

# Lilianae

(monokotiledone)

## Nekomelinide

Acorales

Alismatales

Petrosaviales

Dioscoreales

Pandanales

Liliales

Asparagales

## Komelinide

Arecales

Poales

Commeliniales

Zingiberales

# Nekomelinide

- Acorales (Acoraceae)
- Alismatales (Alismataceae, Butomaceae, Araceae, Hydrocharitaceae, Lemnaceae, Najadaceae, Posidoniaceae, Potamogetonaceae, Zosteraceae)
- Petrosaviales (Petrosaviaceae)
- Dioscoreales (Dioscoreaceae)
- Pandanales (Pandanaceae)
- Liliales (Asphodelaceae, Melanthiaceae, Colchicaceae, Liliaceae, Smilacaceae)
- Asparagales (Asparagaceae, Alliaceae, Amaryllidaceae, Iridaceae, Orchidaceae)

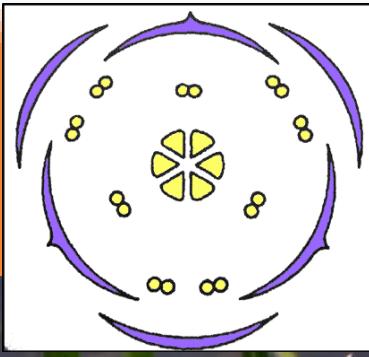
## Acorales

\* P<sub>3+3</sub> A<sub>3+3</sub> G<sub>(3)</sub>



## Alismatales

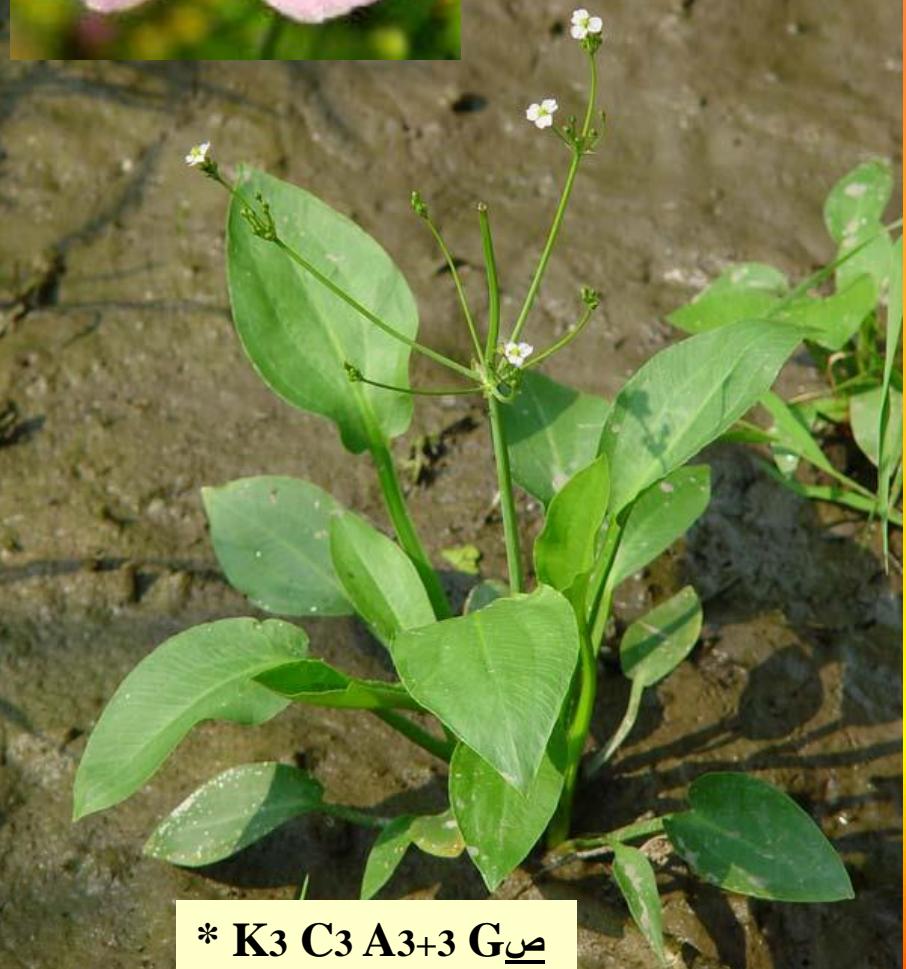
\* K<sub>3</sub> C<sub>3</sub> A<sub>6+3</sub> G<sub>6-9</sub>





