Dendrology

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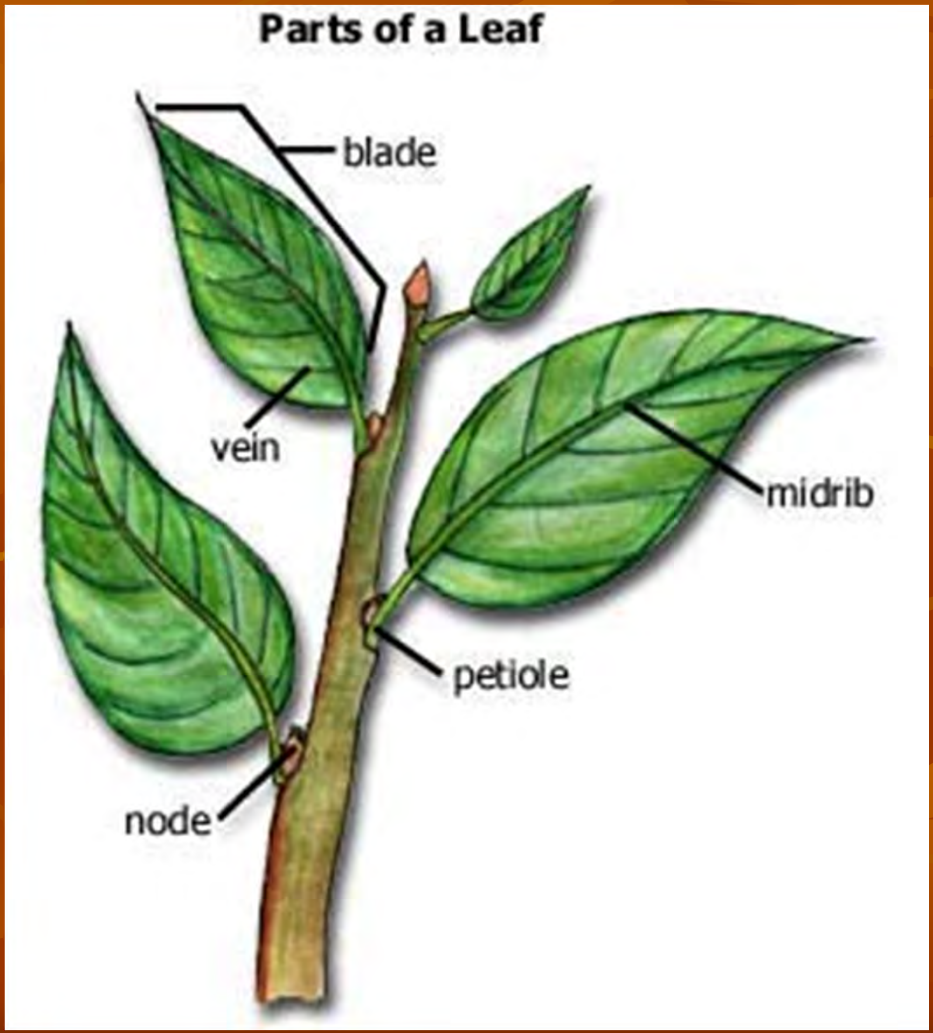
Topics

