

**Figures 7 to 16 : brief phenetic classification of microfauna in activated sludge**

The considered taxonomic hierarchy is :

Kingdom: animal

Sub kingdom

Branch

Class

Sub class

Order

Family

Genus

Sub kingdom	PROTOZOAN							METAZOAN
Branch	Rhizopoda			Flagellata	Ciliata			worms
Class, sub class or order	heliozoan	amoebiens	thecamoebiens	Zoo flagellated	holotrichs	peritrichs	hypotrichs	<b>Rotifers, Gastrotrichs Nematodes</b>
Most famous genus in activated sludge microfauna		<i>Amoeba</i>	<i>Thecamoeba</i>	<i>Pleuromonas Bodo, Monosiga</i>	<i>Paramecium, Trachelophylum Lionotus, Chilodonella</i>	<i>Vorticella, Carchesium, Episitylis, Opercularia</i>	<i>Euplots, Aspidisca</i>	

**For each organism, are detailed :**

- ☛ a sketch and the average size of the organism
- ☛ its phenetic classification
- ☛ the predation, the habitat of the microorganism and the relation with the process management



Figure 7: Sketch of an organism belonging to the class of nematodes (branch of worms)

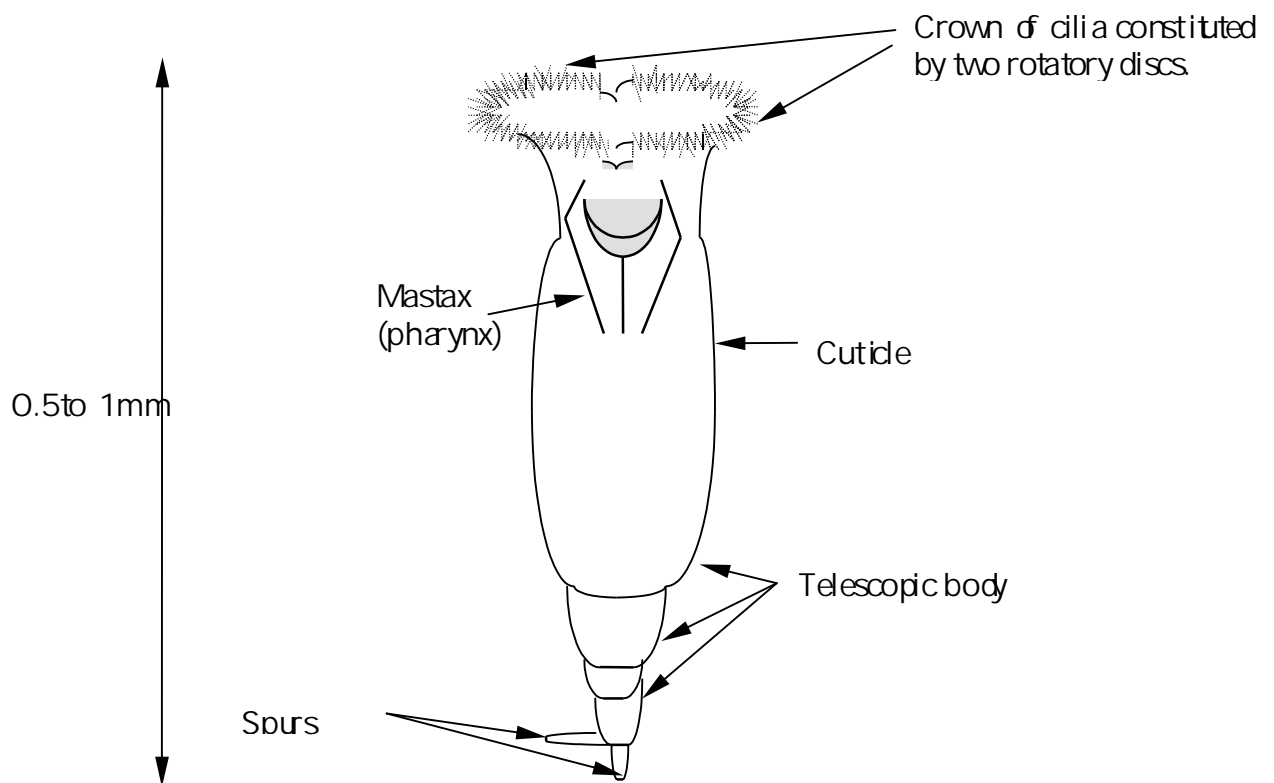


Figure 8: Sketch of a metazoan organism  
 \* Sub kingdom of metazoa, branch of worms, class of rotifers, fifteen known genus  
 \* bacterio- or protozoophagous; planktonic or fixed species; low load and high sludge age: satisfying treatment efficiency and nitrification

