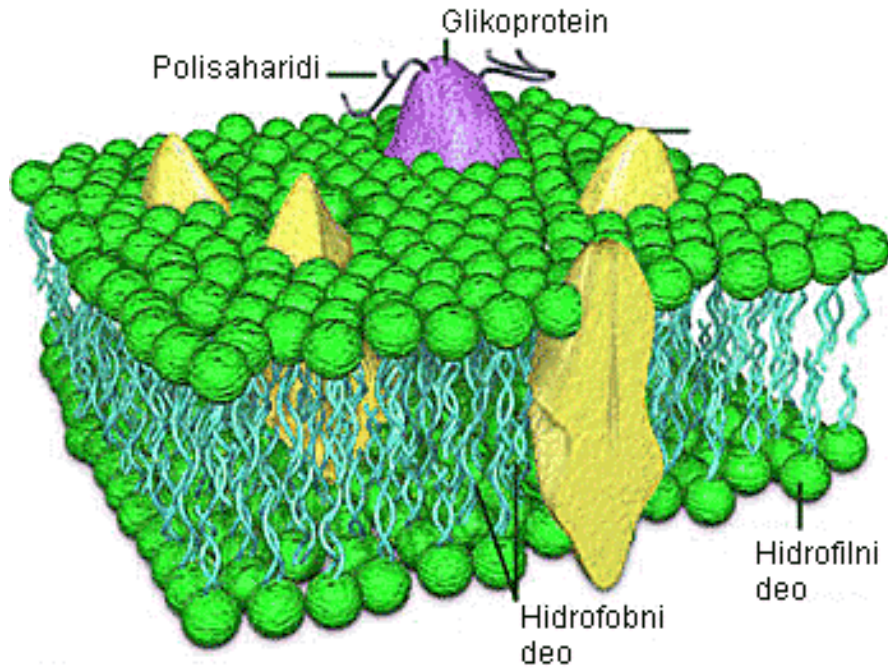
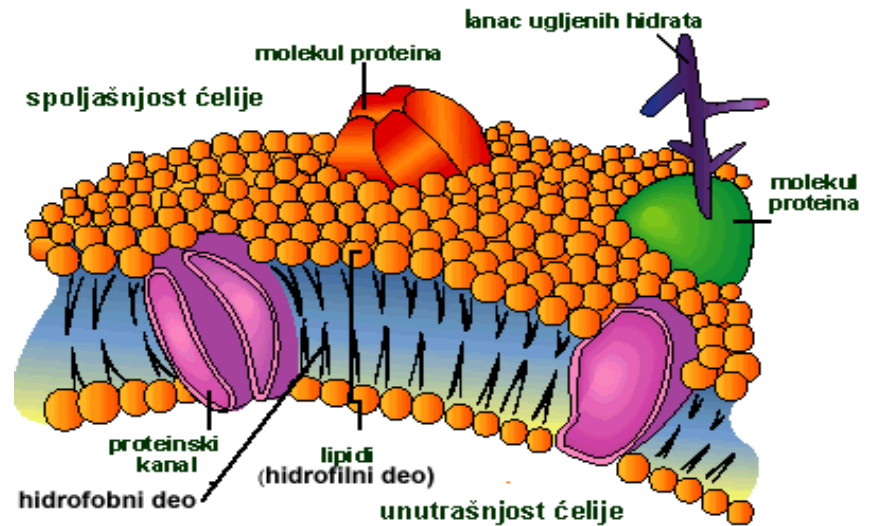


