

## INTRODUCTION TO TREE IDENTIFICATION

Forest lands are a tremendously important natural resource in and to Alabama. Of Alabama's total estimated land area of 32.6 million acres, 67 per cent or 21.9 million acres of it is forested. Alabama's forests have always and still do make a substantial and essential contribution to both the economic and environmental well-being of her citizens.

### Forest Diversity

Viewed collectively, Alabama's forests are very diverse in composition of plant species for a variety of reasons. Alabama's land surface consists of eight distinct physiographic regions, each having some similarities and some differences in soils, topography and climate. Within each region, further diversity is provided through local variations in topography, soils and drainage patterns which create micro-sites within the landscape.



Besides natural factors, a great deal of diversity in the landscape and forest composition occurs as the result of historical and recent human activity. Land ownership and development objectives determine the extent of land or forest manipulation in terms of appearance, age, size and shape. The degree of change to forest composition depends upon the type and amount of management, abuse or neglect that has been applied.

A third factor in forest diversity comes from the adaptability of each tree species. Some species can survive and thrive under a wide variety of site conditions (generalists), while others are very restrictive in their habitat requirements (specialists).

### Using This Manual

The purpose of this manual is to help you recognize some of the most common or significant tree species in Alabama. To know trees, it is necessary to learn their characteristics in order to distinguish one kind from another. The enclosed information will help you in your dendrology, or botanical study of trees.

Before going any further, perhaps it would be good to define what a tree is. Trees, shrubs, and some vines can all be woody plants; but in addition, a tree usually has a single upright trunk that is at least fifteen feet or more in height at maturity. A shrub usually consists of a number of more or less upright stems that arise from the same system of roots. Only tree species are included in this manual.

Secondly, what is meant by species? Trees, like most plants, are identified by one or more common names and a scientific name. Any kind of tree can have a common name in one locality and a different common name in another locality. All plants (and other organisms) also have scientific names that are the same the world over. They are derived from Latin or Greek, usually from Latin, and mean the same to all botanists. Each specific kind of plant is termed a species. Species having certain characteristics in common are grouped into a genus. Genera with certain similarities are assigned to a family, families are grouped into an order, orders into a class, and classes into a phylum.

The scientific name of a plant consists of three parts. The first part is the genus, a noun, and is always capitalized. The second part or word is the species name and is rarely capitalized. It is an adjective, and is descriptive of one of the main characteristics of the species. The third part is an abbreviation for the person who first described and scientifically named the species. For example, the scientific name of the white oak is Quercus alba L. Quercus is Latin for oak, alba is Latin for white, and L is the abbreviation for Linnaeus, the Swiss botanist.

A few words of caution are in order about using this manual. The descriptions are for typical features commonly observed for each species. Occasionally, attributes such as leaves, tree forms and mature size can vary with site and stand conditions, age and position in the tree from which features are observed. A final consideration is that the dimensions for height and trunk diameter were often observations of biologically mature specimens which could be found during the early part of this century when most of the resource materials were written.

### Locating Study Specimens

The scope of your study of trees in the outdoors depends upon your individual needs at a particular time. A search can be as simple as looking around your immediate residence or as complex as searching throughout the entire state.

In all cases, keep in mind that all land that you would like to walk on and every tree that you would like to examine belongs to someone. Only 5% of Alabama's forest land is publicly owned and managed by a government entity. The rest of the forest land is private property (62% is owned by families and individuals, 25% is owned by forest industry and the remaining 7% is owned by other corporate investors). You are urged to act responsibly by obtaining permission before entering private property and then showing due respect to the owner and property during your visit. Failure to do this constitutes Trespass under Alabama law.

The easiest way to find several species of trees is to search a variety of "habitats" within walking distance from your home. Examples of habitat would include older upland forest (most likely not virgin), recently disturbed upland forest, bottomland and stream banks, wetland areas and accessible urbanized areas.

