

Ph. Chordata

Subph. Urochordata

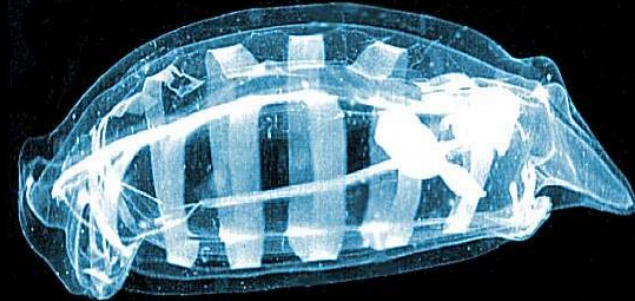
(Subph. Vertebrata)

Subph. Cephalochordata

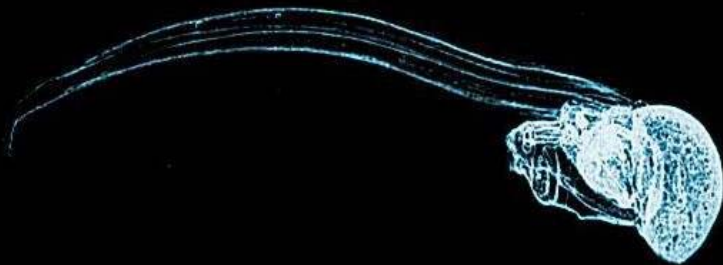
Ascidians



Thaliaceans



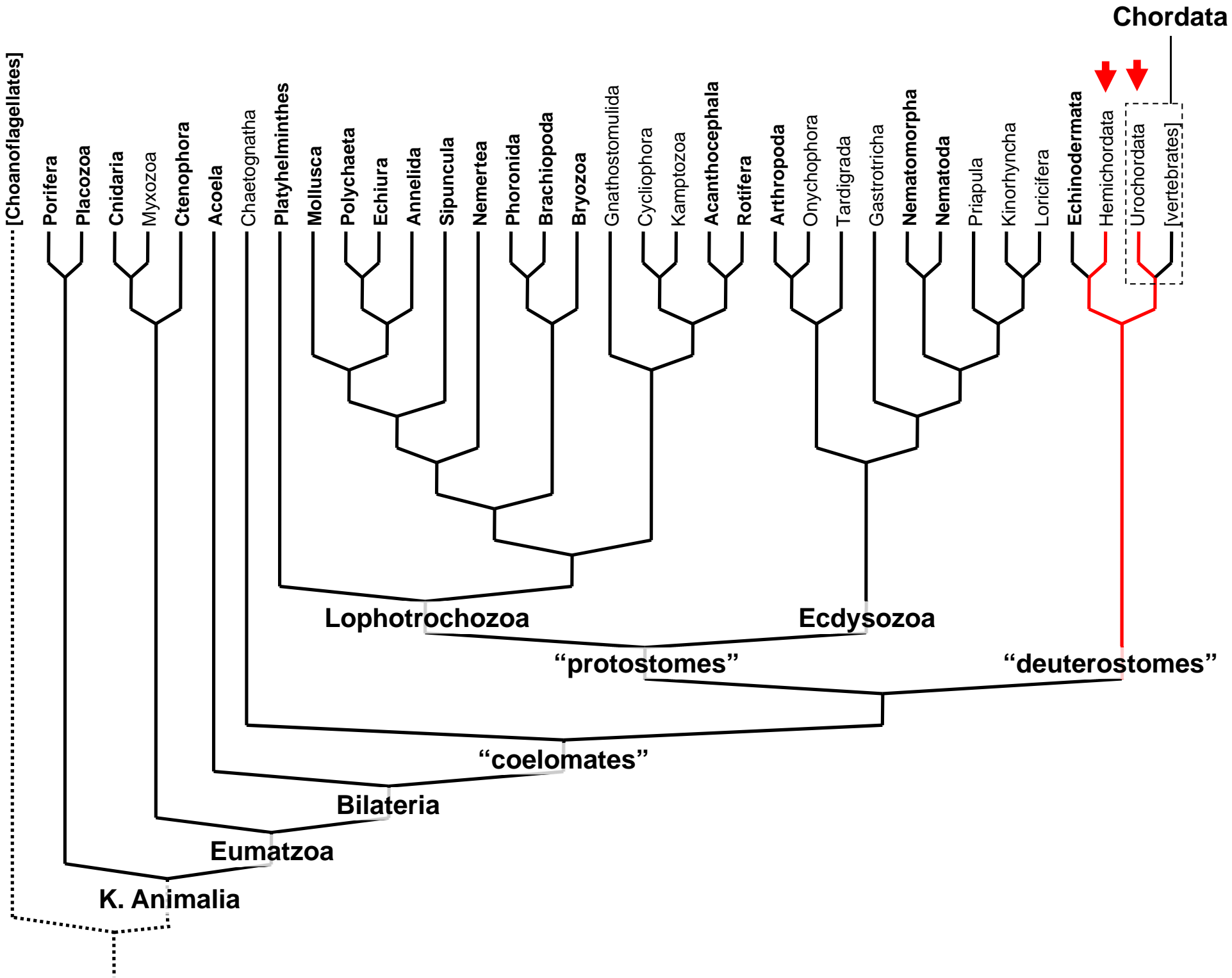
Larvaceans



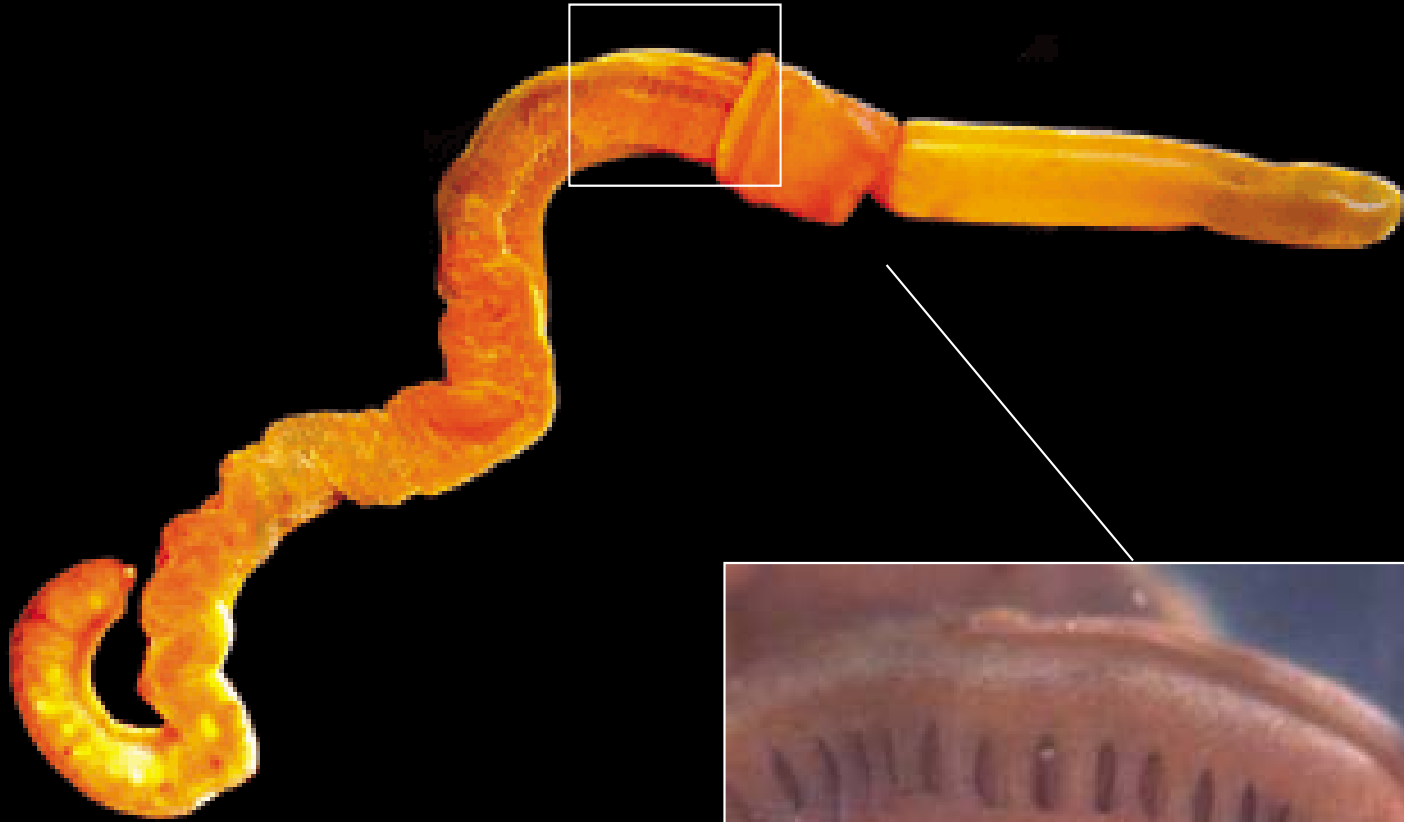
