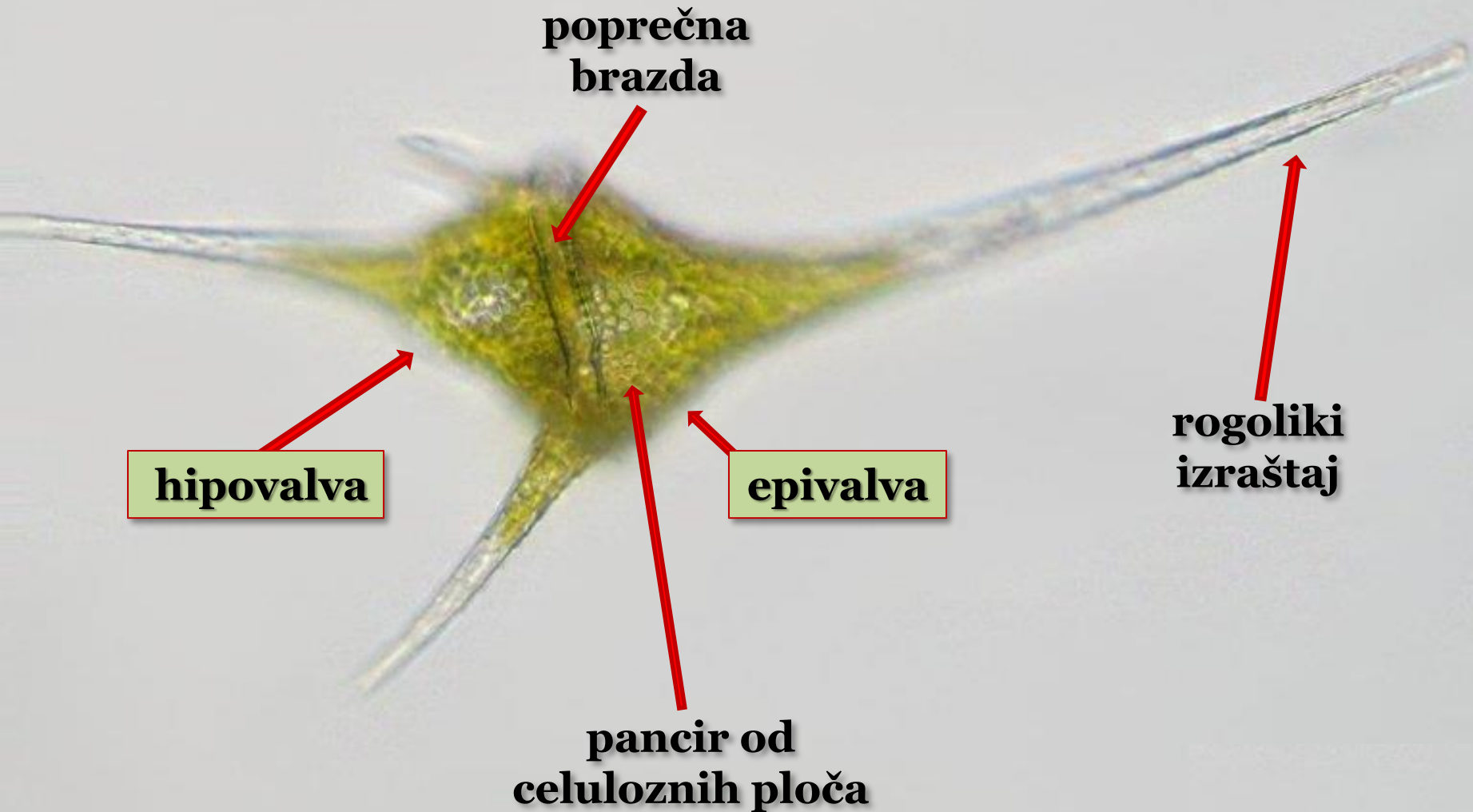


Nivoi tjelesne organizacije algi, gljiva i lišajeva



***Ceratium* sp.**
(Pyrrophyta, vatrene alge)



poprečna
brazda

hipovalva

epivalva

rogoliki
izraštaj

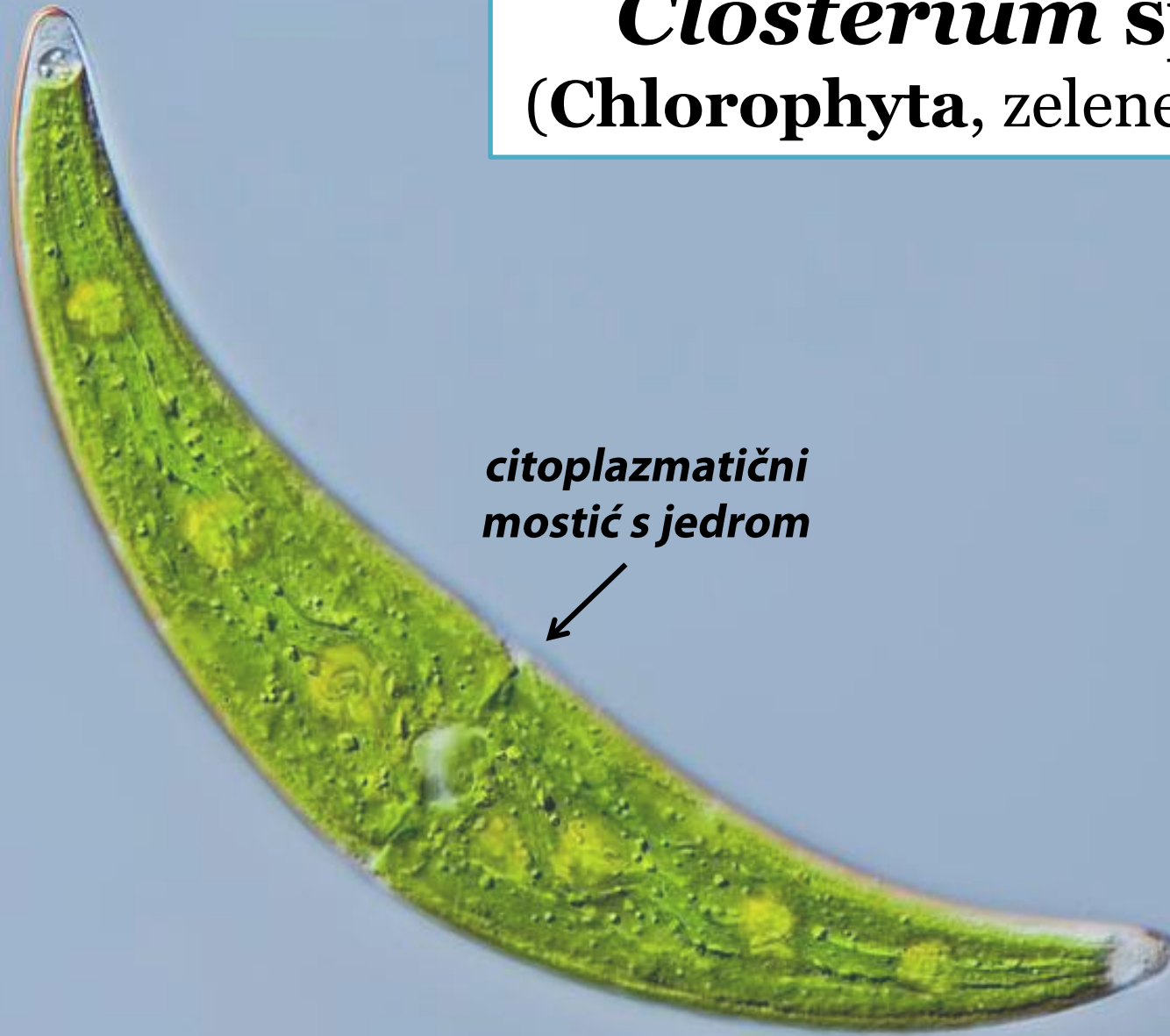
pancir od
celuloznih ploča

Ceratium hirundinella

bič



***Closterium* sp.**
(Chlorophyta, zelene alge)



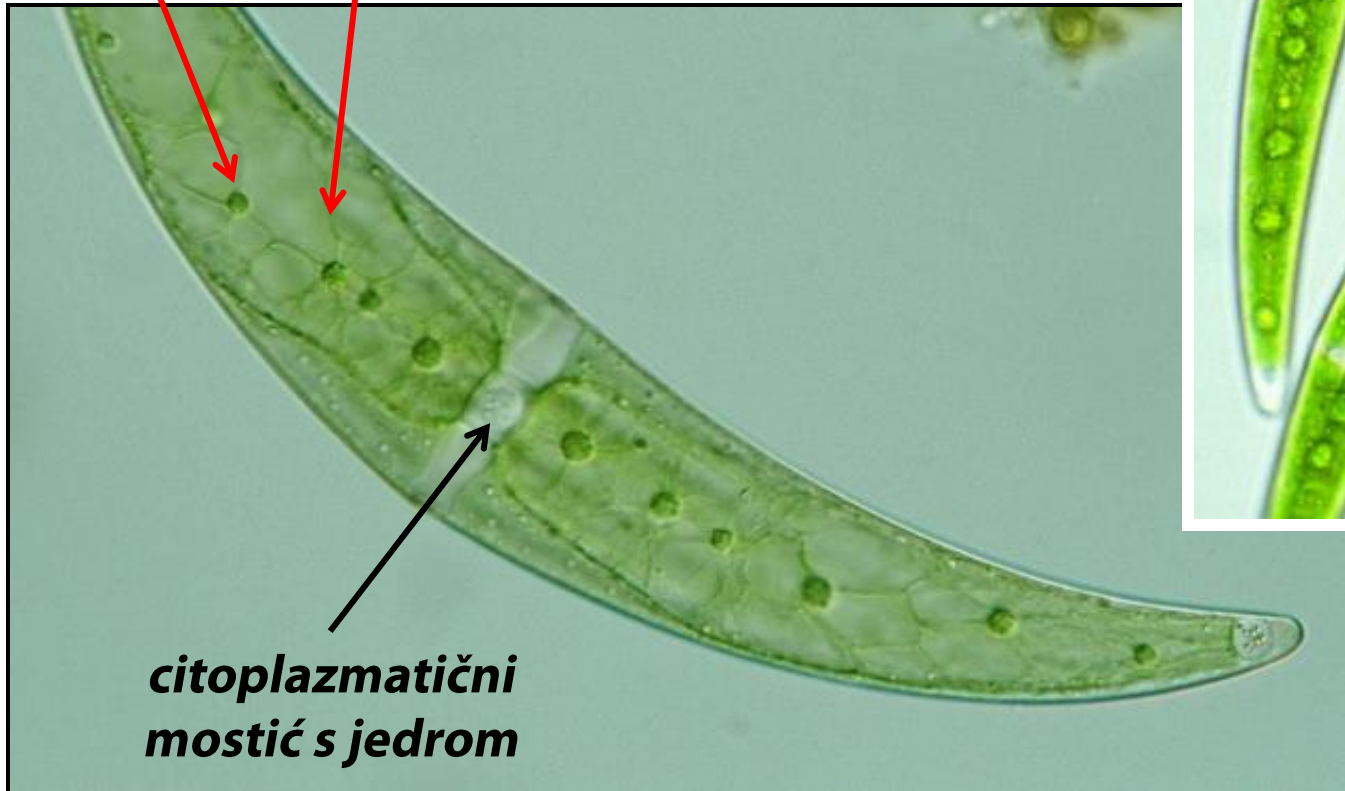
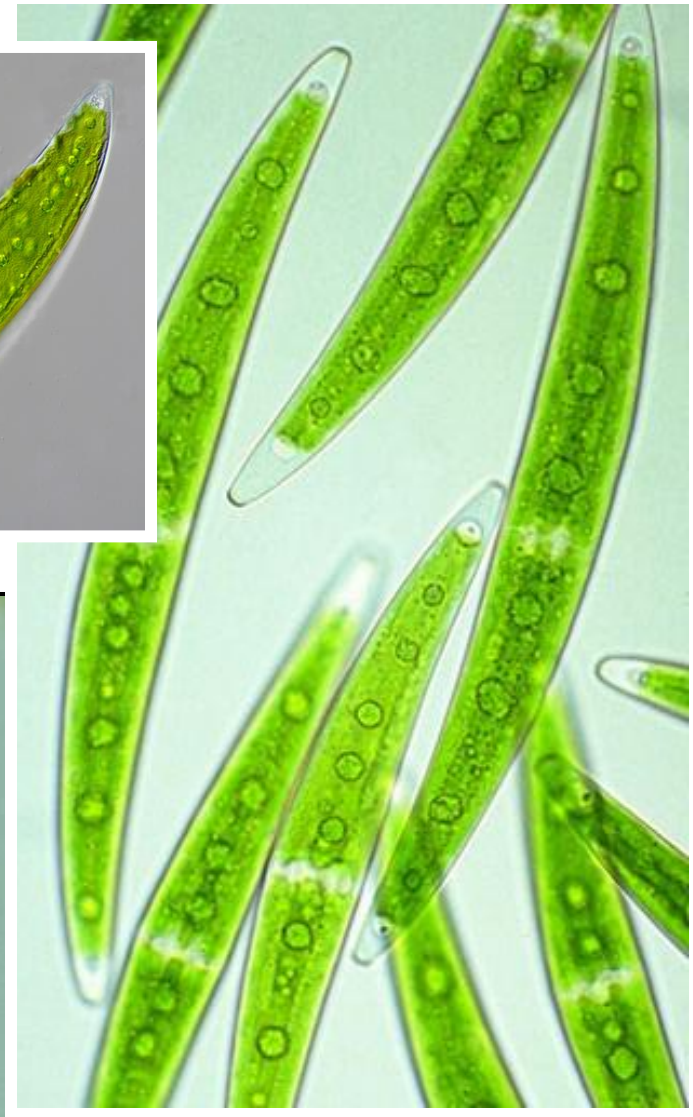
*citoplazmaticni
mostić s jedrom*



Closterium spp.

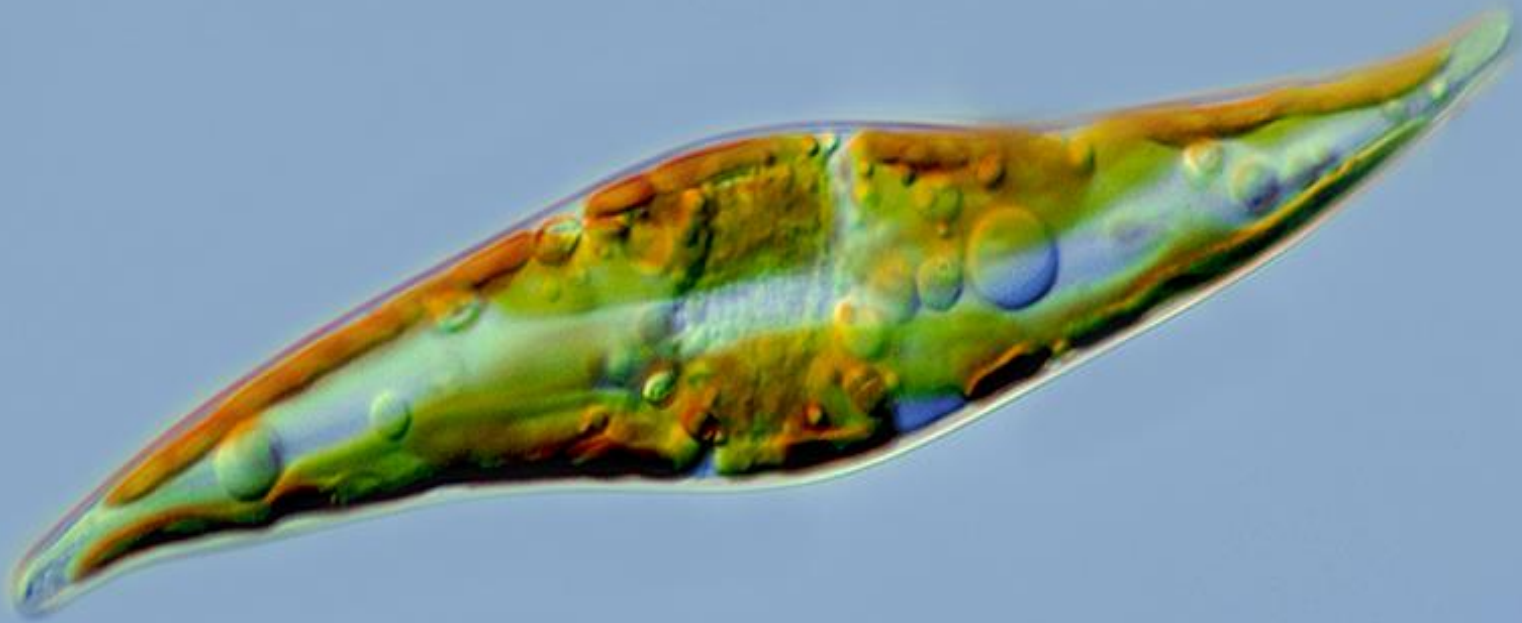
**trakast
hloroplast**

pirenoid



**citoplazmatski
mostić s jedrom**

***Pleurosigma* sp.**
(Bacillariophyta, silikatne alge)



20µm

Pleurosigma sp.