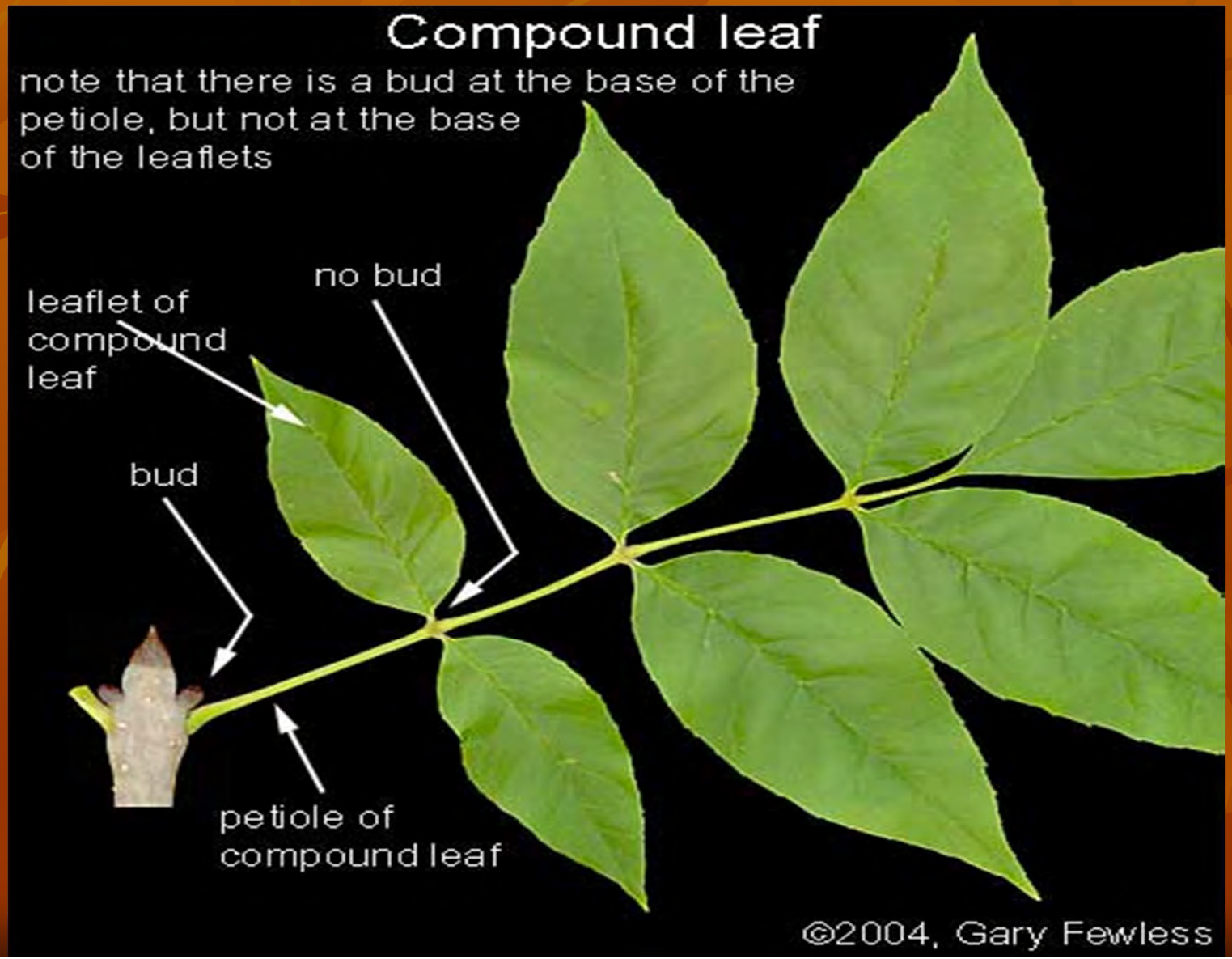
I. Plant Morphology/Botanical Terms
II. Deciduous Forest/Landscape Trees
III. Coniferous Trees
IV. Tree ID Resources
V. Questions

