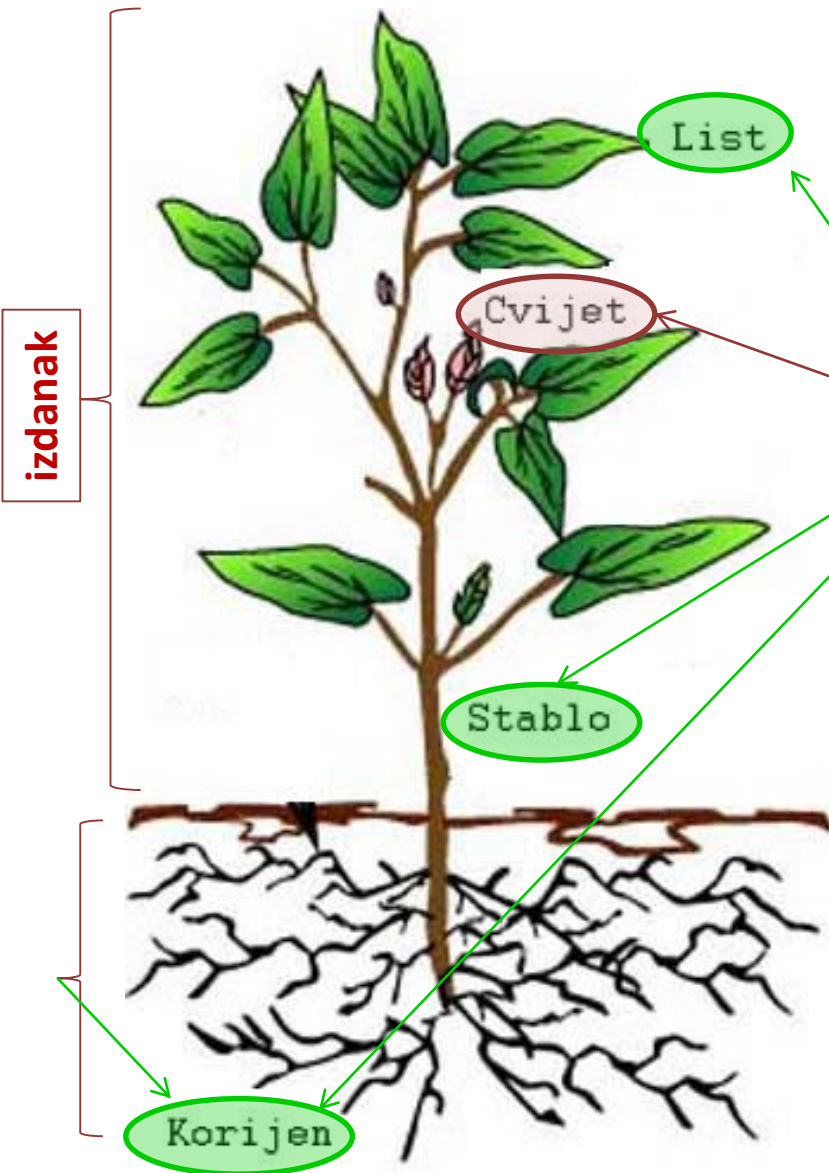


ORGANOGRAFIJA



Organ- dio biljnog tijela koji vrši određenu funkciju!

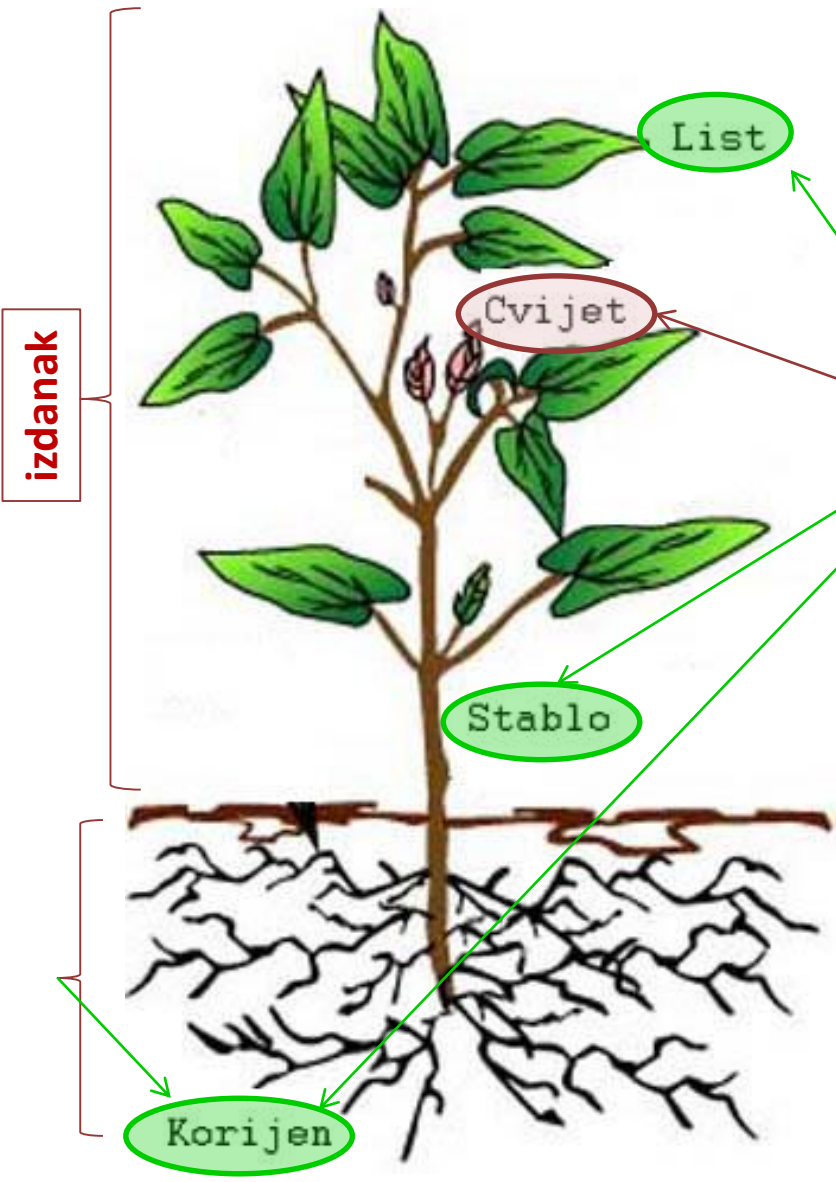
Vegetativni i reproduktivni!

Adventivni!

(adventivan= sporedan,
ne raste na svom mjestu)

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

Metamorfozirani organi...



izdanak

List

Cvijet

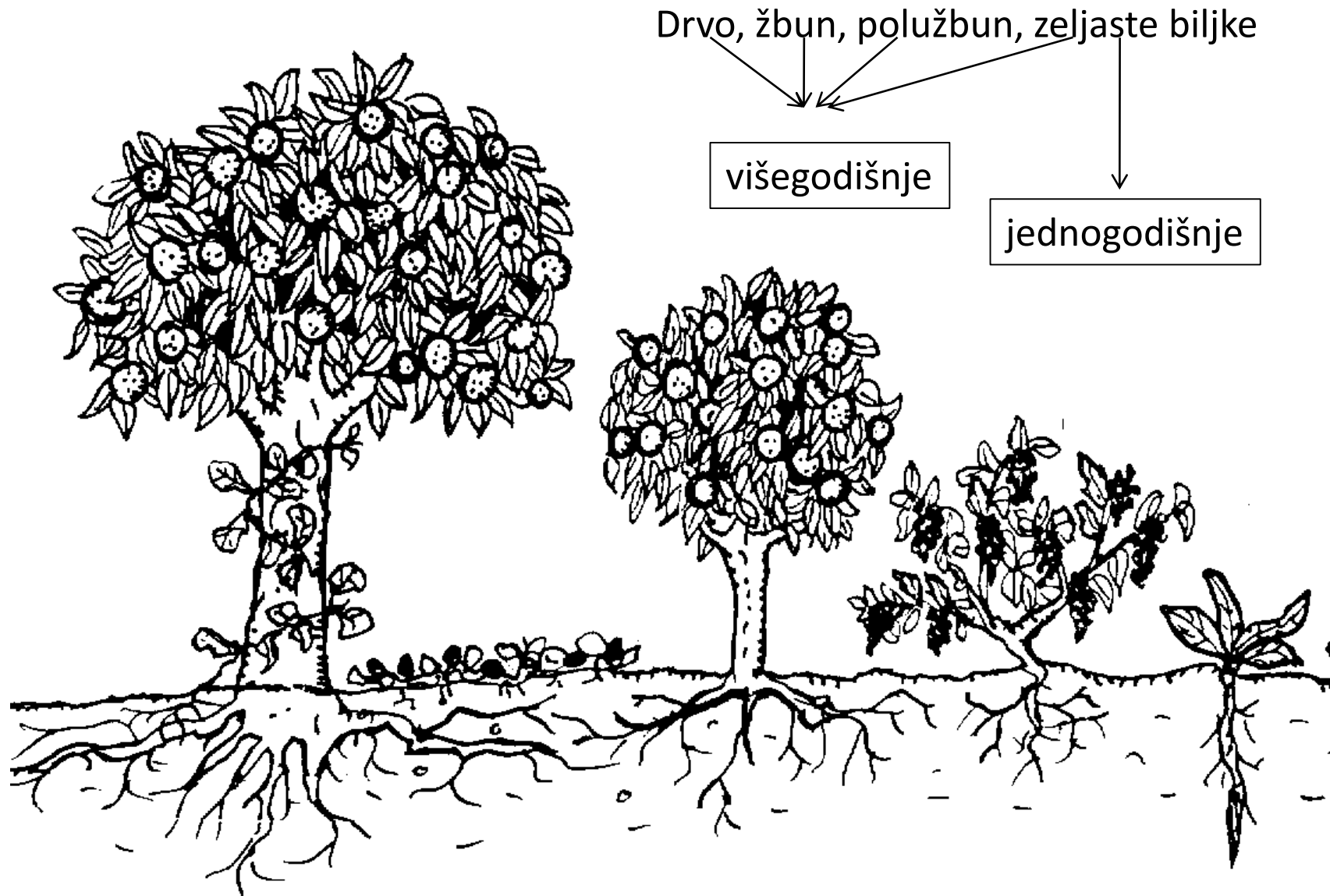
Stablo

Korijen

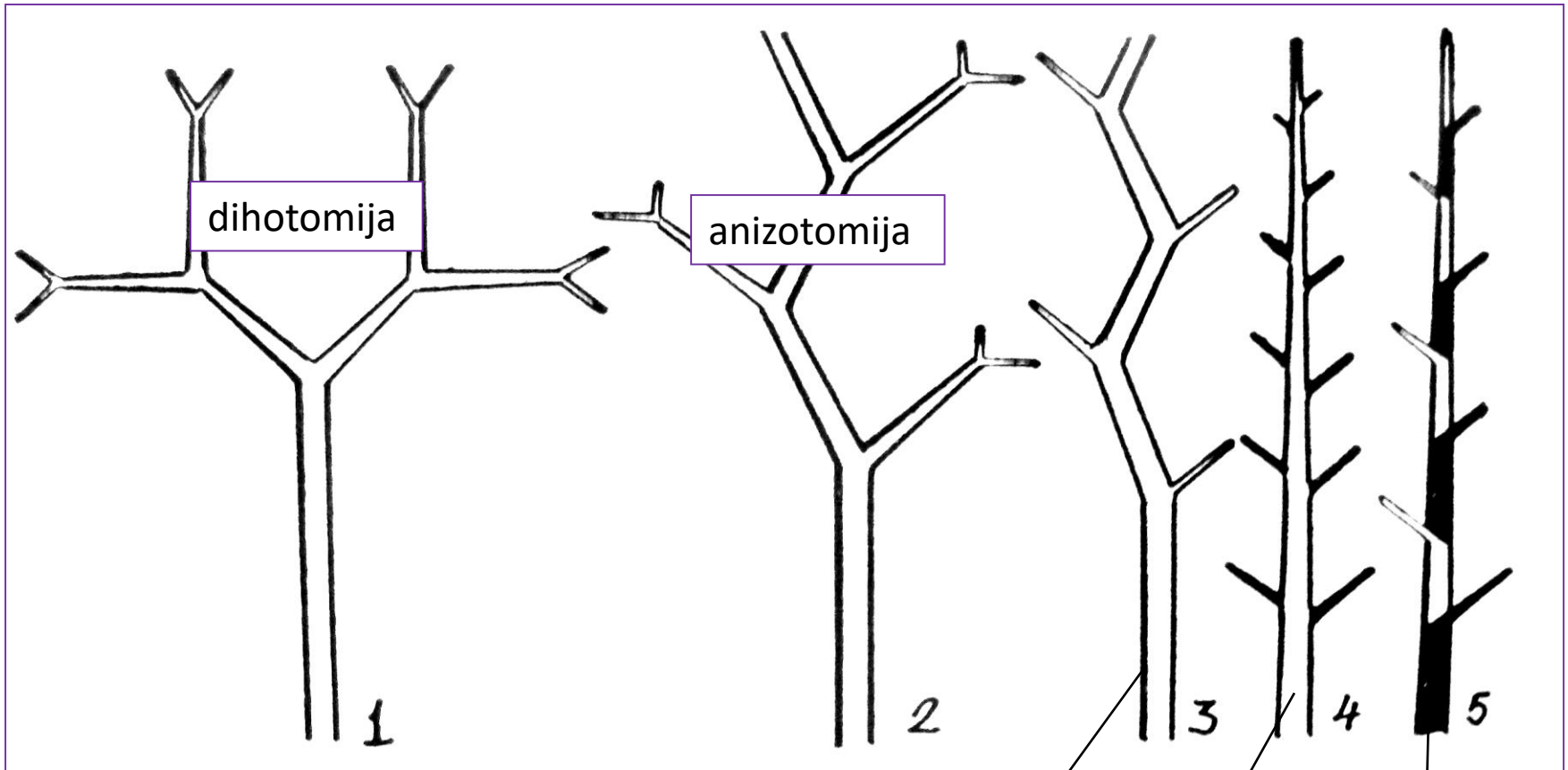
Izdanak
(stablo + listovi +
reproduktivne strukture)

