

PERENNIAL IDENTIFCATION

Plant names and why they are important

Picture a lily…..

“Would that be a……



Canna sp.


Nymphaea sp.


Eremurus sp.


Kniphofia sp.



Hemerocallis sp.

“Oh you mean a real lily”


Lilium sp.



Lilium sp.

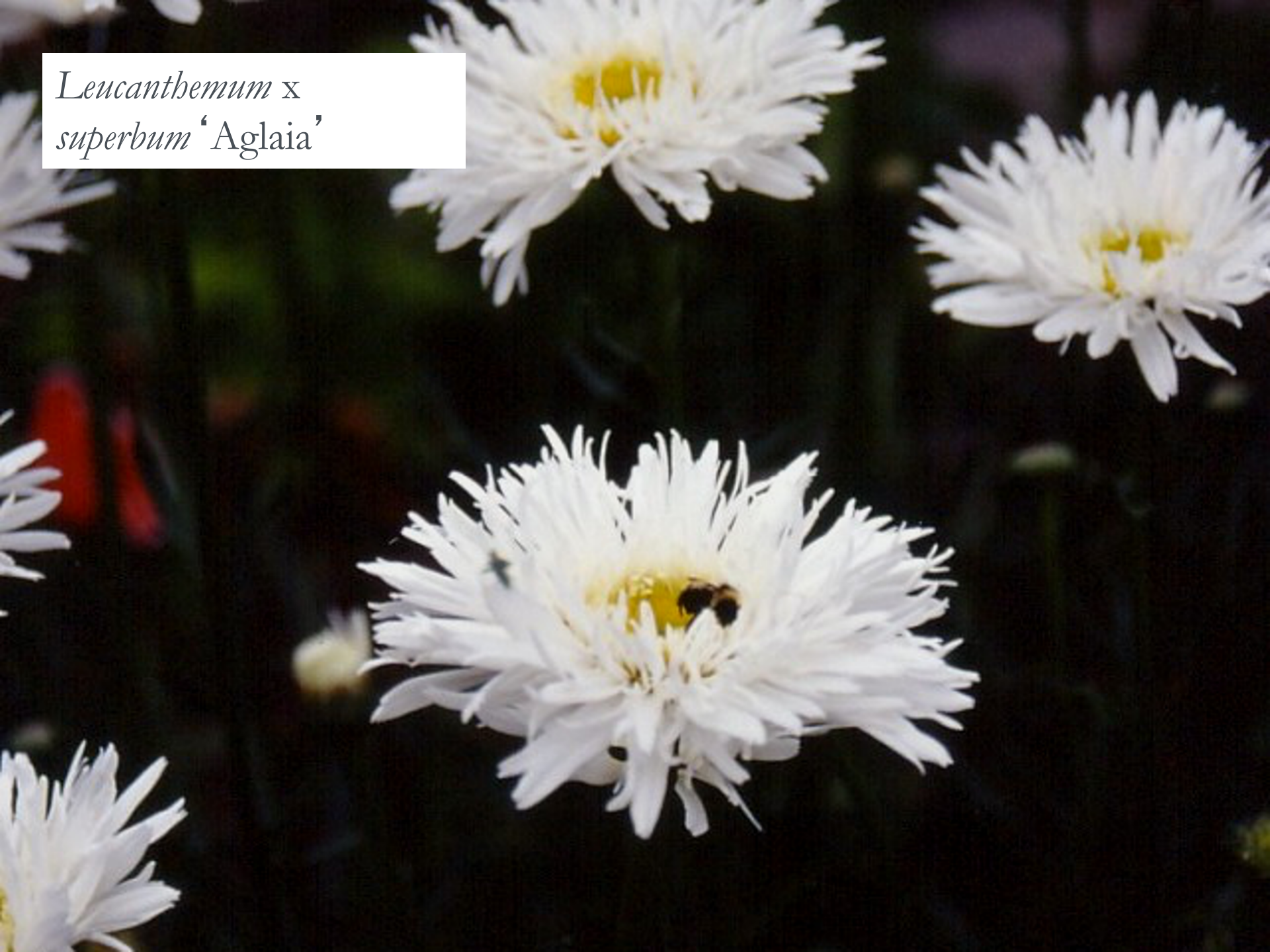


Lilium sp.