Leaf Anatomy: Simple



Simple

Leaf Anatomy: Compound



Pinnately Compound

Bipinnately Compound

Palmately Compound

Leaf Morphology

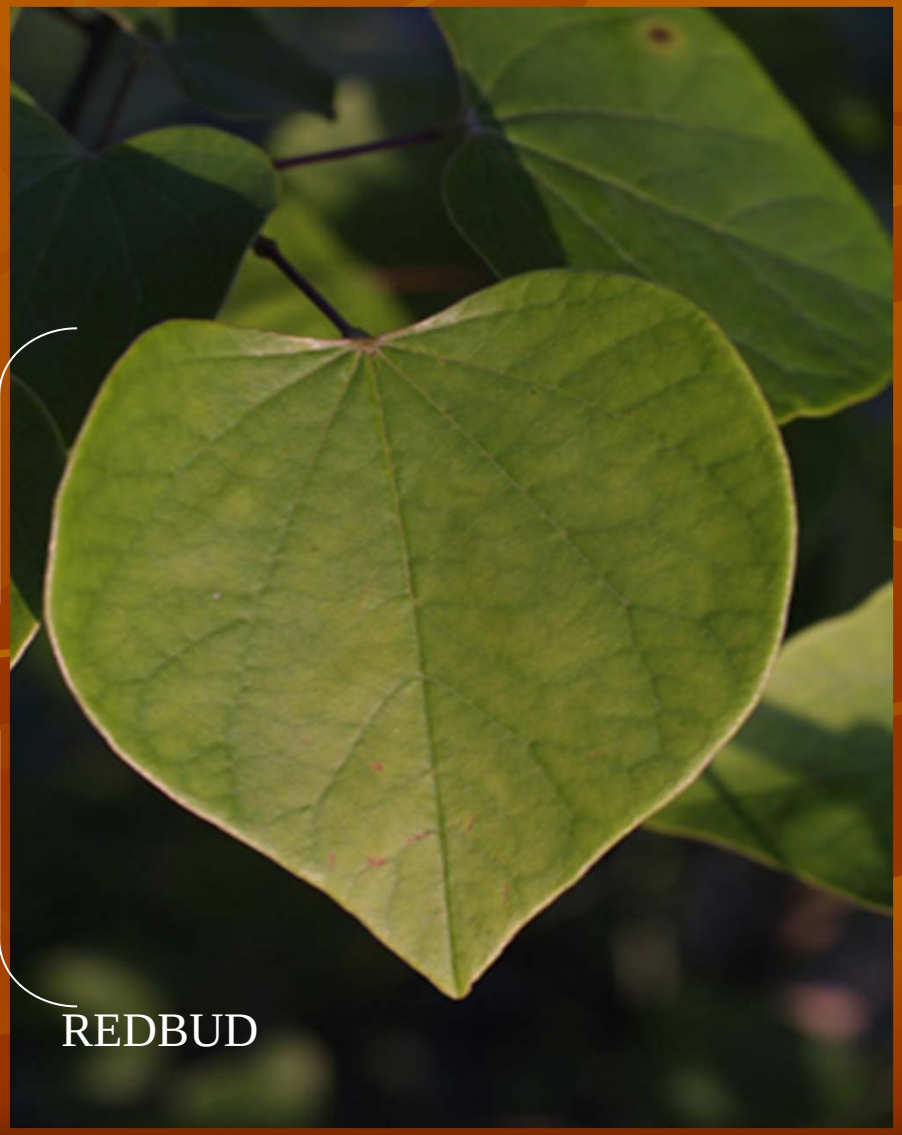
~ Margins

~ Arrangement

Margin

- The edge of the leaf.
- Various types
  - Smooth
  - Serrate
  - Lobed
  - Dentate
  - Undulate
  - Doubly-Serrate

Margins: Smooth



SMOOTH
MARGIN

Margins: Serrate

SERRATE
MARGIN

Margins: Lobed

LOBED
MARGIN

Arrangement

- Location of the leaf’s and bud’s attachment to the stem.
- Alternate, Opposite, and Whorled