Ph. Hemichordata



Theme: vertebrate affinities,
dissimilarities

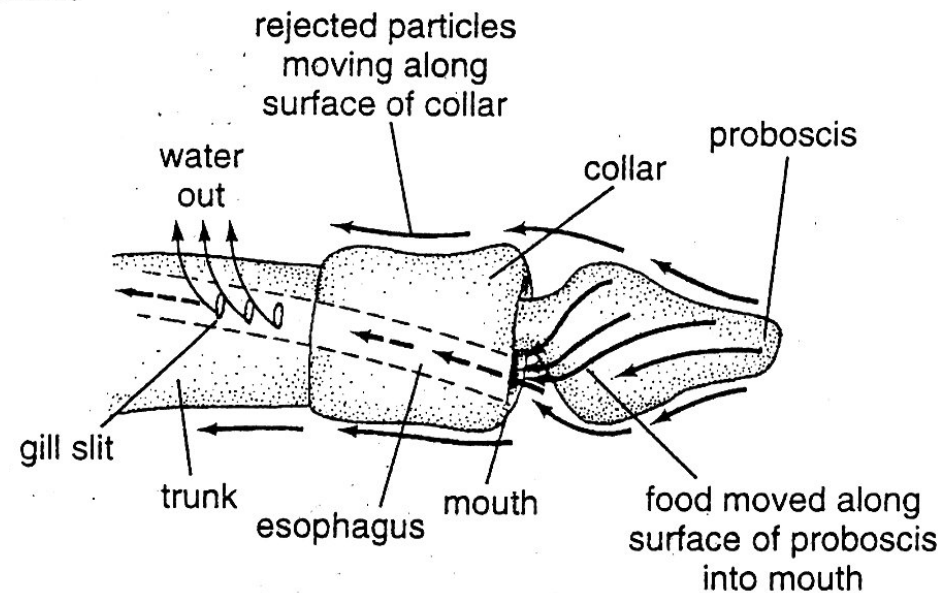
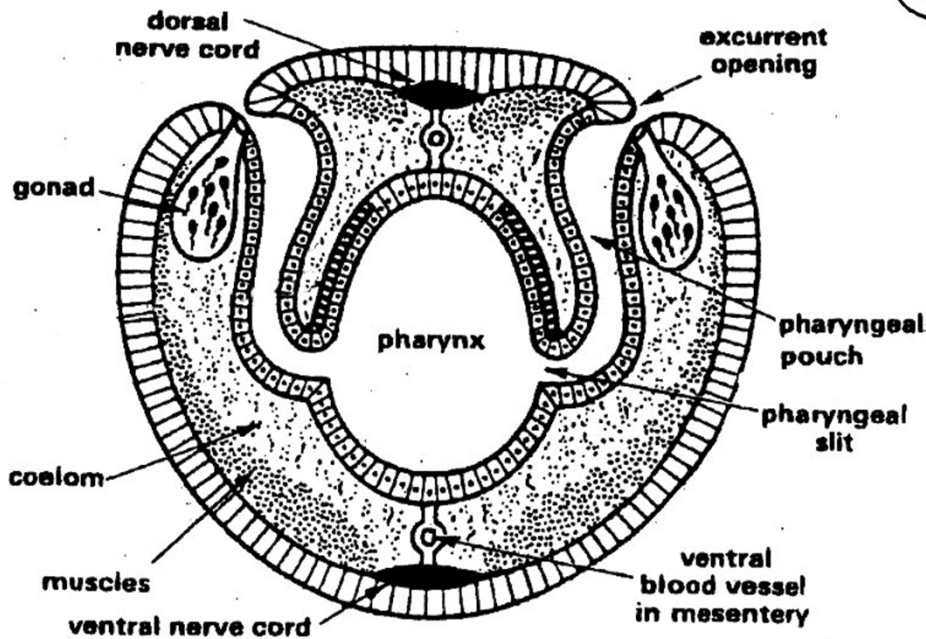
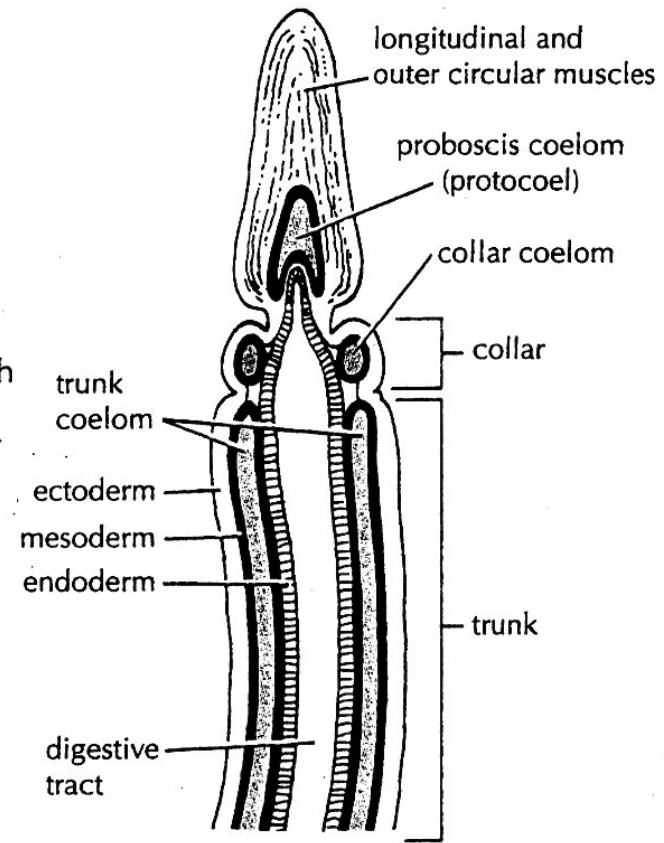
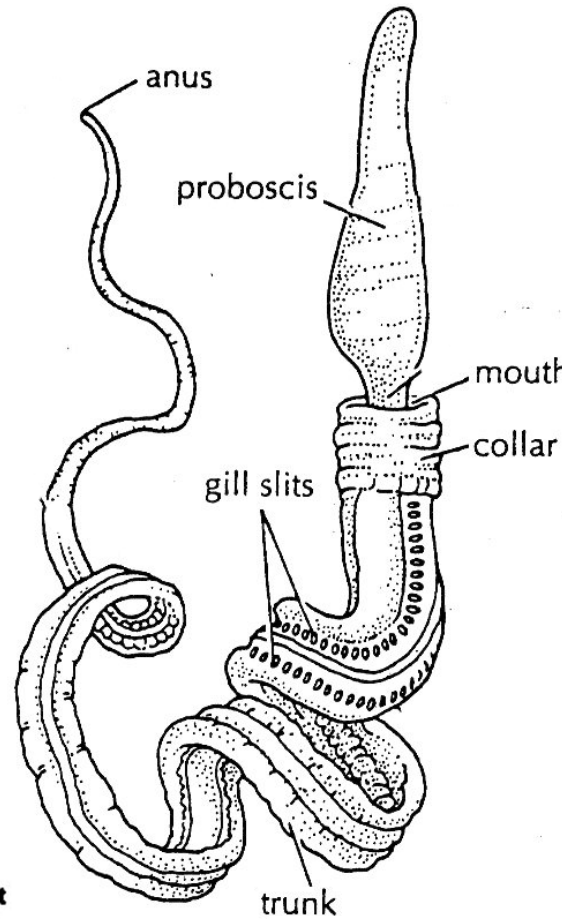
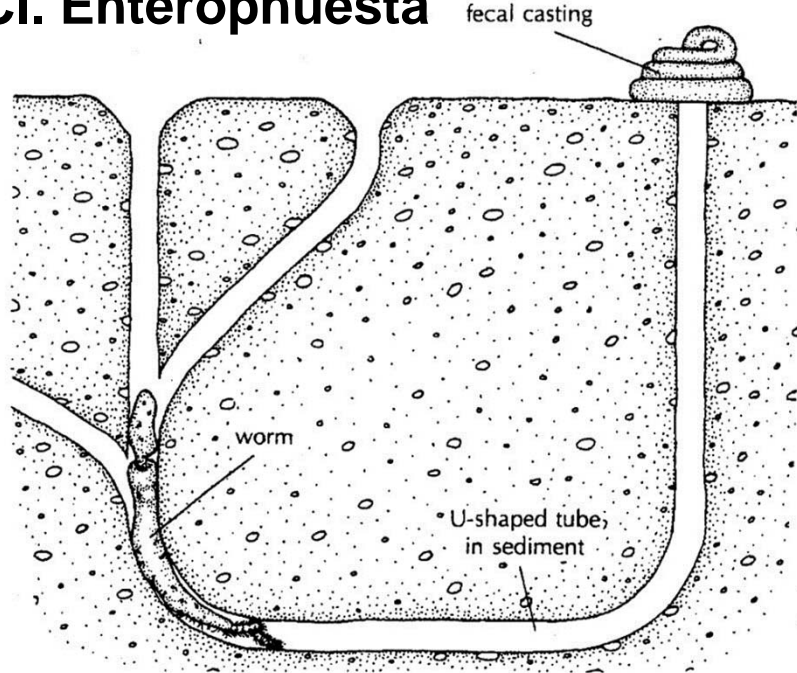