If you are collecting samples for a biology class leaf collection you may need to expand your search area to take in special "habitats" in the region around your community. You will do well to start off by consulting one or more of these specialist groups for clues as where to look:

- Science (biology) teachers
- Alabama Forestry Commission
- Department of Conservation and Natural Resources
- Natural Resources Conservation Service
- Private consultant and industry foresters
- US Forest Service
- Environmental organizations

Serious students of dendrology who wish to see all 100 species presented in this book within their natural habitats will have to do some ardent traveling and hiking throughout Alabama. The following suggestions will be of value to you:

- Check in the manual, "Distribution in Alabama" for each species.
- Consult with the same resource organization listed above.
- General species may be encountered at several locations as you travel around the state.

Specialist species may most likely only be found in specific regions (i.e. slash pine in the extreme southeast of the state) or sites (i.e. sand pine on the coast of Baldwin County and eastern hemlock in deep, narrow river gorges of northwest Alabama).

#### Other Modern Resource Guides

A Field Guide to Trees and Shrubs, George A. Petrides, 1972.  
Houghton Mifflin Co., Boston.

A Golden Guide to Trees, Herbert S. Zim and Alexander C. Martin, 1987.  
Golden Press, New York.

A Guide to Field Identification: Trees of North America,  
C. Frank Brockman, 1987. Golden Press, New York.

Checklist of United States Trees, E. L. Little, Jr., 1979. USDA  
Forest Service Agric. Hndbk 541.

Familiar Trees of North America: Eastern Region, 1986. Alfred A. Knopf,  
Inc., New York.

Guide to Southern Trees, Ellwood S. Harrar and J. George Harrar,  
1962. Dover Publications, Inc., New York.

Textbook of Dendrology, 6th Edition, William Harlow, Ellwood Harrar and  
F. White, 1979. McGraw-Hill Book Co., New York.

The Audubon Society Field Guide to North American Trees, Elbert L. Little,  
1980. Alfred A. Knopf, Inc., New York.

The Woody Plants of Alabama, R. C. Clark, 1971. *Annals of the Missouri  
Botanical Garden* 58 (2) 99-242.

Trees of Georgia and Adjacent States, C. L. Brown and L. K. Kirkman,  
1990. Timber Press, Portland.

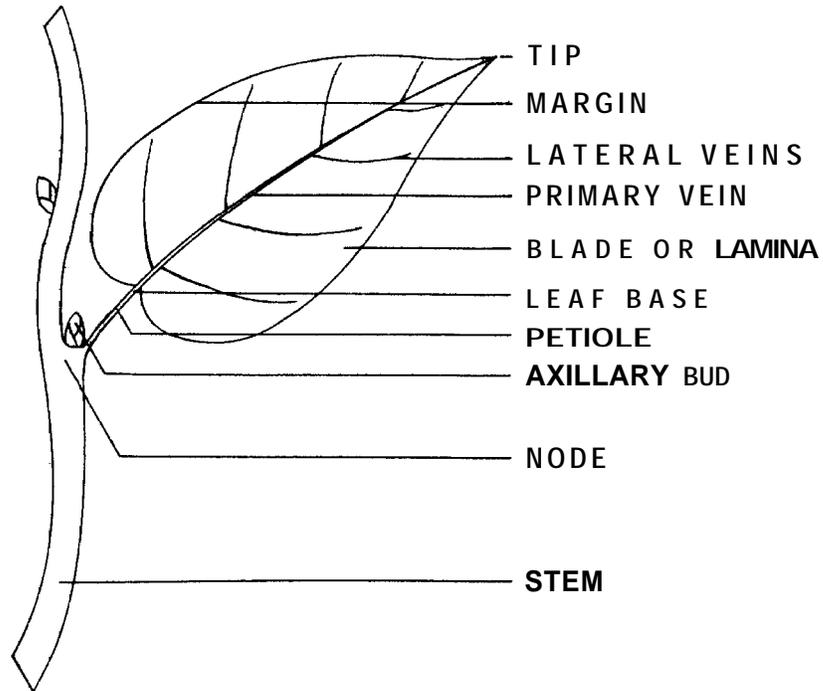
Trees of the Southeastern United States, Wilbur H. Duncan and  
Marion B. Duncan, 1988. University of Georgia Press, Athens.

