

Dodatni materijal

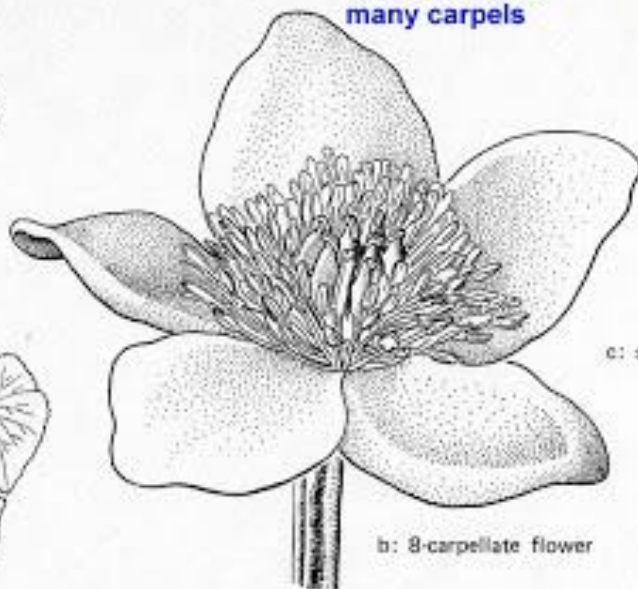
Porodica
RANUNCULACEAE

usually herbaceous



a: habit

many stamens
many carpels



b: 8-carpellate flower

"normal"
stamens



c: stamen



f: c.s. carpel

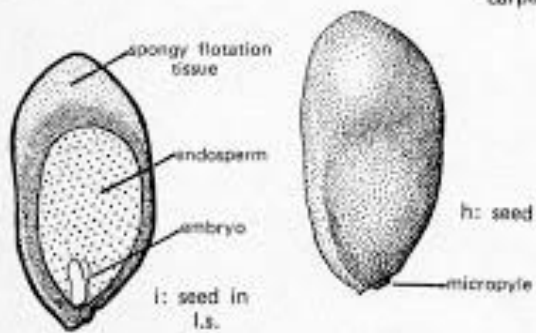
marginal
placentation



ADC
fruits follicles
(or achenes)

d:
lateral
view of
carpel

g: open fol-
licles from
5-carpellate
flower



i: seed in
l.s.

h: seed



nectar
glands

apocarpous
gynoecium,
ovaries superior



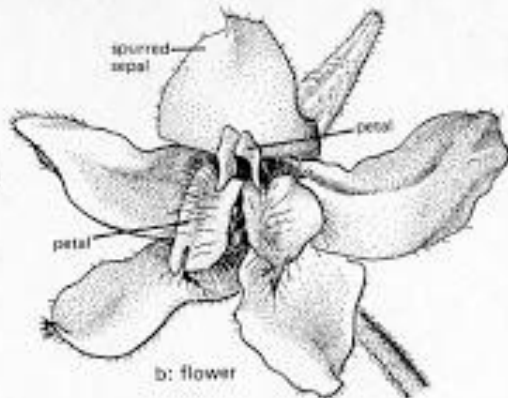
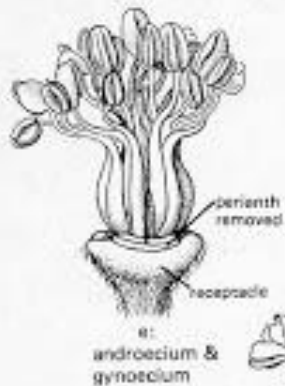
e: carpel
with one
half removed



RANUNCULACEAE: Delphinium, a-h, *D. tricornis*; i, *D. carolinianum*

apocarpous
gynoecium

many stamens



b: flower

e: androecium & gynoecium



a: *D. tricornis*, small plant

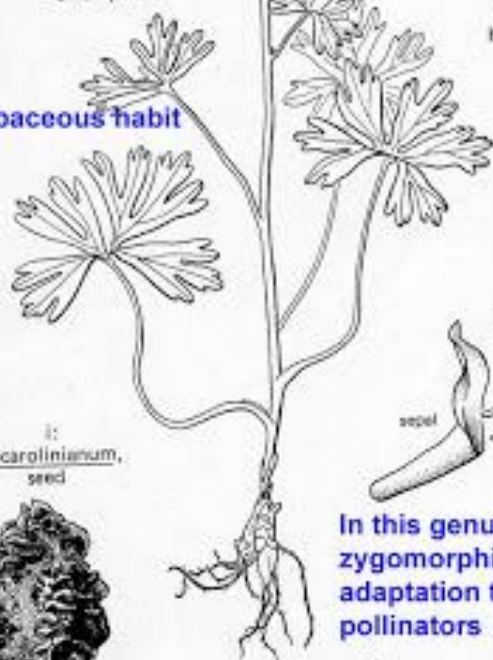


h: seed

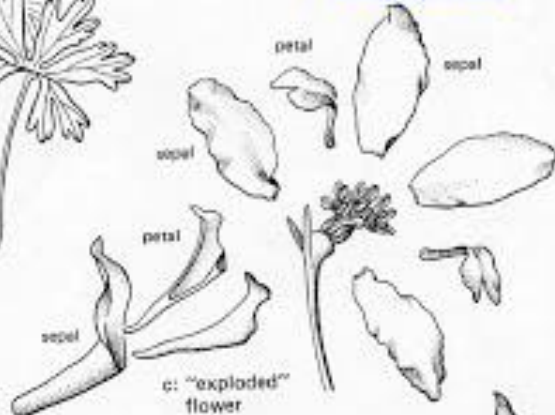


g: mature open follicles
fruits follicles

herbaceous habit



i: *D. carolinianum*, seed



c: "exploded" flower

In this genus, flowers zygomorphic as adaptation to pollinators



d: spurred petal

APC



Porodica
CARYOPHYLLACEAE

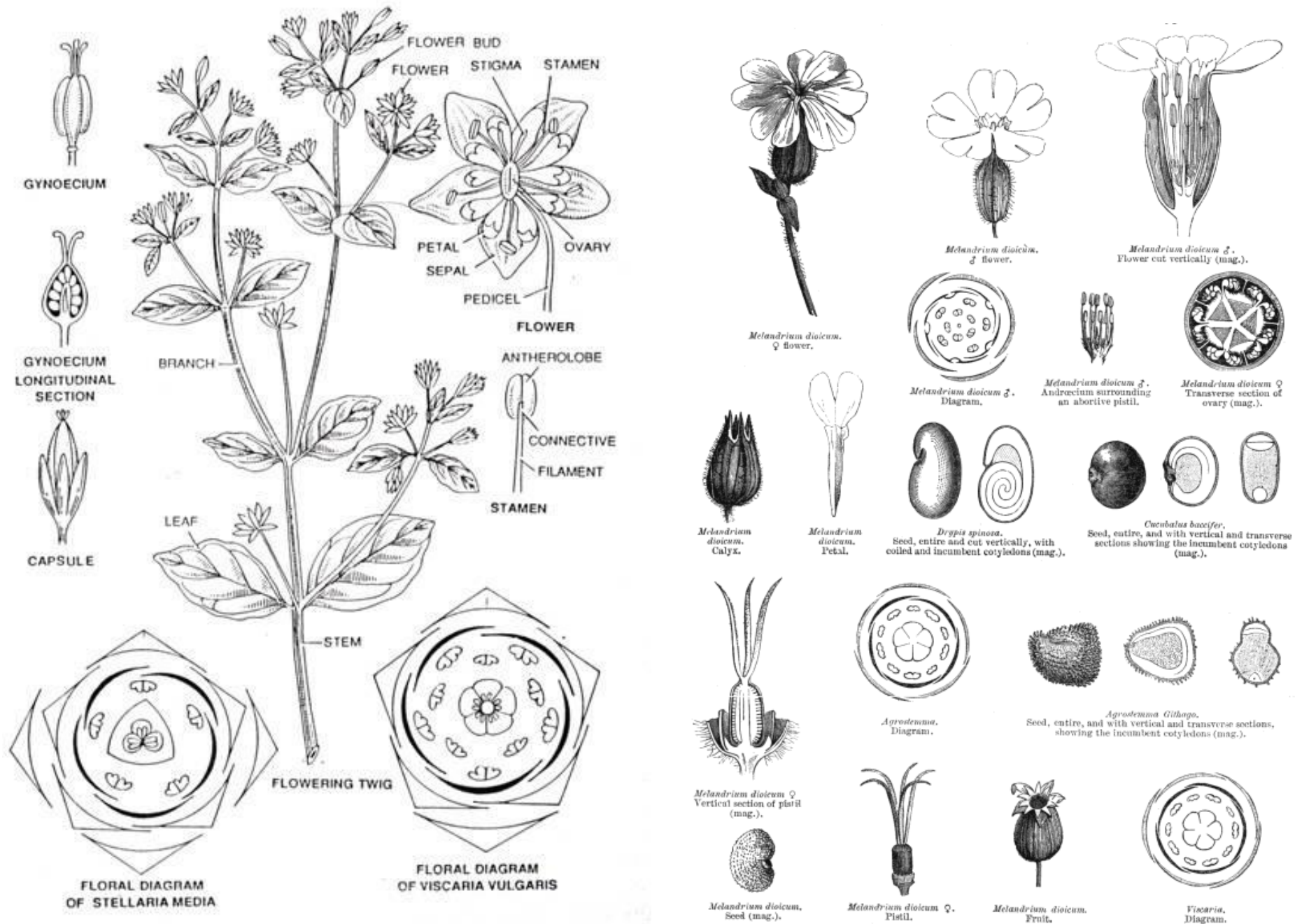
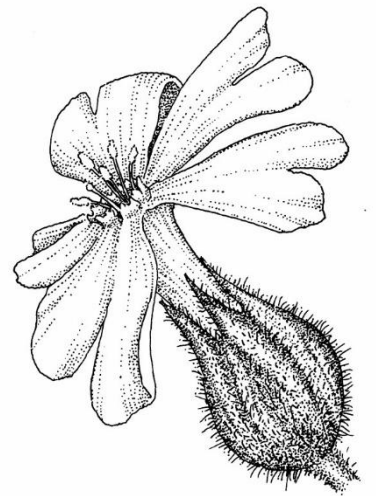
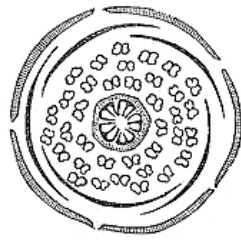


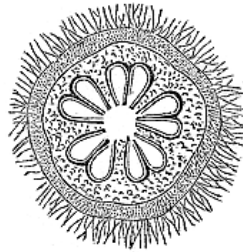
Fig. 23.2. Caryophyllaceae. *Stellaria media* Linn. Eng. Chickweed; Verna. **Morolia.**



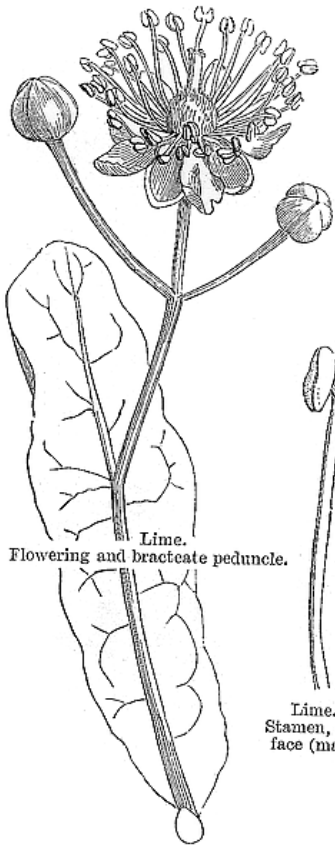
Porodica
TILIACEAE



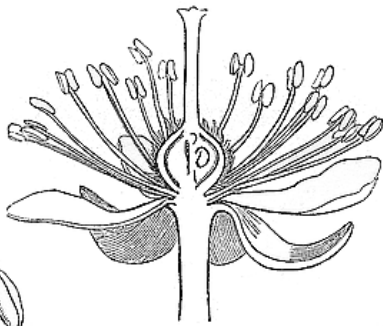
Lime. Diagram.



Lime.
Transverse section of ovary
(mag.).

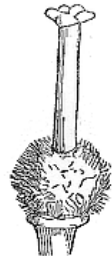


Lime.
Flowering and bracteate peduncle.



Lime.
Vertical section of flower (mag.).

Vertical section of flower



Lime.
Pistil (mag.).



Lime,
Embryo laid open (mag.).