Alternate

Opposite

Opposite

Maple

Ash

Dogwood

CAPrifoliaceae Family

HORSEchestnut Family

Whorled

Buttonbush

© Scott Biggs
Catalpa speciosa
Northern Catalpa

Deciduous Forest/Landscape Plant Groups

~Oaks

~Elm

~Hickory

~Maples

~Ash

Oaks

Morphology

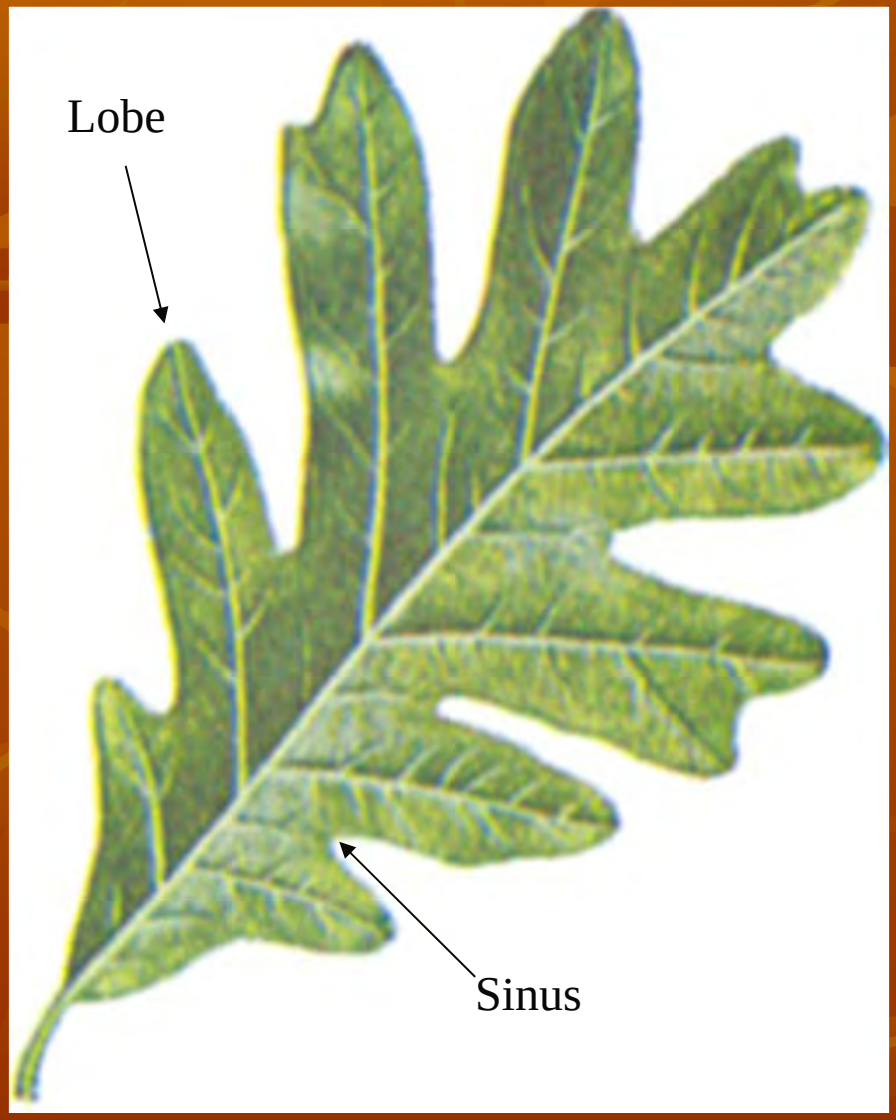
Simple, Alternate, Acorns

Site Preferences

Post Oak, Red Oak, Bur Oak

Examples……

Oak Morphology



White oak

White Oak

Bur Oak

Bur Oak

Northern Red Oak

Northern Red Oak

Pin Oak

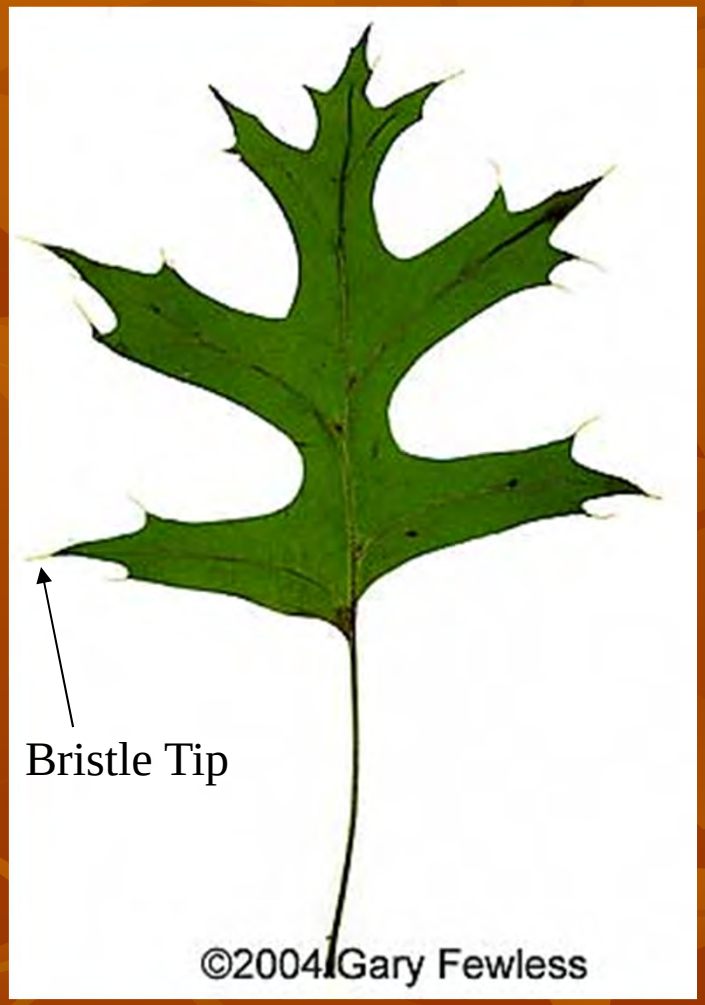
Pin Oak

Shingle Oak

Shingle Oak

White

Red



White

Red

Elms

Morphology

- Simple, Alternate, Small Round Samara

Site Preferences

- Variable

Examples……

American Elm

American Elm

Slippery Elm

Slippery Elm

Siberian Elm

Siberian Elm

Chinese Elm

Chinese Elm

Hickories

Morphology

- Compound, Alternate, Nut

Site Preferences

- Bottomland to Dry Ridge Top

Examples……

Shagbark Hickory

Shagbark Hickory