Ph. Hemichordata

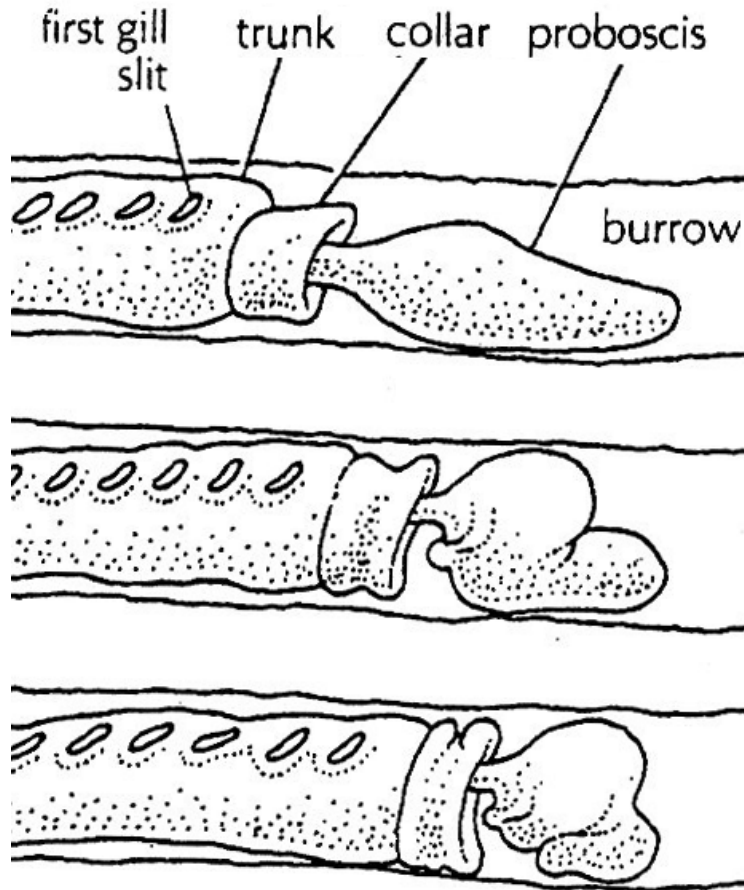


Ph. Hemichordata

Cl. Enteropneusta

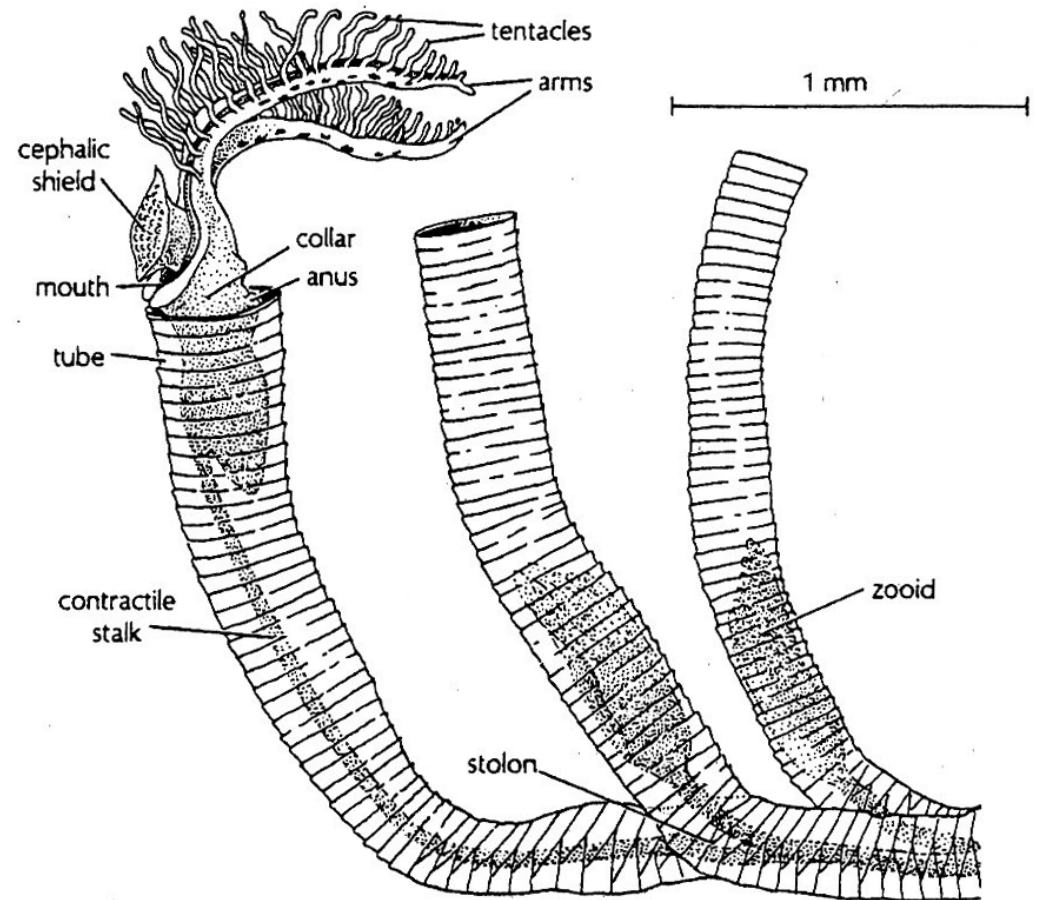


Ph. Hemichordata



Cl. Enteropneusta

- large, solitary, burrowers
- deposit feeders



Cl. Pterobranchia

- small, colonial, tentacled
- suspension feeders

Ph. Chordata

Subph. Urochordata

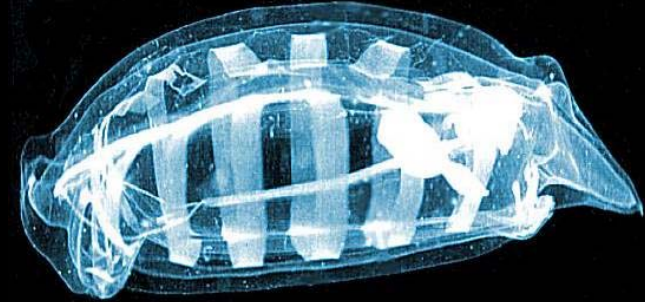
(Subph. Vertebrata)

Subph. Cephalochordata

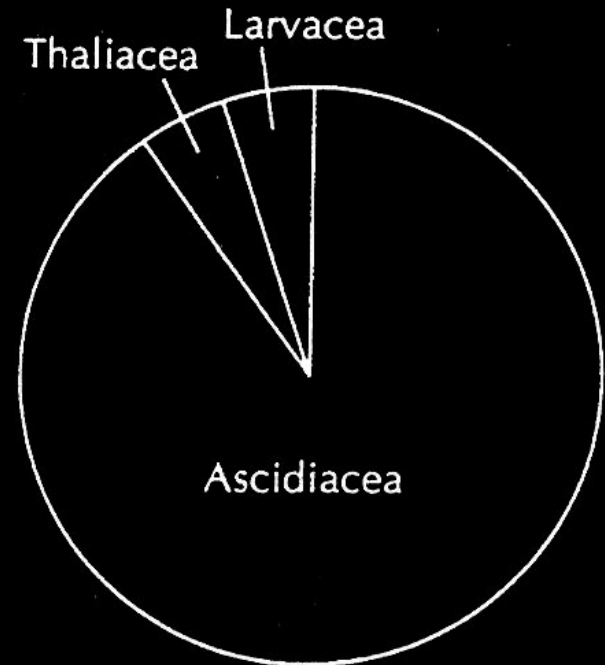
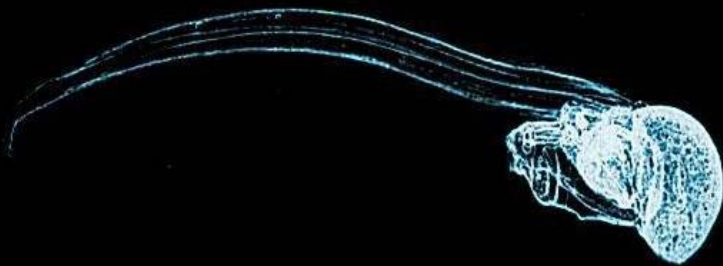
Ascidians



Thaliaceans



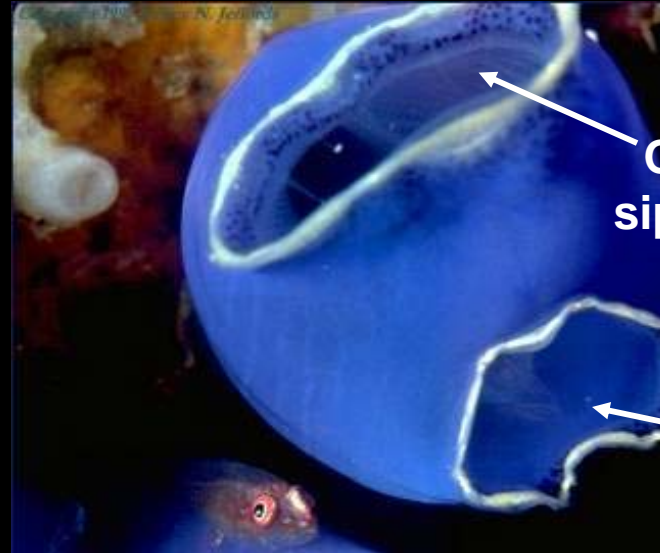
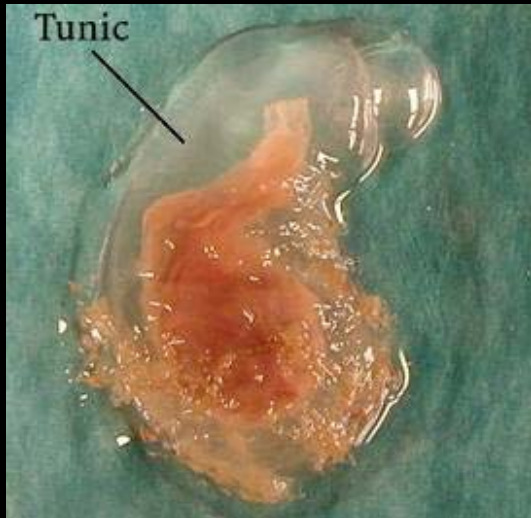
Larvaceans



