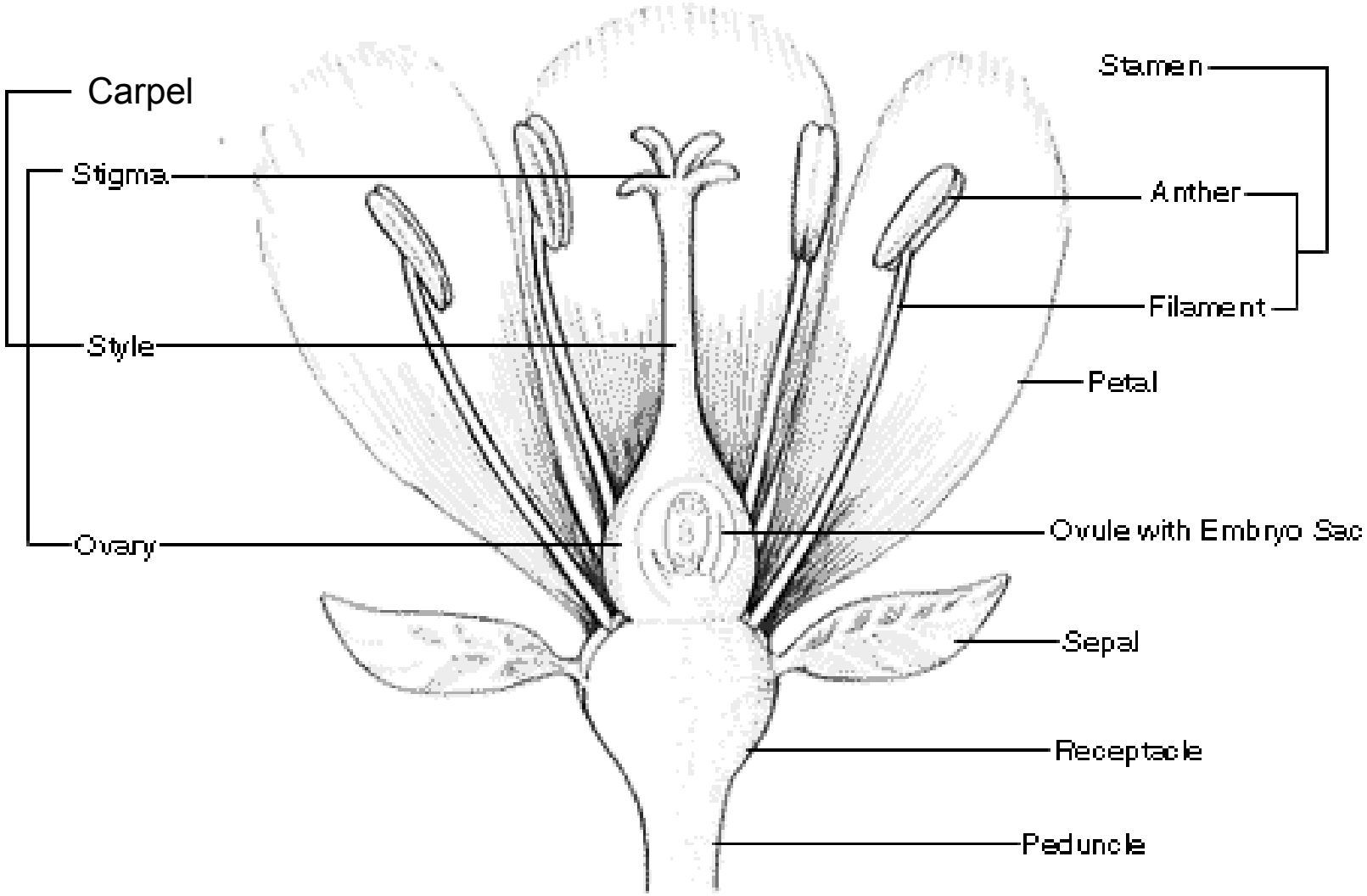
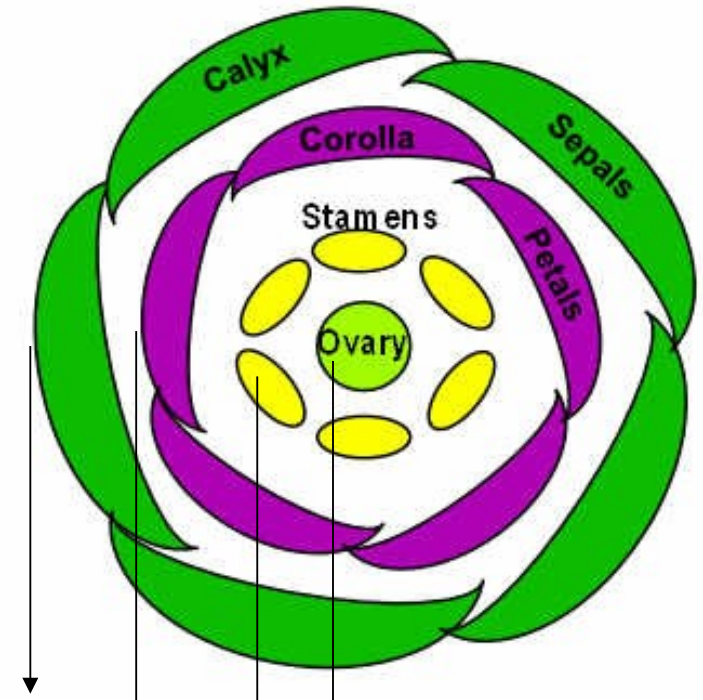
“Complete” FLOWER