Mockernut Hickory

Mockernut Hickory

Pecan Hickory

Pecan Hickory

Bitternut Hickory

Bitternut Hickory

Shagbark Mockernut Pecan Bitternut

Maples

Morphology

*Simple Mostly, Opposite, Samara Fruit

Site Preferences

Sugar, Red, Silver

Examples……

Sugar Maple

Sugar Maple

Red Maple

Red Maple

Silver Maple

Silver Maple

Sugar

Red

Silver

Boxelder or Ash-leaf Maple

Boxelder or Ash-Leaf Maple

Ash

Morphology

Opposite, Pinnately Compound, Samara Fruit

Site Preferences

Green Ash, White Ash, Blue Ash

Examples……

Green Ash

Green Ash

White Ash

White Ash

Green

White

Blue Ash

Coniferous Plant Groups

Cone Bearers

~ Pine

~ Spruce

~ Fir

~ Juniper

Pines

Morphology

- Cones
  - Varies greatly
- Needles
  - In bundles of 2, 3, or 5
- Bark
  - Sometimes Key as in Scotch Pine

Examples…..

White Pine

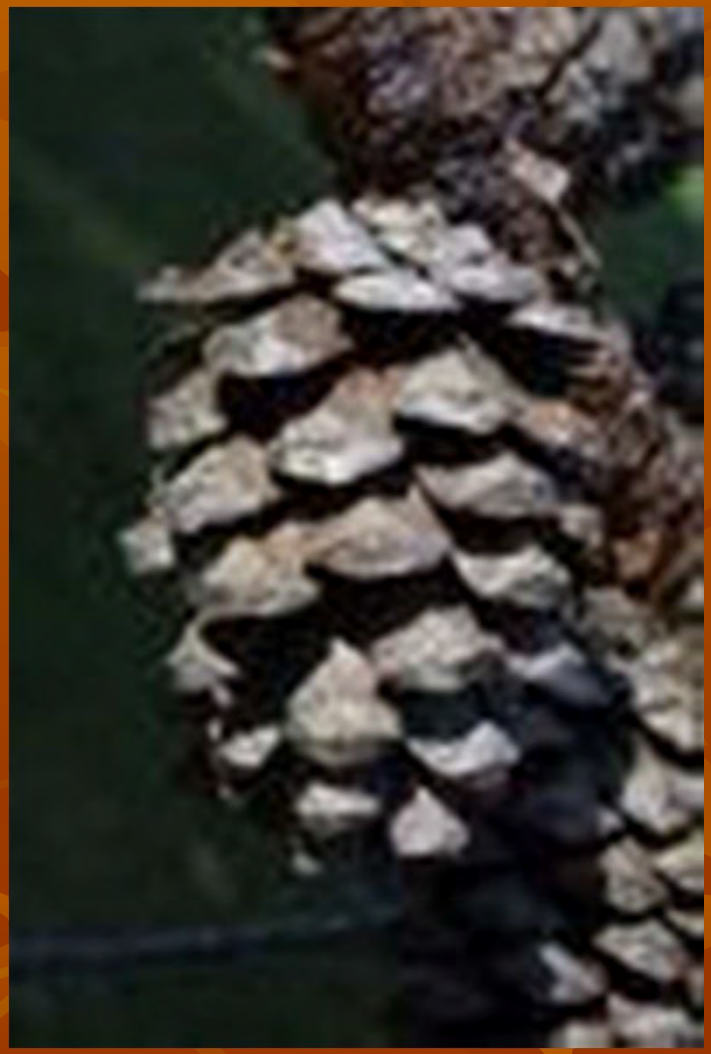
White Pine
Pinus strobus
Photographer : Craig Rowe
EARLY FOREST SEED CO.
WWW.EARLYFOREST.COM

