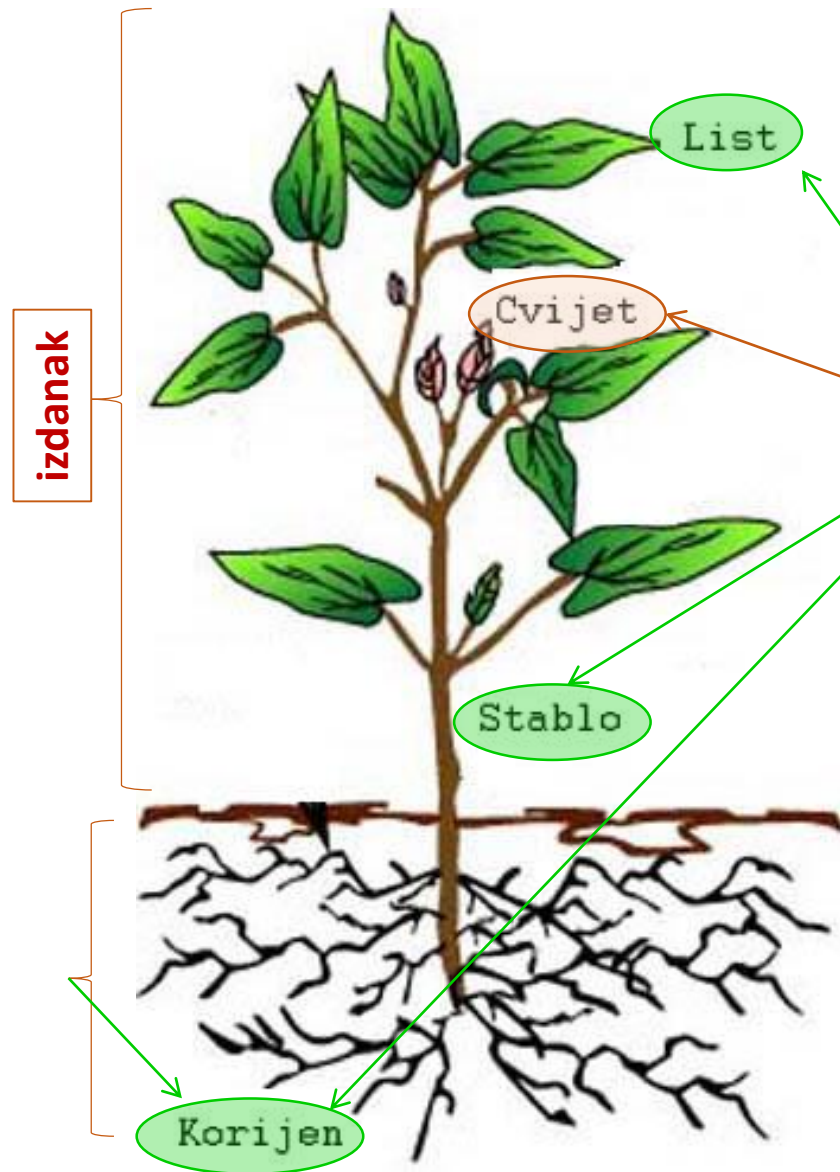


MORFOLOGIJA BILJNIH ORGANA



Organ- dio biljnog tijela koji vrši određenu funkciju!

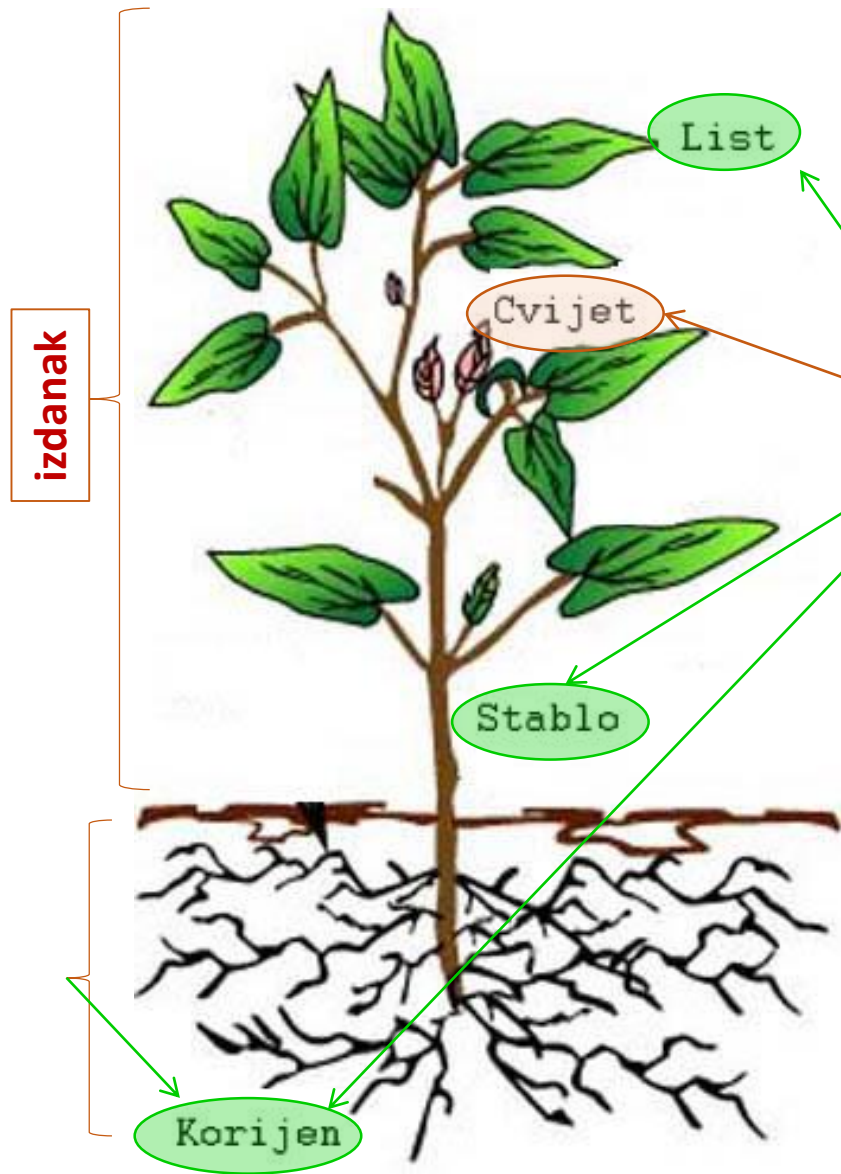
Vegetativni i reproduktivni!

Adventivni!

(adventivan= sporedan,
ne raste na svom mjestu)

Analogni (ista funkcija),
homologi (isto porijeklo).

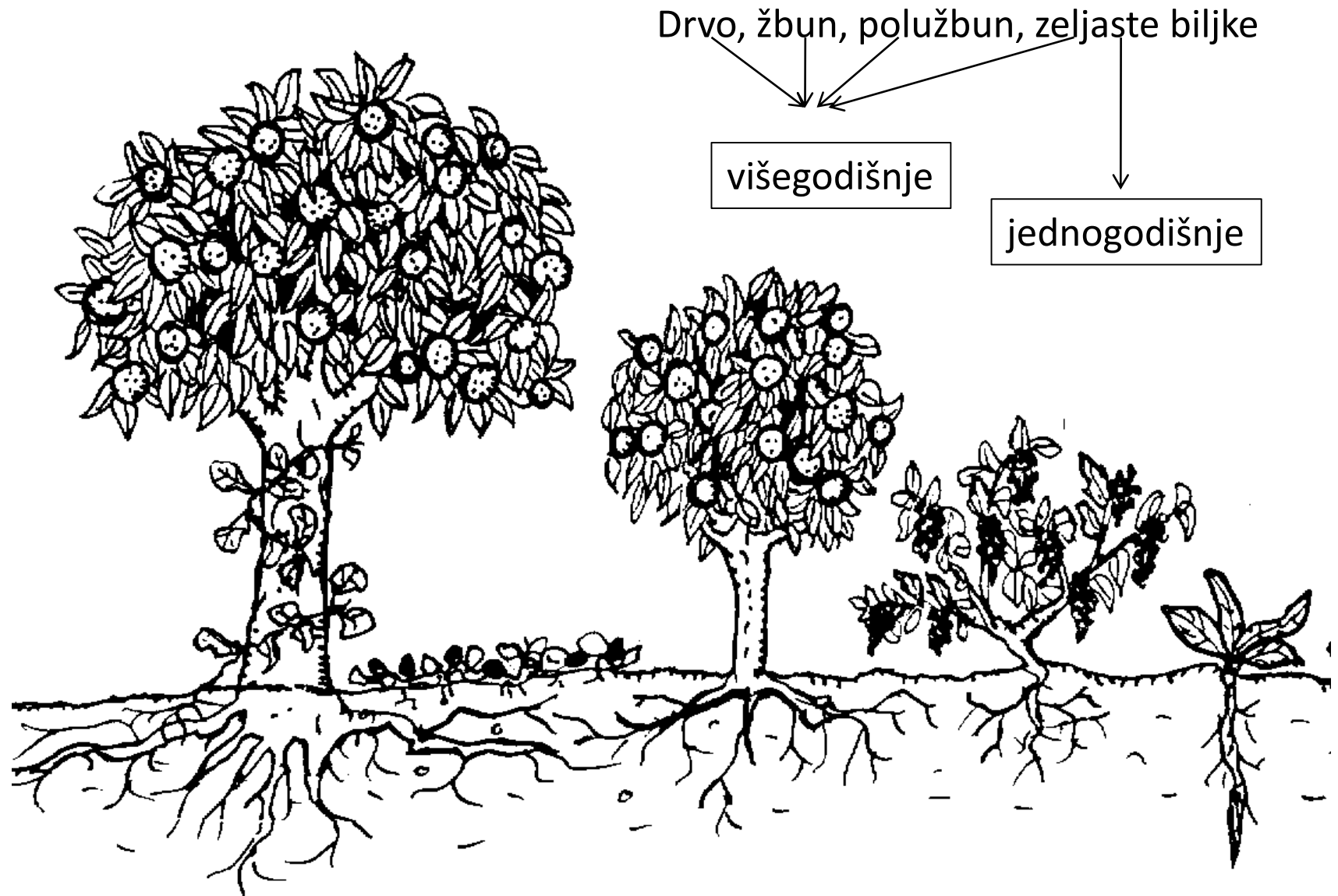
Metamorfozirani organi...