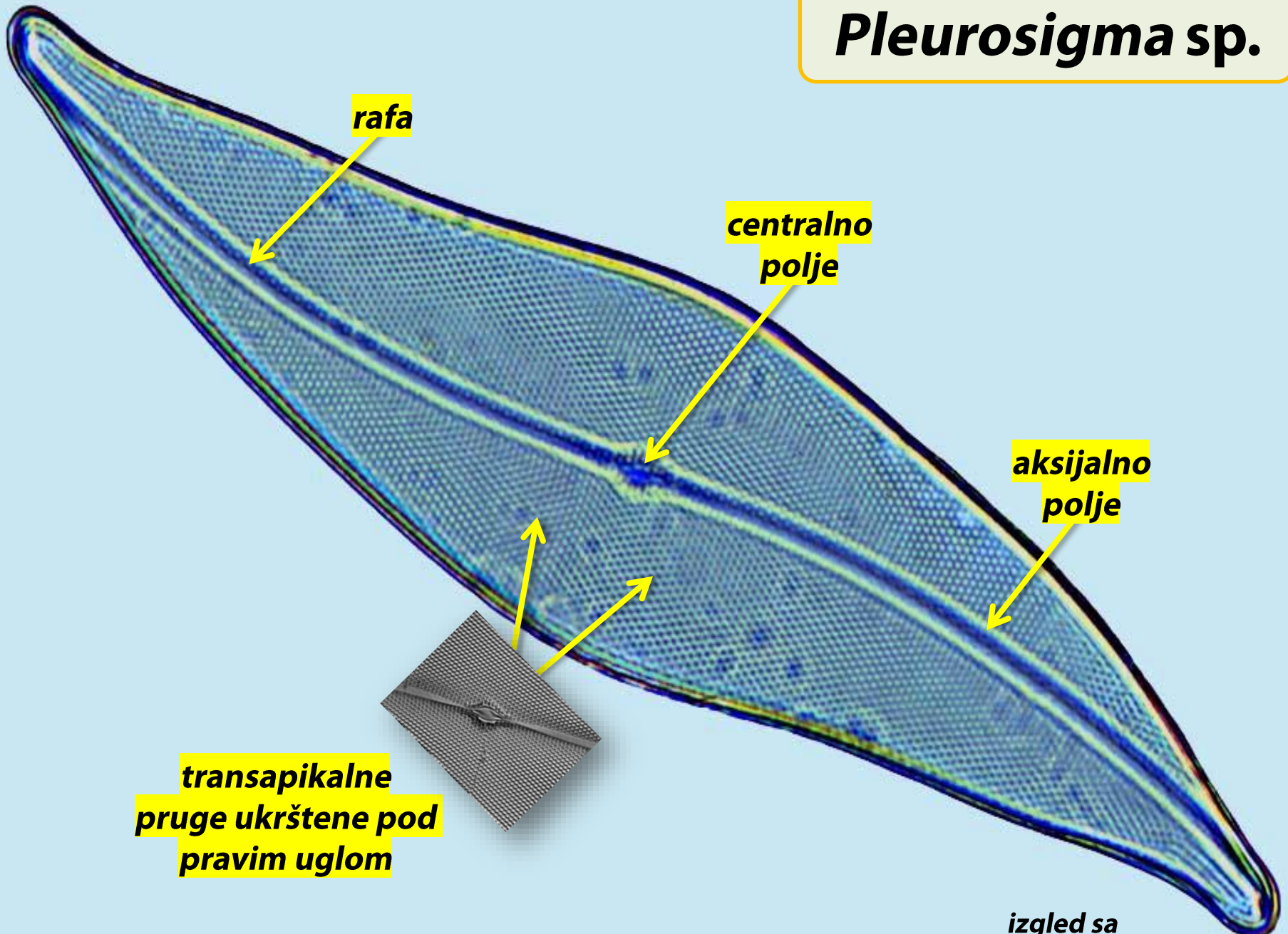
rafa

**centralno
polje**

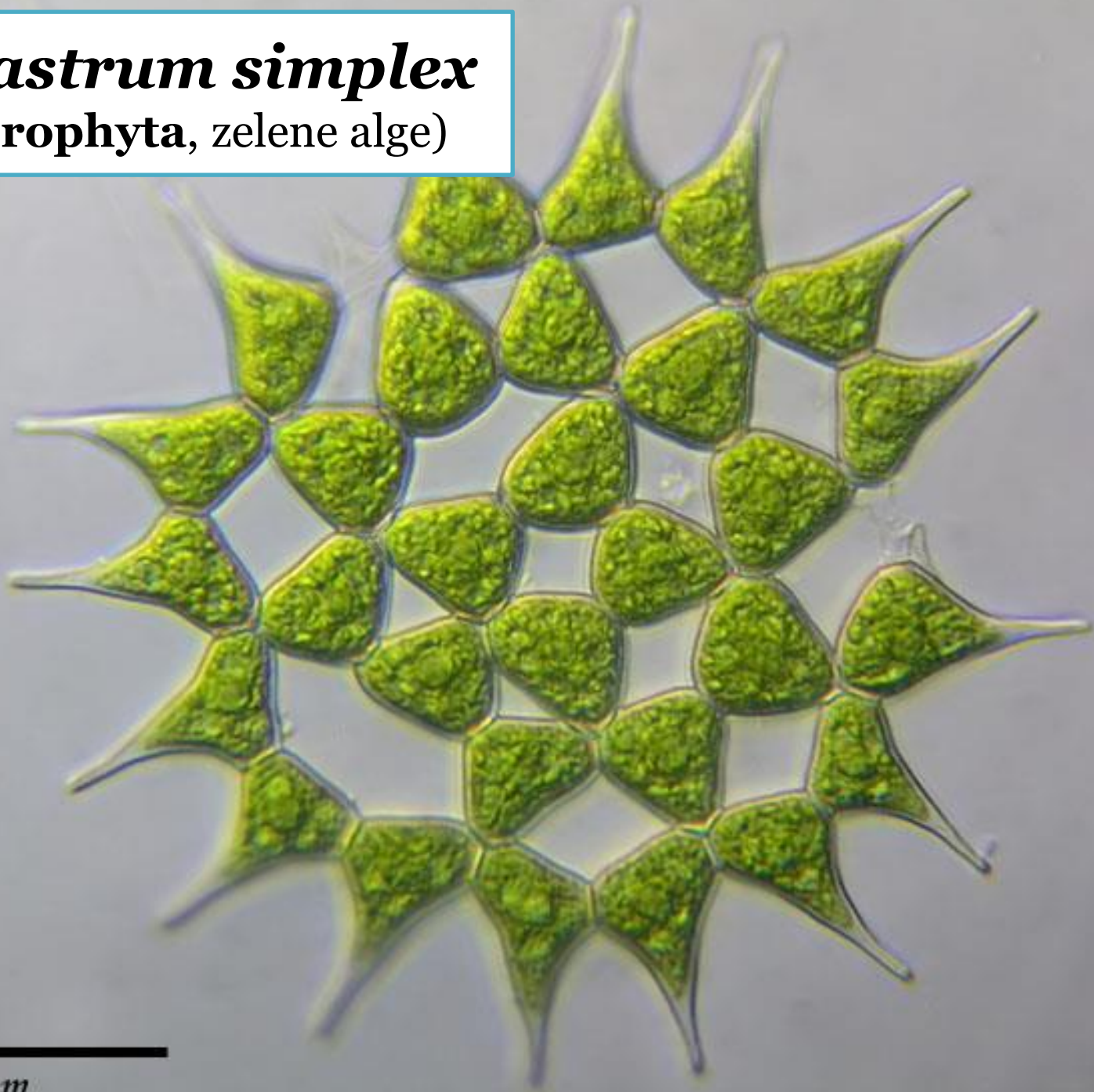
**aksijalno
polje**

**transapikalne
pruge ukrštene pod
pravim uglom**

**izgled sa
valvalne strane**

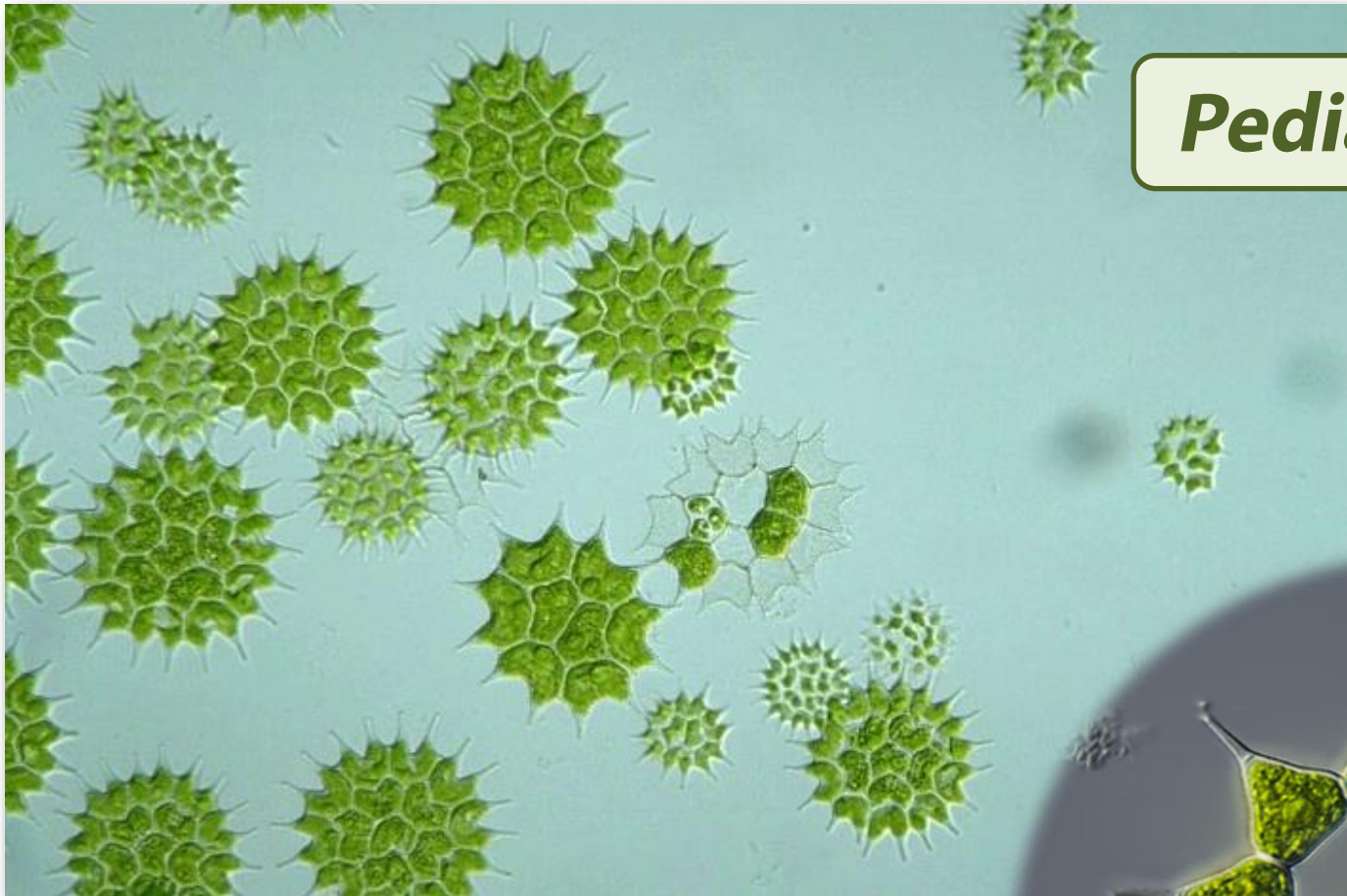


Pediastrum simplex
(Chlorophyta, zelene alge)



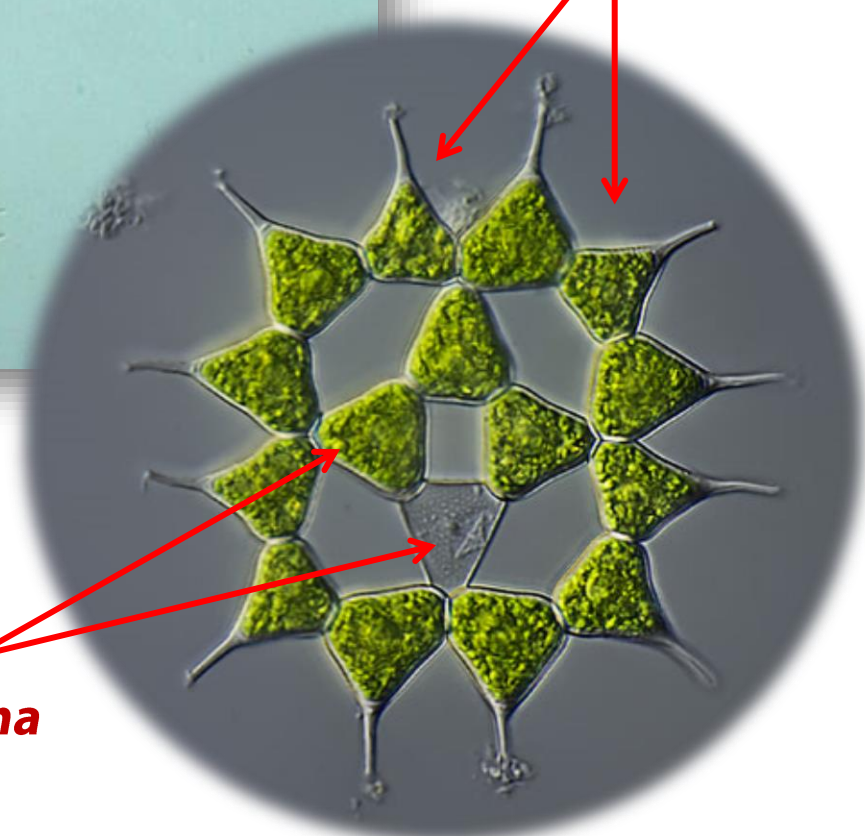
50 μm

Pediastrum spp.



cenobije

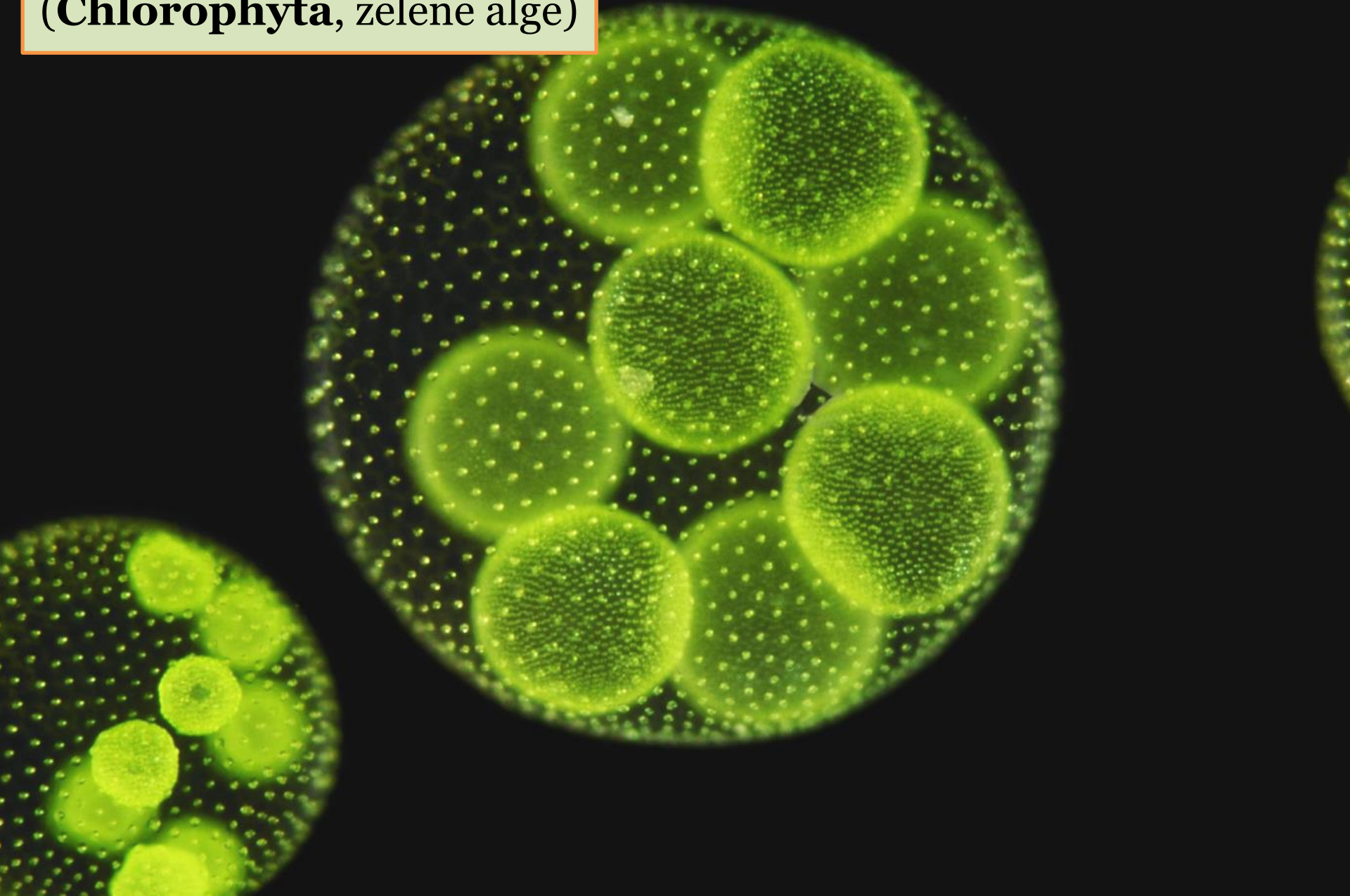
*spoljašnji prsten
ćelija sa rogolikim
izraštajima*

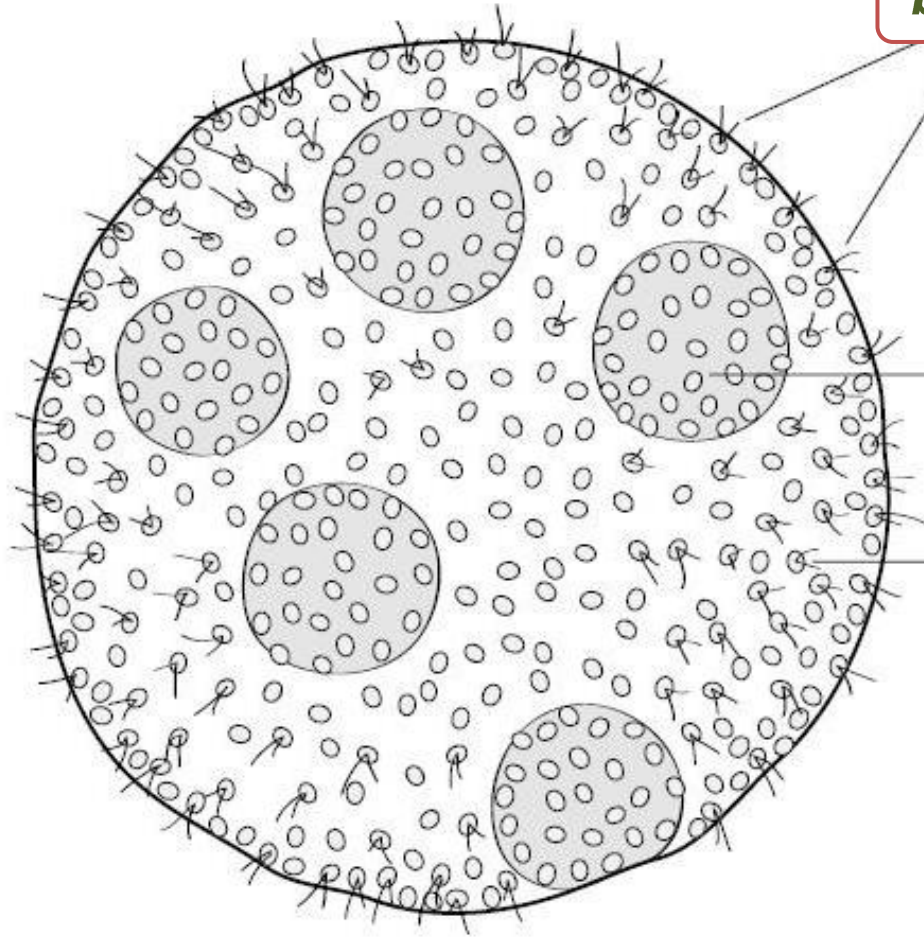


*unutrašnje ćelije u
koncentričnim krugovima*

Volvox sp.

