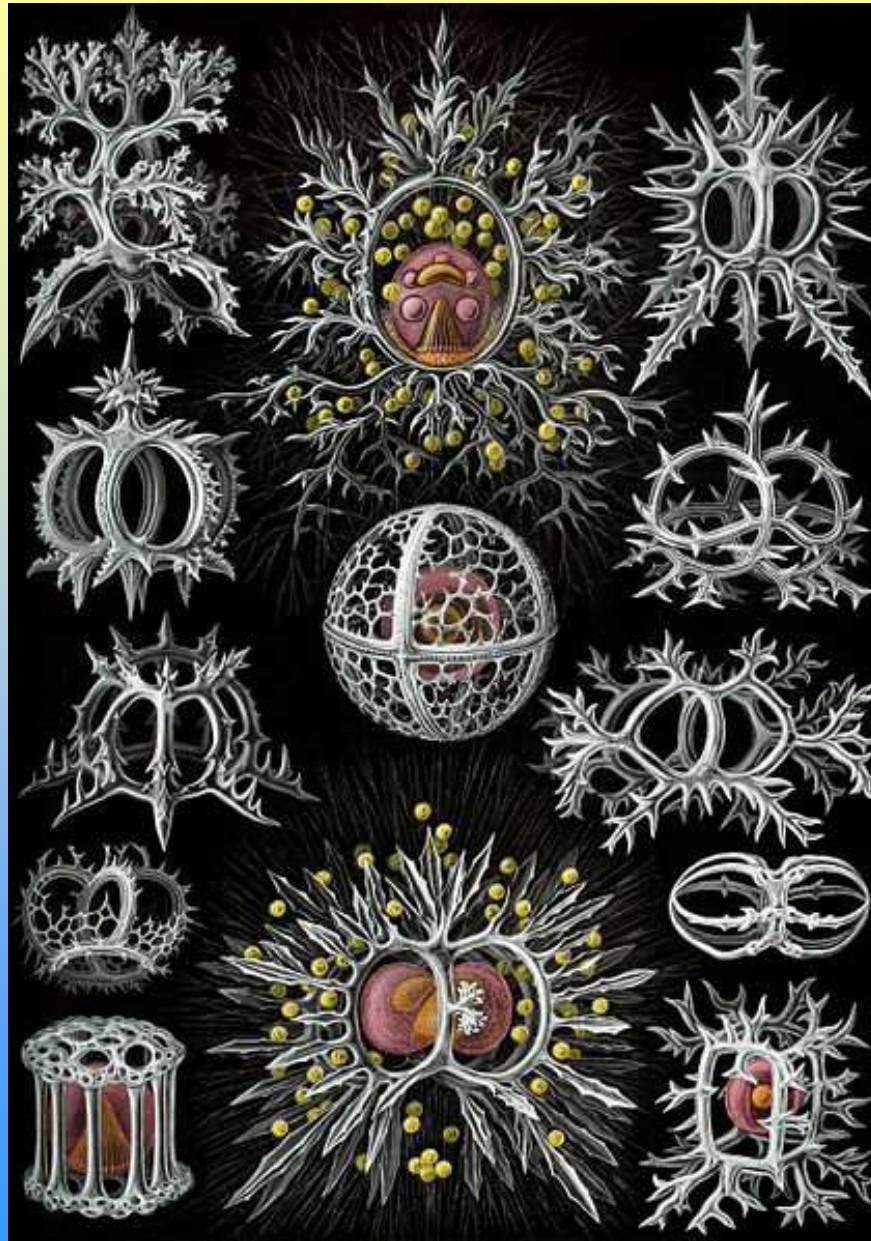


# Protozoa (Prvoci)



<http://www.biolib.cz>

<http://en.wikipedia.org/wiki/Protist>

<http://www.eol.org/>

<http://www.zoology.cz/>

<http://www.kbi.zcu.cz/studium/invert/obra.php>



# Protozoa (PRVOCI)



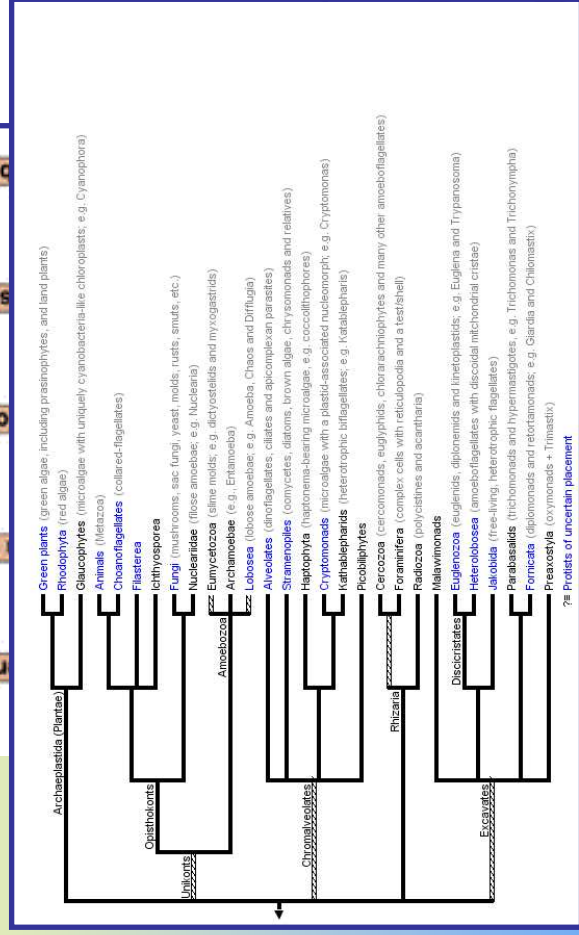
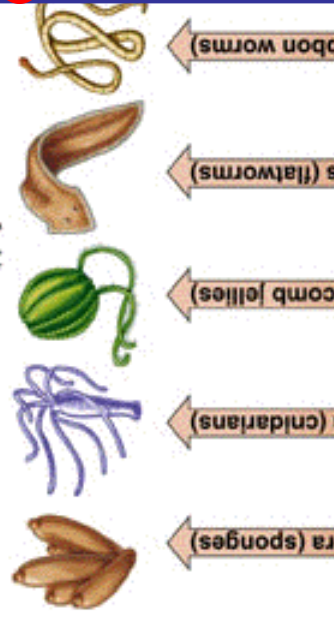
aktivně se **pohybující** (Ruppert & Barnes 1994)  
a **fagotrofní** (Fenchel 1987) protista