Korijen

Forme stabla



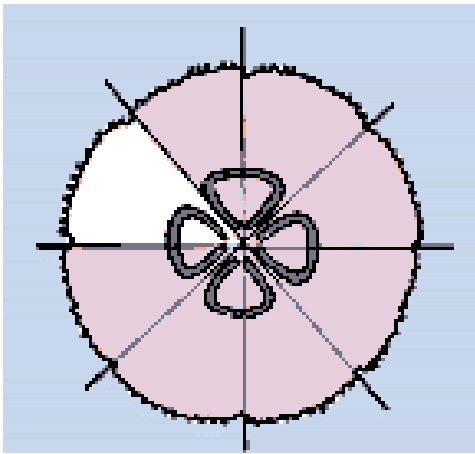
Tipovi grananja



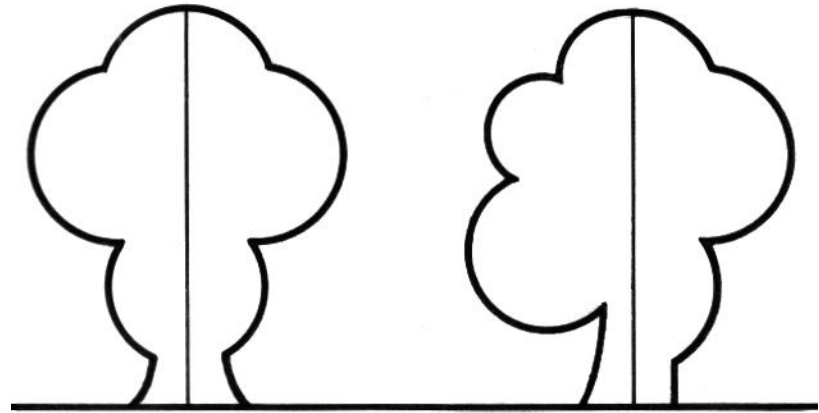
dihopodijalno grananje

monopodijalno

simpodijalno



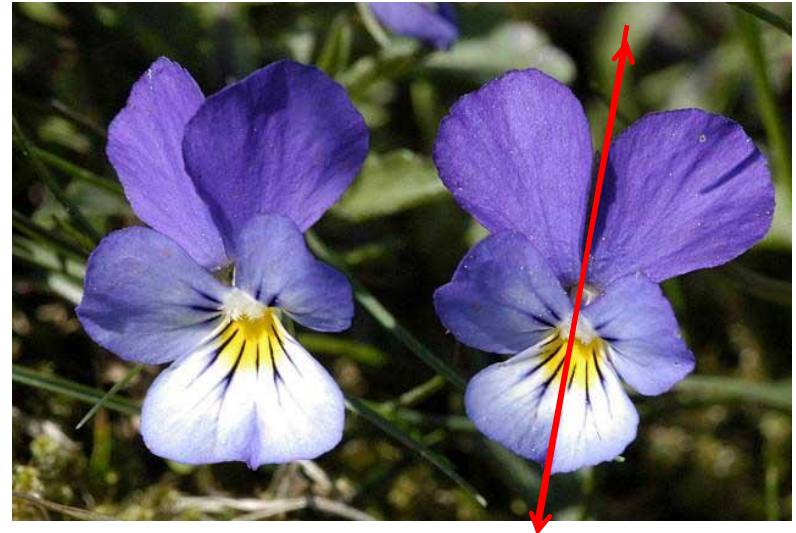
Polisimetrija =
(radijalna simetrija)



Bilateralna simetrija

Asimetrija

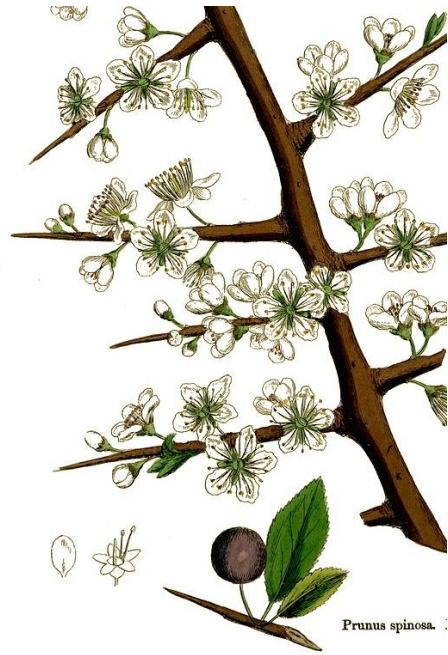
- Simetrija cvijeta: polisimetričan= aktinomorfan, pravilan;
monosimetričan= zigomorfan, nepravilan cvijet



Metamorfoze izdanka

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

Metamorfoza izdanka u trn



Metamorfoza izdanka u rašljike



Filokladije



Fotofilni izdanci

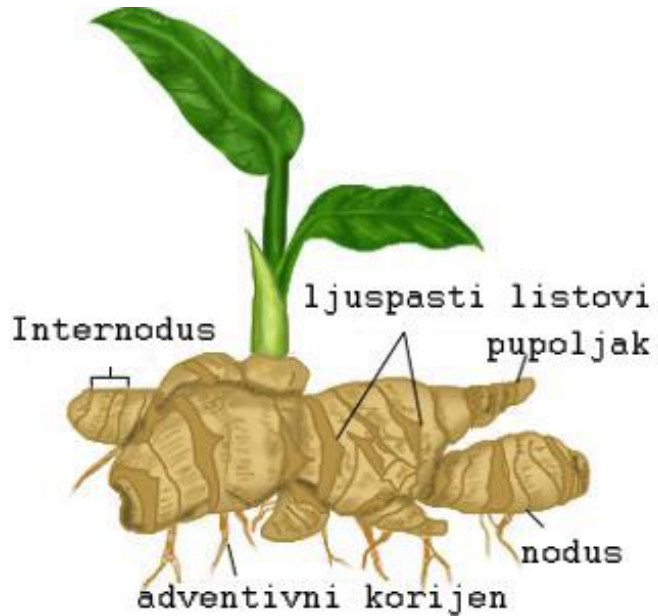
Sukulente



Geofilni izdanci (rizomi, stolone, krtole i lukovice)

Rizomi

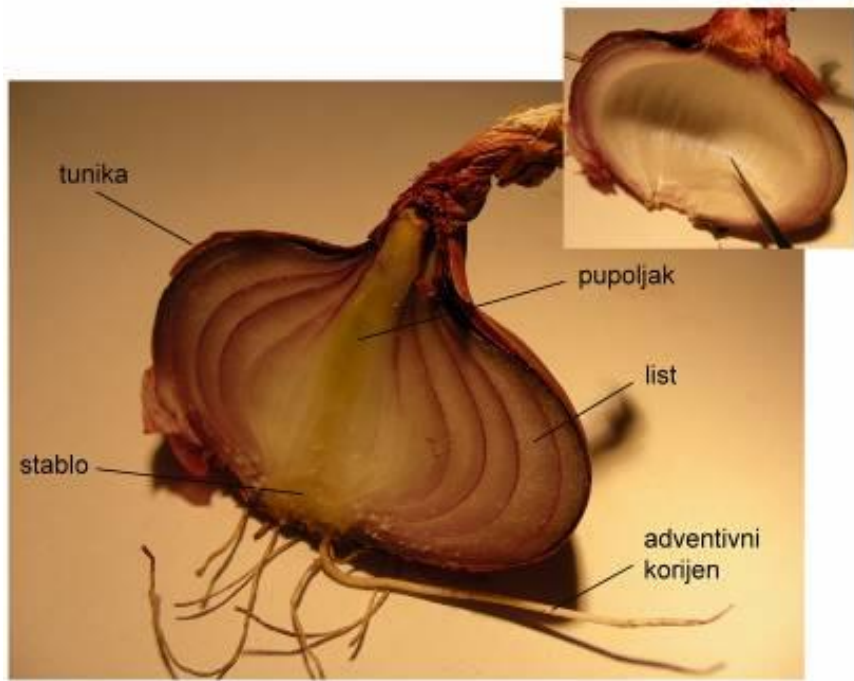
(horizontalni, uspravni, monopodijalni, simpodjalni)



Rizom đumbira



Rizom kisele paprati



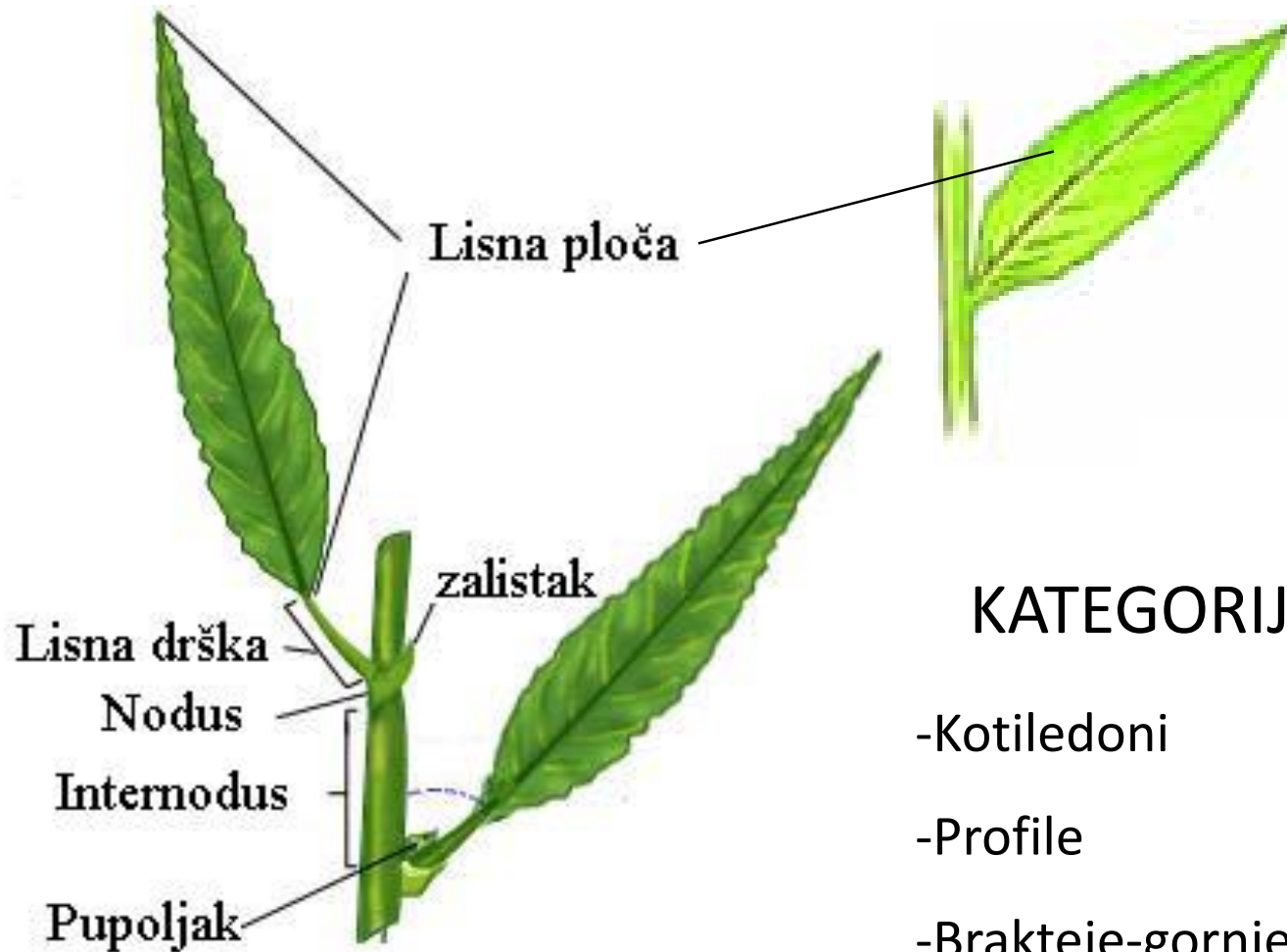
Lukovica



Krtola



LIST



KATEGORIJE LISTOVA

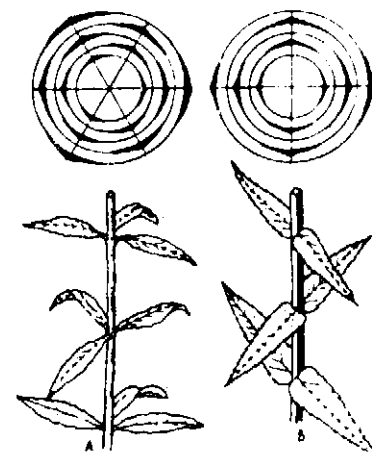
- Kotiledoni
- Profile
- Brakteje-gornje lišće
- Ljuspasto lišće –donje
- Srednje lišće-asimilaciono (pravo)
- Lišće u zoni cvjetova



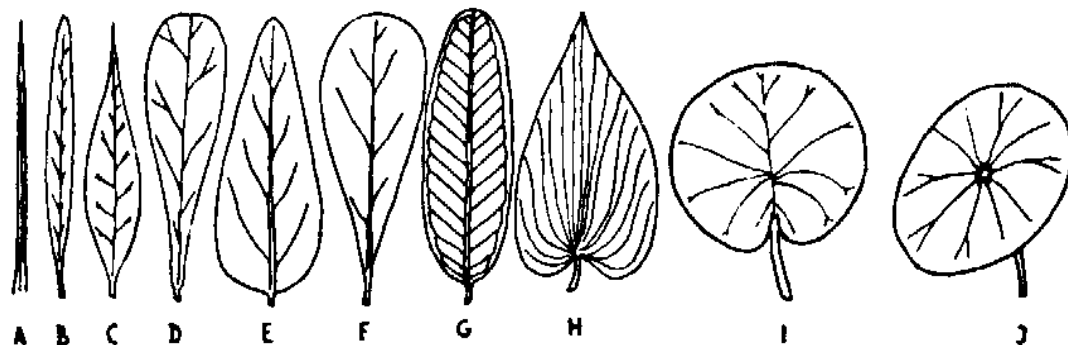
Sl. 308. Složeno građeni listovi: 1 — tročlan; 2 — prstasto složen; 3 — parno perasto složen; 4 — parno perast list sa listićima pretvorenim u rašljike; 5 — neparno perasto složen; 6 — isprekidano perasto složen; 7 — dvojno perasto složen; 8 — trojno perasto složen

Forma lista

Raspored listova



Sl. 109. Pršljenast raspored listova: A — tri lista u pršljenju, B — dva lista u pršljenju (naspramni raspored) (po Tatiću i sar.)