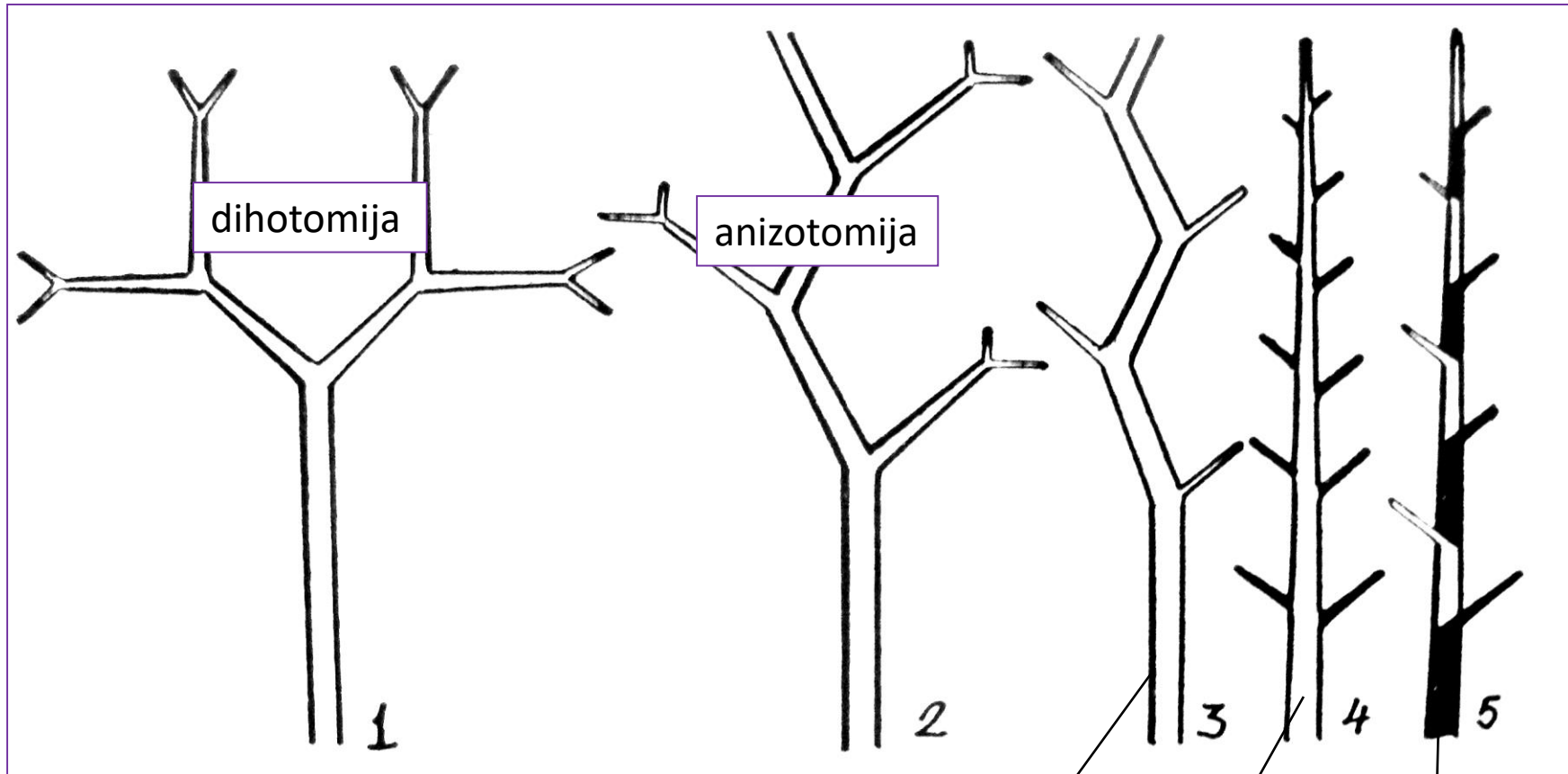
Izdanak
(stablo + listovi +
reproduktivne strukture)

Korijen

Forme stabla



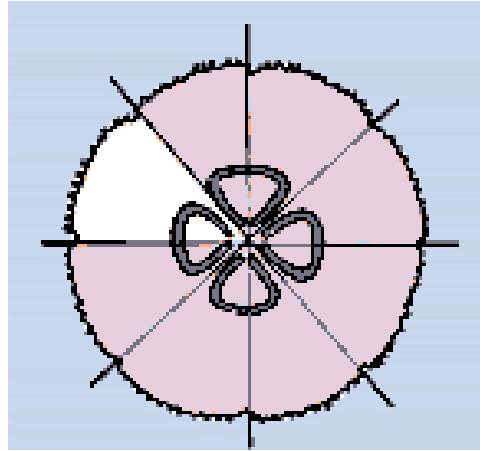
Tipovi grananja



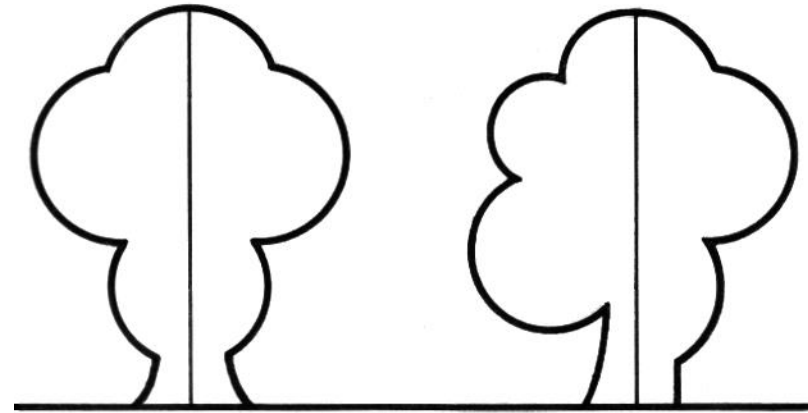
dihopodijalno grananje

monopodijalno

simpodijalno



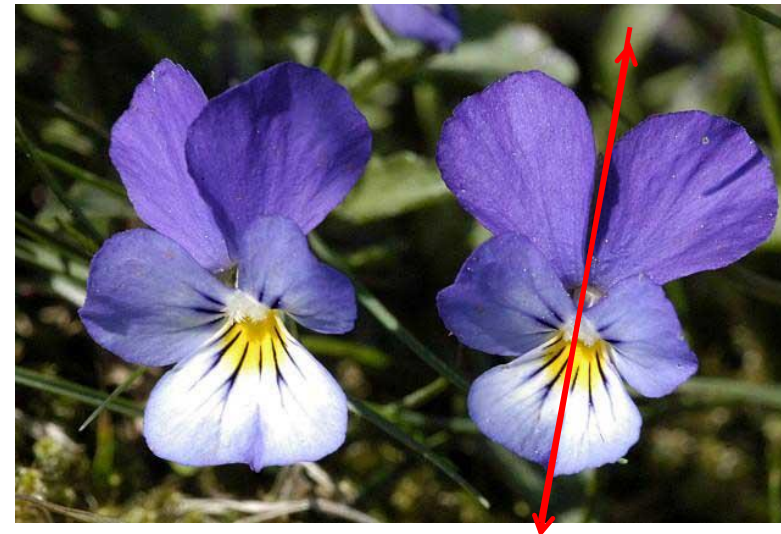
Polisimetrija =
(radijalna simetrija)



Bilateralna simetrija

Asimetrija

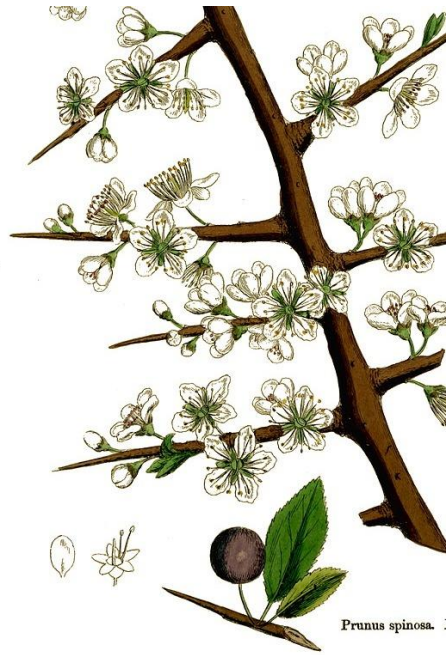
- Simetrija cvijeta: polisimetričan= aktinomorfan, pravilan;
monosimetričan= zigomorfan, nepravilan cvijet