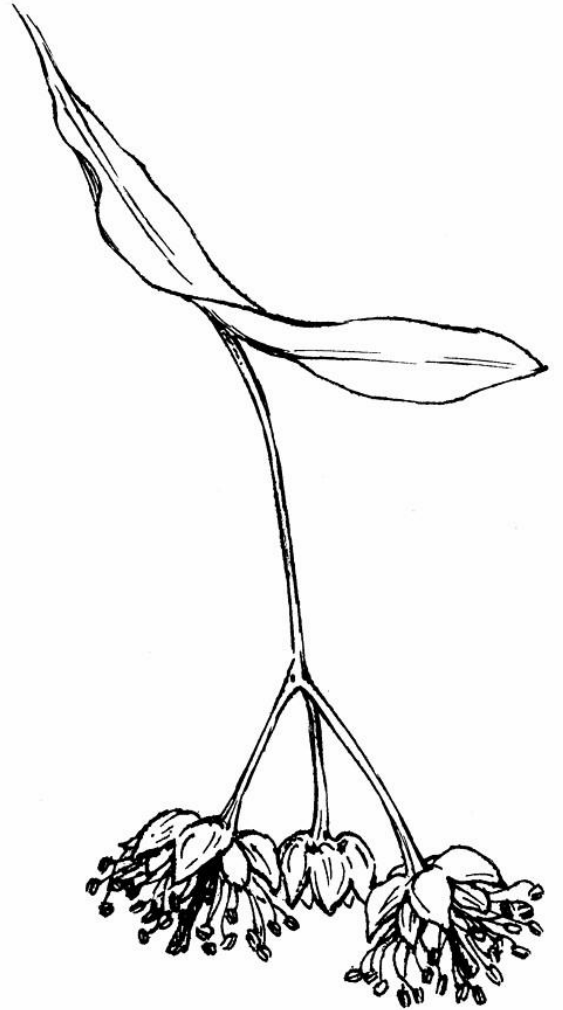
Lime.
Fruit (mag.).



Lime.
Stamen, outer
face (mag.).



Lime.
Seed, entire and cut
vertically (mag.).



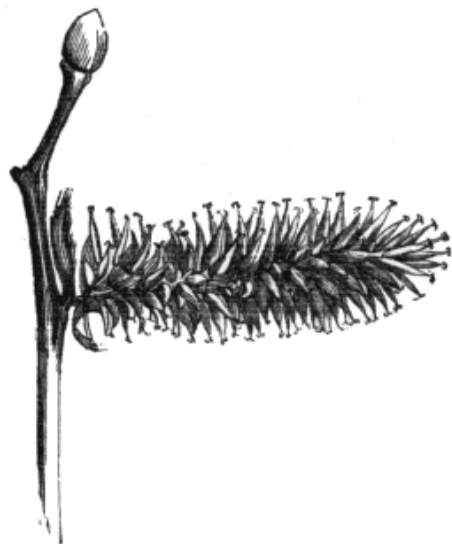


Porodica
SALICACEAE



Willow.
Embryo (mag.).

Willow.
♂ catkin.



Willow. (*Salix caprea*).
♀ catkin.



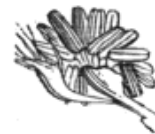
Willow.
♂ flower (mag.).



Willow.
♀ flower (mag.).



Willow.
Fruit (mag.).



Poplar.
♂ flower (mag.).



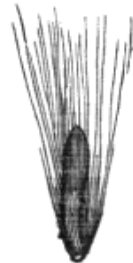
Poplar.
Transverse section
of ovary
(mag.).



Black Poplar. (*Populus nigra*).
♂ catkins.



Populus virginiana.
♀ catkin.



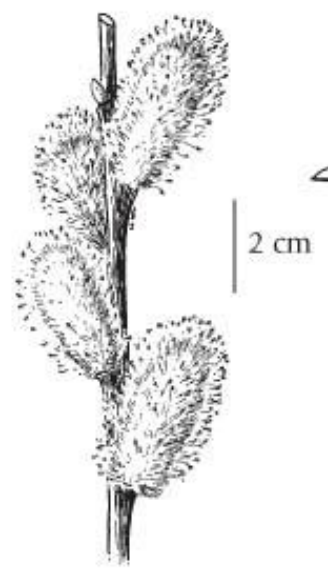
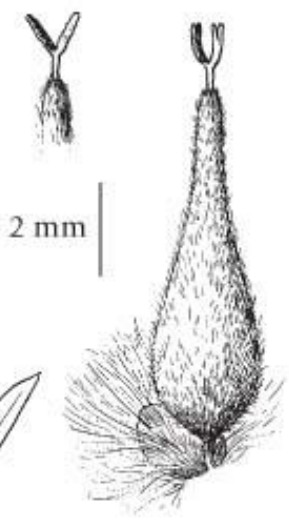
Willow.
Seed (mag.).



Willow.
Transverse section
of ovary
(mag.).



Poplar.
♀ flower (mag.).



Porodica
BRASSICACEAE



Wallflower.
(*Cheiranthus Cheiri*.)



Wallflower.
Flower cut vertically (mag.).



Wallflower.
Pistil (mag.).



Wallflower.
Silique.



Wallflower.
Androecium and
nectaries.



Parolinia.
Silique with valves
prolonged
into forked horns
(mag.).



Cochlearia.
Androecium and pistil (mag.).



Cochlearia officinalis.



Cochlearia.
Flower (mag.).



Cochlearia.
Silicle (mag.).



Cochlearia.
Pistil (mag.).



Cochlearia.
Flower cut vertically (mag.).



Seed, entire, and cut both ways to show the accumbent cotyledons (mag.).



Cochlearia.

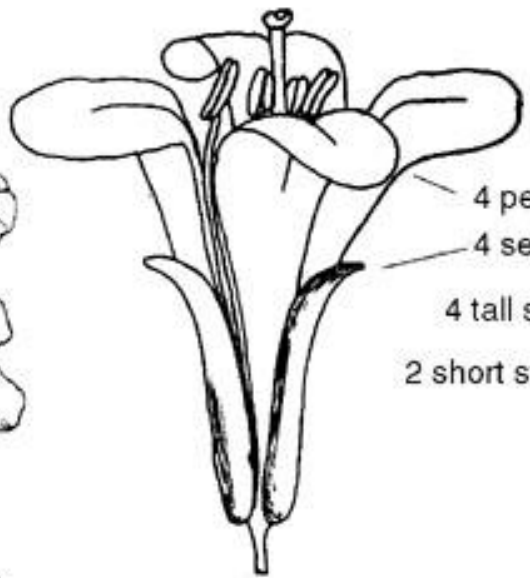


Seed, entire, and cut both ways to show the accumbent cotyledons (mag.).

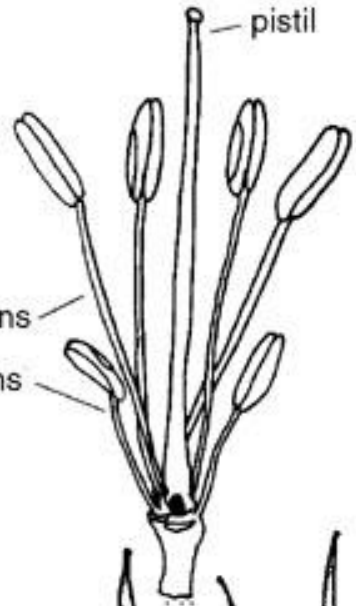




Wall Flower



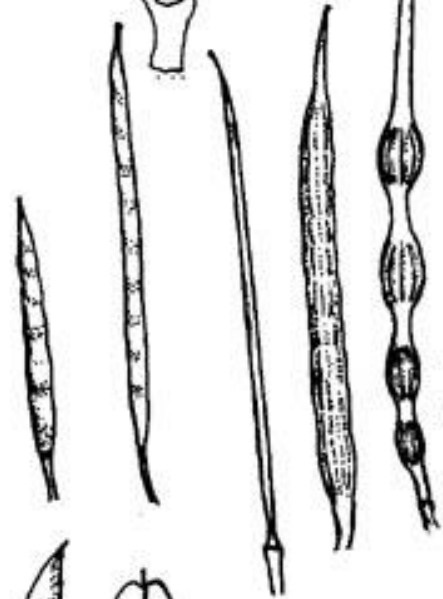
- 4 petals
- 4 sepals
- 4 tall stamens
- 2 short stamens



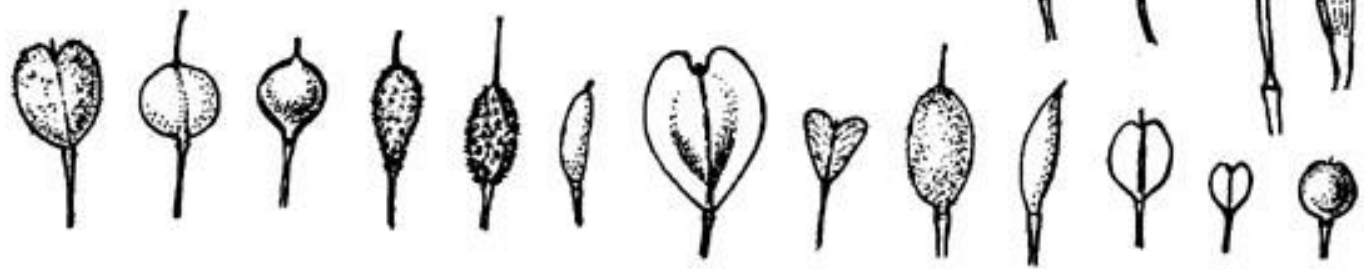
pistil

Patterns of the Mustard Family

Mustard seed pods come in many shapes and sizes, but always occur on the plant in the same radial pattern around the stalk, a "raceme".



The seed pods split open from both sides to expose a clear membrane in the middle.





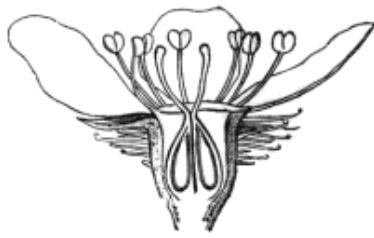
Porodica
ROSACEAE



Agrimony.
(*Agrimonia Eupatoria*.)



Agrimony. Flower (mag.).



Agrimony. Flower cut vertically (mag.).



Agrimony.
Flower after fertilization.



Agrimony.
Fruit.



Agrimony.
Transverse section of fruit.



Agrimony.
Seed (mag.).



Poterium.
Ripe carpel, entire
and cut
vertically (mag.).



Poterium. ♂ flower (mag.).



Cliffortia. ♀ flower.



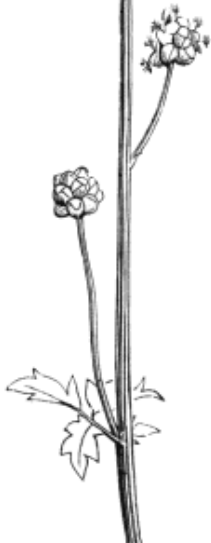
Poterium. Vertical section of ♂ flower (mag.).



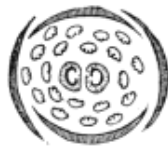
Poterium.
Young carpel (mag.).



Poterium.
Fruit (mag.).



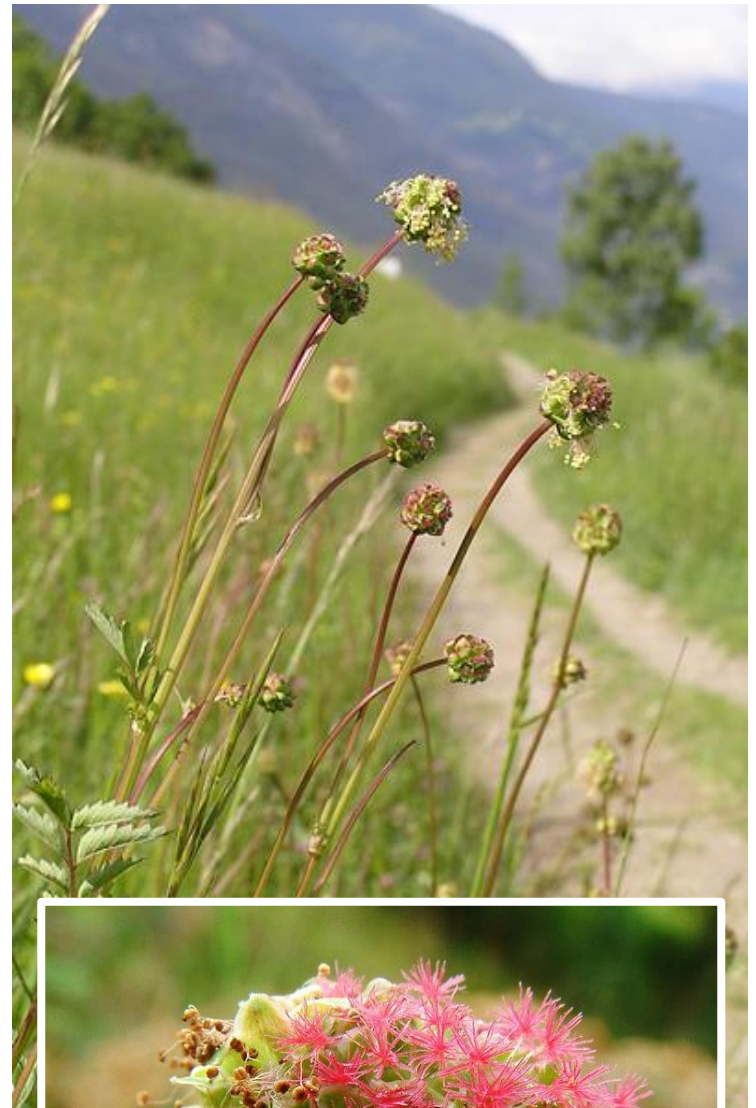
Poterium Sanguisorba.



Poterium.
Diagram.



Poterium.
Seed (mag.).