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

Nervatura ...

Zalisci

METAMORFOZE LISTA

Metamorfoza lista u rašljiku

Metamorfoza lista u trn



rašljika



Opuntia



Berberis



Ulex

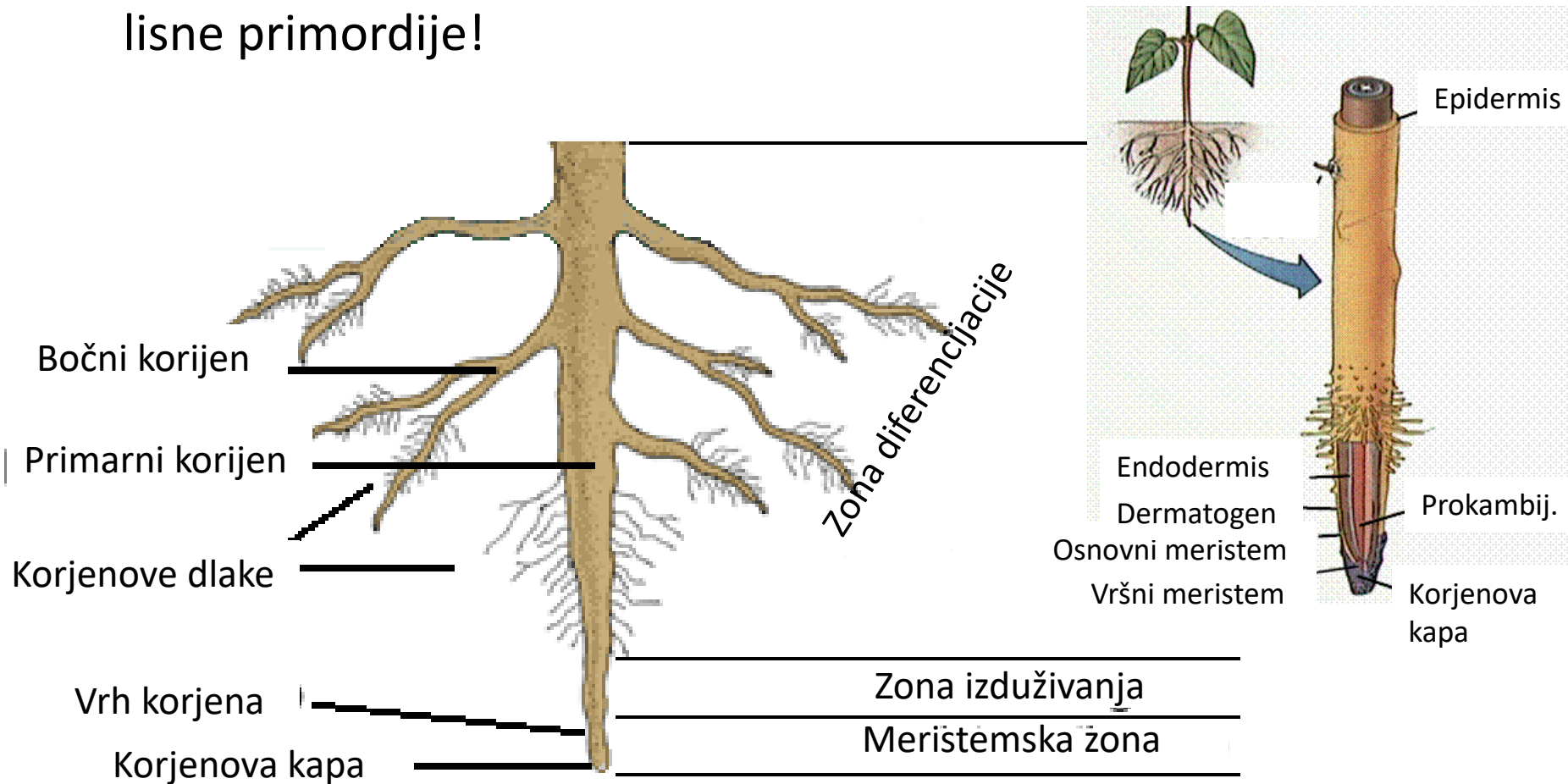
Metamorfoza lisne drške u filodije

Listovi kao organi za magacioniranje hrane

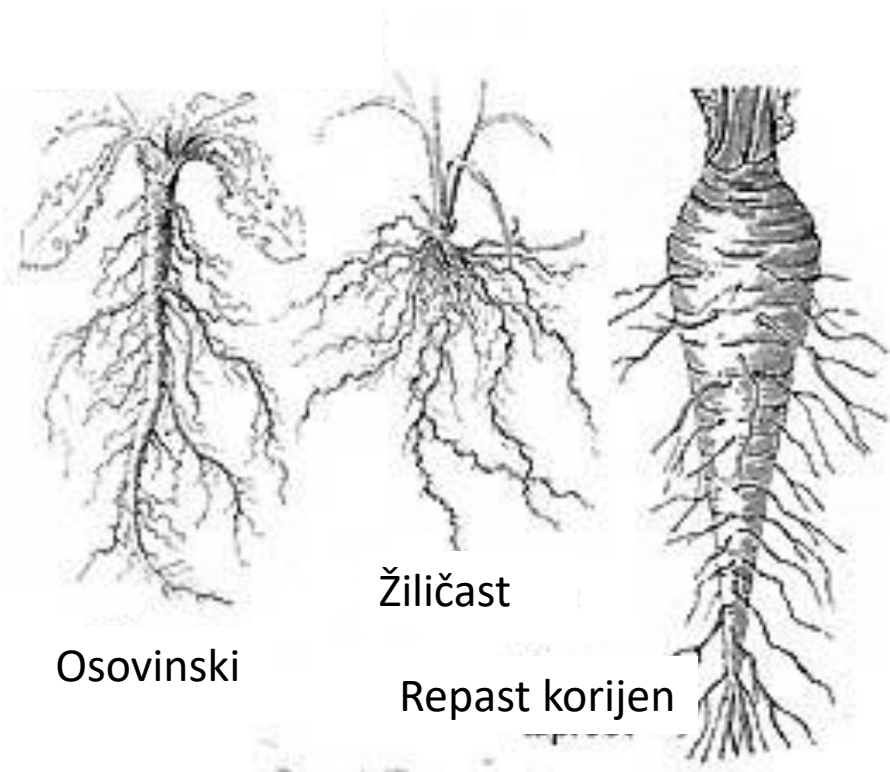


Korijen

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



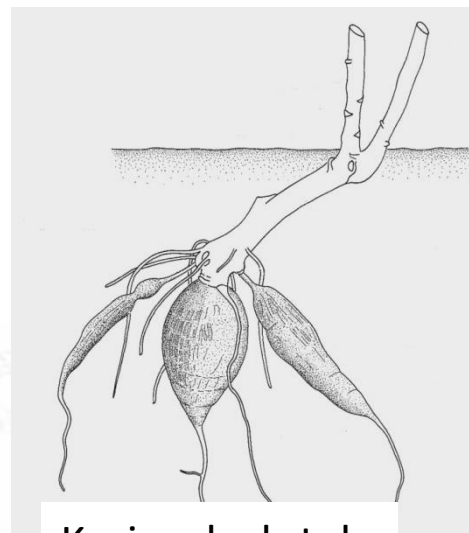
Tipovi korjena i metamorfoze



Osovinski

Žiličast

Repast korijen



Korjenske krtole



Mikoriza

Korjenove
kvržice

Adventivni korijen

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

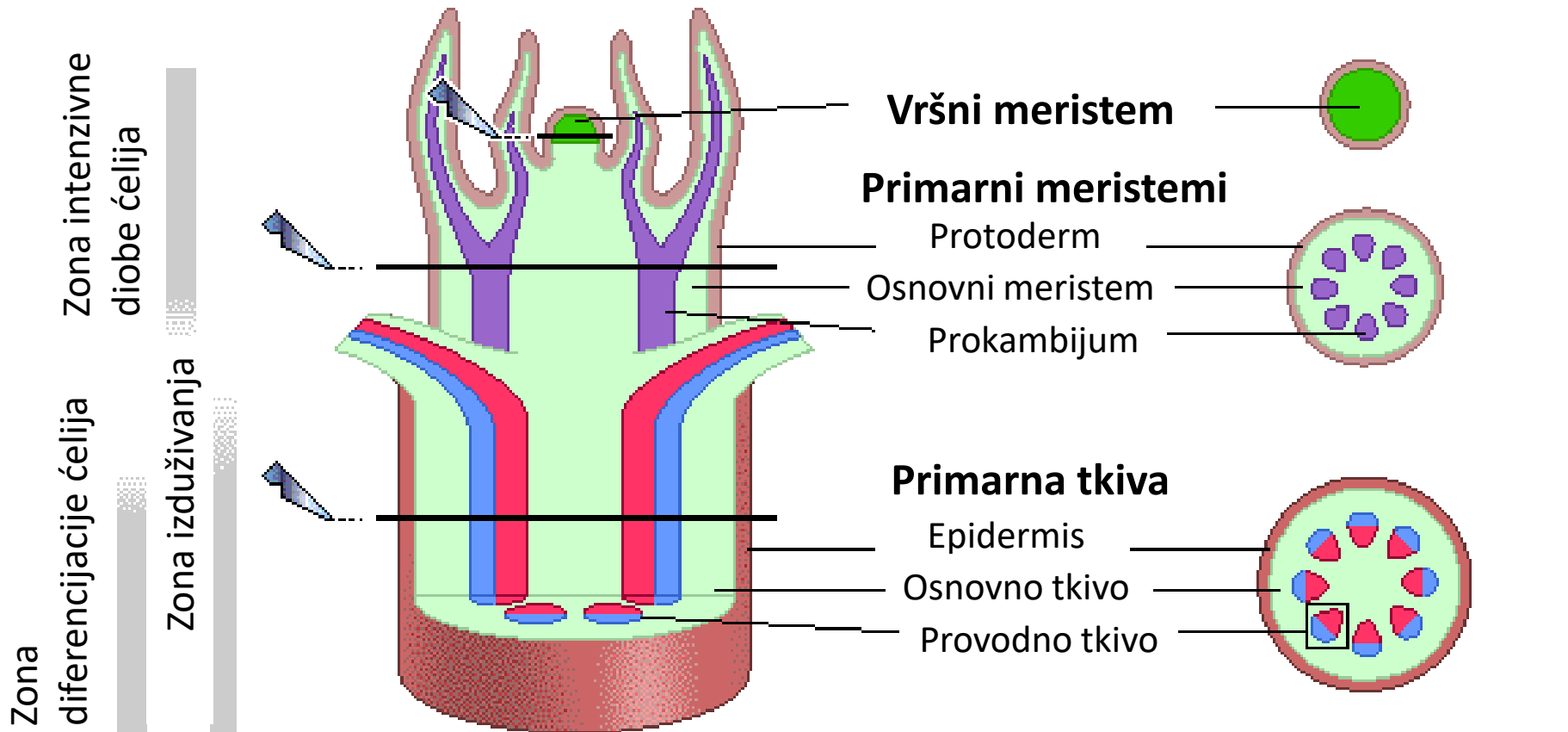
Puzeće stablo sa
adventivnim
korjenima

ANATOMSKA GRAĐA BILJNOG TIJELA

Primarna građa

Sekundarna građa

Primarna građa stabla- opšta shema!