Metamorfoze izdanka

- Fotofilni izdanak (nadzemni)
- Geofilni izdanak (podzemni)

Metamorfoza izdanka u trn



Metamorfoza izdanka u rašljike



Filokladije



Fotofilni izdanci

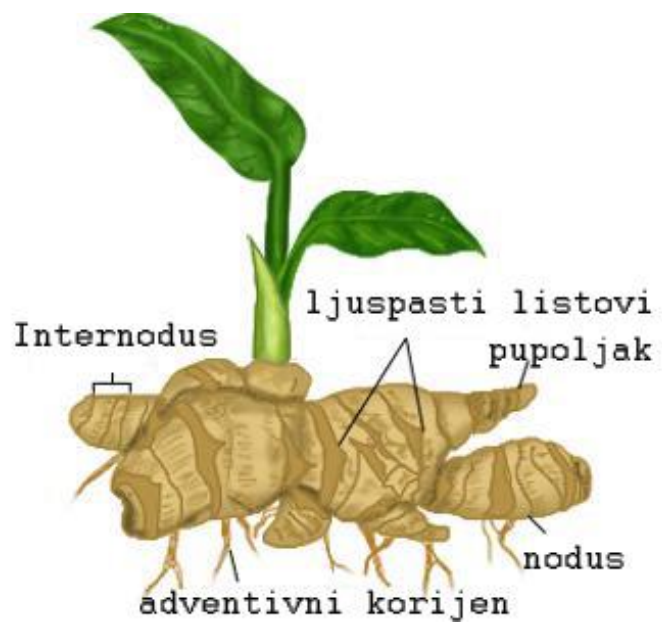
Sukulente



Geofilni izdanci (rizomi, stolone, krtole i lukovice)

Rizomi

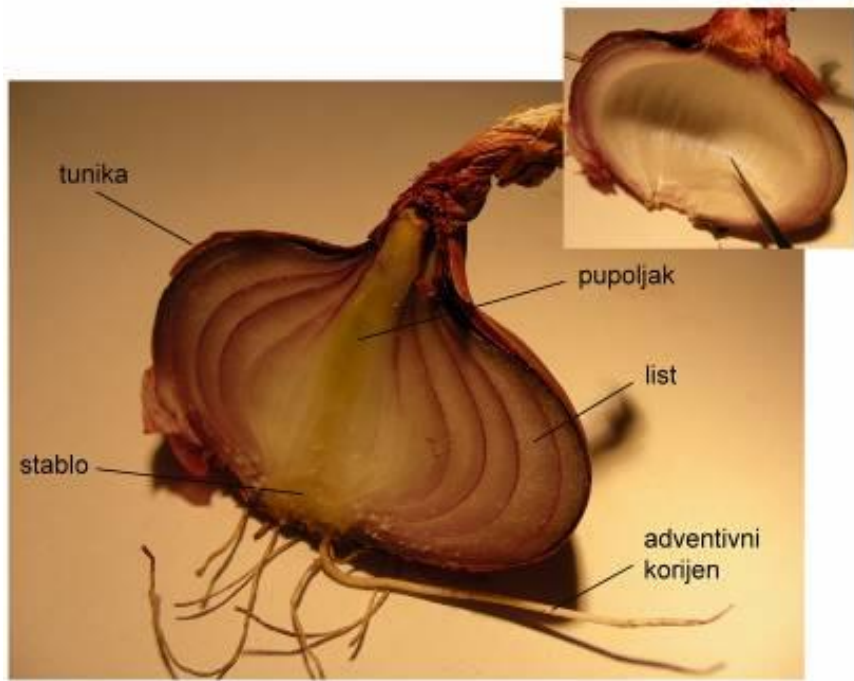
(horizontalni, uspravni, monopodijalni, simpodjalni)



