

Lesson 6. Subclasses

Ranunculidae

Features of the subclass



1. The mature pollen is 2-celled, 3-bearded, or derived types.
2. Predominantly herbaceous plants
3. No vascularless, vessels usually with simple perforation
4. Stomata without incidental cells (ranunculoid type)
5. Secretory cells in parenchyma usually absent
6. Flowers bisexual and unisexual, often spiral or spirocyclic
7. Stamens and carpels of specialized type
8. Seeds with a small embryo and abundant endosperm

Family - *Ranunculaceae*

- Flowers from spiral to cyclic, actinomorphic to zygomorphic, peduncle from conical to short
- Perianth double or simple
- Number of flower parts varies
- Gynoecium from apocarpic to syncarpic
- Ovulus in the carpel either numerous or several
- Entomophilia
- Nectaries are various in shape and origin

Plants with acyclic flowers

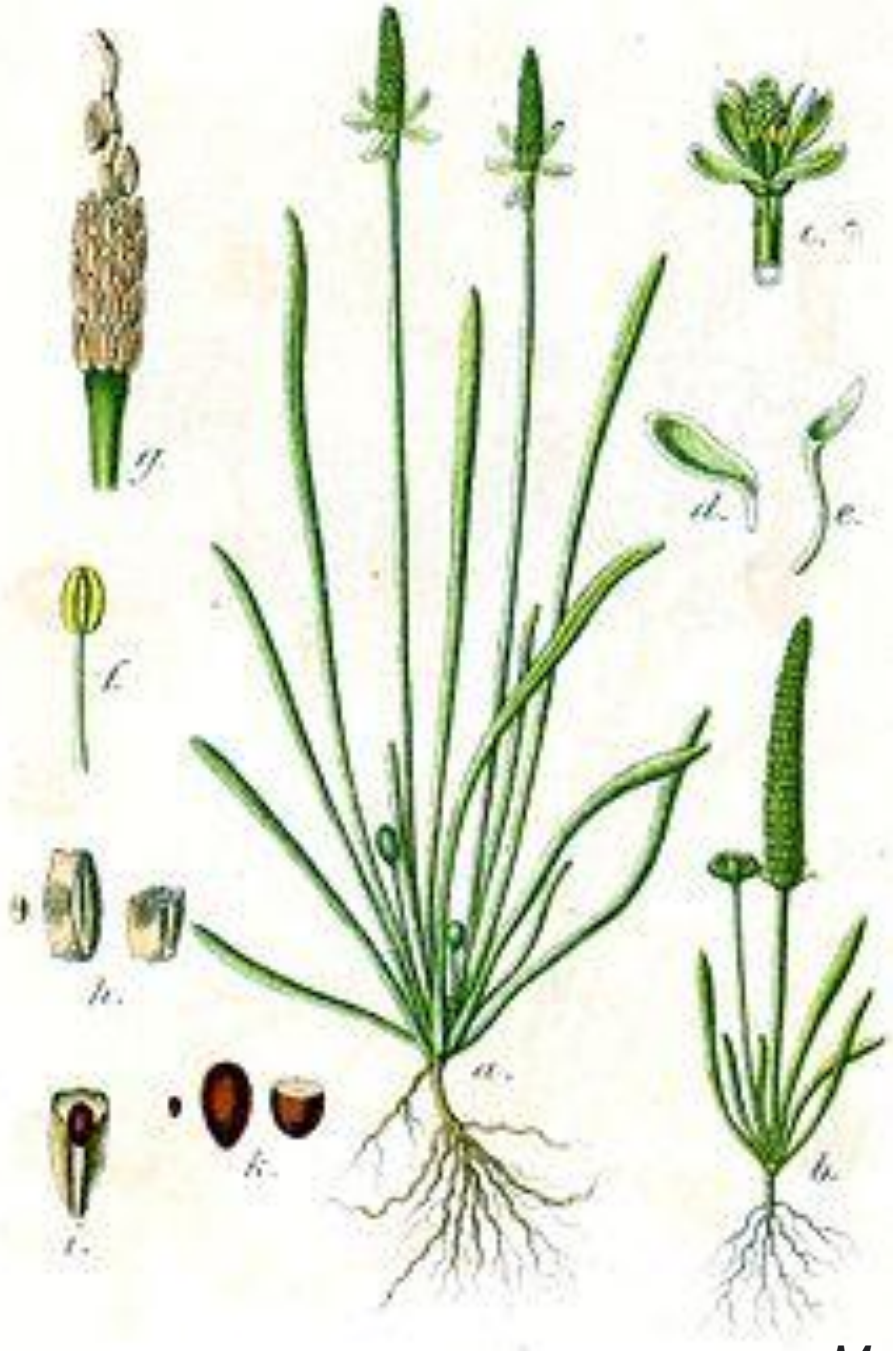


Trollius europea

$$* P_{\infty} A_{\infty} \underline{G_{\infty}}$$



Trollius asiaticus

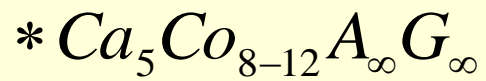


Myosurus minimus

Plants with spirocyclic flowers



Anemone hepatica



Ceratocephala falcata * $Ca_5 Co_5 A_{\infty} G_{\infty}$





Ficaria verna * $Ca_3Co_{8-12}A_{\infty}G_{\infty}$



Adonis wolgensis * $Ca_5Co_{8-12}A_{\infty}G_{\infty}$



Caltha palustris * $Ca_5Co_5A_{\infty}G_{\infty}$



Ranunculus repens



Plants with cyclic flowers



Aquilegia hybridum * $Ca_5Co_5A_\infty G_\infty$



Anemone nemorosa



Anemone ranunculoides



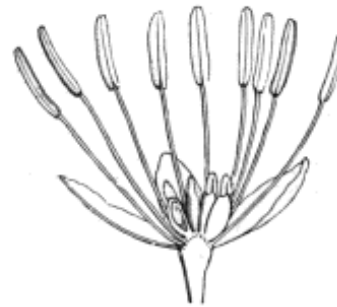
Helleborus caucasicus



Thalictrum minus



Thalictrum.
Pistil (mag.).



Thalictrum.
Flower cut vertically
(mag.).



Thalictrum. Diagram.



Thalictrum.
Pendent seed.



Thalictrum.
Carpel entire and cut
vertically (mag.).



Thalictrum.
Flower (mag.).



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Plants with zygomorphy flowers