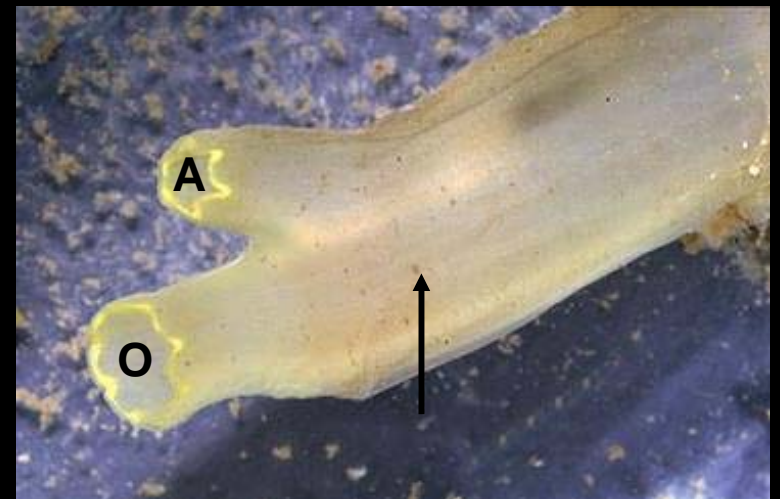
Subph. Urochordata

Cl. Ascidiacea

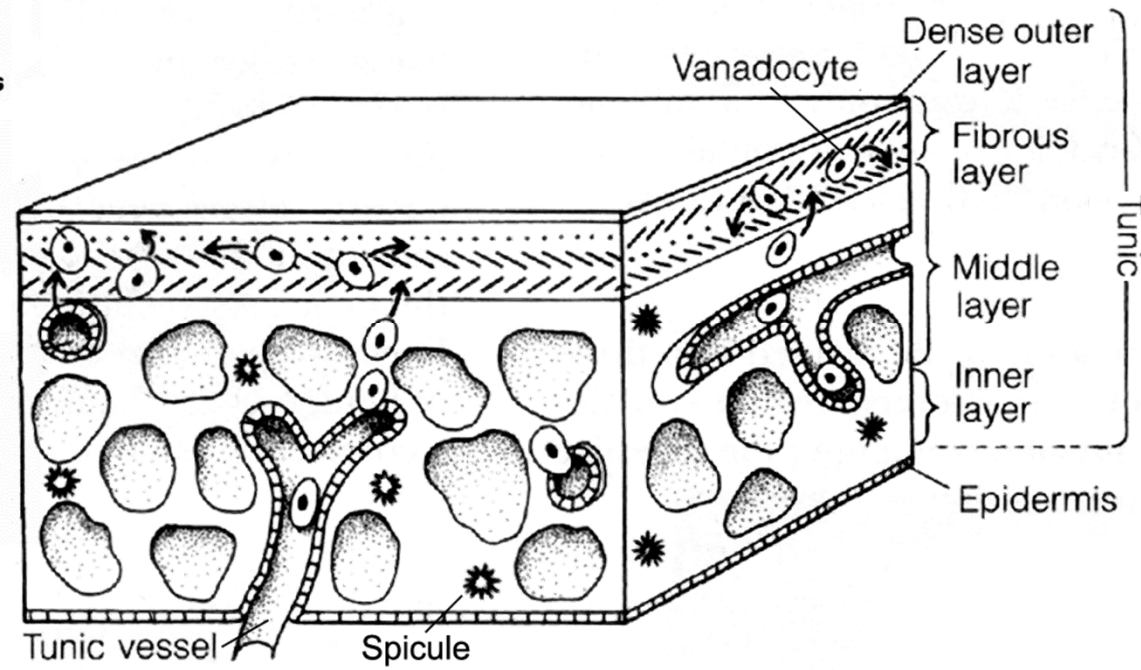
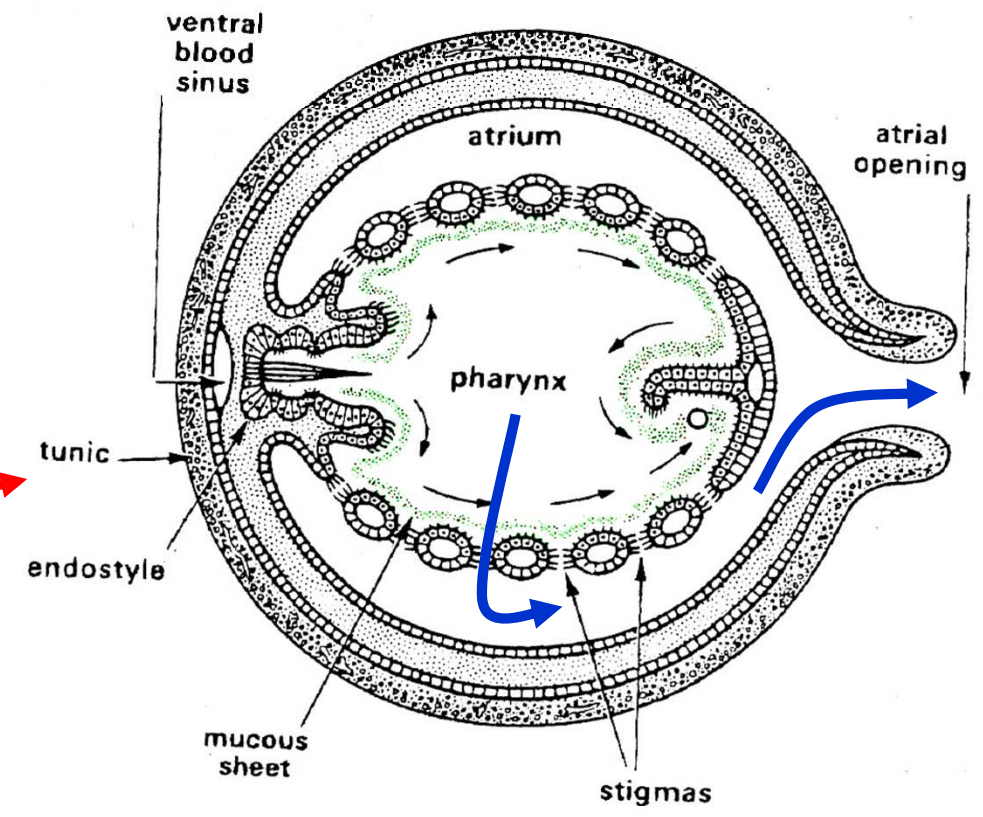
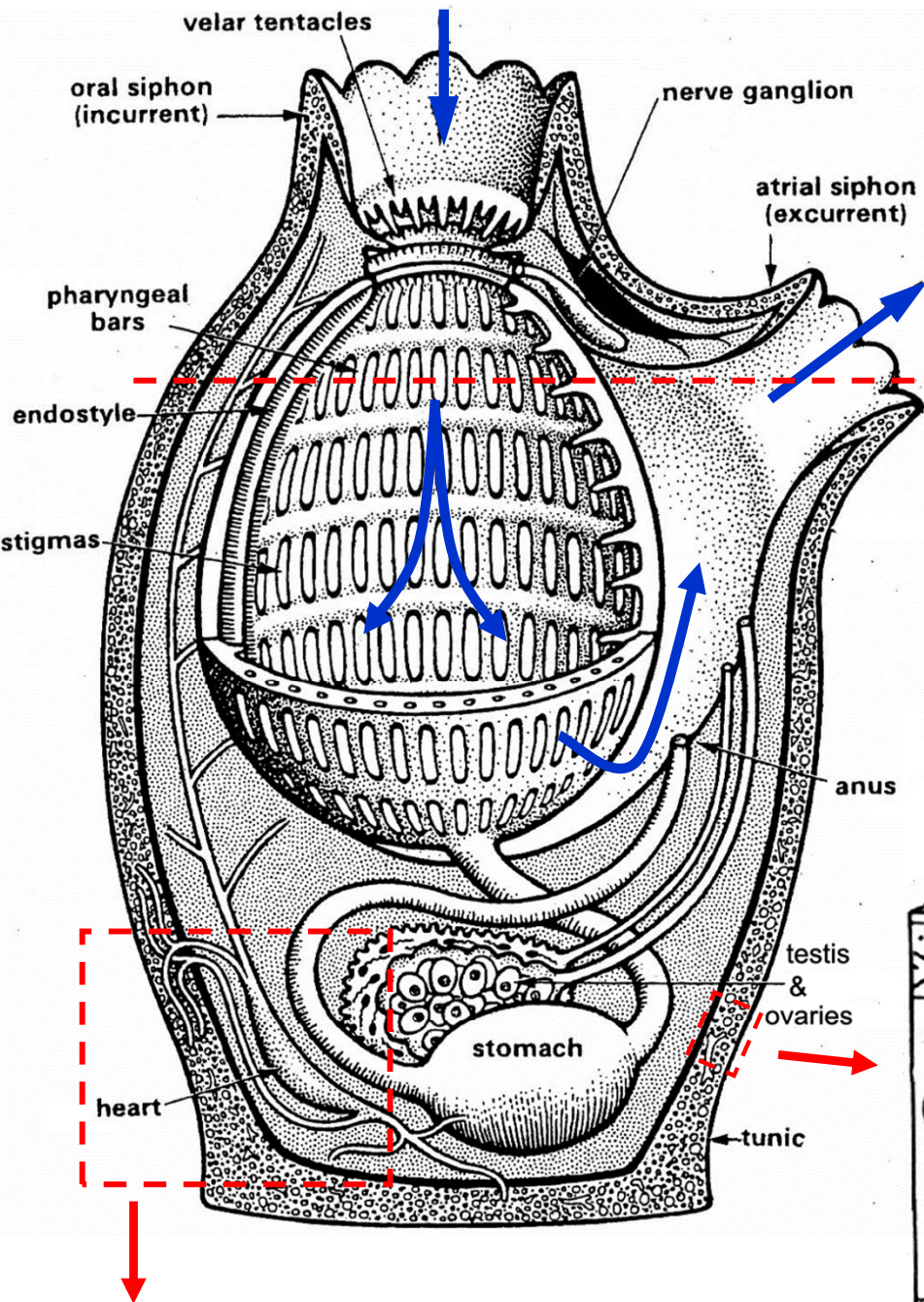
solitary forms