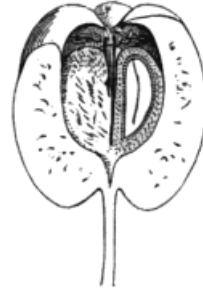
Sorbus.
Diagram.



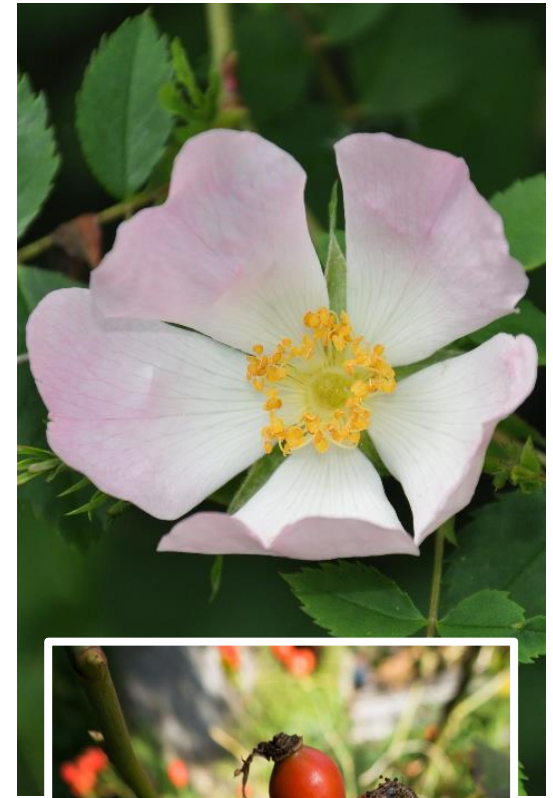
Cotoneaster.
Carpel, ripe and cut vertically (mag.).



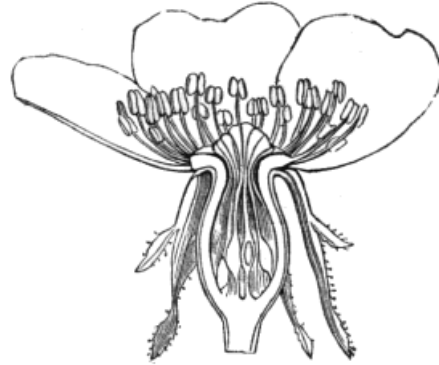
Cotoneaster.
Fruit.



Cotoneaster.
Fruit cut vertically (mag.).



Sweetbriar. (*Rosa rubiginosa.*)



Rose. Flower cut vertically (mag.).



Rose.
Diagram.



Rose.
Young carpel (mag.).



Porodica
FABACEAE



Broom.
(*Sarothamnus scoparius*.)



Broom. Diagram.



Broom.
Flower (mag.).



Broom. Pistil
(mag.).



Broom. Standard.



Broom. Androecium and pistil.



Broom.
Wing.



Broom.
Keel.



Broom.
Seed, entire and cut
vertically (mag.).



Broom.
Calyx.



Broom.
Young androecium.



Furze.
Seed, entire and cut
transversely.



Broom. Fruit.



Astragalus. Open fruit.



Trefoil. (*Trifolium pratense*.)

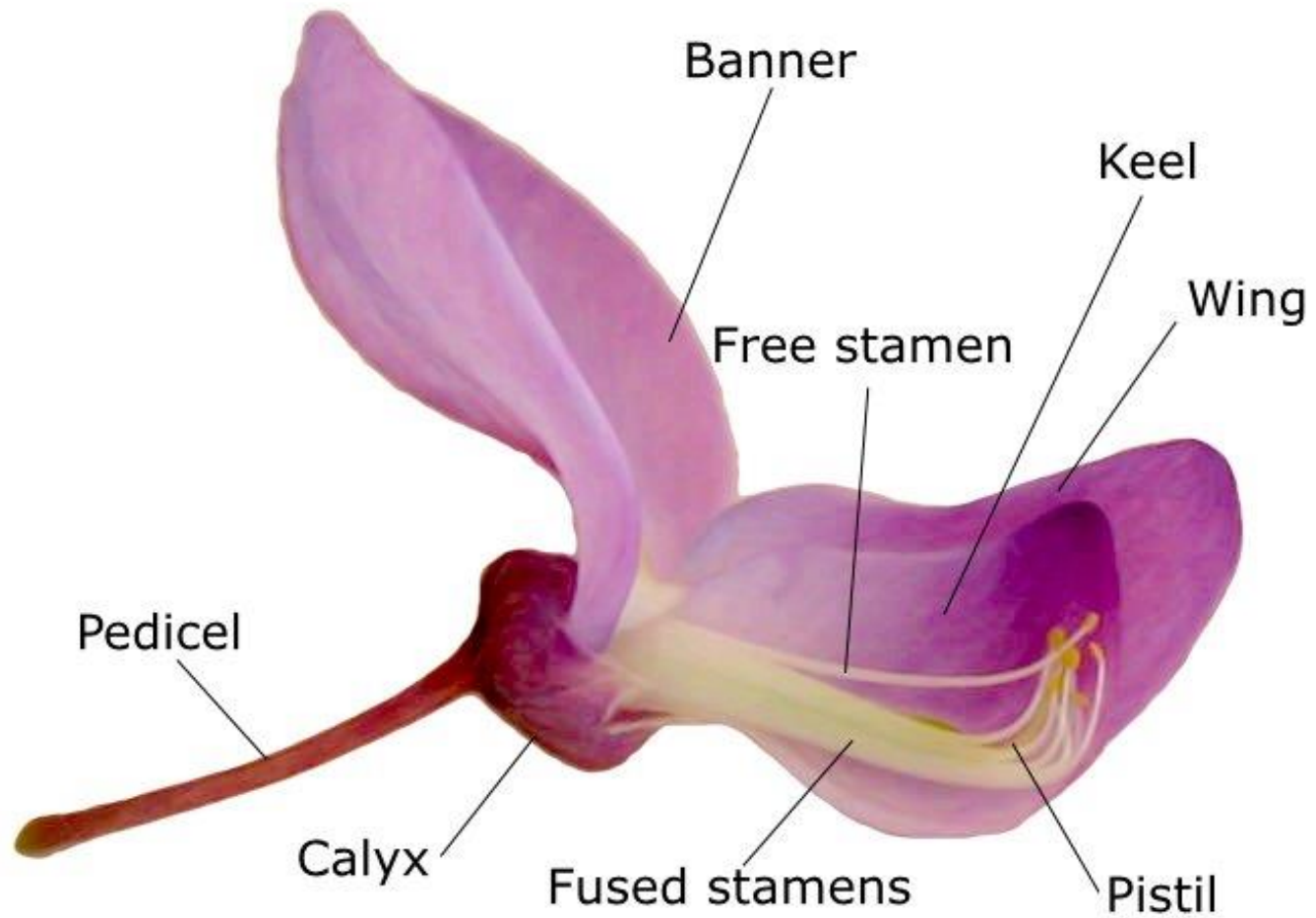


Lucern. Fruit (mag.).



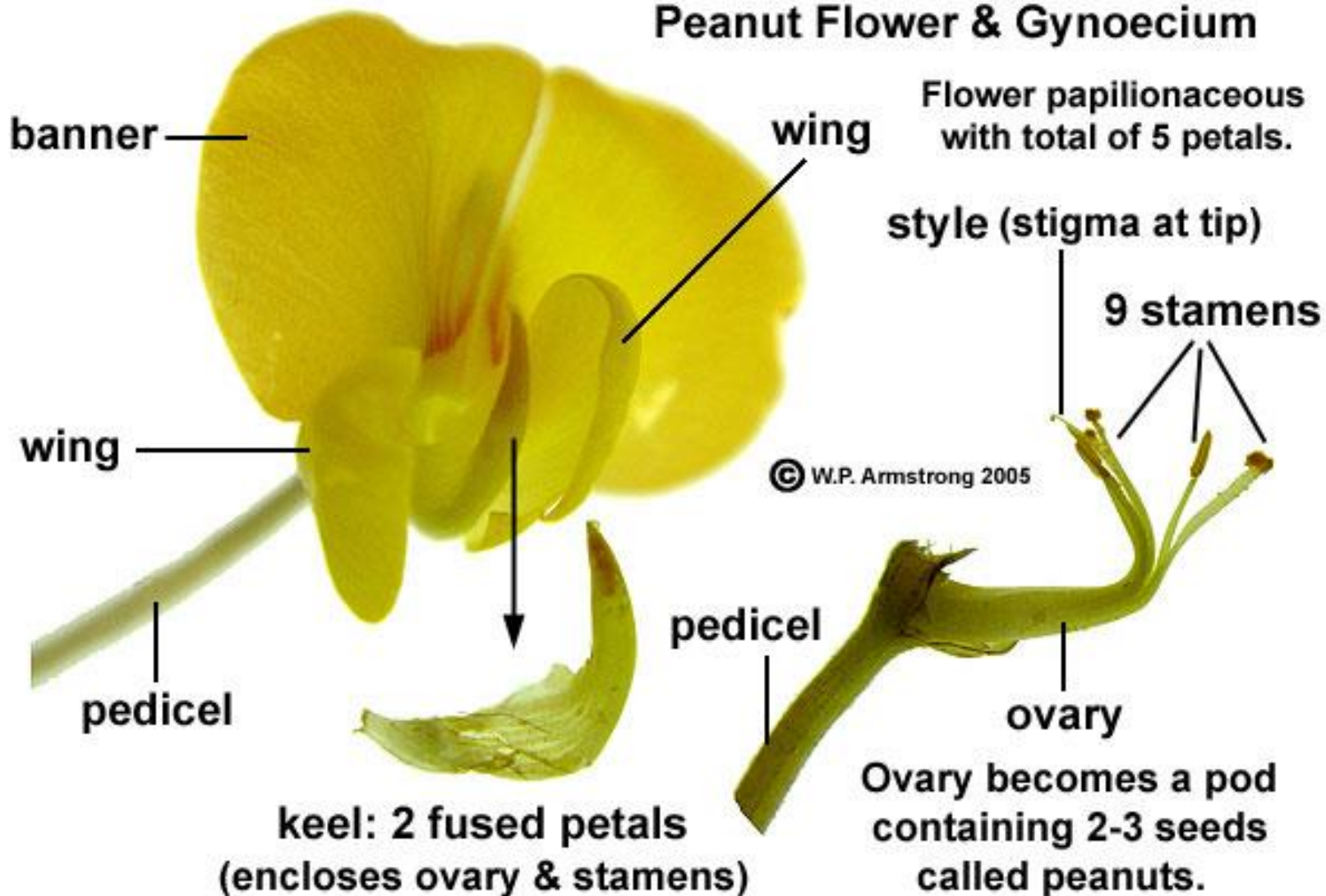
Sainfoin. Fruit.





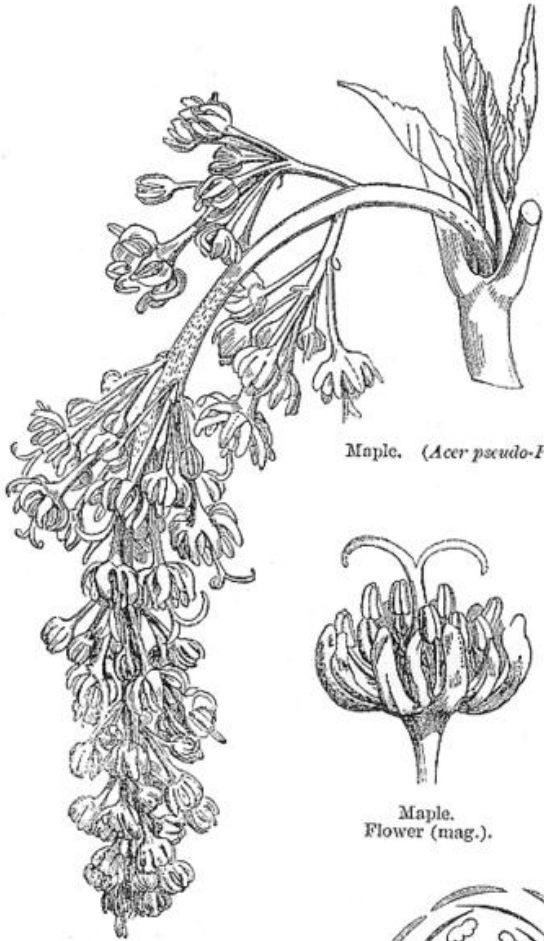
Peanut Flower & Gynoecium

Flower papilionaceous
with total of 5 petals.

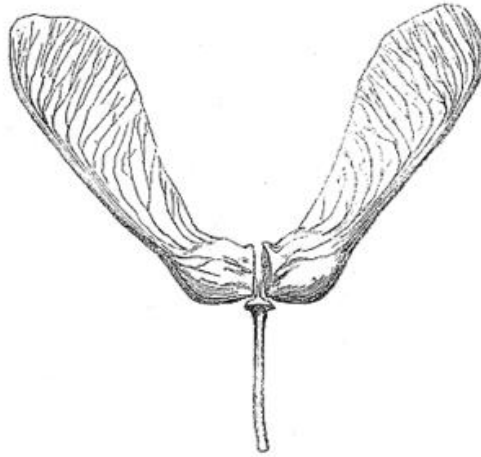


Porodica
ACERACEAE

ACERACEAE



Maple. (*Acer pseudo-Platanus*.)