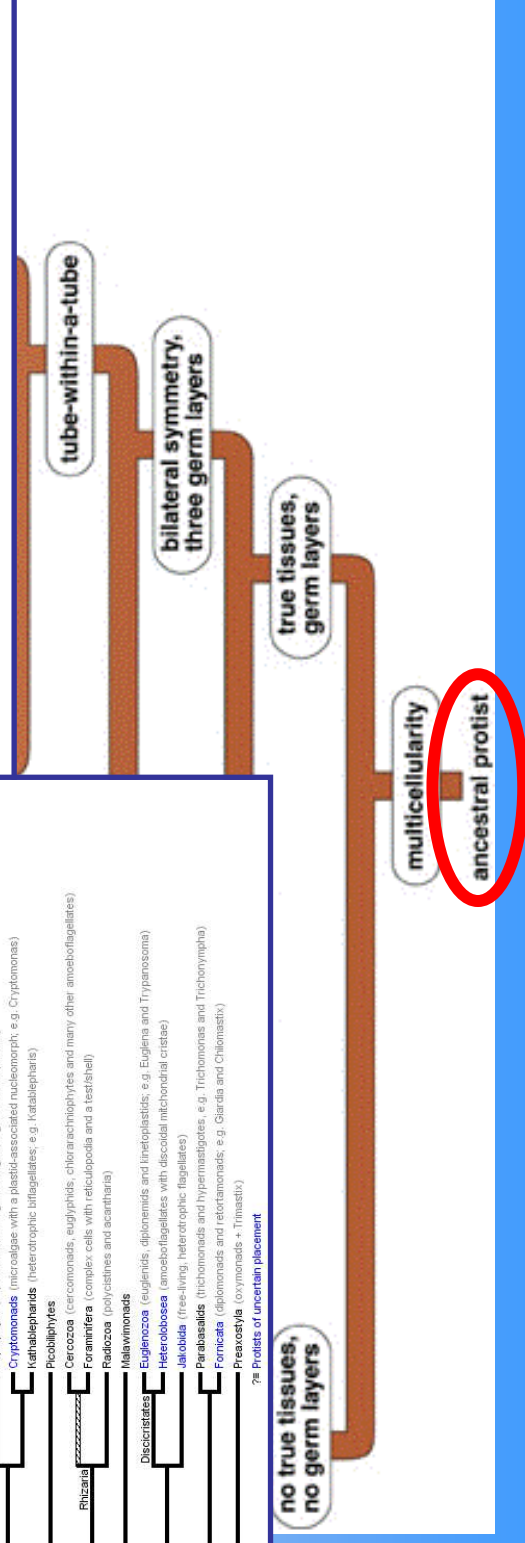
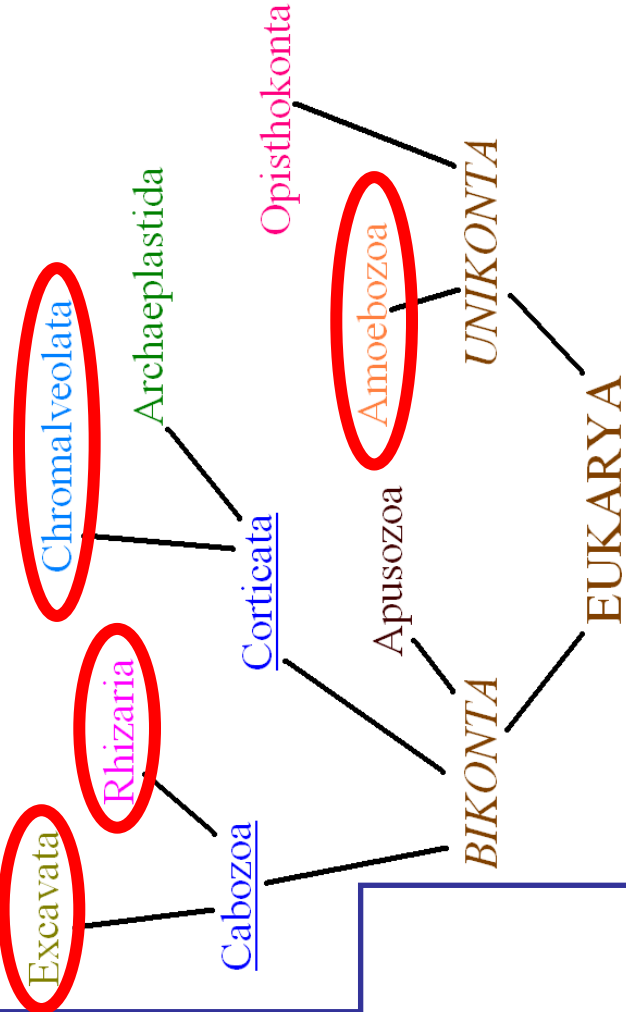
**bičíkatí prvoci** + **améby** + **nálevníci**







## Modern Eukaryote Taxonomy

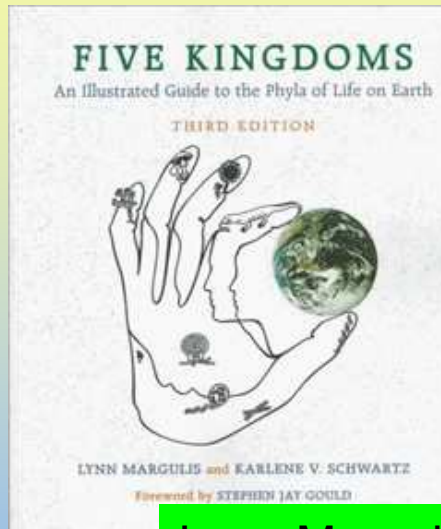


# Historie výzkumu



SET teorie (Sagan-Margulis 1967)

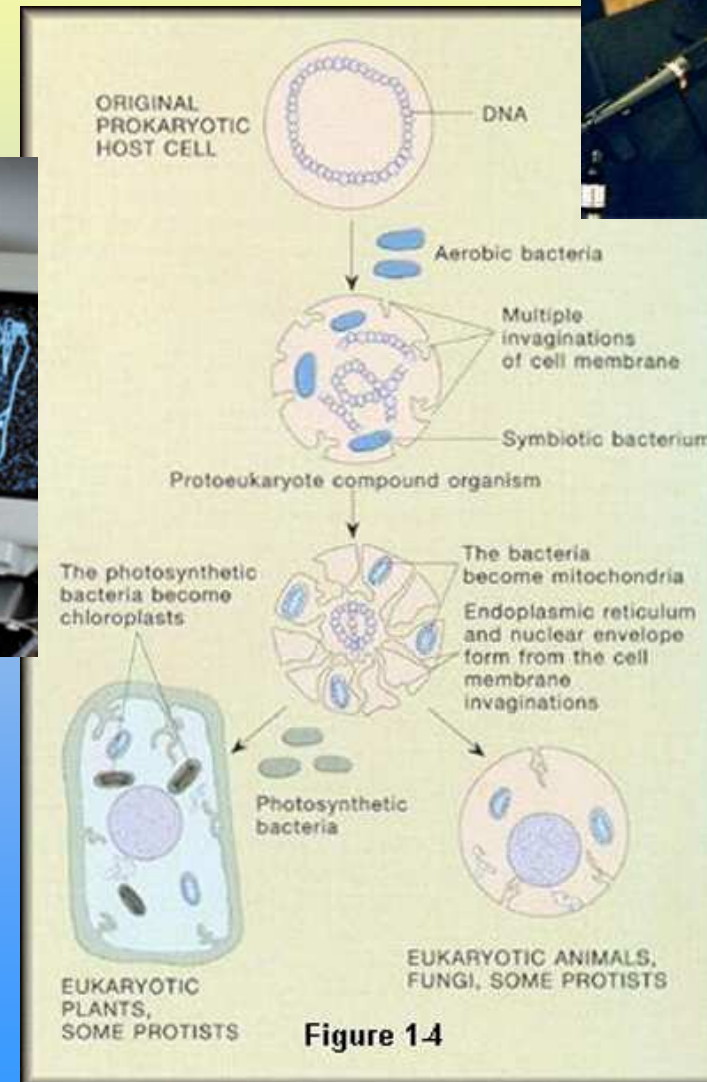
T. Cavalier-Smith



Lynn Margulis



Dorion Sagan



# Protozoa (PRVOCI)



tělo = jediná buňka » všechny funkce (někdy kolonie)