PLAZMATIČNA MEMBRANA

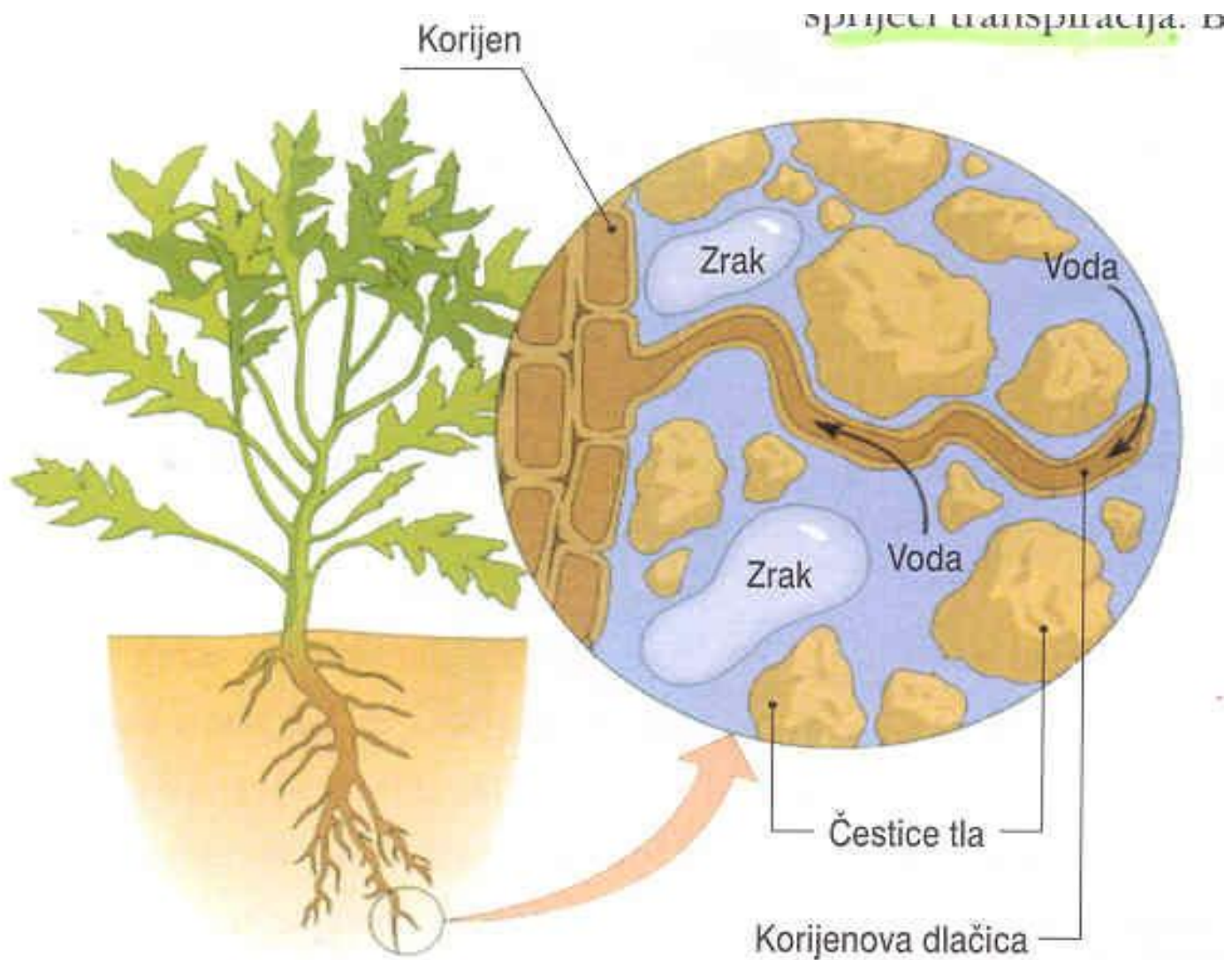
Tečno-mozaični model membrane



Tečno-mozaični model ćelijske membrane



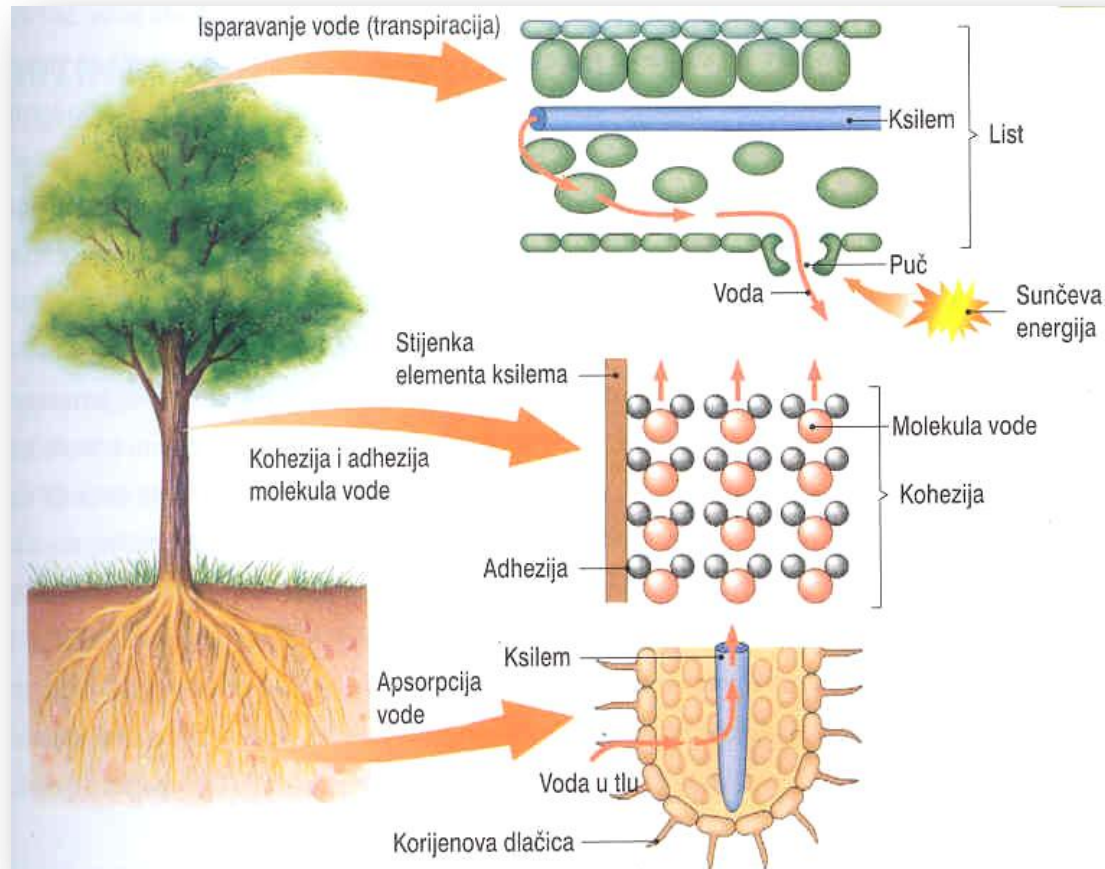
Usvajanje vode



Pogonske sile za prenos vode kroz biljku

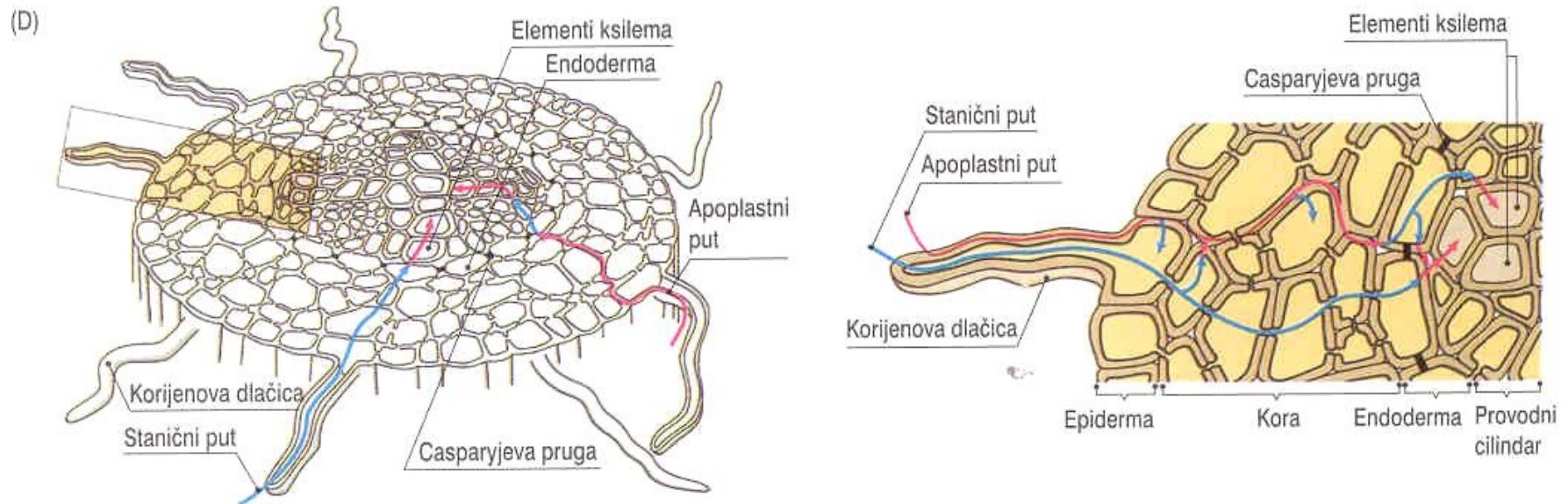
Korjenov pritisak - pozitivni pritisak – u korjenu - “potiskuje” vodeni stub

Transpiracijsko usisavanje - negativni pritisak -na kraju transportnog puta -“povlaci” vodeni stub

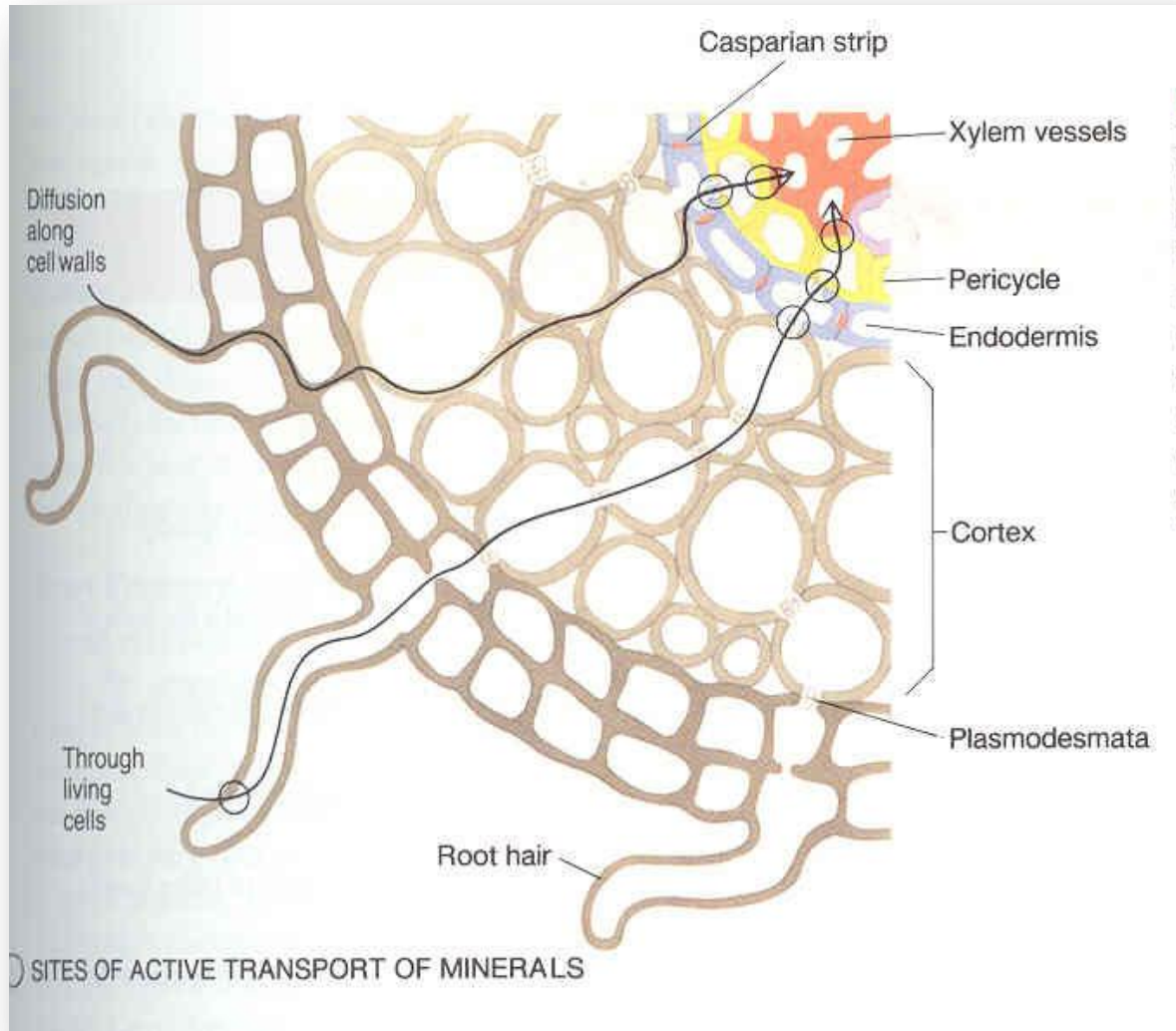


Kretanje vode u parenhimu

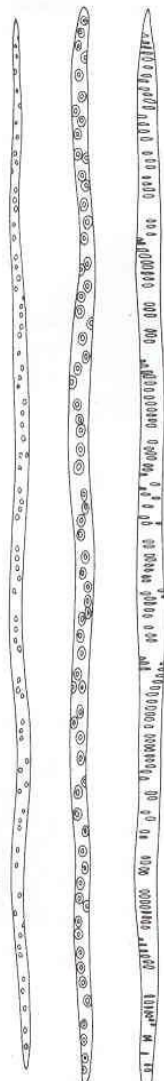
- prenos na male udaljenosti
- nisu razvijeni provodni sudovi - **ekstravaskularni prenos**
- * **kroz apoplast**
- * **kroz simplast**



