# Botany

## *Department of Environment*

## The first stage

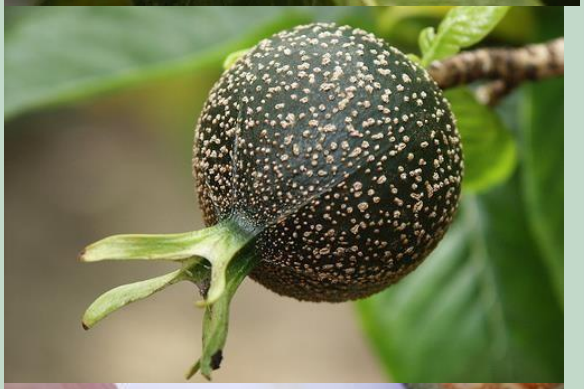
## Flowers

**Assist prof. Dr. Rabah Salim Shareef**

# Flowers

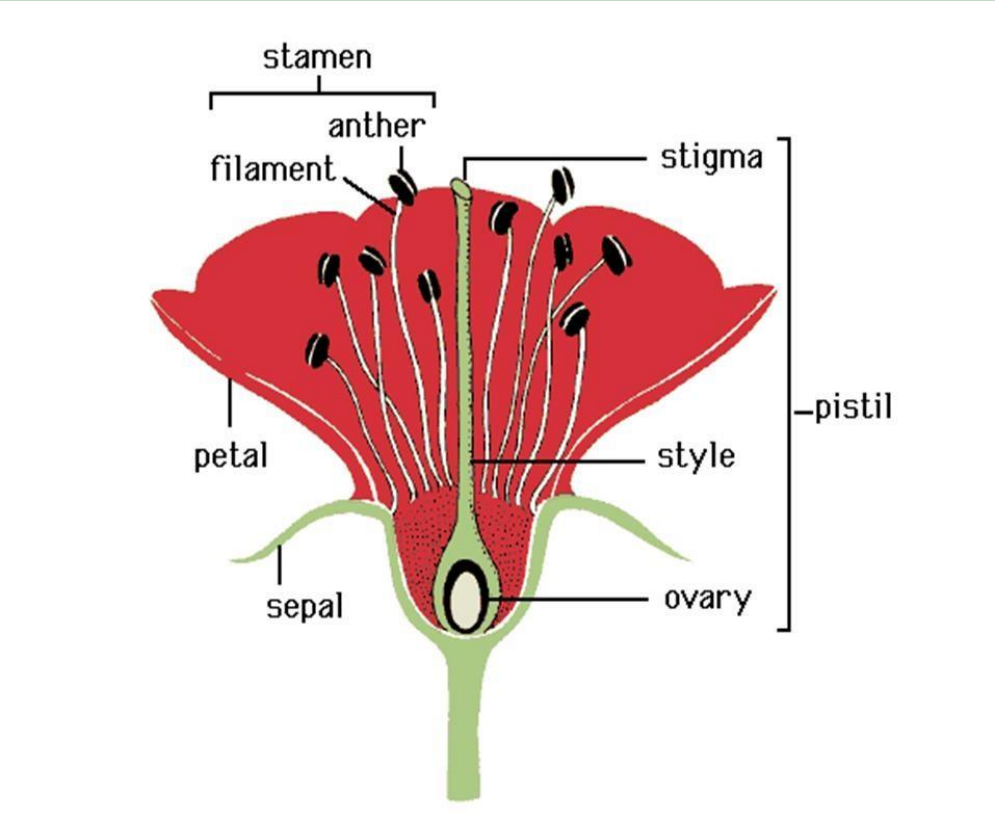
Functions:

1. Attract pollinators-petals (and sometimes petaloid sepals or bracts) lure pollinators.
2. Reproduction-fertilized ovary develops into fruit which contains seeds.



# Flowers: Morphology

- Sepals - calyx
- Petals – corolla
- Perianth = S and P
- Stamen
  - filament
  - anther (produces pollen)
- Pistil
  - stigma
  - style
  - ovary



# Flowers: More-phology

- **Complete**
  - has petals, sepals, stamens and pistils
- **Perfect (bisexual)**
  - has both stamens and pistils
- **Imperfect (unisexual)**
  - staminate
  - pistillate