Maple. Fruit.



Maple. Flower (mag.).



Maple. Vertical section of flower (mag.).



Maple. Embryo (mag.).



Maple. Seed entire and cut (mag.).



Maple. Diagram.



Maple. Young pistil (mag.).



Acer Negundo. ♂ flower.

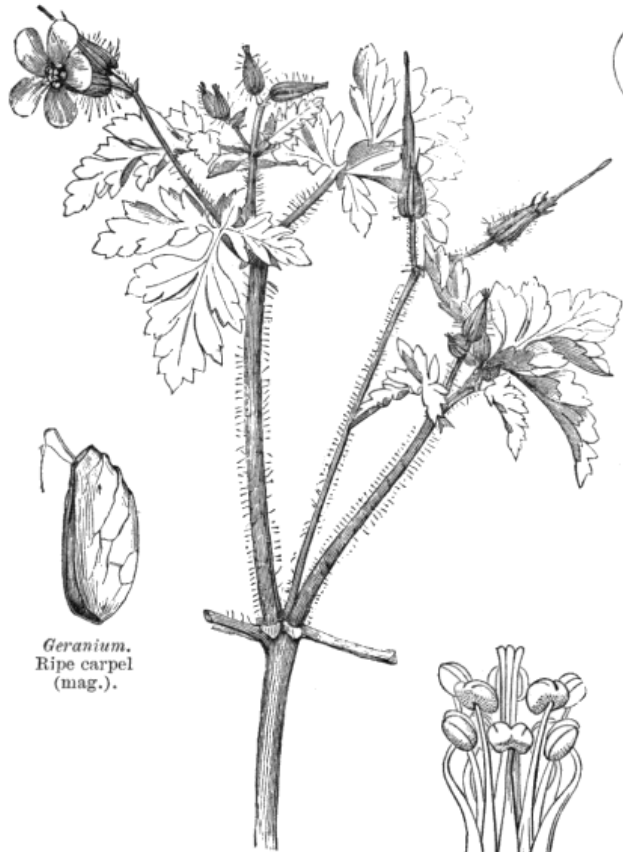


564 - *Acer platanoides*



565 - *Acer pseudo-platanus*

Porodica
GERANIACEAE



Geranium.
Ripe carpel
(mag.).

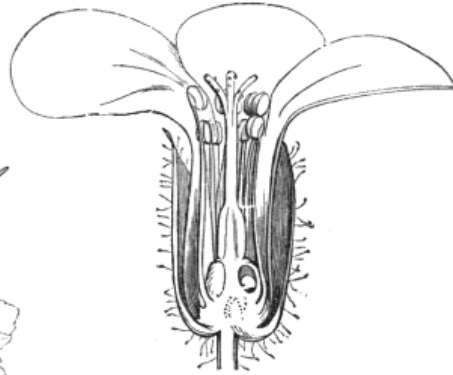
Herb Robert.
(*Geranium Robertianum.*)



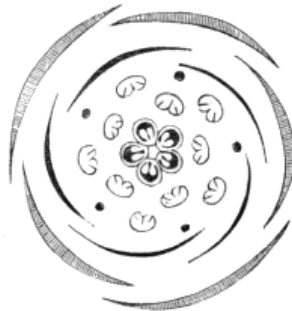
Geranium.
Seed cut
transversely (mag.).



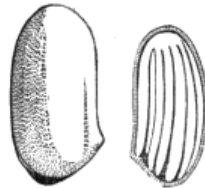
Geranium.
Androecium and pistil (mag.).



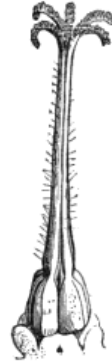
Geranium.
Vertical section of flower (mag.).



Geranium.
Diagram.



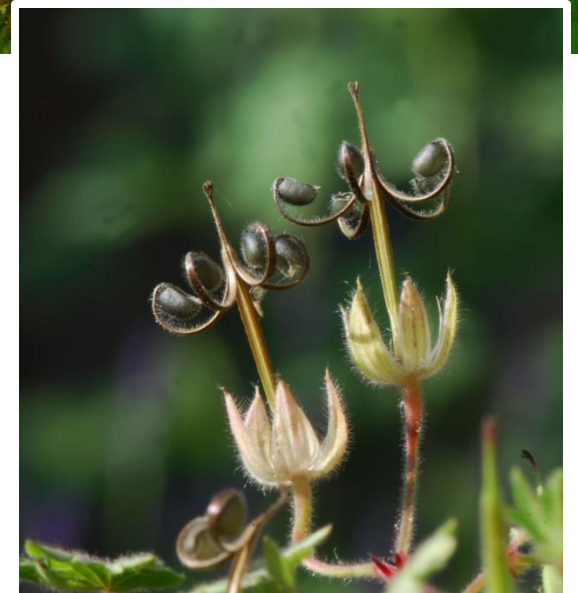
Geranium.
Seed, entire and cut
vertically (mag.).



Geranium.
Pistil (mag.).



Geranium.
Fruit (mag.).



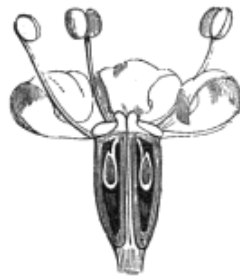
Porodica
APIACEAE



Feniculum officinale.
Umbel and umbellules without involucre or involucels.



Fennel.
Flower (mag.).



Fennel. Flower cut vertically (mag.).



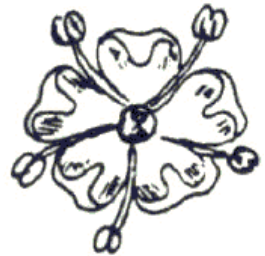
Fennel.
Diagram.
Calyx suppressed.



Fennel.
Fruit (mag.).
2-partiterra pophore.



Fennel.
Transverse section of
carpel (mag.).



Flower



Fruitlet



Cross section
of fruitlet



Carrot. (*Daucus Carota.*)
Umbel and umbellules with involucre and involucels.



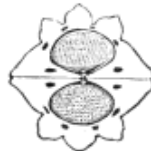
Ethusa Cynapium.
Naked umbel; umbellules
with involucels.



Fennel.
Transverse section of
fruit (mag.).
Carpels with five
primary sides, furrows
1-vittate; commissural
face 2-vittate.



Ethusa.
Vertical section of a
semi-globose carpel,
with thick wall,
showing the minute
embryo at the top of
the albumen (mag.).



Ethusa.
Transverse section of fruit (mag.). Carpels
with five raised and thickened sides: the
lateral largest; furrows 1-vittate; commissural
face 2-vittate.



Ethusa.
Flower (mag.).



Ethusa.
Flower cut vertically (mag.).

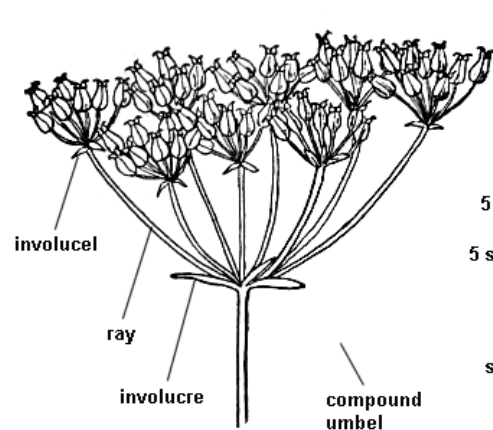


Ethusa.
Fruit.
Bifid carpophore
(mag.).



Ethusa.
Umbellule
with 3-phyllous
involucre.

TYPICAL PARSLEY FLOWER



involucrel

ray

involucre

compound
umbel



5 petals

5 stamens

style

stylopodium

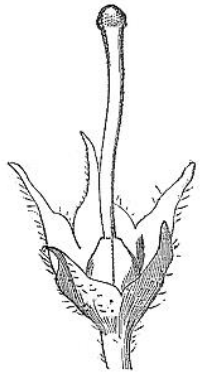
2-celled fruit



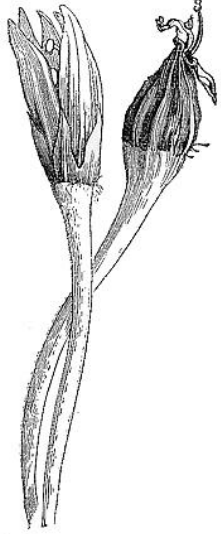
Porodica
SOLANACEAE



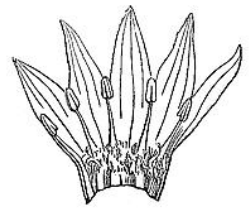
Solanum tuberosum.



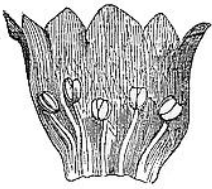
Solanum.
Calyx and pistil (mag.).



Mandragora.
Flowers.



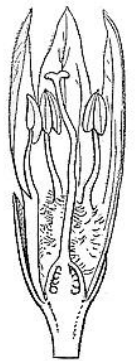
Mandragora.
Corolla and androecium laid open.



Belladonna.
Corolla and androecium laid open.



Mandragora.
Pistil.



Mandragora.
Flower cut vertically.



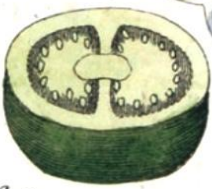
b



a



c

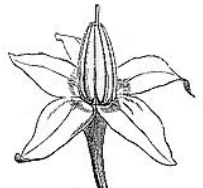


d

Solanum tuberosum L.



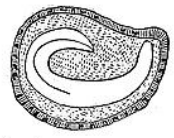
Solanum.
Diagram.



Bitter-sweet.
Flower (mag.).



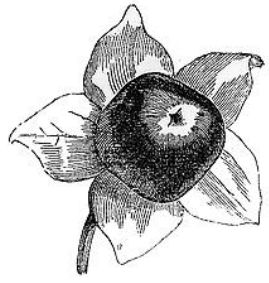
Belladonna.
Seed, entire and cut longitudinally (mag.).



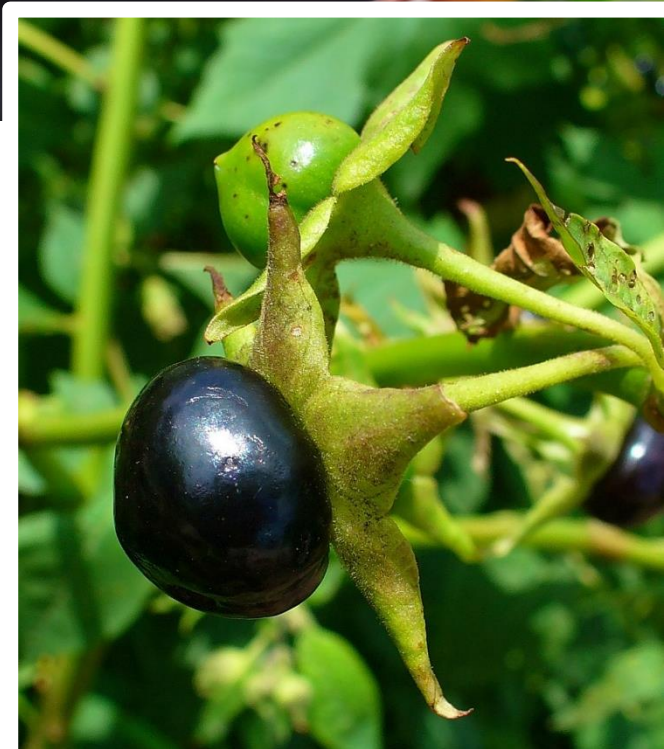
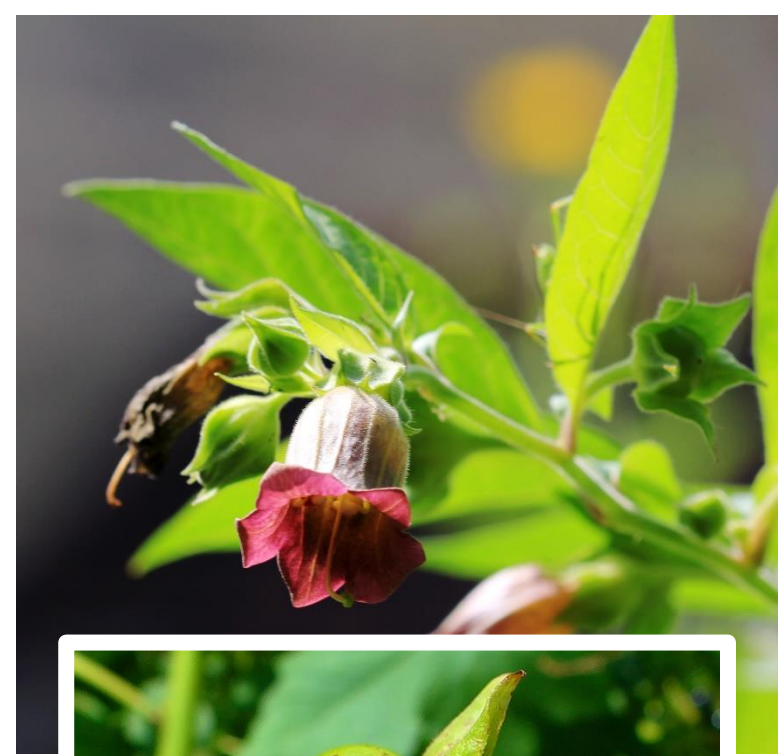
Belladonna.
Flower.