velikost  $3\mu\text{m}$ -5mm

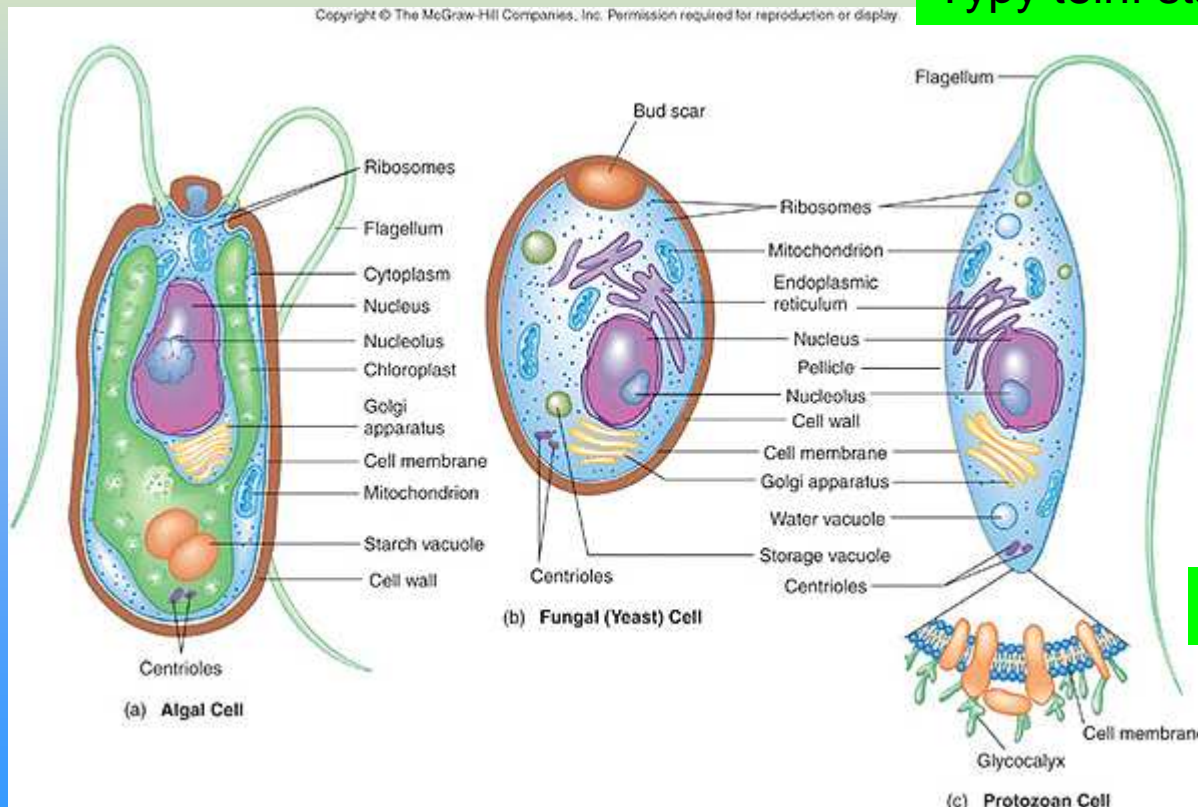


organely (**pohybové**, **smyslové**, **potravní**, **osmoregulační**,  
**oporné**, **ochranné**)

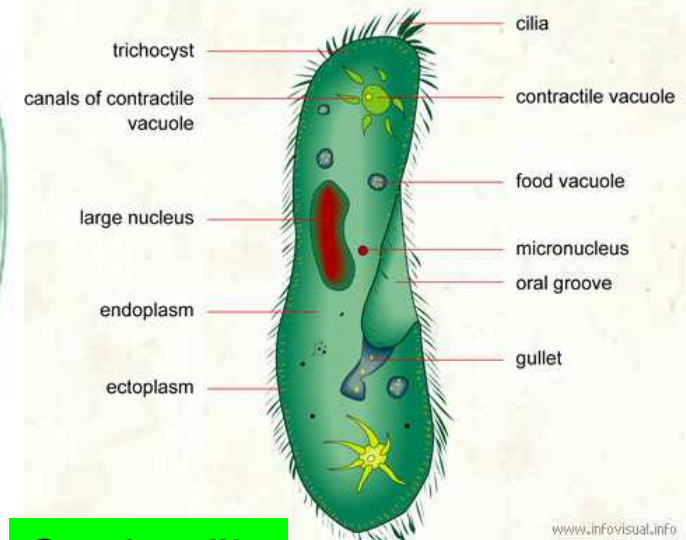


endosymbióza

## Typy tělní stavby



## STRUCTURE OF A PARAMECIUM



## Stavba těla





# Říše: ARCHEZOA (PRAPRVOCI)

Kmen: ARCHAMOEBAE (PANOŽENKY):

*Pelomyxa palustris* (měňavka bahenní), *Mastigamoeba aspera*  
(panoženka měňavková)

Kmen: METAMONADA (PRABIČÍKOVCI)

*Giardia intestinalis* (lamblia střevní)

# Říše: PROTOZOA (PRVOCI)

Kmen: DINOZOA (OBRNĚNKY):

*Ceratium* (trojrožec)

Kmen: EUGLENOZOA

Třída: Kinetoplastidea (bičivky)

*Trypanosoma gambiense* (trypanosoma spavičná), *T. brucei* (t.  
dobyččí)

Třída: Euglenoidea (krásnoočka)

*Euglena viridis* (krásnoočko zelené)

Kmen: PARABASALA

Třída: Trichomonadea (bičenky):

*Trichomonas vaginalis* (bičenka poševní)



Kmen: OPALOOOA (OPALINKY):

*Opalina ranarum* (opalinka žabí)

Kmen: RHIZOPODA (MĚŇAVKOVCI)

Třída: Lobosea (lalokonozí)

*Amoeba proteus* (měňavka velká), *Arcella* (štítočka)

Třída: Granuloreticulosea (sít'onozí)

Řád: Foraminiferida (dírkonožci):

*Globigerina*, *Textularia*, *Peneroplis*, *Porodiscus*

Kmen: RADIOZOA (MŘÍŽOVCI):

*Actinomma*, *Lithocampe*

Kmen: APICOMPLEXA (VÝTRUSOVCI)

Třída: Gregarinidea (hromadinky):

*Gregarina polymorpha*

Kmen: CILIOPHORA (NÁLEVNÍCI)

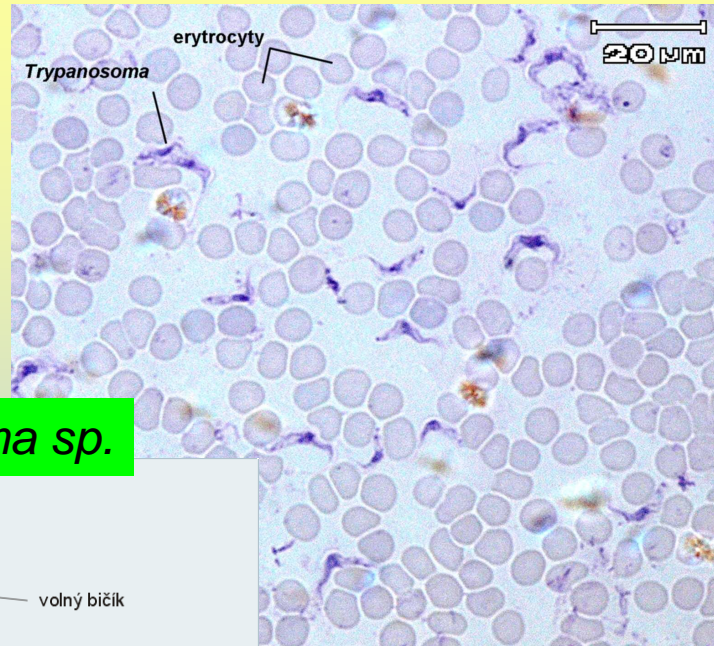
*Paramecium caudatum* (trepka velká), *Vorticella* (vířenka),  
*Epistylis* (písenka), *Stylonychia* (slávinka)