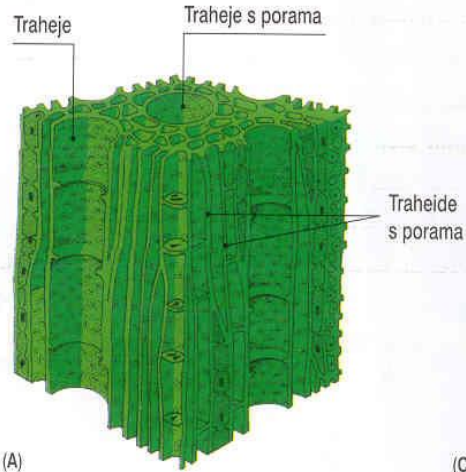
Horizontalni prenos vode – u korjenu



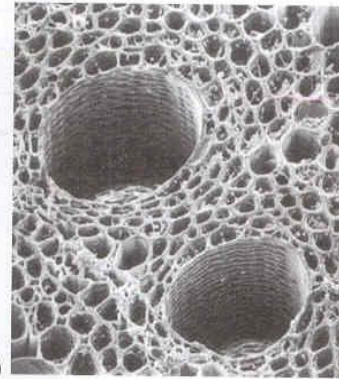
Kretanje vode u ksilemu



(B) Traheide



(A)



(C)

Perforirana ploča (složena)

Perforirana ploča (jednostavna)

Traheje

Pore

Membrana pore

Sekundarna stijenka

Primarna stijenka

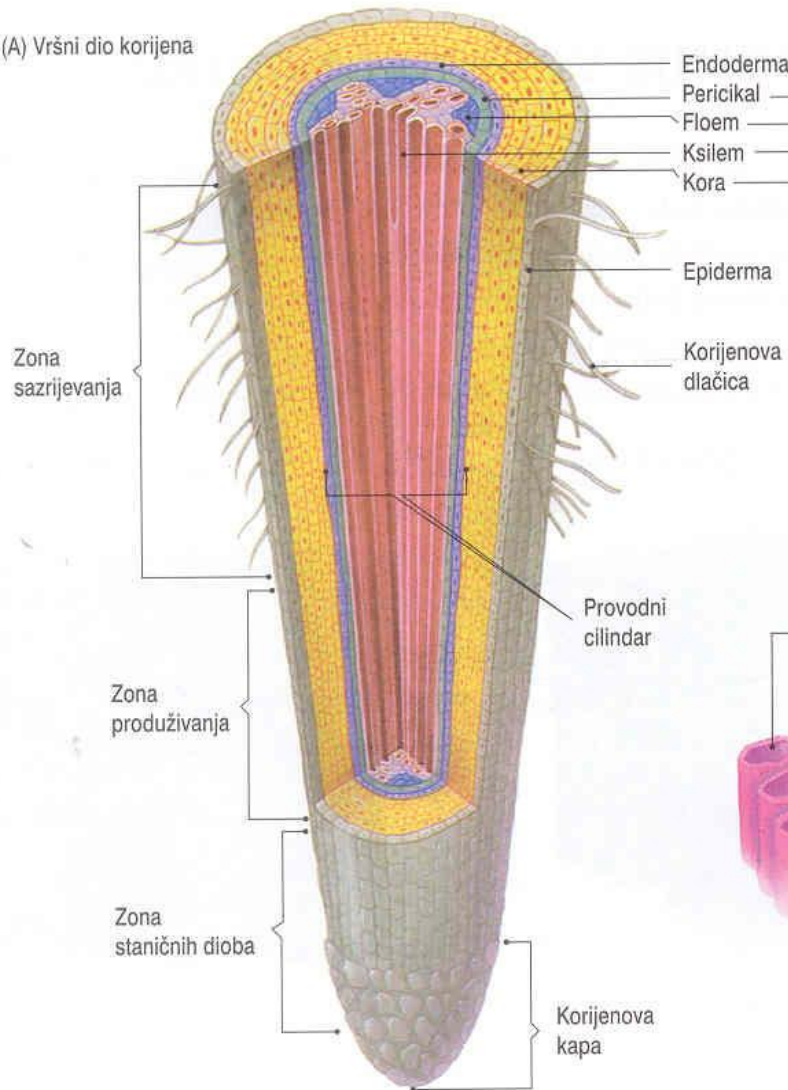
Središnja lamela

Par pore

Kanal pore

⁷ Kod biljke visoke 1 metar više od 99,5% puta koji prelazi voda je unutar ksilema.