Rizom đumbira



Rizom kisele paprati



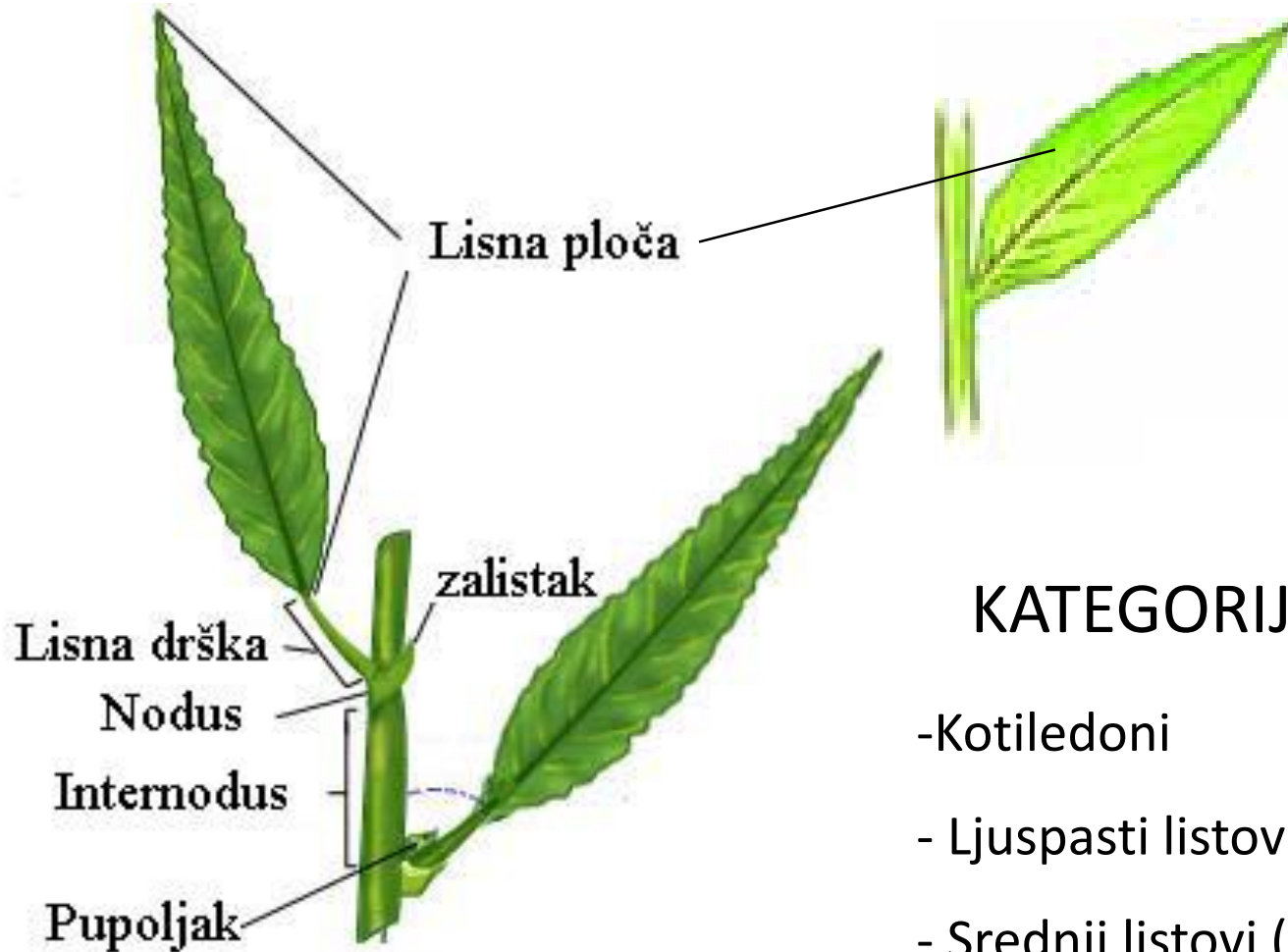
Lukovica



Krtola



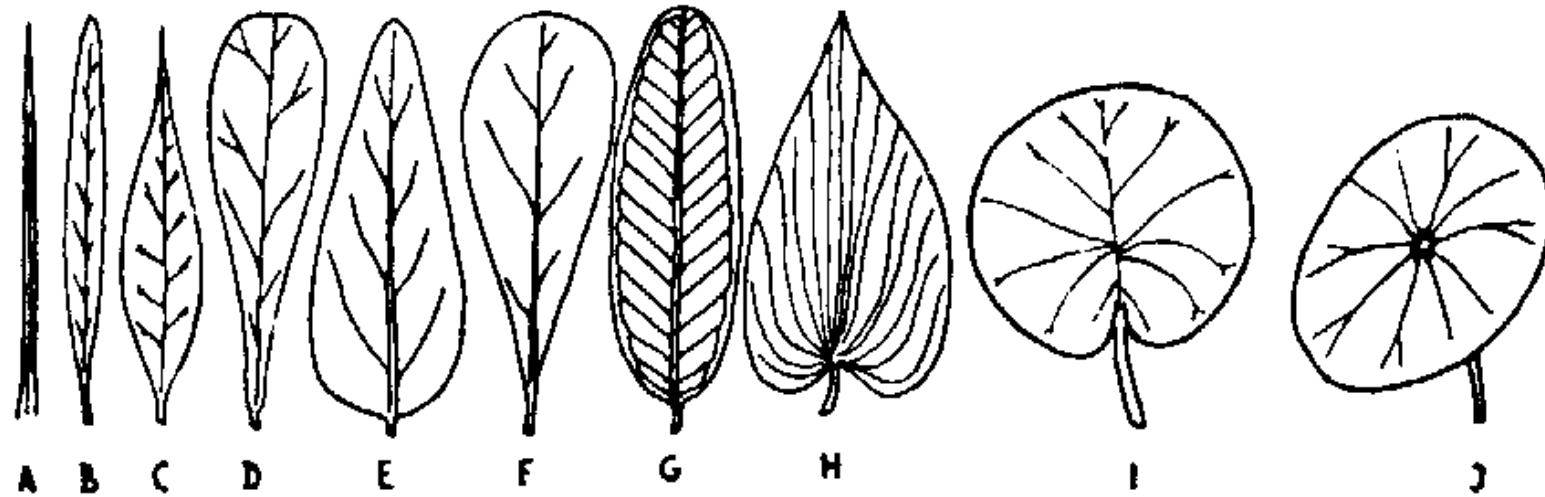
LIST



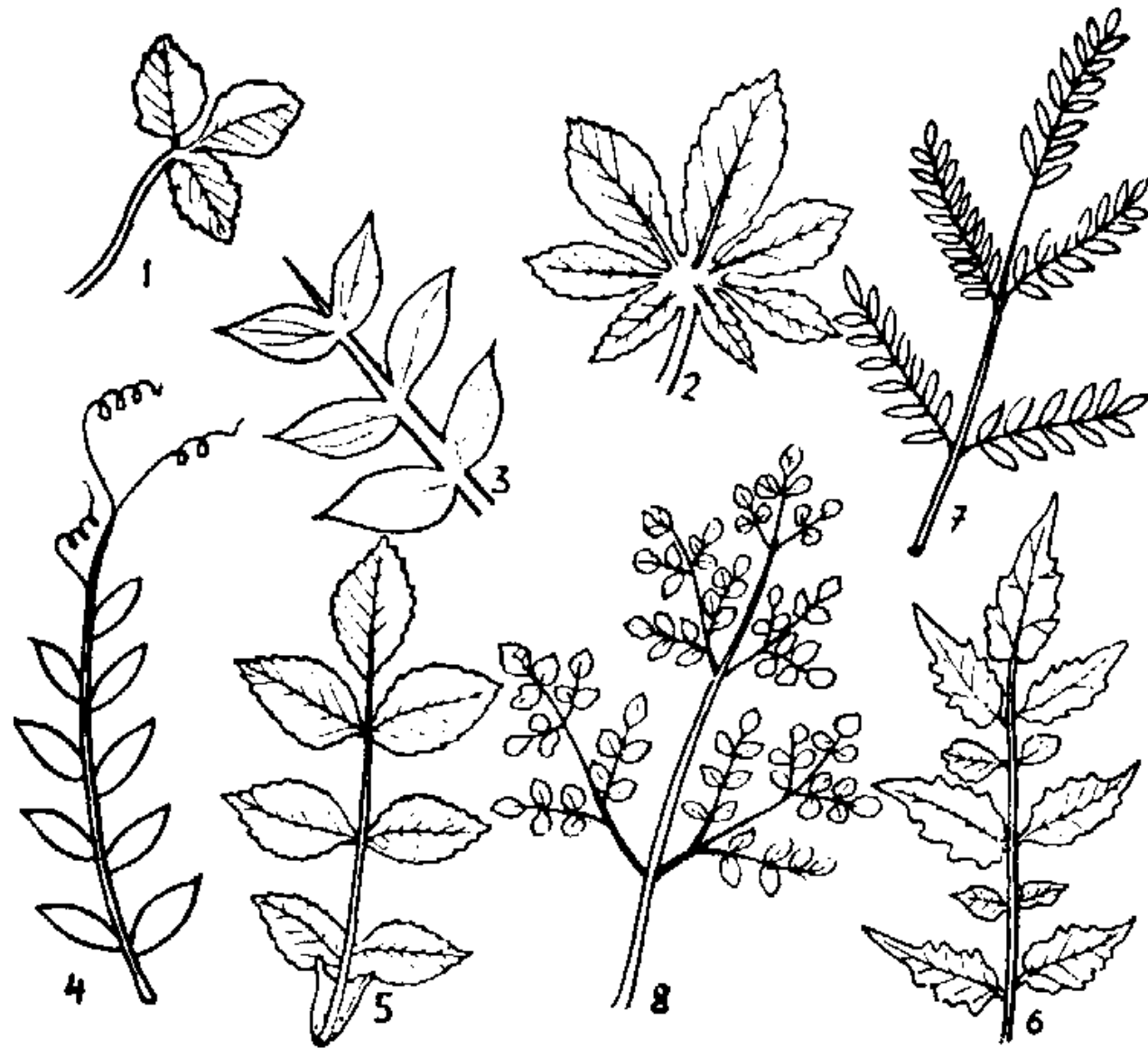
KATEGORIJE LISTOVA

- Kotiledoni
- Ljuspasti listovi (uglavnom donji)
- Srednji listovi (asimilacioni, pravi)
- Brakteje – pricvjetni listovi
- Zalisci
- Listovi u zoni cvasti

OBLIK LISNE PLOČE

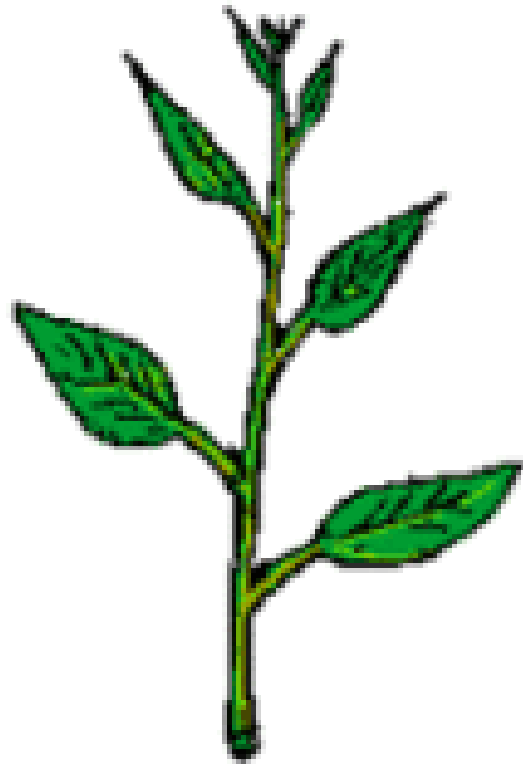


Sl. 309. Oblici liske nekih listova: A — igličast; B — linearan; C — lancetast; D — lopatičast; E — jajast; F — objajast; G — eliptičan; H — srcast; I — okrugao; J — peltatan list

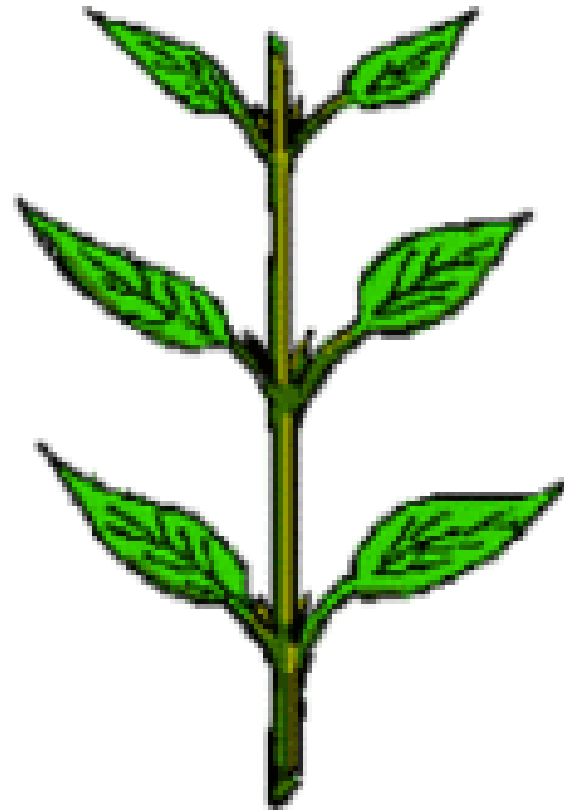


Sl. 308. Složeno građeni listovi: 1 — tročlan; 2 — prstasto složen; 3 — parno perasto složen; 4 — parno perast list sa listićima pretvorenim u rašljike; 5 — neparno perasto složen; 6 — isprekidano perasto složen; 7 — dvojno perasto složen; 8 — trojno perasto složen

