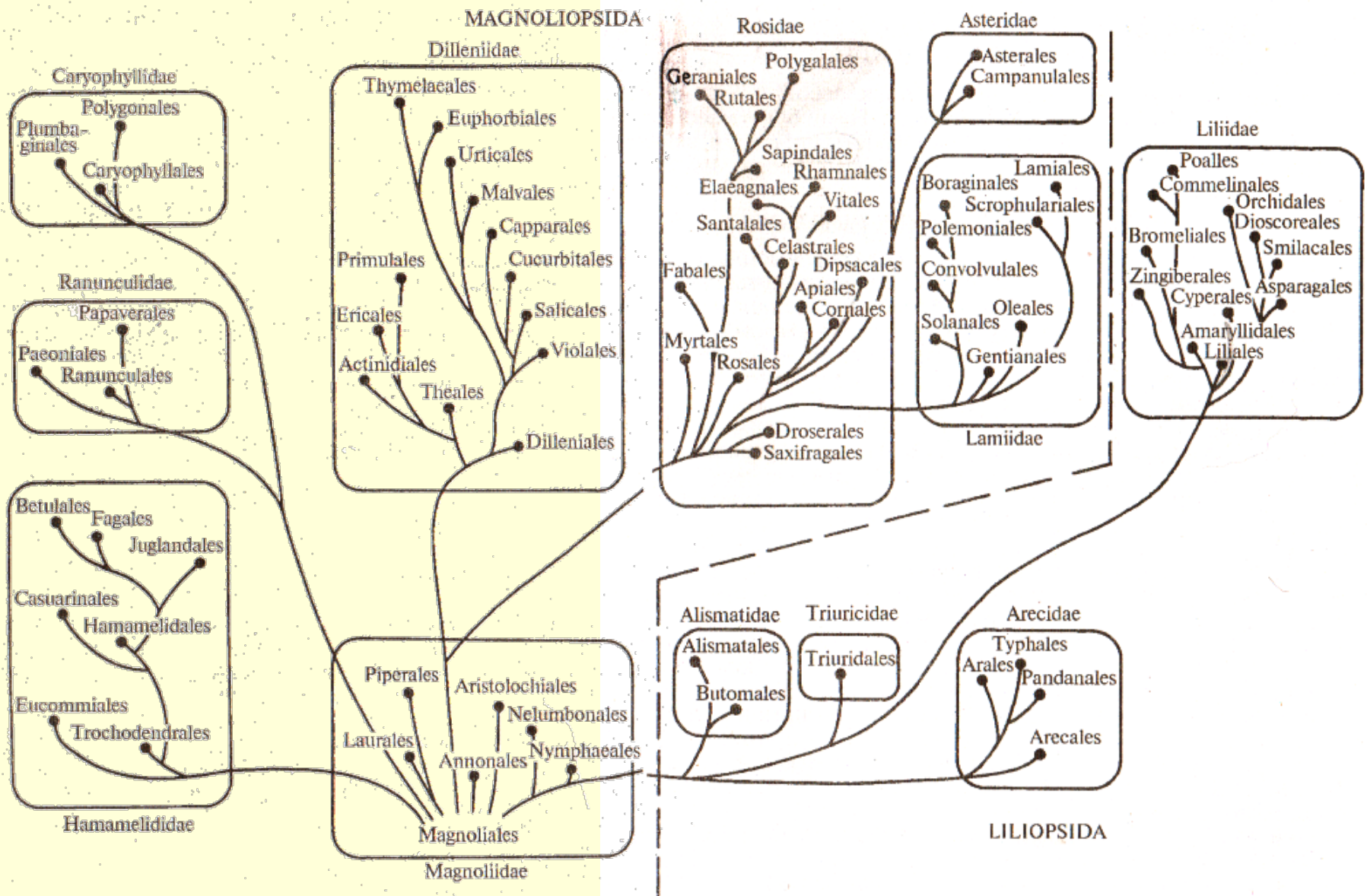


The subclass Rosidae

The subclass Rosidae includes
39 orders
about 170 families,
2 800 genus
and more 55 000 species



