



# Plants and Trees of the Southwest

## Introduction

*Learn about the trees you see around you everyday!*

# Just what is that plant?

- We use plant taxonomy to identify, name, classify, and describe plants
- Names for plants use Latin or Greek to communicate with people in different regions of the world
- Two goals for plant taxonomy:

- 1) Identification- determine identity of unknown plants

Can use books to help you (The New Sunset Western Garden book is a great resource) or there are many plant ID websites (Dr. Chris Martin, Mountain States Wholesale Nursery are two great resources)

- 2) Classification- placing of known plants into groups for characteristics

\*Also note that plants have two types of characteristics:

Micro- Small (leaves for example) and Macro- Large (form, height)

# Taxonomy Divisions

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Here is an example with *Parkinsonia florida* (our state tree)

Kingdom: Plantae

**Division:** Tracheophyta

**Class:** Magnoliopsida

**Order:** Fabales

**Family:** Fabaceae

**Genus:** *Parkinsonia*

**Species:** *florida* (means: flowery)

# What do the scientific names mean?

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- Every plant name has two parts called Linnaean binomial system of nomenclature
  - 1) Genus- class or group marked by common characteristics
  - 2) Species- group of plants that are similar and can produce new plants

When writing scientific names you do need to *Italicize* or Underline

Also try the pronunciation. Some people say it differently than others and that is OKAY.

Here are two common plants:

Saguaro: *Carnegiea gigantea*

Mexican fan palm: *Washingtonia robusta*

# Common names?

- Why can't I just use the common name?

One reason would be that all common names are common for different areas

Example: bird of paradise could be different plants



- Scientific name:
  - *Strelitzia reginae*
- Scientific name:
  - *Caesalpinia mexicana*



**Note: That the genus name is always capitalized and the species is lower case- this is important!**

# But I don't want to use scientific names!

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I understand, but there are advantages in using scientific names

Most common names are already part of the scientific name. For example:

Oleander (*Nerium oleander*)

Acacia (*Acacia aneura*)

Eucalyptus (*Eucalyptus coolibah*) and so many more!

The most important reason is to ensure you get the plant you really need from your local nursery.

# Leaf Terminology

**Review from biology:** Leaves help the plant obtain energy by using photosynthesis by a chemical called chlorophyll

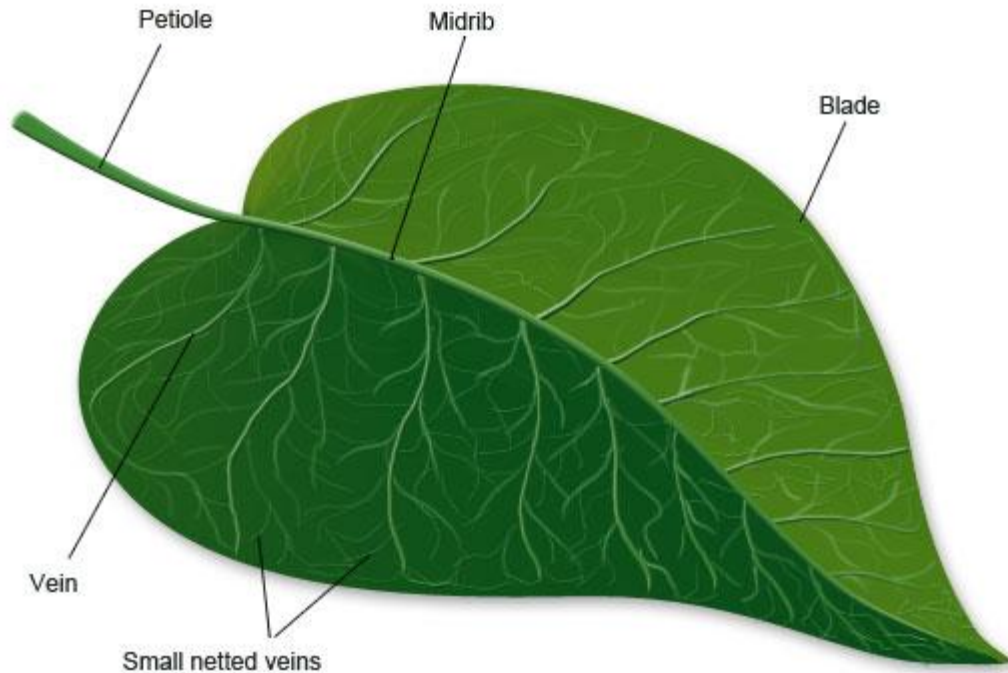
Leaves have two different groups:

- Broadleaf
- Needle

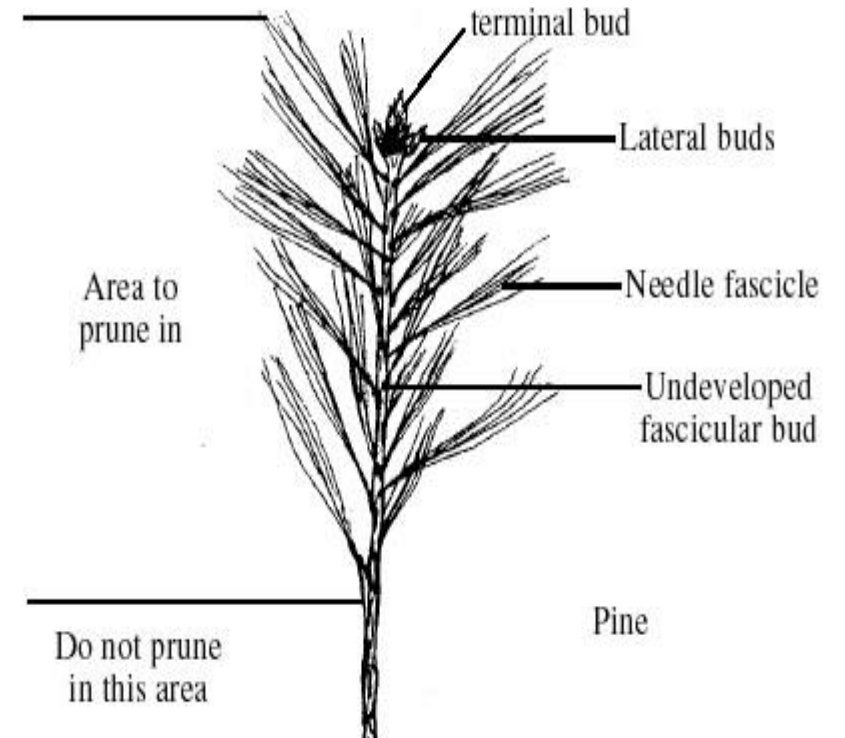




# Biology of Leaves



Broadleaf



Needle (conifers)



# Winged Leaves

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- Petiole is winged when there is a thin flange of tissue along the length of the petiole