Complete flower (hermaphrodite)

Flower diagram



Male (staminate) & Female (pistillate) flowers (incomplete)

Pistillate (female) flowers (cucumber)

Staminate (male) flowers (cucumber)

Types of plants with unisexual flowers

Monoecious: male and female flowers are found on the same individual; e.g. *Pinus spp.*

Dioecious: male and female flowers are separated on different individuals; e.g. *Cannabis spp.*

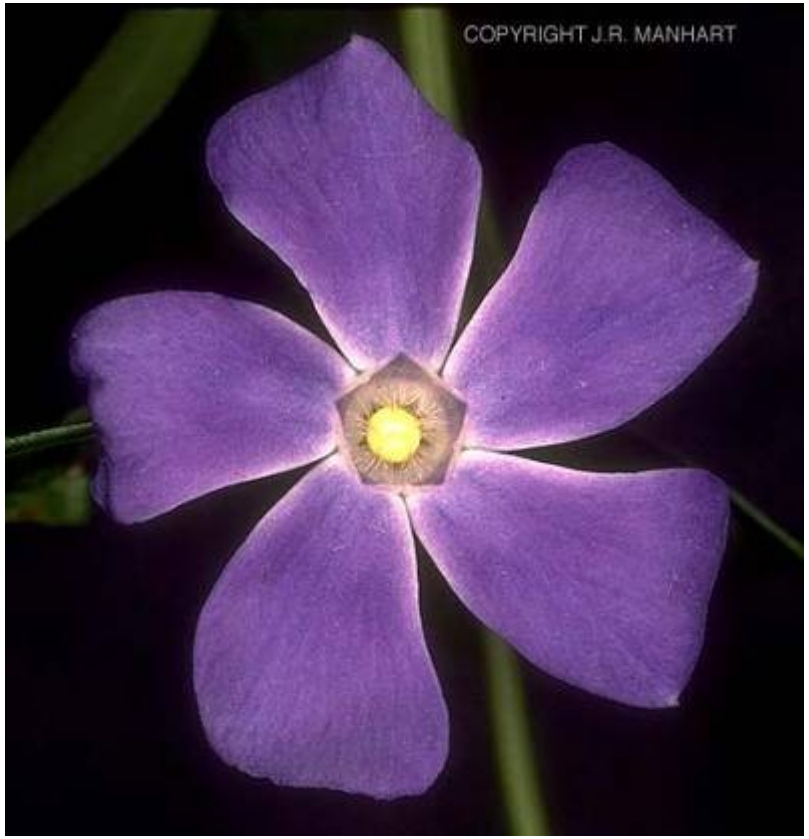
Flowers without a calyx and corolla differentiated

Perianth elements in this case are called **tepals**

Petaloid tepals

Sepaloid tepals

Flower symmetry



Actinomorphic (radial) *

Zygomorphic .|.

(bilateral)

Define the symmetry of these flowers

Convolvulus spp. *

Lamium spp .|.