Order Rosales

The Rosaceae family

The Rosaceae family includes about 100 genera and 3,000 species

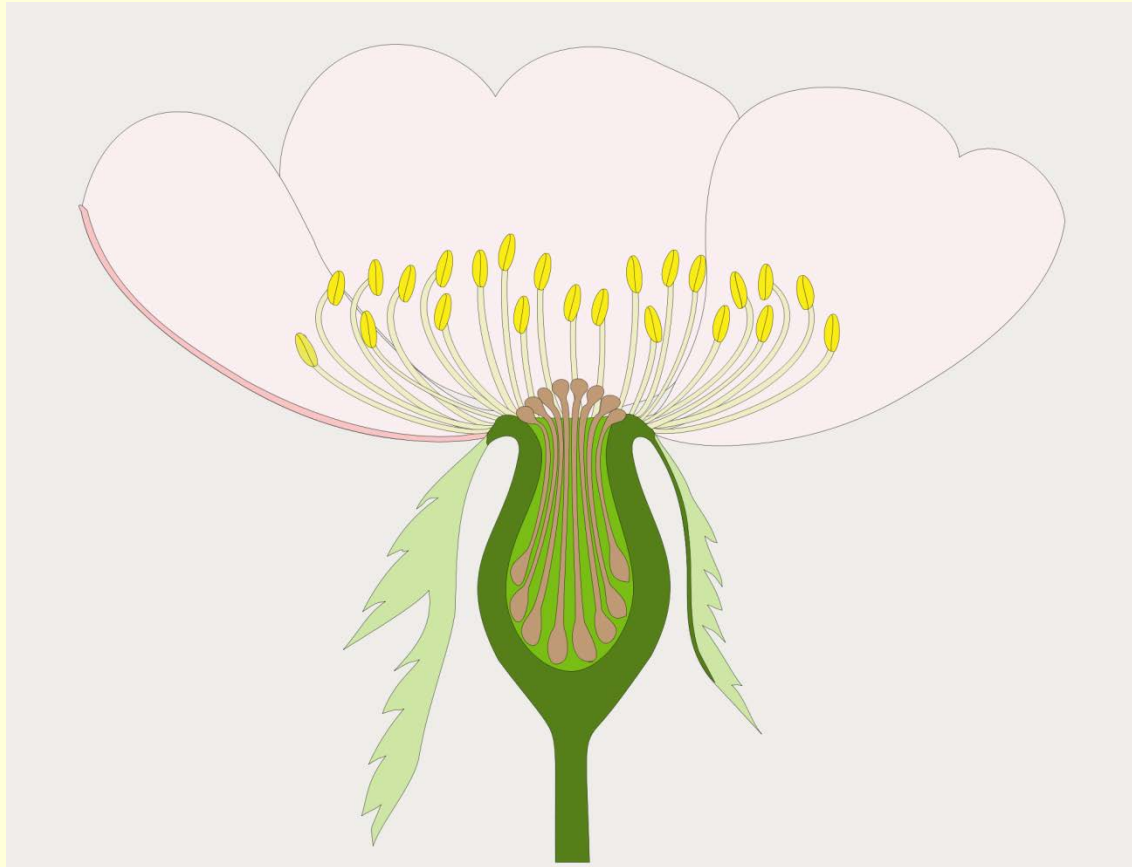


Padus avium

Fragaria vesca



A characteristic feature of the family is the presence of the hypanthium. Hypanthium is a structure resulting from fusion of bases of sepals, petals and stamens with tissues of receptacle. The shape of the hypanthium can be different: saucer-shaped, bell-shaped, pitcher-shaped. In some plants, the hypanthium is involved in the formation of the fruit (rosehip).