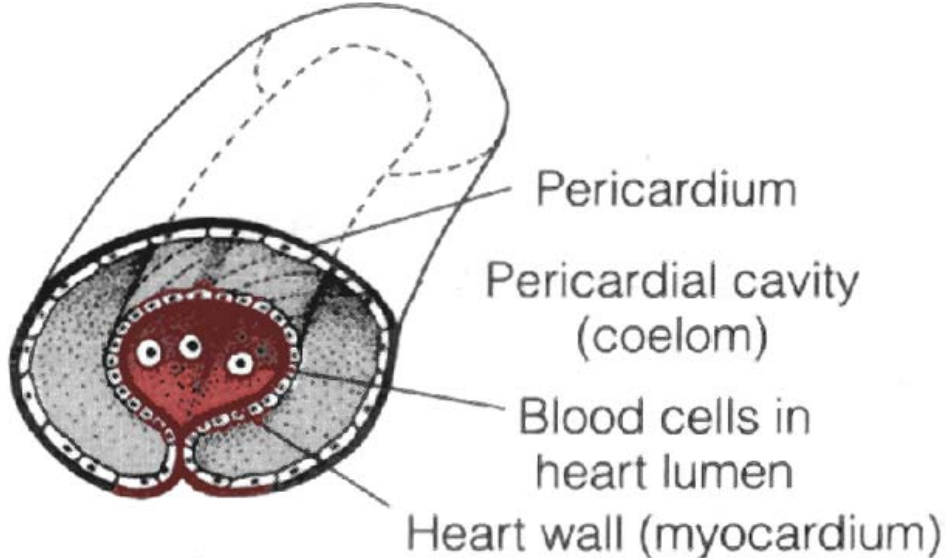
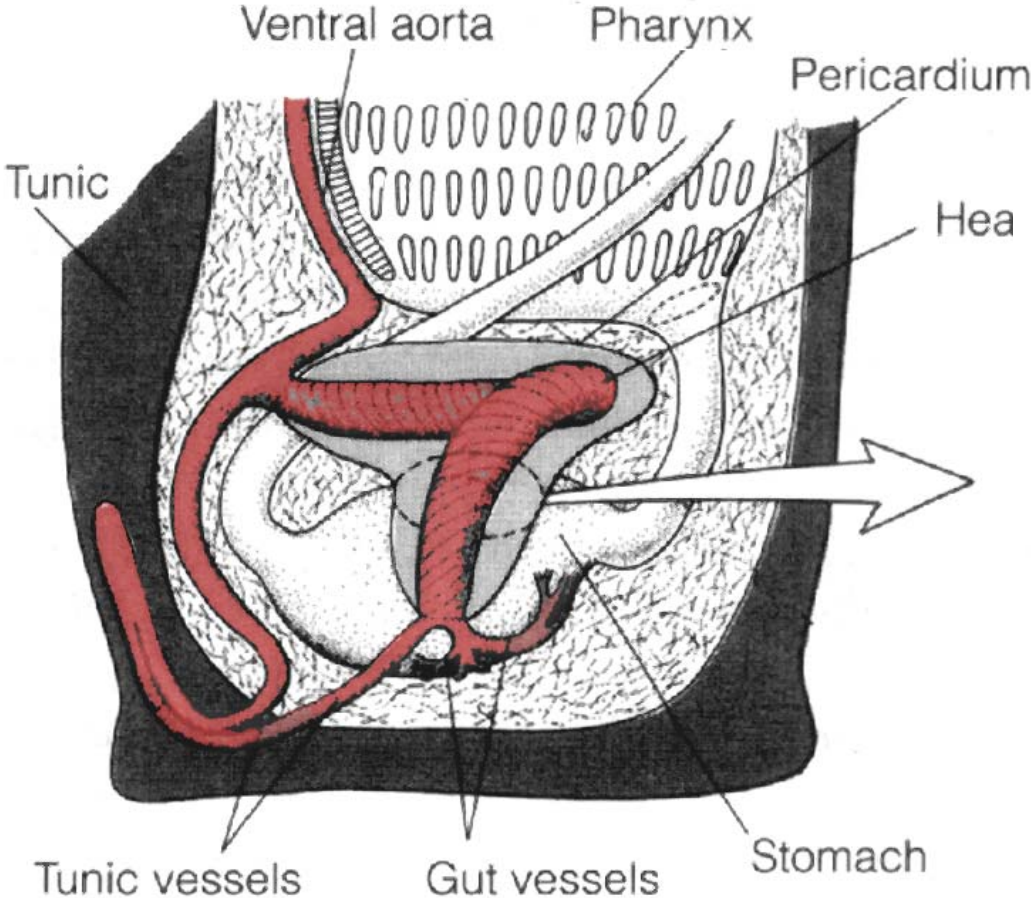
sorberacean
deep-sea predator!



Ascidian body plan

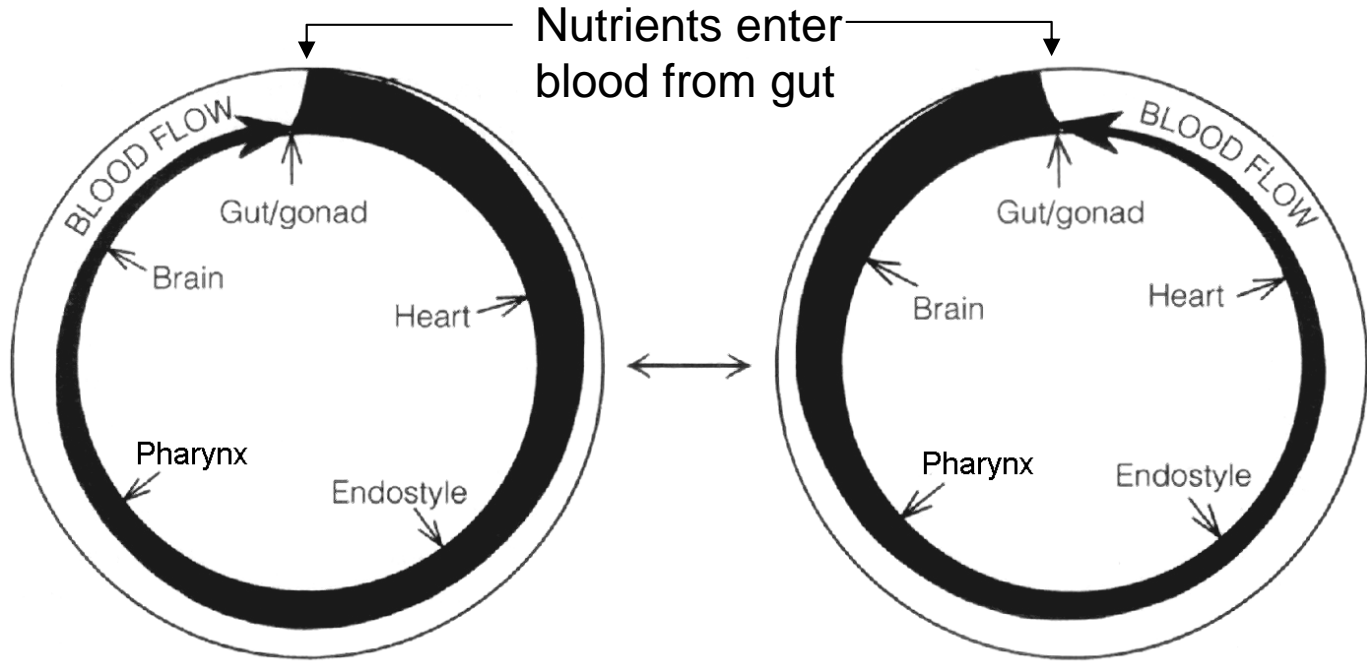


Ascidian hemal system

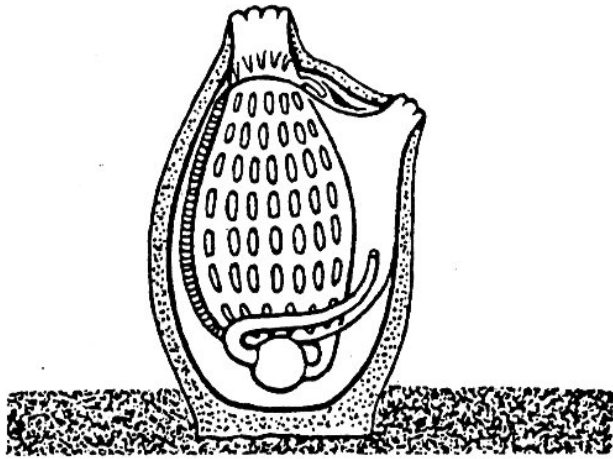


Unique features

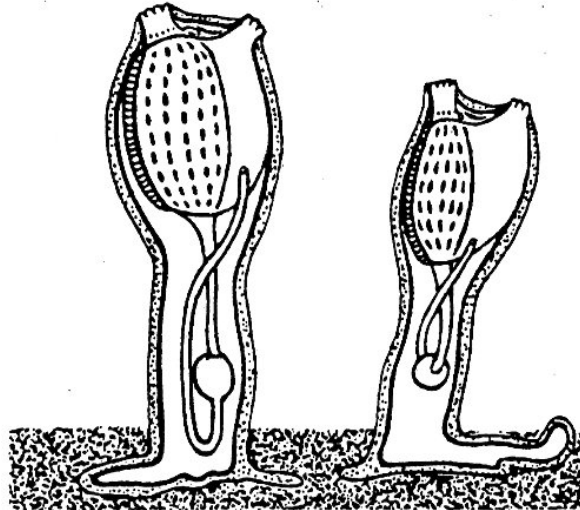
- construction of tube
- wringing action
- double pacemaker
- reversal
- organs lie in series