White Pine

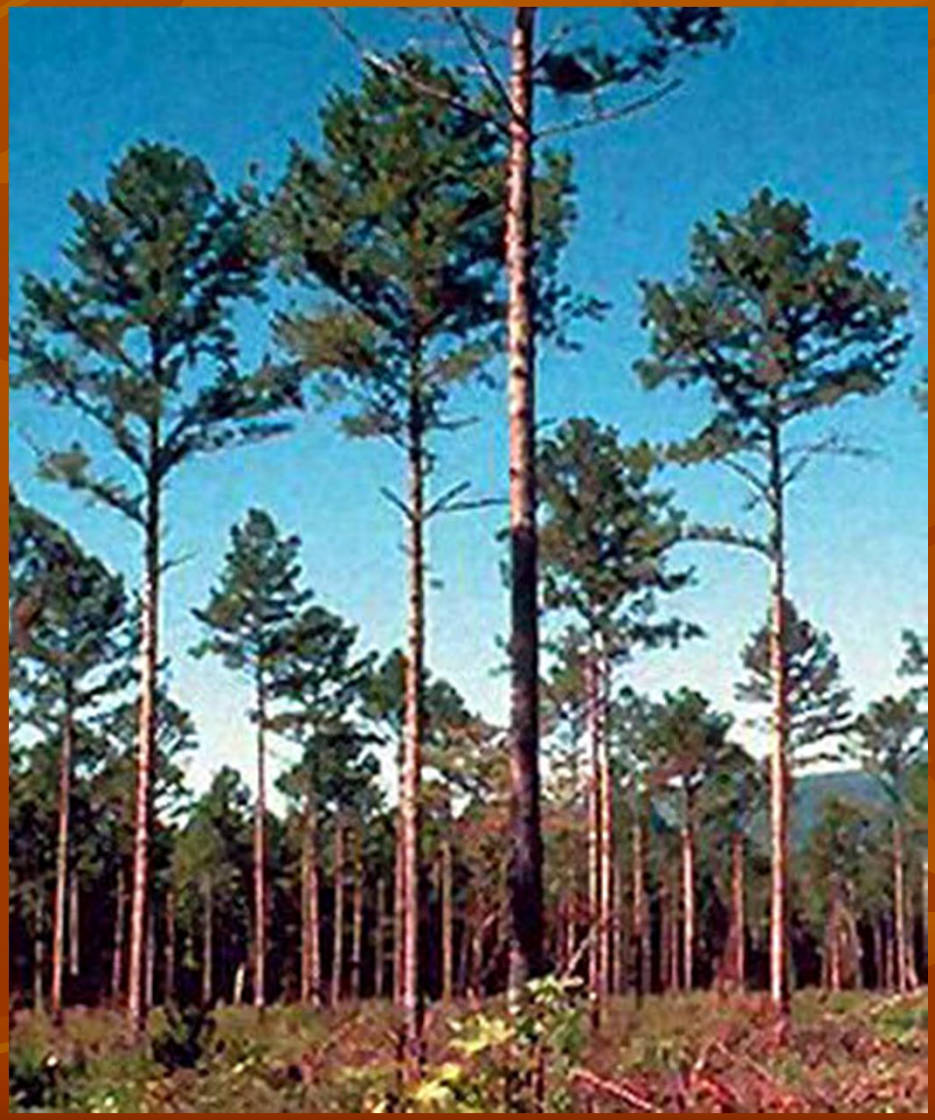
Scotch Pine

Scotch Pine

Shortleaf Pine



Shortleaf Pine



Spruces

Morphology

- Cones
  - Usually hanging
- Needles
  - Attachment, Size, and Color
- Bark
  - Thin, scaly on older trees

Examples…..