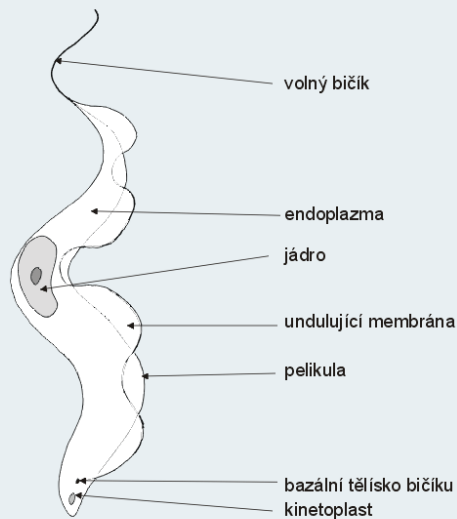


# Kmen: Euglenozoa

*Euglena*  
*Trypanosoma*  
*Bodo*

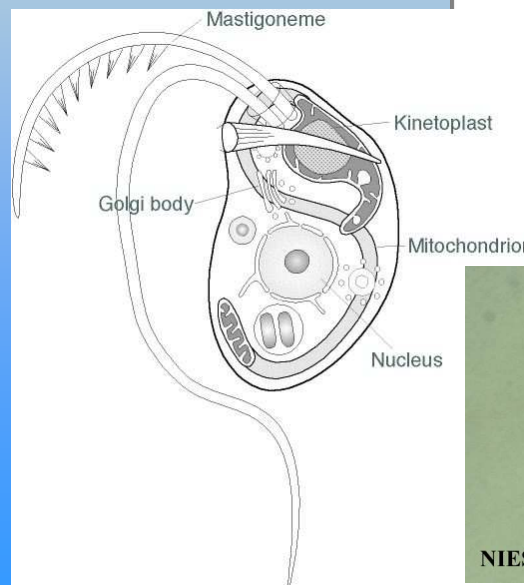


*Trypanosoma* sp.



*Trypanosoma*  
stavba buňky bičíkovce

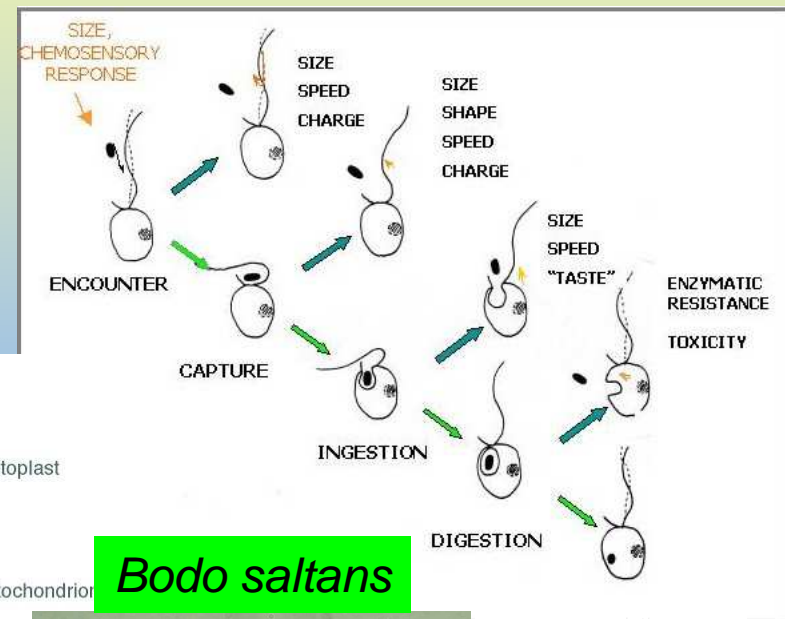
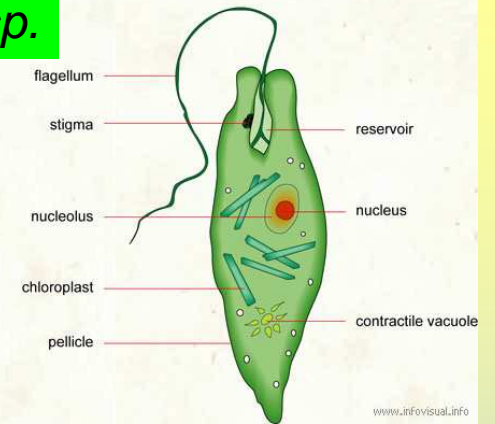
(podle Laverack - Dando 1987, upraveno)



*Bodo saltans*



## STRUCTURE OF A EUGLENA



# Kmen: Rhizopoda (MĚŇAVKOVCI)

## Třída: Lobosea (lalokonozí)

*Amoeba proteus* (měňavka velká)

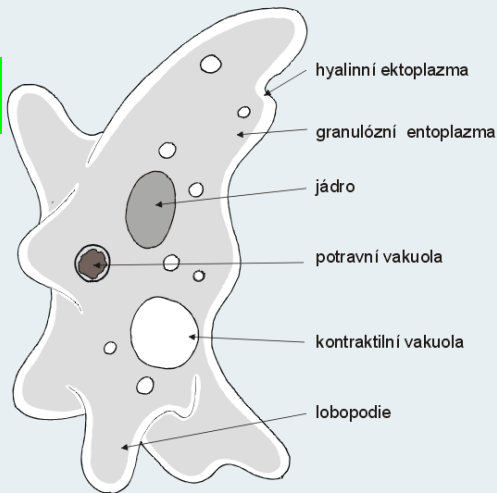
*Entamoeba histolytica* (m. úplavičná)

*Arcella* (štítočka)

*Diffugia* (rozlitka)