Ascidian variation in body form



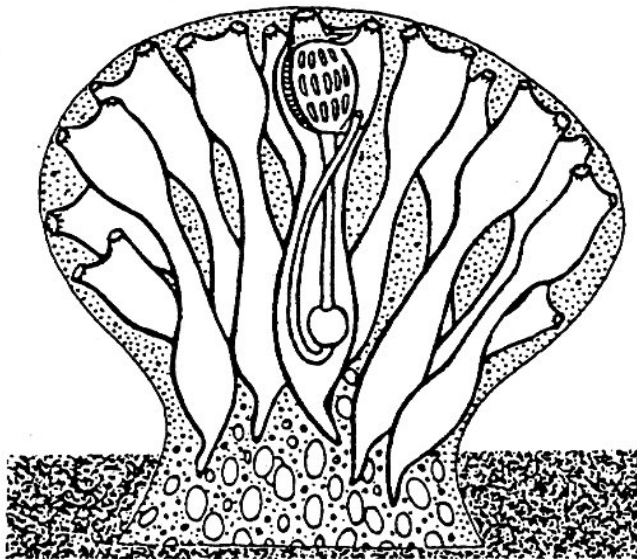
Solitary



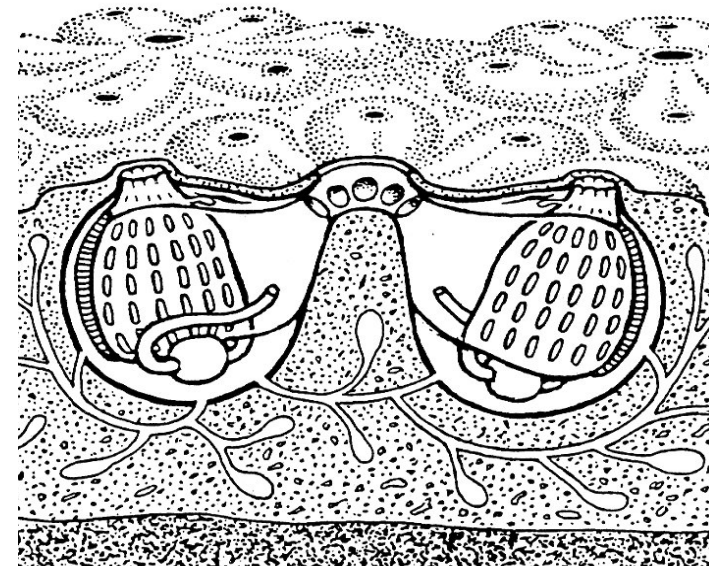
Clonal



Colonial



Compound, common tunic

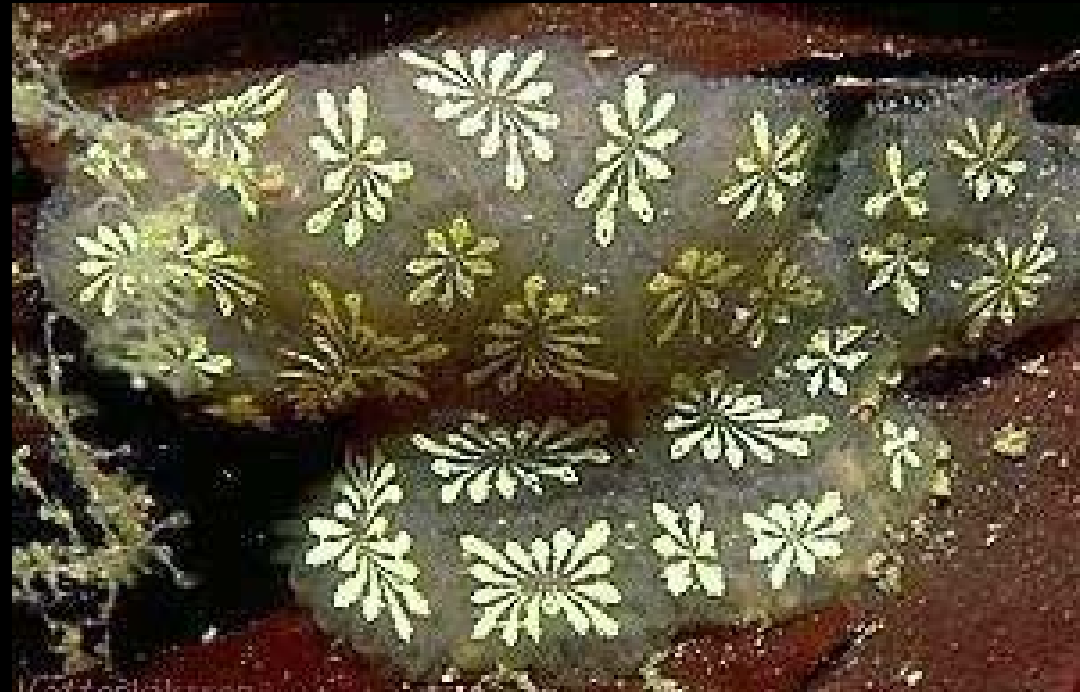


Compound, common atrium

Cl. Ascidiacea

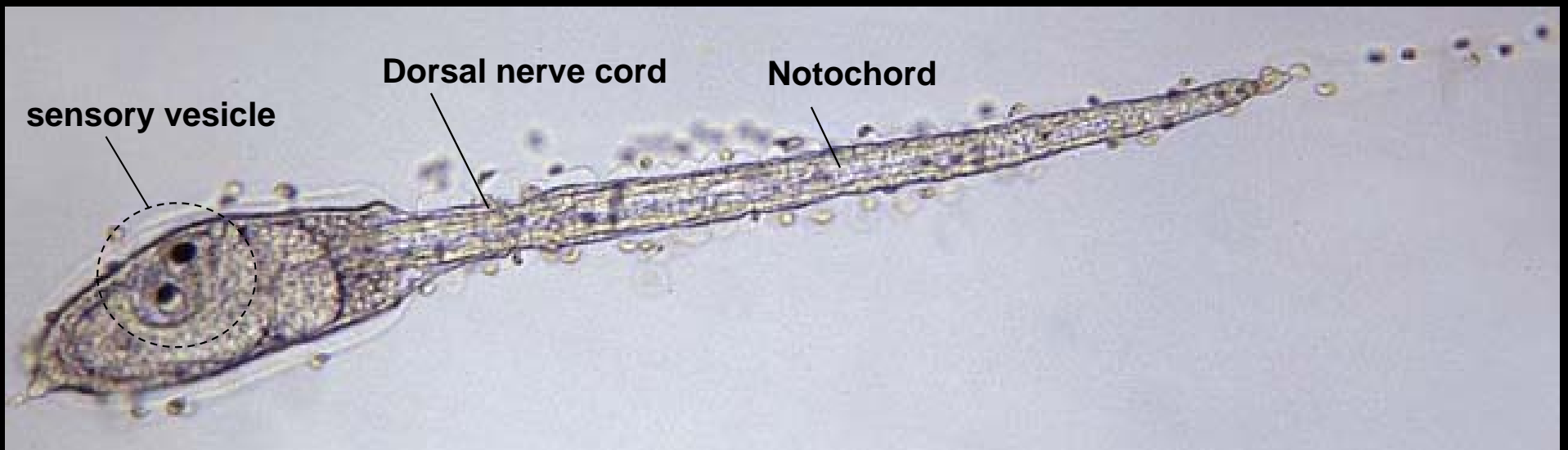
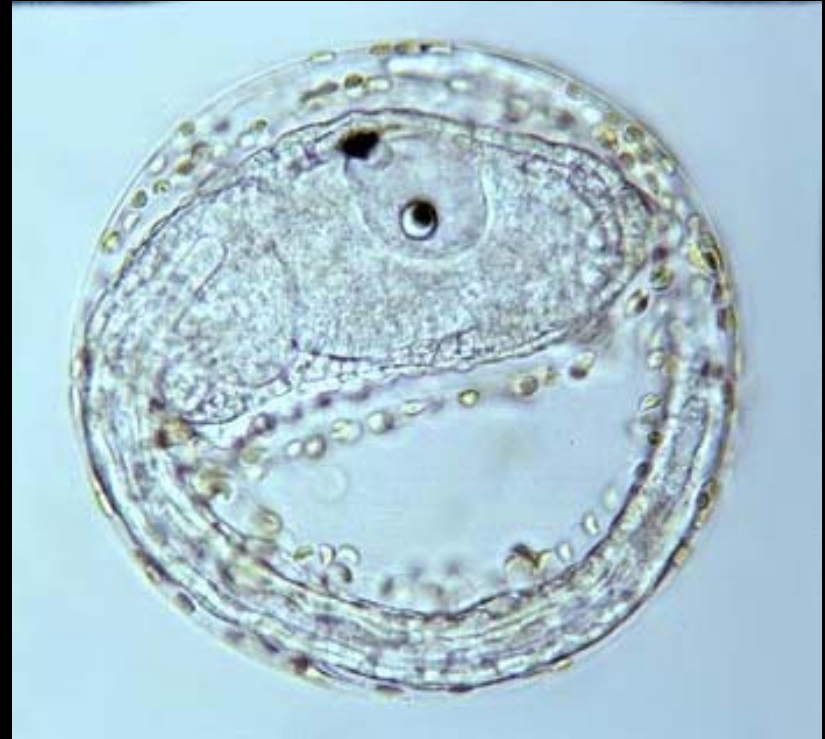
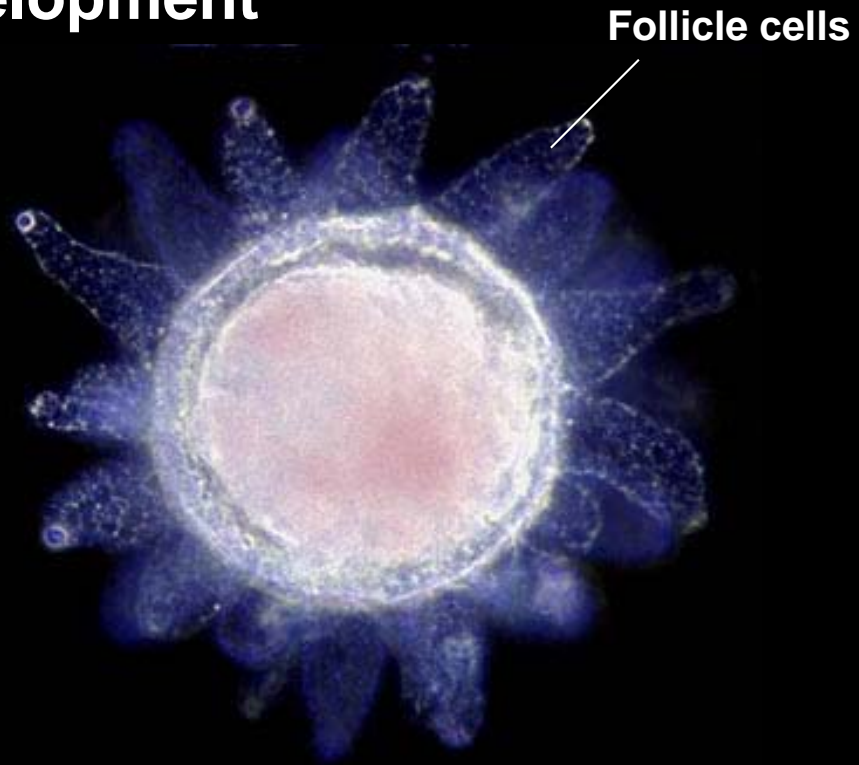