Spruce Needles

Norway Spruce

Norway Spruce

Blue Spruce

Blue Spruce

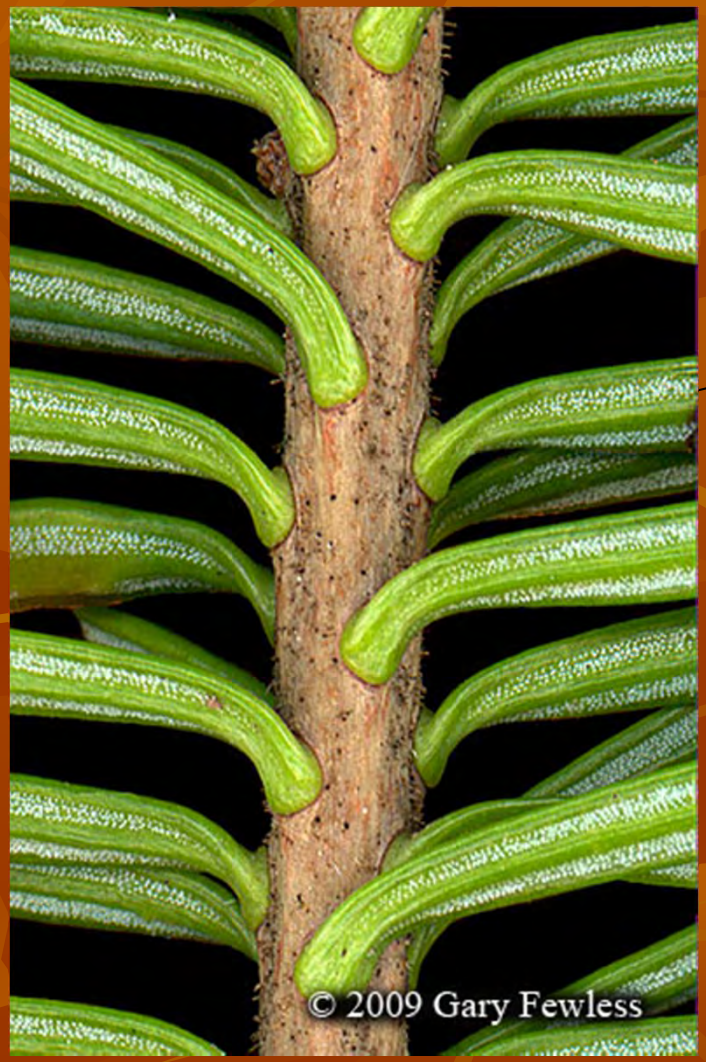
Firs

Morphology

- Cones
  - Disintegrate, upright
- Needles
  - Attachment, *Number, Size and Color

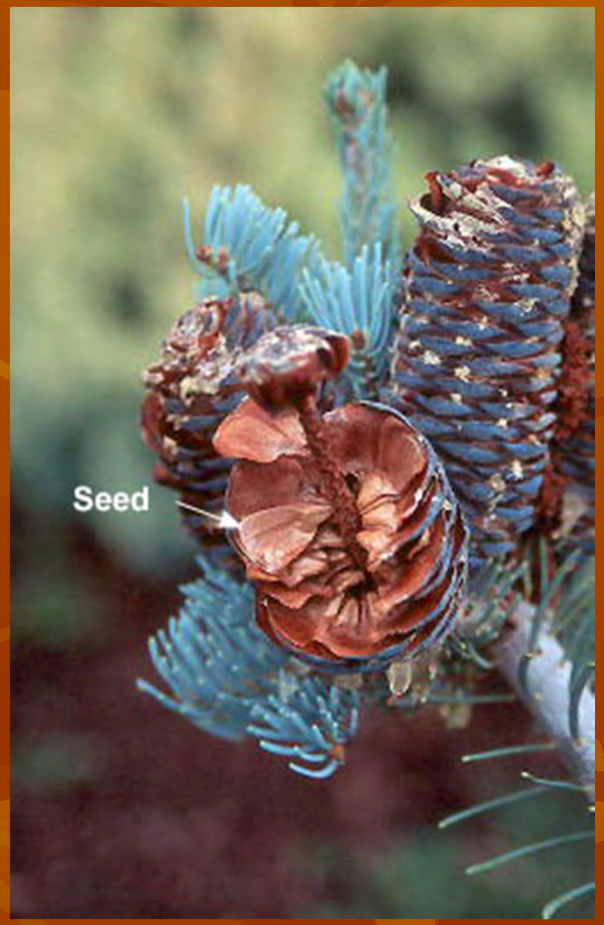
Examples…..