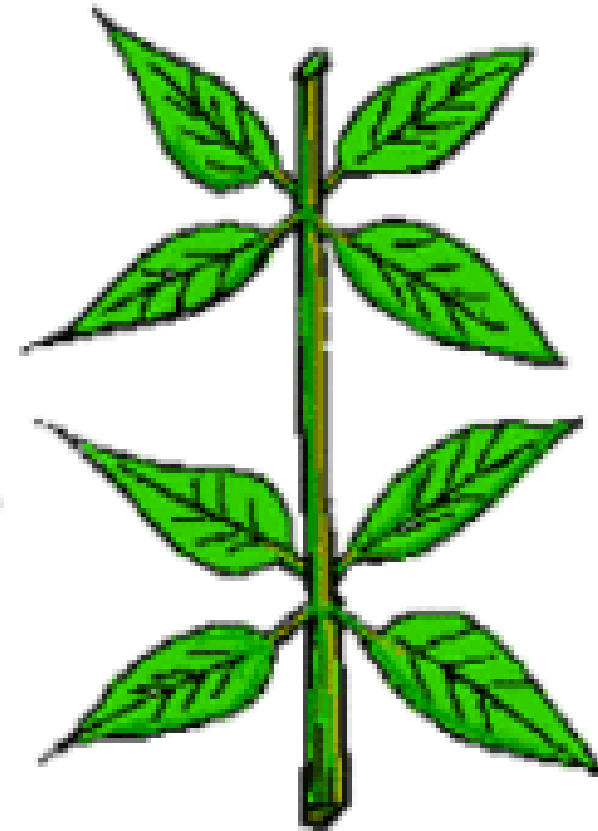
RASPORED LISTOVA



Naizmjeničan



Naspraman



Pršljenast

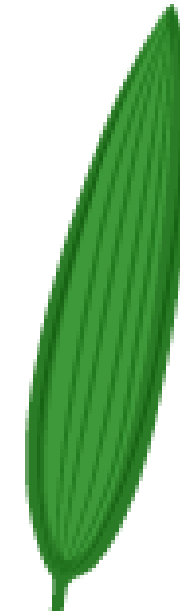
TIPOVI NERVATURE



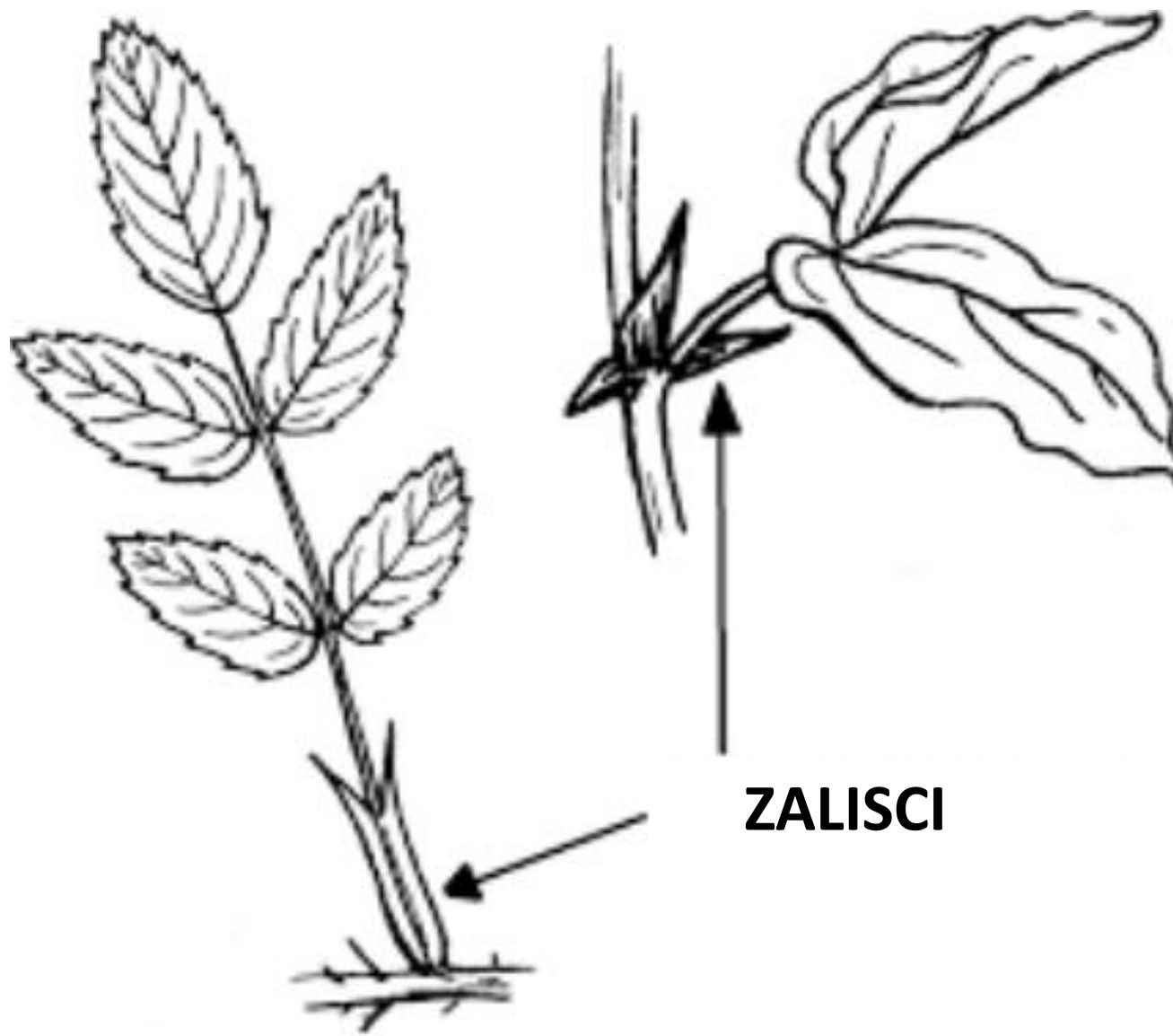
Perasta



Dlanolika



Paralelna



ZALISCI

CVJETONOSNA GLAVICA BIJELA RADA

podmatrana odozgo



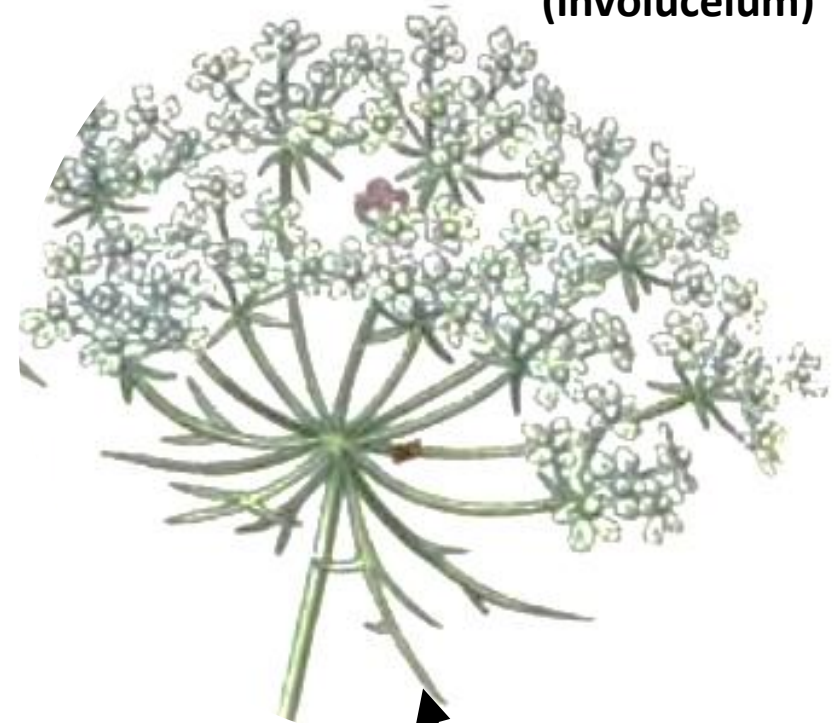
podmatrana odozdo



Ovojni listovi
cvjetonosne glavice
(involukrum)

SLOŽENI ŠTITI ŠARGAREPE

Listovi ovojčica štita
(involucelum)



Listovi ovoja štita
(involukrum)