Trees, Shrubs and Woody Vines of Northern Florida and Adjacent  
Georgia and Alabama, R. K. Godfrey, 1988. University of Georgia  
Press, Athens.

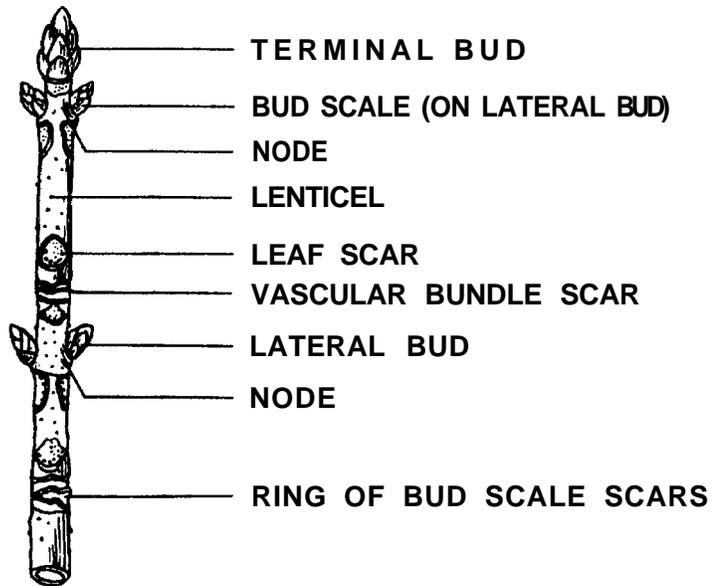
#### Related Subjects of Study

History of the changing forests throughout Alabama history  
Ecosystems in Alabama and the Southeastern US  
Influence of plant succession on species diversity  
Economic and environmental values of forests  
Historical and present uses for wood  
Diverse forest ownership and management objectives  
Occupations in natural resource management fields

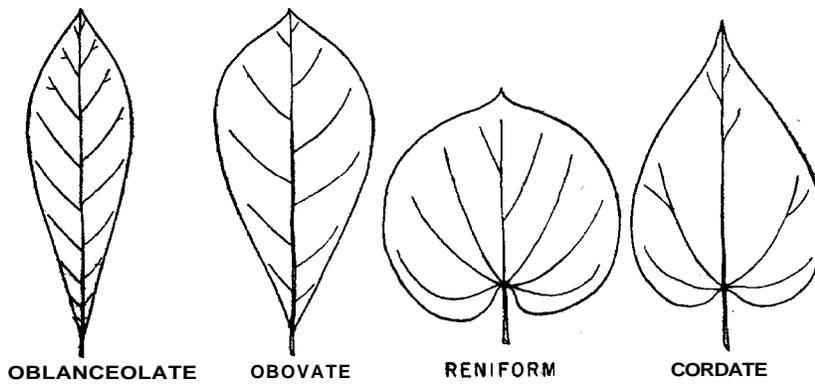
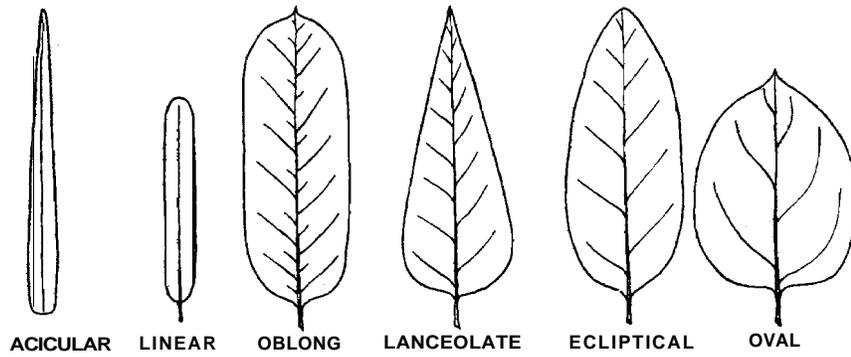
## LEAF CHARACTERISTICS