Fir Needles



Suction Cup Attachment

White Fir



White Fir

Junipers

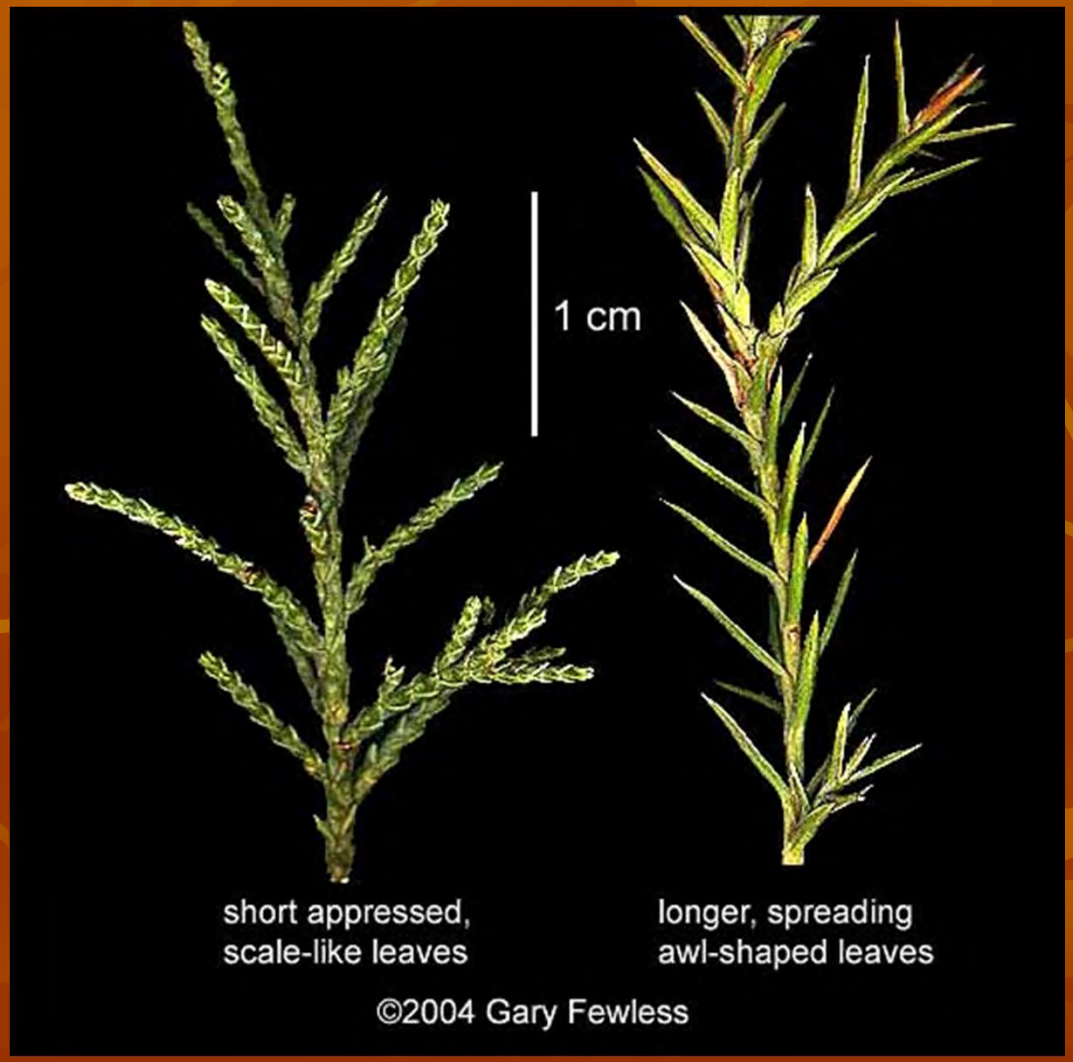
Morphology

- Cones
  - Berry-like
- Needles
  - Scales/needles, **Color
- Bark
  - Papery, strips

Examples…..

Juniper Cones

Juniper Needles



Eastern Redcedar

Eastern Redcedar

Eastern Redcedar

Tree ID Resource Books

- Manual of Woody Landscape Plants
  - By Michael Dirr
- Trees of Missouri
  - By Don Kurz
- Fruit Key and Twig Key to Trees and Shrubs
  - By William M. Harlow PH.D.

Tree ID Websites

- http://www.mdc.mo.gov/forest/
  - Missouri Department of Conservations forestry website
- http://www.uwgb.edu/biodiversity/herbarium
  - University of Wisconsin's Herbarium Website

Questions?