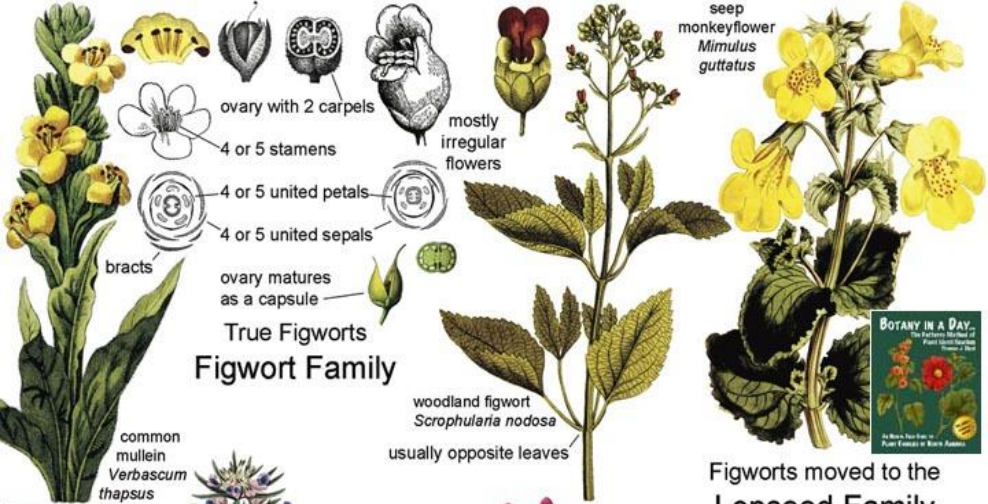
Belladonna.
Pistil.



Belladonna.
Berry.

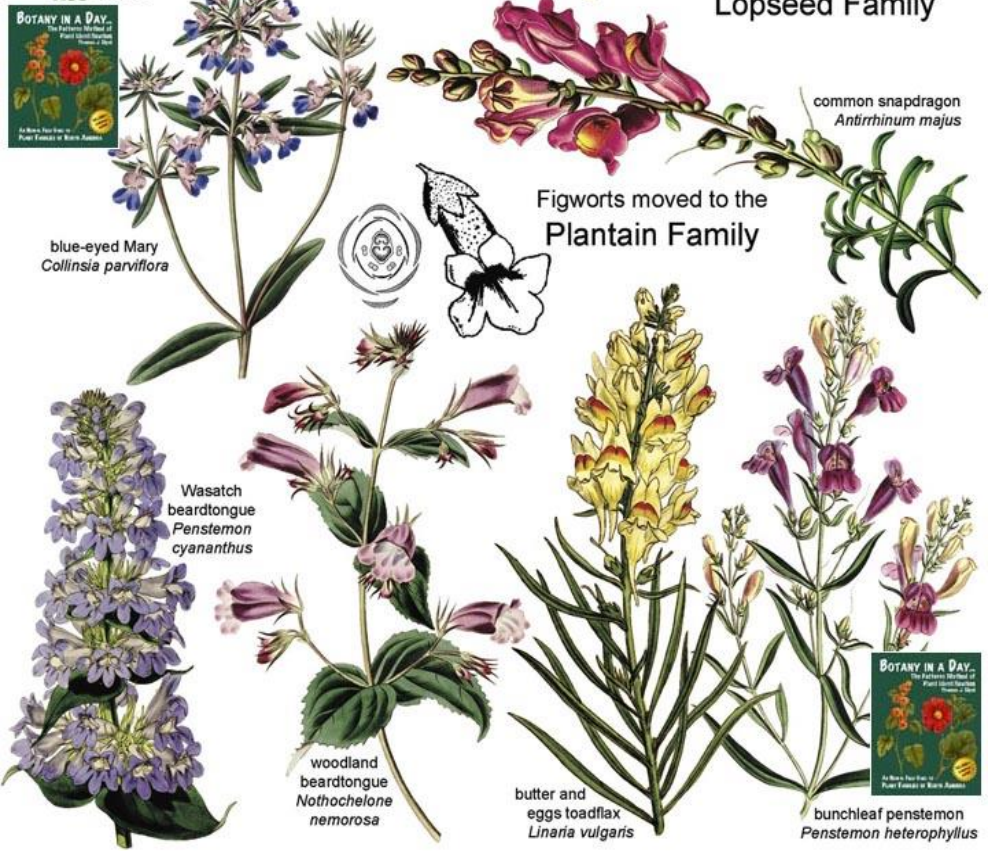


Porodica
SCROPHULARIACEAE



True Figworts
Figwort Family

Figworts moved to the
Lopseed Family



Figworts moved to the
Plantain Family

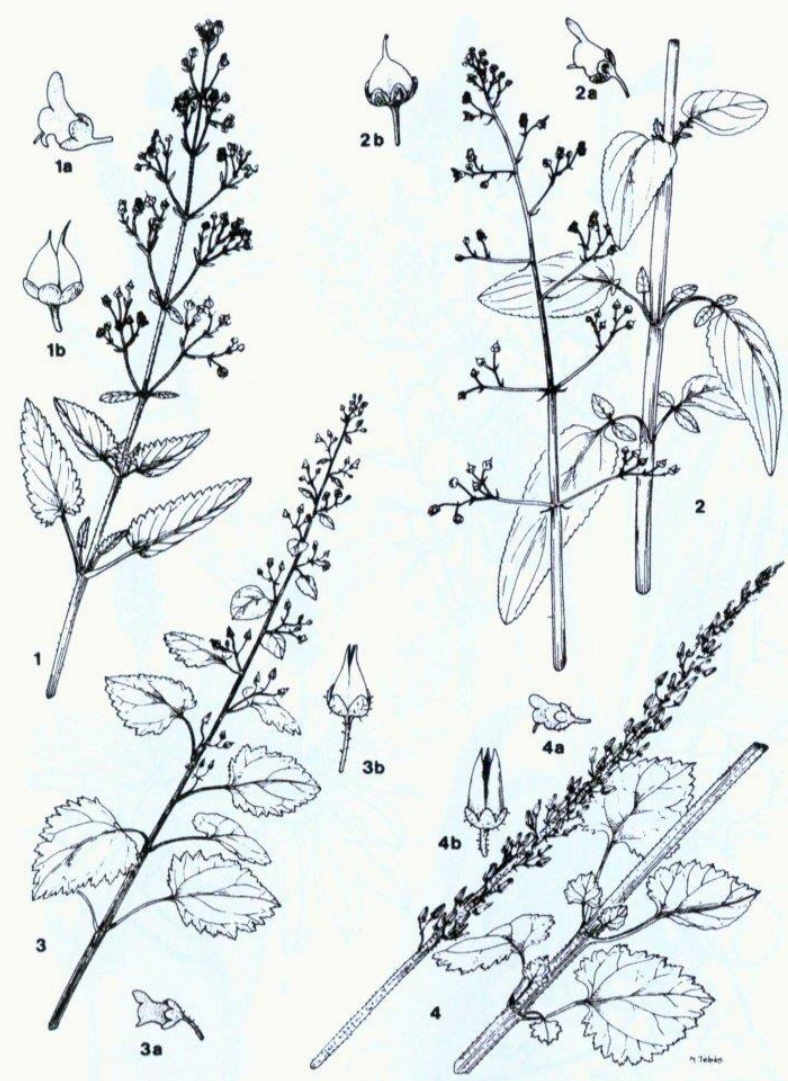


Plate 39 1. *Scrophularia hirta*. 2. *S. racemosa*. 3. *S. lowei*. 4. *S. arguta*. Habits all $\times \frac{1}{2}$, flower and capsule details all $\times 2$.

Diagnostic characters



Leaves opposite



Flowers irregular



Corolla tubular



Corolla often 2-lipped



Porodica
BORAGINACEAE



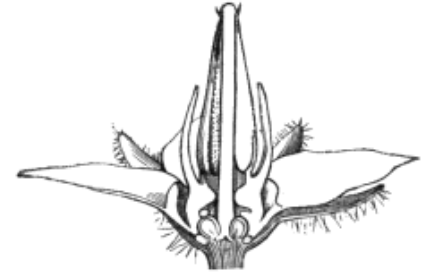
Borage. (*Borago officinalis*.)



Borage. Flower.



Lycopsis. Irregular flower (mag.).



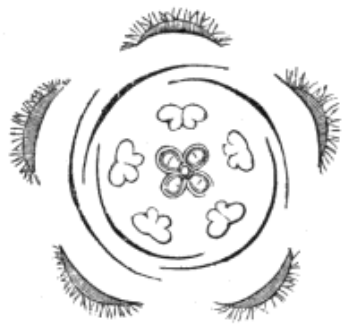
Borage. Flower cut vertically (mag.).



Pulmonaria officinalis.



Borage. Pistil (mag.).



Borage. Diagram.



Myosotis. Fruit entire (mag.).

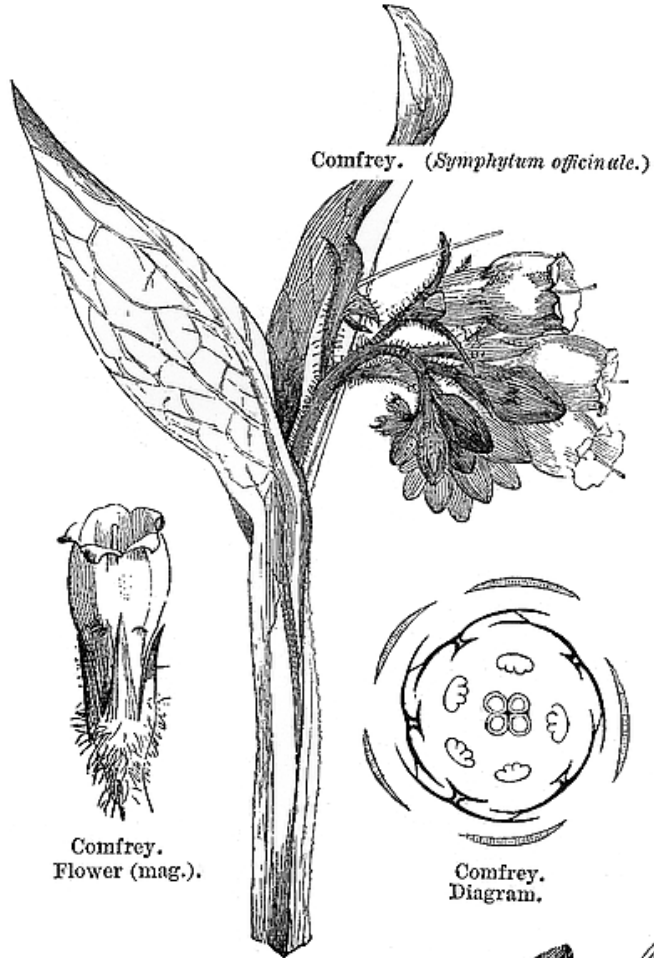


Myosotis. Fruit cut vertically (mag.).



Comfrey. Carpel, entire and cut vertically (mag.).

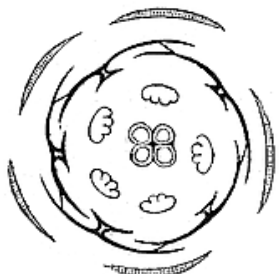




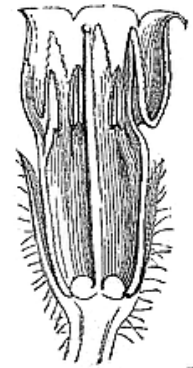
Comfrey. (*Symphytum officinale*.)



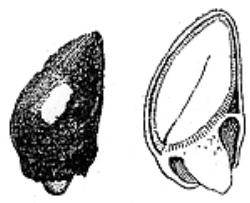
Comfrey. Flower (mag.).



Comfrey. Diagram.



Comfrey. Flower cut vertically (mag.).



Comfrey. Carpel, entire and cut vertically (n.ag.).



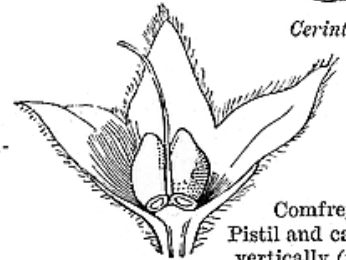
Cerinthe. Flower.

Cerinthe. Pistil.

Cerinthe glabra.

