

GENERAL BOTANY Lecture 3 - General plant morphology

- I. Typical plant morphology**
 - A. Flowering plants (angiosperms) - Phylum Anthophyta**
 - II. Vegetative organs**
 - A. Leaves**
 - 1. Primary site of photosynthesis (energy)
 - 2. Primary site of organic synthesis
 - 3. Types of leaves
 - a) Simple (single blade) - Osage orange
 - b) Scale - Cedar
 - c) Needle - Pine
 - d) Whorled - Chittamwood
 - e) Compound - Pecan, locust
 - 1) Distinguishing feature between simple and compound
 - a) Look for axillary buds - they do not occur in axils of leaflets
 - 2) Types of compound leaves
 - a) Pinnately (with rachis - "stemlette") - locust
 - b) Palmately (like a palm or hand) - virginia creeper
 - 4. Variations in leaf shape
 - a) Entire (smooth) - Redbud
 - b) Dentate (toothed) - Elm
 - c) Lobed (deeply indented) - Post Oak
 - 5. Leaf pinnation
 - a) parallel
 - b) simple pinnate
 - c) simple palmate
 - d) twice pinnate
 - B. Stems**
 - 1. Transport of water, minerals, and carbohydrates
 - 2. Plant structure & support
 - 3. Give rise to new leaves and flowers
 - a) Nodes
 - b) Internodes
 - c) Buds (just above leaf at axil - axillary buds)
 - 1) Give rise to shoots
 - C. Roots**
 - 1. Absorption of water and minerals
 - 2. Anchor the plant
- III. Reproductive organs - parts of the flower**
- A. Parts not necessary for reproduction**
 - 1. Sepals - small and inconspicuous
 - 2. Petals - large and brightly colored
- B. Parts necessary for reproduction**
 - 1. Stamen - male parts
 - a) Anther
 - b) Filament
 - 2. Pistil (composed of one or more carpels) - female parts
 - a) Stigma
 - b) Style
 - c) Ovary