**There are 4 subfamilies in the family
Rosaceae: Spiraeideae, Rosoideae,
Prunoideae, and Malaideae.**

Comparative signs of subfamilies family Rosaceae

Signs	Spiraeideae	Rosoideae	Malaideae	Prunoideae
Number of carpels	∞ - 5(1)	∞ , rarely – 5	5 - 8	1
Gynoeceum	apocarpic	apocarpic	syncarpic	monocarpic
Ovary	superior	superior	inferior	superior
Fruits	etaerio follicles	etaerio follicles, etaerio of achenes etaerio of drupelets, Utricle, cynarrhodium	pome	drupe
Form of receptacle	flat	flat, convex, concave	concave	cupped
Subcalix	missing	available	missing	missing
Formulav of flower	*Ca ₍₅₎ Co ₅ A _{∞} G _{<u>6-10</u>} <i>Filipendula ulmaria</i>	*Ca ₍₅₎ Co ₅ A _{∞} G _{<u> </u>} <i>Rosa canina</i>	*Ca ₍₅₎ Co ₅ A _{∞} G ₍₅₎ <i>Malus domestica</i>	*Ca ₍₅₎ Co ₅ A _{∞} G _{<u>1</u>} <i>Prunus spinosa</i>
Leaves	simple	compaund, less often simple	Simple or compaumd	simple
Stipules	Without stipules	With stipules	With early falling stipules	With early falling stipules
Life form	shrubs	herbs, less often – shrubs	trees, shrubs	trees, shrubs
Genus	<i>Filipendula</i> , <i>Spiraea</i>	<i>Rosa</i> , <i>Rubus</i> , <i>Fragaria</i> , <i>Potentilla</i> ,	<i>Malus</i> , <i>Pyrus</i> , <i>Sorbus</i> , <i>Crataegus</i>	<i>Cerasus</i> , <i>Prunus</i> , <i>Armeniaca</i> , <i>Persica</i> , <i>Amigdalus</i> , <i>Padus</i> ,

The subfamily - *Spiraeideae*,



Spiraea litwinowii *Ca₍₅₎Co₅A_∞G₆₋₁₀

The subfamily - *Rosoideae*,



Rosa cinnamomea *Ca₍₅₎Co₅A_∞G_∞



Fragaria vesca
(strawberry)





Potentilla arenaria



Rubus idaeus (raspberries)

Rubus caesius (dewberry)



The subfamily - *Malaideae*



Malus domestica

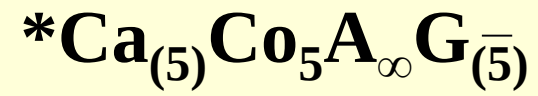
105. Rosaceae.
X. Pomaceae.

XII, 2.