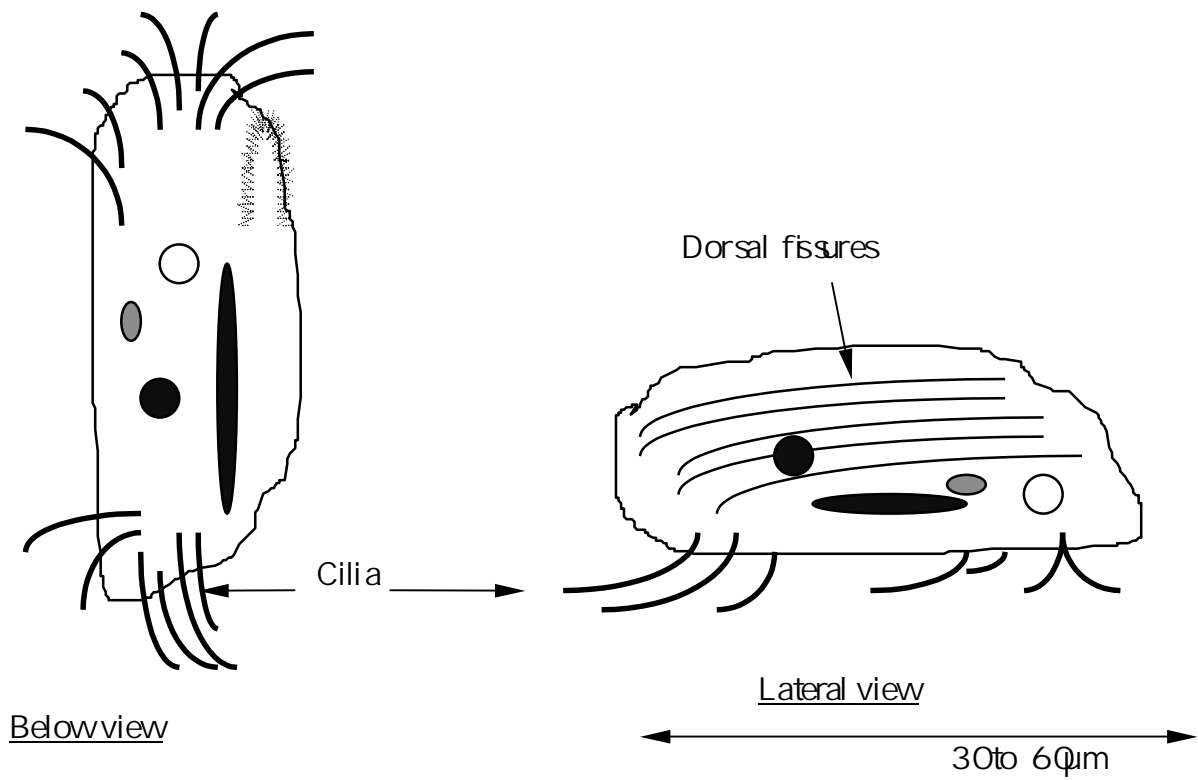


Figure 9: Sketch of a protozoan organism  
 \* class ciliate, sub-class of hypotrichs  
 (seven known genus, main are Euplates and  
 Aspidisca)  
 \* bacteriophagous; adapted to the surface  
 of the flocs, mobile; low load and high