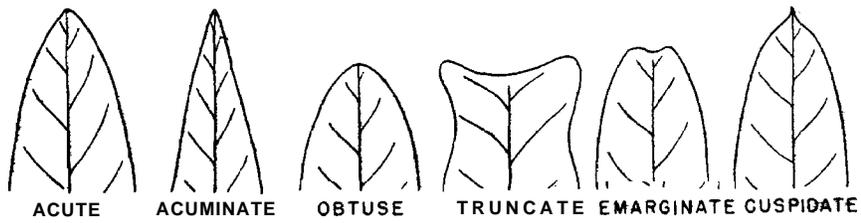
## TWIG CHARACTERISTICS



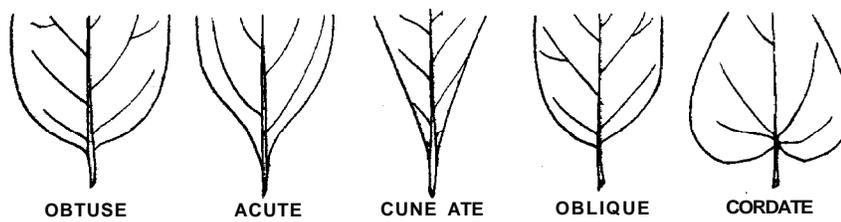
**LEAF FORMS**



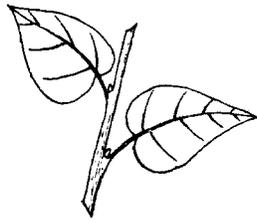
**LEAF TIPS**



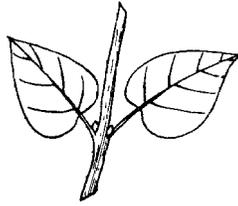
**LEAF BASES**



## LEAF ARRANGEMENT



ALTERNATE



OPPOSITE

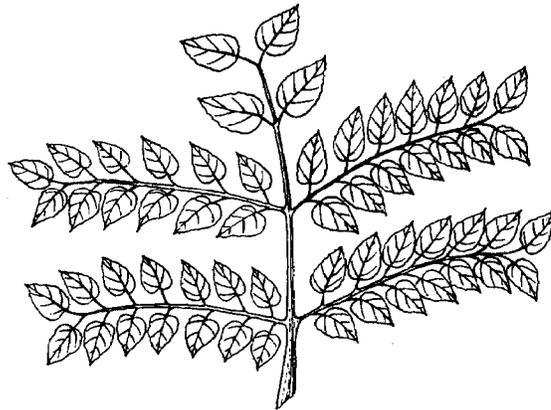


WHORLED

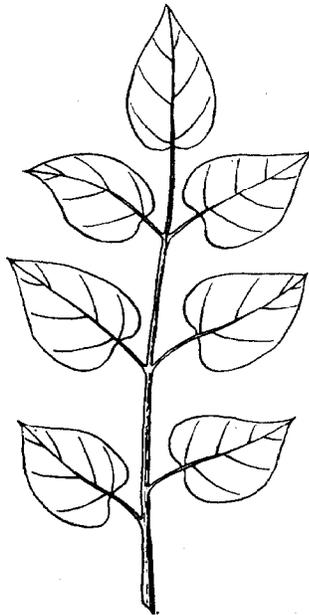
## LEAF COMPOSITION



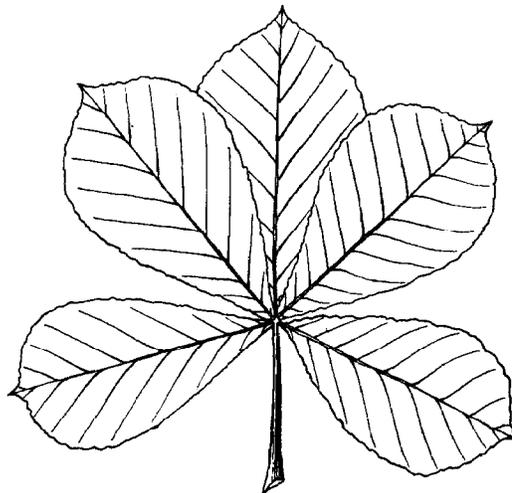
SIMPLE LEAF



BI- PINNATELY COMPOUND LEAF

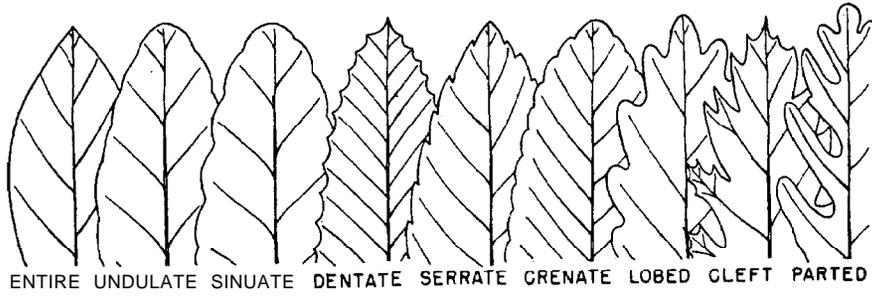


PINNATELY COMPOUND  
LEAF

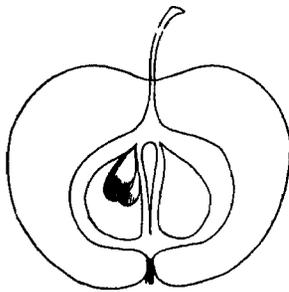