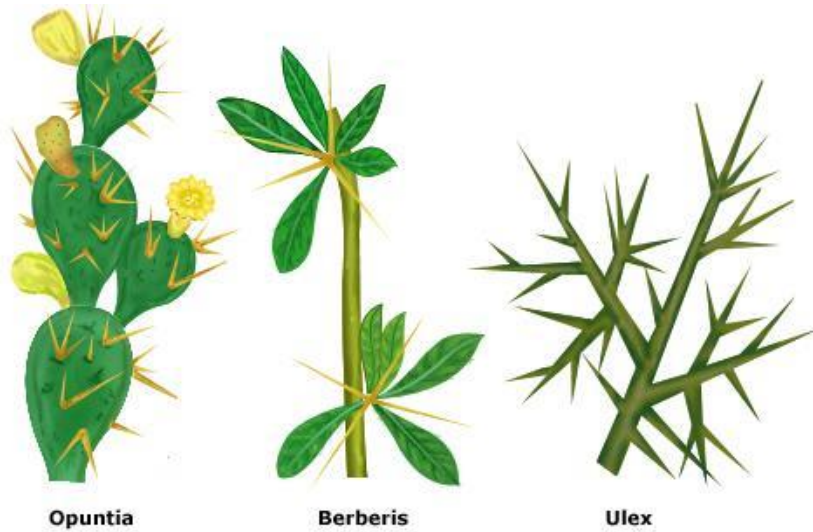
METAMORFOZE LISTA

Metamorfoza lista u rašljiku

Metamorfoza lista u trn



rašljika



Opuntia

Berberis

Ulex

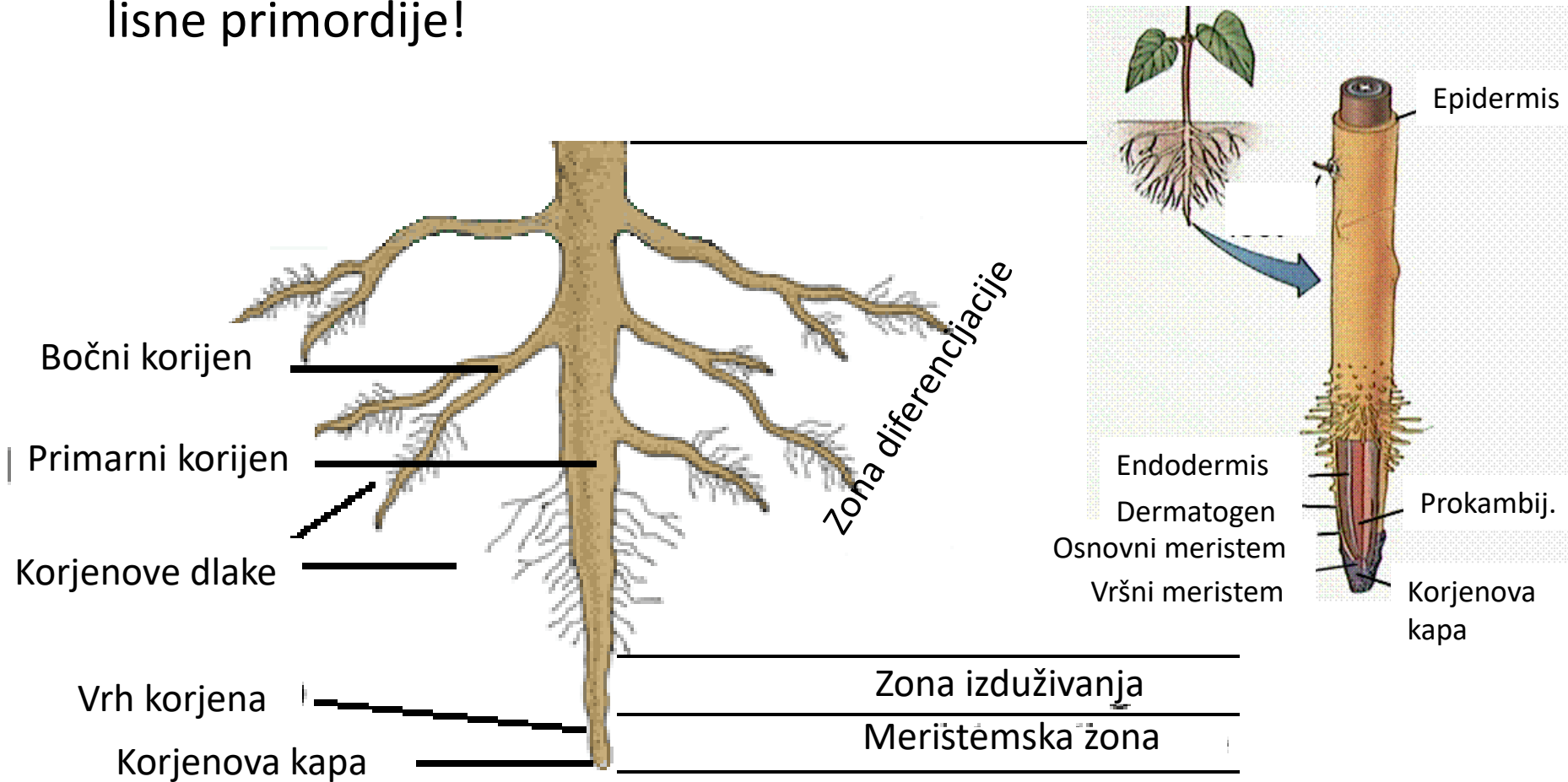
Metamorfoza lisne drške u filodije



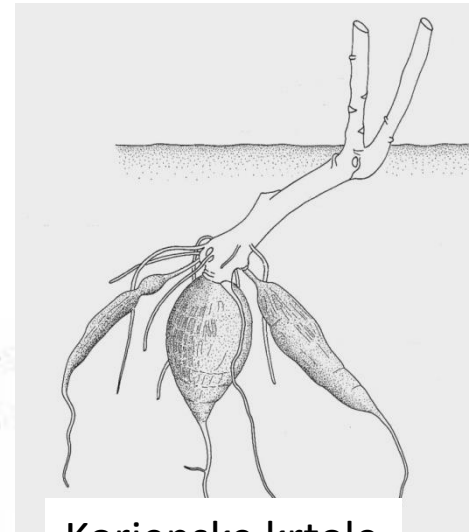
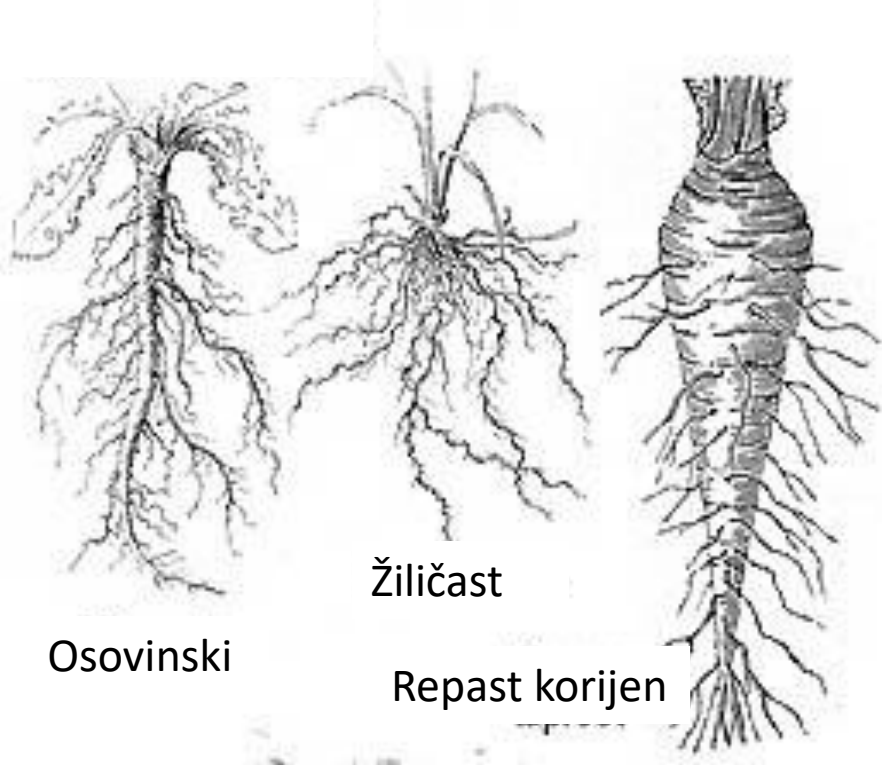
Listovi kao organi za magacioniranje hrane

Korijen

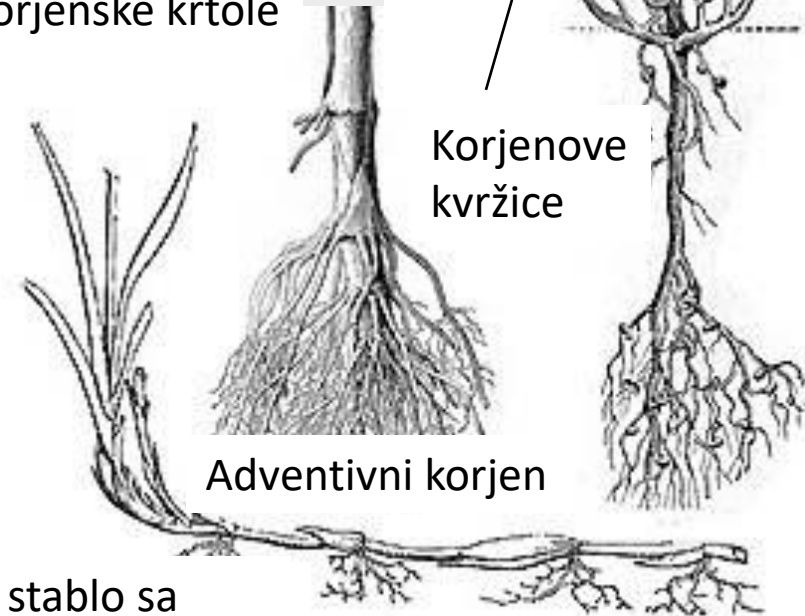
- Podzemni organ radijalne simetrije na kojem se ne obrazuju lisne primordije!