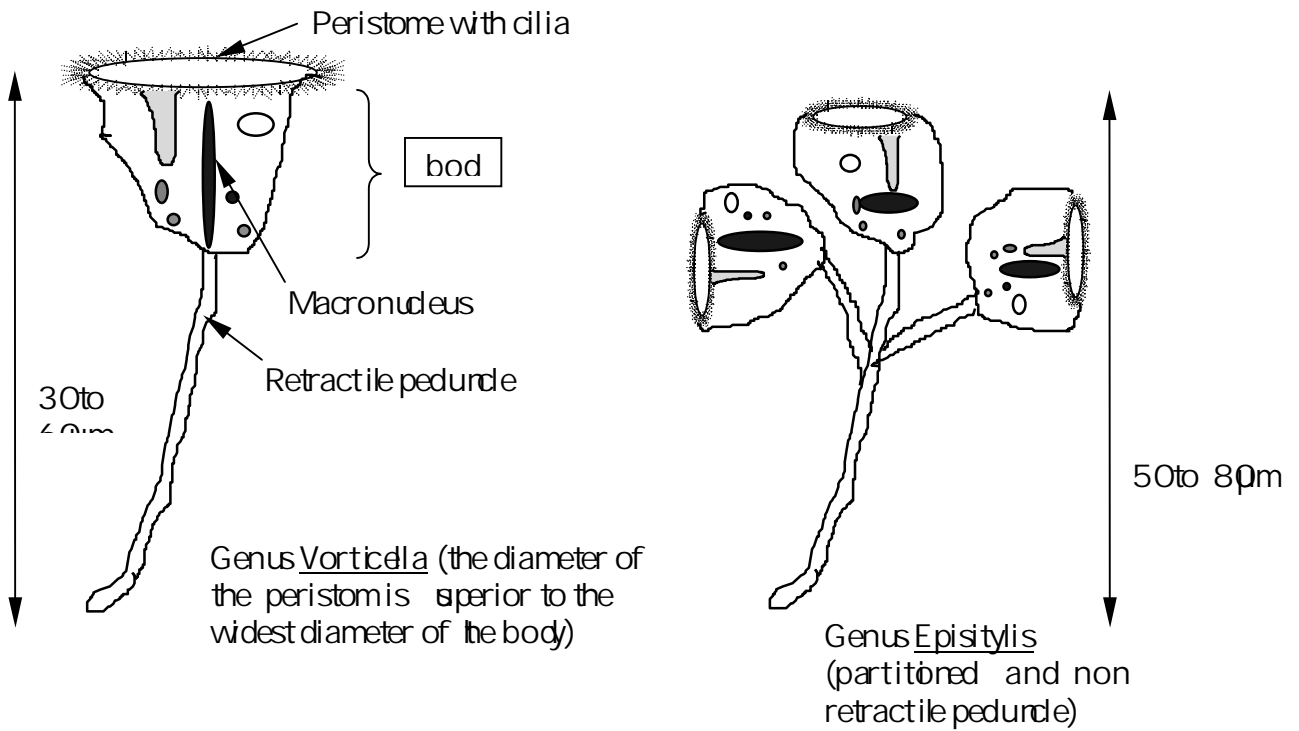


Figure 10: Sketch of a protozoan organism

- \* class of ciliate, sub-class of peritrichs (six known genus)
- \* bacteriophagous (free bacteria), fixed at the surface of the floc, low load, well aerated medium