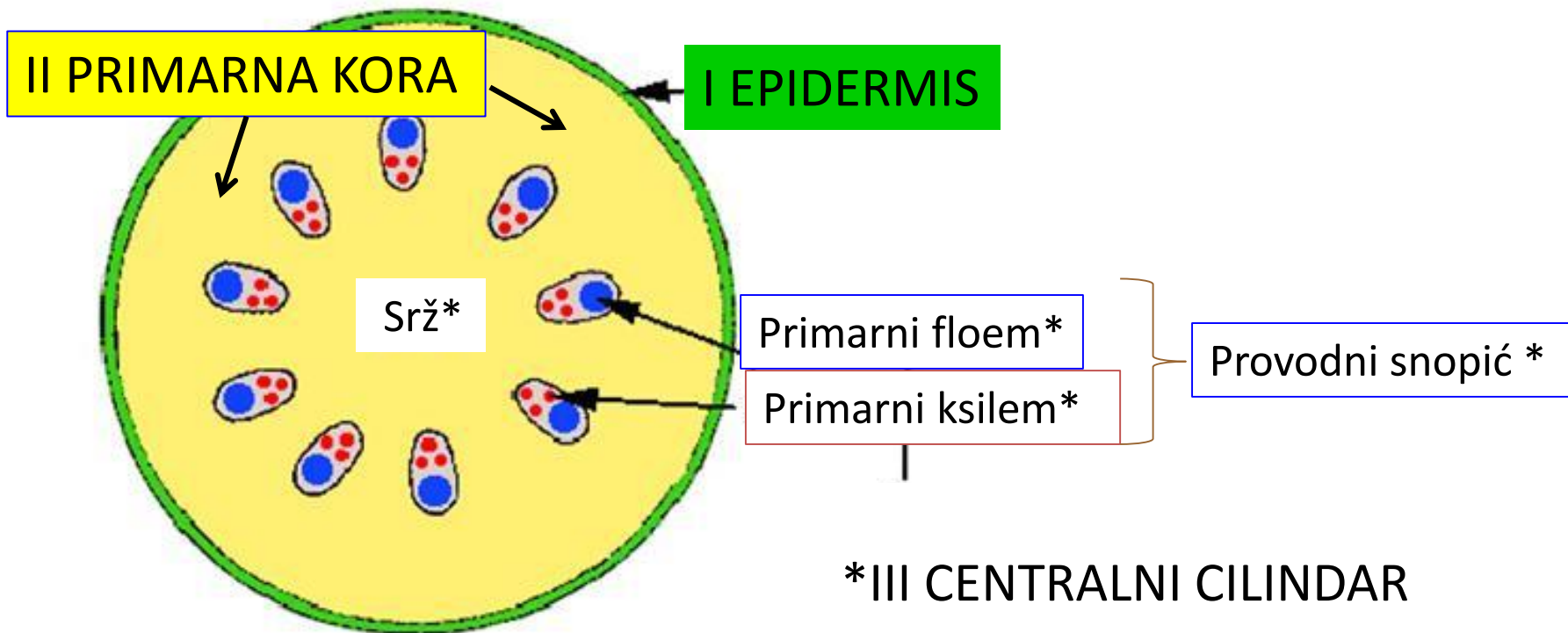


Osnovno tkivo= parenhim + mehanički elementi

Primarna građa stabla dikotiledonih biljaka

Opšta primarna građa:

Epidermis, primarna kora, centralni cilindar



Elementi primarne kore

- Parenhimske ćelije
- Mehaničke ćelije
- Endodermis=
skrobna sara

Elementi centralnog cilindra

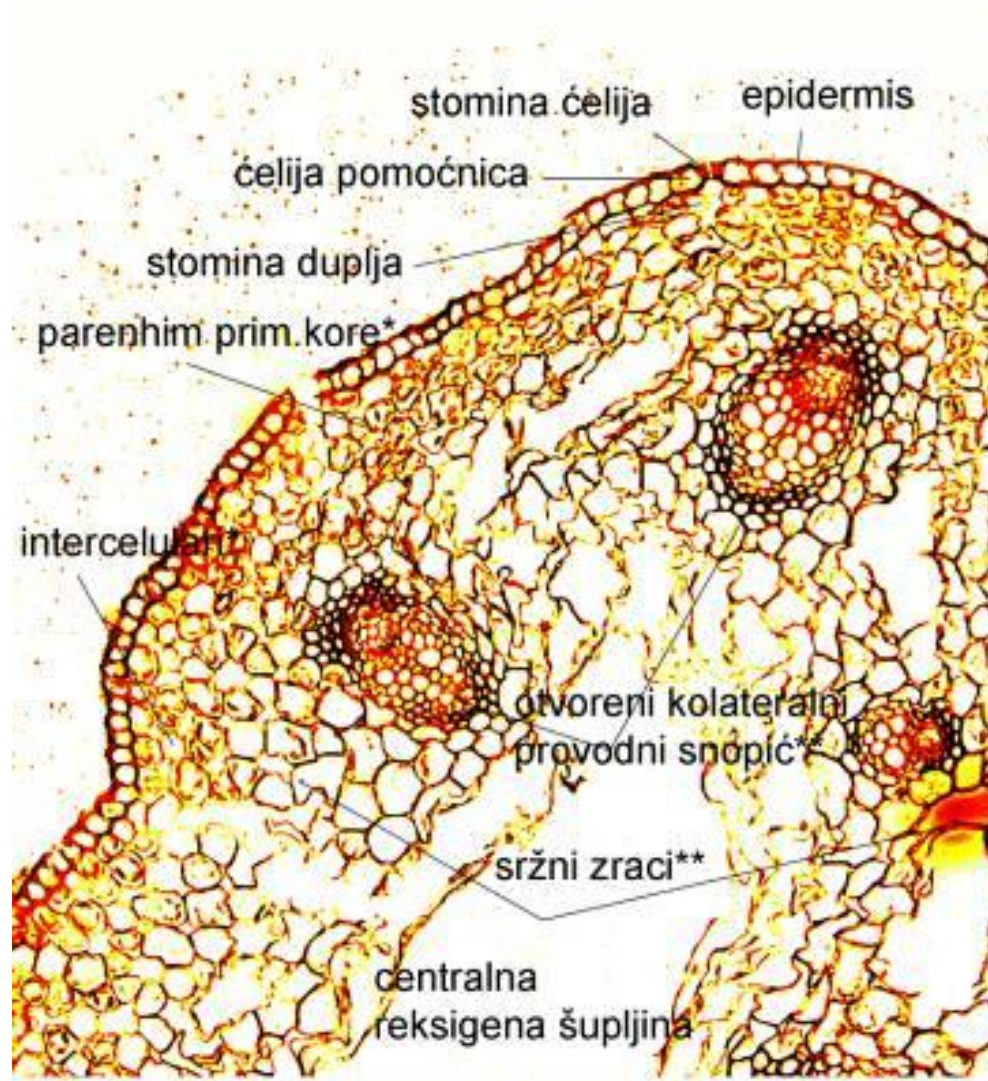
- Pericikl
- Provodni snopići
ili provodni
cilindar
- Srž

- **Pericikl:**

- a) Parenhimske ćelije

- b) Prsten od sklerenhimskog i parenhimskog tkiva

- c) Trake sklerenhima i parenhima koje se naizmjenično smjenjuju



a) *Ranunculus* sp.- ljutić

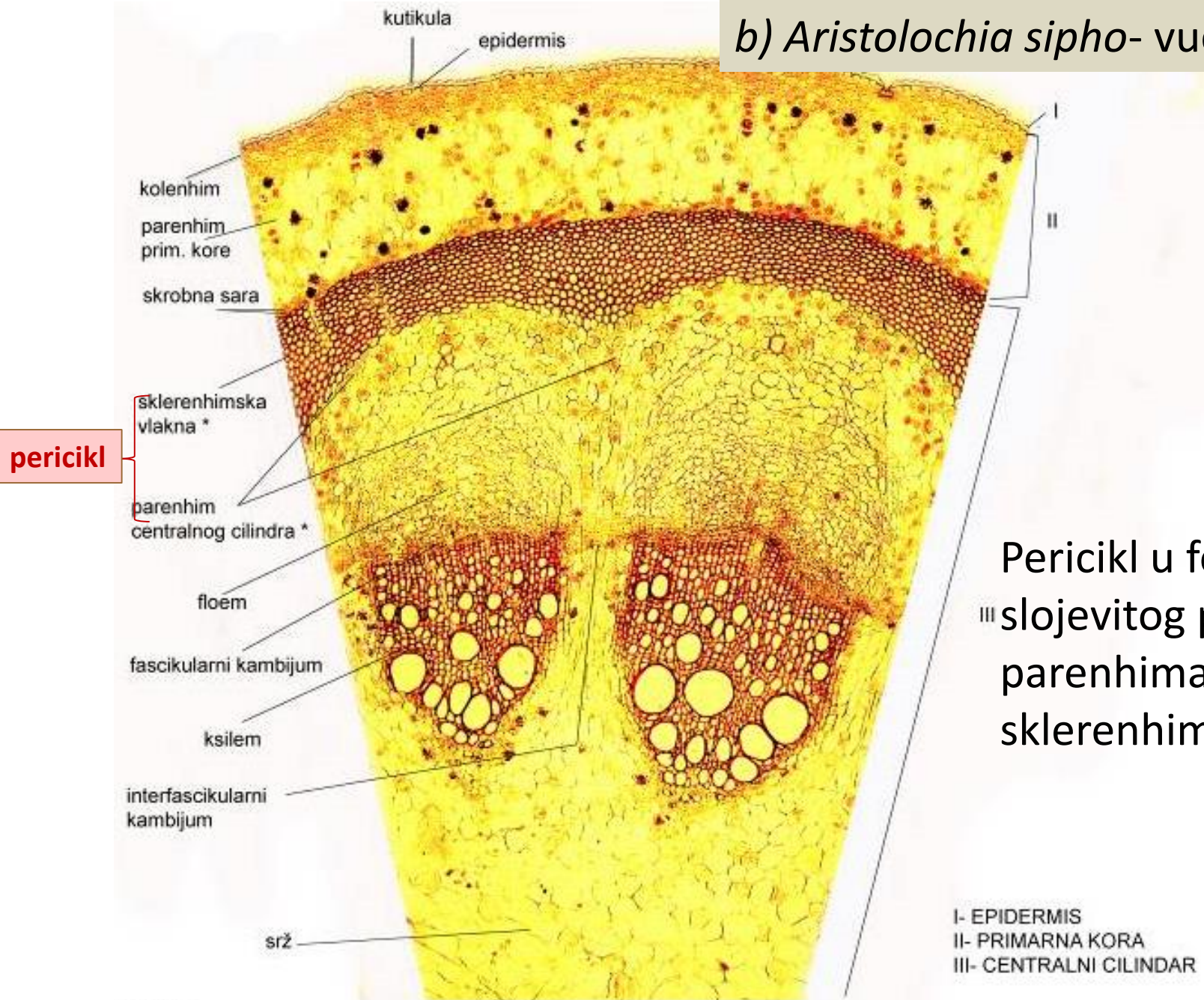
Parenhimatični pericikl!

I- EPIDERMIS

*- PRIMARNA KORA

**- CENTRALNI CILINDAR

b) *Aristolochia siphon* - vučja jabuka



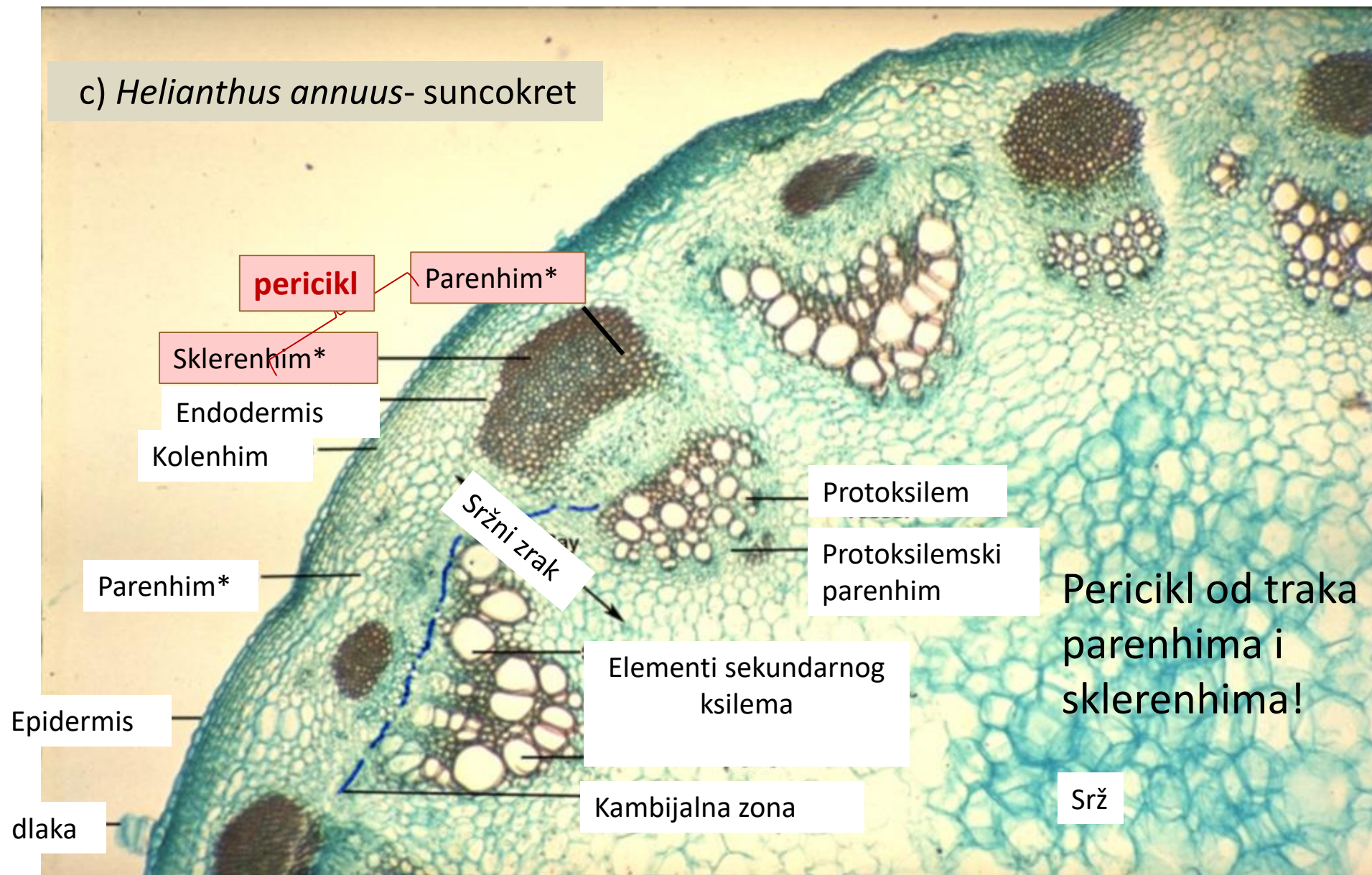
pericikl

Pericikl u formi
III slojevitog prstena od
parenhima i
sklerenhima!