(A) Vršni dio korijena



Endoderma
Perikikal
Floem
Ksilem
Kora

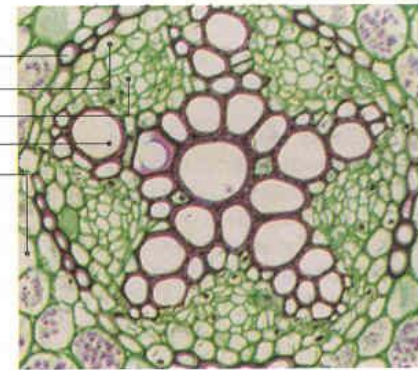
Epiderma
Korijenova
dlačica

Provodni
cilindar

Zona
produživanja

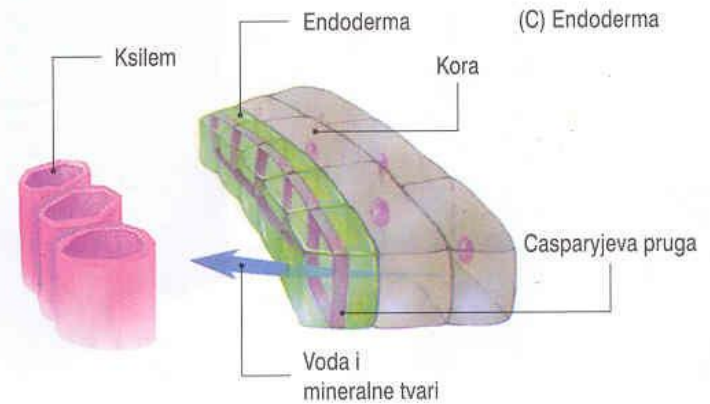
Zona
staničnih dioba

Korijenova
kapa



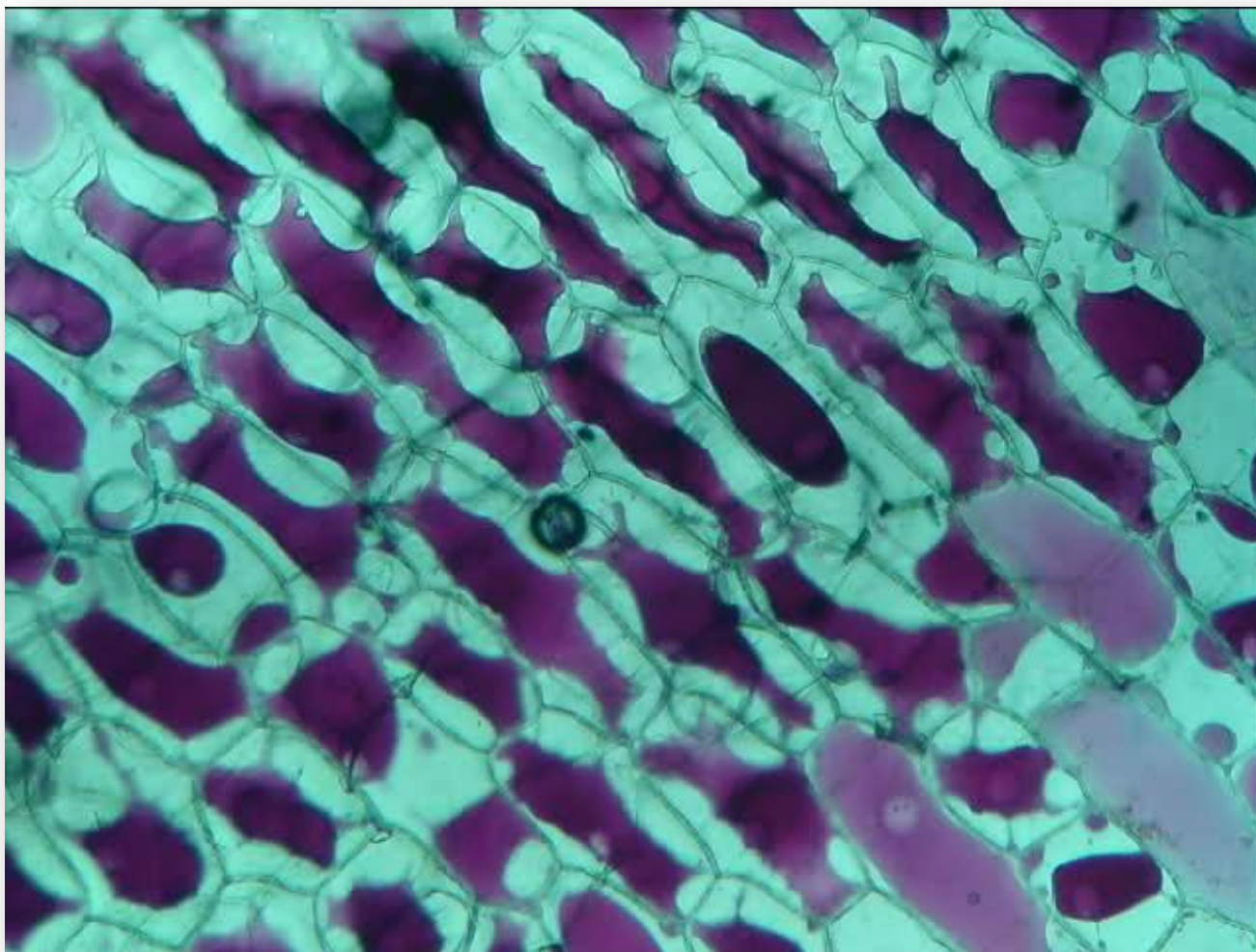
50 μm

(B) Provodni cilindar (poprečni prerez)

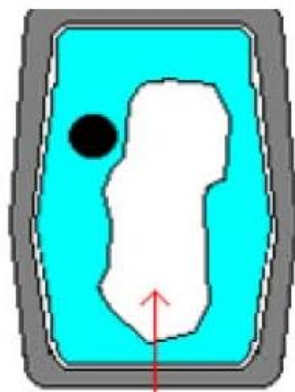


(C) Endoderma

PLAZMOLIZA



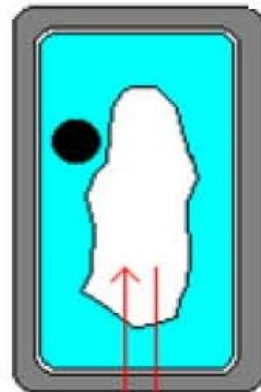
turgidna stanica



voda

a)

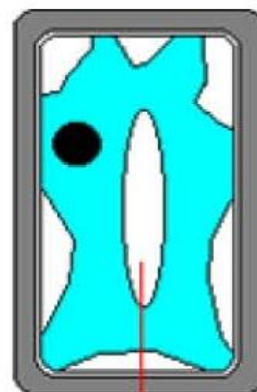
normalan turgid



voda

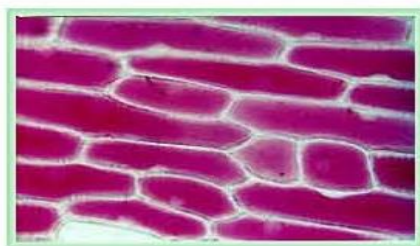
b)

plazmoliza stanice

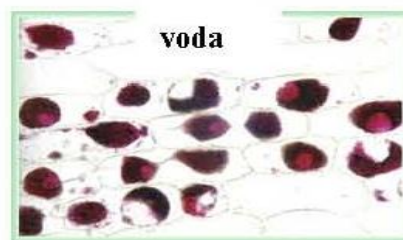


voda

c)

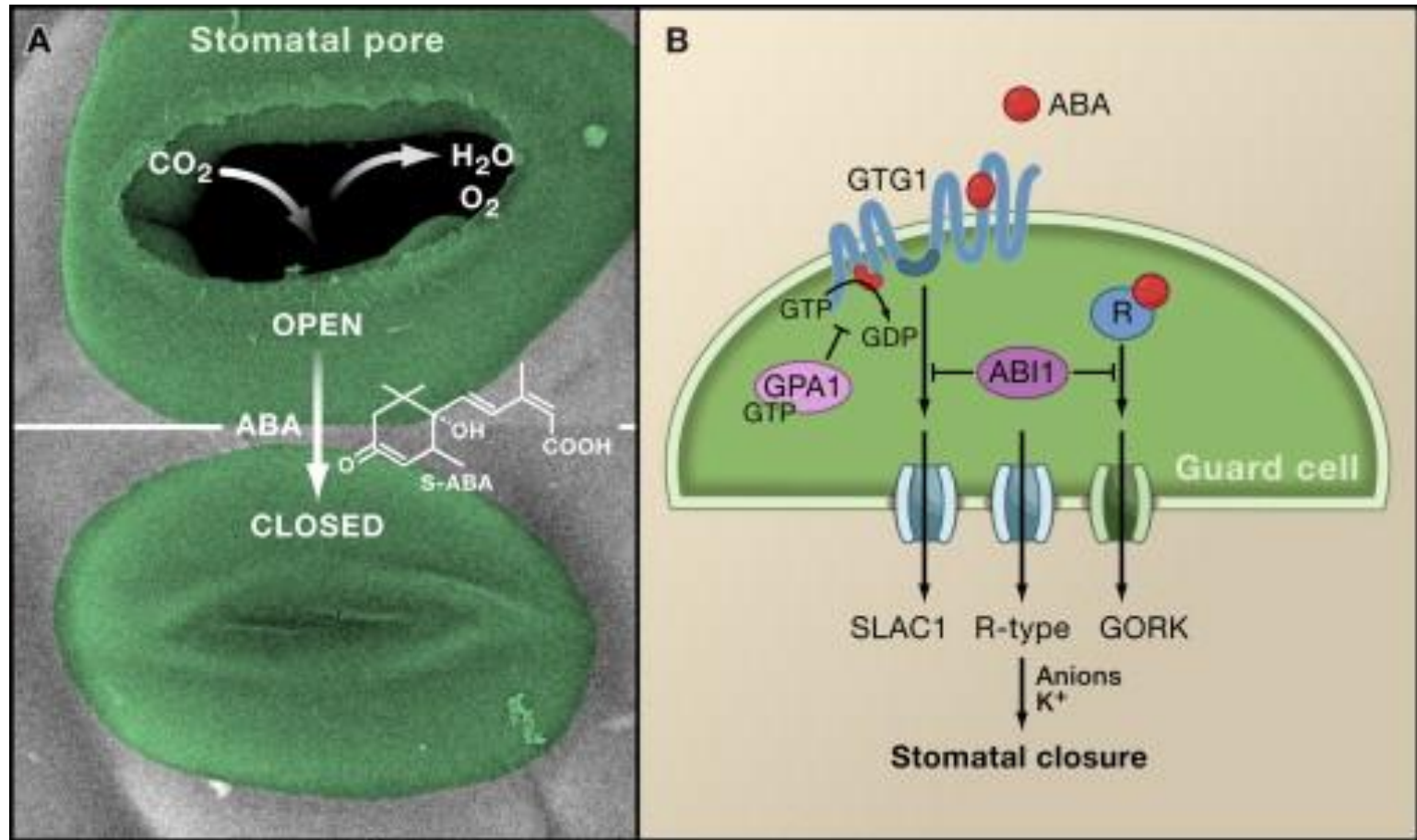


d)