General Flower-terms

Peduncle: The stalk of a flower.
Receptacle: The part of a flower stalk where the parts of the flower are attached.
Sepal: The outer parts of the flower (often green and leaf-like) that enclose the flower. Totality of **sepals** in a flower constitute the **calyx.**
Petal: The parts of a flower that are often conspicuously colored. The totality of **petals** in a flower constitute the **corolla.**

Perianth = calyx + corolla

When the **Sepals** & **Petals** are identical, they are both called **Tepals**

Androecium (male part): the totality of **stamens** in a flower. A stamen is formed from **anther,** which is supported by a slender **filament**.
Anther: The part of the stamen where pollen is produced.
Gynoecium (female part): totality of **carpels** in a flower. A carpel is formed from: **ovary, style and stigma**. The term **Pistil** has been used in the past to describe the gynoecium and this can cause some confusion in terminology

Ovary: The enlarged basal portion of the carpels where ovules are produced.

Stile: the part supporting the stigma.

Stigma: The part where where pollen germinates.
Monoecious: Male and female flowers on the same individual.

Dioecious: Male and female flowers are separated on different individuals, which are therefore, male and female.

Symmetry terms

Actinomorphic. Radially symmetric; divisible into two essentially equal portions along any median longitudinal plane.

Zygomorphic: Bilaterally symmetric; divisible into two essentially equal portions along only one median longitudinal plane.

Reminder Note:

ALL botanical terms can be found online at:

http://huntbot.andrew.cmu.edu/HIBD/Departments/DB-INTRO/IntroFNA.shtml

The calyx (K): Totality of sepals in the flower.

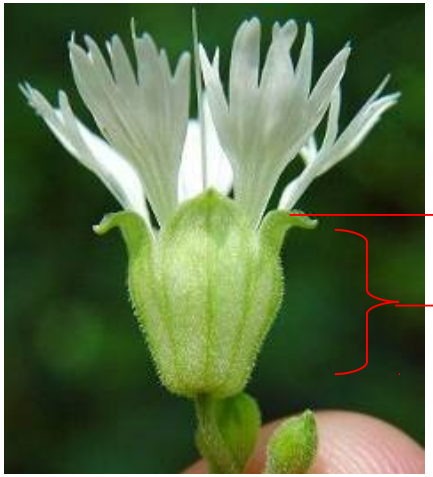
Calyx with free sepals

Rosa spp.

Oenothera spp.

Stellaria media -chickweed

Calyx with connate (united) sepals:



Calyx lobes

Calyx tube

Silene spp.

Fabaceae flower

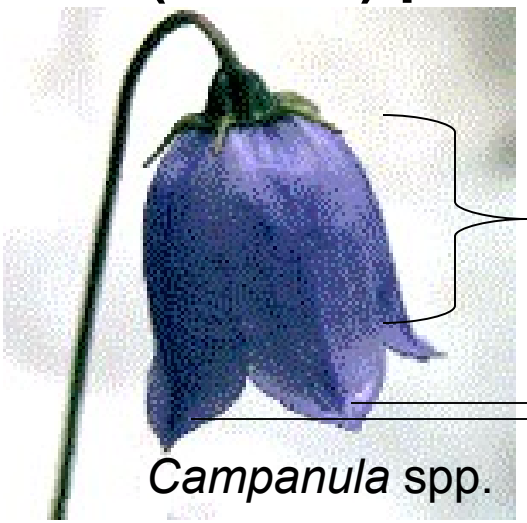
The corolla (C): Totality of petals in the flower

Corolla with free petals

Papaver spp.

Ranunculus spp.

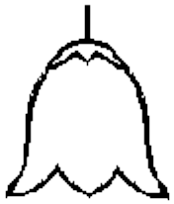
Corolla with connate (united) petals



Campanula spp.

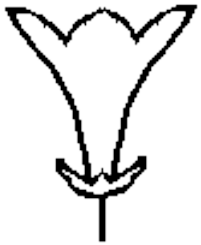
Digitalis spp.