- Citrus

# Leaf Surface

Glabrous



Pubescent

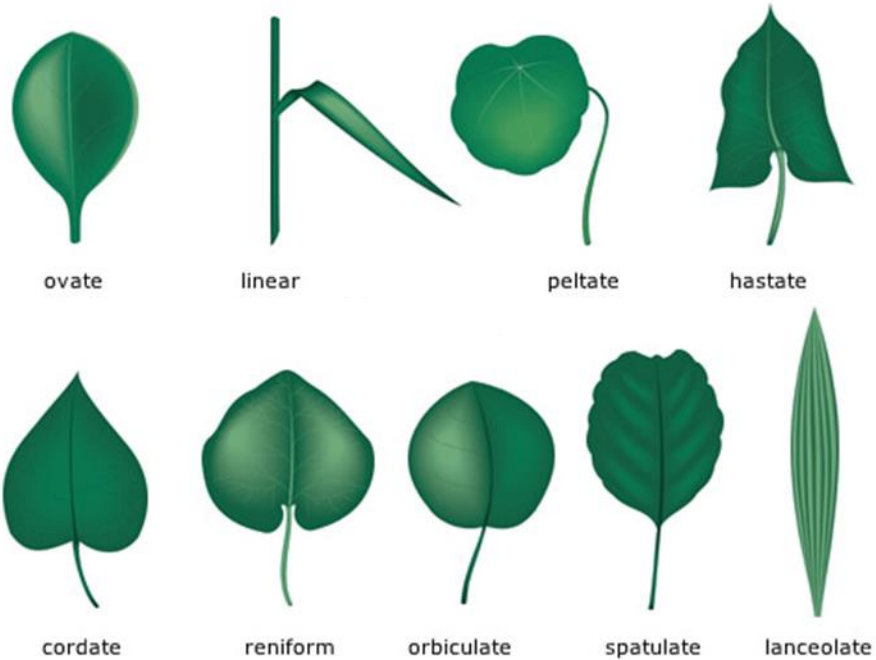


*Little hair like structures  
are called trichomes!*

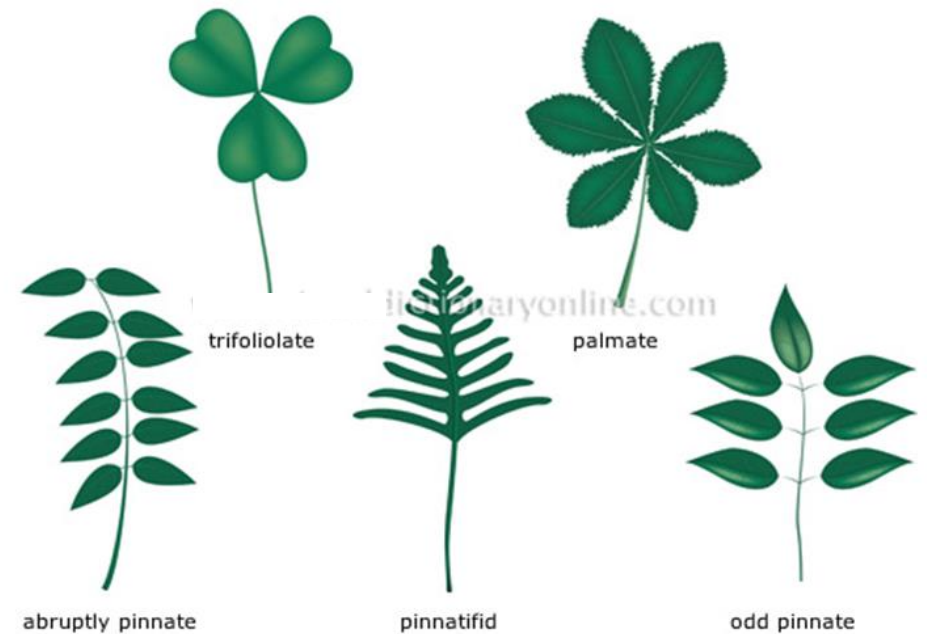
# Broadleaves

- Broadleaves come in two forms

## Simple leaves

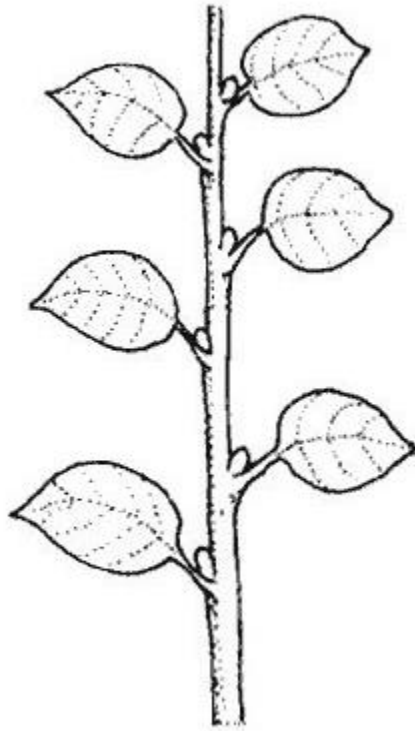


## Compound leaves

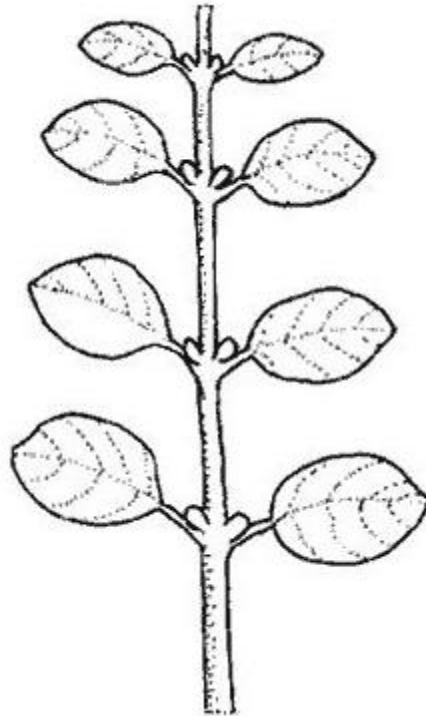


# Leaf Arrangement

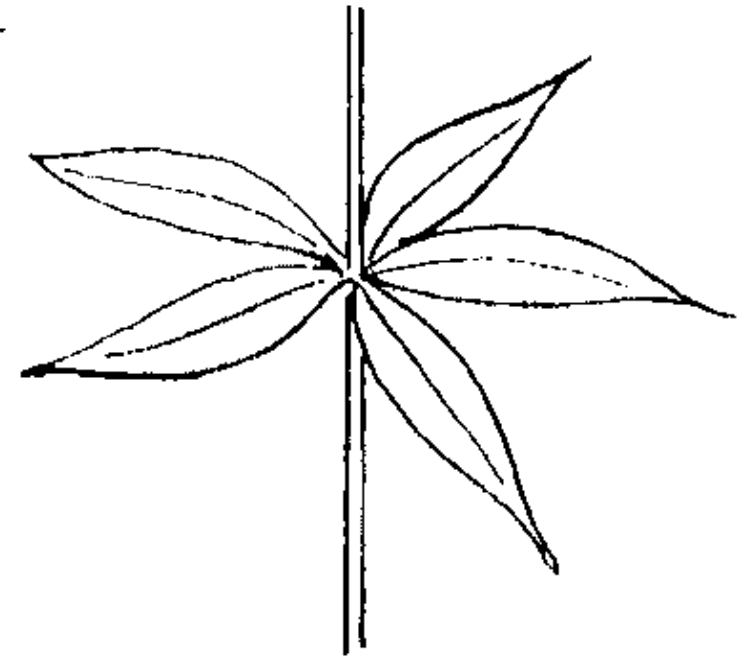
Alternate



Opposite



Whorled



**Axil-** The upper angle between leaf stalk or branch and the stem or truck from which it is growing

**Armed-** The plant has thorns

**Stipule-** outgrowths borne on either side or just one side at the base of the leafstalk

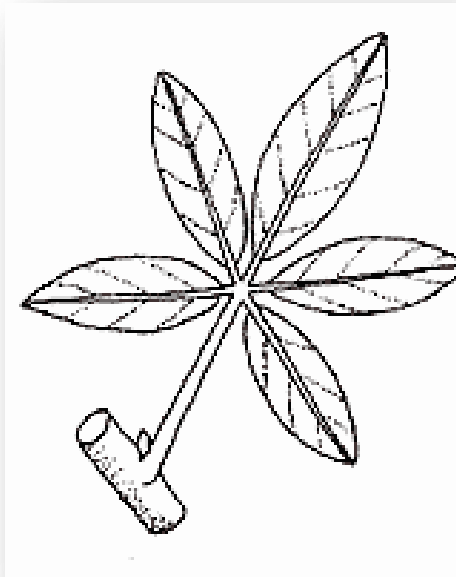