How about a daisy?


Buphthalmum speciosum


Leucanthemum x
superbum 'Aglaia'



and according to the Royal Horticulture Society

- *Anthemis cotula*
- *Chrysanthemum carinatum*
- *Leucanthemella serotina*
- And several others

- (100 results for daisy!!)



Just in cast you didn't get the point …

the Bluebell is



Hyacinthoides non-scripta in England



Campanula rotundifolia in Scotland

In North America



Penstemon sp.



Campanula sp.



Polemonium sp.



It is important (sometimes even critical) to use the botanical name.

For example if you recommend:

‘bittersweet’



Celastrus scandens

- False bittersweet or American bittersweet
- attractive orange fruit eaten by ruffed grouse, turkey, pheasant, bluebirds, robins, rabbit, squirrel and fox.
- berries are poisonous to humans.



Celastrus orbiculare

- Oriental bittersweet
- growing vine that climbs over and smothers vegetation which may die from excessive shading or breakage.
- displacing our native American bittersweet through competition and hybridization


Solanum dulcamara
And the real bittersweet?



“We need botanical name to communicate effectively about plants around the globe, and in our own backyards.

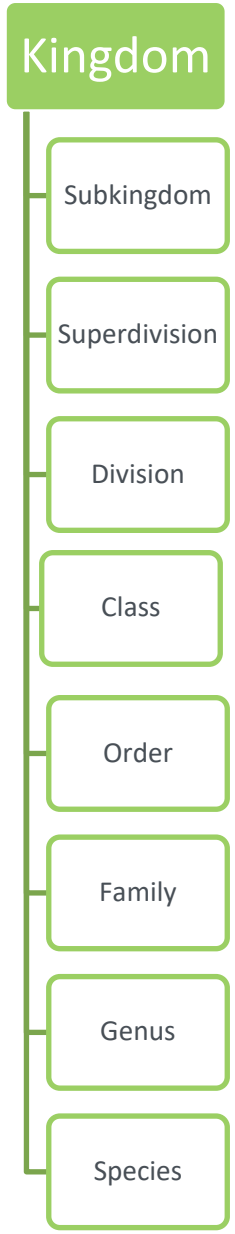




Taxonomy

Taxonomy - The classification of organisms in an ordered system that indicates natural relationships.

Taxonomist – a biologist that groups organisms into categories.





Classification Systems

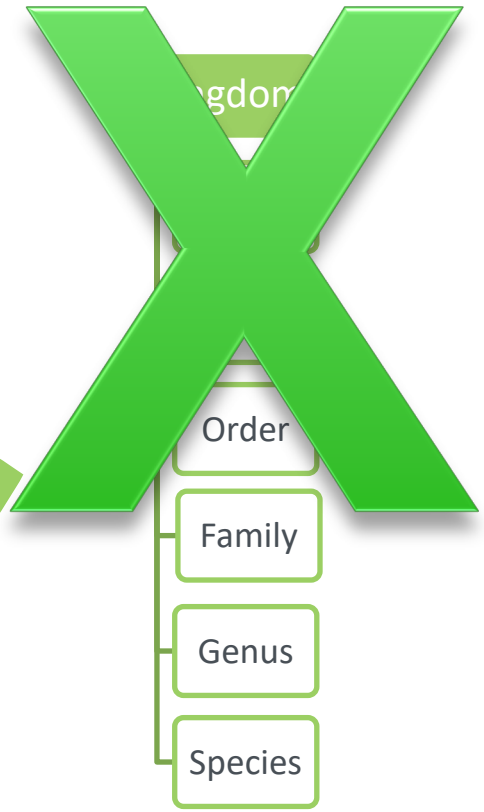
Cronquist System

- Morphology based
- *An Integrated System of Classification of Flowering Plants* (1981)
  - Magnoliopsida- 64 orders and 321 families
  - Liliopsida - 19 orders and 65 families