# Alismatales

## Alismataceae



\* K<sub>3</sub> C<sub>3</sub> A<sub>3+3</sub> Gص

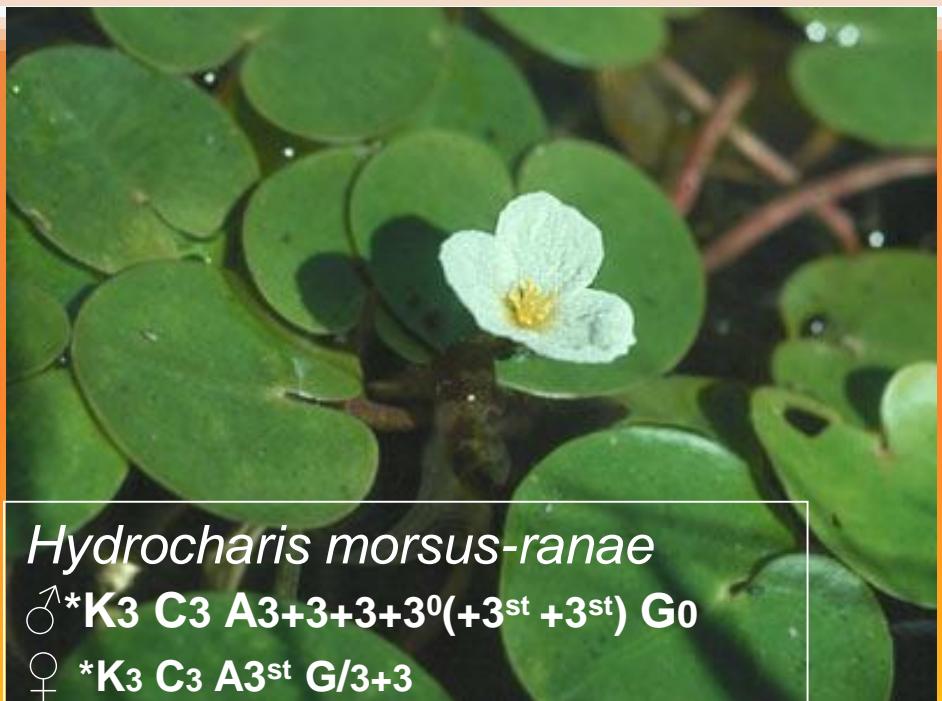
*Alisma plantago-aquatica*



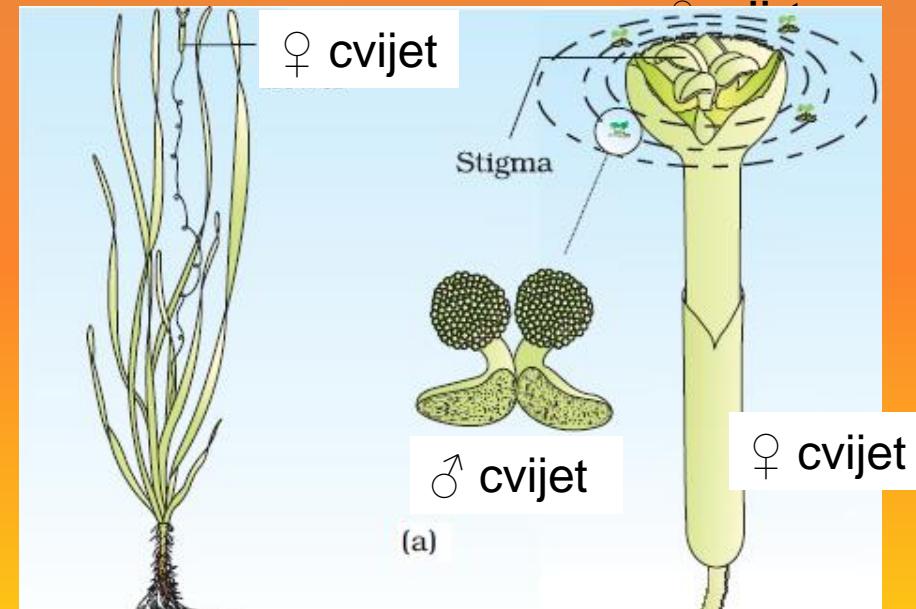
\*K<sub>3</sub> C<sub>3</sub> Aص G 3<sup>0</sup>+3<sup>0</sup>  
\*K<sub>3</sub> C<sub>3</sub> A<sup>0</sup> Gص



*Sagittaria sagittifolia*



## Hydrocharitaceae



*Najas marina*, *Najadaceae*

♂ **A<sub>1</sub>**  
♀ **G<sub>1</sub>**



*Zostera marina*,  
*Zosteraceae*

♂ **A<sub>1</sub>**  
♀ **G<sub>1</sub>**



*Posidonia oceanica*,  
*Posidoniaceae*

**A<sub>3</sub> G<sub>1</sub>**



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## Lemnaceae



# *Potamogetonaceae*

\* (P4 A4) G4



# Dioscoreales, *Dioscoreaceae*

***Dioscorea balcanica***



\* P<sub>3+3</sub> A<sub>3+3</sub> G<sub>0</sub>  
\*P<sub>3+3</sub> A<sub>0</sub> G<sub>(3)</sub>



***Tamus communis***

\* P<sub>3+3</sub> A<sub>3+3</sub> G<sub>(3)</sub>

**o. Pandanales**  
**f. Pandanaceae**



P0 Aص  
P0 Gص

***Pandanus gracilis***

# Liliales

Asphodelaceae (*Asphodelus*)

Colchicaceae (*Colchicum*)

Liliaceae (*Lilium*, *Tulipa*, *Fritillaria*)

Melanthiaceae (*Veratrum*, *Paris*)

Smilacaceae (*Smilax*)

