

“TAXONOMY OF ANGIOSPERMS”

Introduction

- ▣ Taxonomy is the science of classifying and identifying plants.
- ▣ Scientific names are necessary because the same common name is used for different plants in different areas of the world.
- ▣ Latin is the language used for scientific classification.

Karl von Linne (1707-1778)

- ▣ Swedish botanist
- ▣ Developed binomial classification scheme for plants.
- ▣ Uses two Latin words to indicate the genus and the species.
- ▣ Changed his name to the Latin name of Carolus Linnaeus.



Scientific Names

- ▣ The first word is the genus and the second word is the species.
- ▣ If there are additional words, they indicate the variety or cultivar.

Genus

- ▣ Plants in the same genus have similar characteristics.
- ▣ Examples:
 - Quercus – Oaks
 - Acer – Maples
 - Pinus – Pines
 - Ilex – Hollies
 - Cornus – Dogwoods
 - Ficus – Figs

Species

- ▣ Plants in the same species consistently produce plants of the same types.



Scientific Classification

- ▣ The broadest category of scientific classification is the Kingdom.
 - Either Plant or Animal
- ▣ The broadest category of the plant kingdom is Division or Phylum.

Scientific Classification



Divisions

- ▣ The four most important divisions of the plant kingdom are....
 - Thallophytes
 - Bryophytes
 - Pteriophytes
 - Spermatophytes

Spermatophytes

- ▣ Includes flowering or seed-bearing plants.
- ▣ The two subdivisions are....
 - Gymnosperms
 - Angiosperms

'Plant Characteristics'

Identifying Plants

- ▣ Physical characteristics are used to identify plants which include....
 - Life Cycle
 - Form
 - Foliage Retention
 - Plant Parts
 - Use & Location

Life Cycle

- ▣ Annuals
 - Plants that complete their life cycle in one year.
- ▣ Biennials
 - Plants that complete their life cycle in two years.
- ▣ Perennials
 - Plants that live more than two years.

Growth Habits

- ▣ Trees
- ▣ Shrubs
- ▣ Vines



Growth Forms

- ▣ Columnar
- ▣ Spreading
- ▣ Weeping
- ▣ Round
- ▣ Oval
- ▣ Pyramidal

Growth Forms



Spreading



Columnar



Weeping

Growth Forms



Round



Oval



Pyramidal

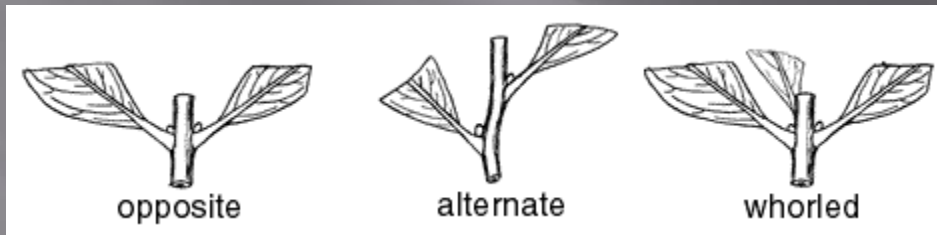
Foliage Retention

- ▣ Deciduous
 - Loses leaves during the dormant season.
- ▣ Evergreen
 - Keeps leaves and remains green year-round.

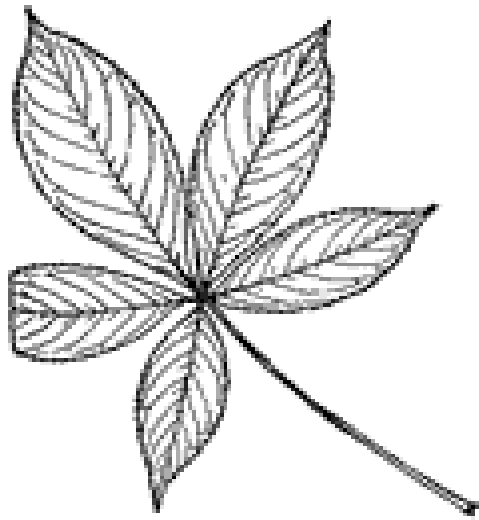
Plant Parts – Leaf

- ▣ Arrangement
- ▣ Shapes
- ▣ Color
- ▣ Vein Pattern
- ▣ Form – Simple or Compound
- ▣ Margin
- ▣ Surface