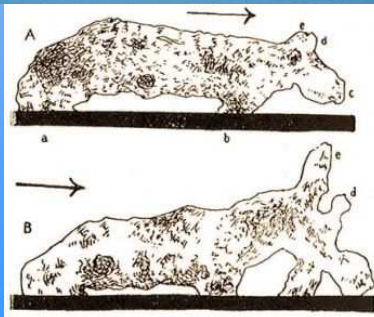


*Amoeba proteus*

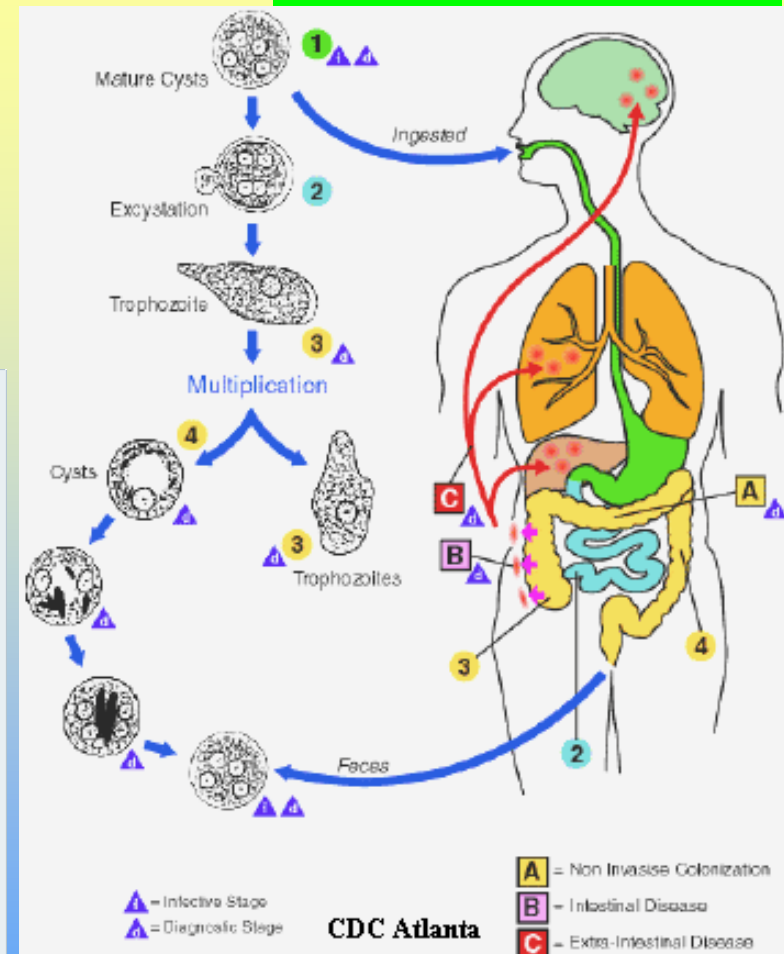


*Amoeba*  
stavba buňky améby

(podle Laverack - Dando 1987, upraveno)



## *Entamoeba histolytica*



# Kmen: Rhizopoda (MĚŇAVKOVCI)

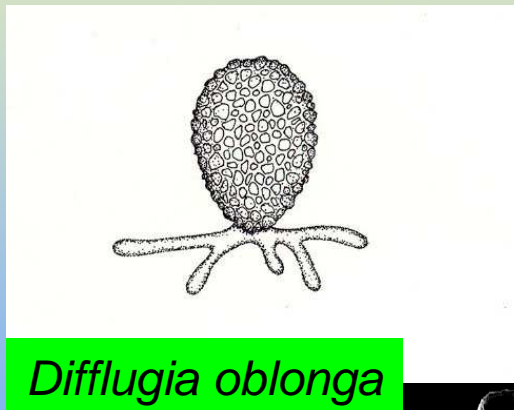
## Třída: Lobosea (lalokonozí)

*Amoeba proteus* (měňavka velká)

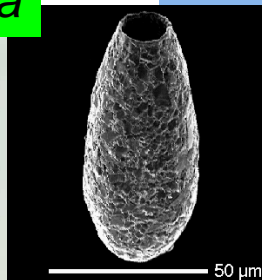
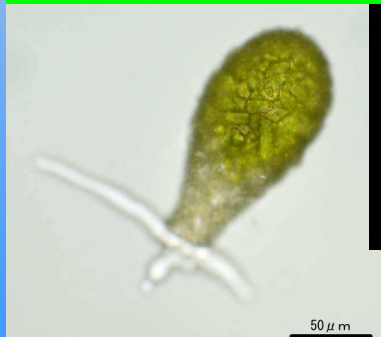
*Entamoeba histolytica* (m. úplavičná)

*Arcella* (štítovka)

*Diffugia* (rozlitka)



*Diffugia oblonga*



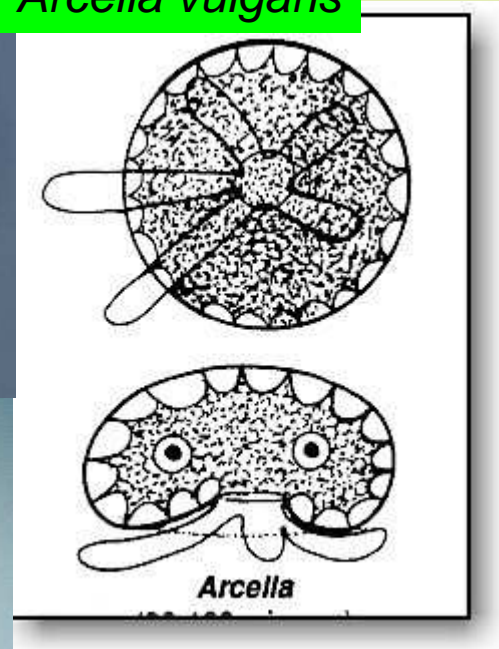
50  $\mu$ m



25  $\mu$ m



*Arcella vulgaris*



*Arcella*

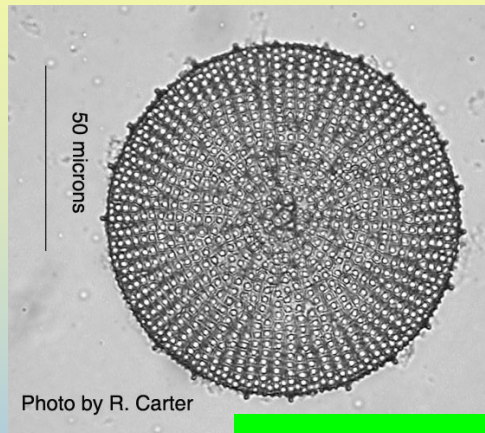




# Kmen: Rhizopoda (MĚŇAVKOVCI)

Třída: Granuloreticulosea (sít'onozí)

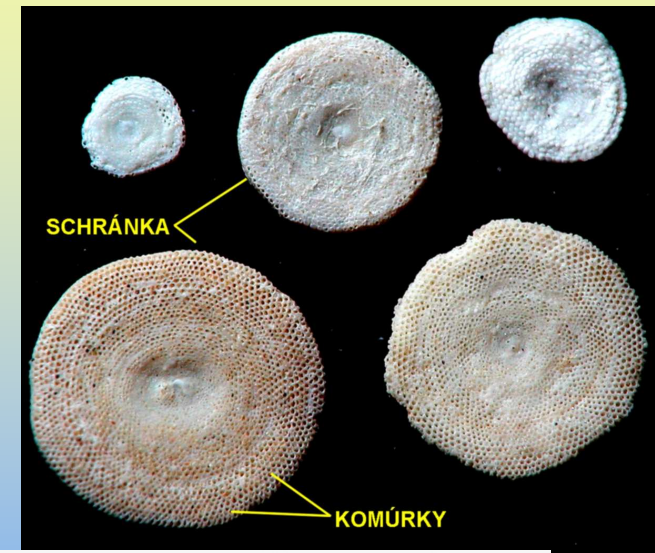
*Foraminiferida* (dírkonošci)