I- EPIDERMIS
II- PRIMARNA KORA
III- CENTRALNI CILINDAR

* pericikl

c) *Helianthus annuus*- suncokret



pericikl

Parenhim*

Sklerenhim*

Endodermis

Kolenhim

Parenhim*

Epidermis

dlaka

Sržni zrak

Protoksilem

Protoksilemski parenhim

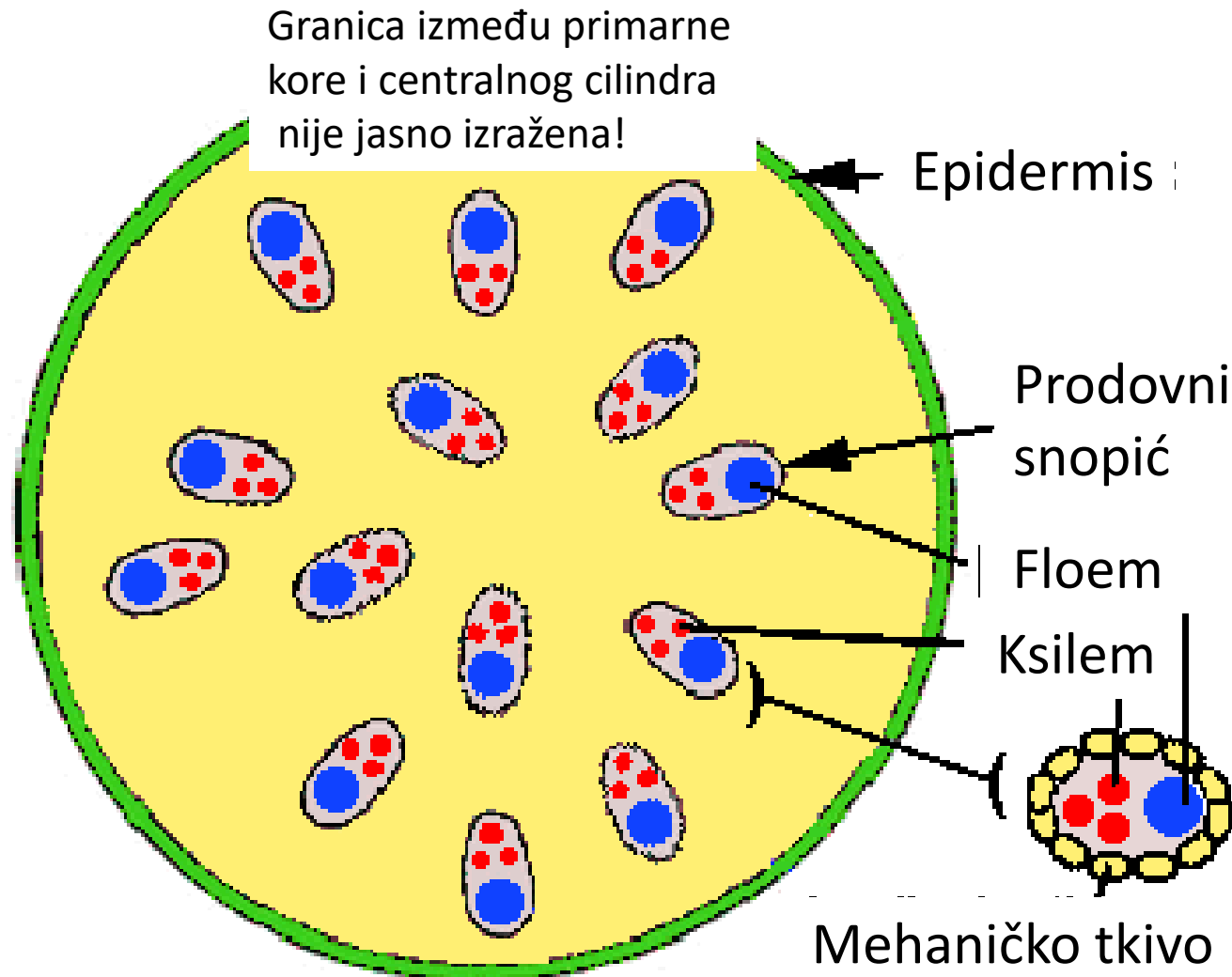
Elementi sekundarnog ksilema

Kambijalna zona

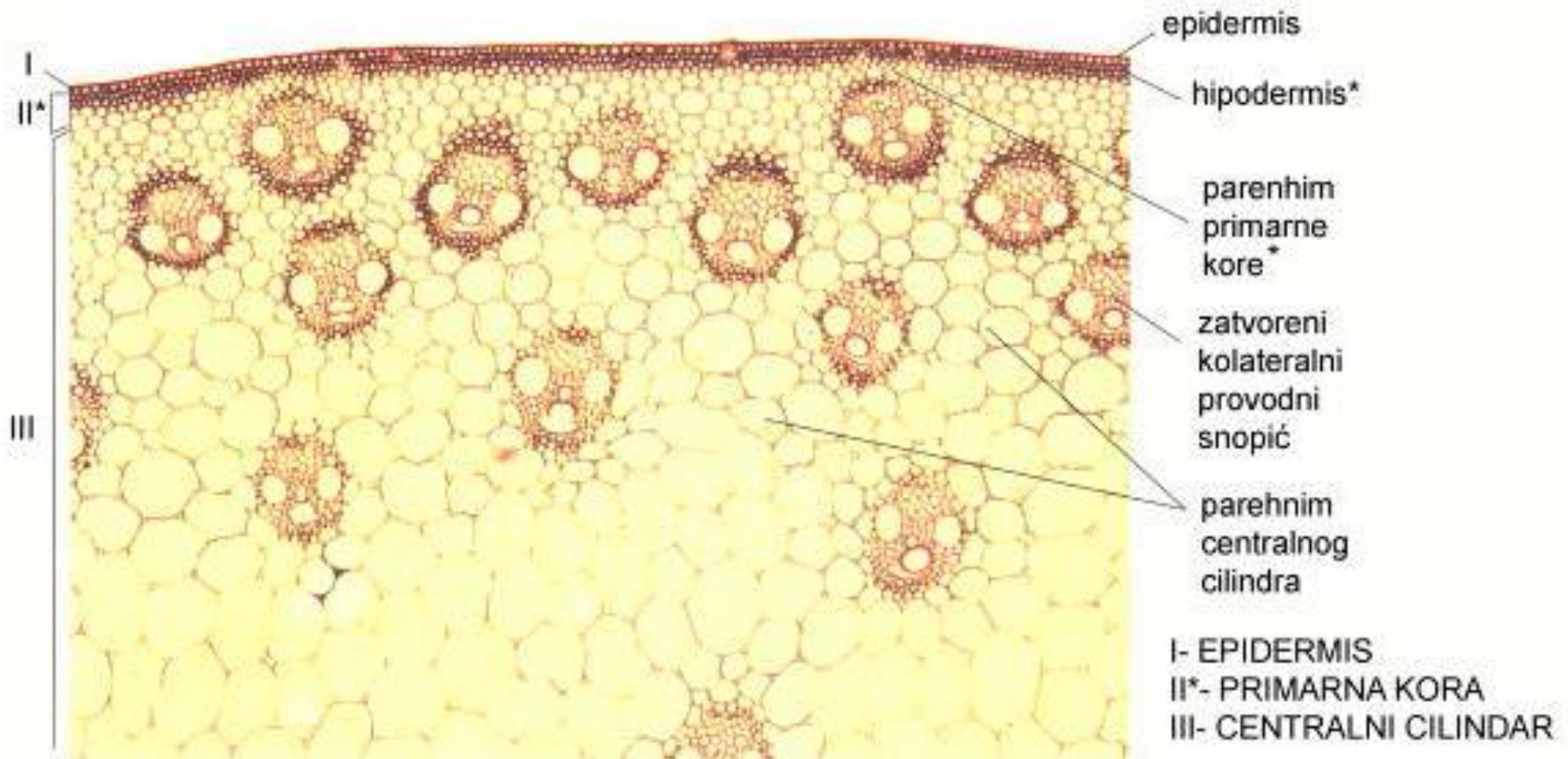
Pericikl od traka parenhima i sklerenhima!

Srž

Primarna građa stabla monokotiledonih biljaka

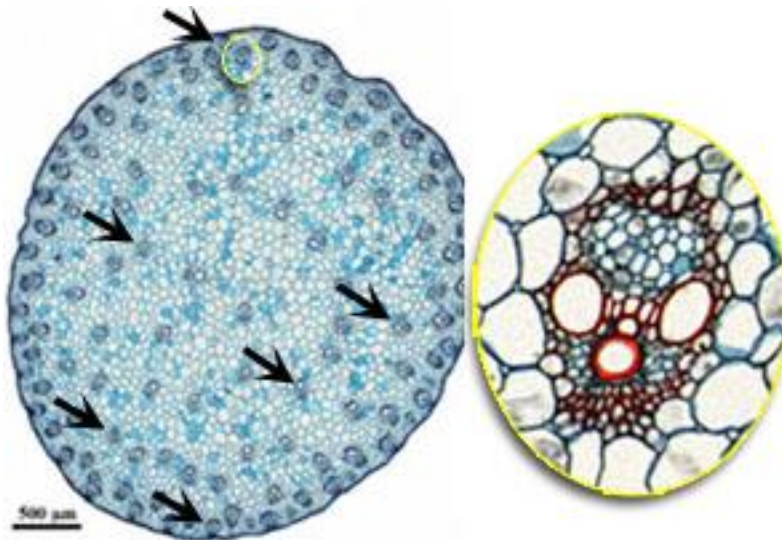


Zea mays – kukuruz



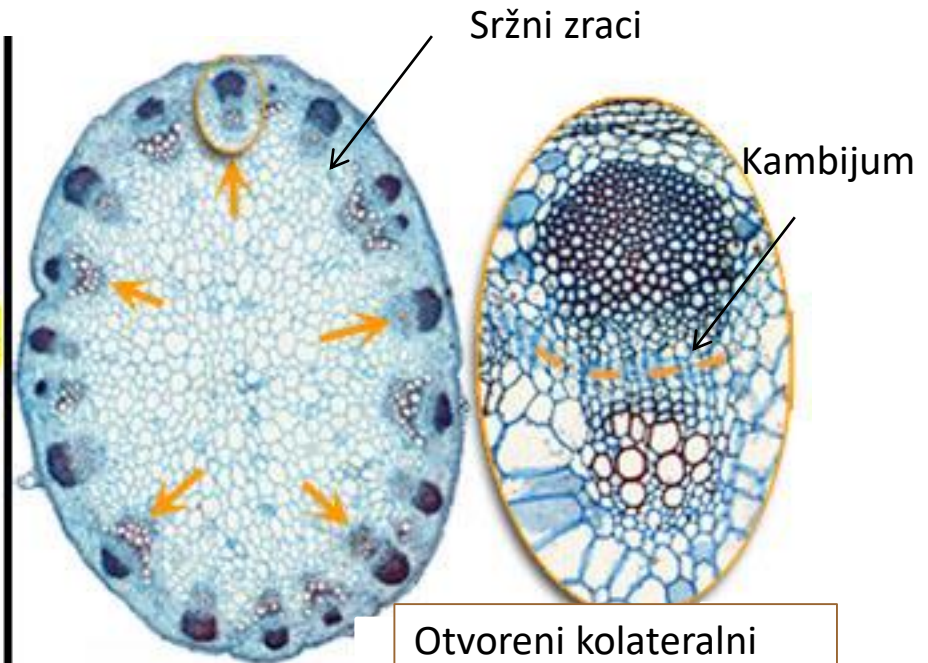
Uporedna shema primarne građe stabla mono- i dikotiledonih biljaka