# Asphodelaceae, Asphodelus albus - čapljan



\* P<sub>3+3</sub> A<sub>3+3</sub> G<sub>(3)</sub>



*Colchicaceae, Colchicum hungaricum, mrazovac*

\* [P<sub>(3+3)</sub> A<sub>3+3</sub>] G<sub>(3)</sub>



*Liliaceae*

P<sub>3+3</sub> A<sub>3+3</sub> G<sub>(3)</sub>





*Erythronium dens-canis- pasji zub*

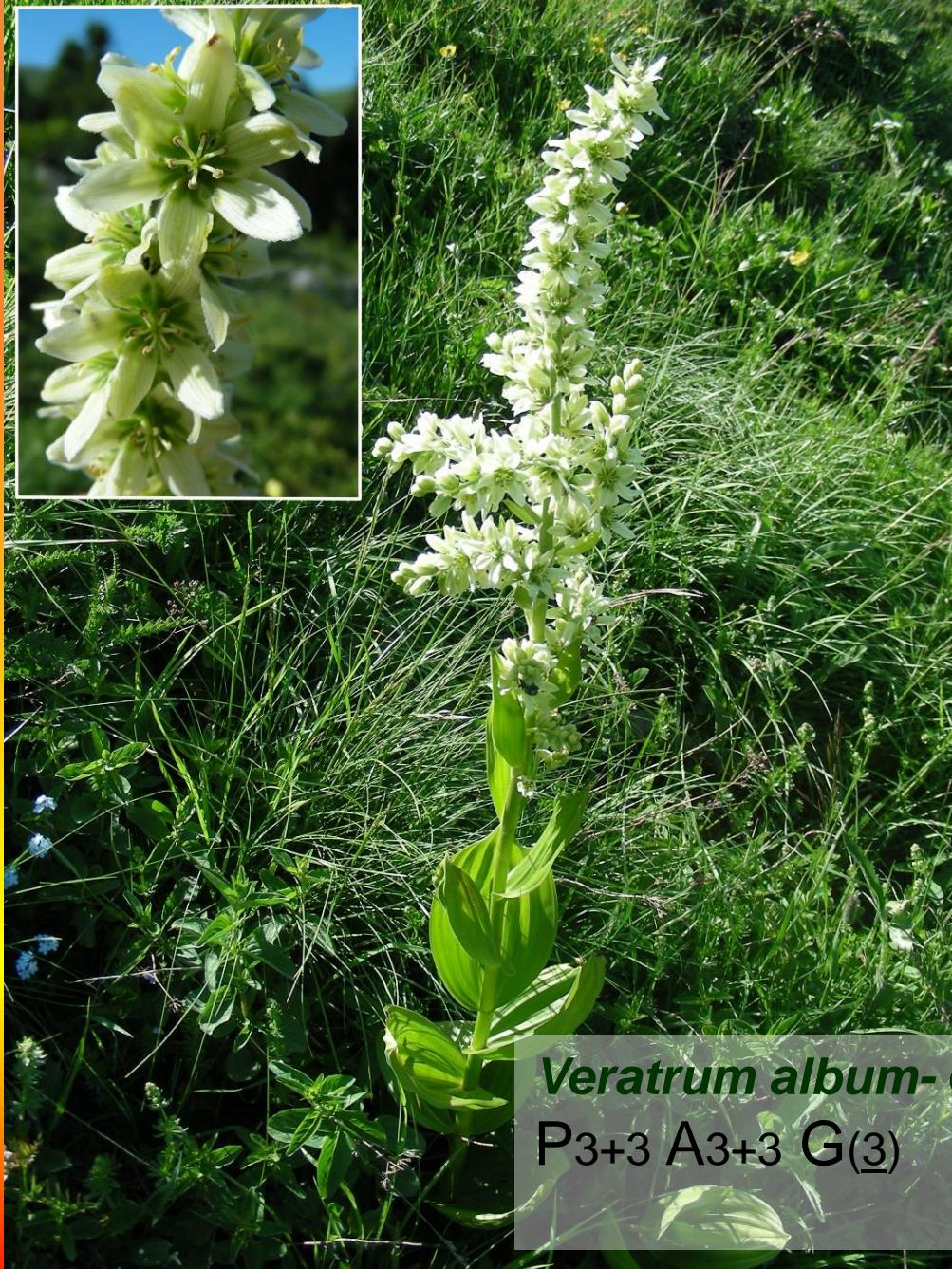


*Lilium martagon- Ijljan*

## Melanthiaceae



*Paris quadrifolia*- Petrov krst \*K<sub>4</sub> C<sub>4</sub> A<sub>4+4</sub> G<sub>(4)</sub>



*Veratrum album*- čemerika  
P<sub>3+3</sub> A<sub>3+3</sub> G<sub>(3)</sub>

# *Smilacaceae*



# Asparagales

Alliaceae (*Alium*)

Amaryllidaceae (*Narcissus*, *Galanthus*, *Leucojum*)

Asparagaceae (*Convallaria*, *Polygonatum*, *Asparagus*, *Ruscus*)

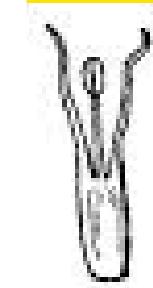
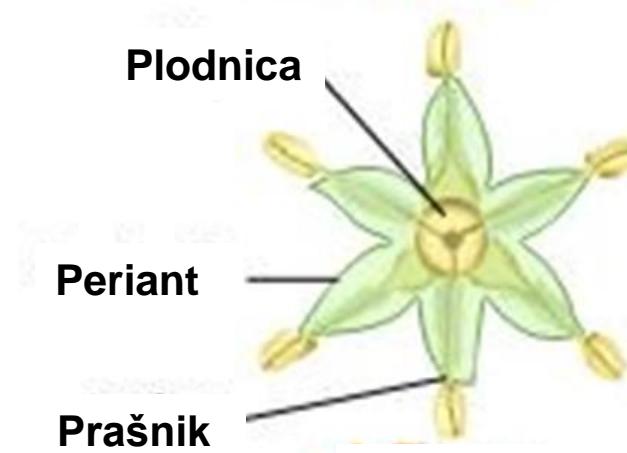
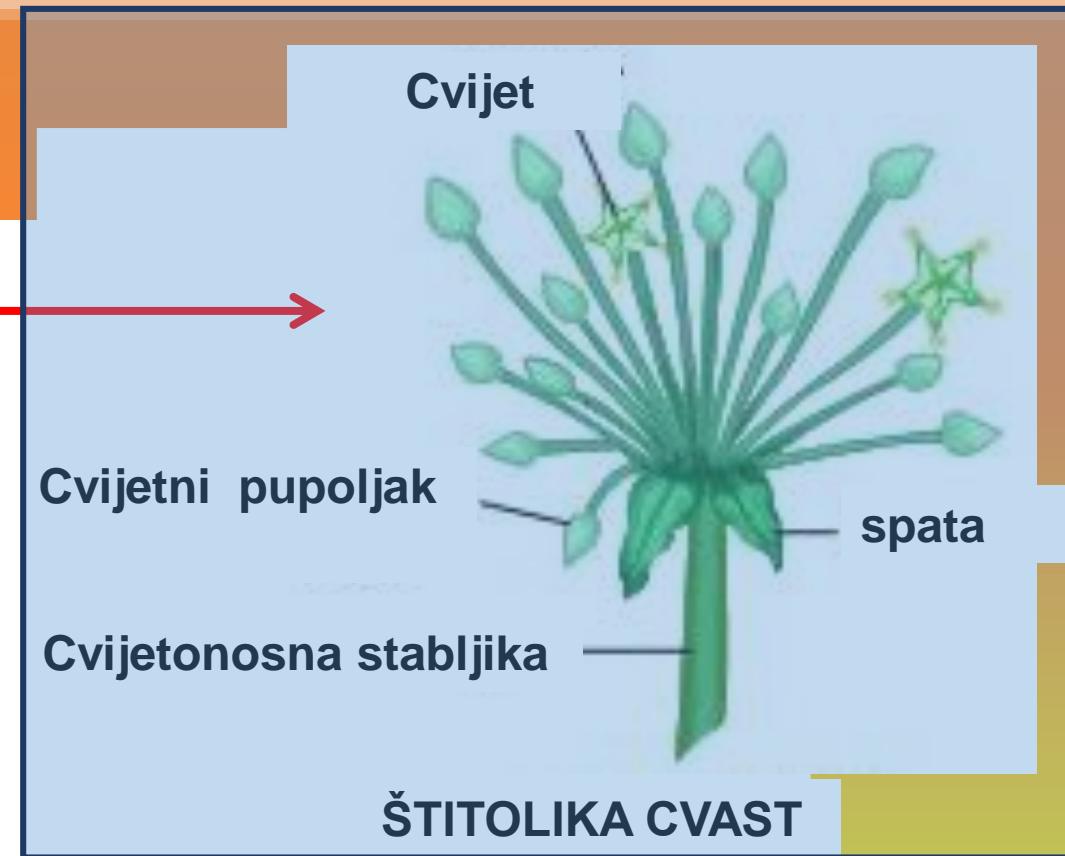
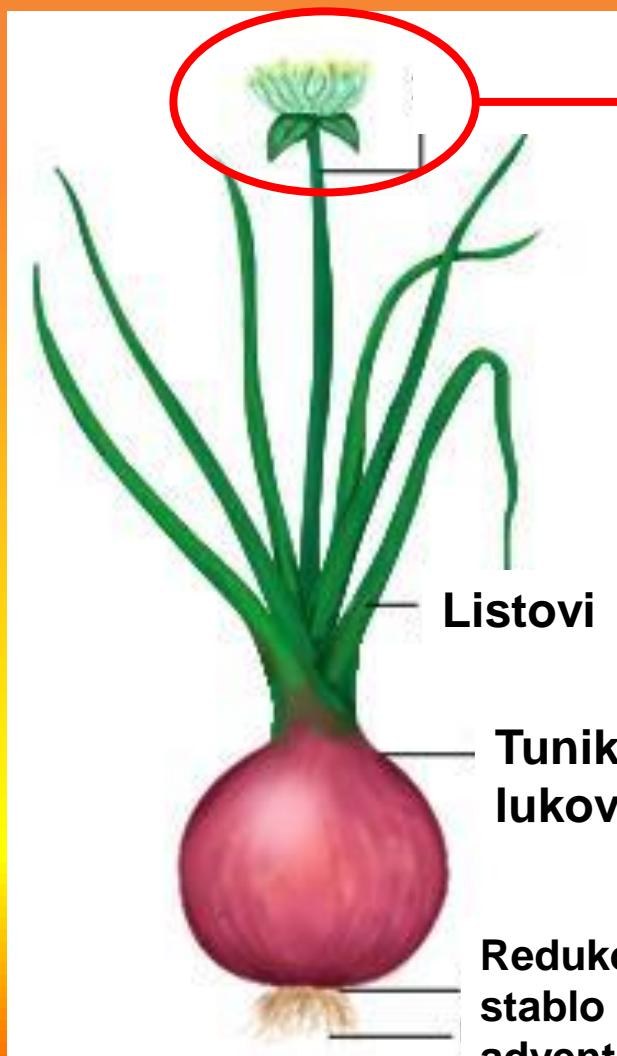
Araceae (*Arum*)

