes - **Nyssa**, Tupelo, Blackgum, Sourgum, Black tupelo, Watergum Tree ID 83-85

No - **Diospyros virginiana**, Common persimmon Tree ID 88

84.  Are the leaves much longer than they are wide?

Yes – 86

No - 85

85.  Do the leaves have fine hair on the bottom?

No - **Populus**, Cottonwood, Poplar Tree ID 26-27

Yes – **Morus Rubra**, Mulberry Tree ID 58

86.  Are the leaves 4 or more times longer than they are wide?

Yes – **Salix Nigra**, Willow Tree ID 25

No - 87

87.  Are the teeth 5mm apart with bristly tips?

Yes - **Castanea**, Chestnut, Chinkapin Tree ID 33-34

No - 88

88.  Do the twigs taste bitter or sour?

Yes - 89

No - **Ilex**, Holly Tree ID 74-76

89.  Do the twigs have a terminal bud?

No - **Oxydendrum arboreum**, Sourwood Tree ID 87

Yes - **Prunus**, Cherry, Black cherry, Wild cherry Tree ID 69

93.  Are there any non-lobed leaves?

Yes - 94

No - 96

94.  Are the leaves serrated or smooth?

Smooth -**Sassafras albidum**, Sassafras Tree ID 65

Serrated – **Morus Rubra**, Mulberry Tree ID 58

96.  Are there stipular scars?

Yes - 97

No - **Liquidambar styraciflua**, Sweetgum Tree ID 66

97.  Are the leaves pinnately veined or palmately veined?

Pinnately - **Liriodendron tulipifera**, Yellow-poplar, Tupliptree Tree ID 64

Palmately - **Platanus occidentalis**, American sycamore Tree ID 67