PRIMARNO STABLO MONOKOTILA



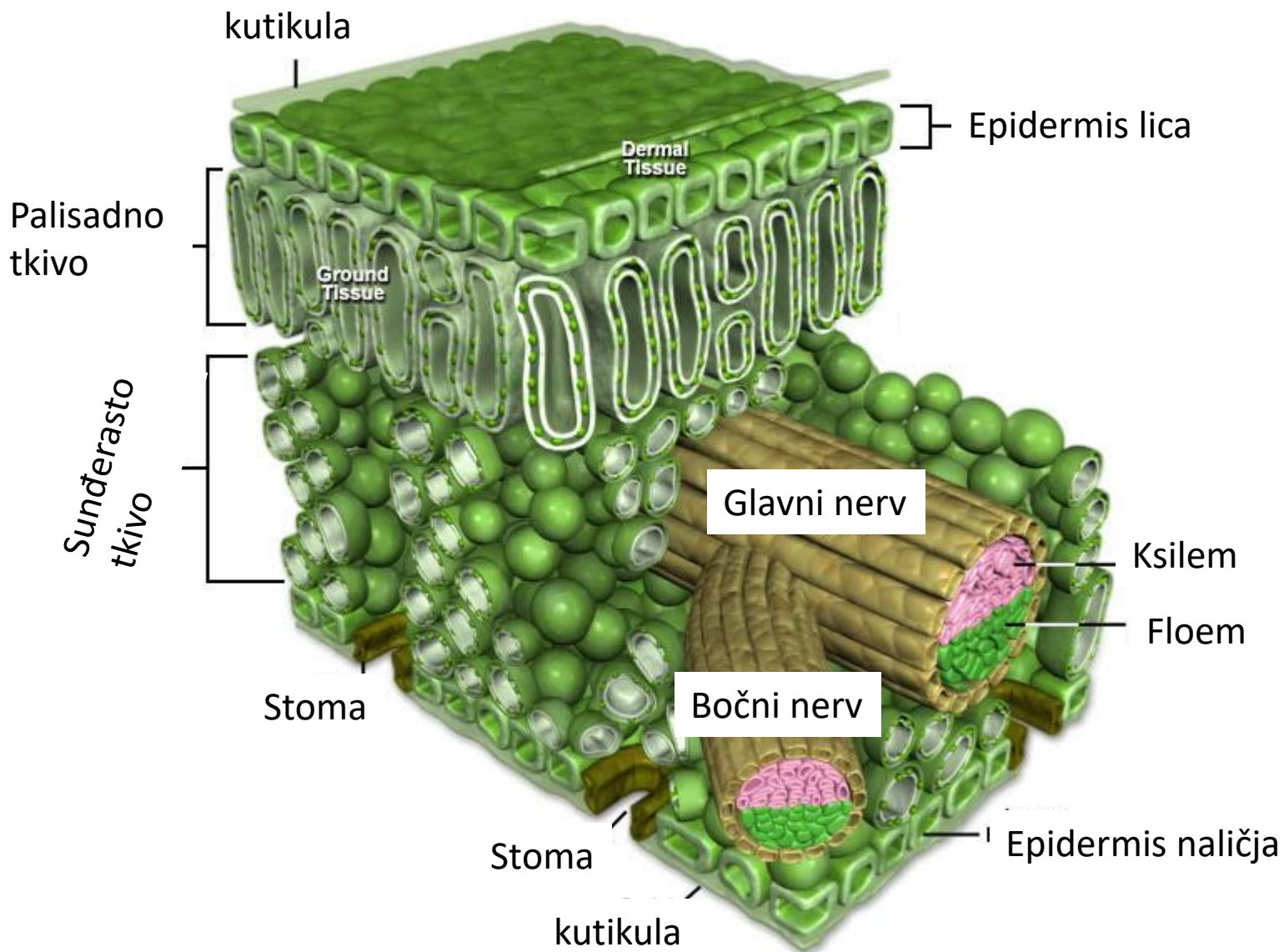
Zatvoreni kolateralni provodni snopić

PRIMARNO STABLO DIKOTILA

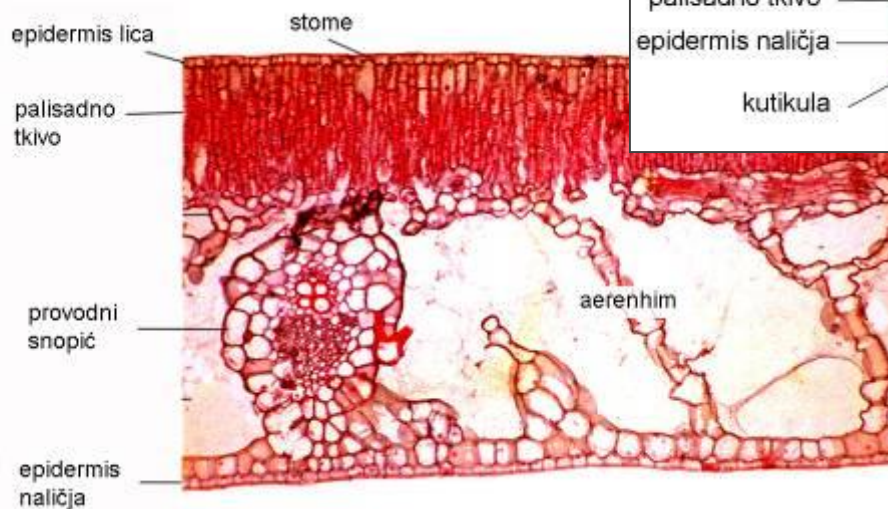
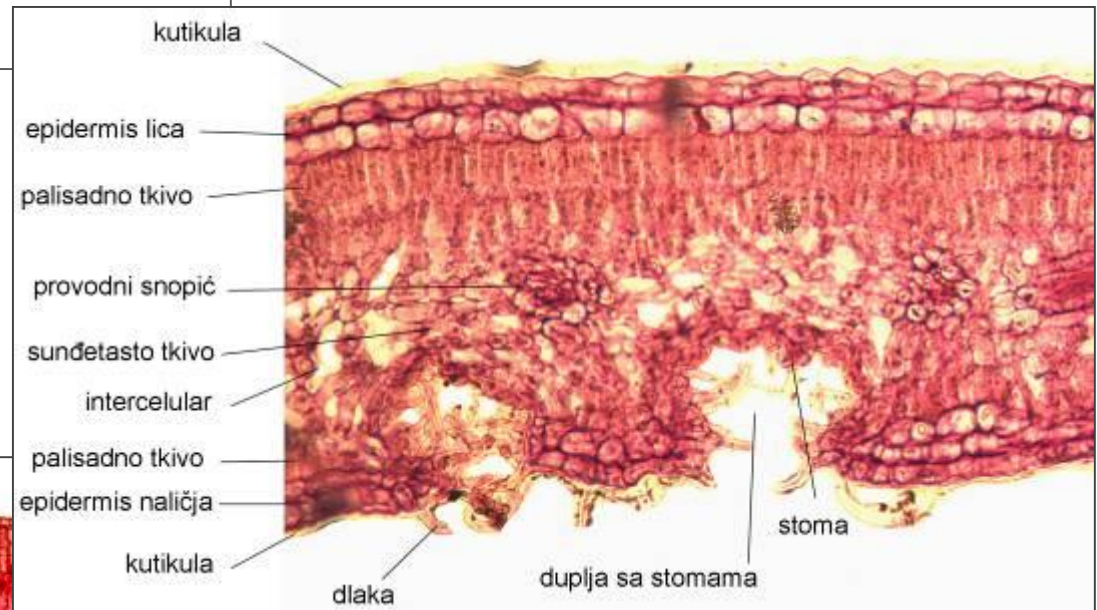
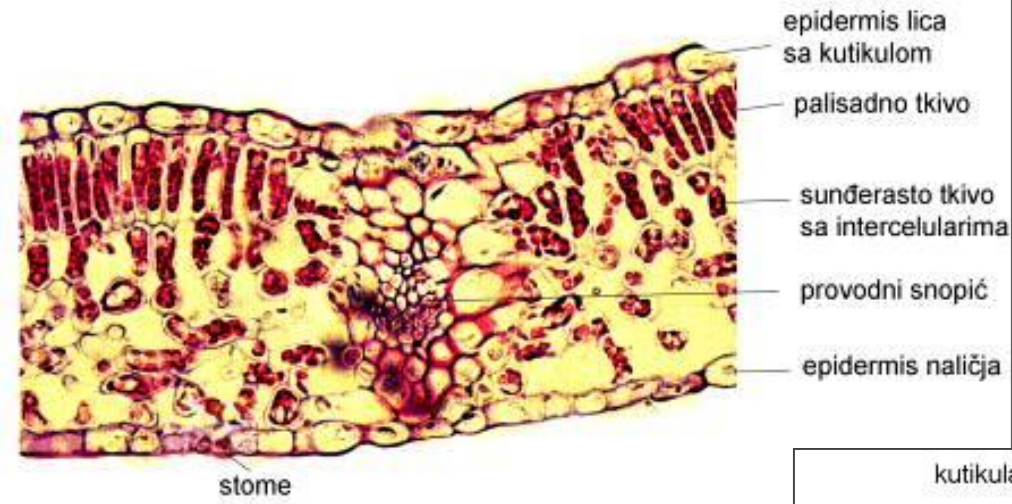