clonal or colonial

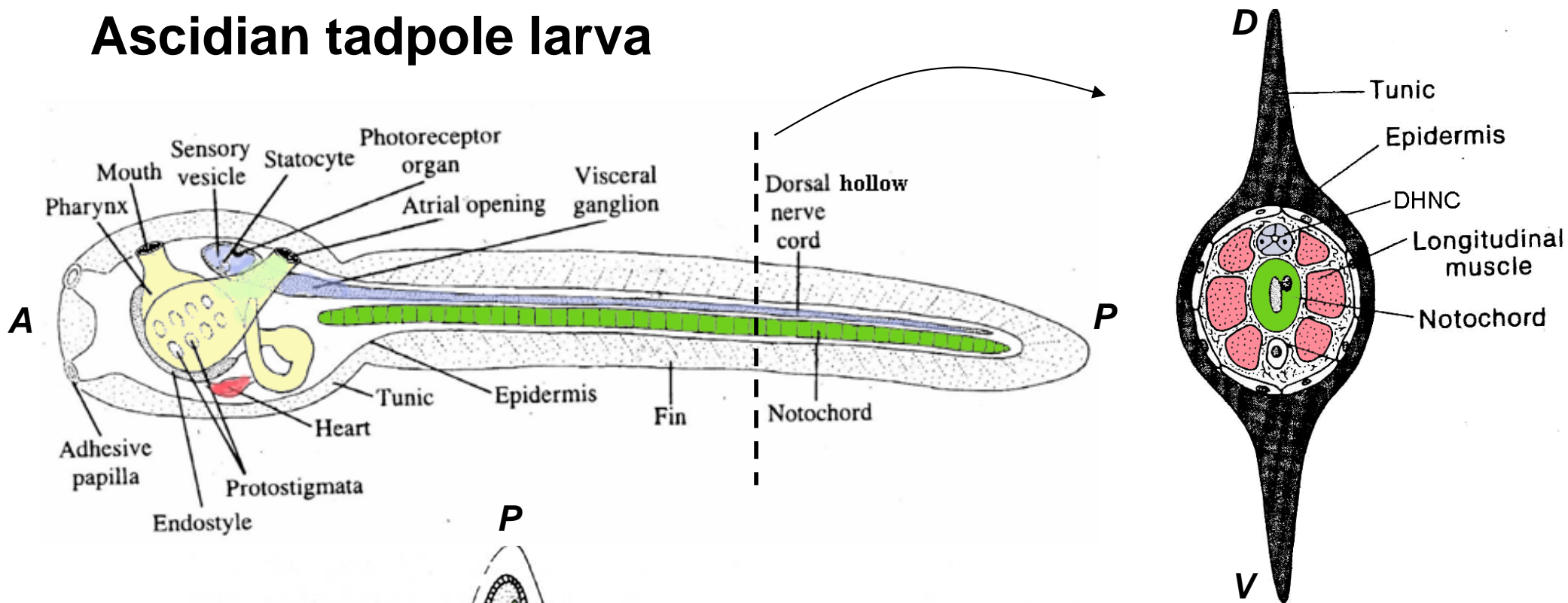


compound

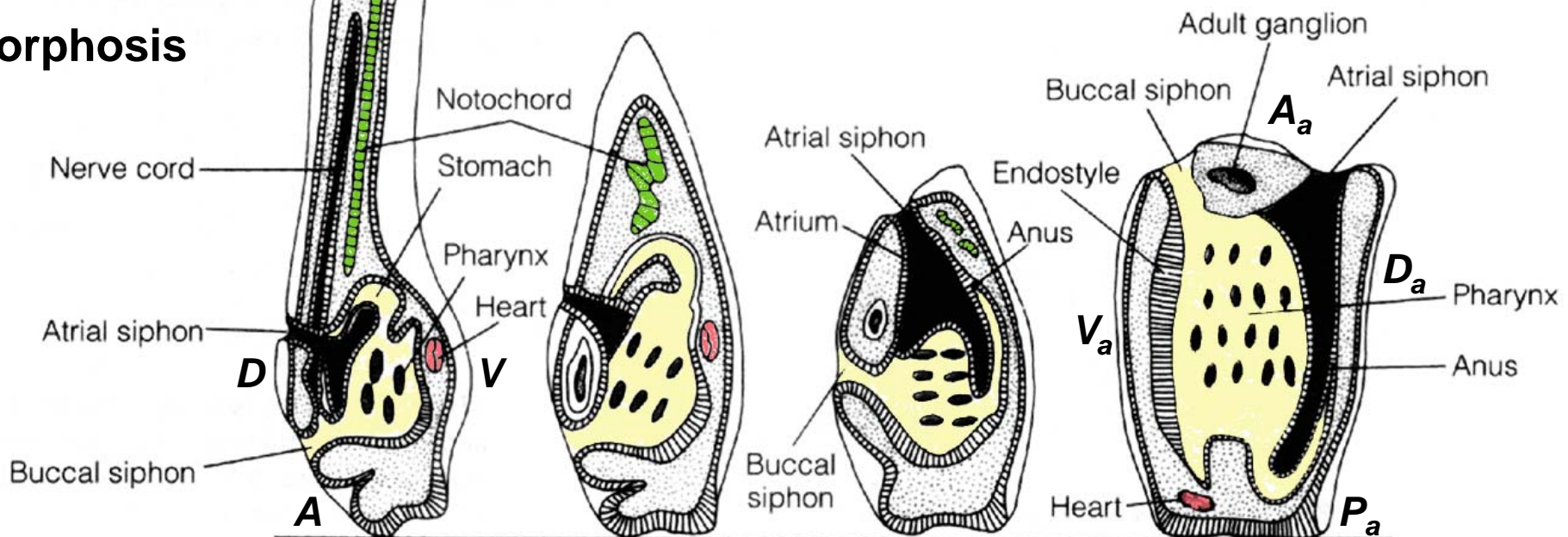
Ascidian larval development



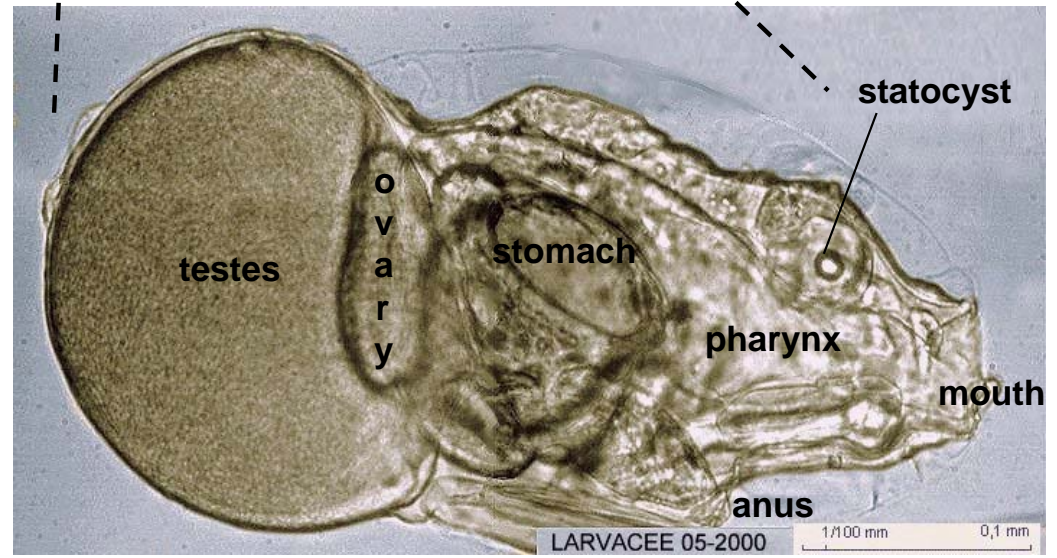