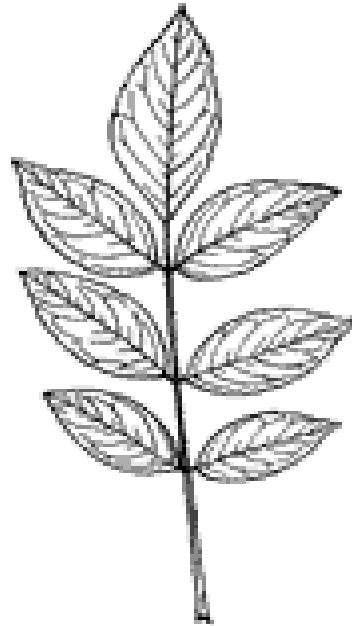
Leaf Arrangement – Simple



Leaf Arrangement – Compound



palmately
compound



pinnately
compound



Bi-Pinnately Compound Leaf

Leaf Shape



linear



oval



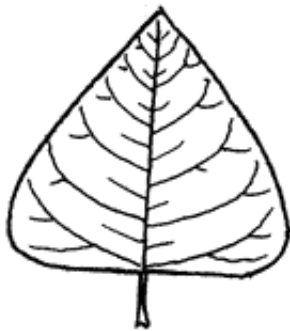
oblong



ovate



obovate



deltoid



cordate



elliptical



lanceolate



scale-like



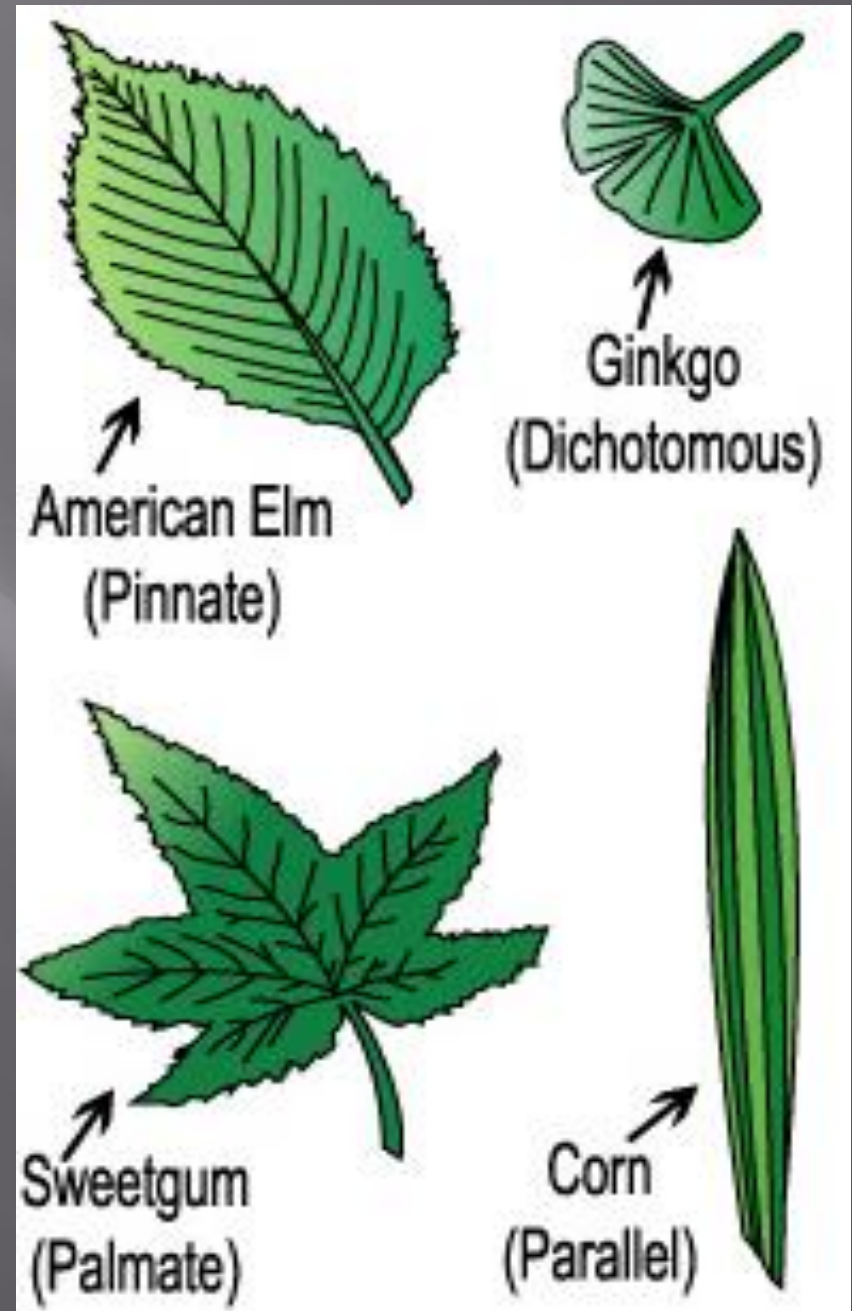
awl-like



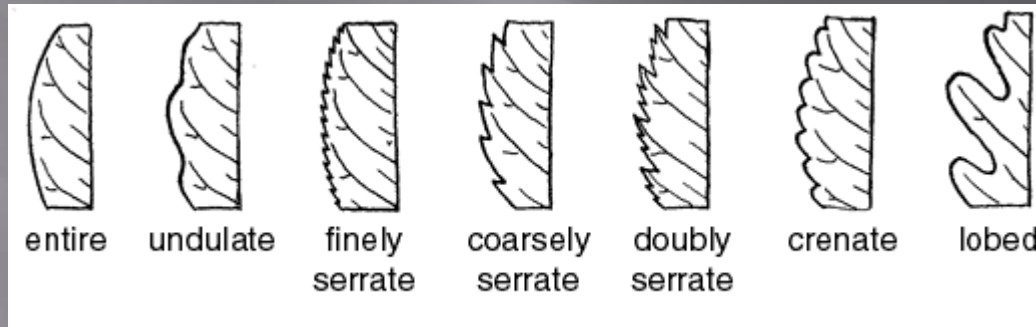
needle-like

Vein Pattern

- ▣ Pinnate
- ▣ Palmate
- ▣ Parallel
- ▣ Dichotomous



Leaf Margin



Leaf Surface

- There are 8 common leaf surfaces.
 - Glabrous
 - Pubescent
 - Villous
 - Tomentose
 - Scabrous
 - Glaucous
 - Rugose
 - Glandular

Leaf Surface – Glabrous

- ▣ The surface is smooth, not hairy.



Leaf Surface – Pubescent

- ▣ Short, soft hairs cover the surface.



Leaf Surface – Villous

- ▣ Long, straight hairs cover the surface.