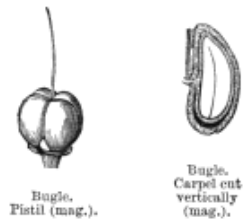
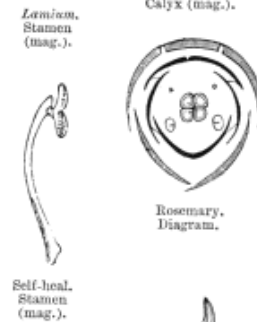
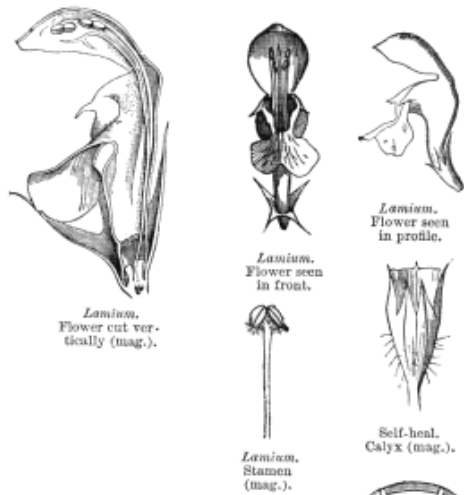
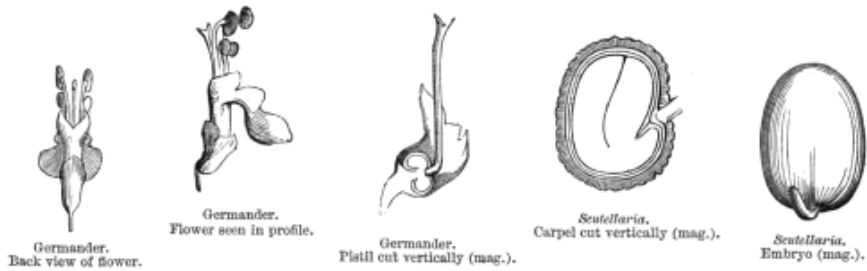


Cerinthe. Diagram.

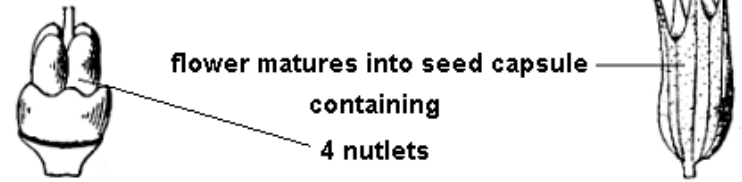
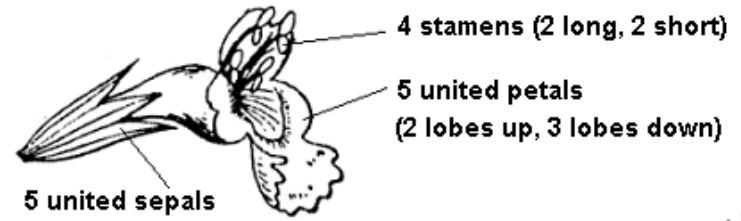


Comfrey. Pistil and calyx cut vertically (mag.).

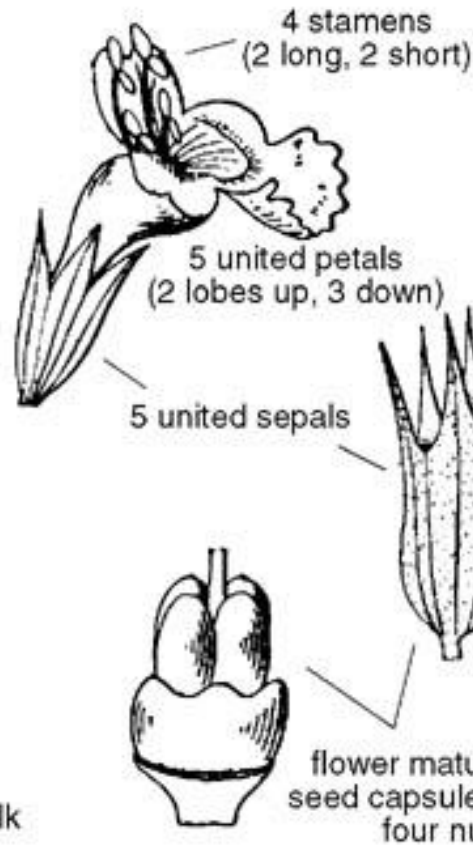
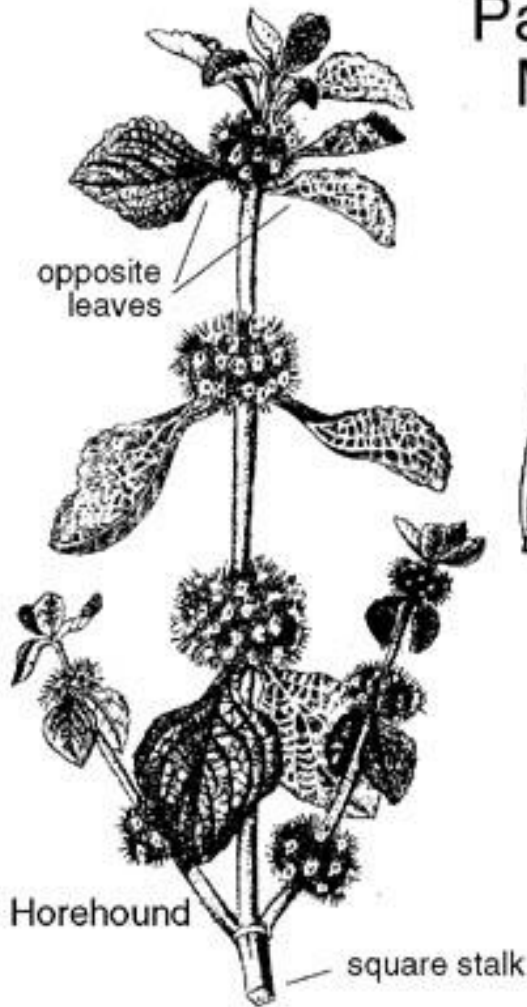
Porodica
LAMIACEAE



Typical Mint Flower



Patterns of the Mint Family



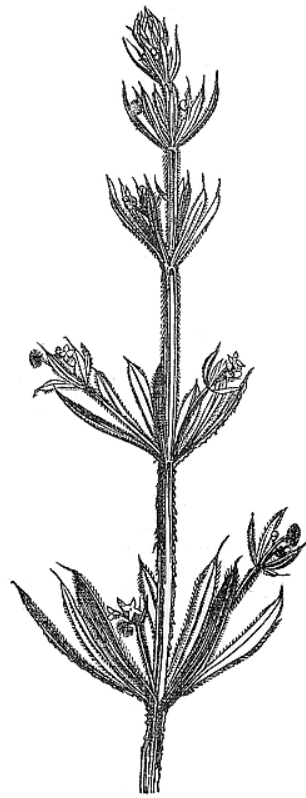




Porodica
RUBIACEAE



Madder (*Rubia tinctorum*).



Galium Aparine.



Galium.
Flowering branch.



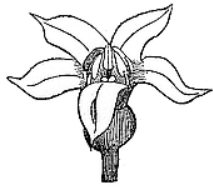
Galium.
Pistil (mag.).



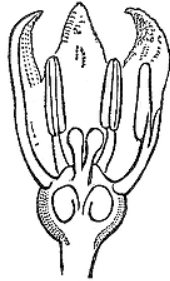
Flowering
branch



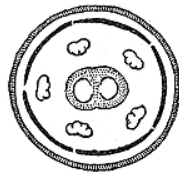
Pistil



Madder.
Flower (mag.).



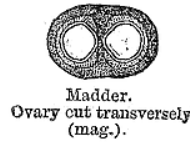
Madder.
Flower cut vertically
(mag.).



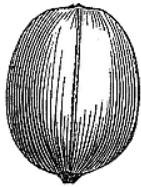
Madder.
Diagram.



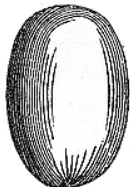
Madder.
Pistil (mag.).



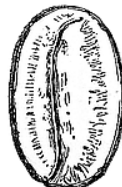
Madder.
Ovary cut transversely
(mag.).



Coffee. Berry
(mag.).



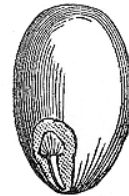
Coffee. Seed
(mag.).
Dorsal face.



Coffee. Seed
(mag.).
Ventral face.



Coffee. Transverse
section of the seed
(mag.).



Coffee. Seed.
Dorsal face cut to show
the minute embryo at
the base of the albumen
(mag.).



Galium aparine



X-section
of fruit



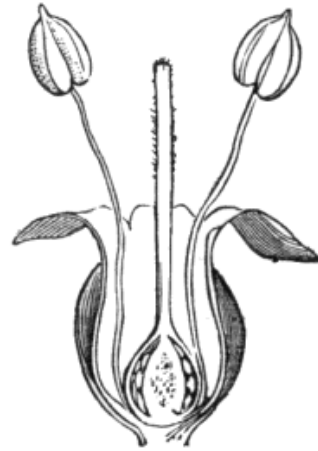
Porodica
PLANTAGINACEAE



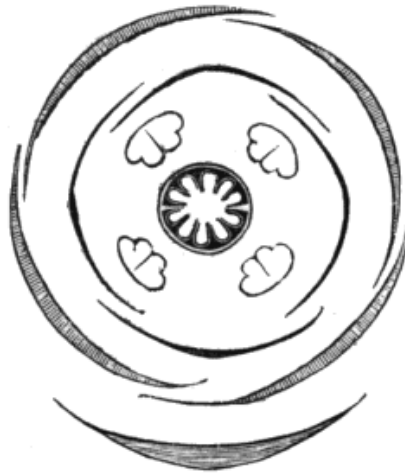
Plantain. (*Plantago major*.)
Young plant.



Plantain.
Flower (mag.).



Plantain.
Flower cut vertically (mag.).



Plantain. Diagram.



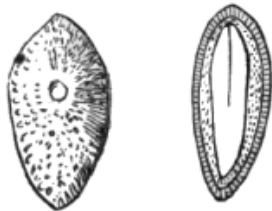
Plantain.
Transverse section of ovary
(mag.).



Plantain.
Pistil
(mag.).



Plantain.
Spike.



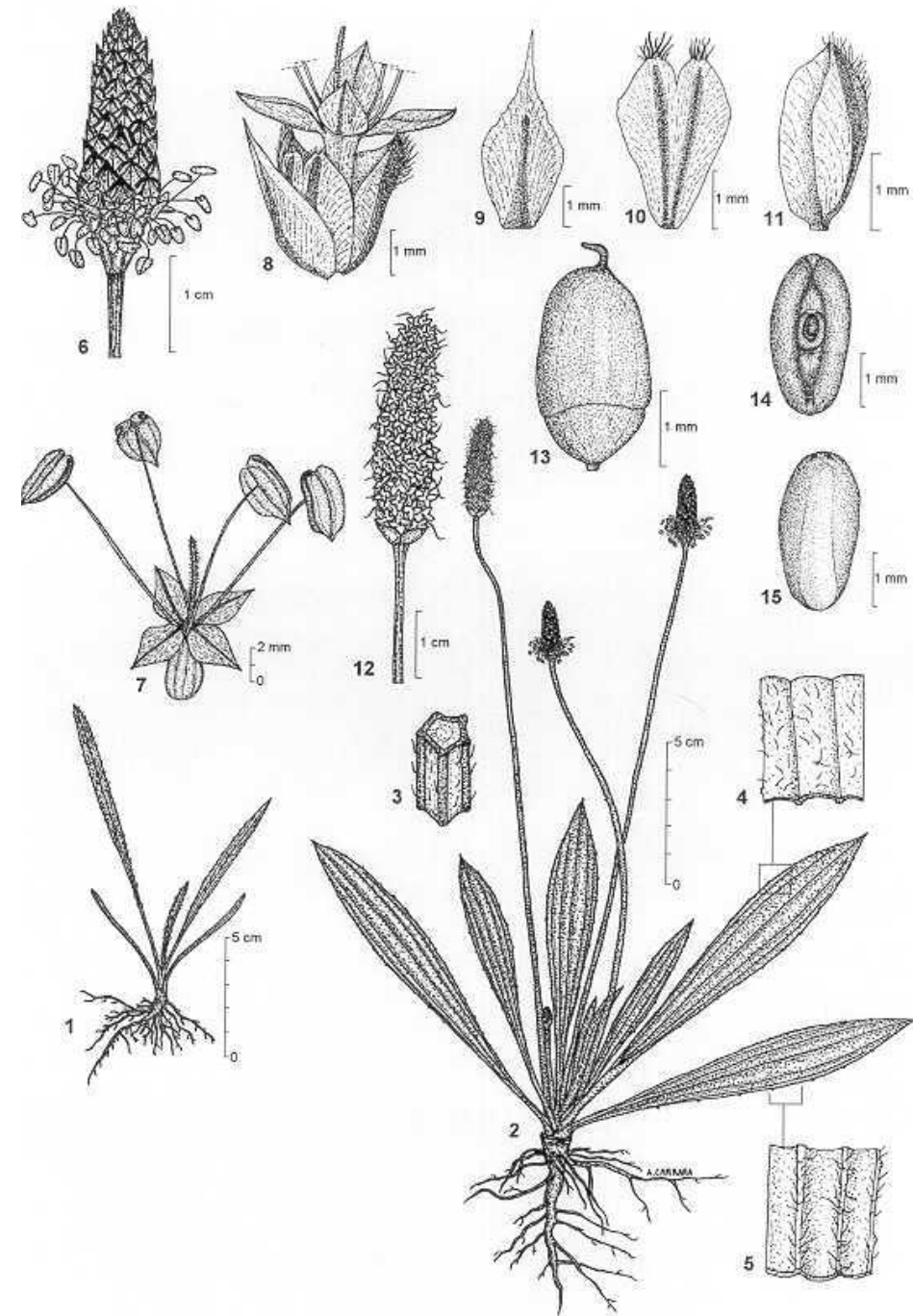
Plantain.
Seed, entire and cut vertically
(mag.).