Aconitum napellus $\uparrow Ca_5 Co_{2nectaries} A_{\infty} G_{\underline{3}}$



Delphinium elatum $\uparrow Ca_5 Co_{(3)} A_{\infty} G_{\underline{3-5}}$



Aconítum soongáricum





Consolida regalis



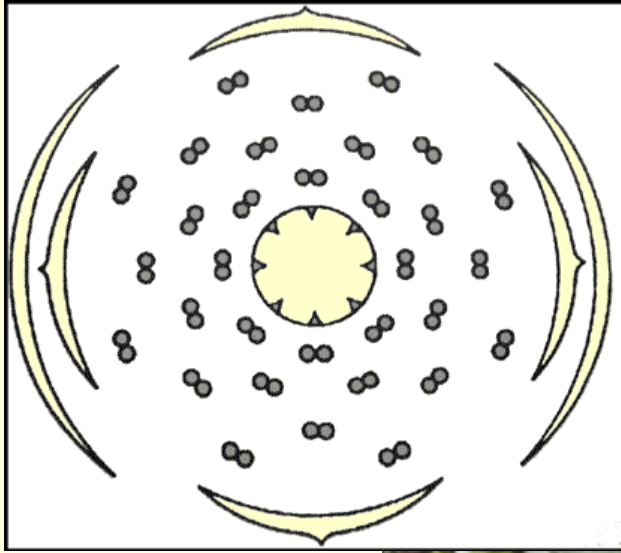
Delphinium punicéum



Consolida regalis

The order Papaverales

The family Papaveraceae

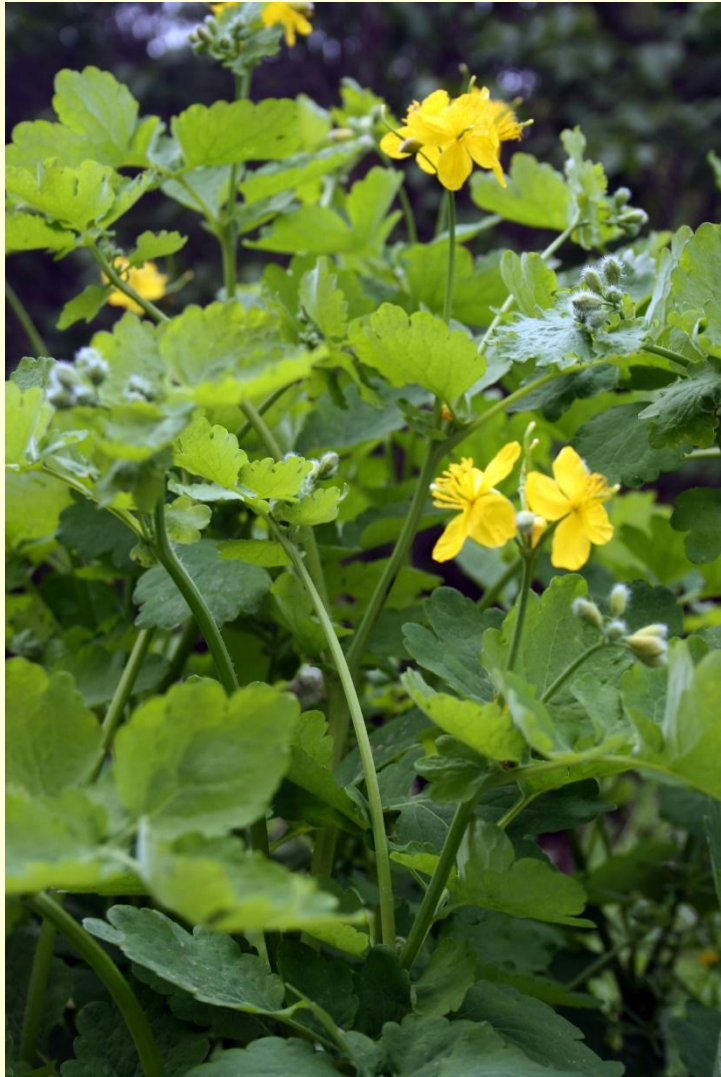


Papaver rhoeas

$$* Ca_2 Co_{2+2} A_{\infty} \underline{G_{(\infty)}}$$



1. Northern temperate zone. Steppes, deserts, semi-deserts, there are forest, tundra and weed species
2. From herbaceous monocotyledons and annuals to shrubs, there are small trees and lianas.
3. Leaves are simple without leaflets.