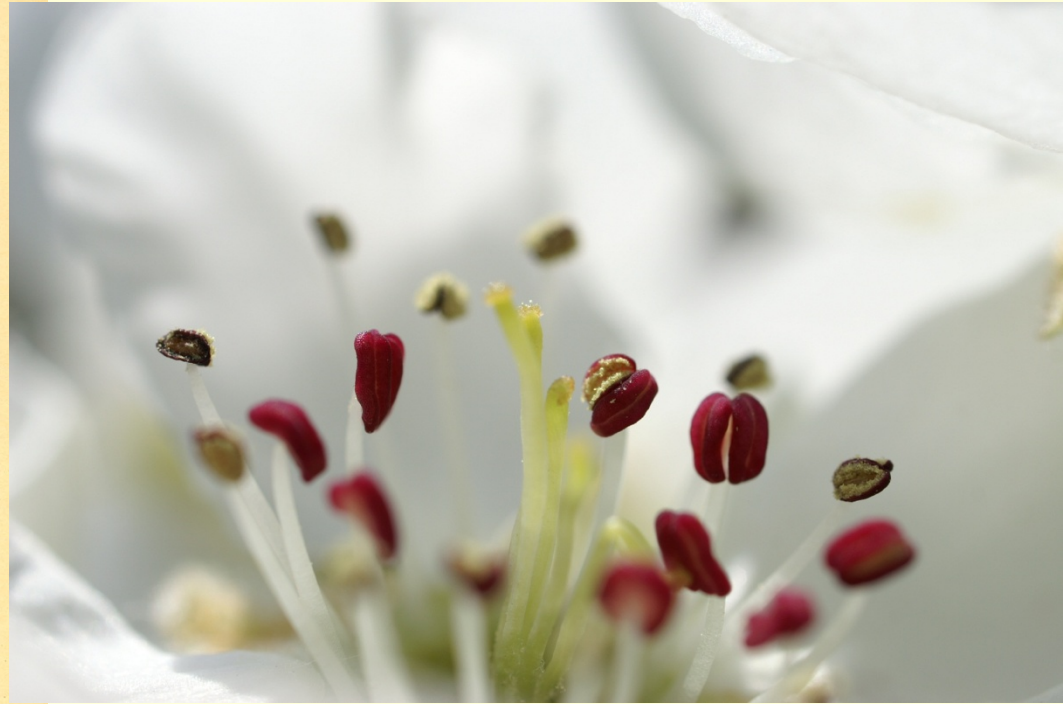


420. *Pyrus communis* L.

Strne.



Pyrus communis





Pyrus communis (pear)



Cydonia oblonga (quince)

Rosaceae. (Pomeae.)



Cydonia oblonga



Malus domestica



Crataegus monogyna
(hawthorn)

Amelanchier ovalis
(shadberry)



Cotoneaster alaunicus



Aronia melanocarpa
(black chokeberry)

The subfamily - *Prunoideae*



Cerasus fruticosa



***Ca₍₅₎Co₅A_∞G₁**

Prunus spinosa (blackthorn)





Persica vulgaris
(peach)



Amigdalus nana (Almond)

The order – *Fabales*

The families - *Fabaceae* or *Leguminosae*.

One of the largest families of Flowering plants, uniting 17000-18000 species and approximately 650 genera.



The subfamily *Mimosoideae*



Acacia dealbata $*Ca_{(5)}Co_5A_{\infty}G_{\perp}$



Calliandra haematocephala



Leaves of *Acacia pennata*

<https://www.youtube.com/watch?v=OB8Uu9FIN9o&t=1s>





Mimosa.
Diagram.



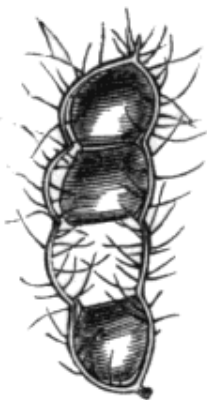
Acacia retinoides.
Flower (mag.).



Acacia juniperina.
Androecium
and pistil.



Mimosa pudica.



Mimosa.
Fruit.



Acacia laxa.
Agglomerated pollen-grains.



Albizzia.
Embryo (mag.).



Albizzia.
Androecium (mag.).



Mimosa pudica
Fabaceae-Mimosoidae
© D. D. Carr

Mimosa pudica

unopened inflorescence



Calliandra
haematocephala

The subfamily *Caesalpinioideae*



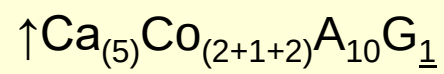
Cassia (Senna)