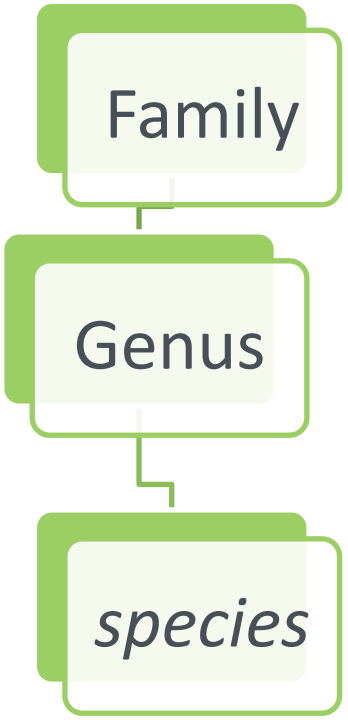
APG IV

- Molecular based
- First APG system published in 1998
  - 64 angiosperm orders and 416 families
- Unranked clades, highest level is order

….leave that to the taxonomists







We Can Worry About…the Last Part.

For Angiosperms (flowering plants):

- 405 Families
- 14,559 Genera
- 352,000 Species

(THE PLANT LIST)

Binomial Nomenclature

Also called binary nomenclature, this formal system of naming organisms consists of two Latinized names. All living things, and even some viruses, have a scientific name.

Known as the International Code of Botanical Nomenclature.



Carolus Linnaeus (1707-1778)

a Swedish physician and botanist, was the founder of taxonomy

Binomial Name = Genus + specific epithet = *species*

Example: *Baptisia australis*

Wild species

- Genus is capitalized, specific epithet is lower case and entire species is italicized
- species can be divided into varieties (var.), subspecies (subsp.) or forma (f) (not italicized)

Example: *Digitalis purpurea* f. *albiflora*

(White flowered form of *Digitalis purpurpea*)

What About Cultivated Plants?

Cultivar = Cultivated Variety

- an organism originating and persistent under cultivation (chance seedlings, selections, hybrids, sports)

Example: *Picea abies* 'Nana'

Picea (Spruce): 80 to 90 species worldwide – thousands of cultivars

Author Names (authority)

- The name of the person who first described and published a species and its name
- Rarely used with cultivars

Example: *Digitalis purpurea* L.

Trade Designations

- Names applied to cultivars for marketing purposes
- Does not replace the cultivar name
- Often associated with plant breeder rights and patents

Example: Clematis BLUE ANGEL ('Błękitny Anioł')

Hybrids

- A cross between plants of two different genera, species, subspecies, varieties or cultivars
- Indicated by "x"

Examples:

x *Heucherella* 'Autumn Cascade'

(intergeneric hybrid of Heuchera and Tiarella)

Salvia x *sylvestris* 'Mainacht' MAY NIGHT

(interspecific hybrid of *Salvia nemorosa* and *Salvia pratensis*)

Formatting summary

- Species is always italicized
- Cultivars are in single quotations
- Trade name are in small caps
- .var, susbp., f. and x are not italicized
- Author names are not italicized and are often abbreviated

Let's Take an Example.

Family: Saxifragaceae

Genus: ***Heuchera*** (**Genus common name:** Coral Bells)

Species: *Heuchera micrantha*

(**Species common name:** crevice alum root)

Variety: *Heuchera micrantha* var. *diversifolia*

Cultivar with Trade Name:

Heuchera micrantha var. *diversifolia*
'Absi' *Bressingham Bronze*

Latin terms often define characteristics



Shape

- gracilis (graceful)
- sagittaria (arrowheaded)
- lancelota (sword-shaped)
- rotundus (round)
- flabellatus (fan-shaped)
- palmatus (like a hand)
- longifolius (long-leaved)
- fistulosus (tubular)


Ligularia dentata (toothed)


Darmera peltata (shield shaped)

Colour



- argentea (silver)
- azuera (sky blue)
- caeruleum (the colour of the Meditteranean sea at noon)
- rubra (red)
- purpurea (purple)
- niger (black)
- aurum (golden)
- viridis (green)
- tinctoria (tinted or coloured or dyed)
- punctata (spotted)
- variegatus (two-or more colours)
- striatus (streaked)
- pallidus (pale)



Thalictrum flavum subsp. *glaucum*

(clear yellow with bloom or powder on foliage)


Thalictrum aquilegifolium (foliage like aquilegia)



Let's talk grammer.