Iridaceae (*Iris*, *Crocus*, *Gladiolus*)

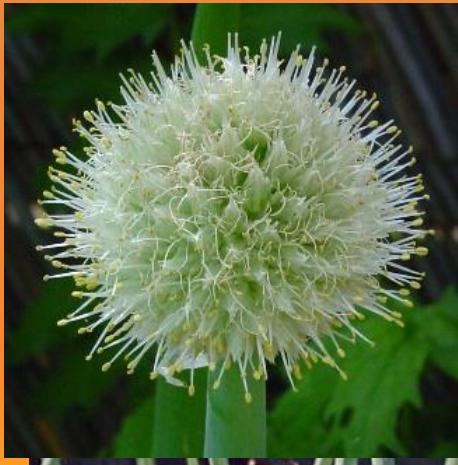
Orchidaceae (*Ophrys*, *Orchis*, *Spiranthes*, *Gymnadenia*...)

# Alliaceae

\* [P<sub>3+3</sub> A<sub>3+3</sub>] G<sub>(3)</sub>



Prašnik  
sa končastim  
privjescima



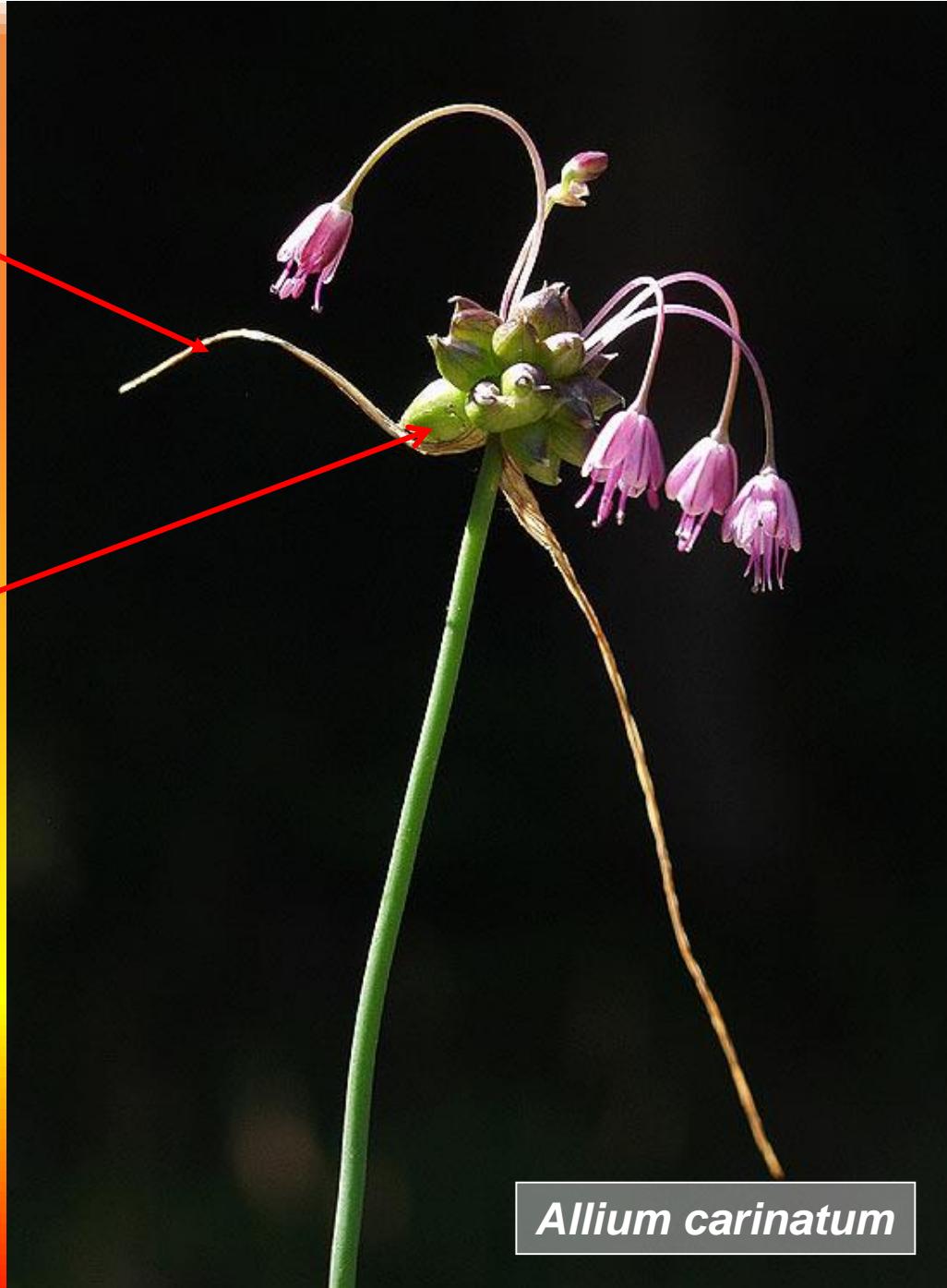
**Allium cepa- crni luk**



**Allium ursinum- srijemuš**

Ovojni list (spata)  
nadvisuje cvast

Rasplodni bulbili u zoni cvasti



*Allium carinatum*

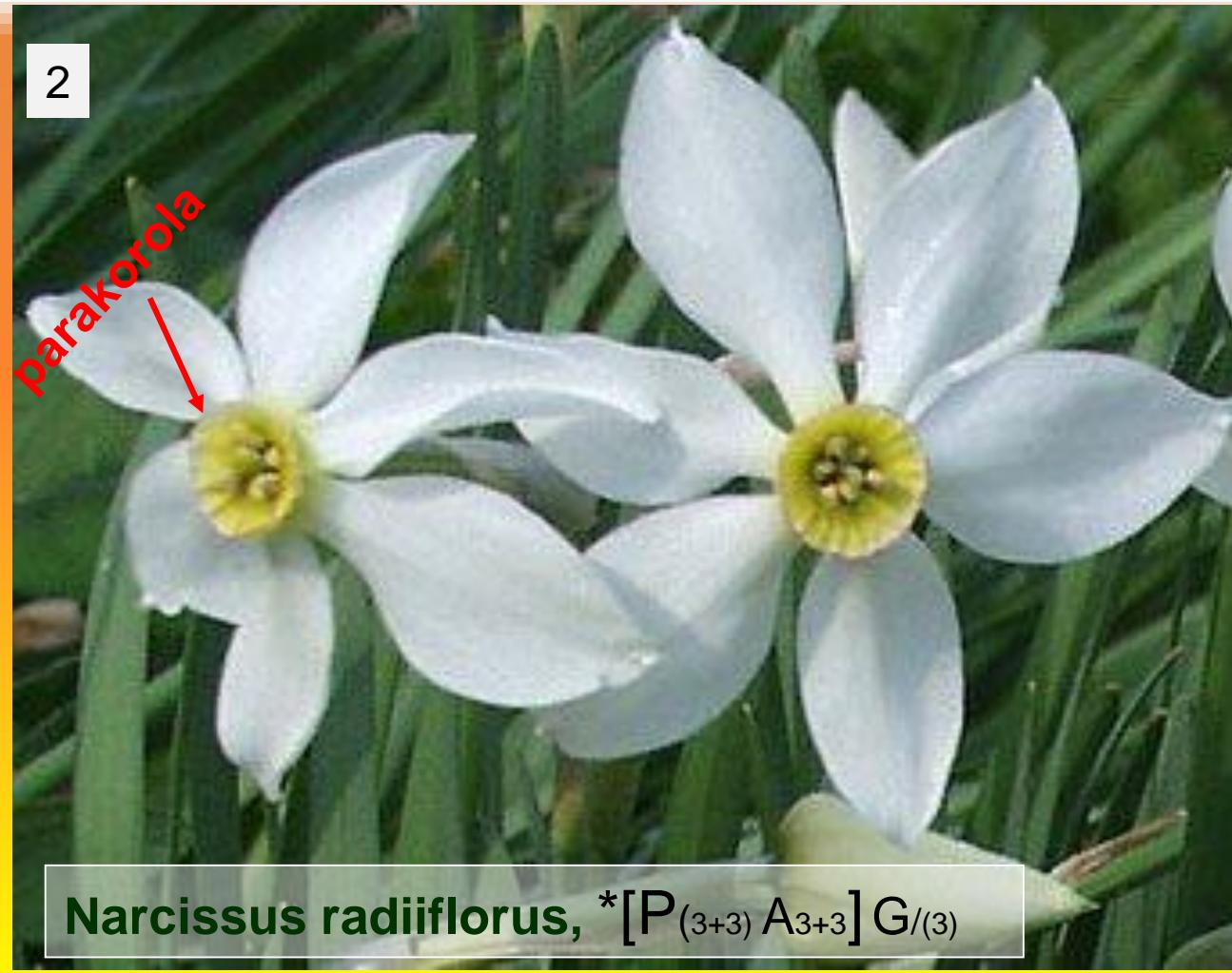
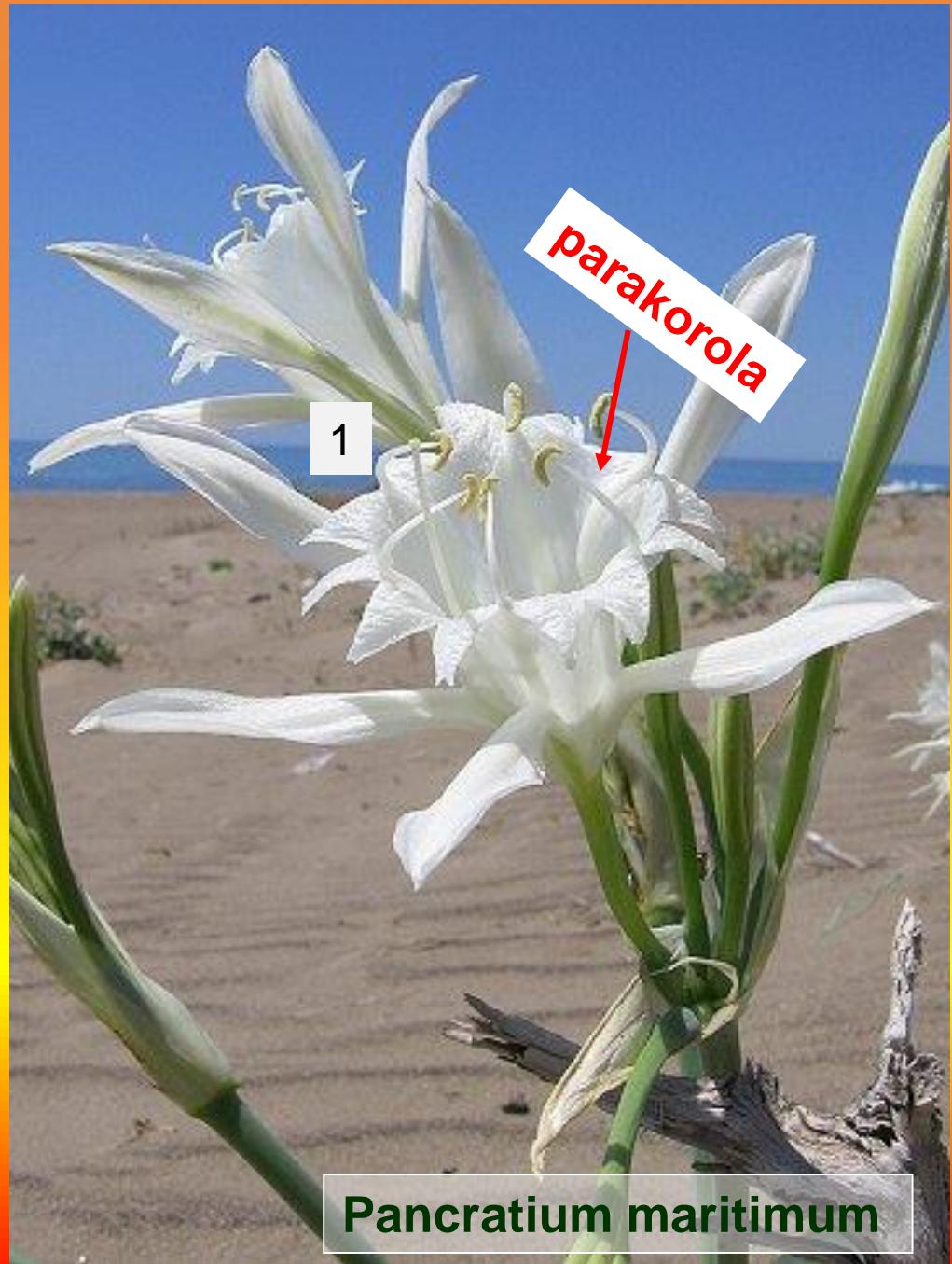