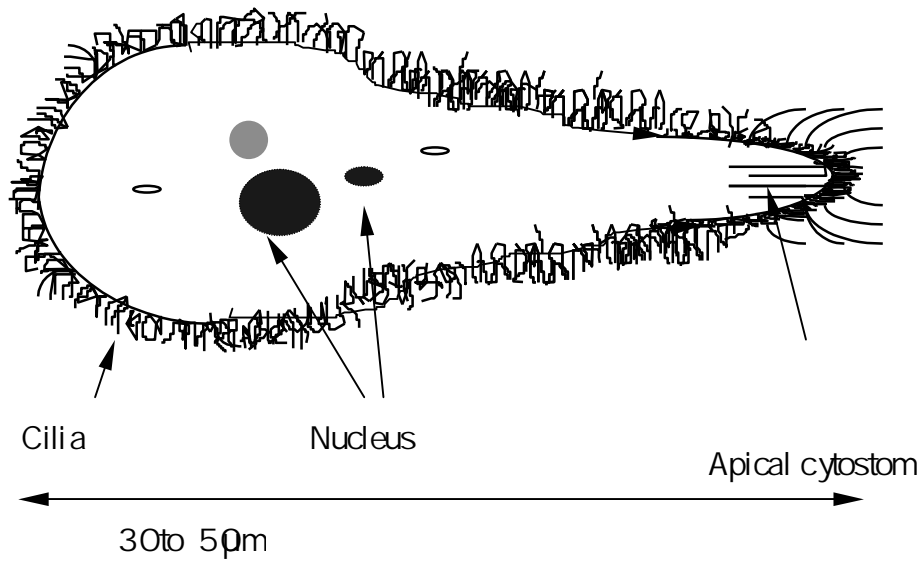


Figure 11 : Sketch of a protozoan organism permanent in microfauna of activated sludge  
 \* class of ciliate, sub-class of holotrichs, genus Trachelophyllum  
 \* adapted to the surface of the floc but not fixed and free-swimming, bacterio- and protozoophagous; high concentration of oxygen, moderate or high load.

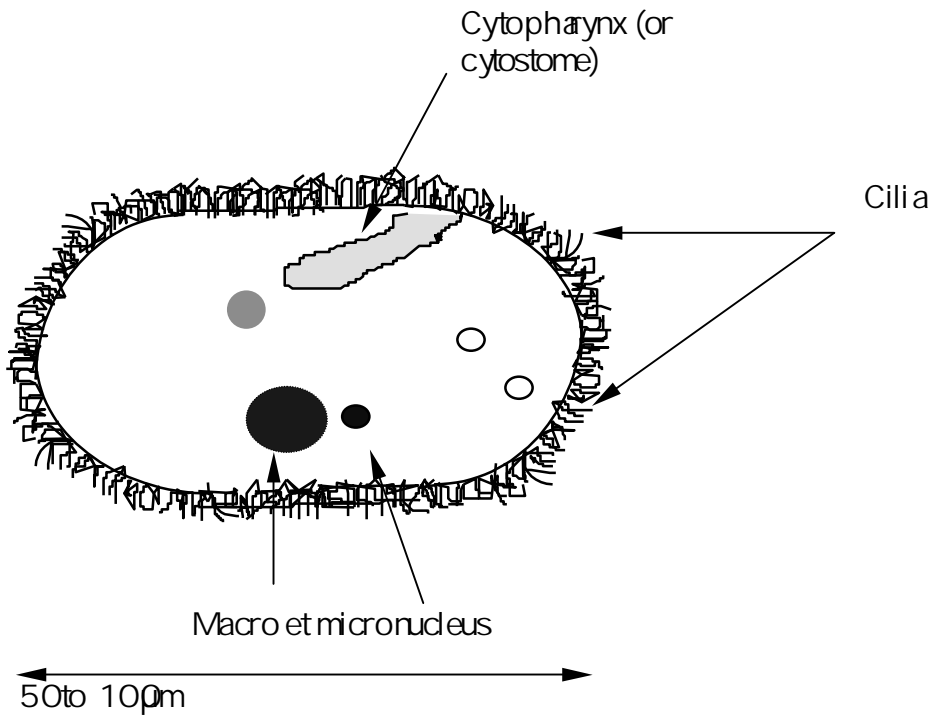


Figure 12: Sketch of a protozoan organism : Paramecium  
 \* class of ciliate, sub-class of holotrichs  
 \* bacteriophagous; swimmer; need a lot of oxygen, low load.

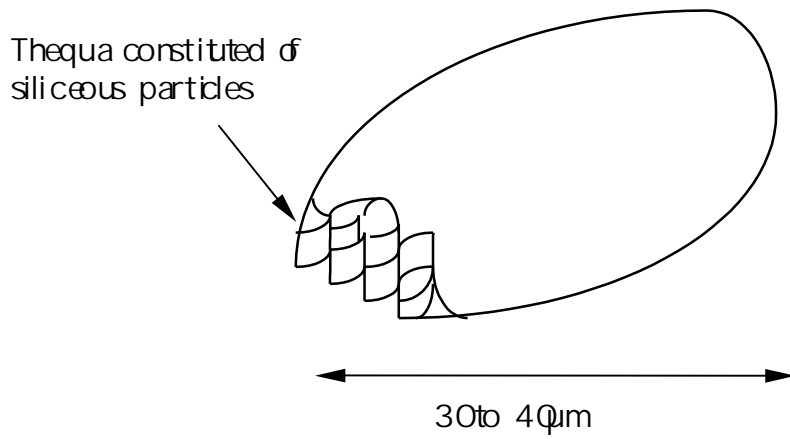


Figure 13: Sketch of a protozoan organism  
 \* branch of Rhizopoda, class of Thaeamoeba, genus Eugypha  
 \* living on flocs, nonfixed, nonswimmer, bacteriophagous (some consume filamentous bacteria); stable sludge,