PALMATELY COMPOUND LEAF

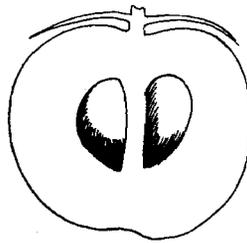
LEAF MARGINS



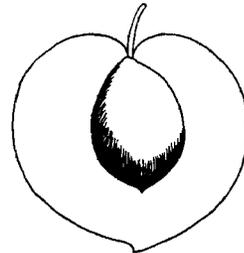
TYPES OF FRUIT



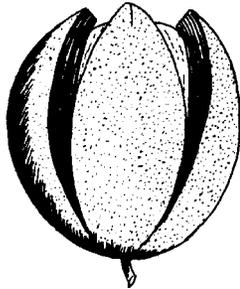
POME  
(Apple )



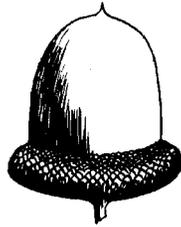
BERRY  
(Persimmon )



DRUPE  
(Cherry)



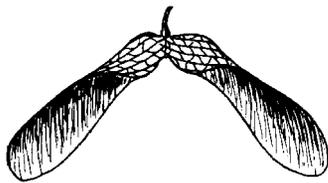
NUT ( DEHISCENT HUSK )  
( Hickory)



NUT (INDEHISCENT)  
( Oak Acorn )



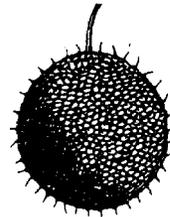
CAPSULE  
( Paulownia)



DOUBLE SAMARA  
( Maple)



LEGUME  
(Black Locust)



MULTIPLE ( HEAD OF NUTLETS)  
Sycamore