Types of corolla with connate petals



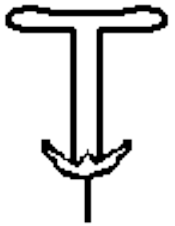
Bell-shaped

Campanula spp



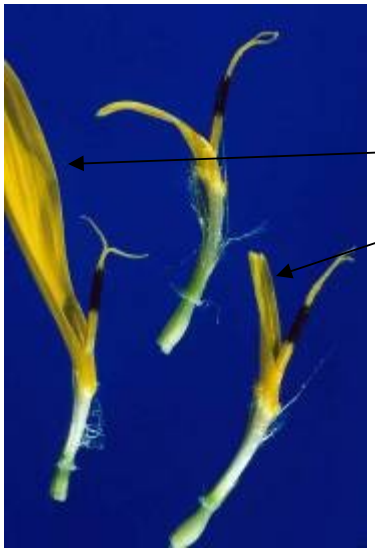
Funnelform

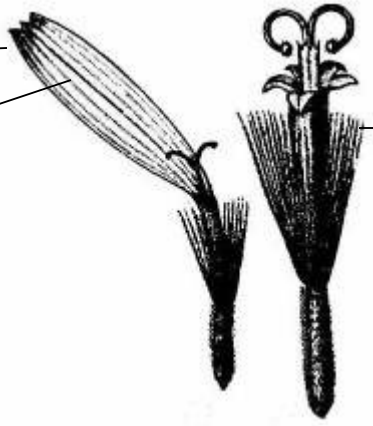
Petunia spp.

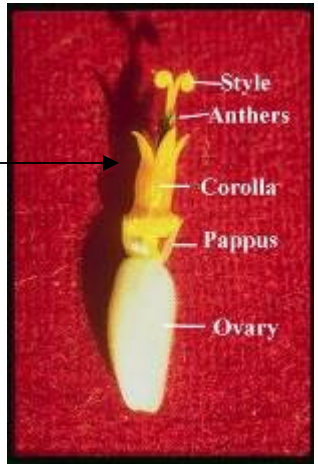


Salveform

Syringa vulgaris





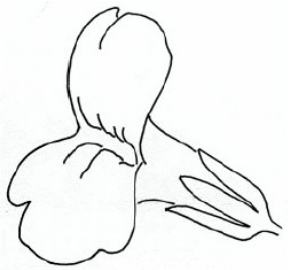


Ligulate *Helinthus spp.*

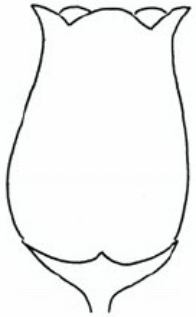
Tubular *Helianthus spp.*

Types of corolla with connate petals (continuation)

Rotate – *Solanum* spp.



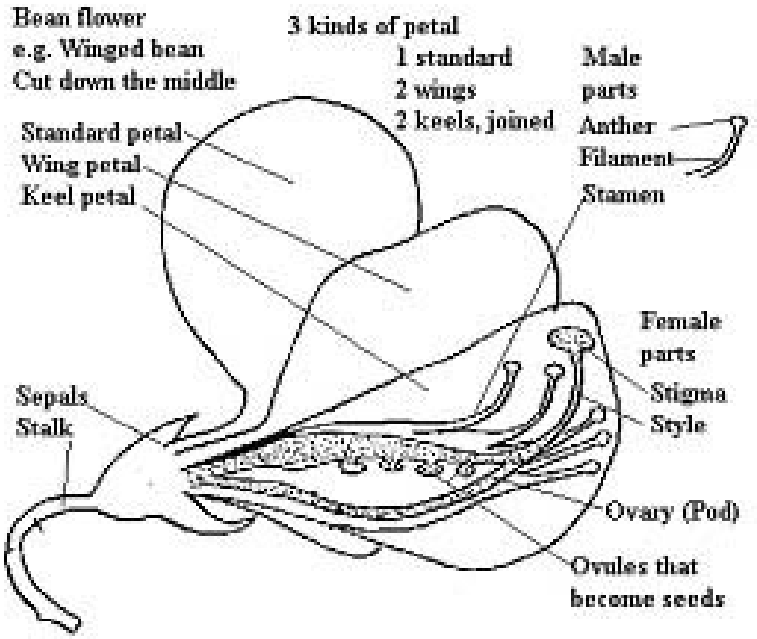
bilabiate *Lamium spp.*



Urceolate

Vaccinium spp.