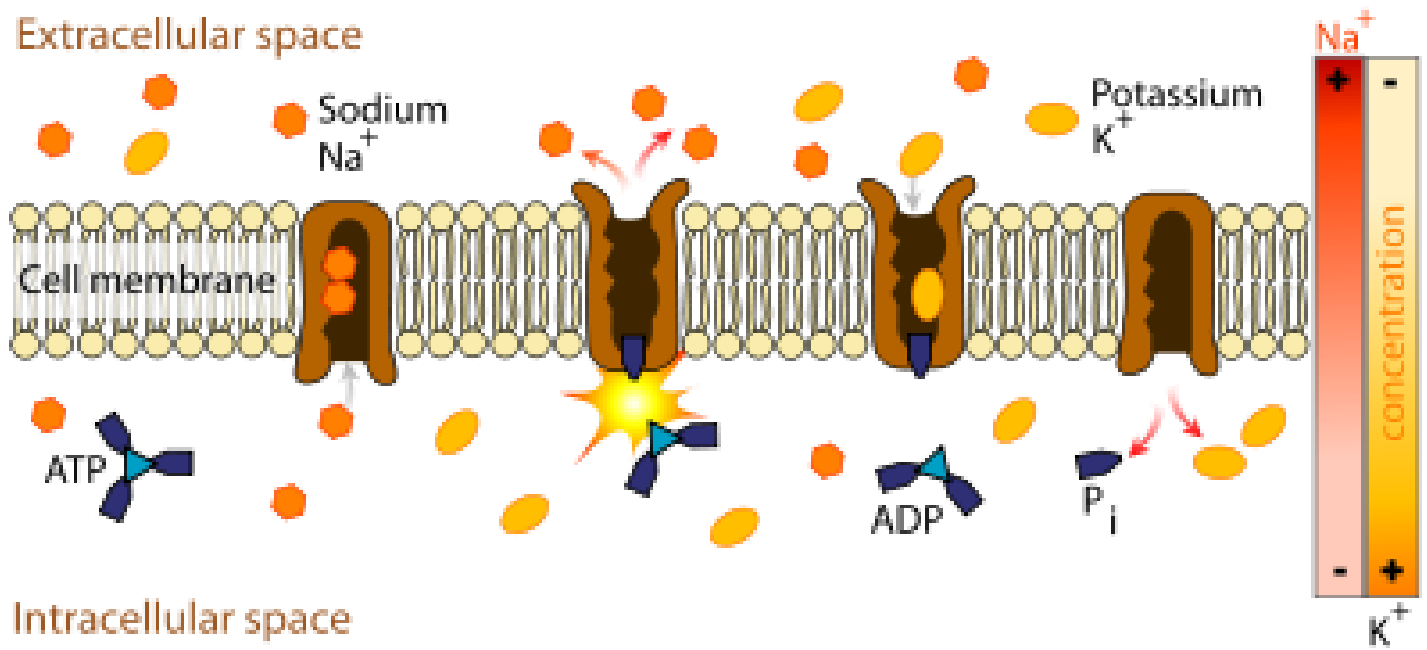


e)

STOME

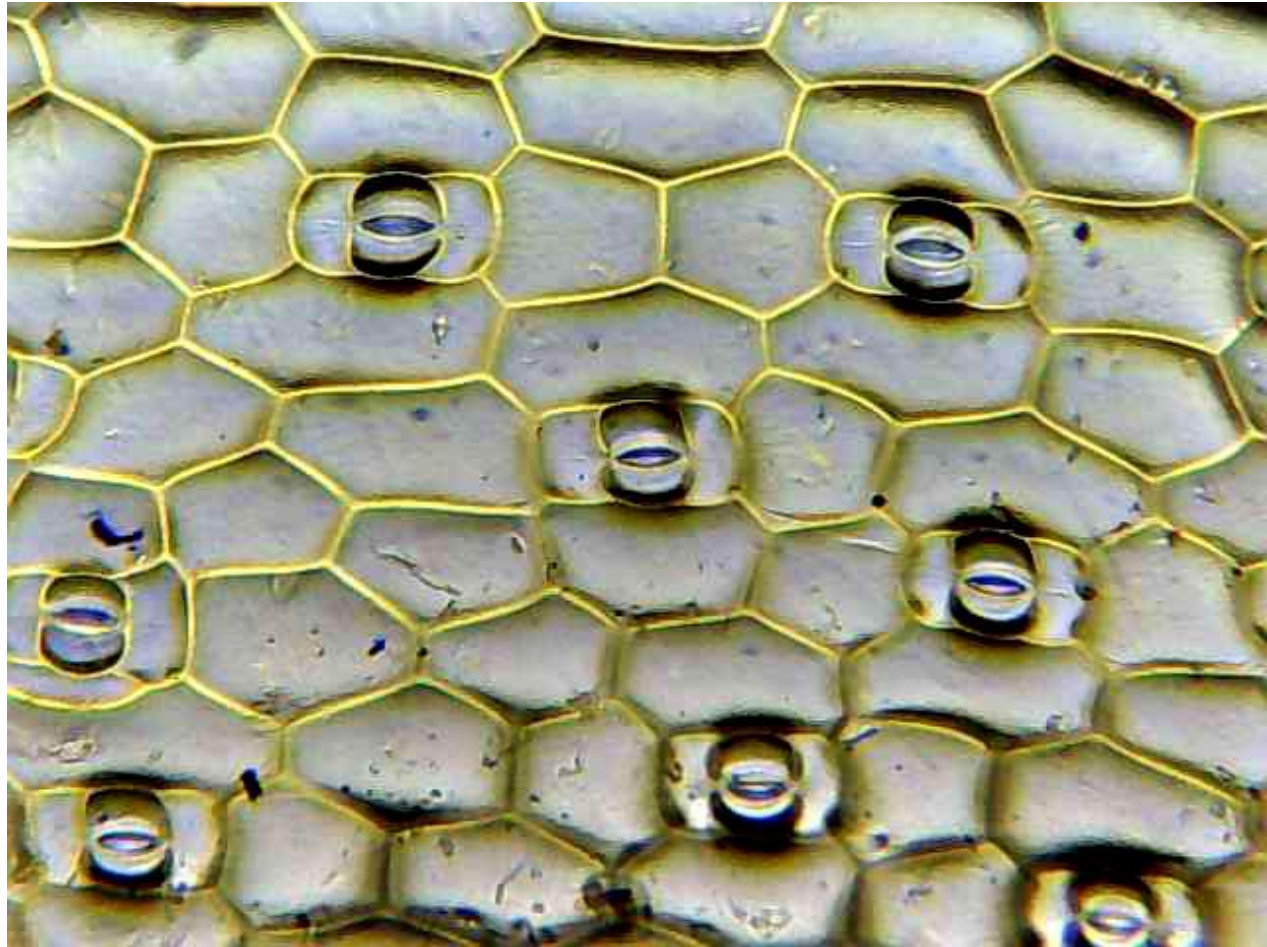


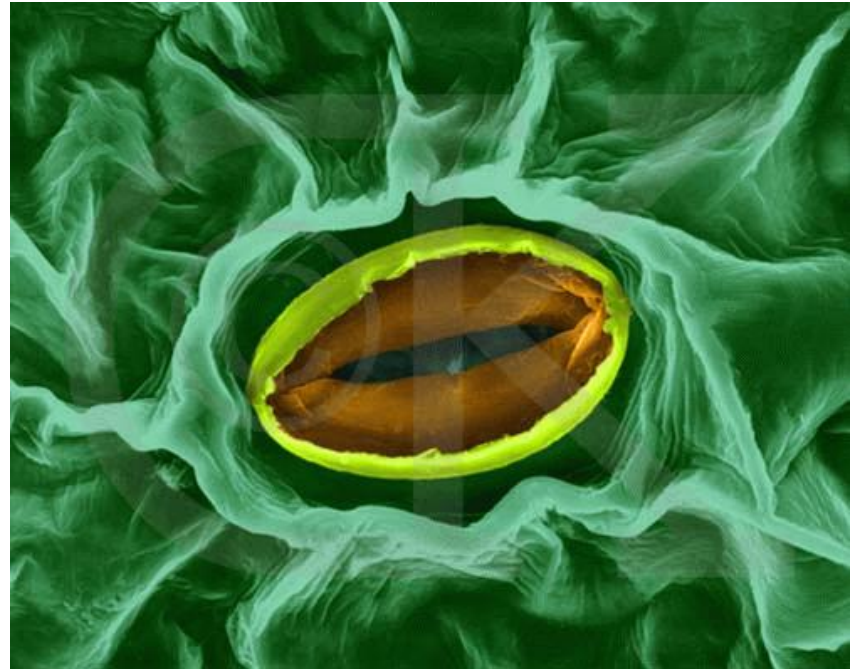
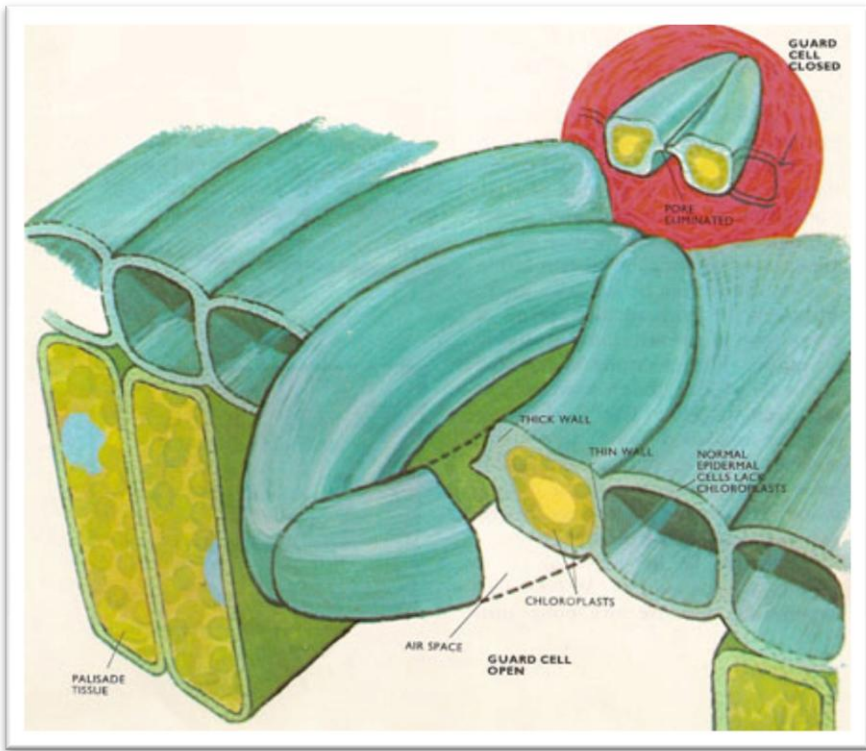
Extracellular space