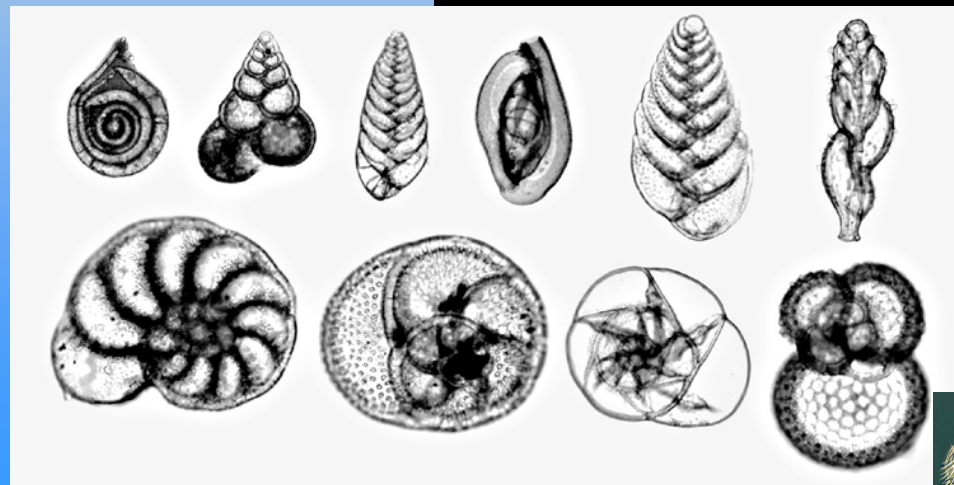
*Porodiscus*



*Peneroplis*



*Globigerina*

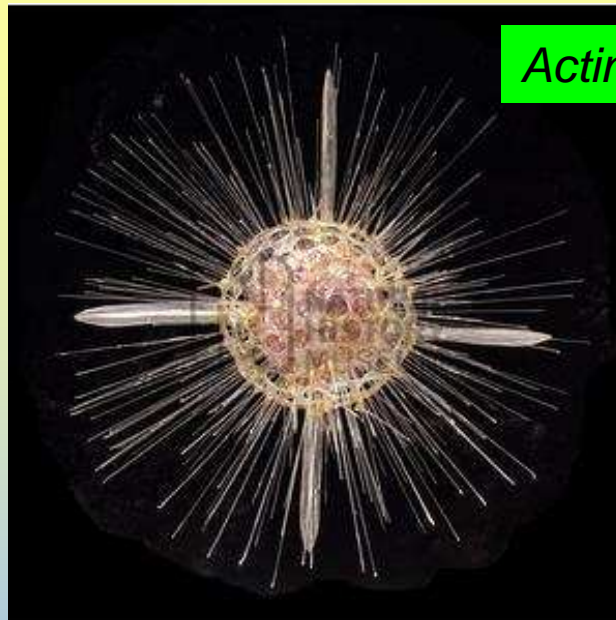
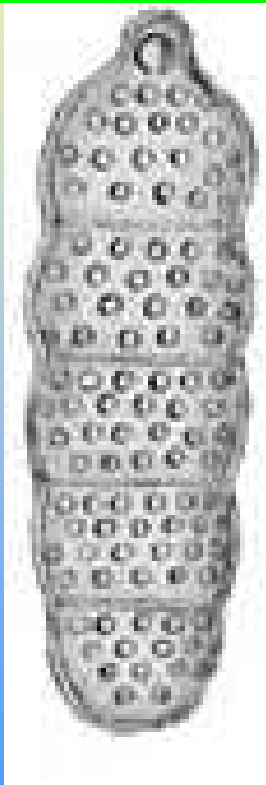




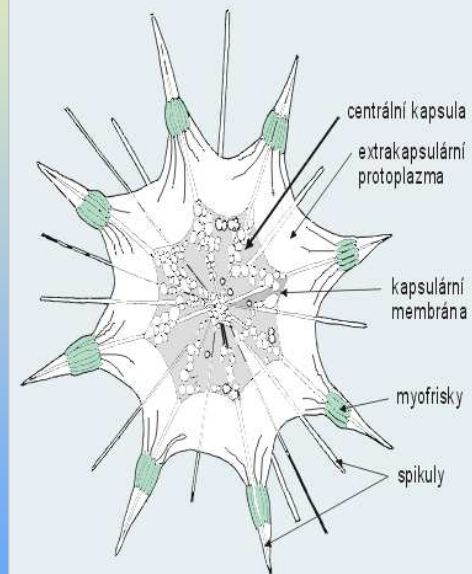
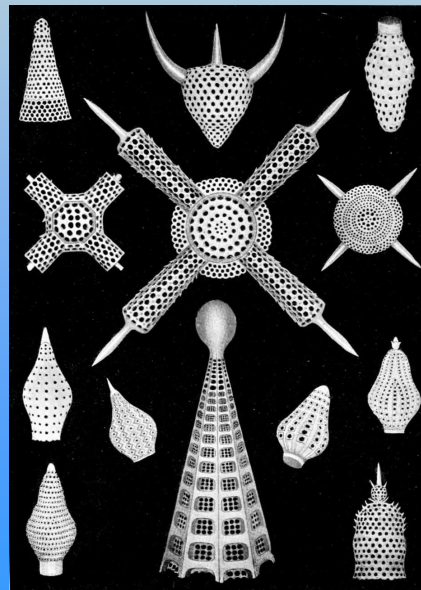
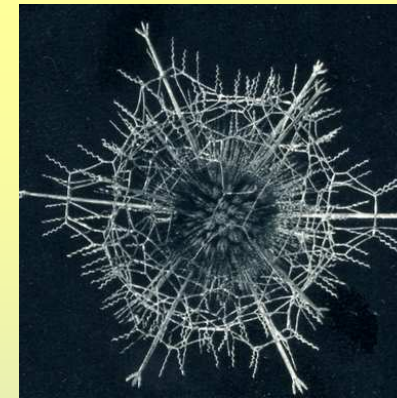
# Kmen: Radiozoa (MŘÍŽOVCI)

*Acantharia*  
*Radiolaria*

*Lithocampe*



*Actinomma*



*Acanthometra*

stavba buňky stronnatce

(podle Laverack - Dando 1987, upraveno)

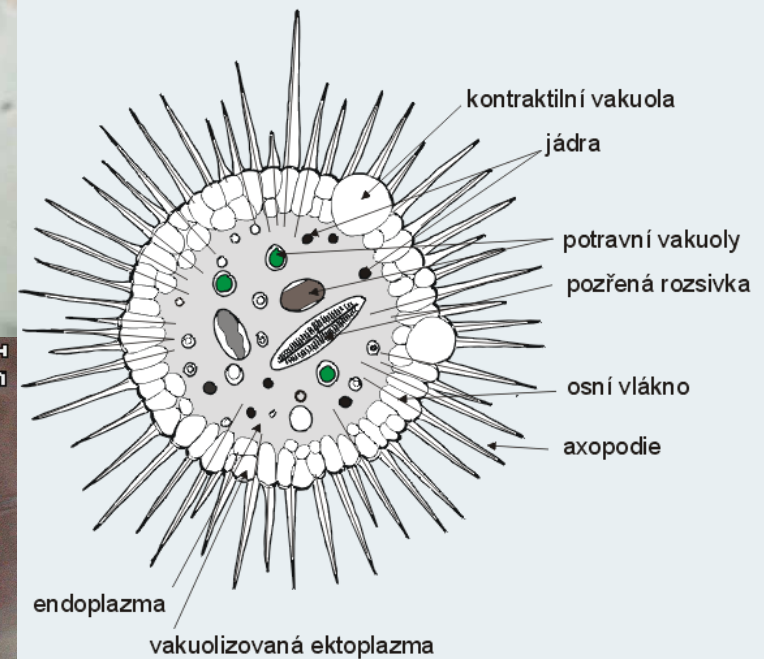
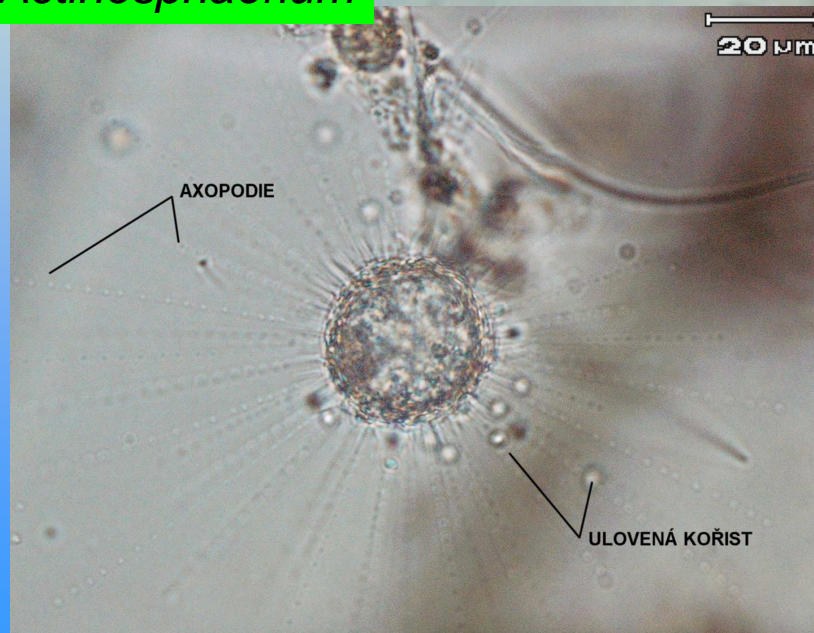