4. Flowers singular, in inflorescences, actinomorphic to zygomorphic
5. Leaves and stems contain non-membered laticifers (alkaloids - isoquinoline derivatives)



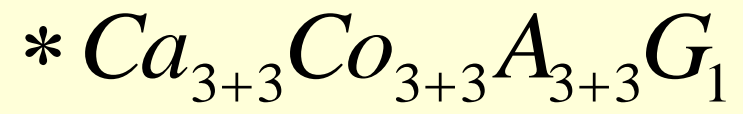
Chelidonium majus

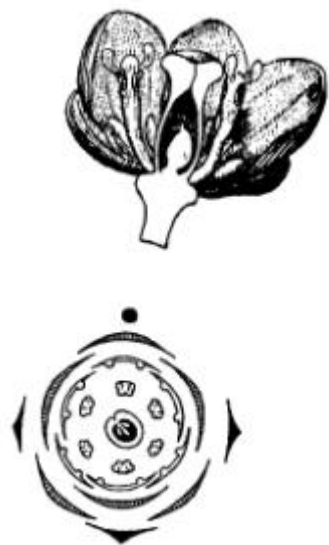
$* Ca_2 Co_{2+2} A_{\infty} G_{(\underline{2})}$

Family of *Berberidaceae*



Berberis vulgaris







Mahonia aquifolium



Family Fumariaceae



Fumaria officinalis



Lamprocapnos spectabilis



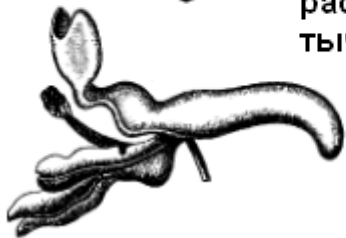


Corydalis solida

* $Ca_2Co_4A_2G_2$



диаграмма и вид
цветка сбоку
Corydalis cava,
звездочка -
положение
расщепившейся
тычинки



Order Paeoniales

Family Paeoniaceae



Paeonia tenuifolia

* $Ca_5 Co_{5-10} A_{\infty} G_{\underline{3}}$