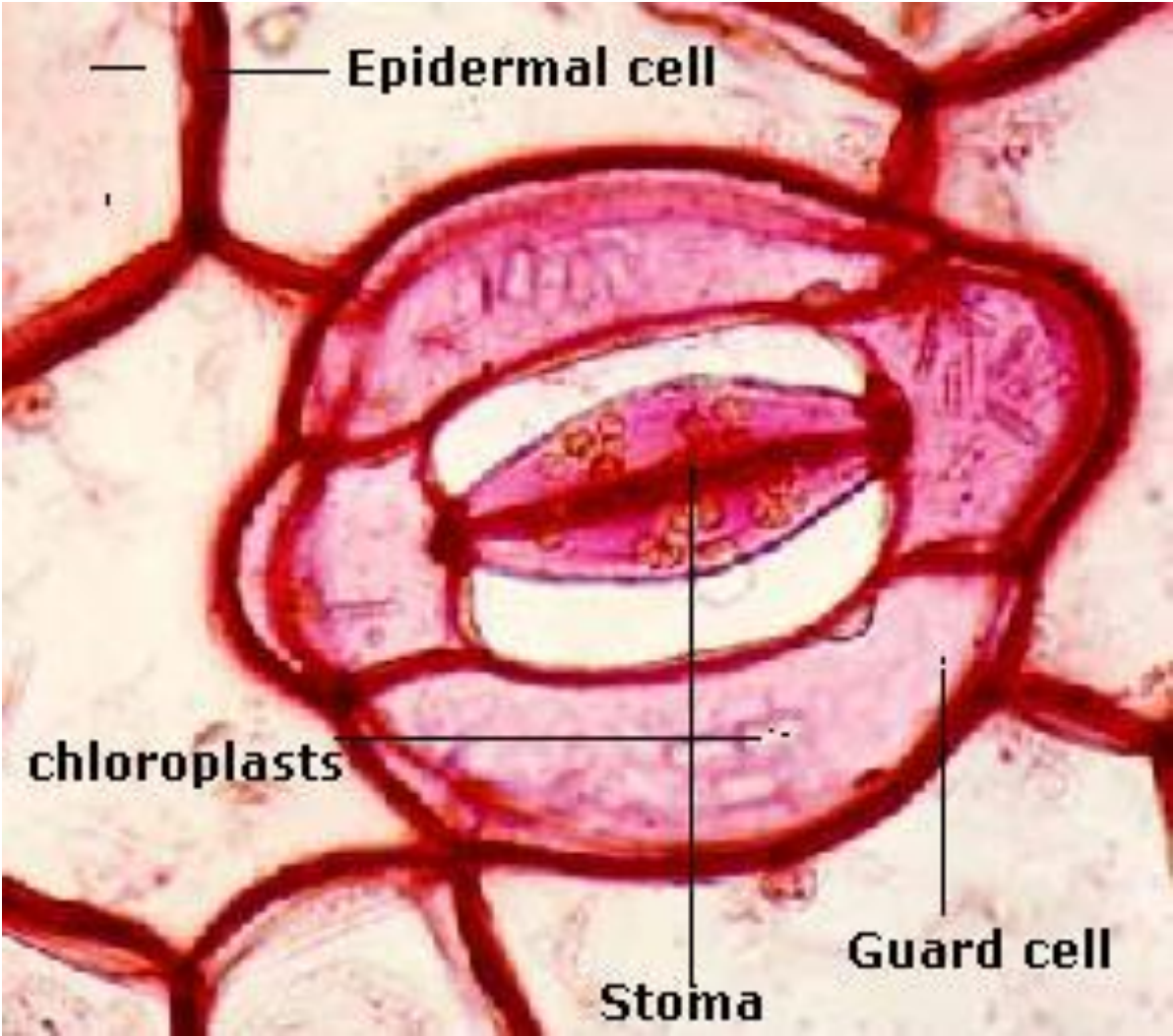


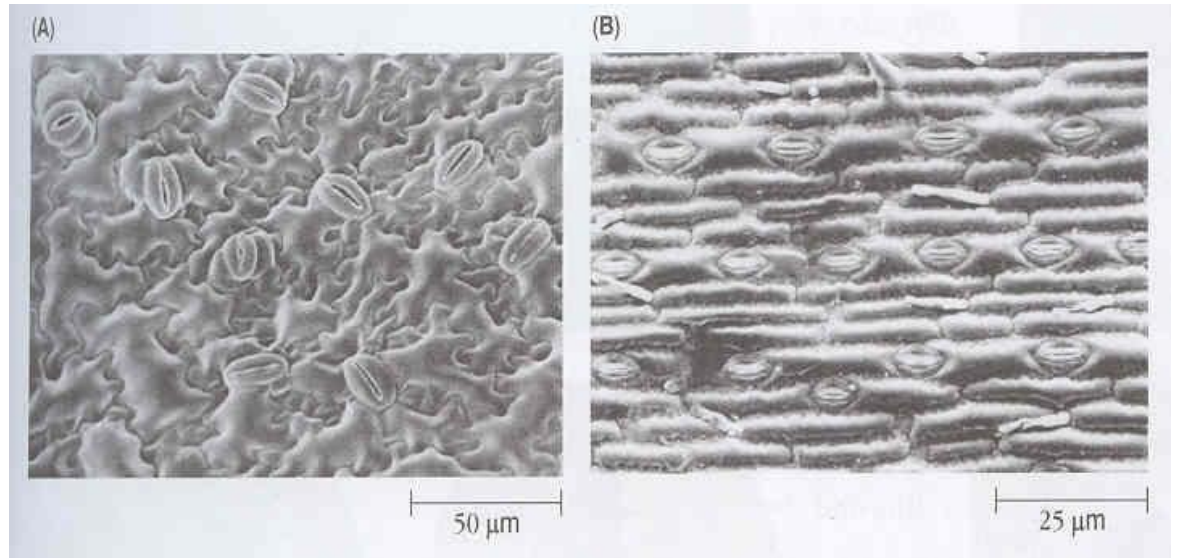
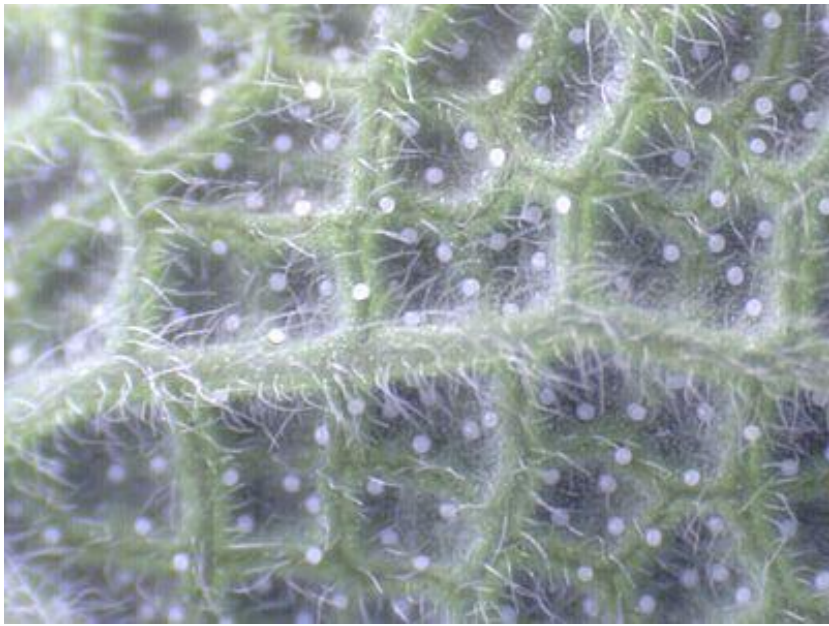
Intracellular space