# Kmen: Heliozoa (SLUNIVKY)

## *Actinosphaerium*



**Actinosphaerium**



*Actinosphaerium*  
stavba buňky slunivky

(podle Laverack - Dando 1987, upraveno)



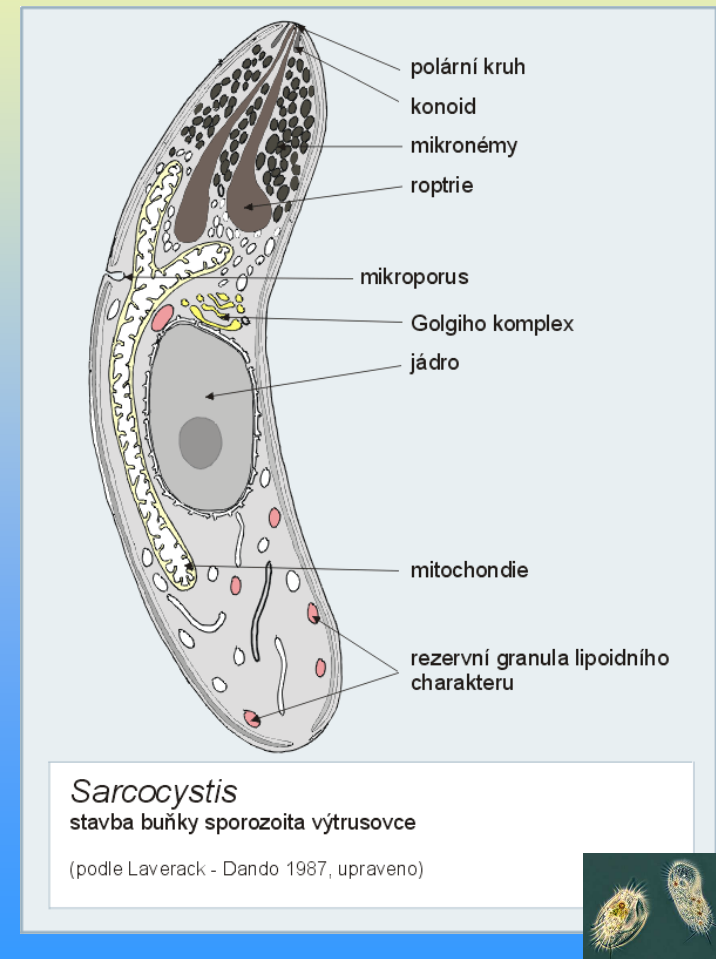
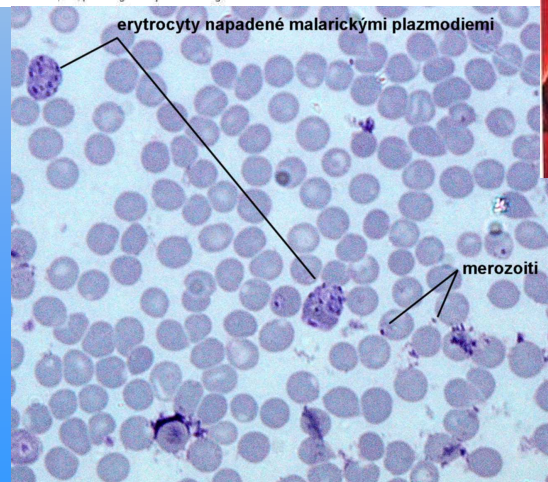
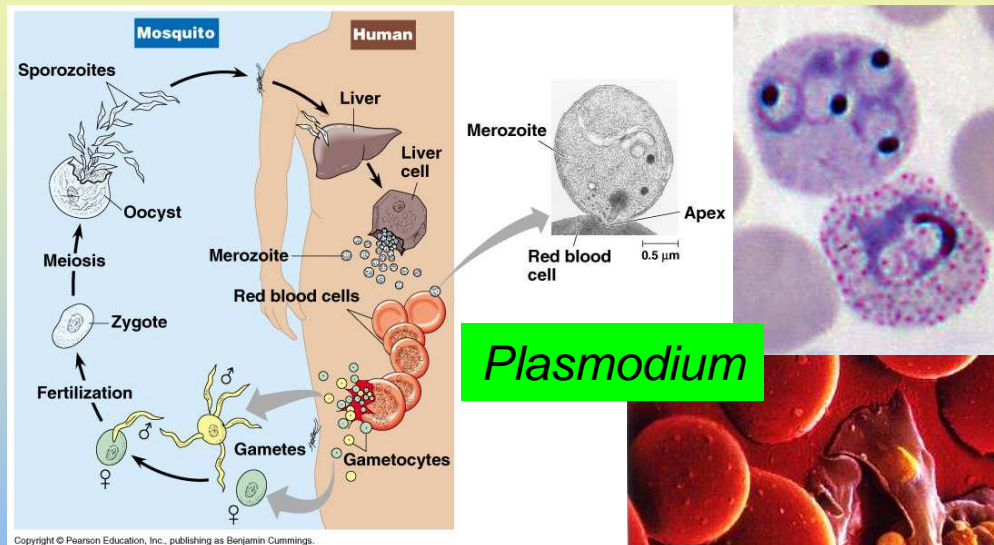


# Kmen: Apicomplexa (VÝTRUSOVCI)

*Haematozoa* (krvinkovky)

*Gregarinidea* (hromadinky)

*Coccidea* (kokcidie)