- GENUS can be
- **Male** - ending in 'us' or 'er' like *Acer* (maple) or *Malus* (apple)
- **Female** - ending in 'a', 'ra', or 'ris' like *Viola*, *Veronica* or *Liatris*
- **Neuter -** most ending in 'um' like *Thalictrum* or *Verbascum*

This is important because endings may be different but the meaning is the same (they just agree with the gender of the genus)

For example: *alpinus, alpina, alpinum*

Dianthus alpinus - alpine pink
Veronica alpina – alpine speedwell
Epimedium alpinum - barrenwort



How do you say that?

- Pronunciation is based on either Classical Latin (reformed academic), or Latin as taught in English-speaking countries, so depending on where you are from (U.K. and NE North America vs. Europe and the rest of the world) the vowels are pronounced differently

In the US

cle ma tis - (like in rake) which is a long vowel sound so emphasis is on the middle syllable.

In England

cle ma tis - (like in rub) which is a short vowel sound and moves the emphasis to the first syllable.

• With few exceptions, all syllables are pronounced
ex. Codonopsis ca da nap sis

•If it is named after a person, pronounce it like the persons name ex. Dahlia is named after Dr. Anders Dahl so therefore da (like dog) lia.

•'J' is usually pronounced 'hard' like Jim so it is Juncus not yuncus

•'oe' is usually pronounced like 'ee' as in bee ex. Ipomoea i po meee a (morning glory)

