

“FIELD LABORATORY”



IDENTIFYING SPECIES
RECOGNIZING LANDSCAPES

**Richard
King
Mellon
Foundation**





Definitions

Native

Exotic

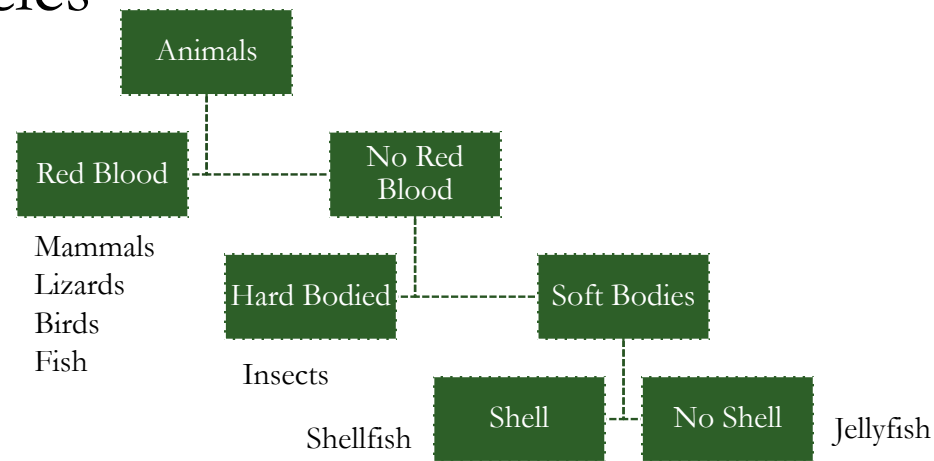
Invasive

- Native/Indigenous: presence in a given region or ecosystem due to natural processes, with no human intervention
- Exotic/Introduced/Non-indigenous: living outside its native distributional range, which has arrived there by human activity, either deliberate or accidental
- Invasive: introduced to an environment where it is not native, and that has since become a nuisance through rapid spread and increase in numbers, often to the detriment of native species

Morphological ID



- A dichotomous key uses yes/no questions to hone in on a particular species



- Morphological traits are used for most plant species identification
- Need to know morphology vocabulary to work through a key
- Use morphological ID to distinguish chestnut species

IDENTIFICATION OF TREES AND SHRUBS



SEVEN KEY POINTS FOR REFERENCE

Richard
King
Mellon
Foundation



1. Leaf Type



Broad Leaves



Needles or Scales



Ex. pines,
firs



Ex. junipers,
red cedar

2. Leaf Placement



Opposite

Alternate



3. Leaf Grouping



Simple

Compound



Robert H. Mohlenbrock @ USDA-NRCS PLANTS Database / USDA SCS. 1991. *Southern wetland flora: Field office guide to plant species*. South National Technical Center, Fort Worth.



Robert H. Mohlenbrock @ USDA-NRCS PLANTS Database / USDA SCS. 1989. *Midwest wetland flora: Field office illustrated guide to plant species*. Midwest National Technical Center, Lincoln.