(Chlorophyta, zelene alge)





bičevi

mlade kolonije

vegetativne ćelije na površini kolonije



Volvox sp.



***Nostoc* sp.**

(Cyanophyta, modrozelene alge)

20 μ m

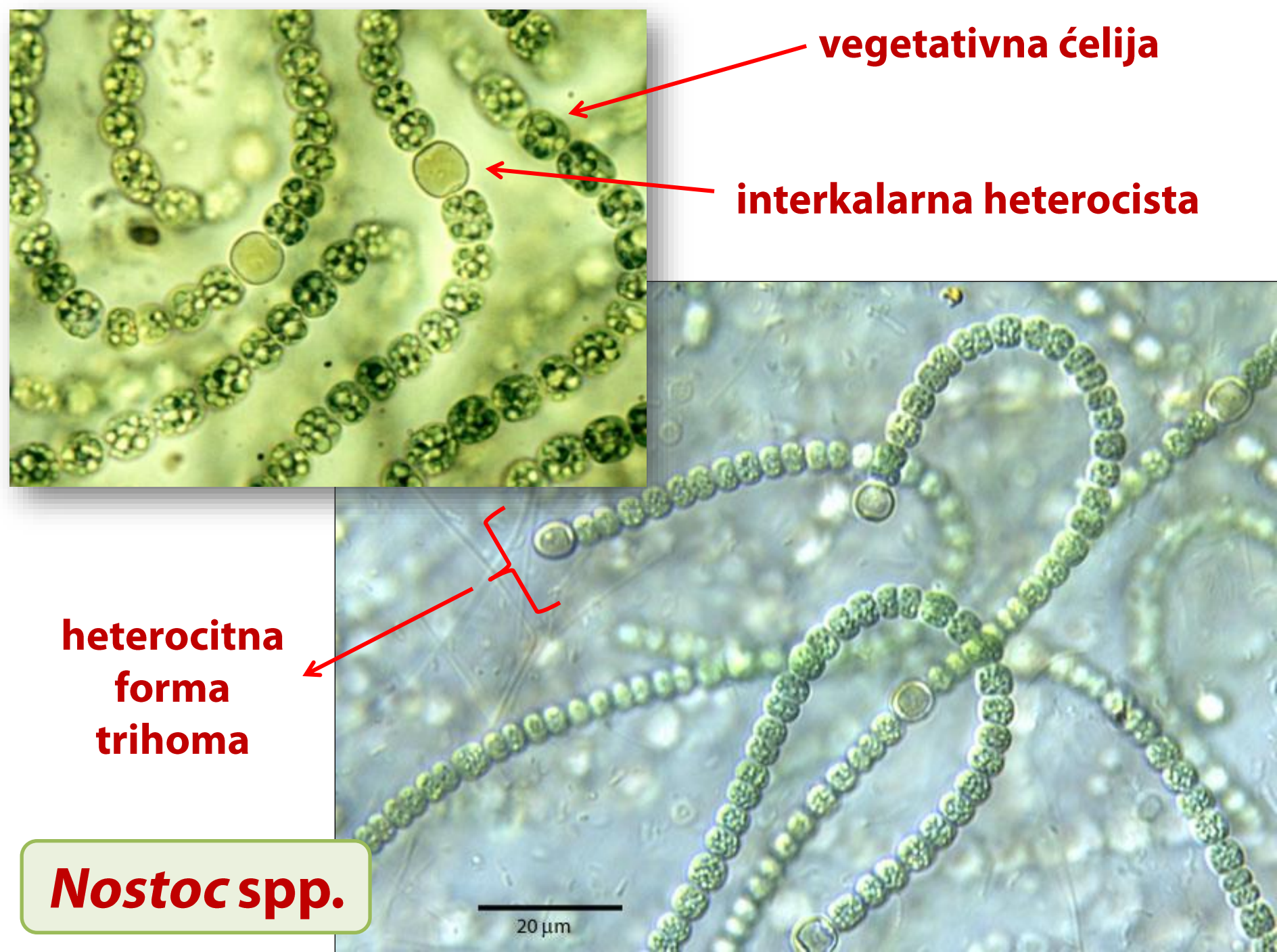
vegetativna ćelija

interkalarna heterocista

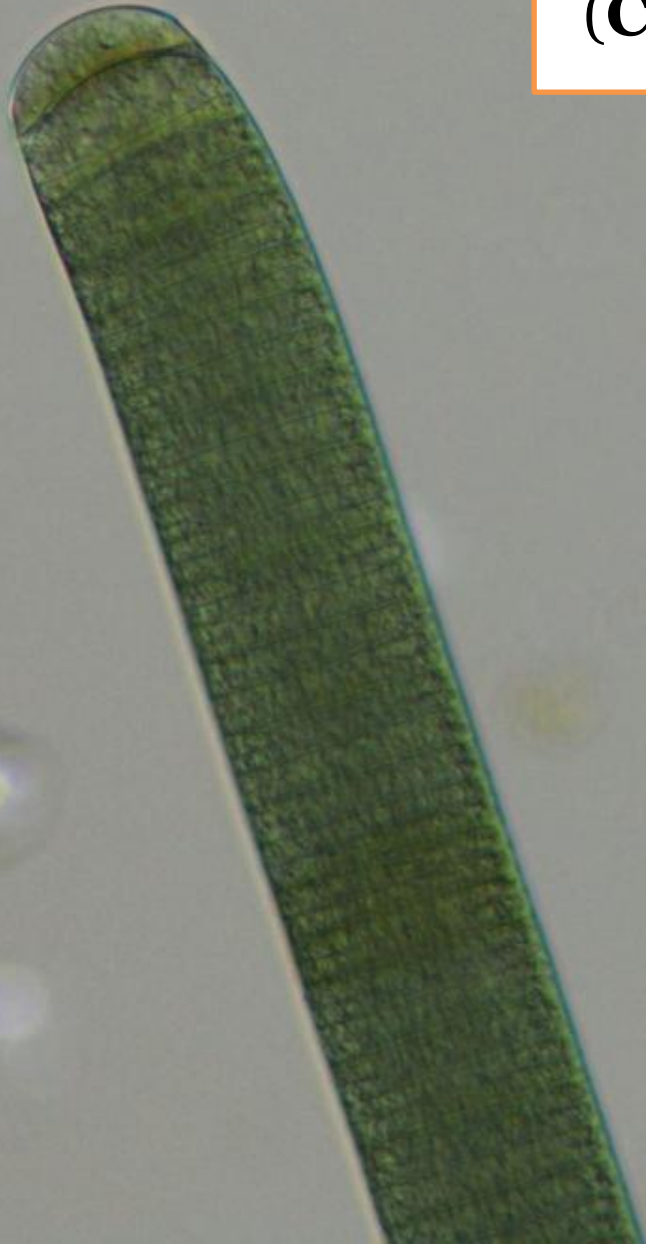
**heterocitna
forma
trihoma**

***Nostoc* spp.**

20 μ m



***Oscillatoria* sp.**
(Cyanophyta, modrozelene alge)



20 μ m

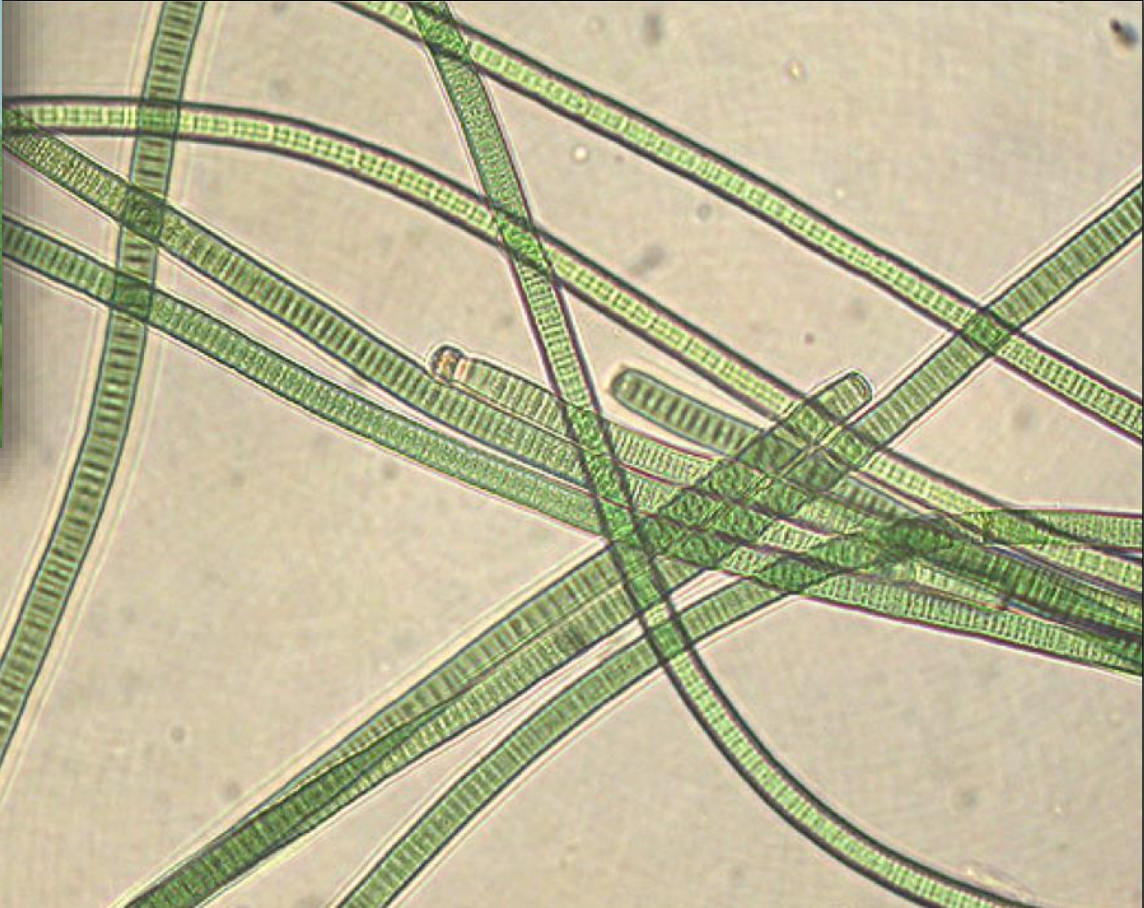


vegetativna ćelija

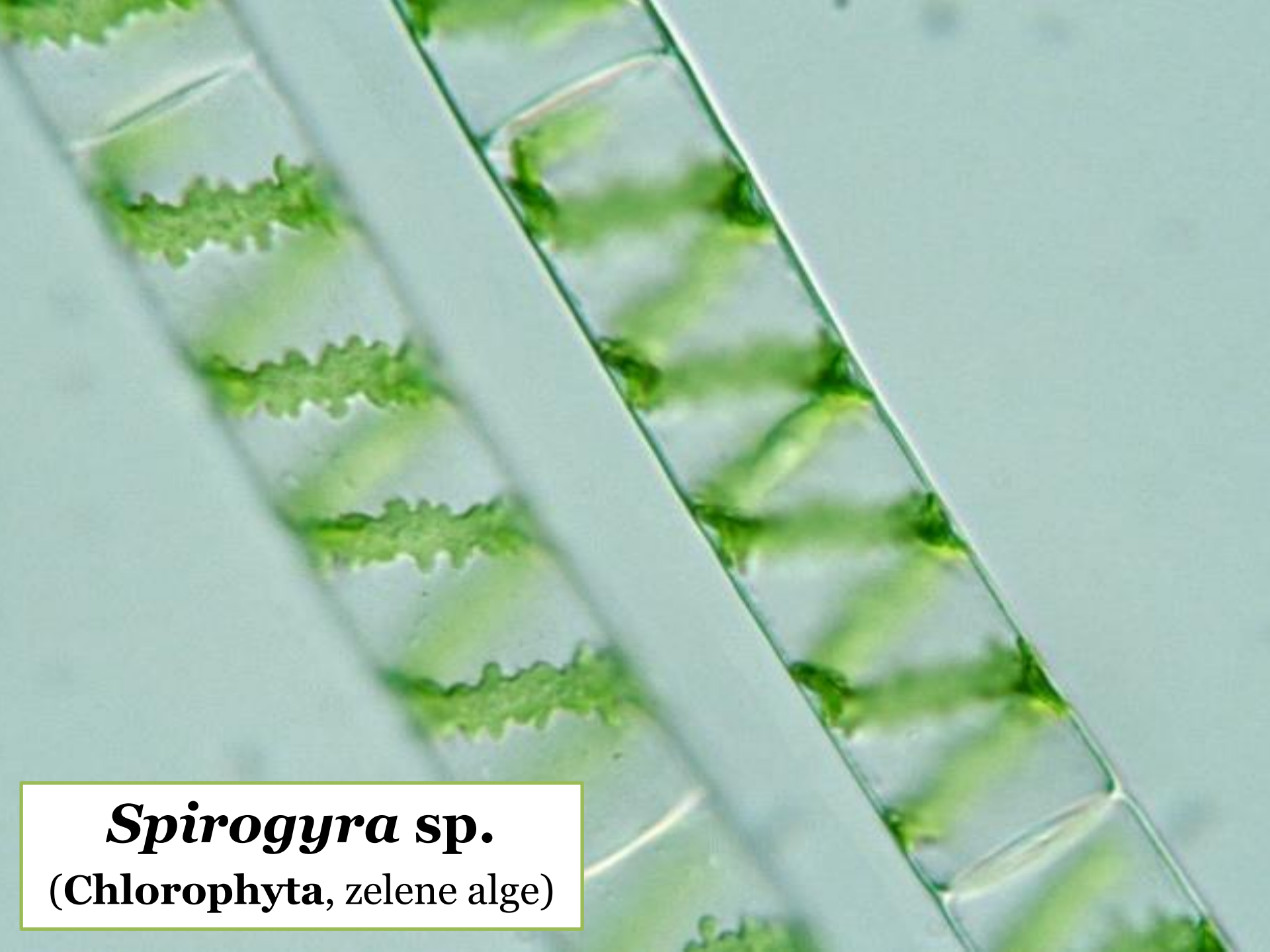


**homocitna
forma
trihoma**

sara

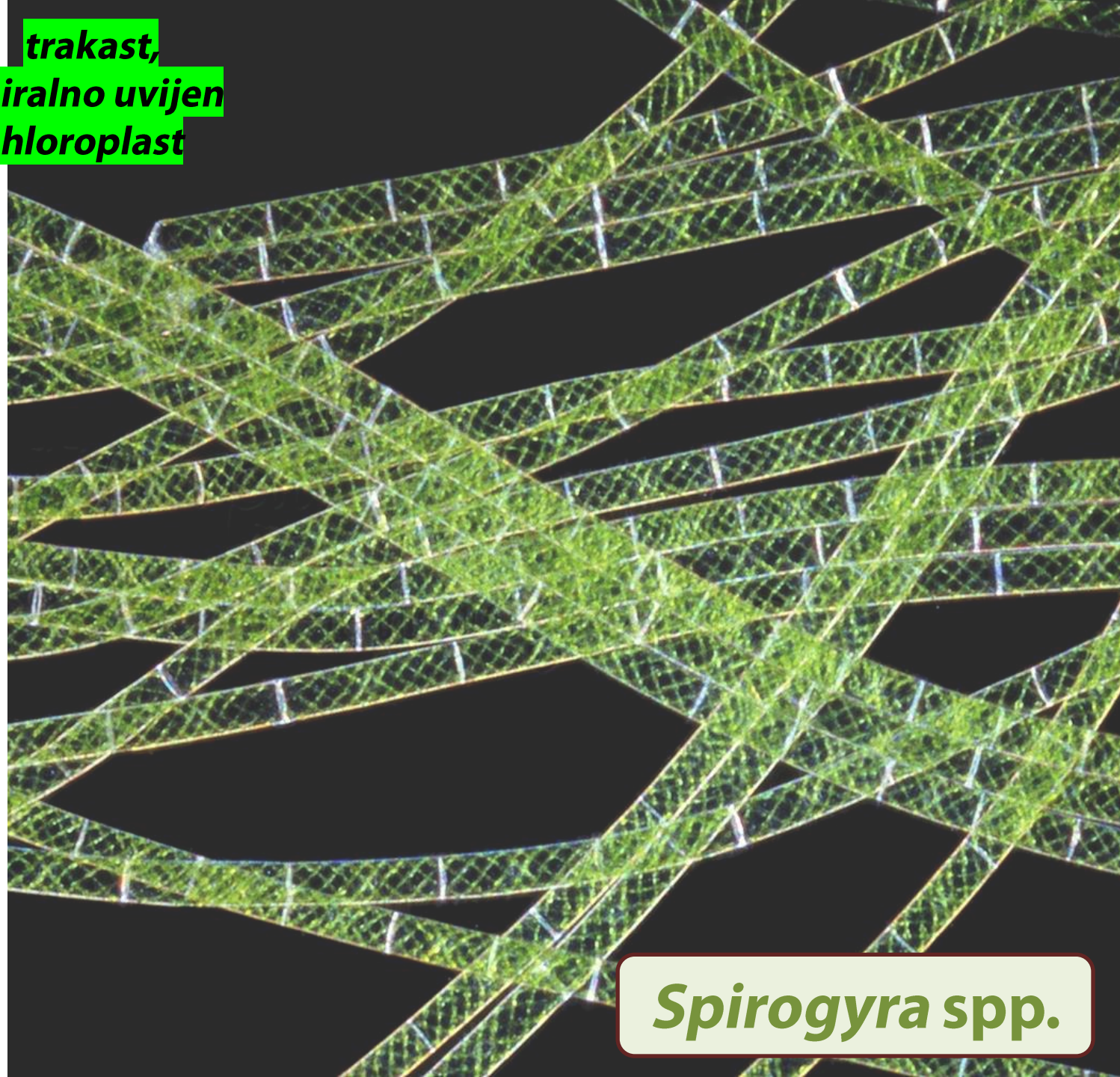
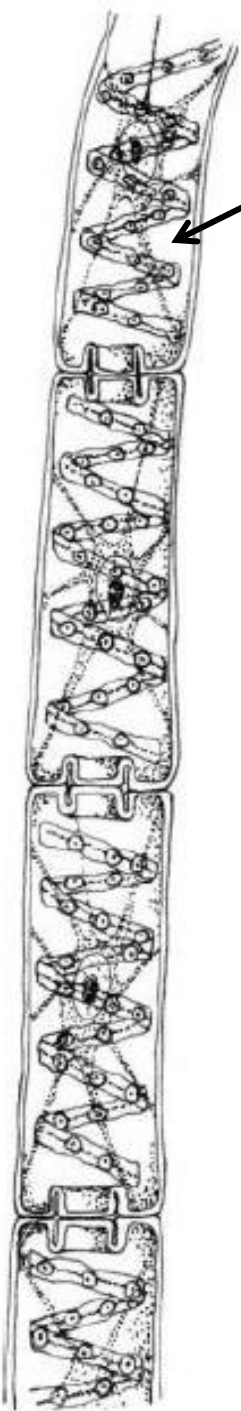