GUTACIJA

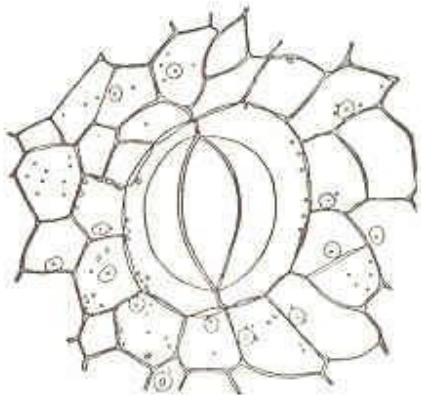
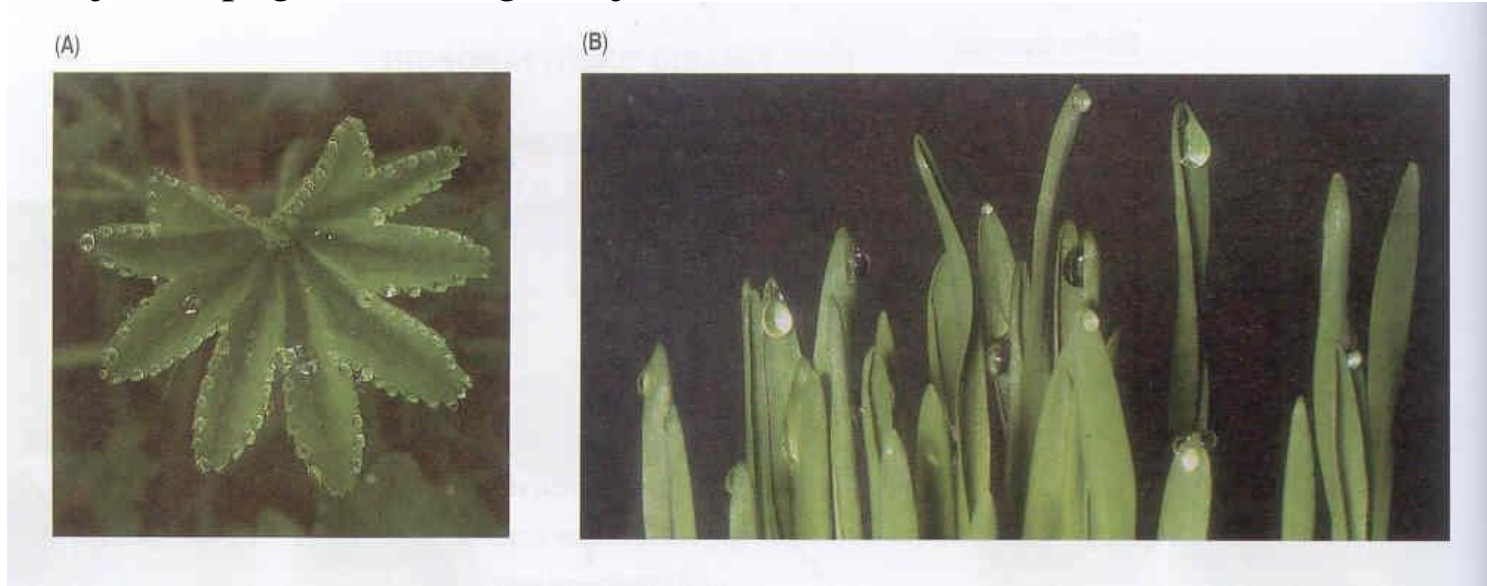
GUTACIJA – izlučivanje vode iz biljke u obliku kapljica

- na rubovima listova
- u vrijeme visoke relativne vlažnosti vazduha, (noću, u tropskim šumama)
- uslovi za primanje vode - optimalni
- uslovi za transpiraciju - minimalni
- osigurava se ravnoteža vodnog režima



Izlučivanje vode u tečnom obliku:

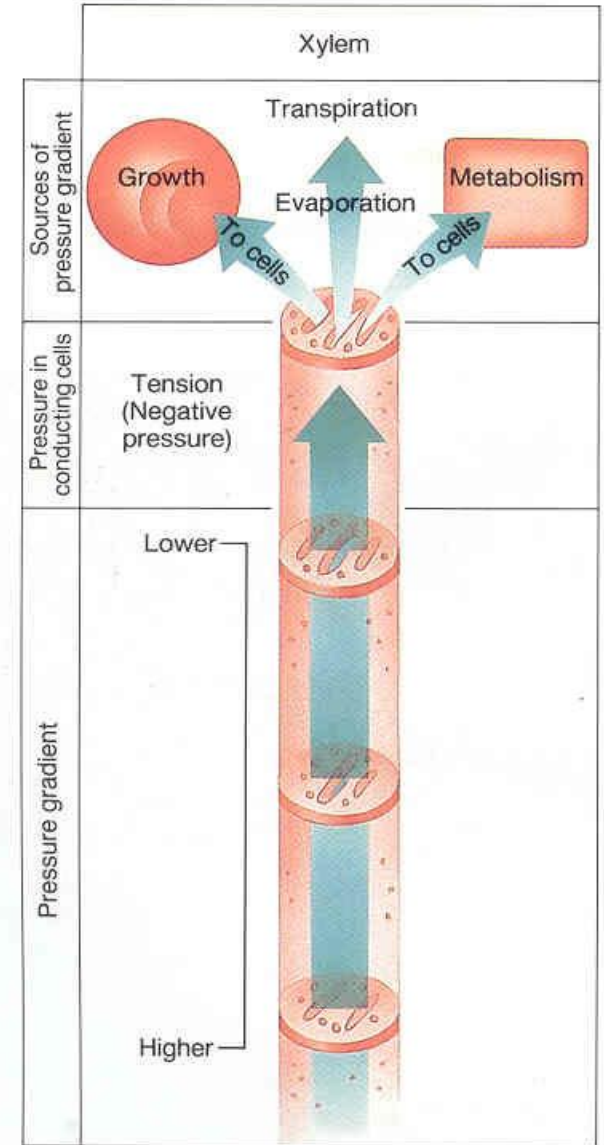
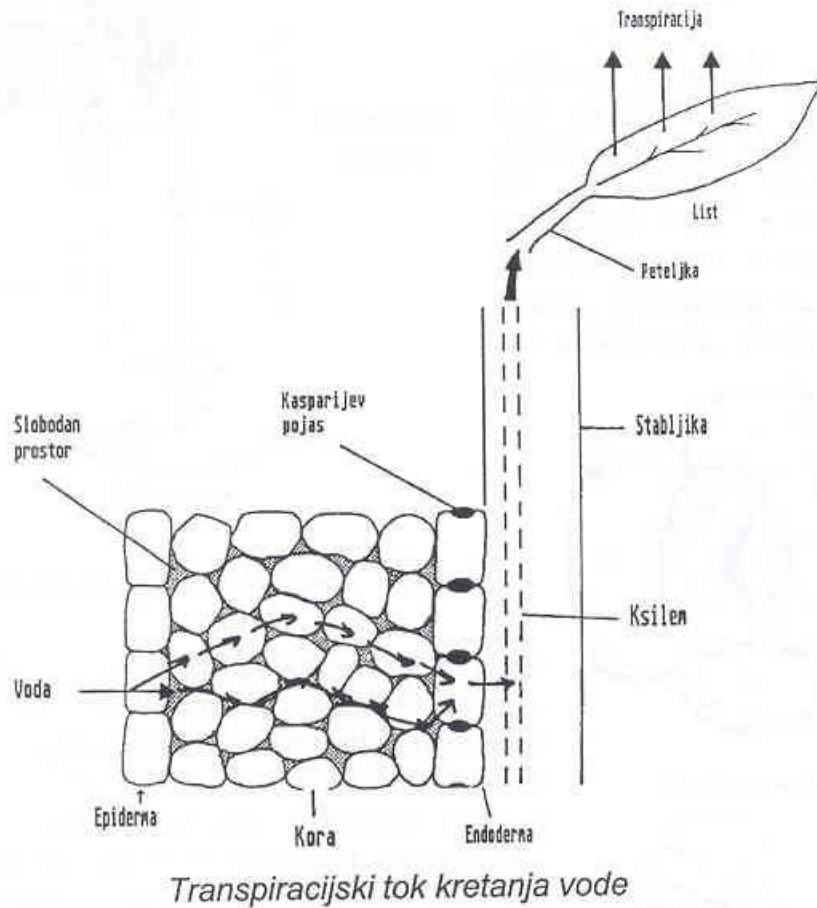
- kroz vodene stome – **hidatode** - pasivne
- pritisak korjena – pogonska sila gutacije



kroz žljezdaste dlake – **trihomske hidatode** -aktivne (vodene žlijezde)