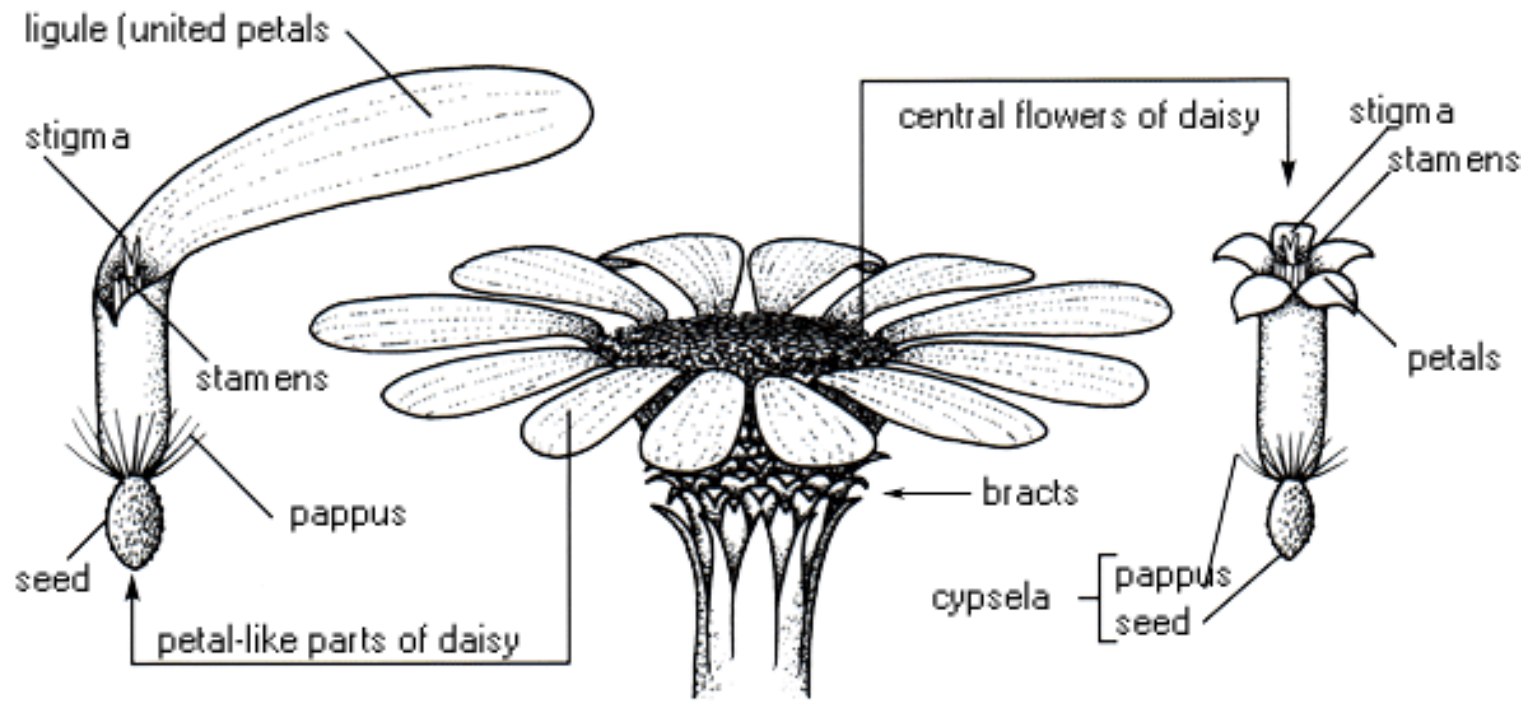
Plantain.
Fruit closed
(mag.).



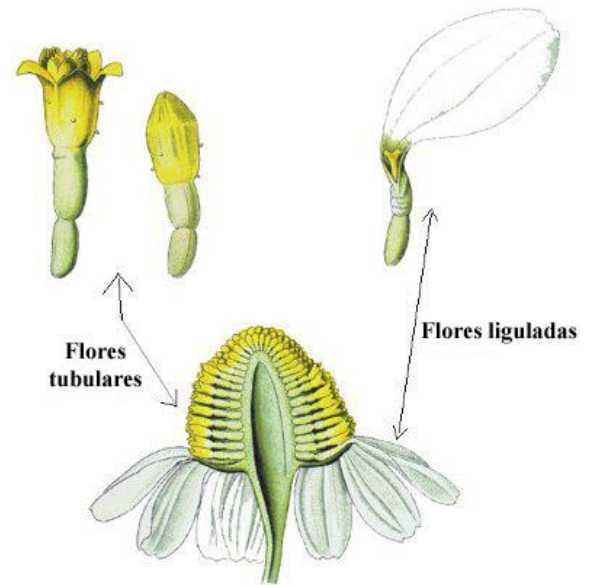
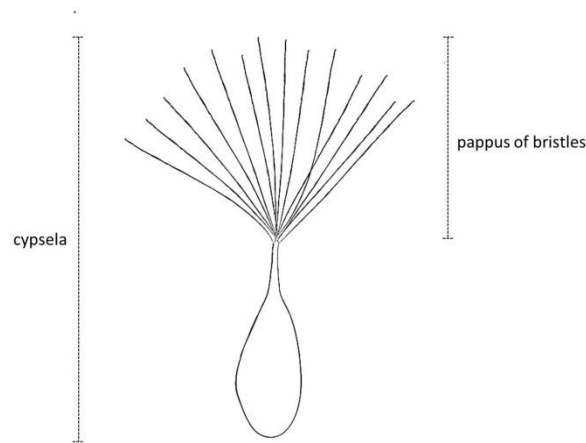
Plantain.
Fruit dehiscent
(mag.).

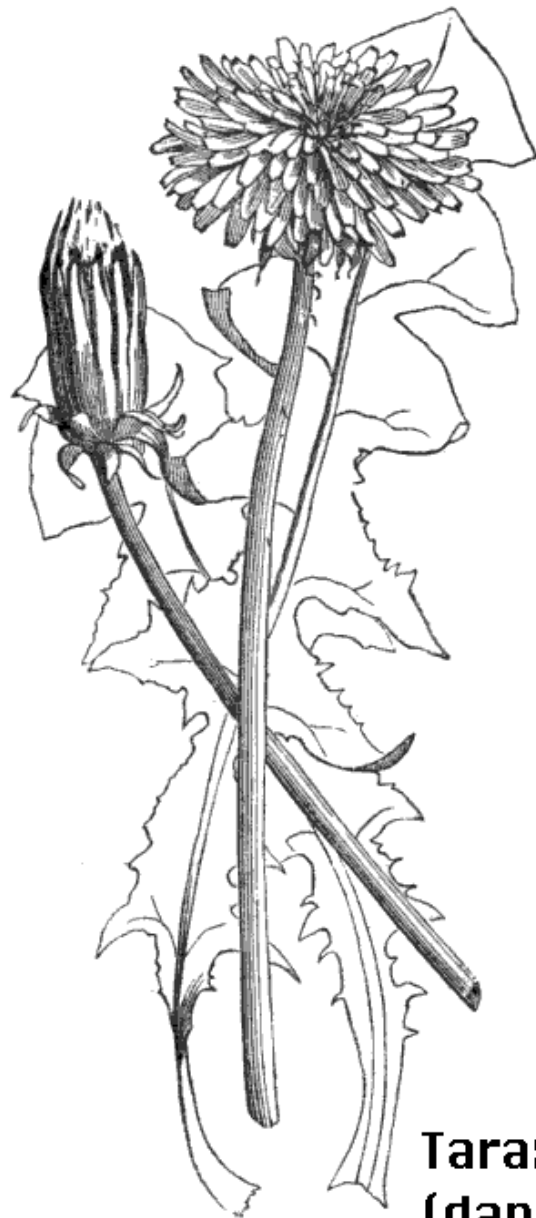


Porodica
ASTERACEAE



A daisy flower (Asteraceae) — a composite head of many small flowers





Ligulate floret



**Taraxacum
(dandelion)**



**Receptacle
and fruits**



Pappus

Fruit



Porodica
ARACEAE

Feuilles sagittées souvent tachetées

Atlas des Plantes de France,
A.Mascléf 1891

Spathe

Spadice en massue

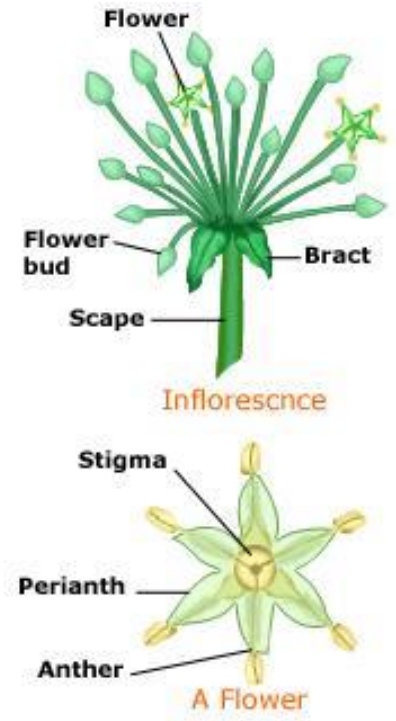
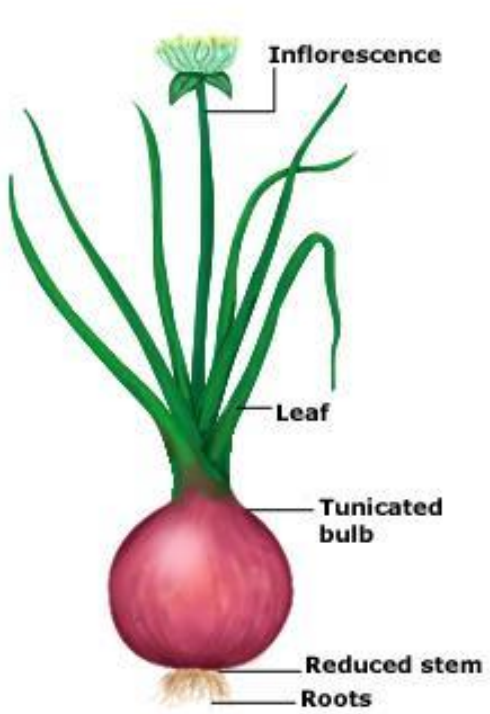
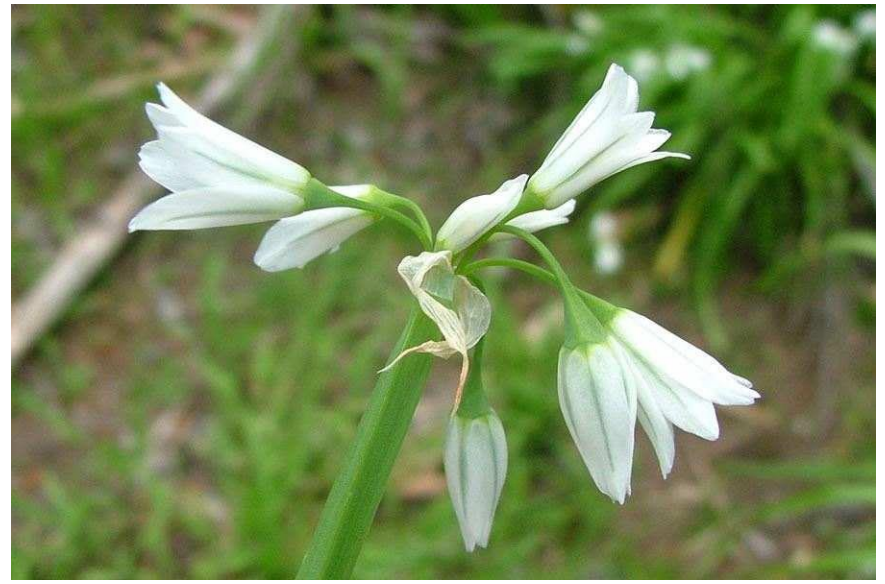
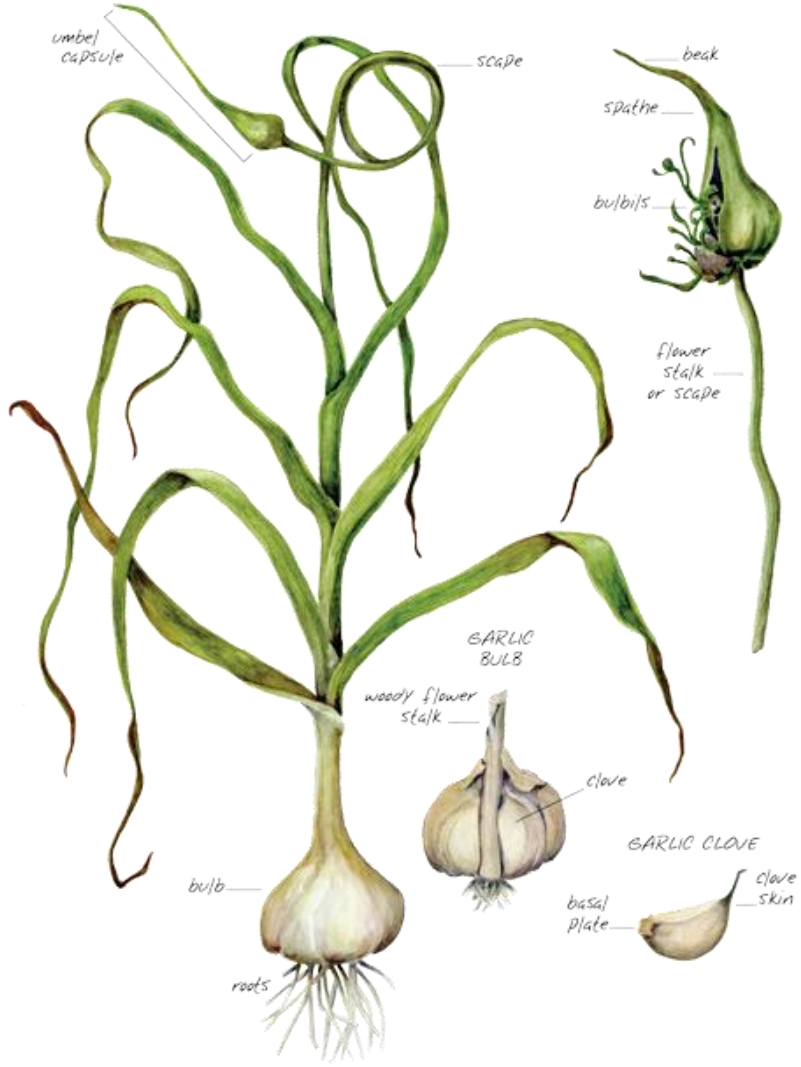
Baies rouges très toxiques