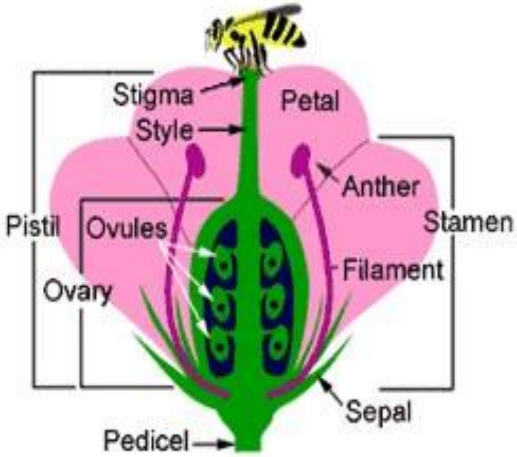
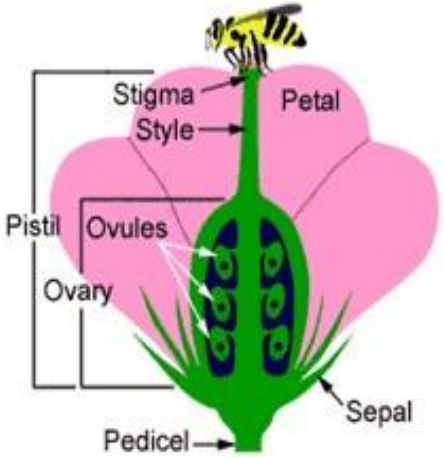