**Leucojum aestivum, \*P<sub>3+3</sub> A<sub>3+3</sub> G/(3)**

**f. Amaryllidaceae**

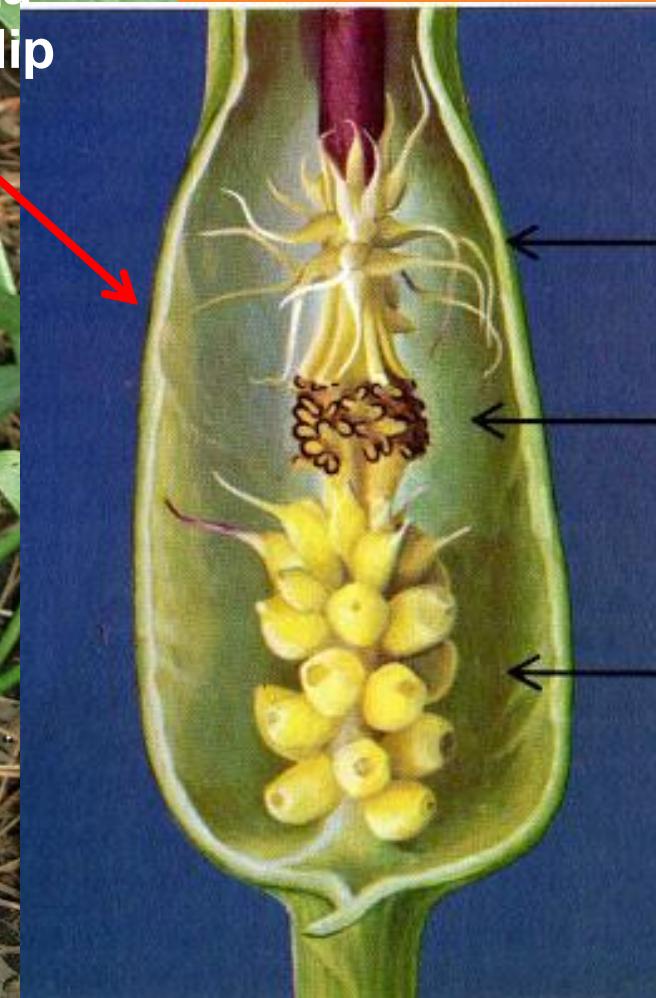


**Galanthus nivalis, \*P<sub>3+3</sub> A<sub>3+3</sub> G/(3)**



Parakorola izvodi porjeklo od  
prašničkih niti (1) ili cijevi vijenca  
(2)...

# Araceae



Sterilni  
muški cvijet

Muški cvijet

♂ P<sub>0</sub> A(2-4)

Ženski cvijet

♀ P<sub>0</sub> G<sub>1</sub>

# Asparagaceae

## Subfam. Asparagoideae



Asparagus acutifolius- šparoga, \*[P<sub>(3+3)</sub> A<sub>3+3</sub>] G<sub>(3)</sub>

## Subfam. Nolinoideae



filokladija

*Ruscus aculeatus*- kostruika,

\*P<sub>(3+3)</sub> A<sub>(3+3)</sub> G<sub>(3)</sub><sup>r</sup>

\*P(3+3) (A3+3)<sup>r</sup> G(3)