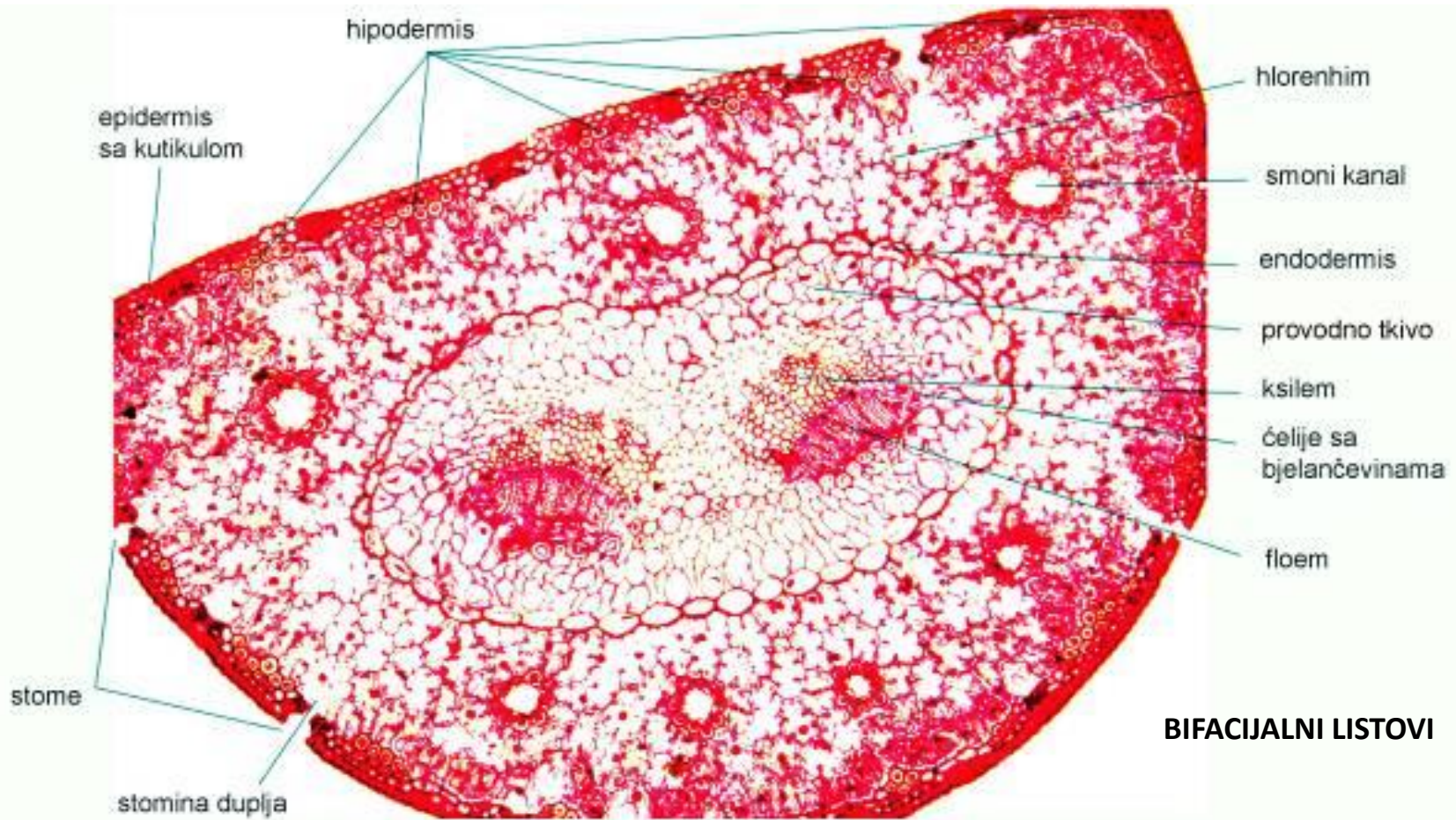
Otvoreni kolateralni provodni snopić

Anatomska građa lista



list





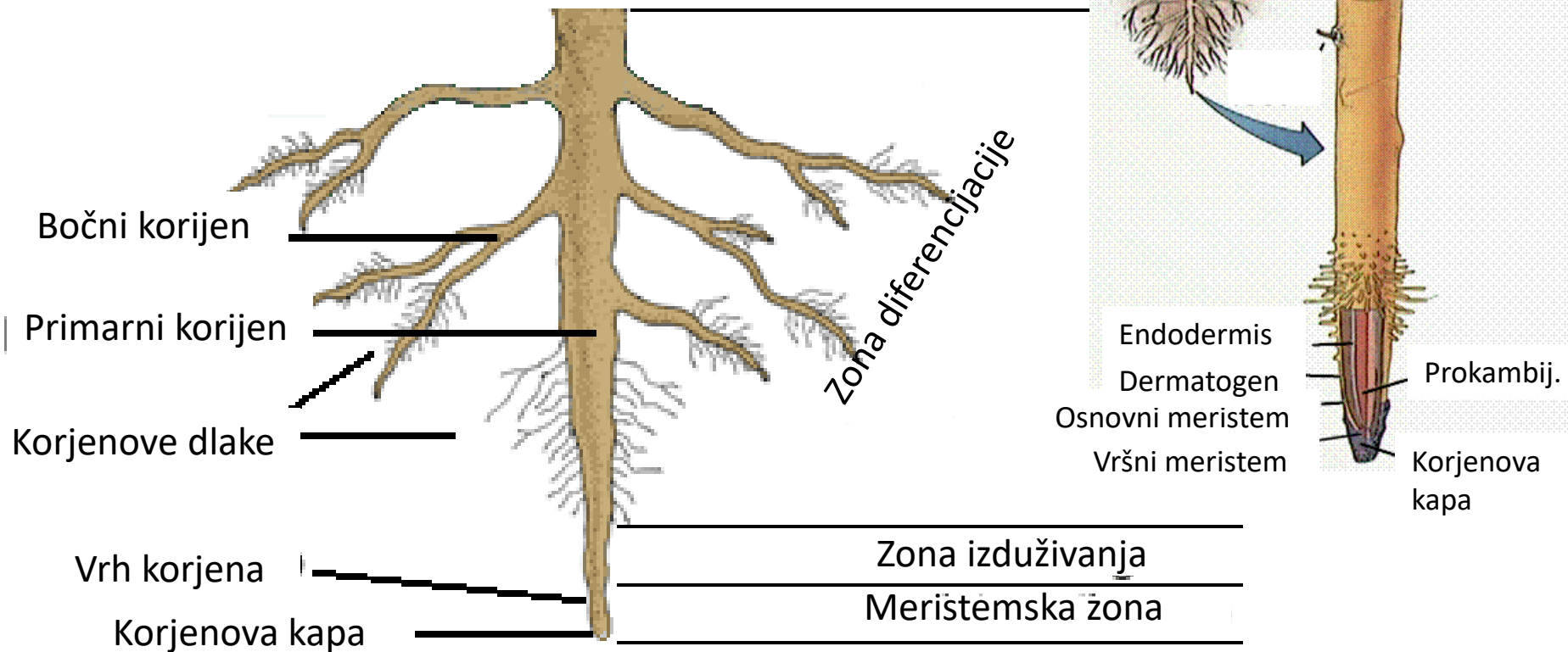
BIFACIJALNI LISTOVI

EKVIFACIJALAN LIST

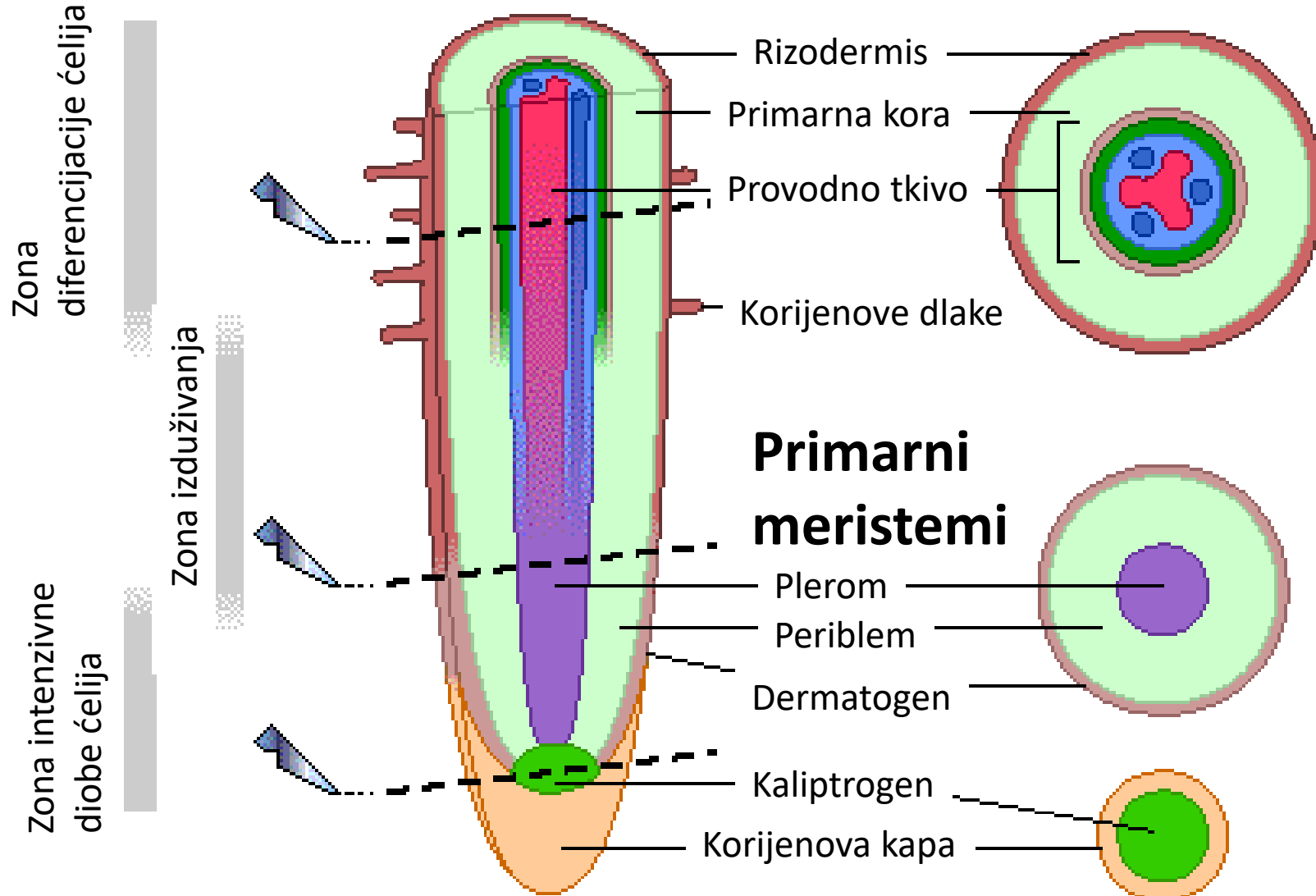
UNIFACIJALA LIST

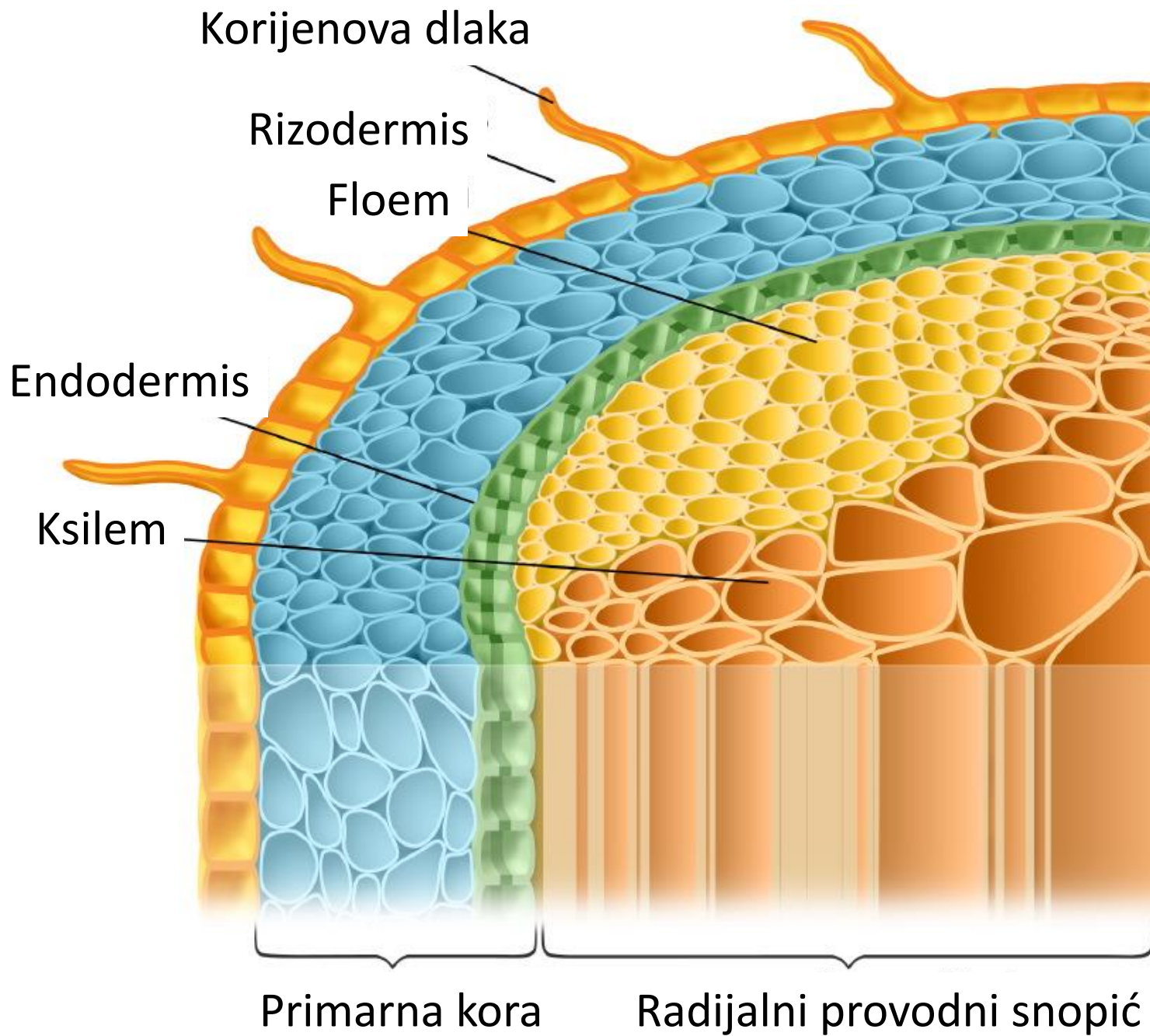
Korijen

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

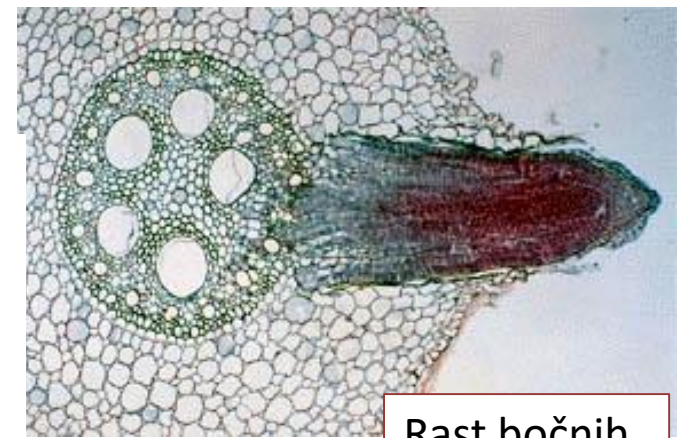


Primarna građa korijena

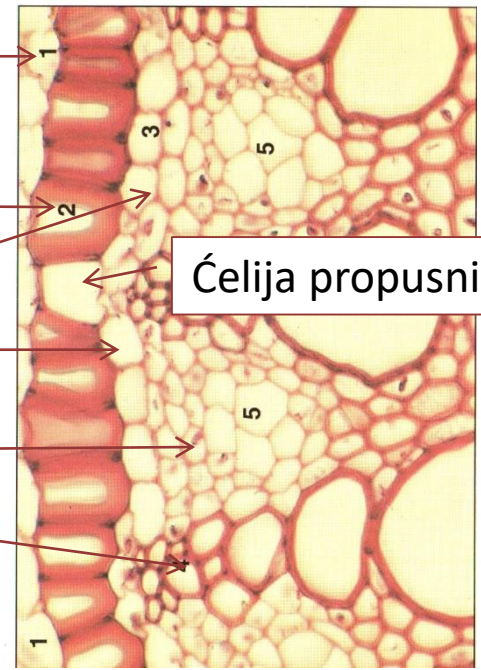
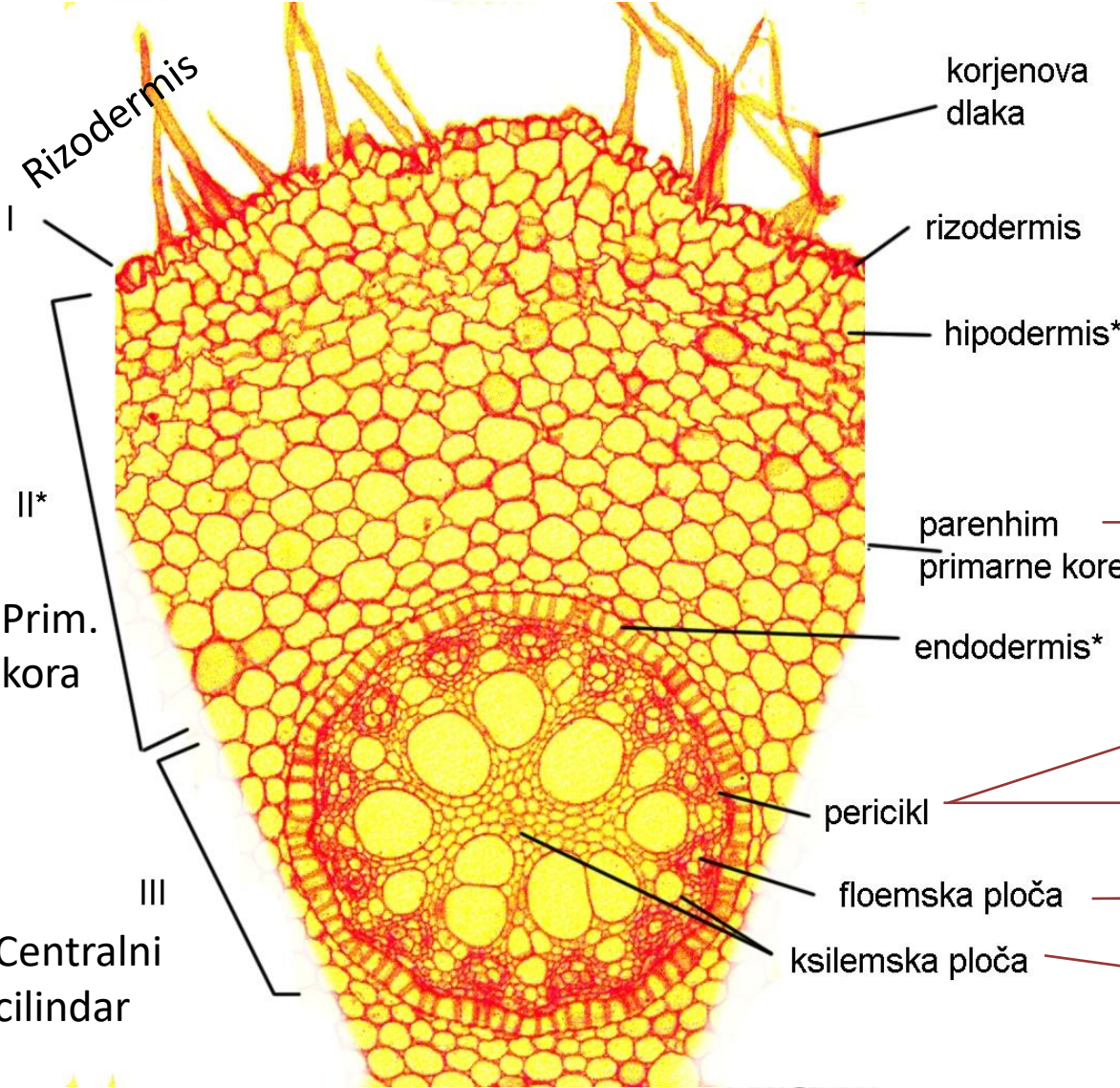




Presjek kroz zonu korjenovih dlaka



Rast bočnih korjenova

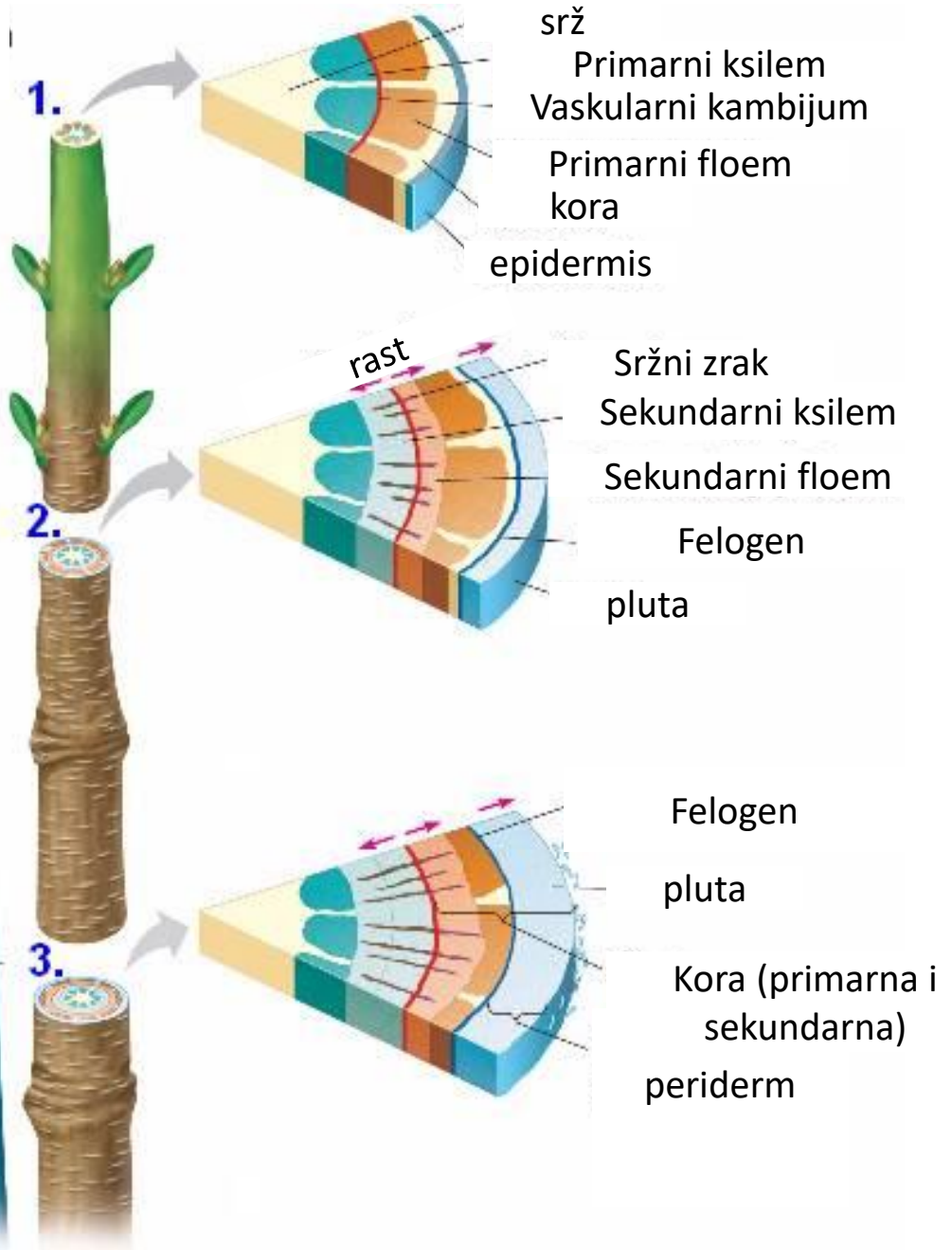
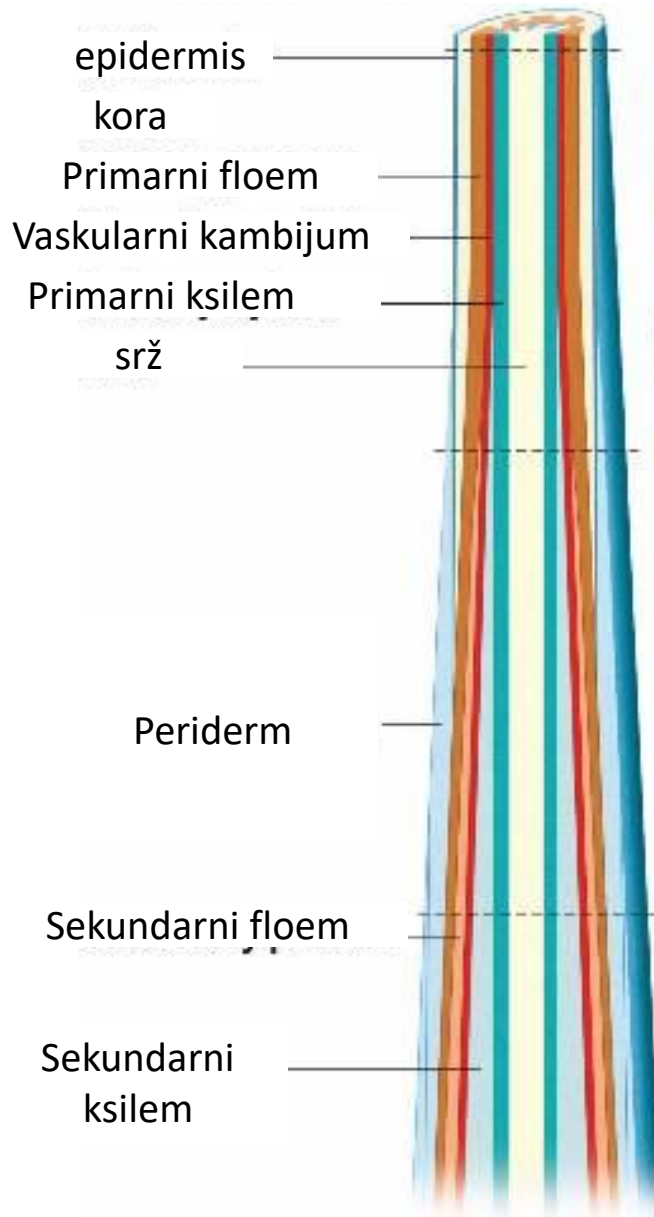