Leaf Surface - Tomentose

- ▣ Covered with wool-like hair.



Leaf Surface – Scabrous

- ▣ Covered with short, prickly hairs.



Leaf Surface – Glaucaous

- ▣ Covered with a bluish-white waxy substance.



Leaf Surface – Rugose

- ▣ Surface is wrinkly.



Leaf Surface – Glandular

- ▣ Glands filled with oil or resin cover the surface.



Prunus tomentosa

Plant Parts – Flowers

- ▣ Color
- ▣ Shape
- ▣ Size



Plant Parts – Bud & Stem

- ▣ Shape & Color
- ▣ Stem Modifications
 - Thorns
 - Spines
 - Prickles



Plant Parts – Modified Stems



Plant Parts – Roots

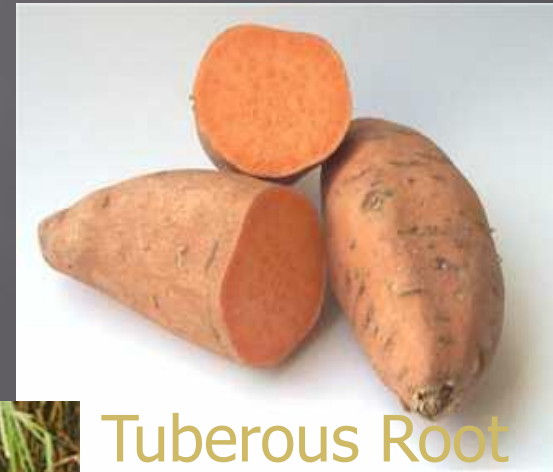
- ▣ Tap
- ▣ Fibrous
- ▣ Bulb



Plant Parts – Roots



Tap Root



Tuberous Root



Fibrous Root

Plant Parts – Fruit

- ▣ Cones
- ▣ Nuts (Acorns)
- ▣ Pomes (Apple)
- ▣ Drupes (Peach)
- ▣ Brambles (Raspberries)
- ▣ Capsules (Willow)
- ▣ Samara (Maple)