***Oscillatoria* spp.**



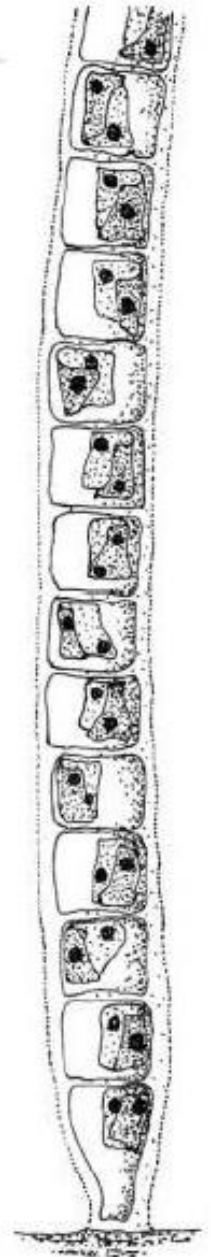
***Spirogyra* sp.**
(Chlorophyta, zelene alge)

trakast,
spiralno uvijen
hloroplast



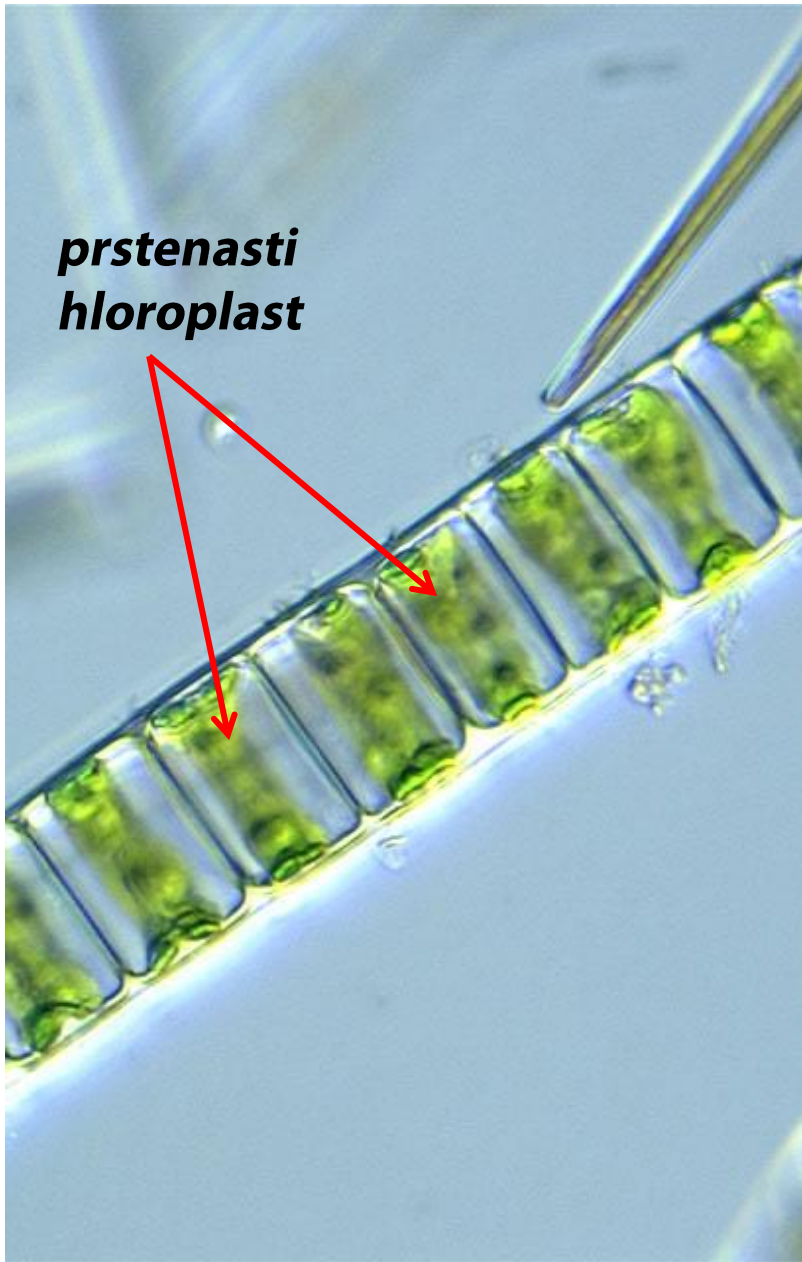
Spirogyra spp.

***Ulothrix* sp.**
(Chlorophyta, zelene alge)



Ulothrix sp.

*prstenasti
hloroplast*



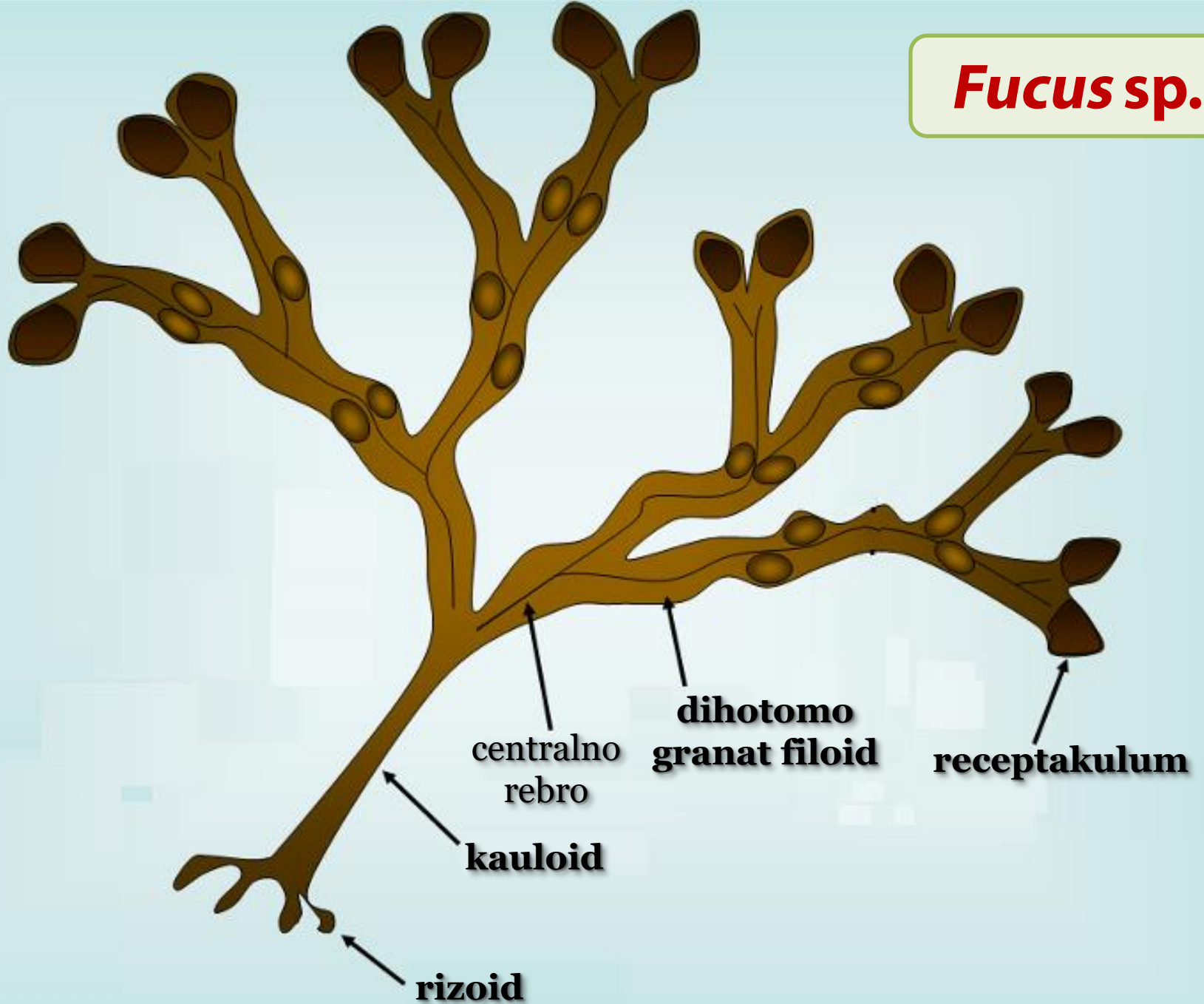
cilindrične ćelije





***Fucus* sp.**
(Phaeophyta, mrke alge)

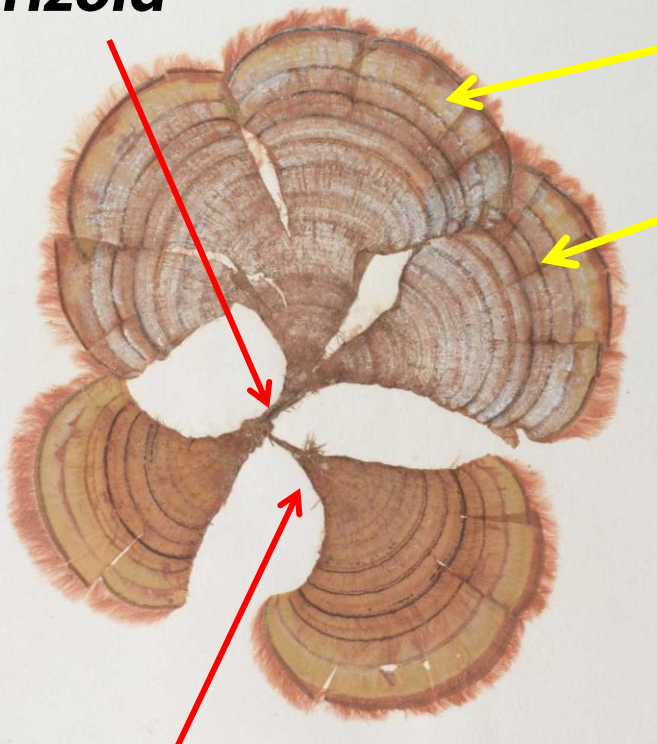
Fucus sp.





Padina pavonica
(Phaeophyta, mrke alge)

rizoid



zona sa CaCO₃

zona bez CaCO₃

filoid



kauloid

Padina pavonica

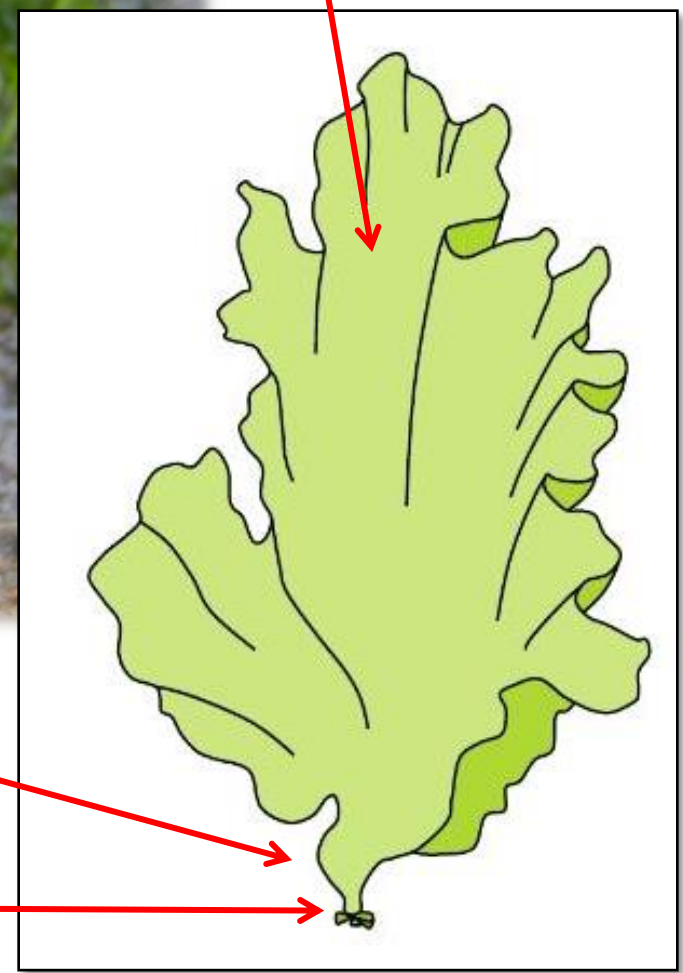


Ulva lactuca

(Chlorophyta, zelene alge)



**listast
filoid**



kauloid

rizoid

Ulva lactuca

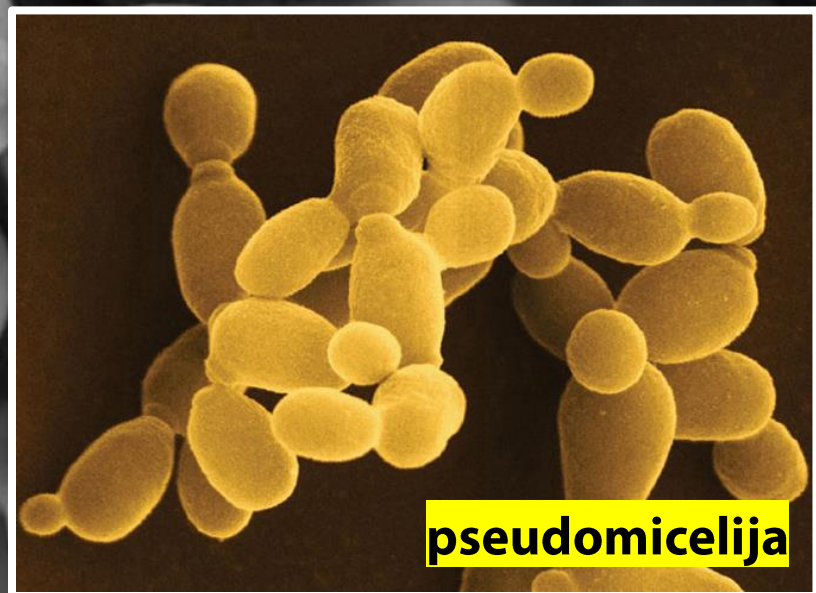
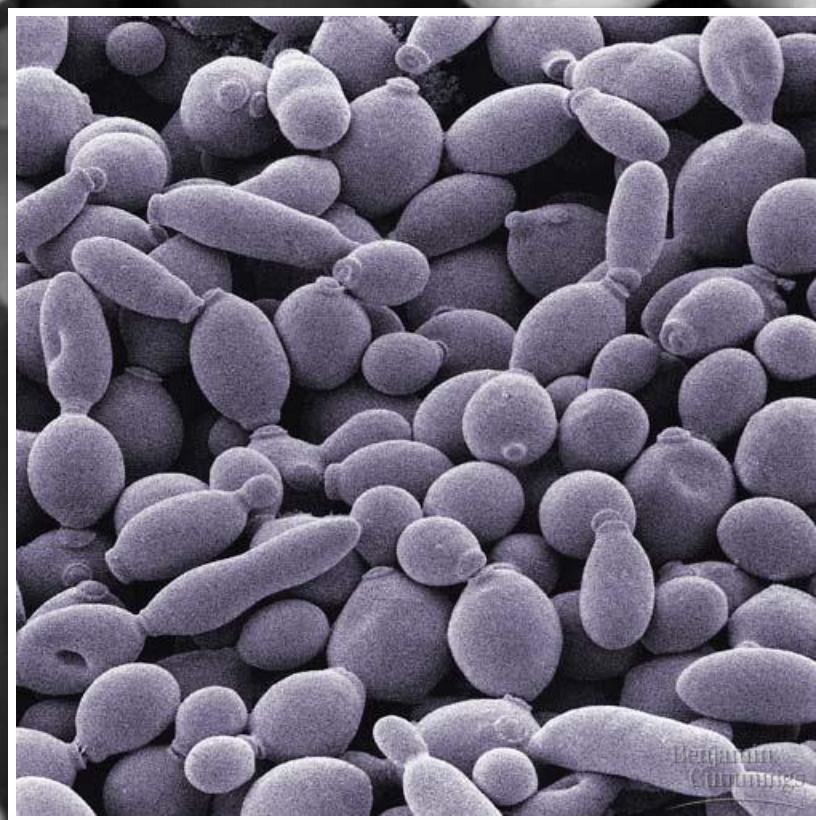
1) Čelijske gljive