3. Leaf Grouping - Compounds



Palmately Compound

- Fan



W.D. Brush @ USDA-NRCS PLANTS Database

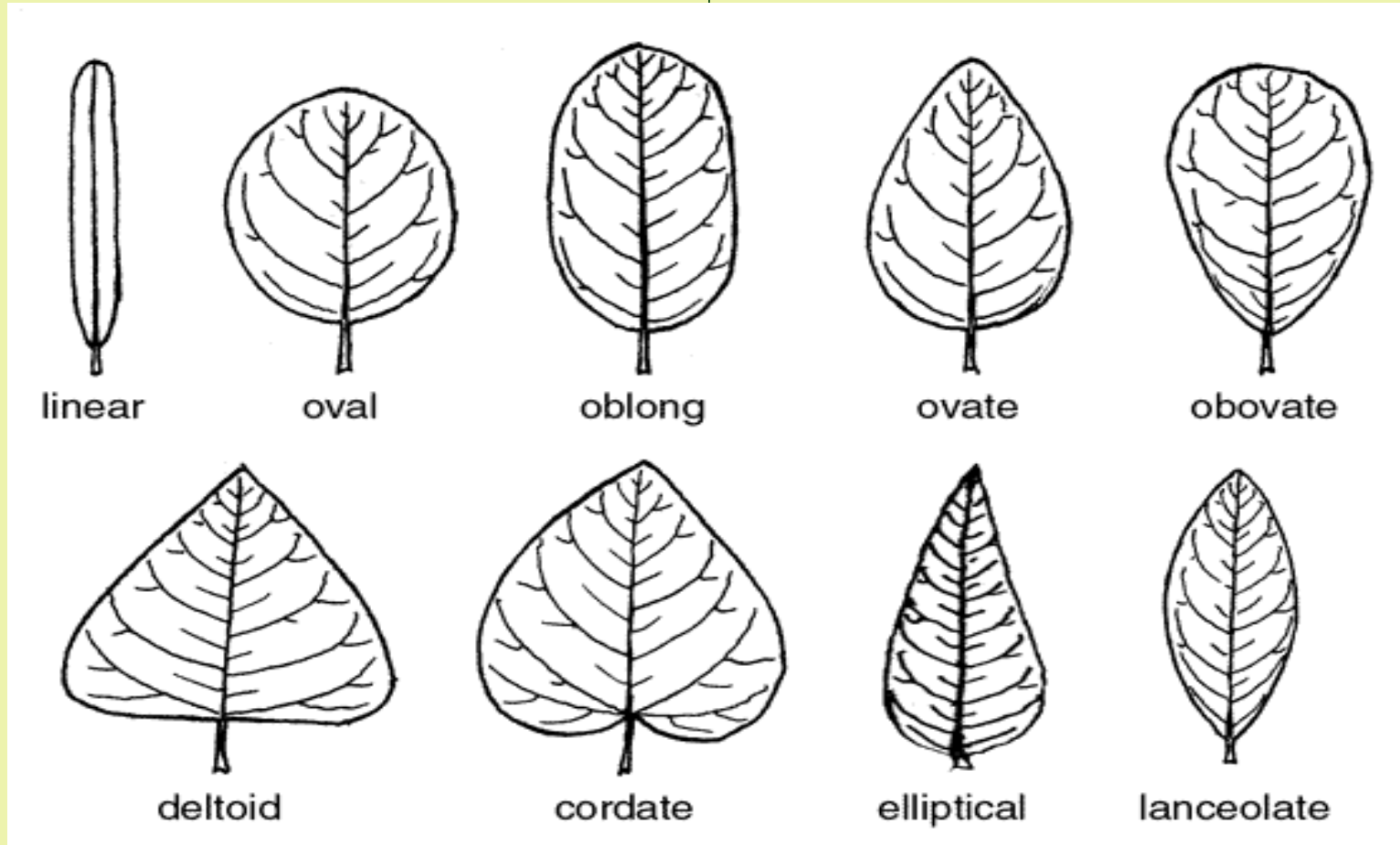
Pinnately Compound

- Feather



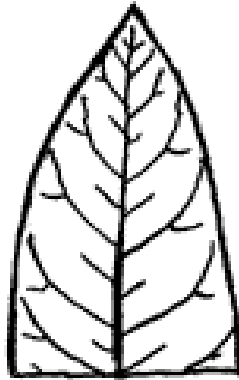
W.D. Brush @ USDA-NRCS PLANTS Database

4. Leaf Features - Shape



4. Leaf Features – Leaf Tip

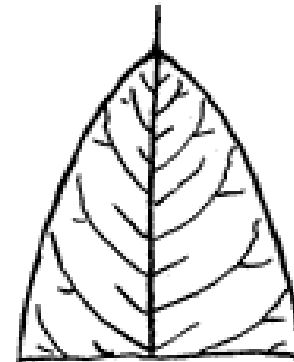
Richard
King