## Subfam. Nolinoideae



*Convallaria majalis*- đurđevak



*Polygonatum multiflorum*

\*[P<sub>(3+3)</sub> A<sub>3+3</sub>] G<sub>(3)</sub>

## Subfam. Scilloideae



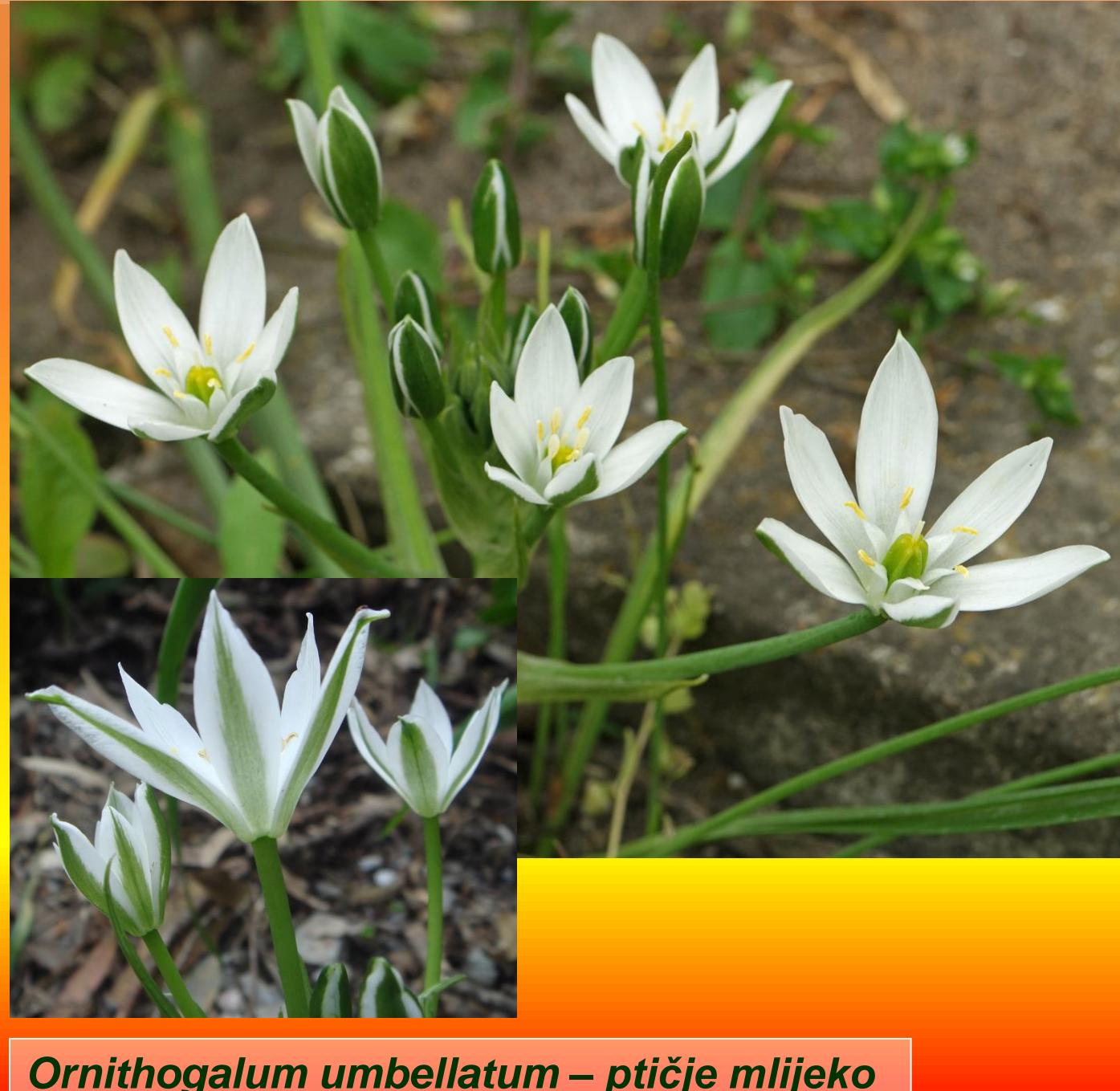
*Muscari comosum*



*Hyacinthella dalmatica*



*Scilla bifolia*



*Ornithogalum umbellatum – ptičje mlijeko*

# Agavaceae



*Agave americana*



*Yucca sp.*

**Gladiolus palustris- gladiola**



**Iridaceae**

**[P<sub>3+3</sub> A<sub>3</sub>] G<sub>/(3)</sub>**



**Iris pseudoacorus- iris**

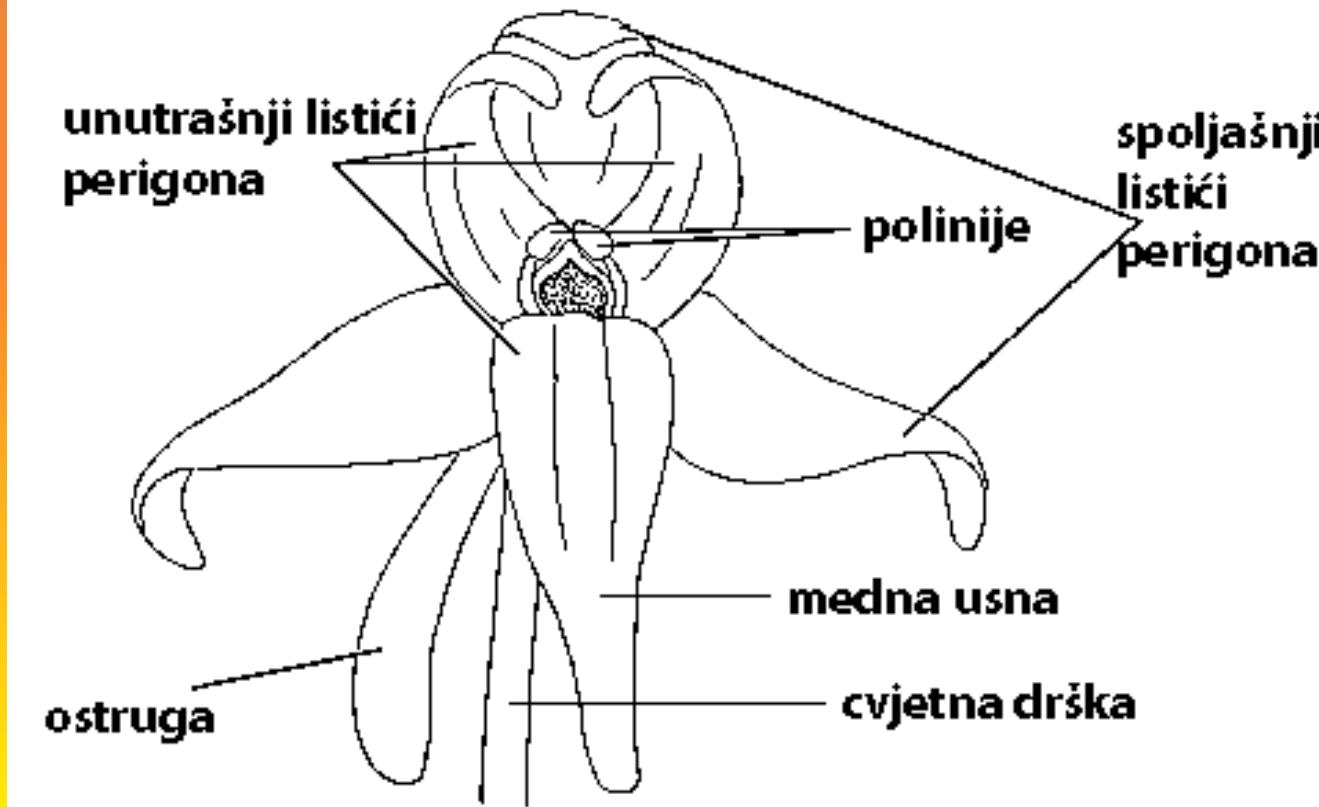
**3 spoljašnja lista perigona  
prema nazad savijena**