Delonix regia



Cercis siliquastrum



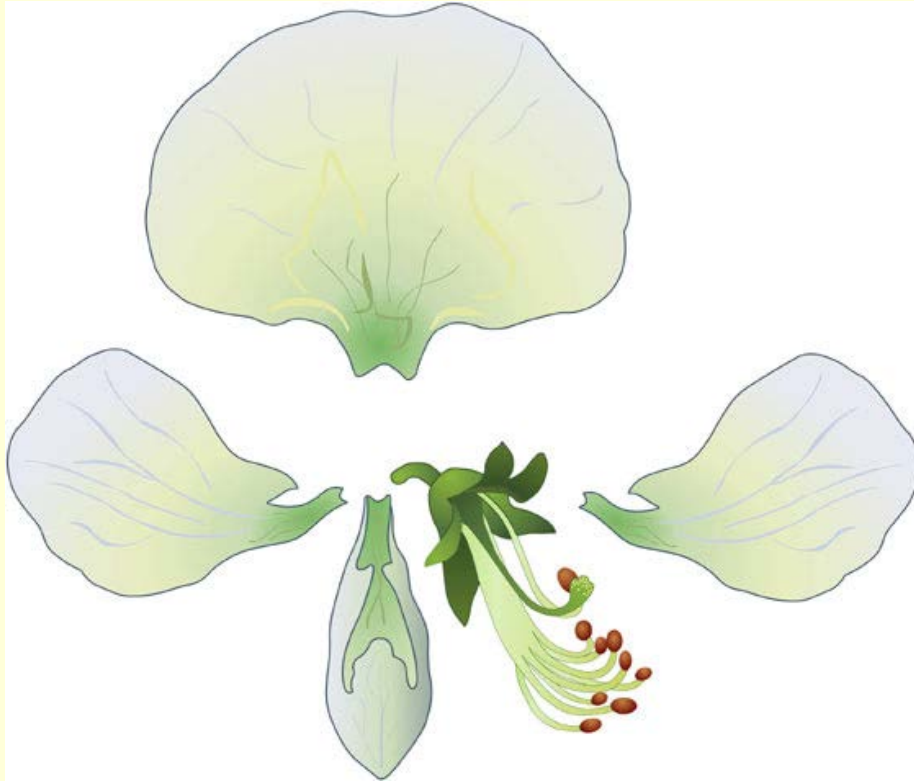


Gleditsia triacanthos



The subfamily – *Faboideae*





Fruit is a legume

Flower *Pisum sativum*

$\uparrow \text{Ca}_{(5)} \text{Co}_{1+2+(2)} \text{A}_{9+1} \text{G}_{\underline{1}}$

The Order *Myrtales*.

The family *Myrtaceae*



Mýrtus commúnis



Acca sellowiana (Feijoa)



Syzygium aromaticum (Clove)



Eucalyptus viminalis

***Ca₍₅₎Co₅A_∞G₍₃₎ -**



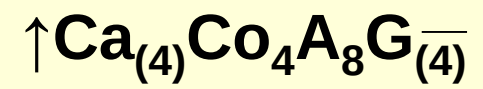
The family *Onagraceae*



Fuchsia magellanica



Chamaenerion angustifolium



Chamaenerion angustifolium

The order *Rutales*

The family *Rutaceae*



Citrus

***Ca₅Co₅A_∞G_(∞)**





Ruta graveolens ***Ca₅Co₅A₅₊₅G₍₅₎**



The family *Anacardiaceae*



Cotinus coggygria

***Ca₍₅₎Co₅A₅G₍₃₎**

Rhus coriaria



Cotinus coggygria ***Ca₍₅₎Co₅A₅G₍₃₎**



Pistacia vera



Mangifera indica



The order *Sapindales*

The family *Hippocastanaceae*.



Aesculus hippocastanum ↑ $\text{Ca}_{(5)}\text{Co}_{4-5}\text{A}_{5-8}\text{G}_{(3)}$

The order *Linales*

The family *Linaceae*



Linum usitatissimum
(Flax)

***Ca₅Co₅A₅G₍₅₎**



The order *Rhamnales*

The family *Rhamnaceae*



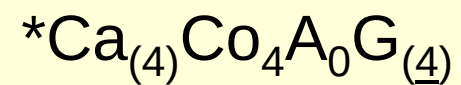
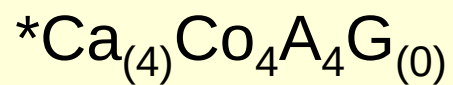
Frángula alnus $*\text{Ca}_{(5)}\text{Co}_5\text{A}_5\text{G}_{(3)}$