Plant Parts – Fruit

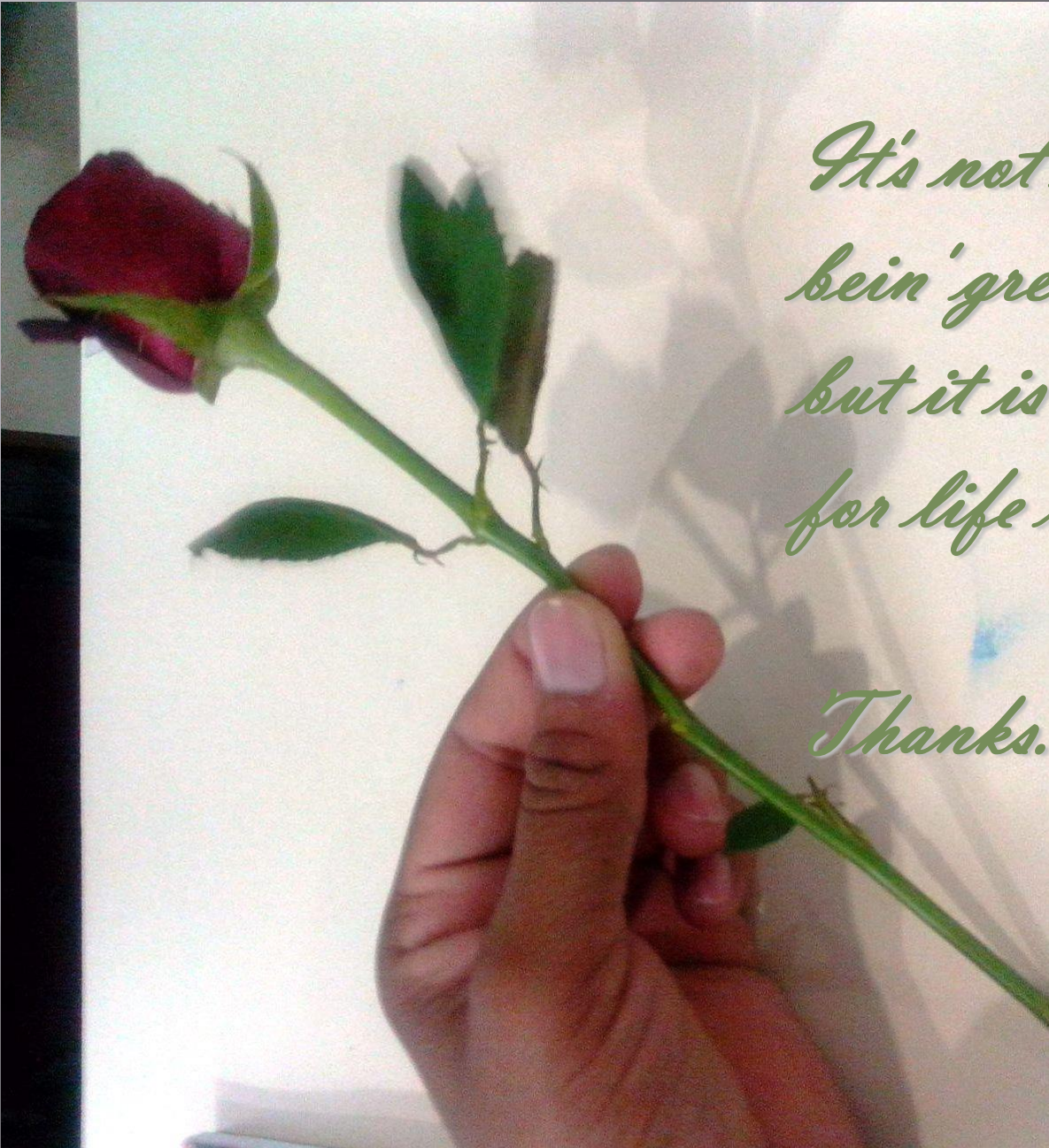


Plant Parts – Fruit



Use & Location

- ▣ Not absolute, but helpful.
- ▣ Indoor or outdoor.
- ▣ Altitude
- ▣ Wet or dry
- ▣ Hardiness Zone
- ▣ Sun, partial shade, or shade.
- ▣ Landscape purpose – specimen, border, etc.

A close-up photograph of a hand holding a green rose stem. The stem has a single dark red rose bud at the top and two green leaves. The background is a plain, light-colored surface. The text is overlaid on the right side of the image.

*It's not that easy
bein' green.....
but it is essential
for life on earth!*

Thanks.....End!