Mellon
Foundation



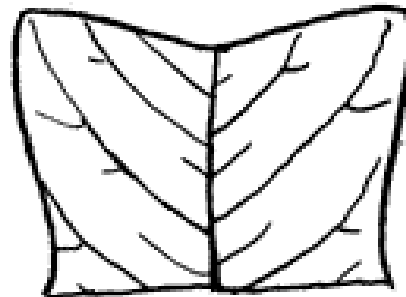
acute



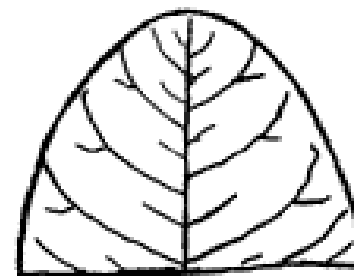
acuminate



bristle-tipped



truncate

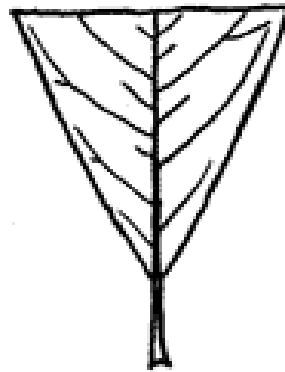


obtuse

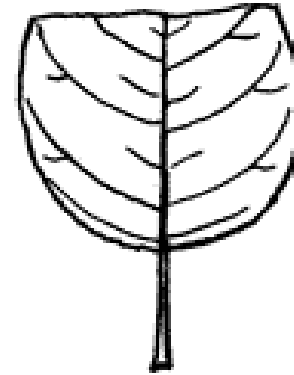
http://www.clemson.edu/extension/natural_resources/landowner/youth_enviro_n_education/terminology.html#leaf_arrangement