# Leaf Venation

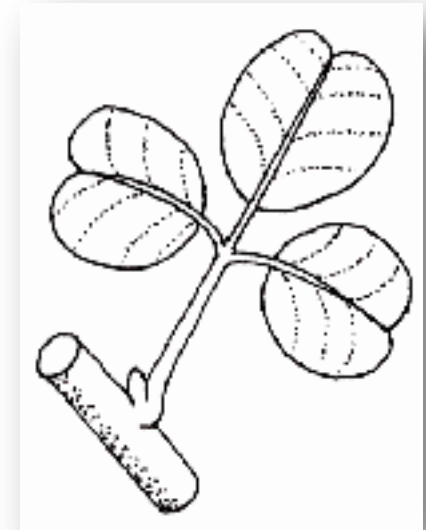
Pinnate



Palmate



Trifoliate



Arcuate



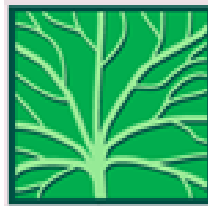
Cross-  
venulate



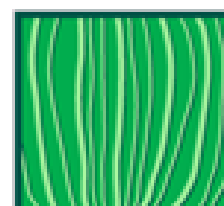
Dichotomous



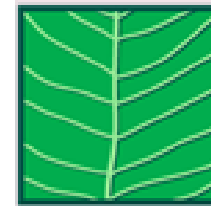
Longitudinal



Palmate



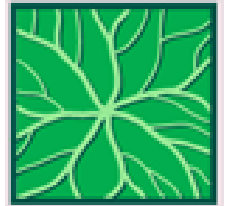
Parallel



Pinnate

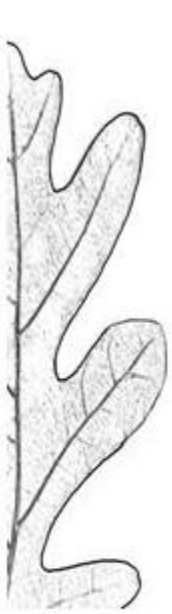


Reticulate



Rotate

# Leaf Margins



Lobed



Entire



Serrate



Serrulate



Doubly-serrate



Ciliate



Dentate



Crenate

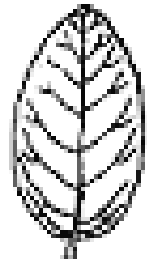


Sinuate

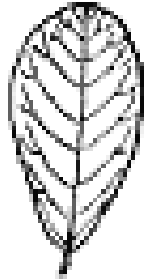


Undulate

# Leaf Shape



ovate



obovate



oblong



spatulate  