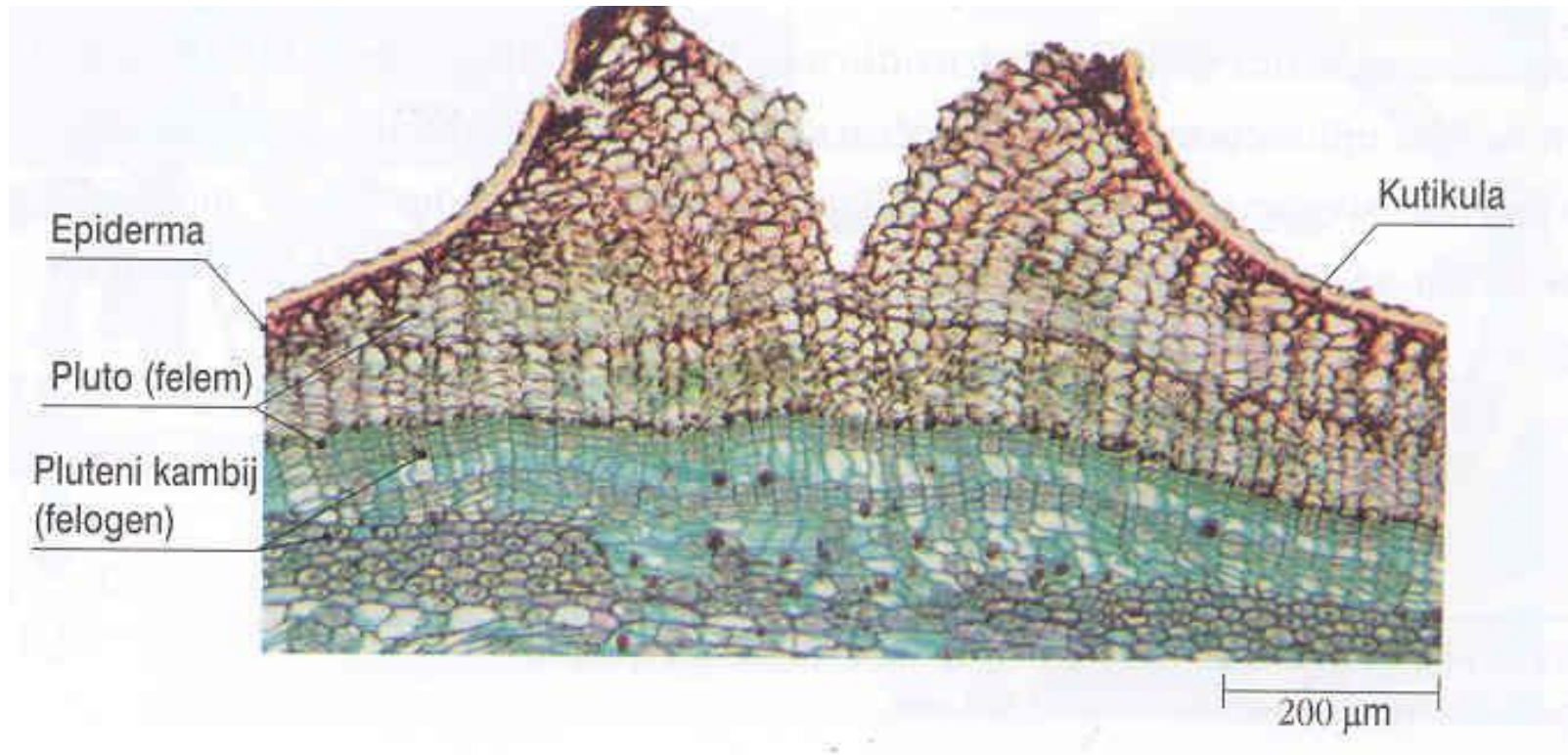
-rade nezavisno od pritiska korjena

Transpiracija

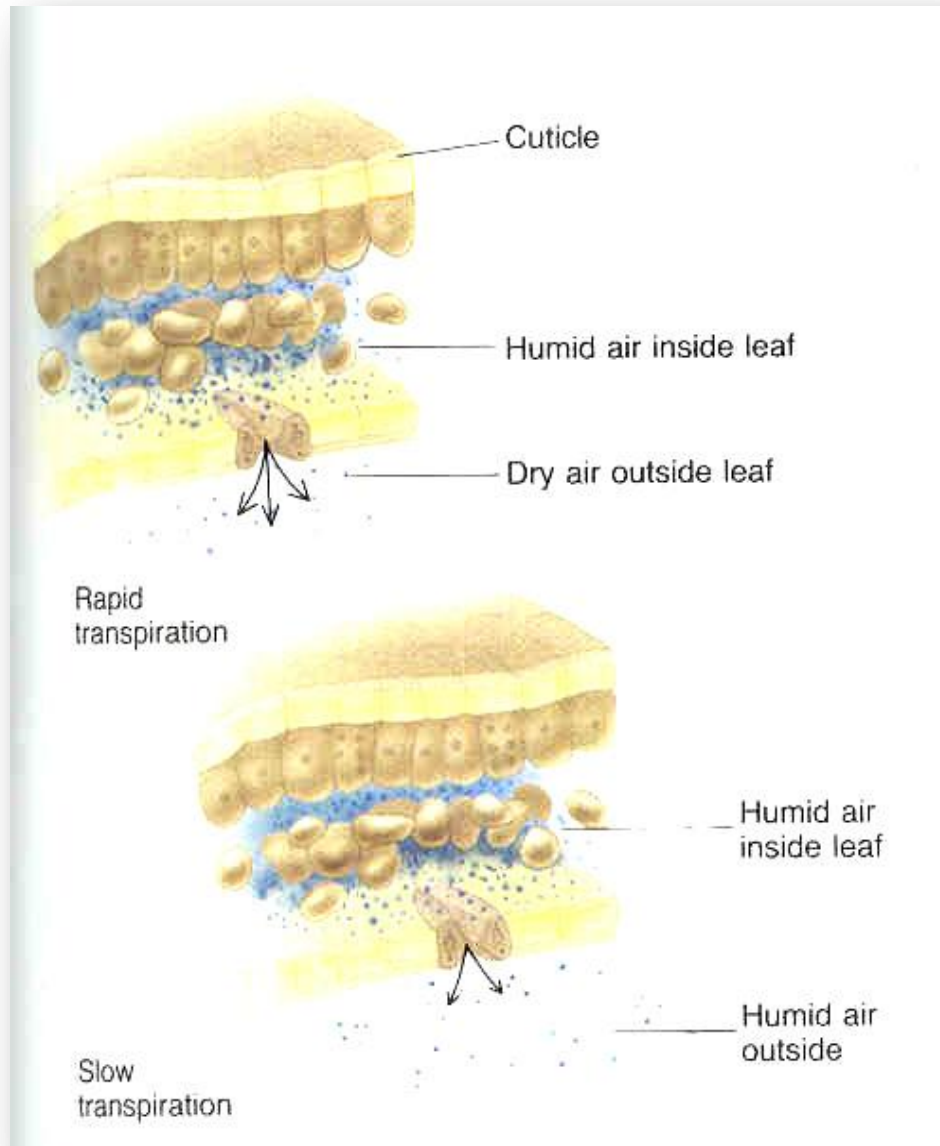


Kretanje vode u ksilemu – transpiracijska struja

Lenticelarna transpiracija



Stomatermna transpiracija



SUZENJE ili PLAČ

- izlučivanje vode u tečnom obliku
- izlučivanje tekućine iz ozlijeđenih biljaka
- pod uticajem pritiska korjena
- otvoreni provodni elementi
- aktivan korjen
- dovoljno vode
- transpiracija – minimalna
- korjenov pritisak – visok
- samo u jednom kraćem periodu života ili vegetacije

- **kod drvenastih vrsta** - u proljece – u vrijeme pupanja – vinova loza
- **kod zeljastih vrsta** – kasnijim fazama rasta i razvoja – kada su listovi potpuno razvijeni
- * **kukuruz** – razvijeni listovi na vrhu
- * **tikva** – u fazi cvjetanja