Ćelija propusnica

Kasparijeva zadebljanja ...

Sekundarni rast stabla

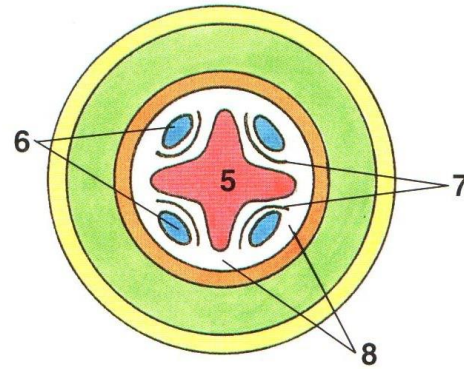
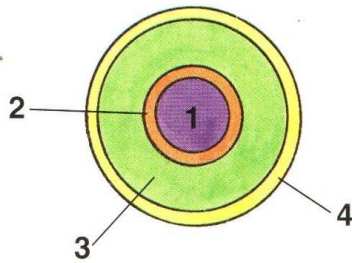
Sekundarni rast stabla



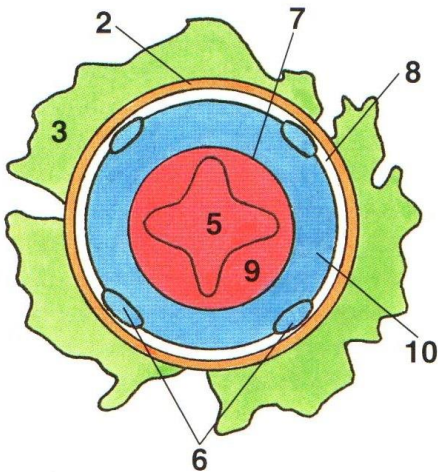
Sekundarni rast korijena

Presjek kroz zonu iznad korijenovih dlaka

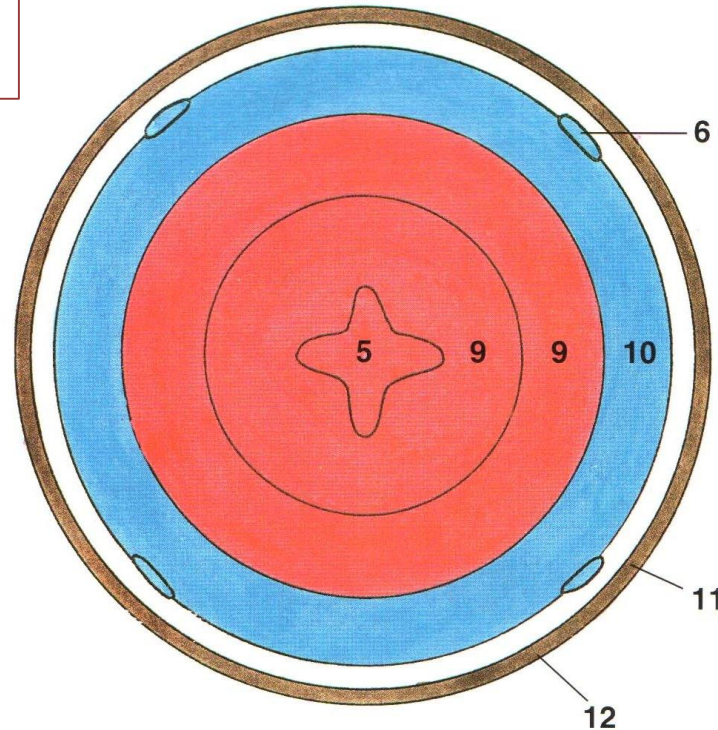
Presjek vrha korijena



Formiranje prstena od vaskularnog kambijuma



Sekundarno debljanje



- 1- prokambijum
- 2- endodermis
- 3- primarna kora
- 4- rizodermis
- 5- ksilem
- 6- floem
- 7- vaskularni kambijum
- 8- pericikl
- 9- sekundarni ksilem
- 10- sekundarni floem
- 11- felogen
- 12- peridermis