(spoon-shaped)



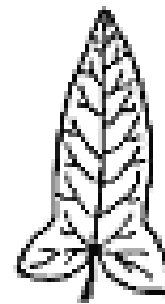
lanceolate



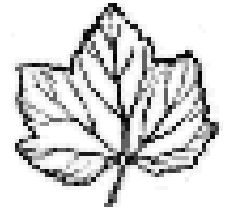
oblanceolate



oblique



hastate  
(arrow-shaped)



palmately  
lobed



elliptic



linear



thread-like  
(filiform)



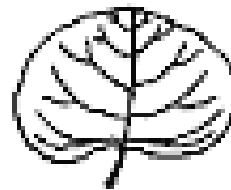
wedge-shaped  
(cuneate)



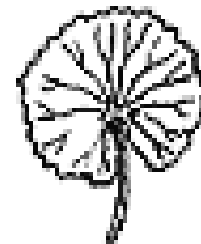
triangular  
(deltoid)



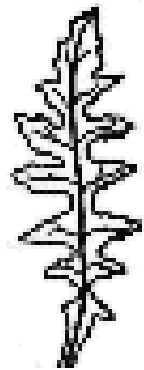
heart-shaped  
(cordate)



kidney-shaped  
(reniform)



round  
(orbicular)



pinnately  
lobed  
(pinnatifid)

Last slide about leaves YOU GOT THIS!



# Stem Biology

Not only is it important to understand stem biology for plant ID but it is essential in proper maintenance practices.