*Crocus dalmaticus*- Šafran



*Romulea bulbocodium*

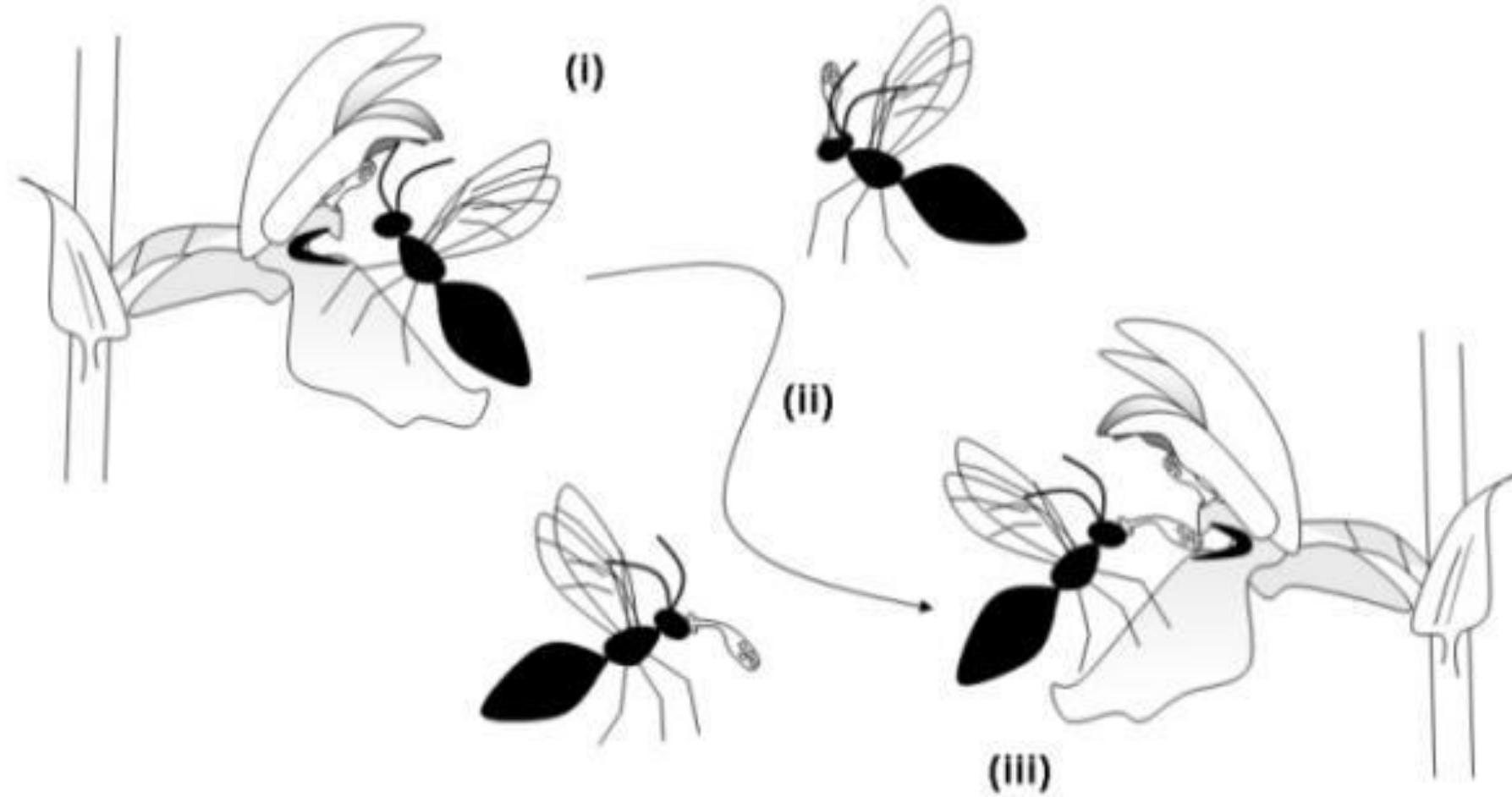
# **Orchidaceae**



**Subfam. Apostasioideae,  $\uparrow/*P_{3+3} [A_{2-3} G_{/(3)}]$**

**Subfam. Cypripedioideae,  $\uparrow P_{3+3} [A_{1^{st}+2} G_{/(3)}]$**

**Subfam. Orchidoideae,  $\uparrow P_{3+3} [A_{1+2^{st}} G_{/(3)}]$**



Mehanizam opašivanja



Medna usna sa  
ostrugom!

## Orchideoideae (Monoandre)

**Anacamptis pyramidalis**





**Orchis papilionaceae**



**Orchis morio**

*Ophrys insectifera* - pčelica

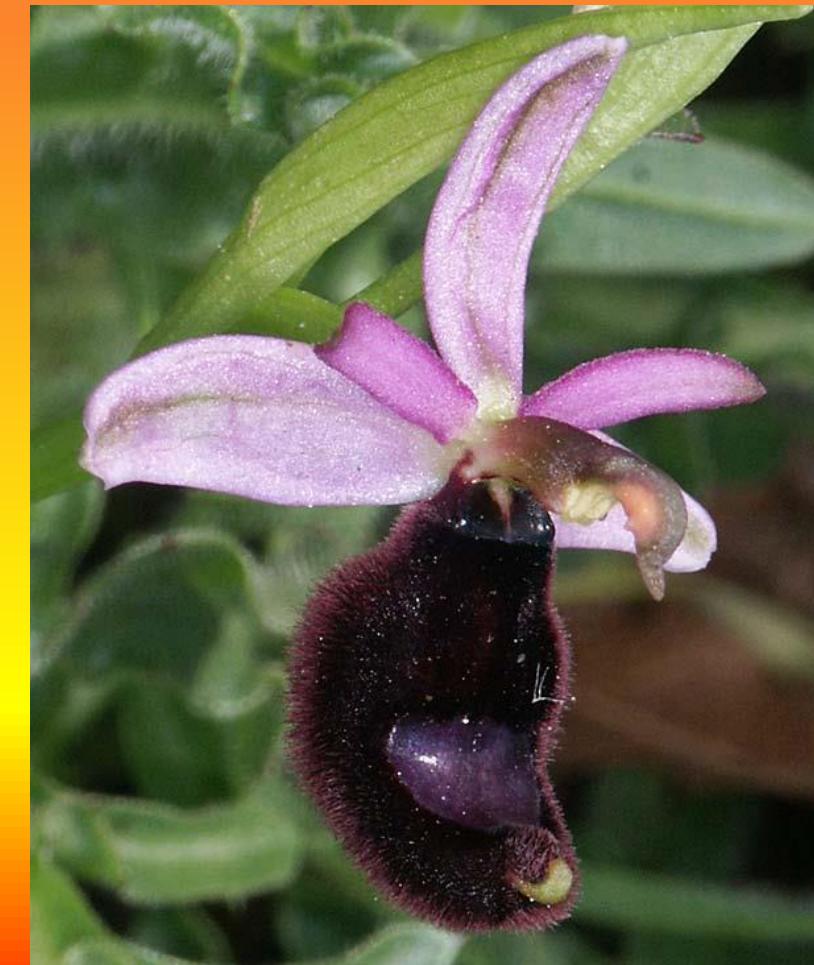


Medna usna  
bez ostruge!

*Ophrys cornuta* - pčelica



*Ophrys bertočanii* - pčelica





***Neottia nidus-avis*- ptičje gnezdo**



***Spiranthes spiralis***



*Serapias sp.*

*Cypripedioideae*  
(Diandre)



*Cypripedium calceolus*