Жостер
слабительный



Rhamnus cathartica



The order *Elaeagnales*

The family – *Elaeagnaceae*



Elaeagnus angustifolia * $\text{Ca}_{(4)}\text{Co}_0\text{A}_4\text{G}_{(1)}$



Hippophae rhamnoides

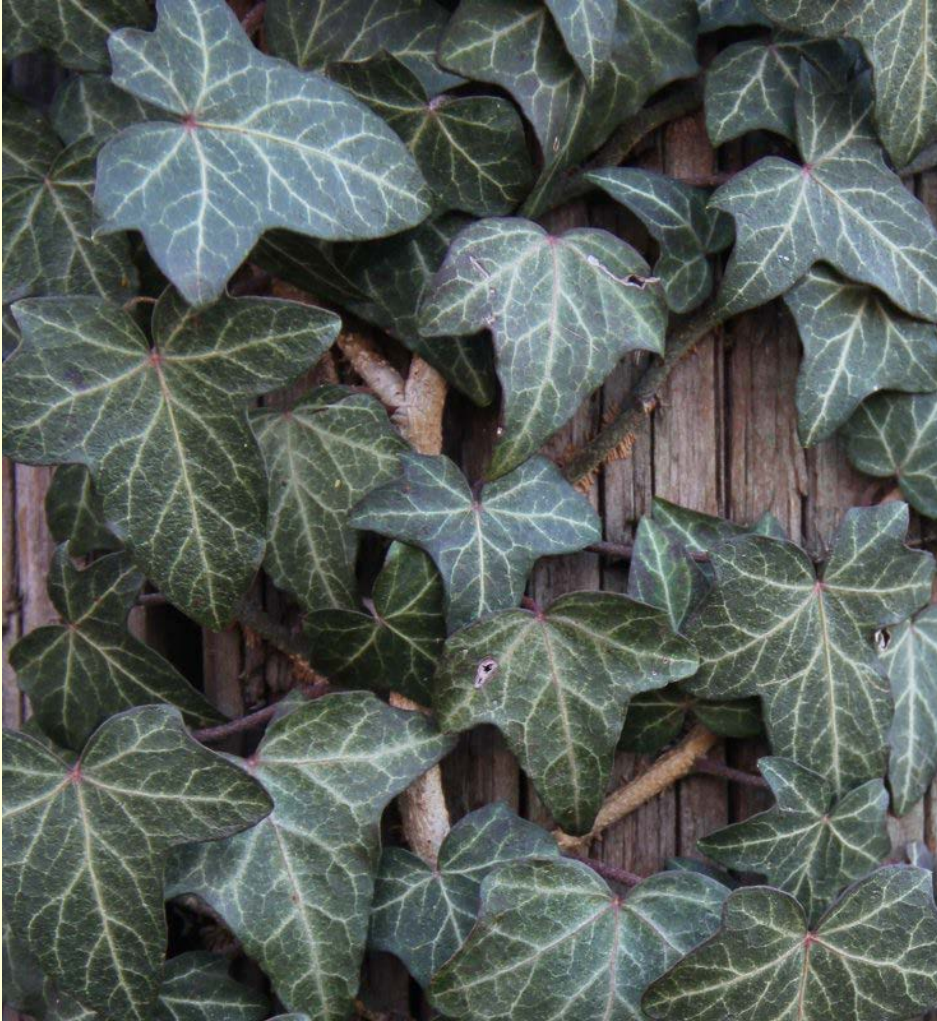
***Ca₍₂₎CoA₄G₍₀₎**

***Ca₍₂₎Co₀A₀G₍₁₎**



The order *Apiales*

The family *Araliaceae*

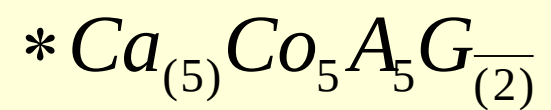


Hedera helix





Panax ginseng



The family *Umbelliferrae* or *Apiaceae*



* $Ca_5Co_5A_5G_{(5)}$

Apium graveolens (celery)



Anthriscus sylvestris



Eryngium planum

The order *Dipsacales*

The family *Caprifoliaceae*



Viburnum opulus (guelder rose)



Lonicera tatarica

$$* Ca_{(5)} Co_{(5)} A_5 \overline{G_{(5)}}$$

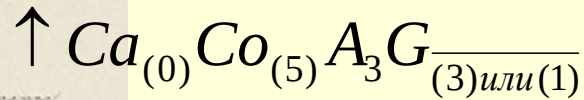


Sambucus nigra (black elderberry)

Viburnum opulus



The family *Valerianaceae*



Valeriana officinalis