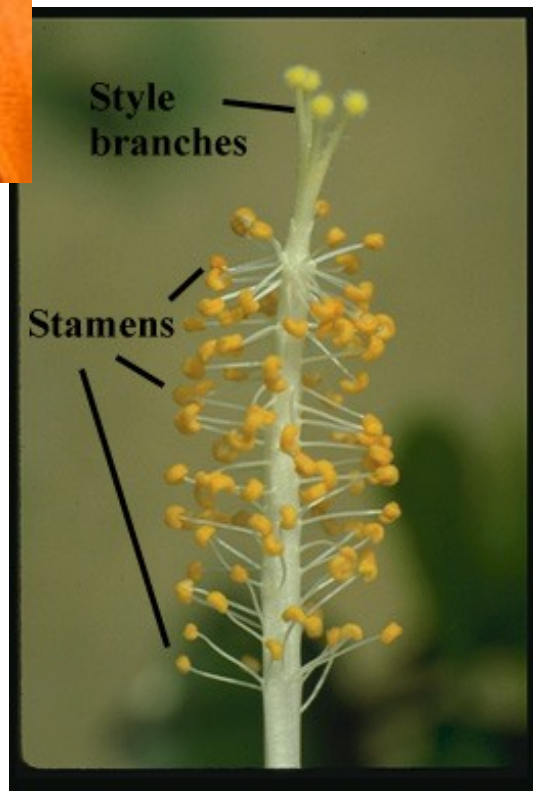
Types of corolla with free petals



Papillonaceaous – Fabaceae (legume family)

Androecium (A): Totality of stamens in the flower [♂]

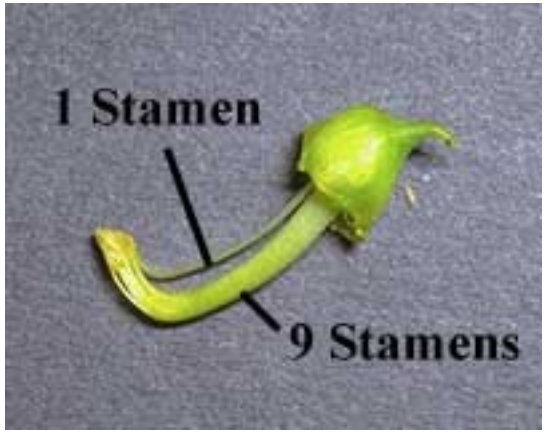
"normal"



Monadelphous Malvaceae

Didynamous
Mint family (Lamiaceae)

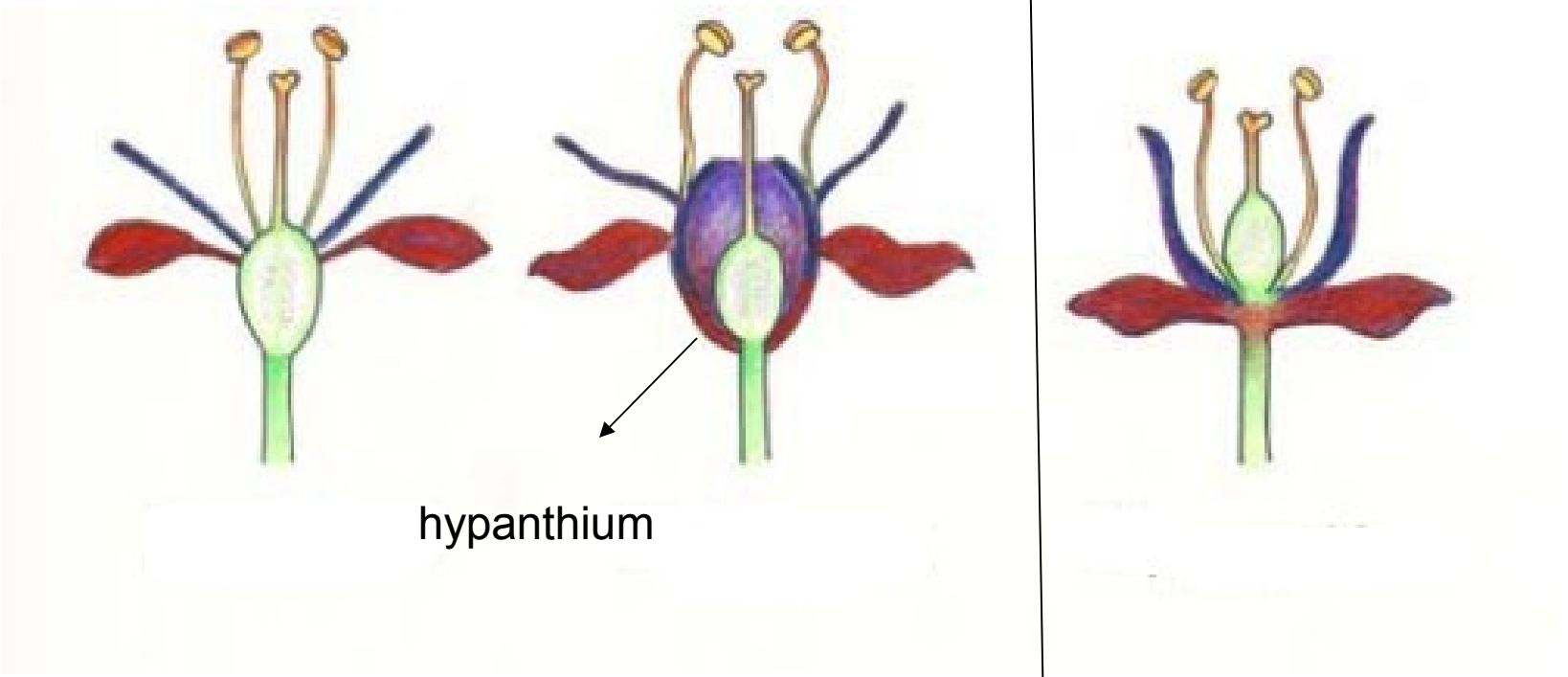
Tetradynamous
Cabbage family
Brassicaceae