Saccharomyces cerevisiae

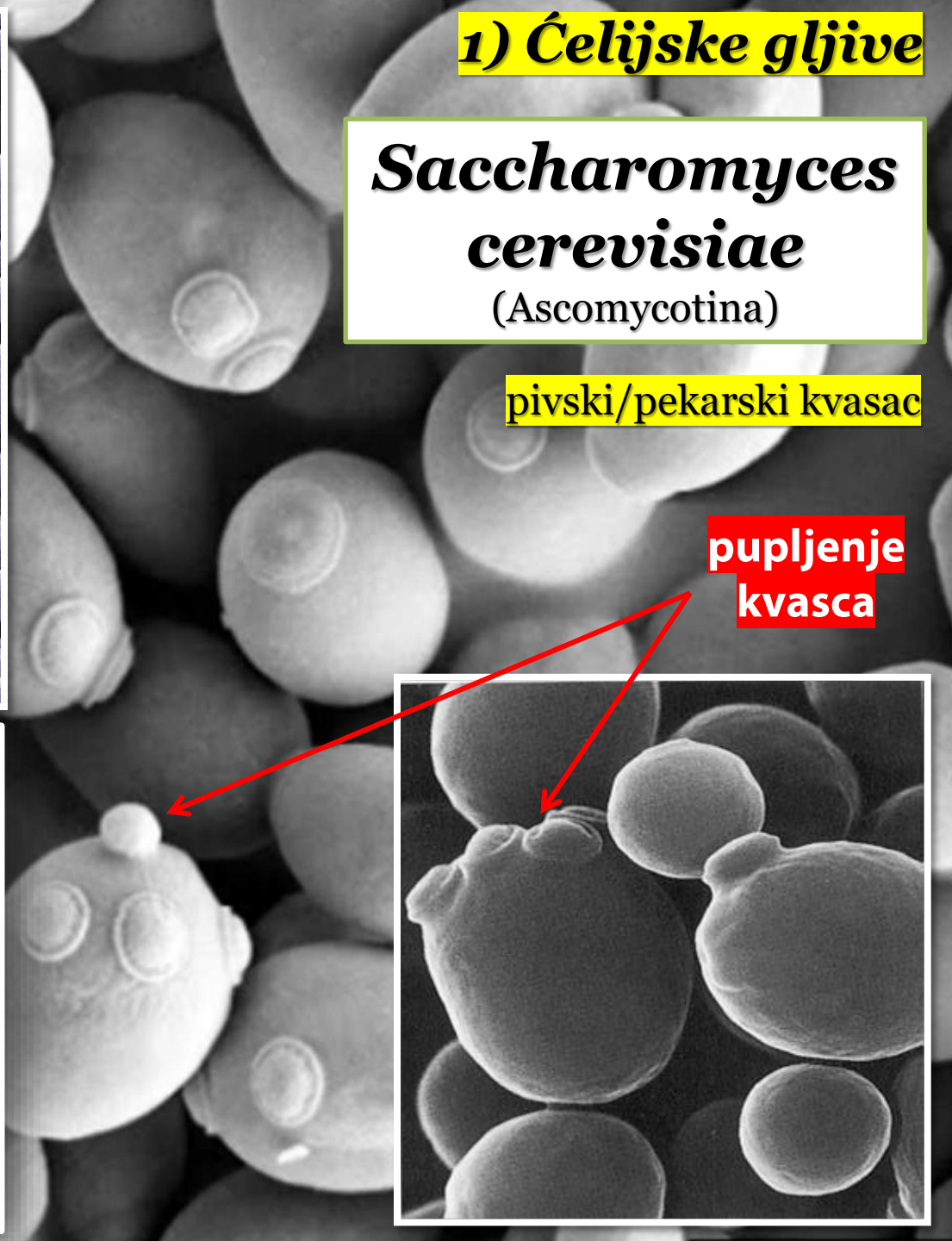
(Ascomycotina)

pivski/pekarski kvasac

**pupljenje
kvasca**



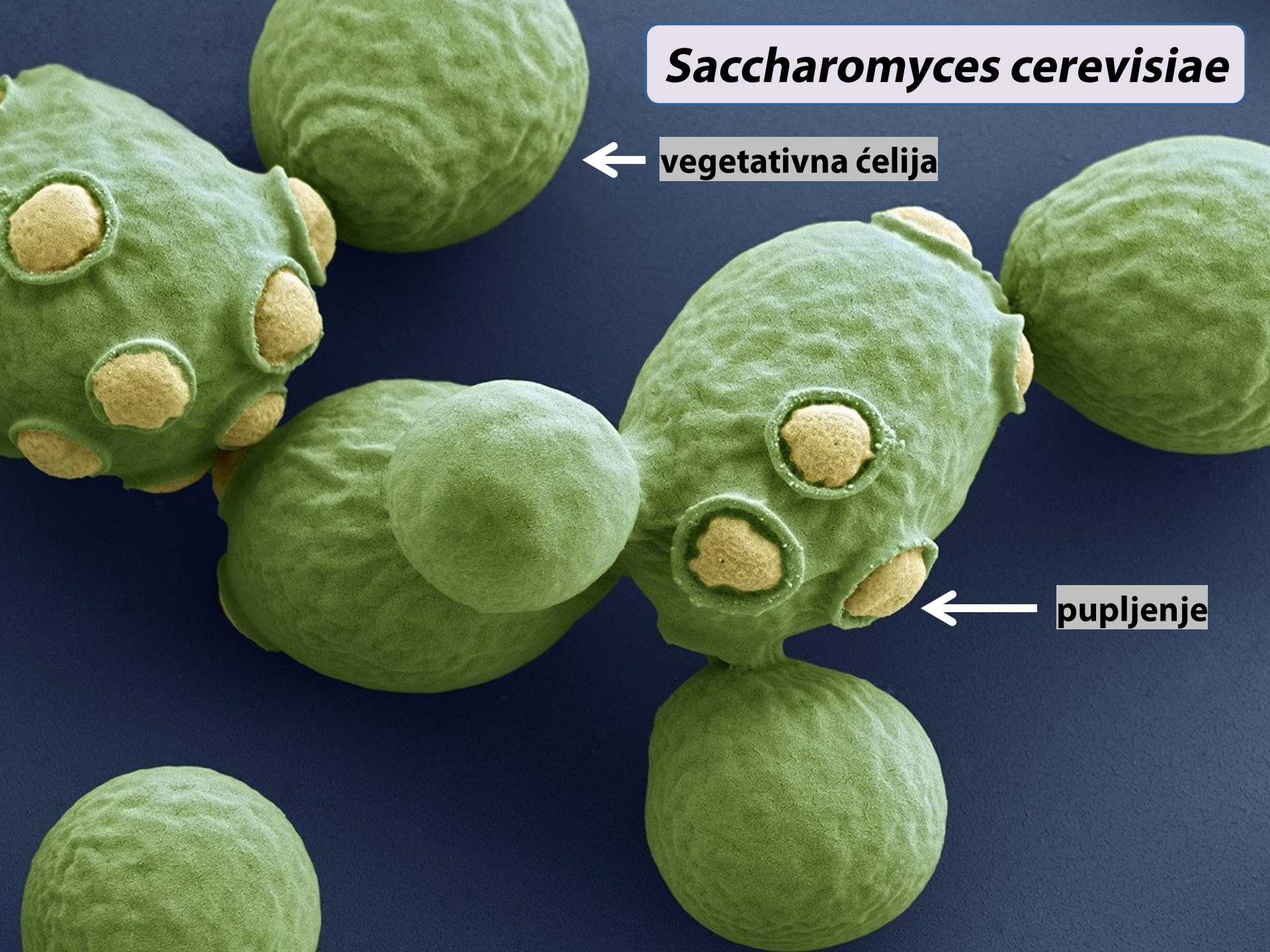
pseudomicelija



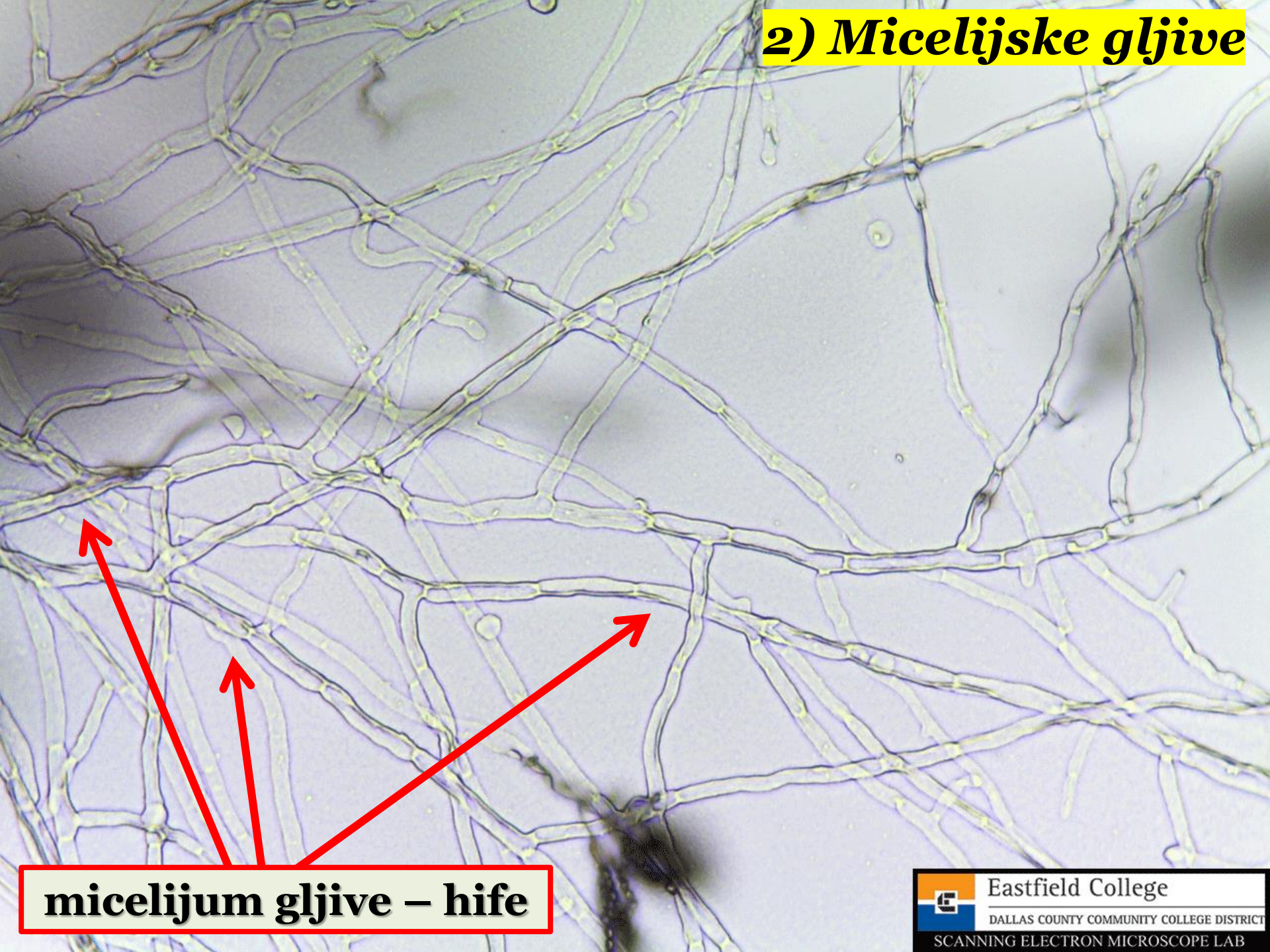
Saccharomyces cerevisiae

← vegetativna ćelija

← pupljenje

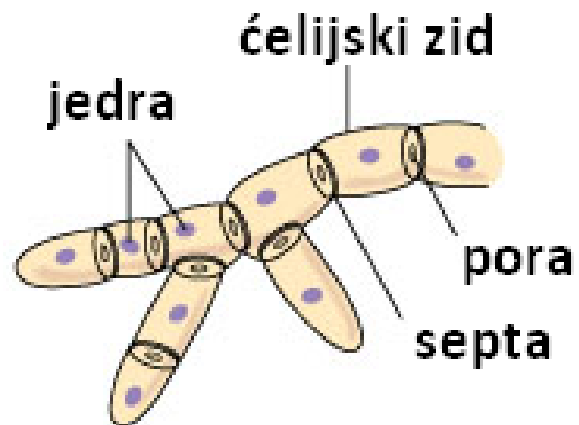
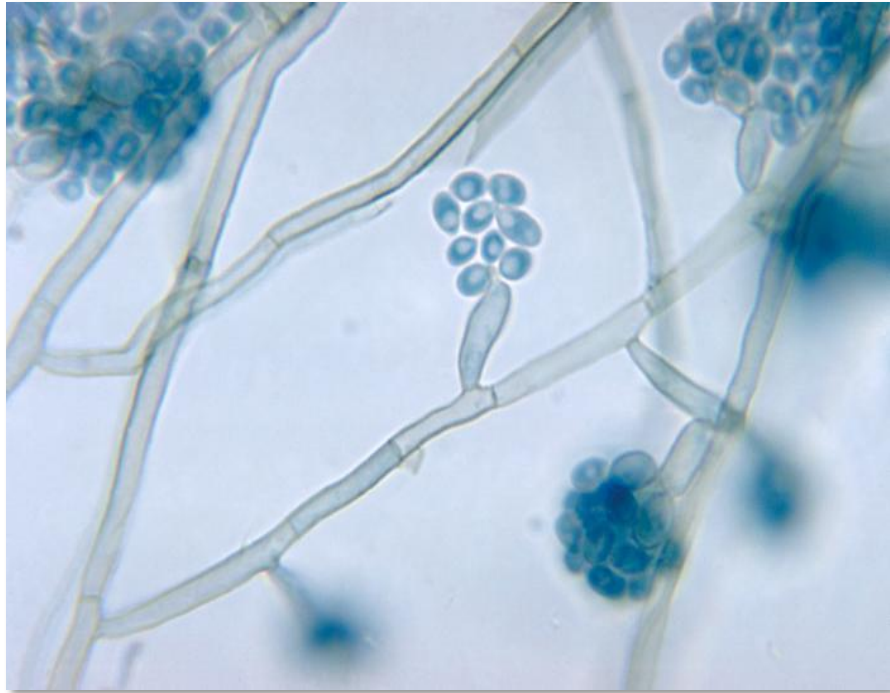


2) Micelijske gljive

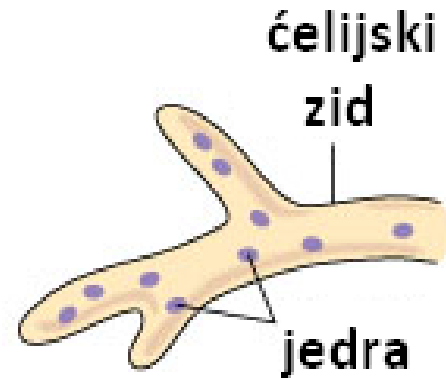


micelijum gljive – hife

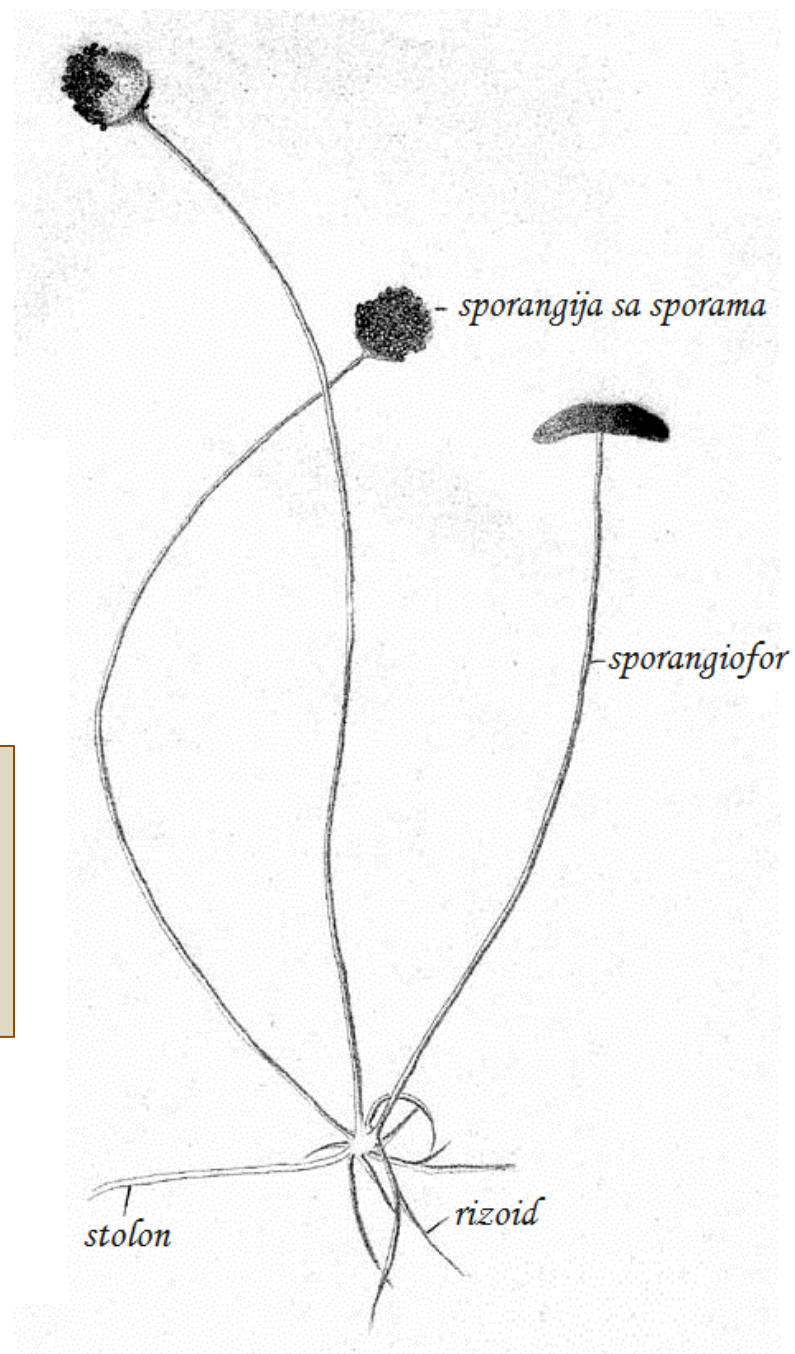
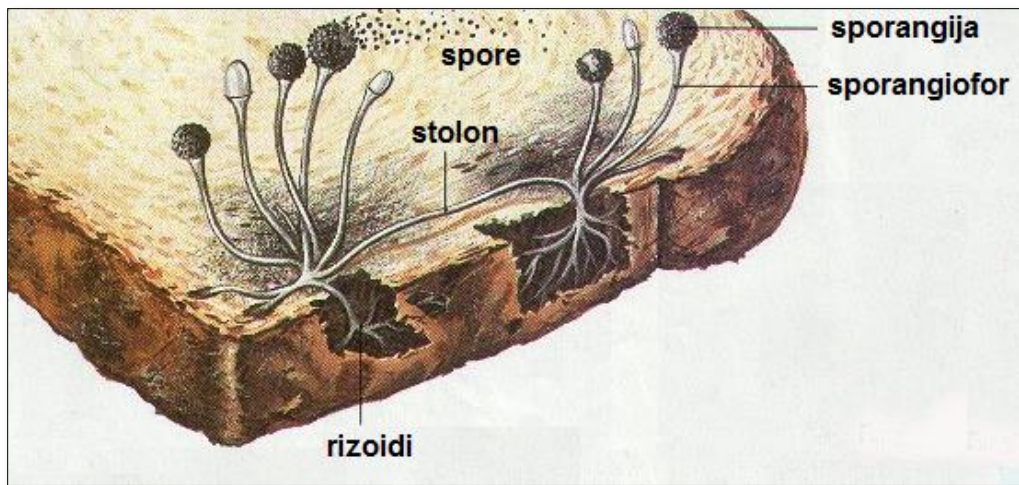
Tipovi hifa