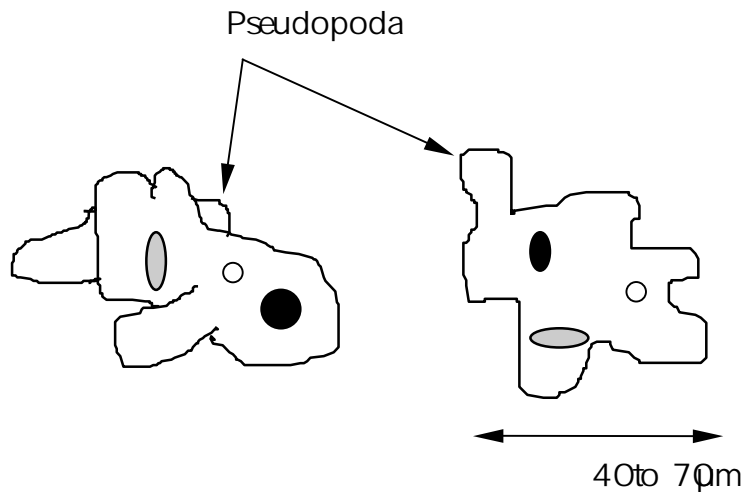


Figure 14: Sketch of a protozoan organism :  
Amoeba  
 \* branch of Rhizopoda, class of amoeba  
 \* bacterio- ouprotozoophagous; live on the surface of flocs; few indication about its relation with the quality of the treatment

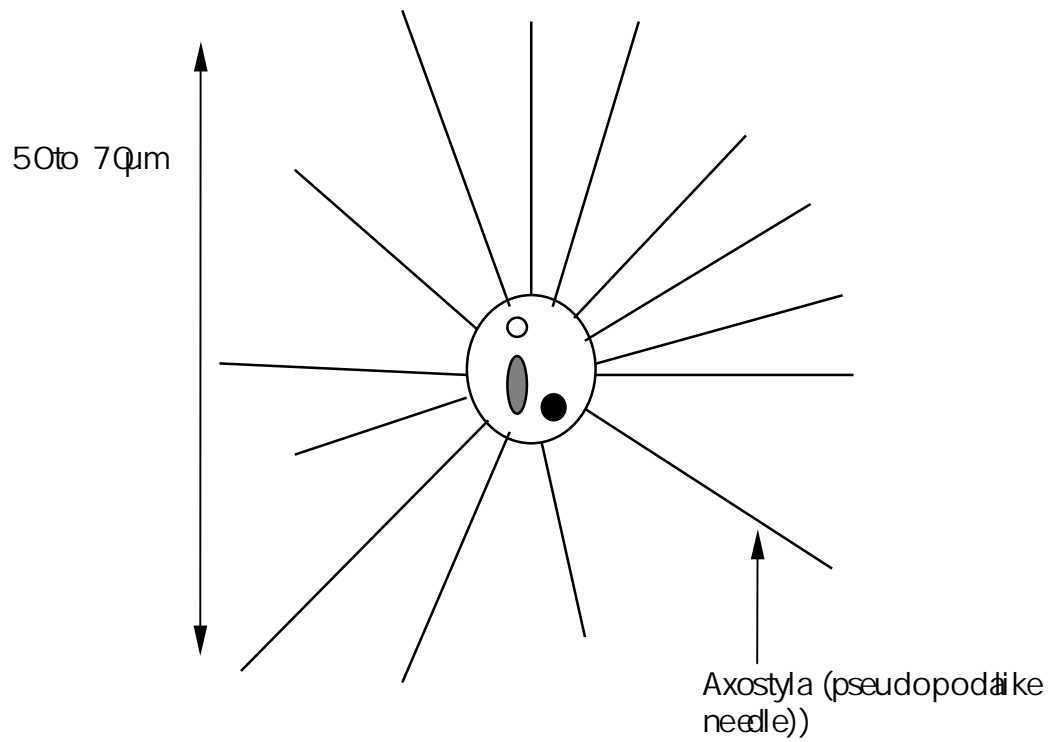


Figure 15: Sketch of a protozoan organism:

Heliozoa

- \* branch of Rhizopoda
- \* bacteriophagous; rare in sludge, planktonic; low load and high sludge.