Tige épaisse en tubercule



Porodica
ALLIACEAE

HARDNECK GARLIC





A. *Allium ursinum* L. Bären-Kauch.
 B. *Allium nigrum* L. Schwarzer Kauch.



Porodica
LILIACEAE

Patterns of the Lily Family

3 sepals and 3 petals (same size and color)

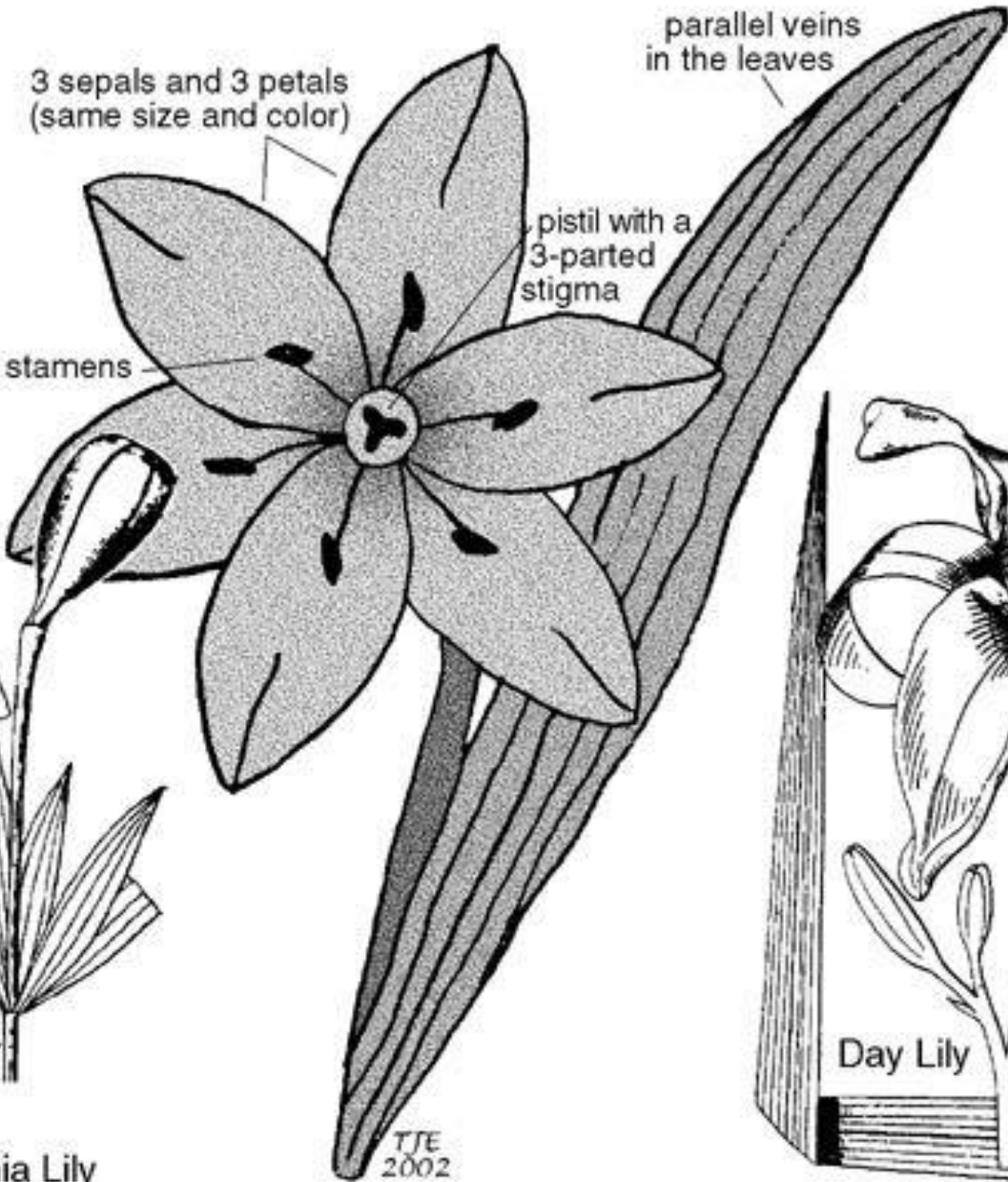
parallel veins in the leaves

pistil with a 3-parted stigma

6 stamens



Philidelphia Lily

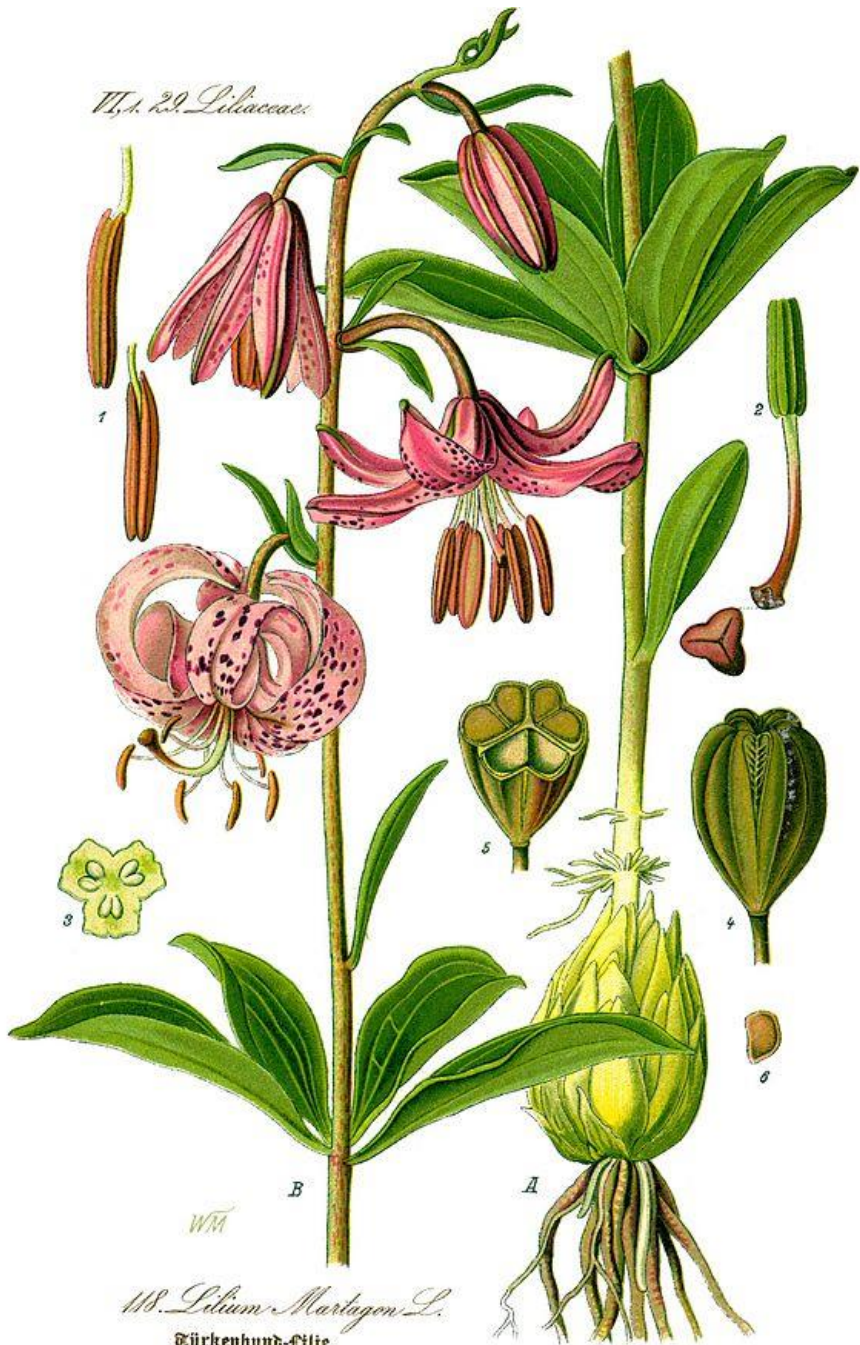


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2002



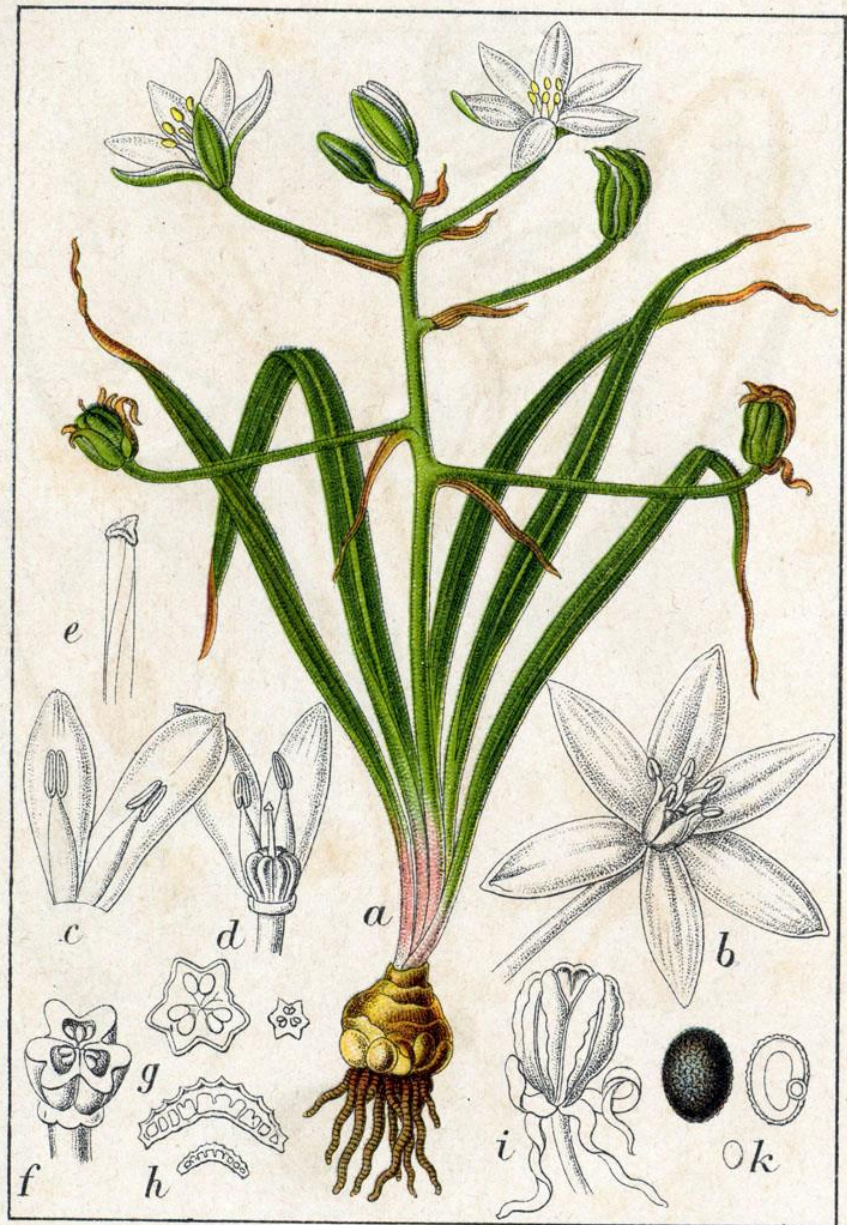
Day Lily

III, 1. 29. Liliaceae.



118. *Lilium Martagon* L.
Türkenbund-Lilie.





Gemeiner Milchstern, *Ornithogalum umbellatum*.