(a) septirana hifa



(b) cenocitična hifa



cenocitična hifa

Rhizopus stolonifer
(Zygomycotina)



makroskopski izgled



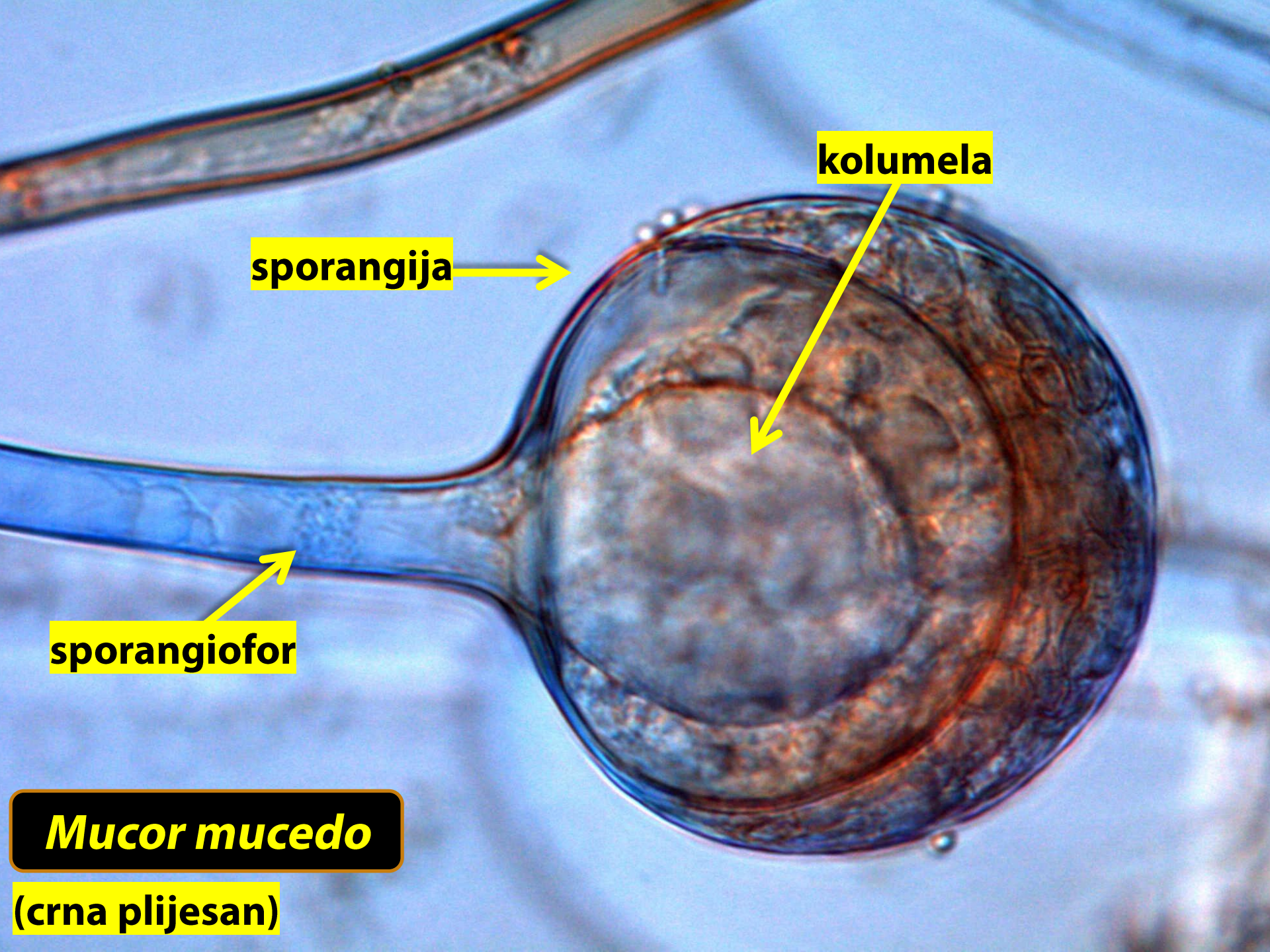
Rhizopus stolonifer

(hljebna plijesan)

makroskopski izgled

Mucor mucedo
(Zygomycotina)





sporangija

kolumela

sporangiofor

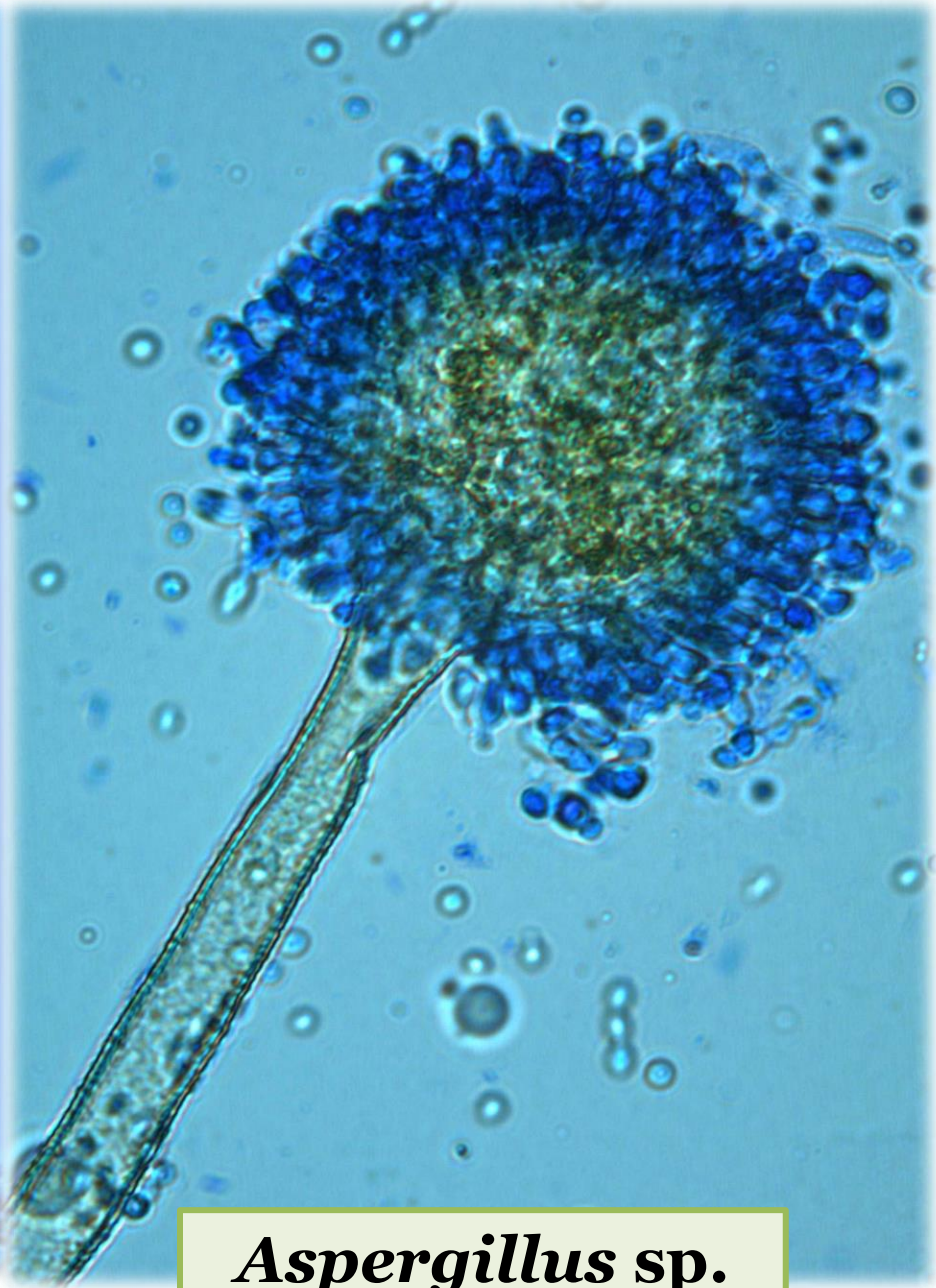
Mucor mucedo

(crna plijesan)



***Penicillium* sp.**

(Deuteromycotina)



***Aspergillus* sp.**

(Deuteromycotina)

makroskopski izgled

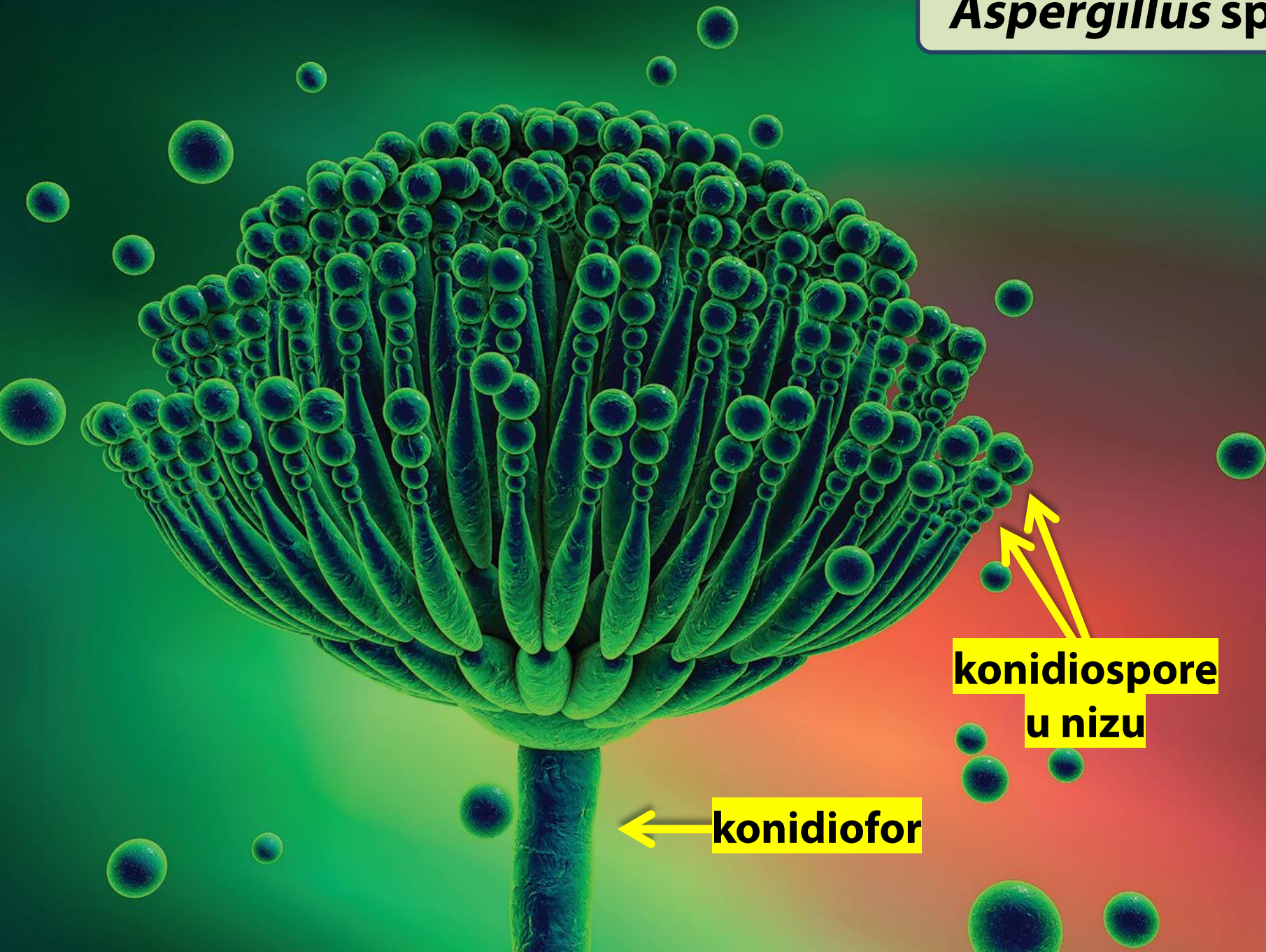


***Aspergillus* sp.**

(plijesan/buđ)



Aspergillus sp.



konidiospore
u nizu

konidiofor

makroskopski izgled

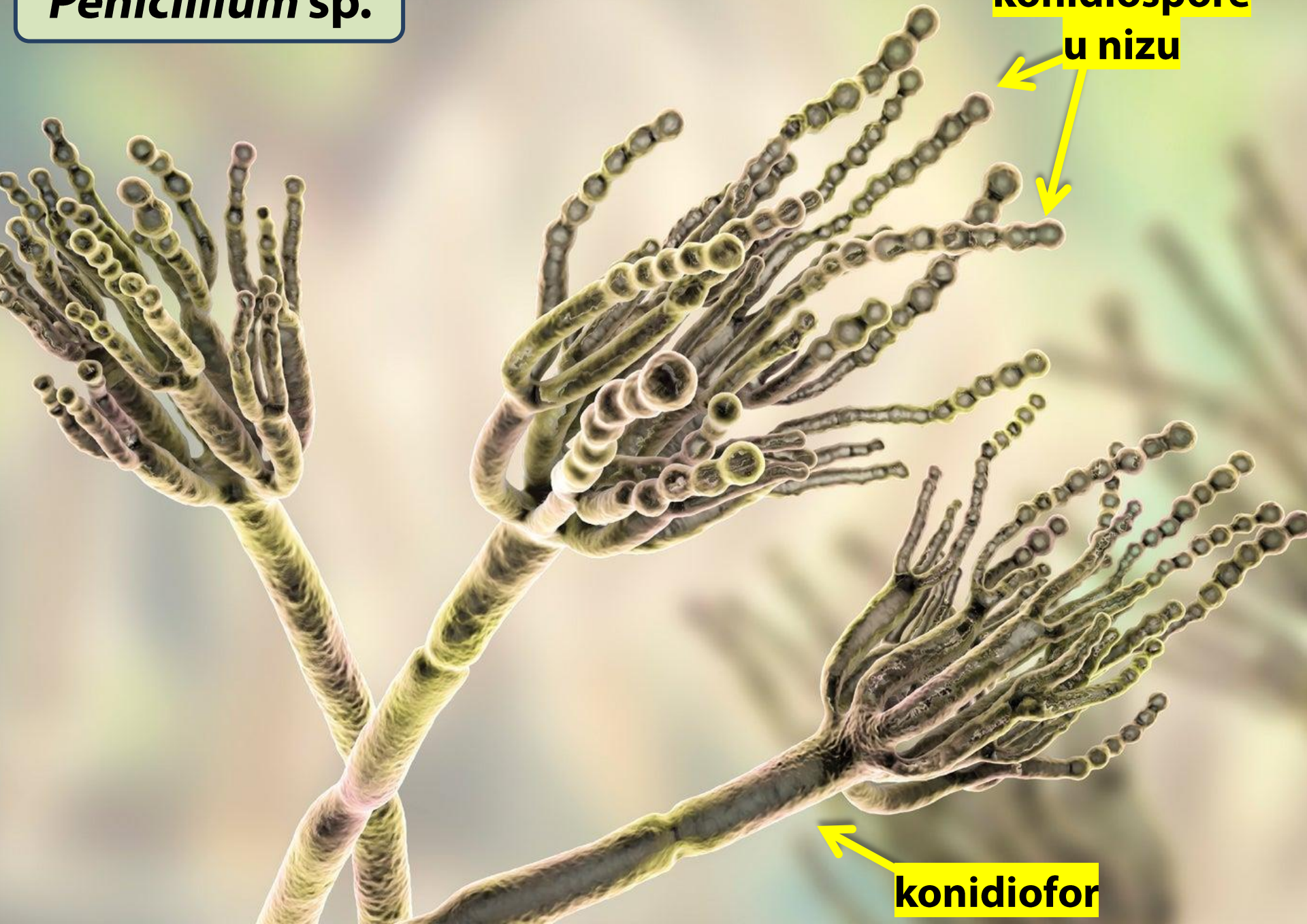


***Penicillium* spp.**

(modra plijesan)

Penicillium sp.

konidiospore
u nizu



konidiofor

Erysiphe graminis
(Ascomycotina)



**micelijum gljive
na listu trave**

Erysiphe graminis

(pepelnica trava)