© 2011 Clemson University, Clemson, S.C. 29634, (864) 656-3311

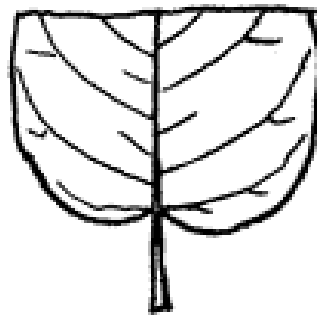
4. Leaf Features - Leaf Bases



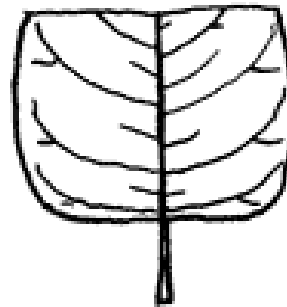
cuneate



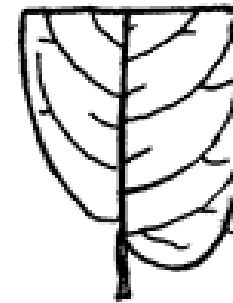
obtuse



cordate



truncate



oblique

4. Leaf Features - Lobed



A. Lobed



Eastern white oak

Not Lobed



Eastern redbud

4. Leaf Features - Margins



B. Toothed

Untoothed



Sweet birch



Mountain magnolia

4. Leaf Features - Margins



entire



undulate



finely serrate



coarsely serrate



doubly serrate



crenate



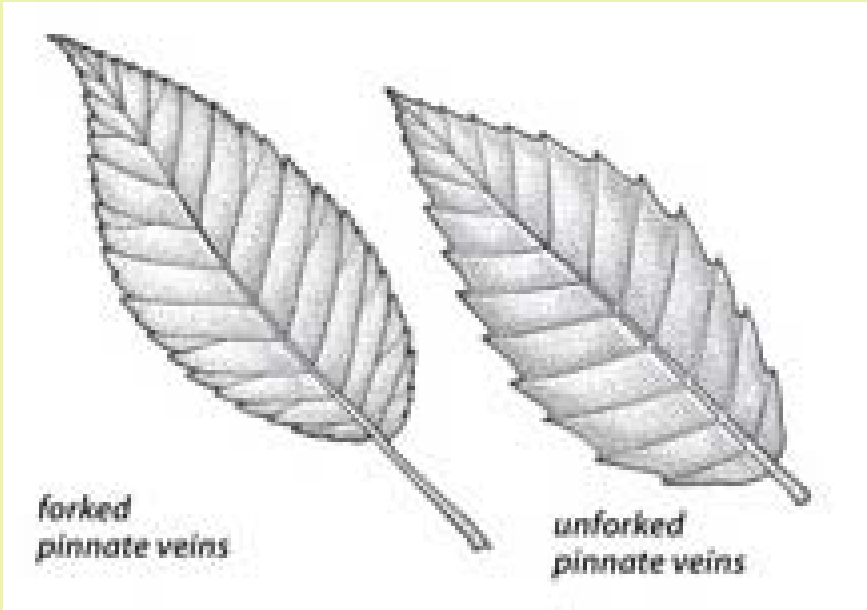
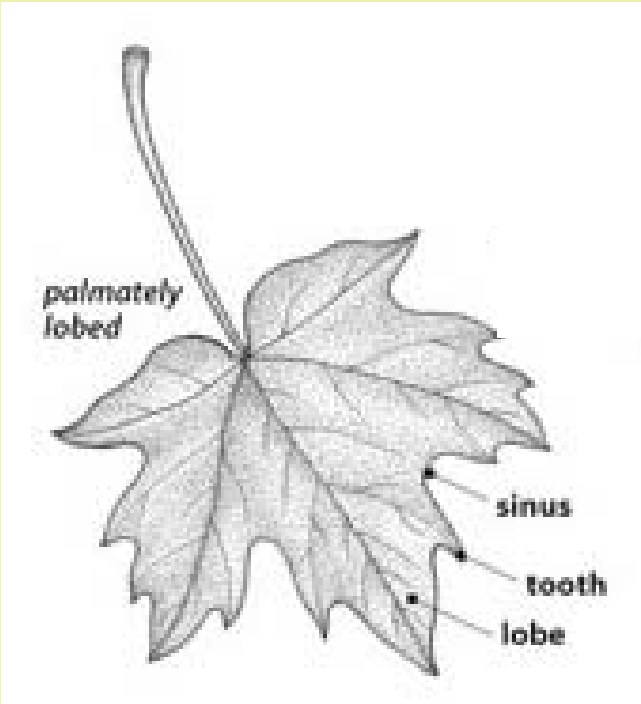
lobed

4. Leaf Features - Veins



C. Palmately

Pinnately



5. Fruit



Pod



Berry



Nut



Pome



Drupe



Samara



Follicle



Capsule

6. Bark



Plates



Smooth



Ridges and
Furrows



Horizontal
Lines



Fissures



Flaking



Scales



Peeling



Shredding



Corky

7. Flowers



Does the flower have petals?

If so, how many petals per flower?

What color(s) is the flower?

On what part of the tree is the flower showing up on?

Are the flowers found singly or in clusters?

What do the clusters look like?



USING THE KEY



USE THE KEY AND WHAT WE HAVE DISCUSSED
TO DETERMINE THE FOLLOWING SPECIES

Richard
King
Mellon
Foundation





white oak

Quercus alba,
Fagaceae



© J.S. Peterson

Richard
King
Mellon
Foundation





mountain laurel

Kalmia latifolia,
Ericaceae



Richard
King
Mellon
Foundation





eastern white pine

Pinus strobus,
Pinaceae



Richard
King
Mellon
Foundation





black (sweet) birch

Betula lenta,
Betulaceae



©2009 Will Cook

Richard
King
Mellon
Foundation





red maple

Acer rubrum,
Aceraceae /
Sapindaceae



Richard
King
Mellon
Foundation





American beech

Fagus grandifolia,
Fagaceae



Richard
King
Mellon
Foundation





poison ivy

Toxicodendron
radicans,
Anacardiaceae



Richard
King
Mellon
Foundation



APPLYING WHAT WE'VE LEARNED



LET'S SEE WHAT EVERYONE BROUGHT!

Richard
King
Mellon
Foundation