•'V' is pronounced hard like very not soft like wary so Verbascum not Werbascum

•'ae' usually pronounced like meat

•'ph' is pronounced like an 'f' so it is
Euphorbia eu forb i a

•'au' is pronounced like aw as in crawl so it is auculis aw koo lis

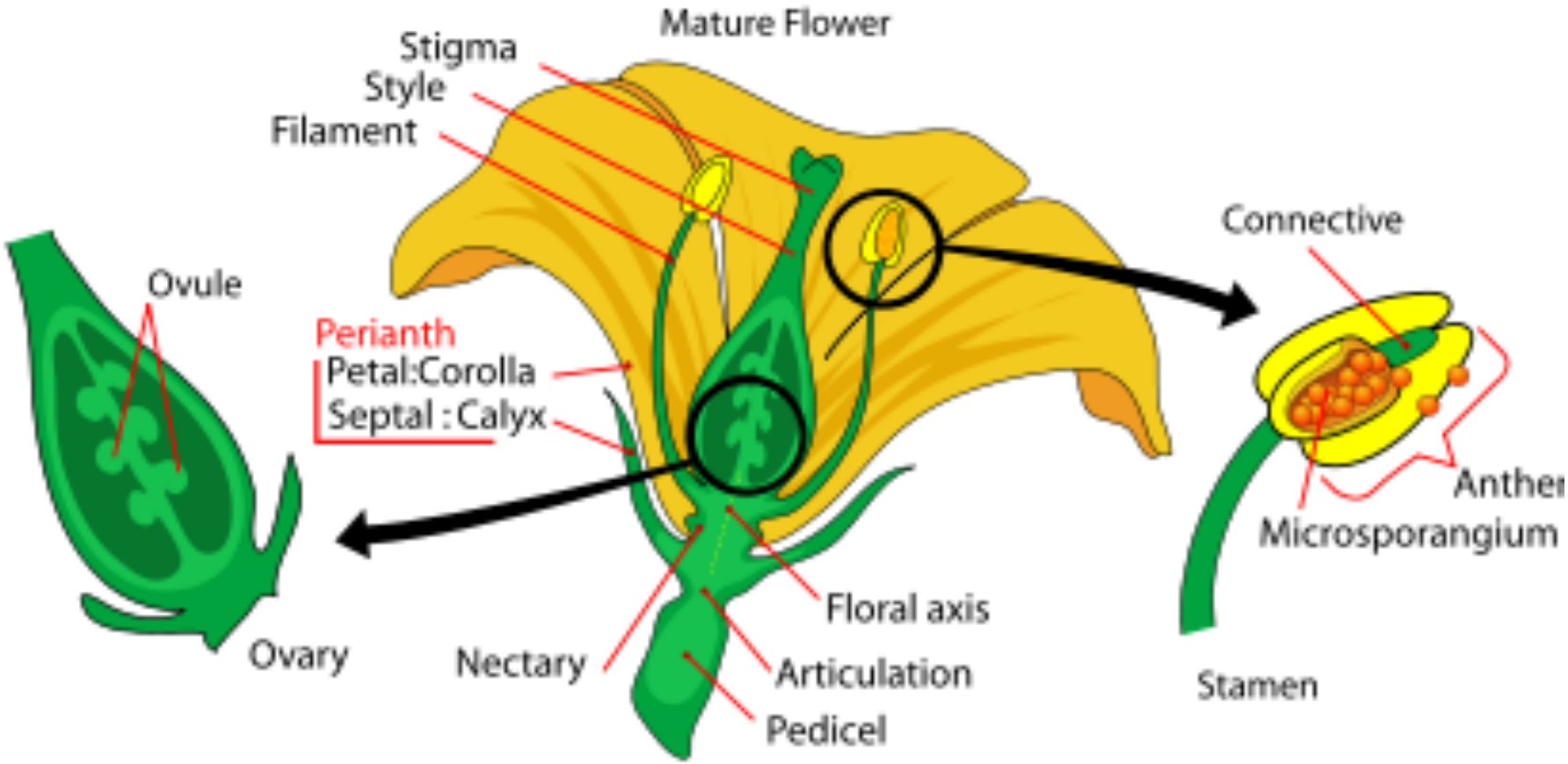


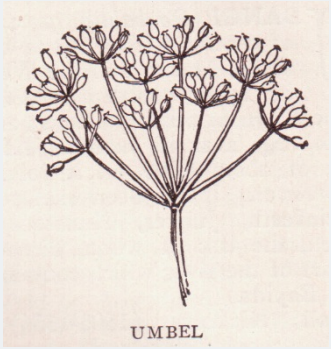
Plant Families

All of them had hair of gold, like their mother….



Plant Families have similar morphological characteristics – especially when it comes to their reproductive parts.





Apiaceae - parsley family

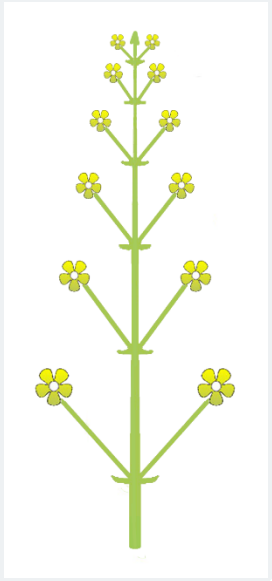
- herbs
- Small flowers in umbels
- 5 petals, 5 lobed calyx, 5 stamens, 2 styles
- Fruit with 2 dehiscent carpels
- Leaves alternate, compound, petiole sheathing at the base



Apium graveolens


Anethum graveolens


Zizia aurea



Brassicaceae - mustard family

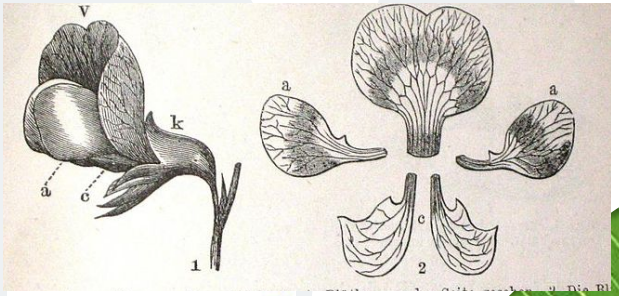
- Herbs
- Large family of pungent plants, not poisonous
- Flowers in racemes or corymbs
- 4 petals, 4 sepals, 6 stamens (4 long, 2 short)
- Fruit a silique or silicle
- Leaves alternate, no stipules


Arabis alpina subsp. *caucasica*


Rhapinus sativus

Hesperis matronalis







Fabaceae (legume family)

- Very large family
- Usually 10 stamens (monadelphous or diadelphous), single pistil
- Flowers papilionaceous or sometimes regular
- Fruit a legume (dehiscent)
- Leaves alternate with stipules, simple or compound


Genista tinctoria


Lupinus sp.


Lespedeza capitata



Thanks for listening! Any questions?