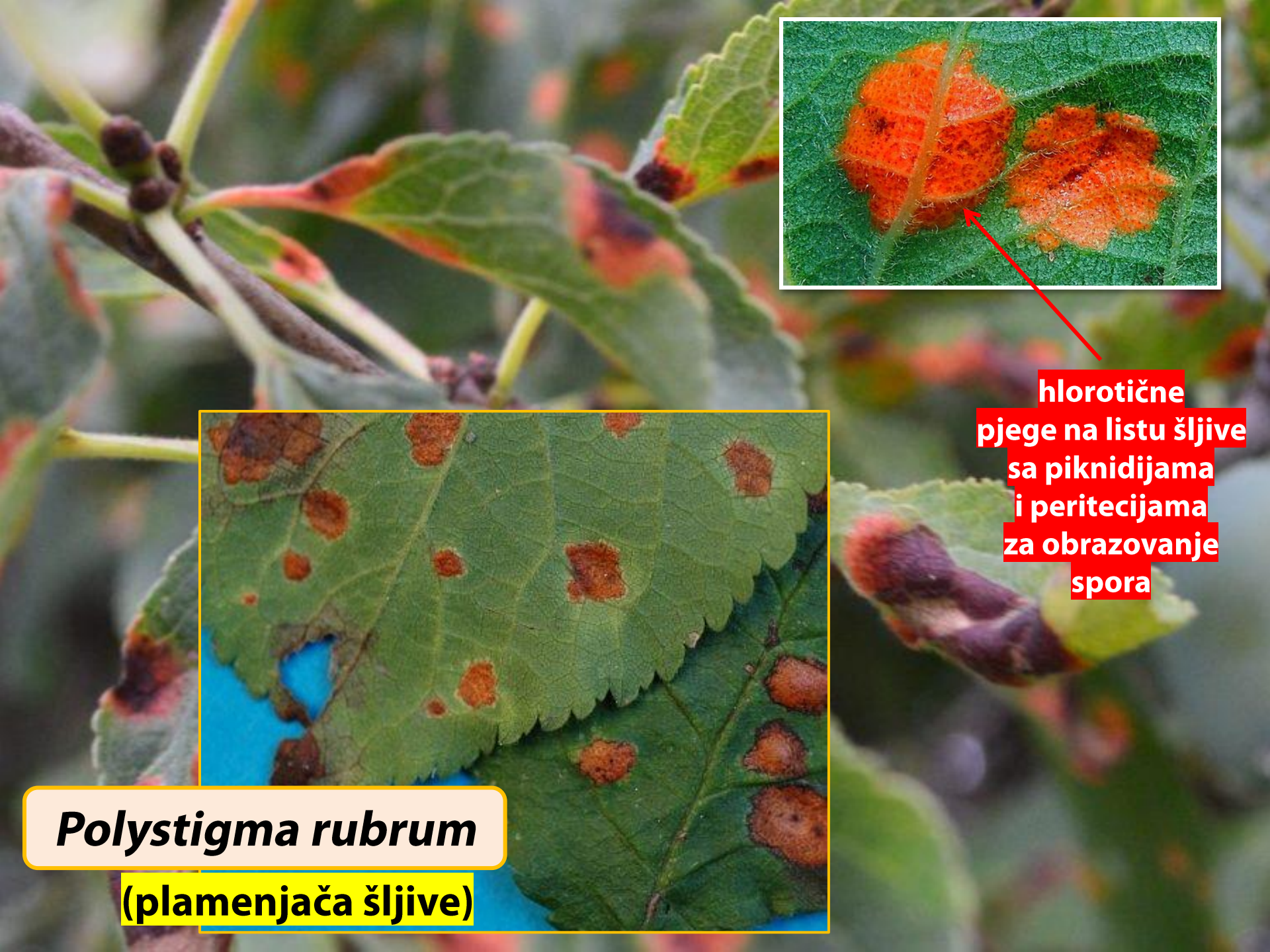
**micelijum gljive
sa kleistotecijama**



Polystigma rubrum (Ascomycotina)



hlorotične
pjege na
listu šljive



**hlorotične
pjege na listu šljive
sa piknidijama
i peritecijama
za obrazovanje
spora**

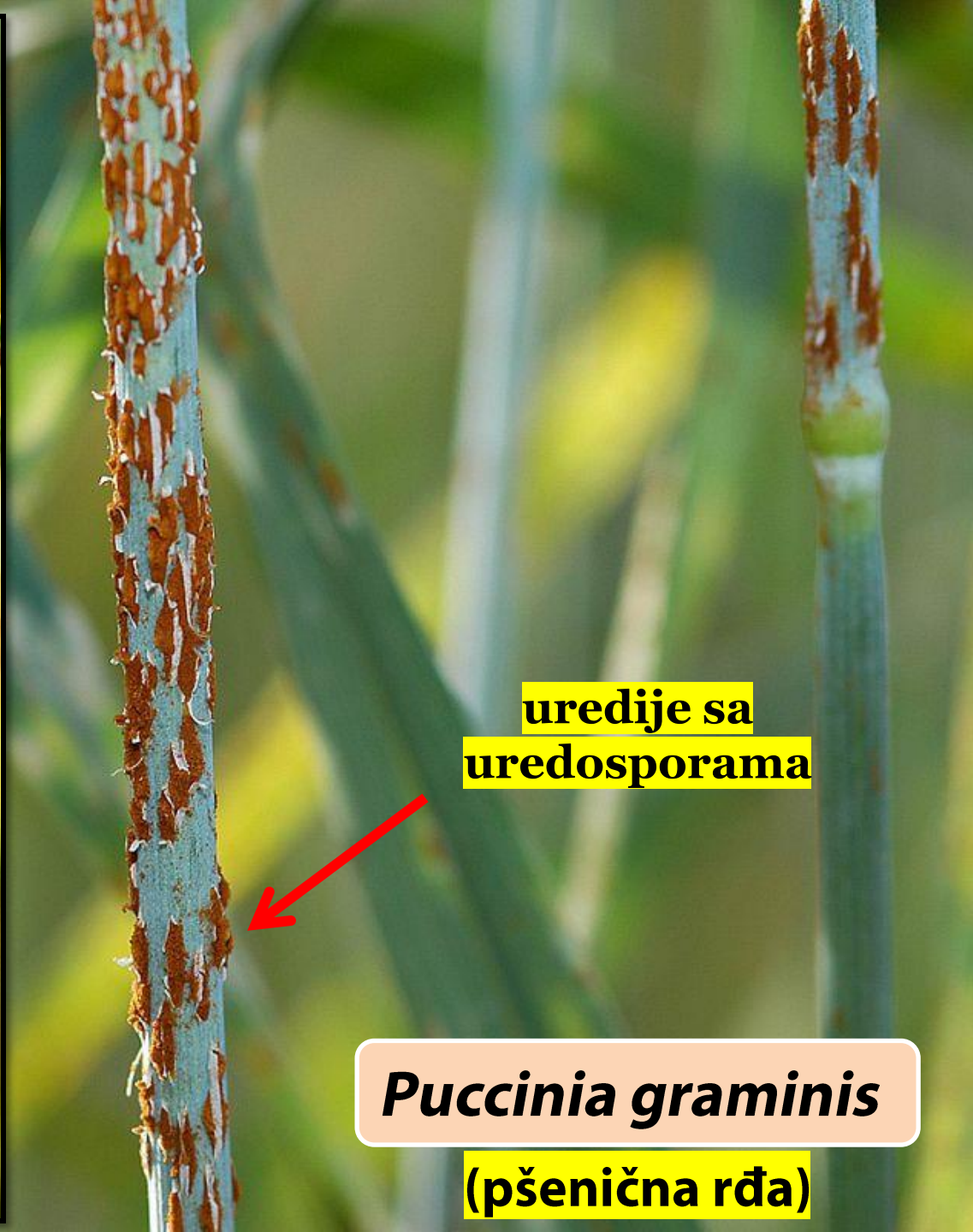
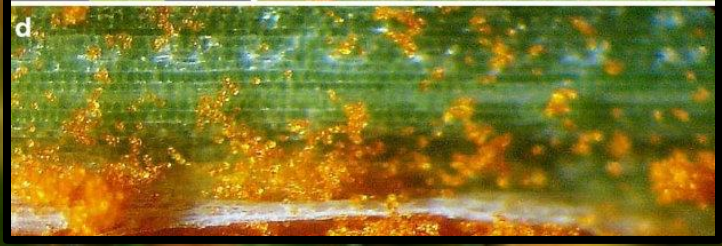


Polystigma rubrum

(plamenjača šljive)

Puccinia graminis
(Basidiomycotina)





uredije sa
uredosporama



Puccinia graminis
(pšenična rđa)

***Morchella*
*esculenta***
(Ascomycotina)



apotecija



klobuk

drška

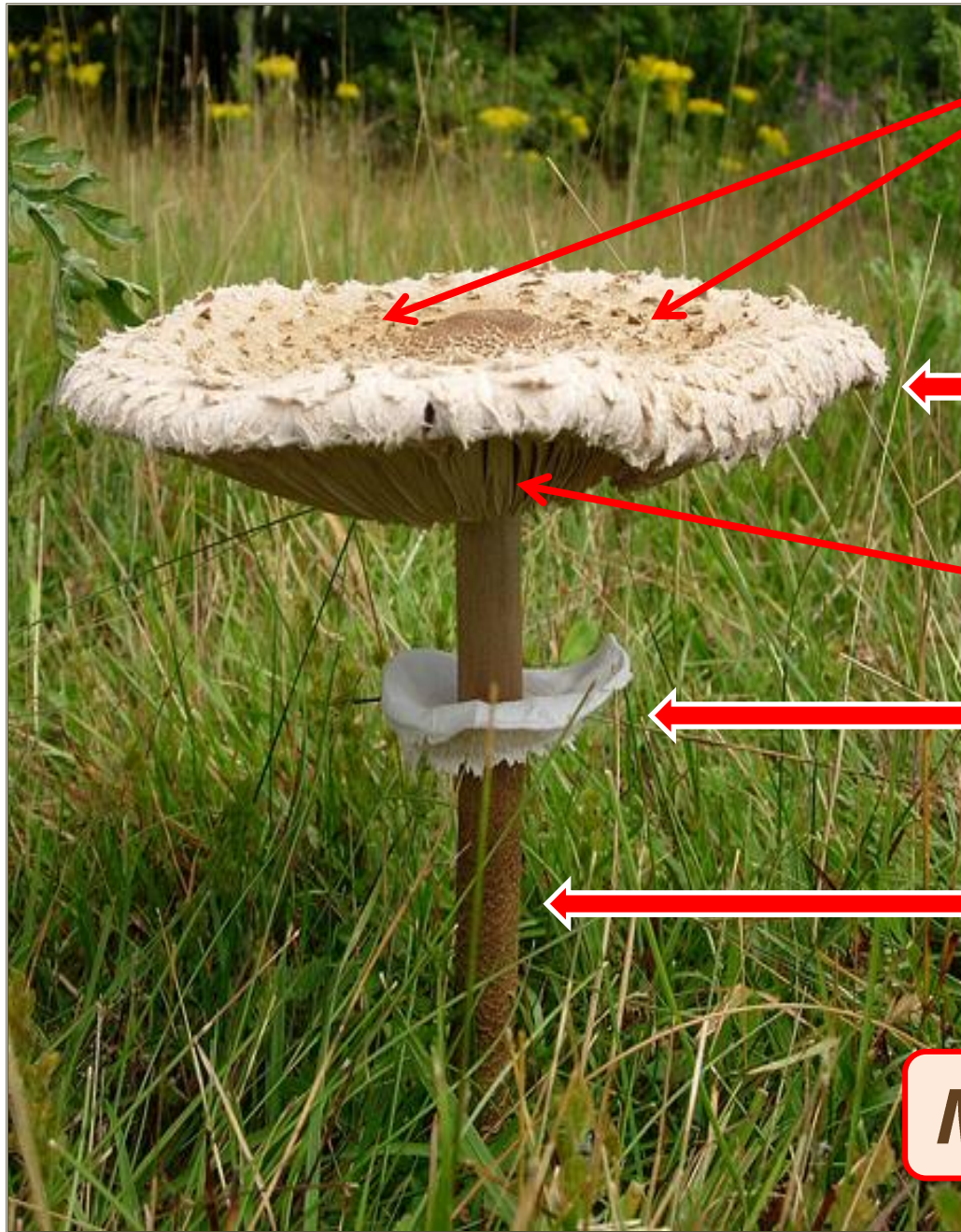
**komorice
obrasle
himenijumom**

Morchella esculenta

(smrčak)

Macrolepiota procera
(Basidiomycotina)





ljuspe na šeširu

šešir (pileus)

listast himenofor

prsten (annulus)

drška (stipes)

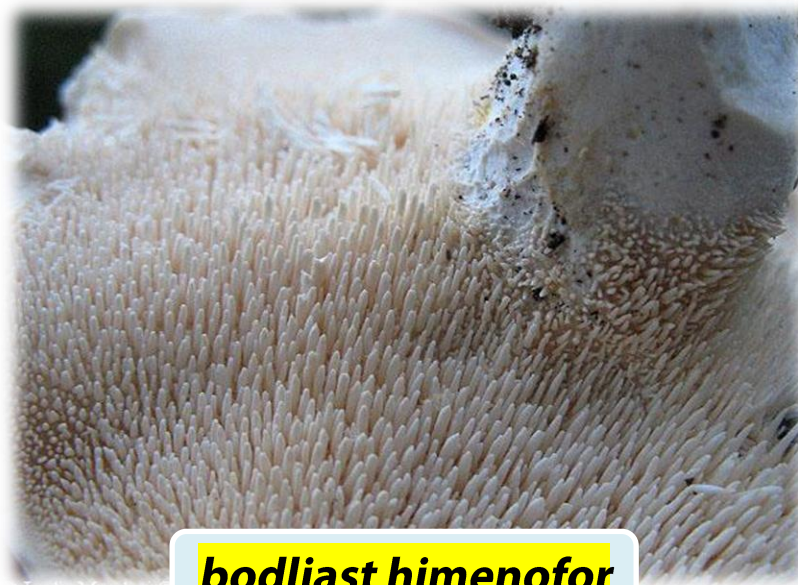
Macrolepiota procera

(sunčanica)

TIPOVI HIMENOFORA



listast (lamelozan) himenofor



bodljast himenofor



cjevast himenofor



himenofor u obliku lavirinta

Amanita muscaria
(Basidiomycotina)

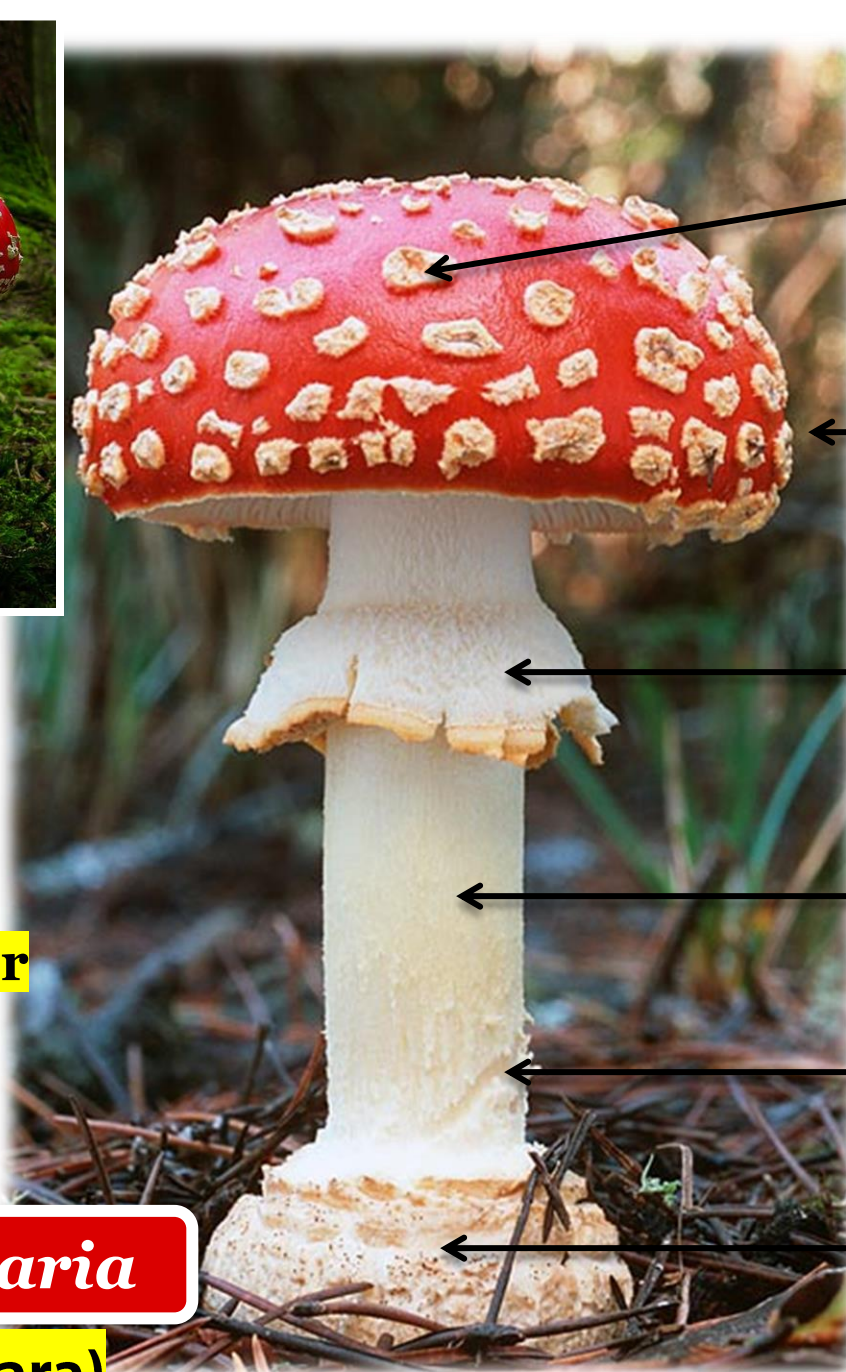




**listast
himenofor**

Amanita muscaria

(crvena muhara)



ljuspe
na šiširu

šišir
(pileus)

prsten
(anulus)

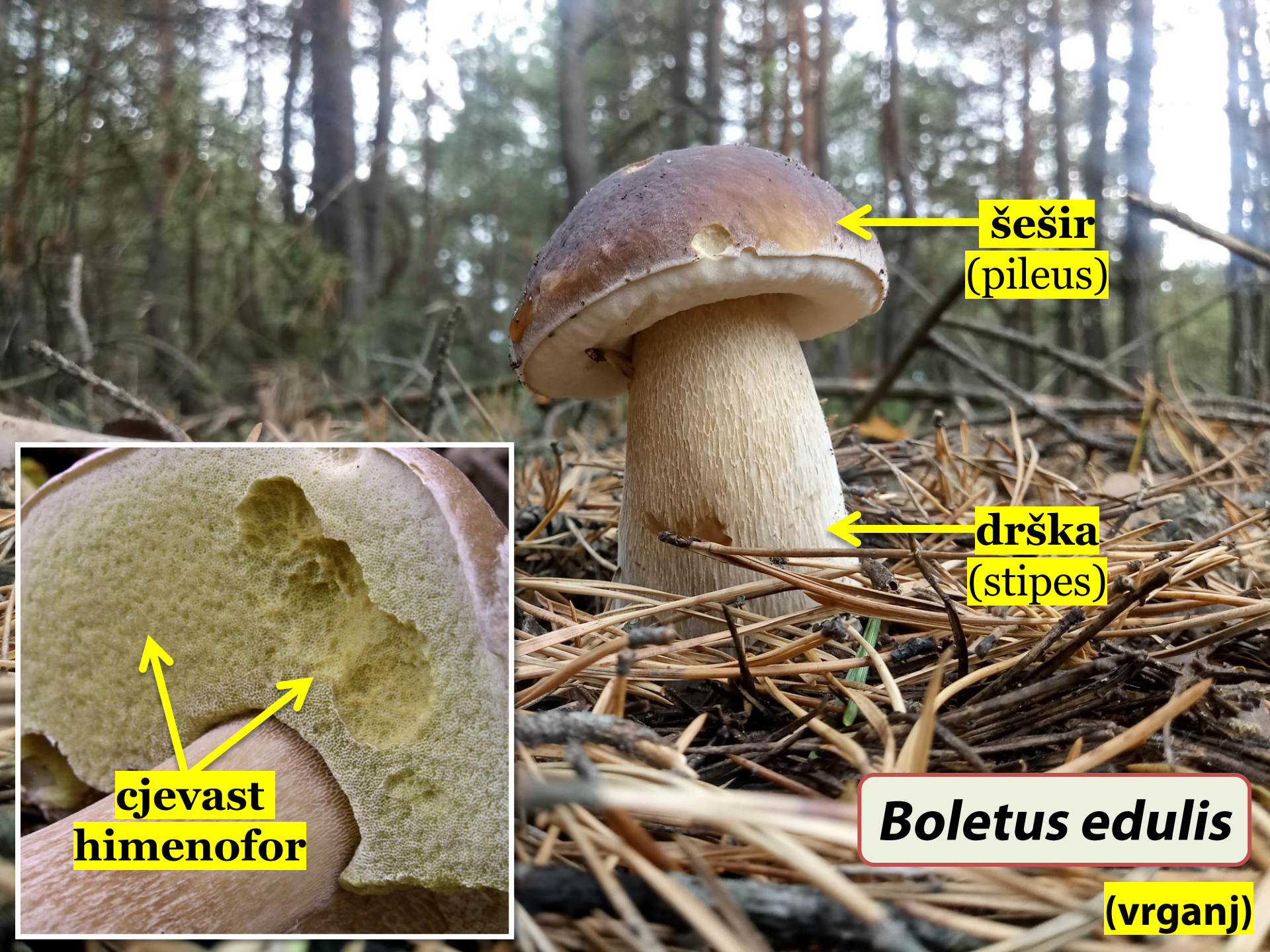
držka
(stipes)

ljuspe
na dršci

rukavac
(volva)