Tipovi korjena i metamorfoze

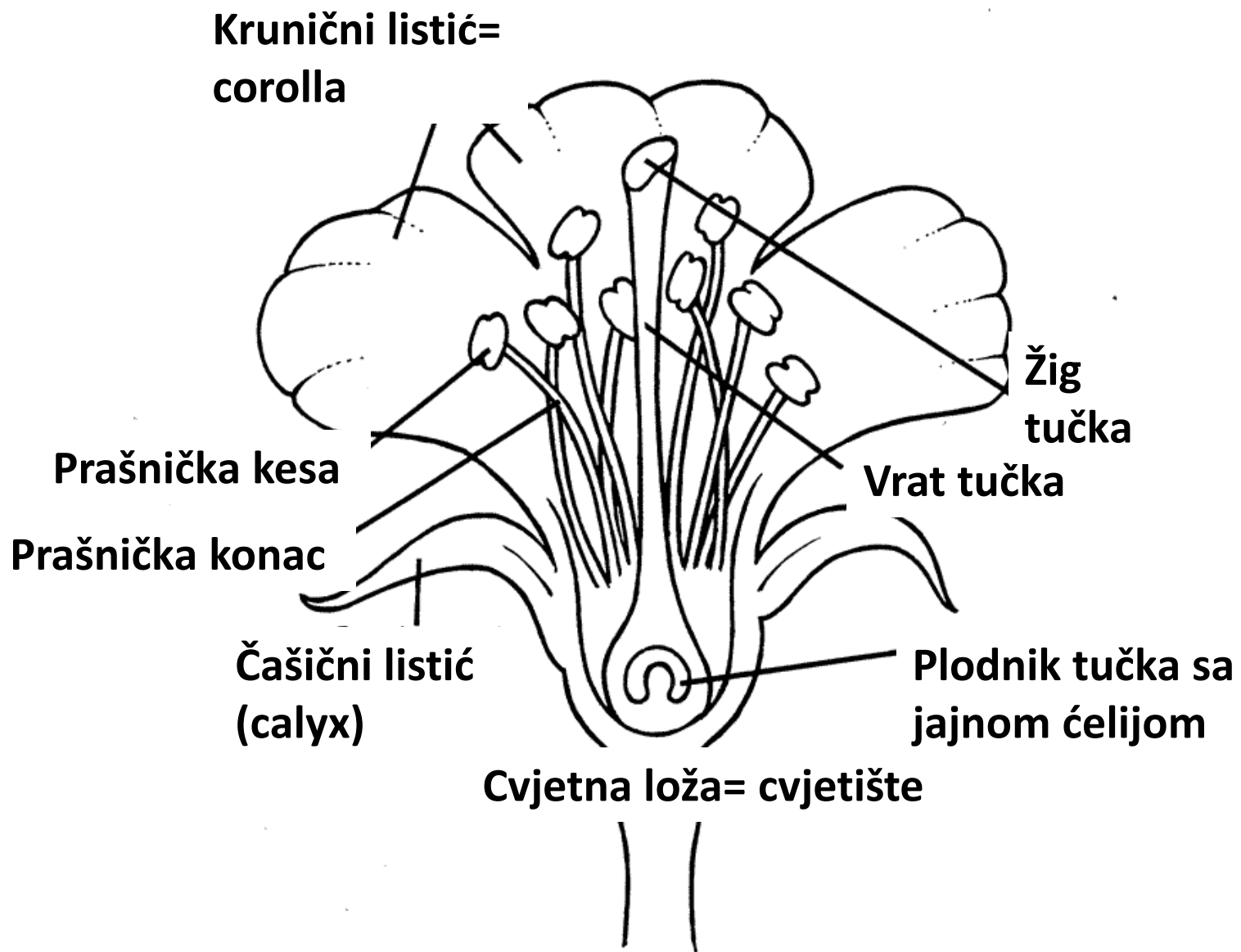


Korjenske krtole



- Kontraktilni korjenovi
- Vazdušni korjenovi
- Korjenovi za provjetranje
- Daskasti korjenovi
- Asimilacioni korjenovi

Puzeće stablo sa
adventivnim
korjenima



Terminologija

Heterohlamidan cvijet

Homohlamidan cvijet

Ahlamidan cvijet

Dvopolan

Jednopolan

Aktinomorfan

Zigomorfan

CVASTI

Racemozne- monopodijalno grananje

Cimozne- simpodijalno grananje

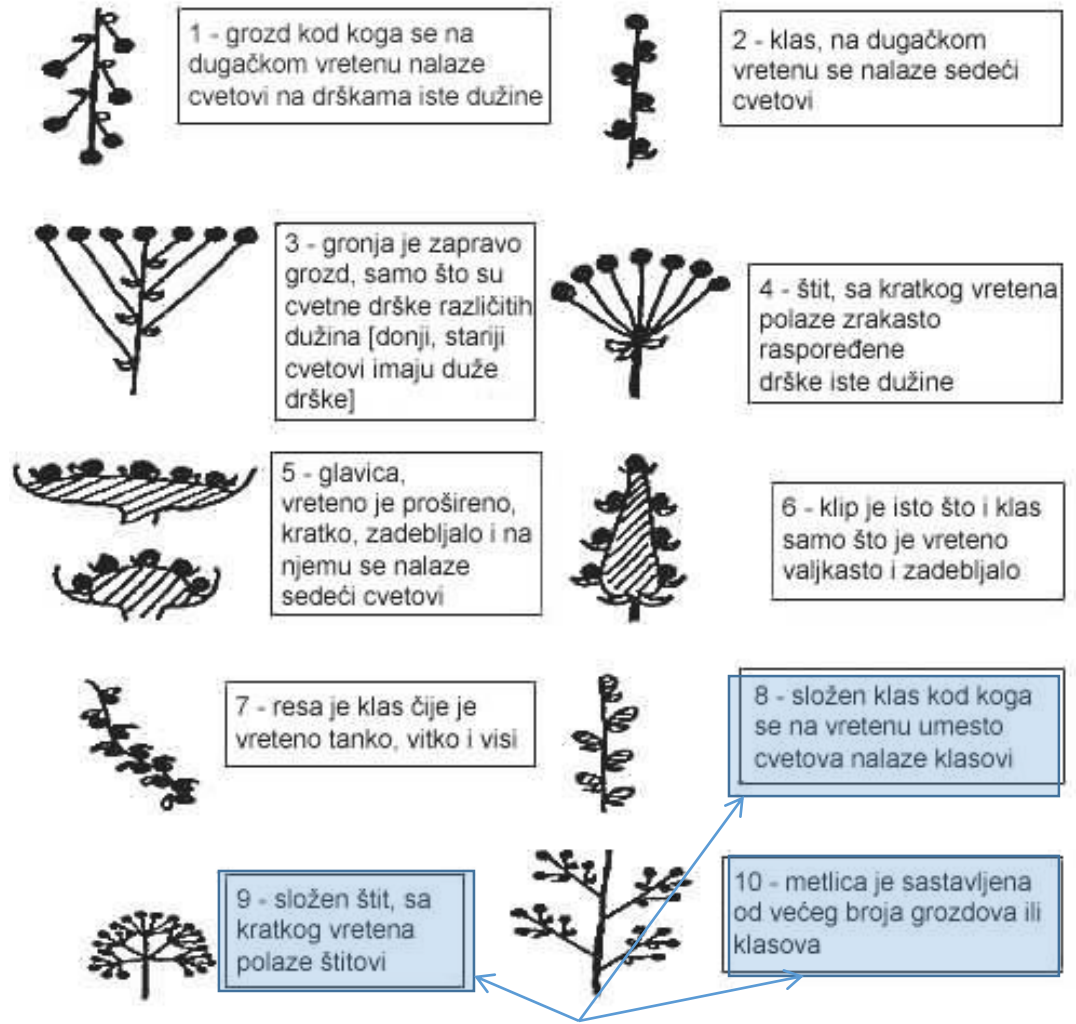
Racemozne
(vršnji cvjet se otvara poslednji)

Osnovne racemozne cvasti:

- Grozd
- Klas
- Štit
- Glavica

Izvedene

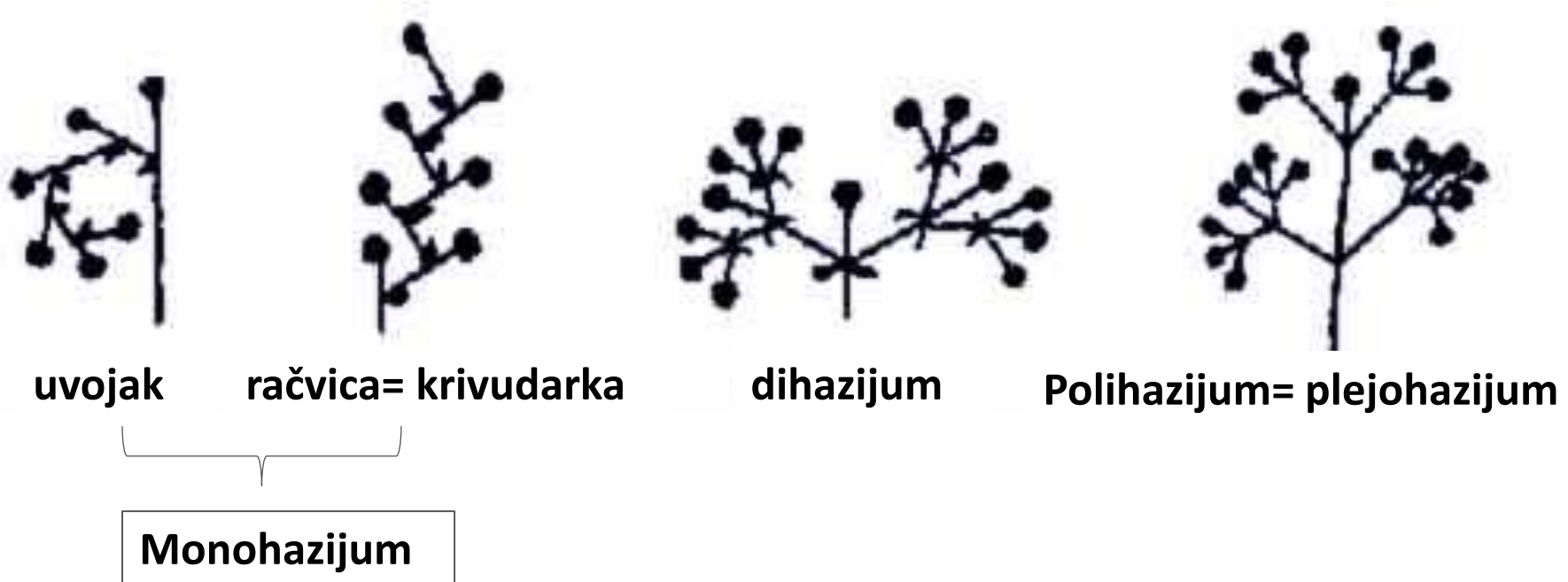
- Gronja (izvedena iz grozda)
- Klip (izveden iz klasa)
- Resa (izvedena iz klasa)



