

GENERAL BOTANY Lecture 4 - Plant I.D. & monocots & dicots

**I. Plant identification**

- A. Phylogenic (natural) system**
1. Kingdom
  2. Phylum
  3. Class
  4. Order
  5. Family
  6. Genus
  7. Species

**Example:** Redbud - Plantae (plants), Anthophyta / Magnoliophyta (flowering), Magnoliopsida (dicots), Rosales (roses), Leguminosae (legumes), *Cercis, canadensis*

**II. Special features of angiosperms - monocots and dicots**

- A. Dicotyledonae (Magnoliopsida)**
1. "Two cotyledons in seed"
  2. Broadleaf plants
  3. Netlike leaf veins - xylem and phloem
  4. Two leaf parts (sometimes three)
    - a) Blade (leaf)
    - b) Petiole - petate (attaches to middle) and sessile (direct attachment)
      - 1) Extends the leaf
      - 2) Allows leaf to move
    - c) Stipule - at base of petiole
  5. Flower parts usually come in units of four or five
  6. Taproot system with one or more primary roots from which secondary roots develop
- B. Monocotyledonae (Liliopsida)**
1. "One cotyledon in seed"
  2. Long, grasslike leaves
  3. Parallel leaf veins
  4. Two leaf parts (sometimes up to four)
    - a) Blade
    - b) sheath - covers stem
    - c) ligule - keeps water from between stem and sheath
    - d) auricle - forms a collar at base of blade
  5. Flower parts usually come in units of three
  6. Grass flowers (among monocots) are often incomplete or inconspicuous
    - a) Lacking or not showing sepals or petals
  7. Fibrous root systems