Boletus edulis
(Basidiomycotina)





← **šešir**
(pileus)

← **drška**
(stipes)

↑ **cjevast**
himenofor

Boletus edulis

(vrganj)

1) Korasti lišajevi



Graphis scripta
(Lichenes)

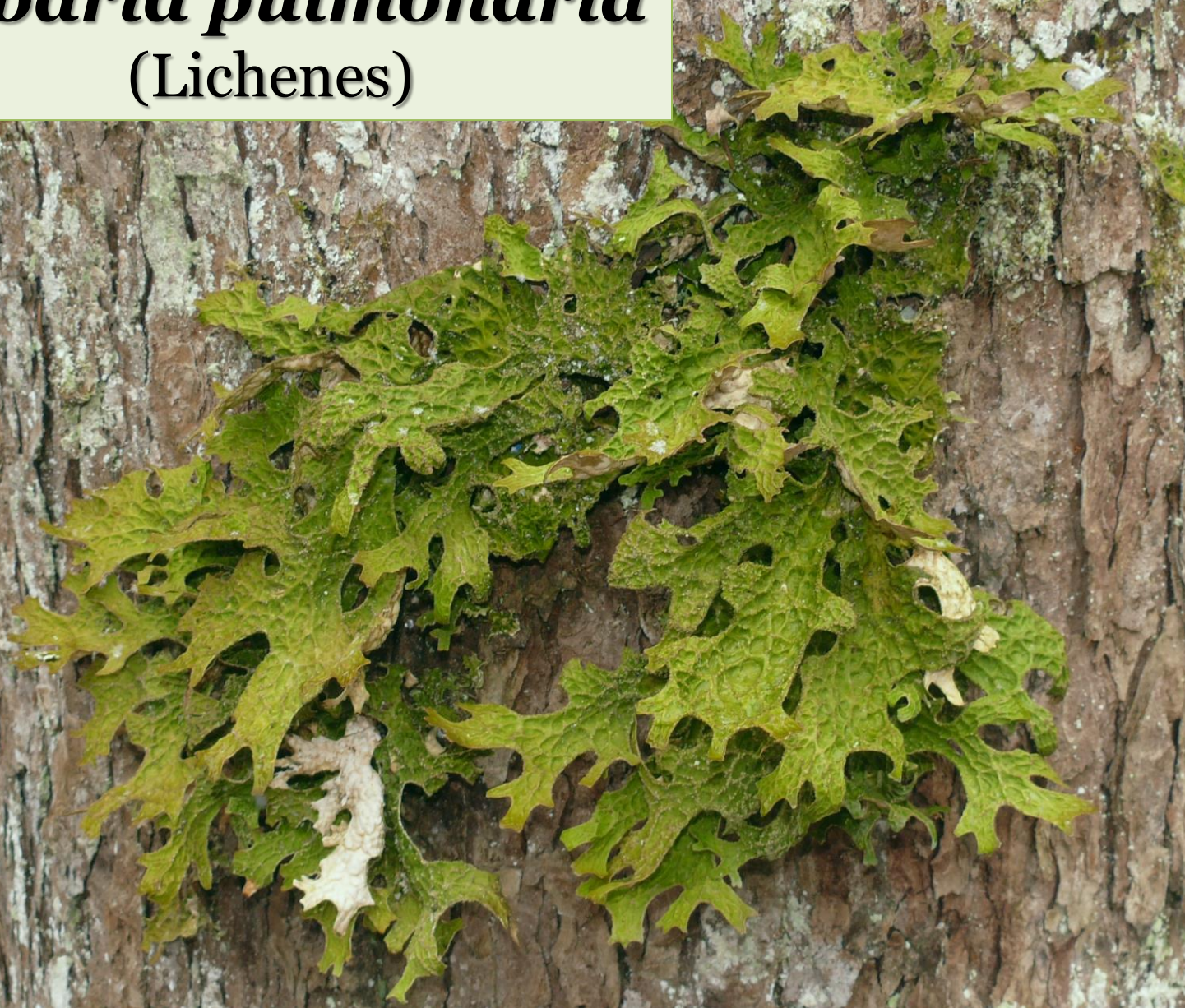


**korast
talus**

apotecije

Graphis scripta

Lobaria pulmonaria
(Lichenes)



2) Listasti lišajevi



**listast
talus**

apotecije



Lobaria pulmonaria

3) Žbunasti lišajevi



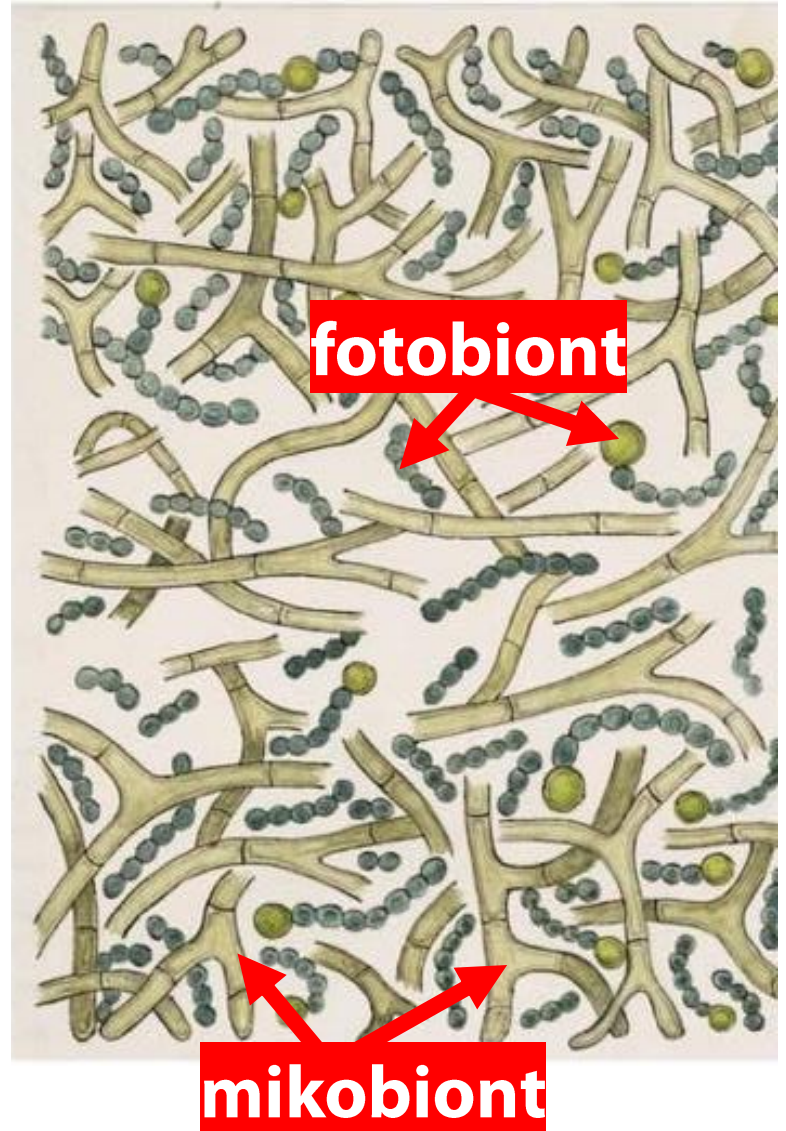
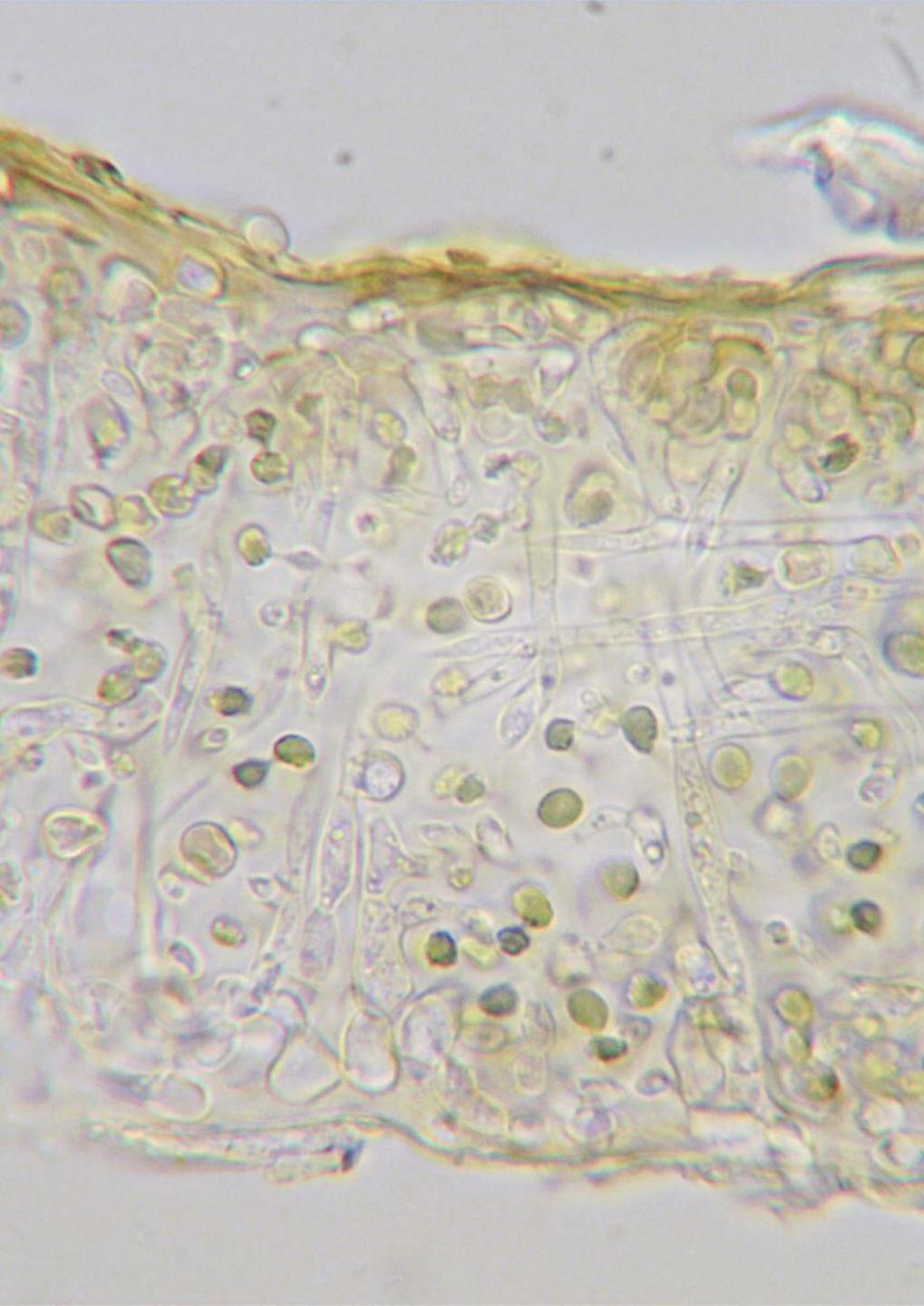
Usnea barbata
(Lichenes)



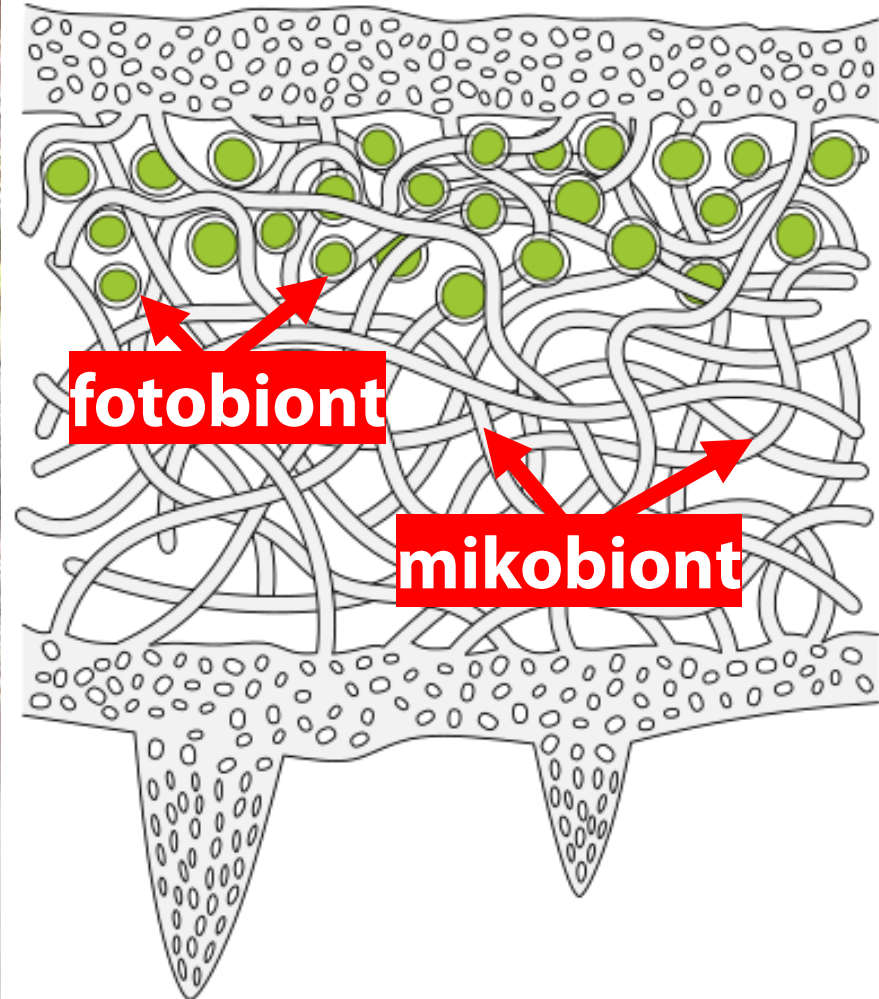
**žbunast
talus**

Usnea barbata

Homeomerna građa talusa



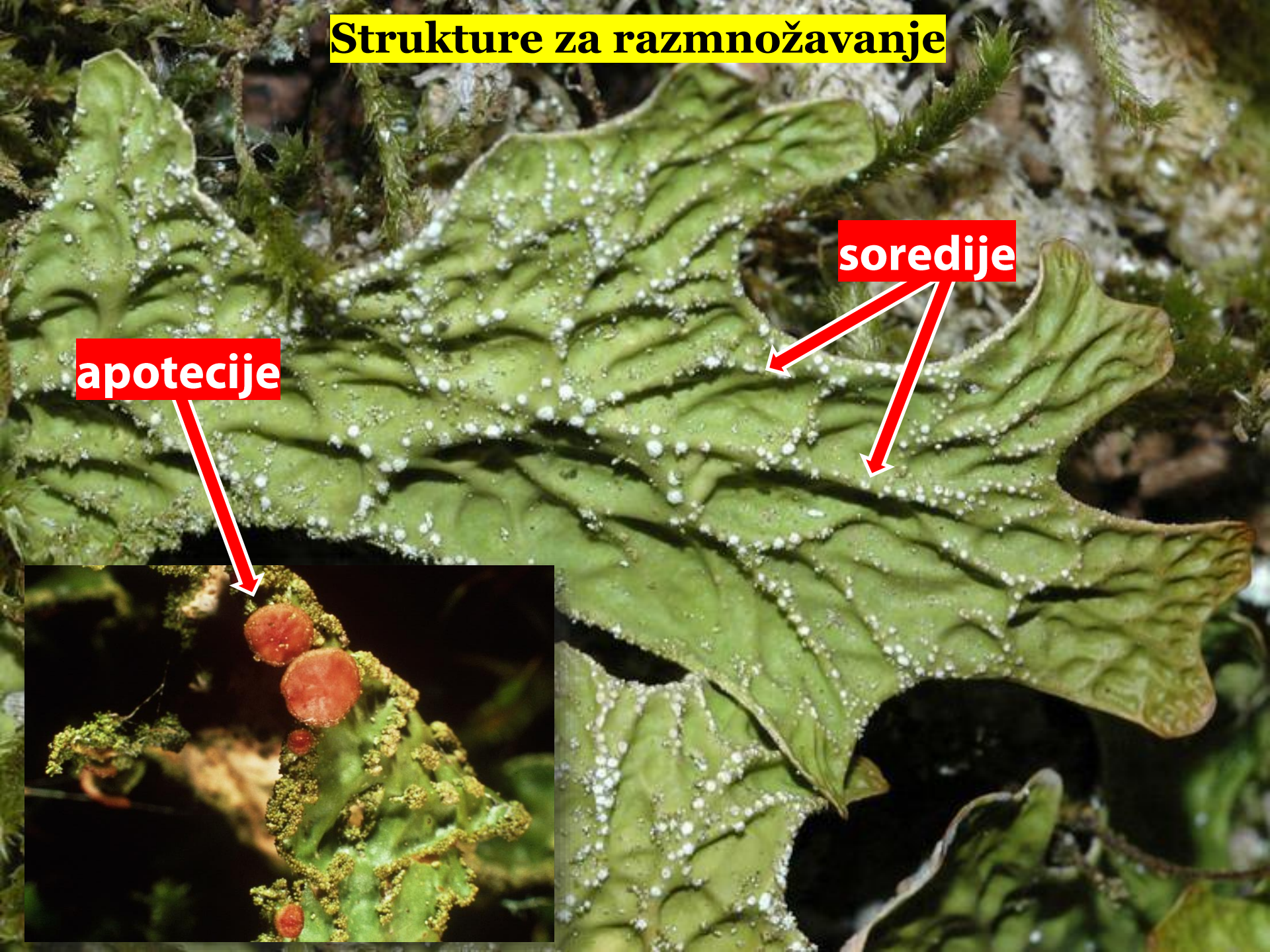
Heteromerna građa talusa



Strukture za razmnožavanje

apotecije

soredije



Cetraria islandica

(islandski lišaj/mahovina)



Evernia prunastri



Letharia vulpina