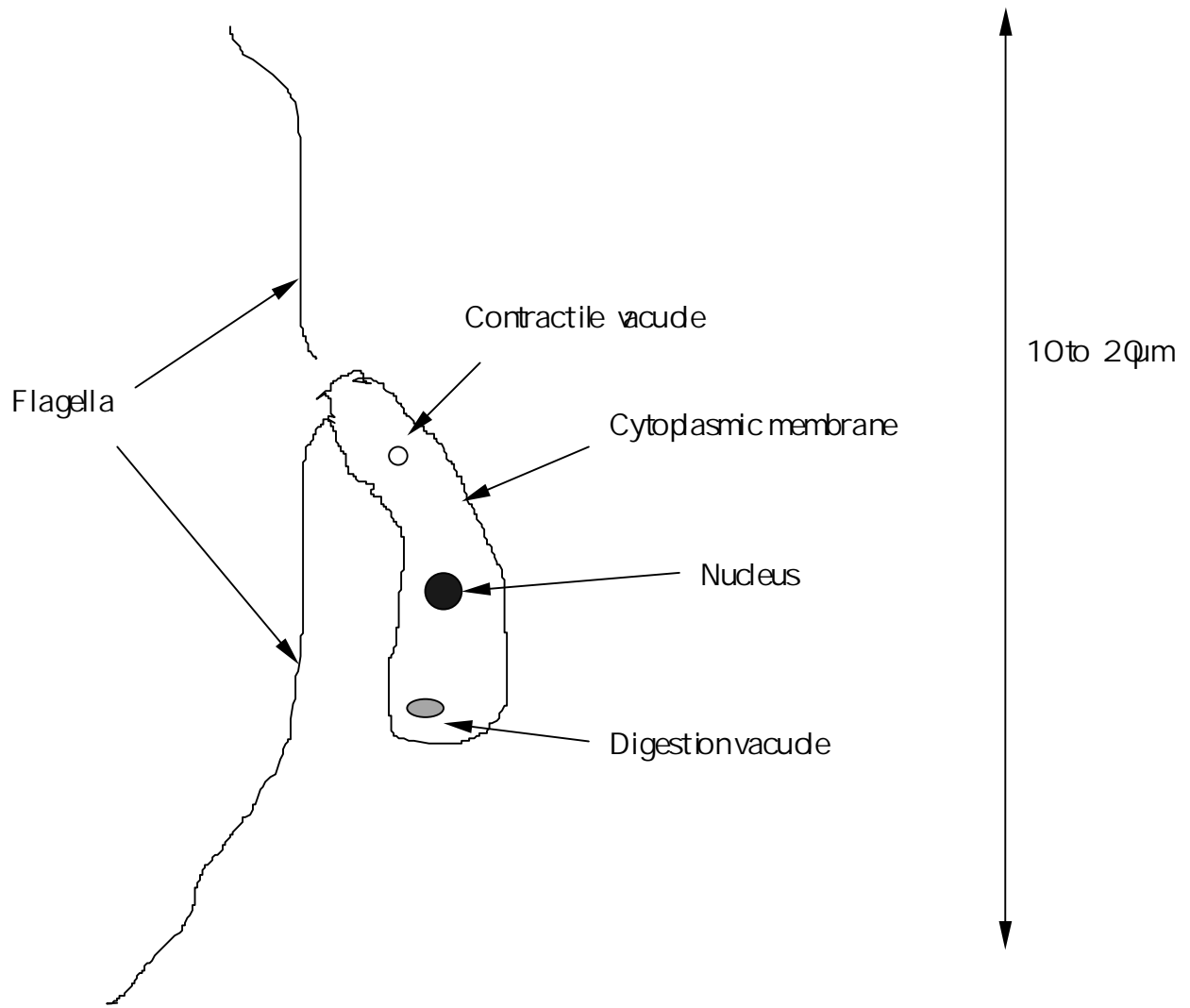


Figure 16: Sketch of a protozoan organism:

- \* branch of flagella, class of zooflagellates
- \* swimmer, consumes organic matters and bacteria; very young sludge, or adapted to IWW containing phend