Diadelphous: many Fabaceae

Gynoecium (G): totality of carpels in the flower [♀]

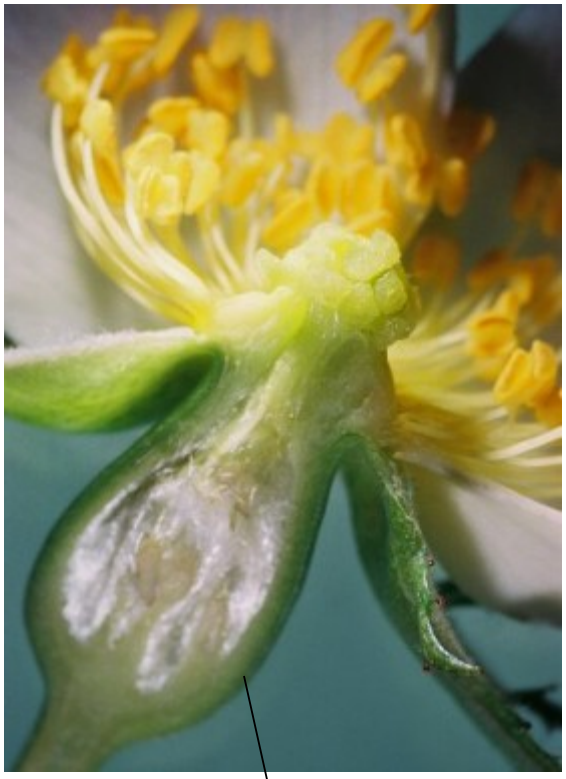
Depending on the **position of the ovary** in relation to the calyx and corolla:



Inferior ovary

superior ovary

Ovary position

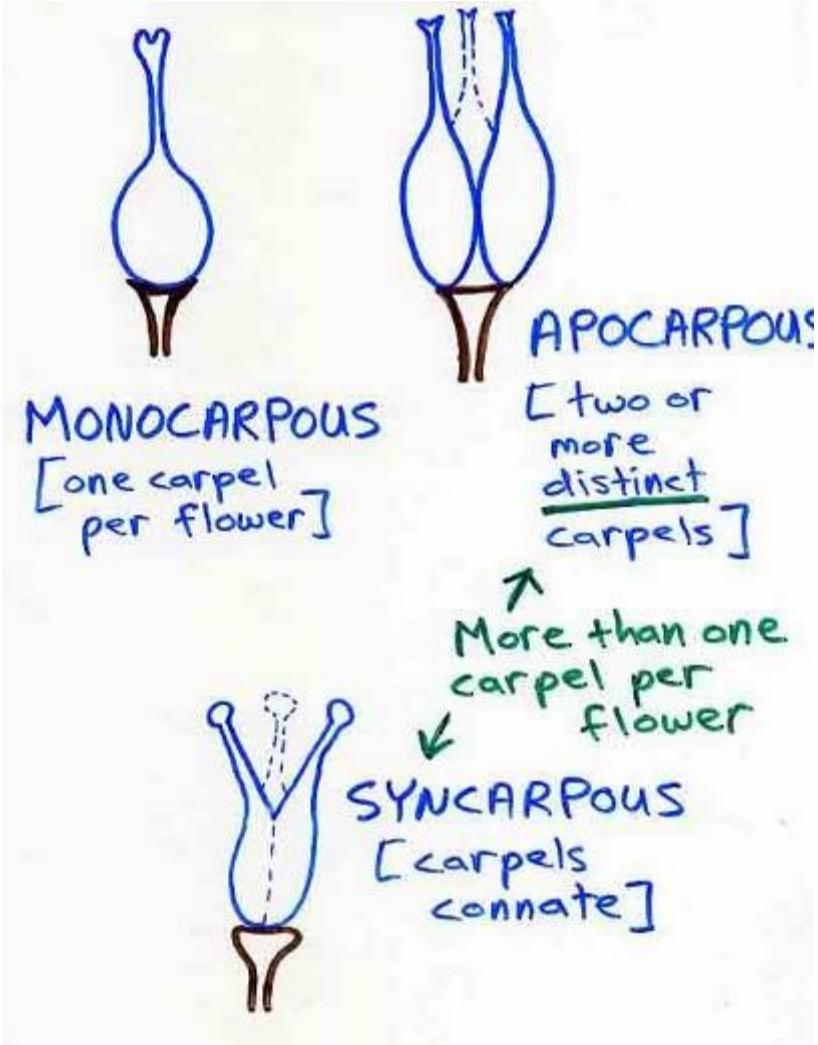


hypanthium

inferior

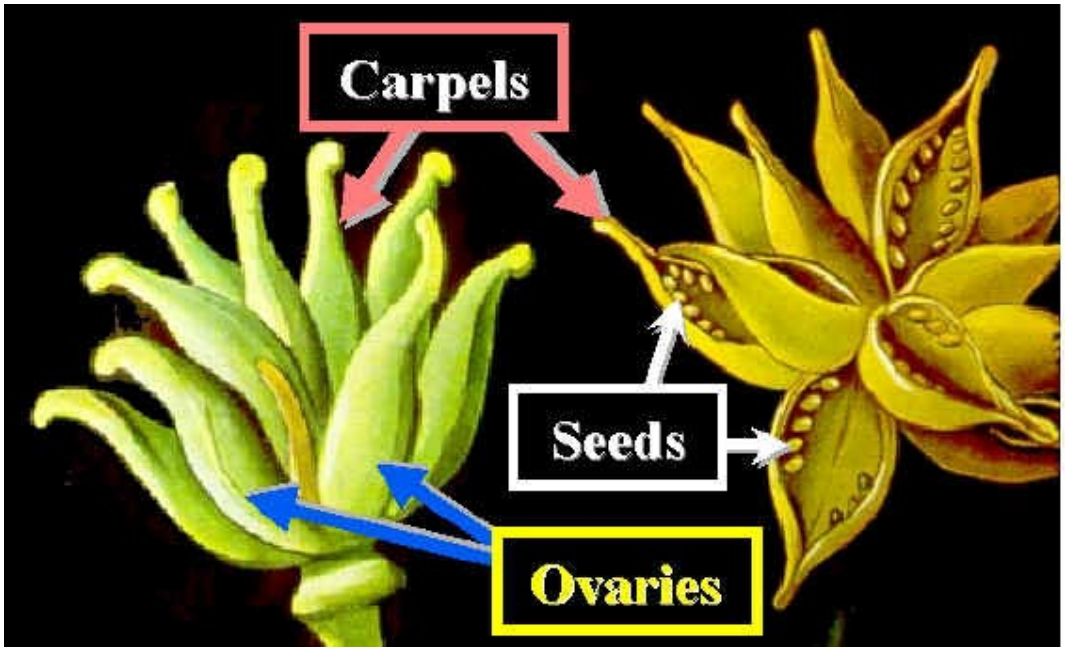
superior

Apocarpous versus syncarpous gynoecium



Apocarpus

[with free carpels]



Syncarpous

[with connate carpels]