**Figure 20.** Complete flower structure

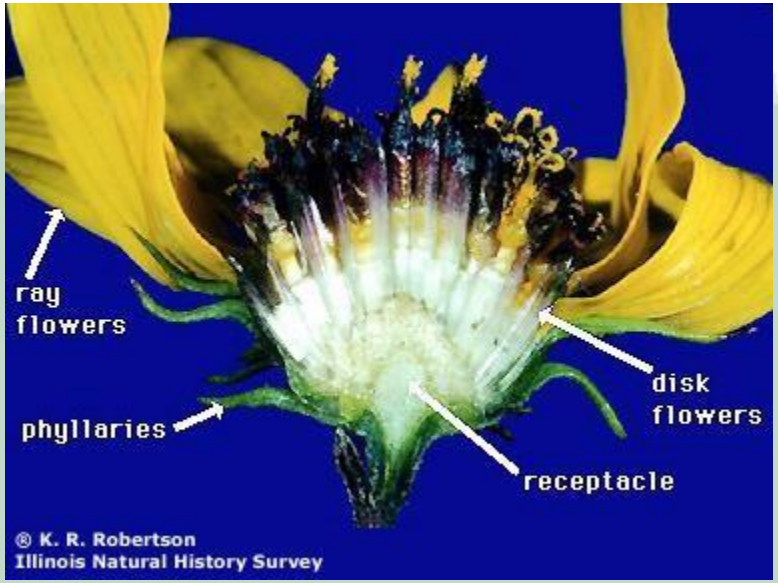


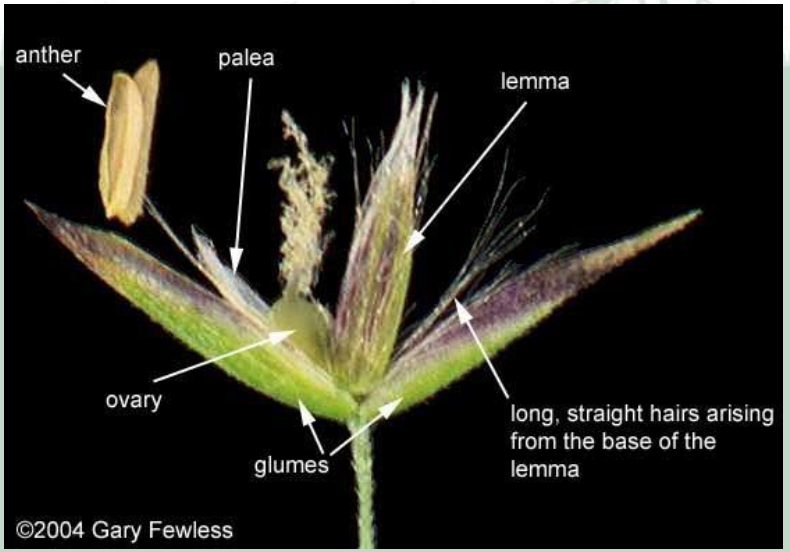

Imperfect (pistillate) flower structure

Monoecious: both imperfect flowers on one plant

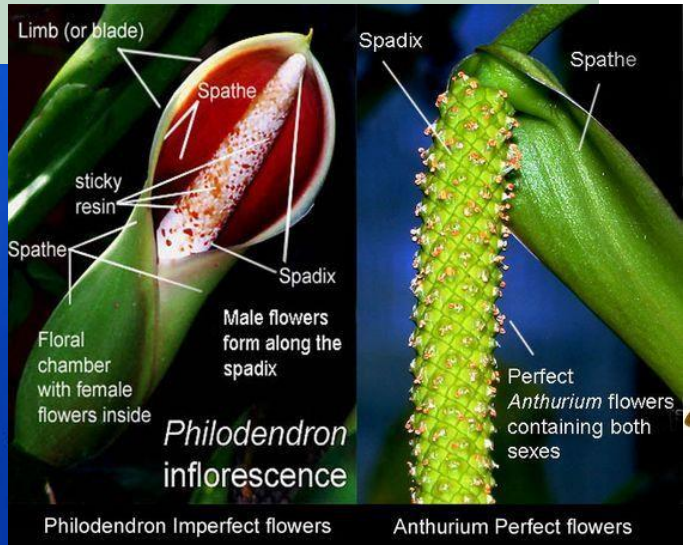
Dioecious: either a staminate or pistillate plant

# Flowers Exhibit Tremendous Variety!



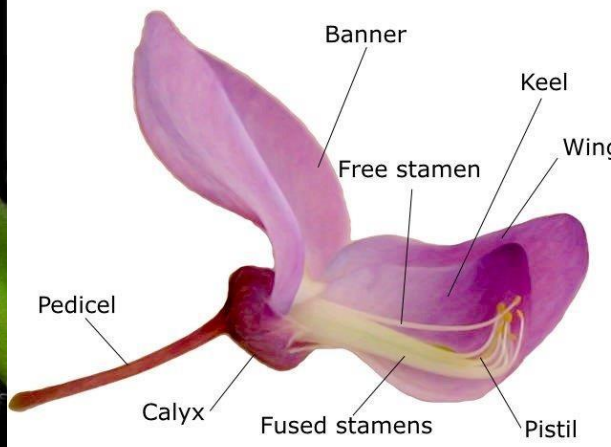













# Pollination Syndromes

- Flowers are adaptations for pollination.
- The structure, color, scent, and timing of flowers reflect the pollinating organism or mechanism!

# Pollination Syndromes: a Famous Example

*Angraecum sesquipedale* (Darwin's orchid)

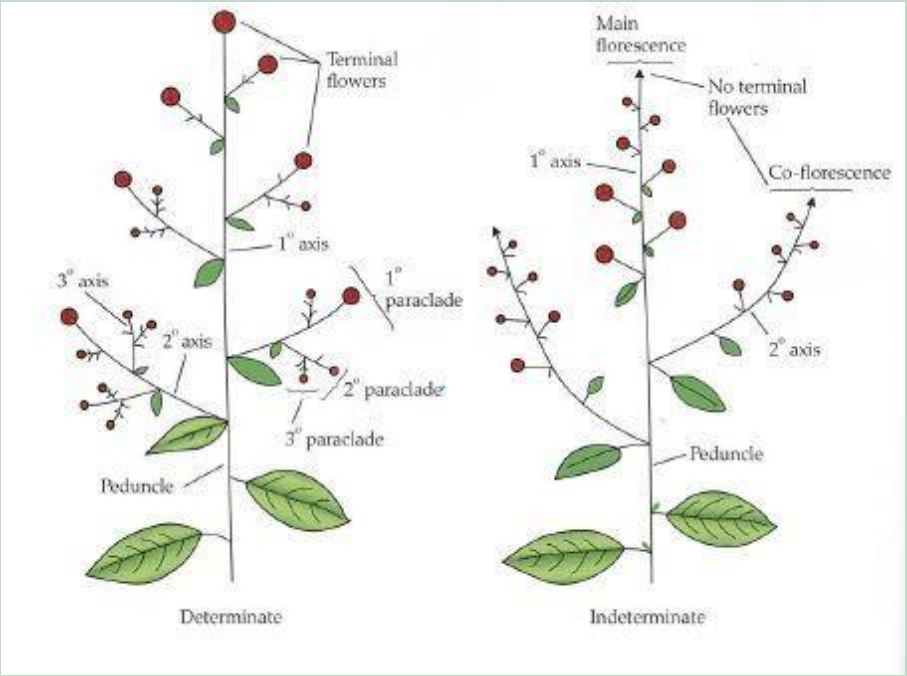
*Xanthopan morganii*
Morgan's sphinx moth

# Flowers: Solitary? or Grouped?

- Solitary
  - A *single flower* borne at the end of a peduncle
- Inflorescence
  - A *flower cluster* borne on a peduncle
  - May be branched or unbranched
  - Individual flowers may be sessile (unstalked) or borne on pedicels (flower stalks)

# Inflorescence: Determinate or Indeterminate?

- Determinate: terminal flower blooms first, halting elongation of the inflorescence axis
- Indeterminate: lower or outer flower blooms first, allowing for elongation of the inflorescence axis as the flowers develop



# Inflorescence: Types