Složene racemozne cvasti

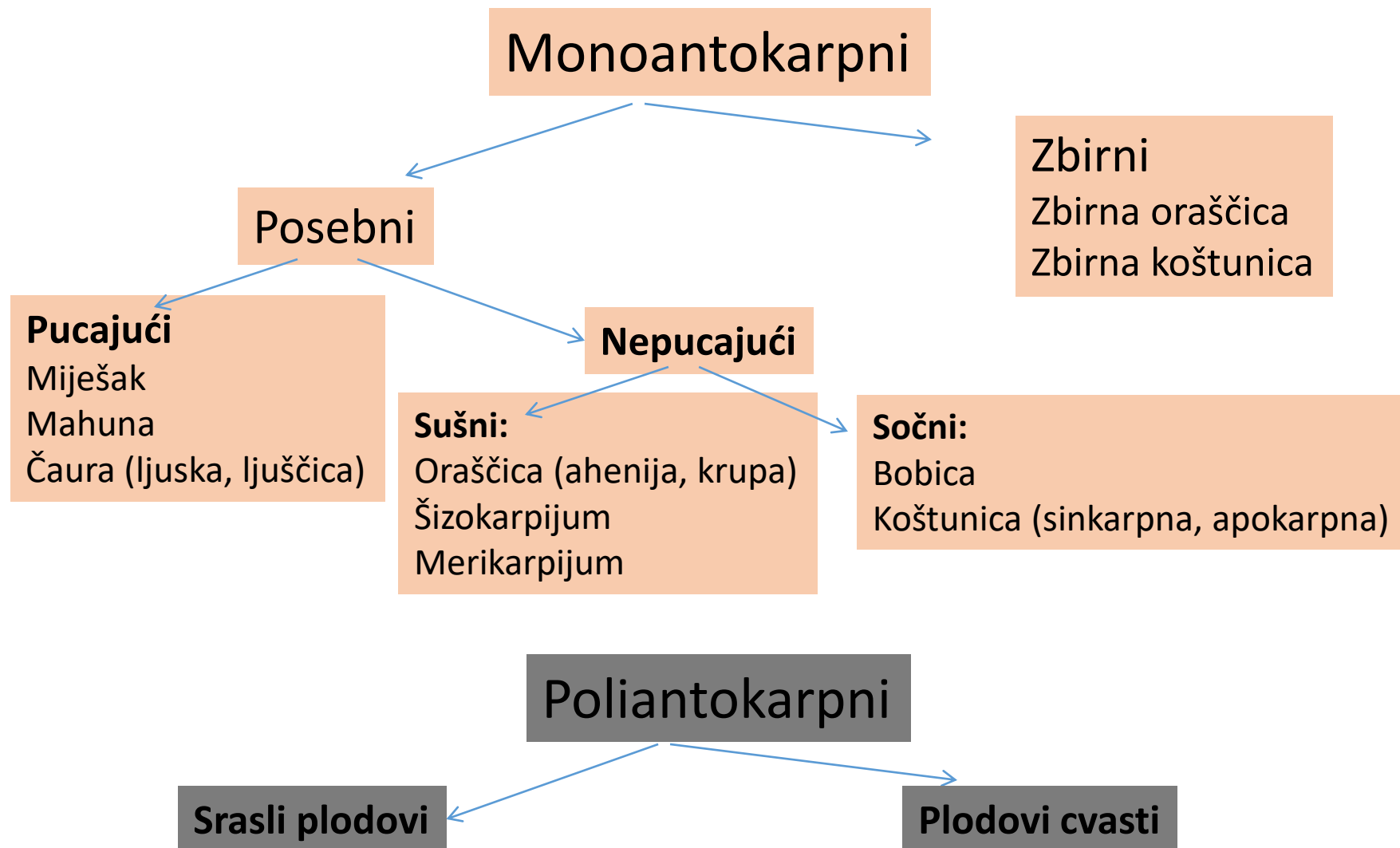
Cimozne

(cvijet glavne osovine se otvara prvi)



PLOD

- Plodovi nastali od jednog cvijeta- monoantokarpni plodovi
- Plodovi nastali od cvasti- poliantokarpni plodovi





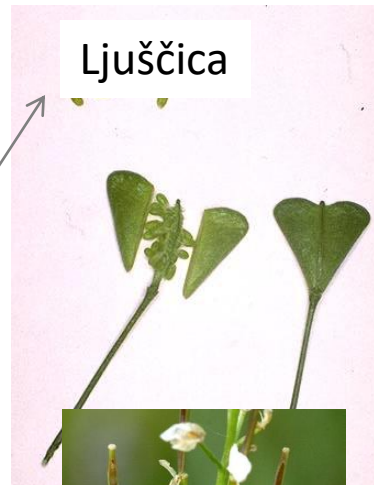
Miješak



Mahuna



Čaura



Ljuščica



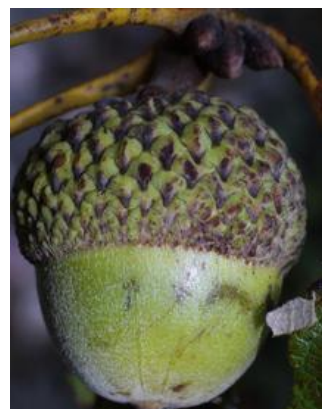
Monokarpna oraščica



Ljuska



Sinkarpna oraščica, tip ahenija



Sinkarpna oraščica žir



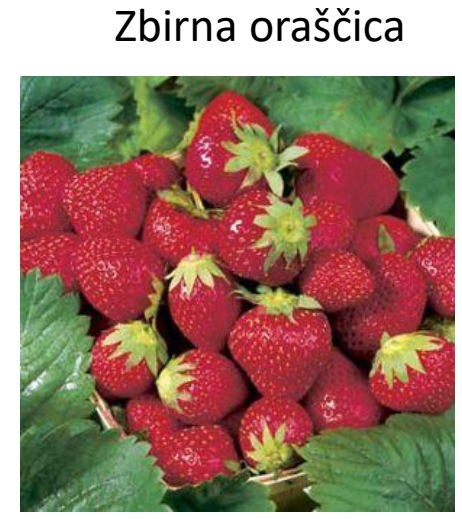
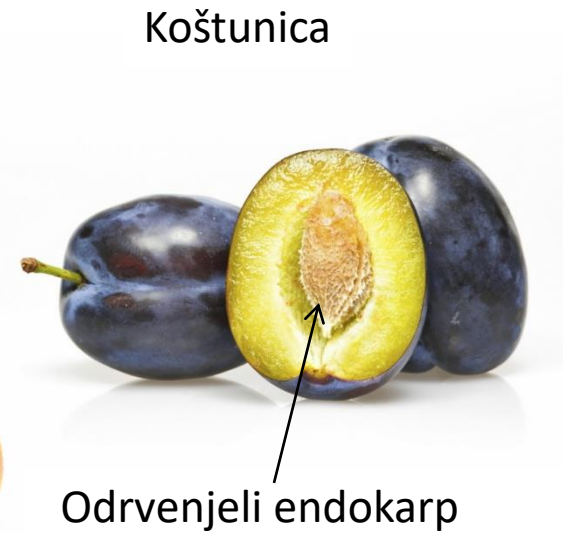
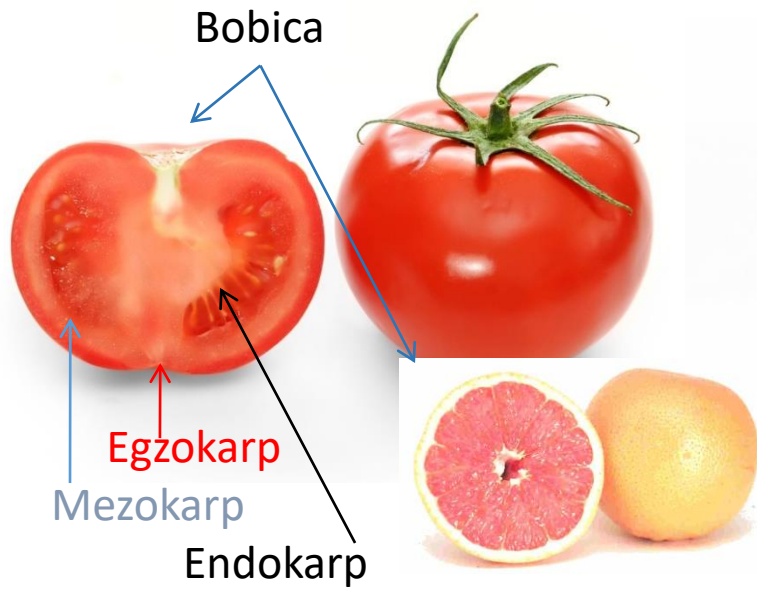
Sink. oraščica- tip krupa



Šizokarpijum



Merikarpijum



Srasli plodovi



Plodovi cvasti



Rasijavanje ploda:
Anemohorija, hidrohoriija, zoohorija, antopohorija