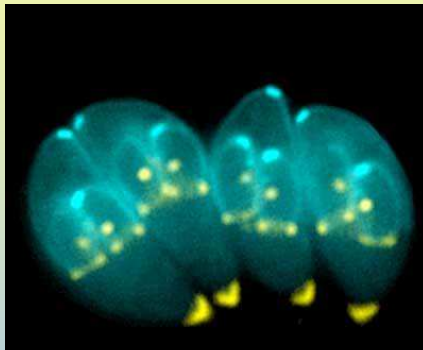


# Kmen: Apicomplexa (VÝTRUSOVCI)

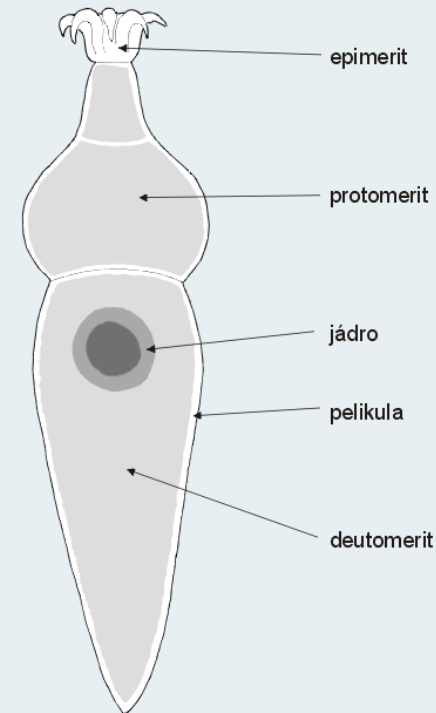
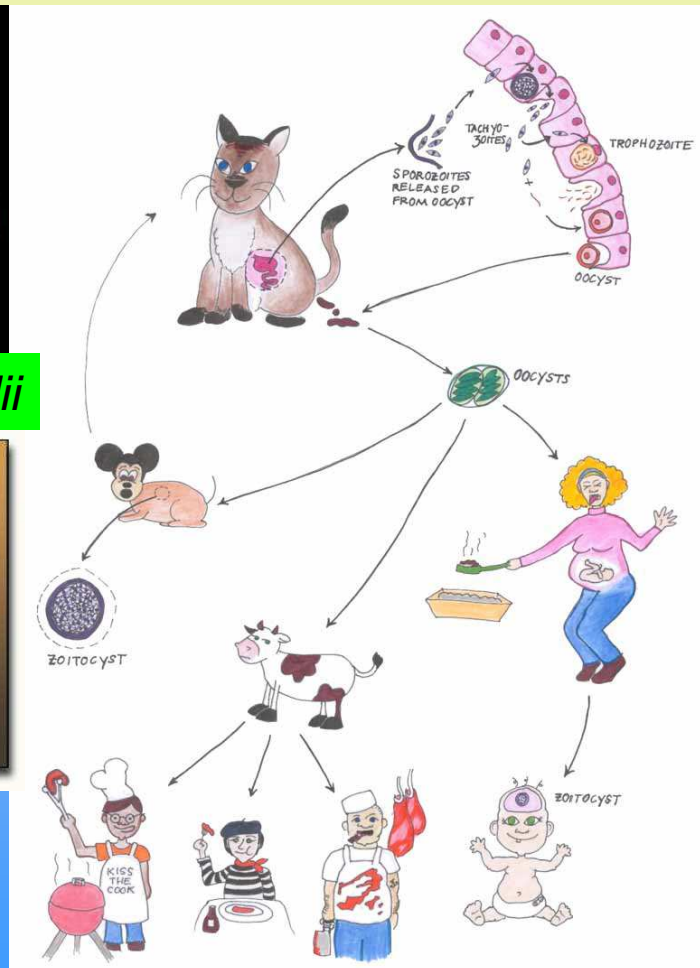
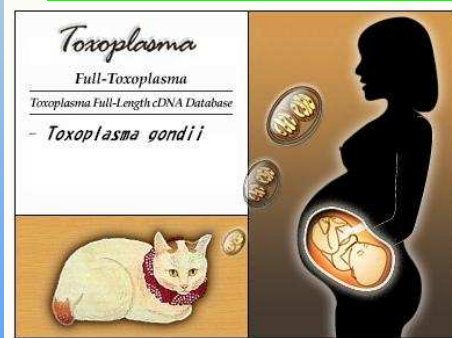
*Haematozoa* (krvinkovky)

*Gregarinidea* (hromadinky)

*Coccidea* (kokcidie)



*Toxoplasma gondii*



*Gregarina*  
stavba buňky gregariny

(podle Laverack - Dando 1987, upraveno)





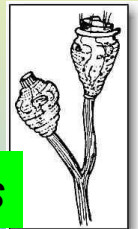
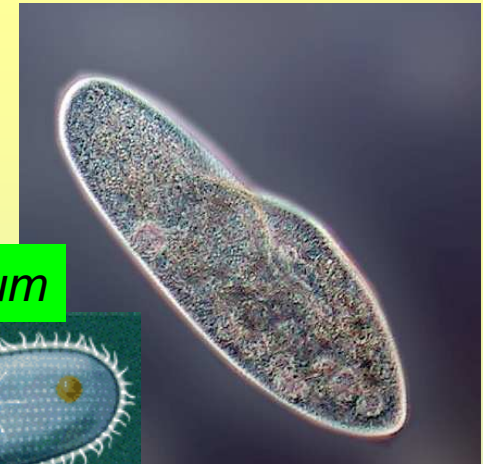
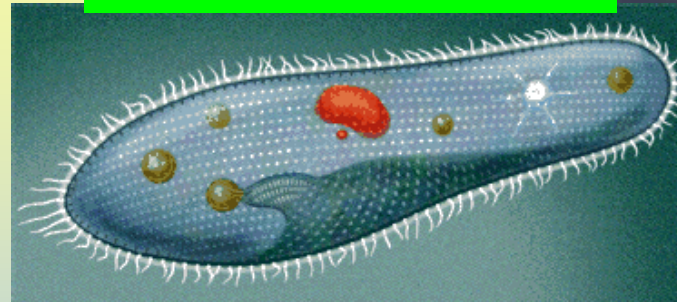
# Kmen: Ciliophora (NÁLEVNÍCI)

*Paramecium* (trepka)

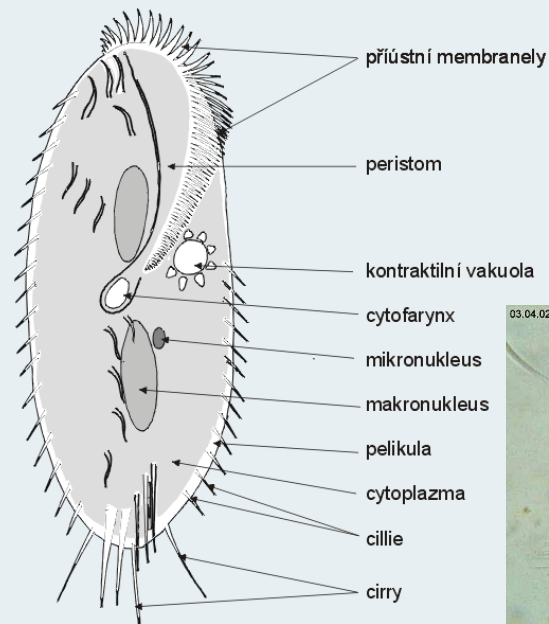
*Epistylis* (plísenka)

*Stylonychia* (plazivenka)

*Paramecium caudatum*



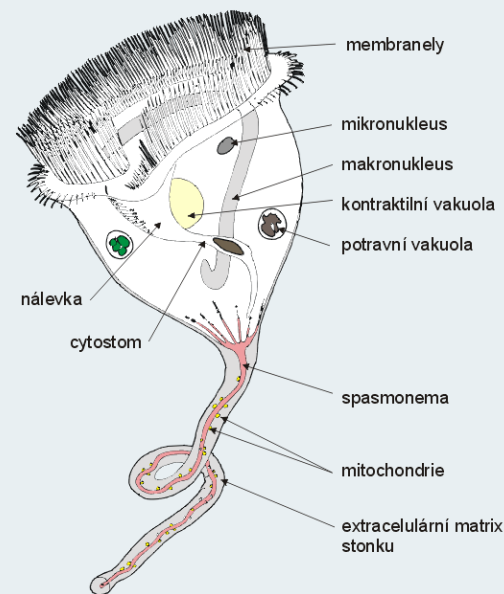
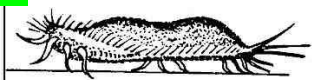
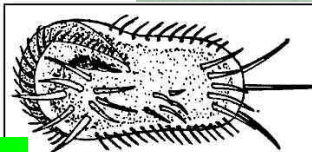
*Epistylis*



*Stylonychia*  
stavba buňky nálevníka

(podle Laverack - Dando 1987, upraveno)

*Stylonychia*



*Vorticella*  
stavba buňky sesilního nálevníka

(podle Pechenik 1991, upraveno)

*Vorticella*