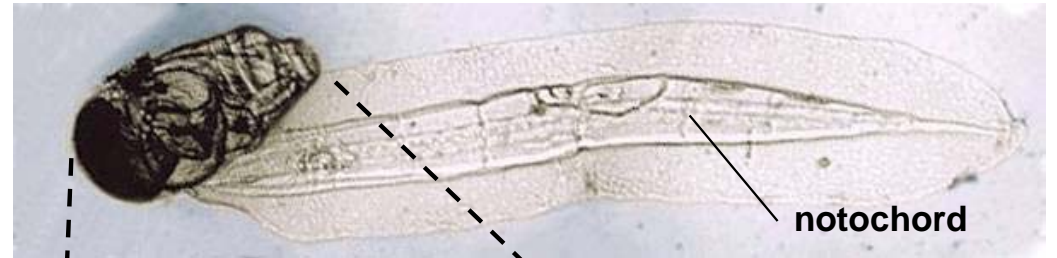
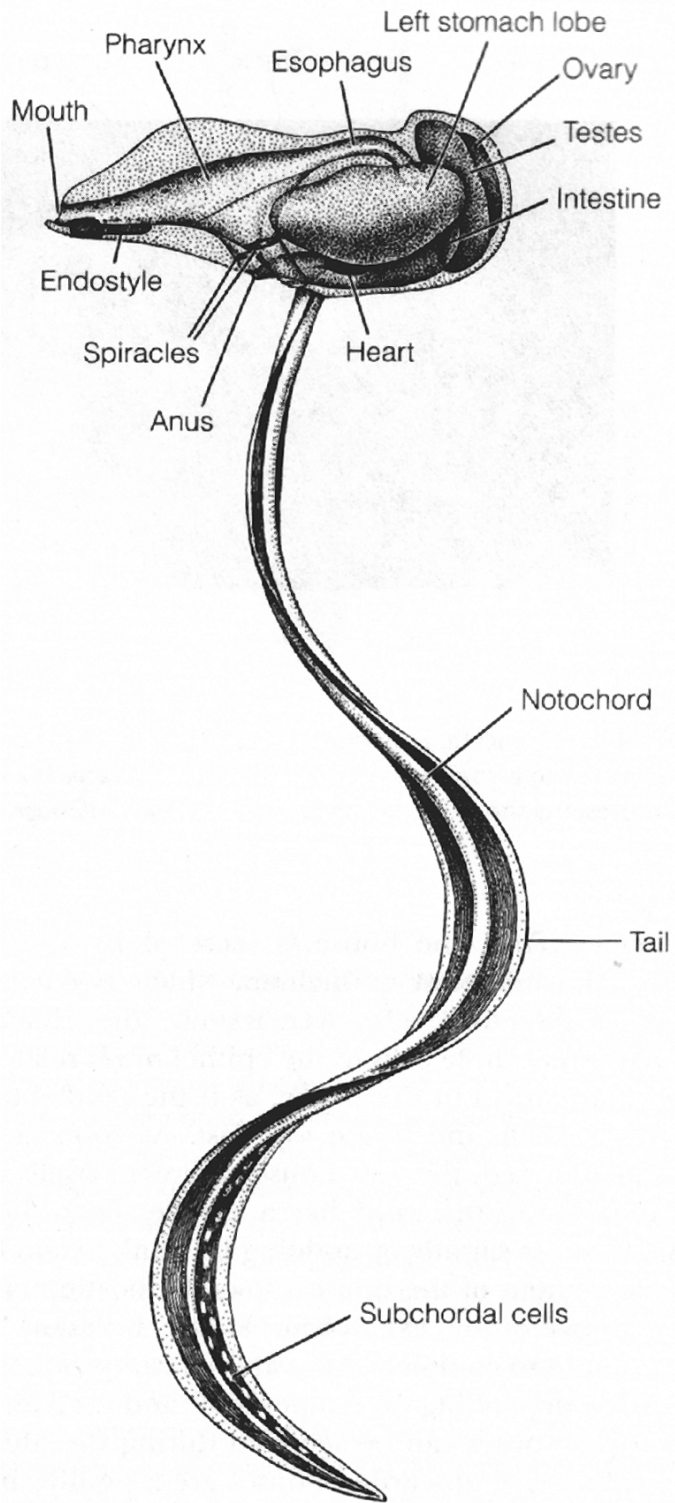
Ascidian tadpole larva



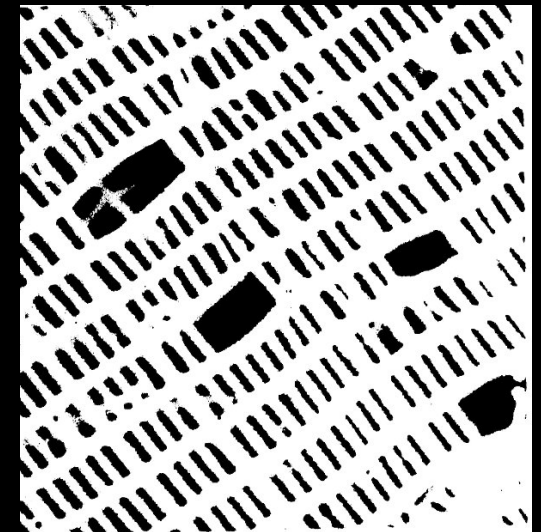
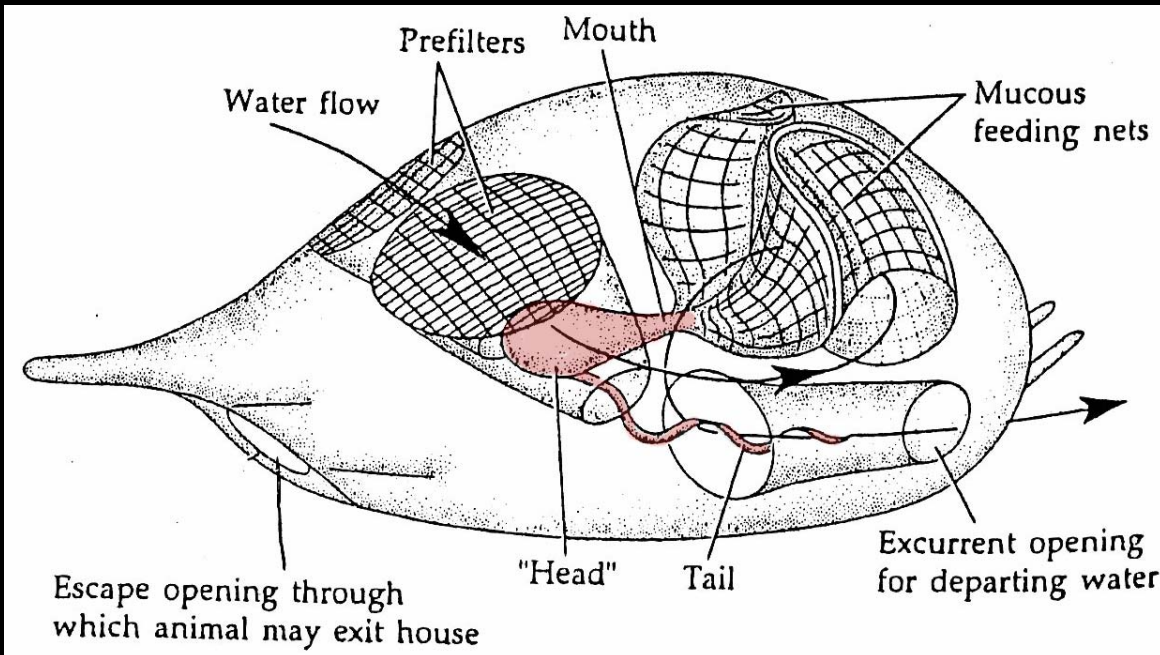
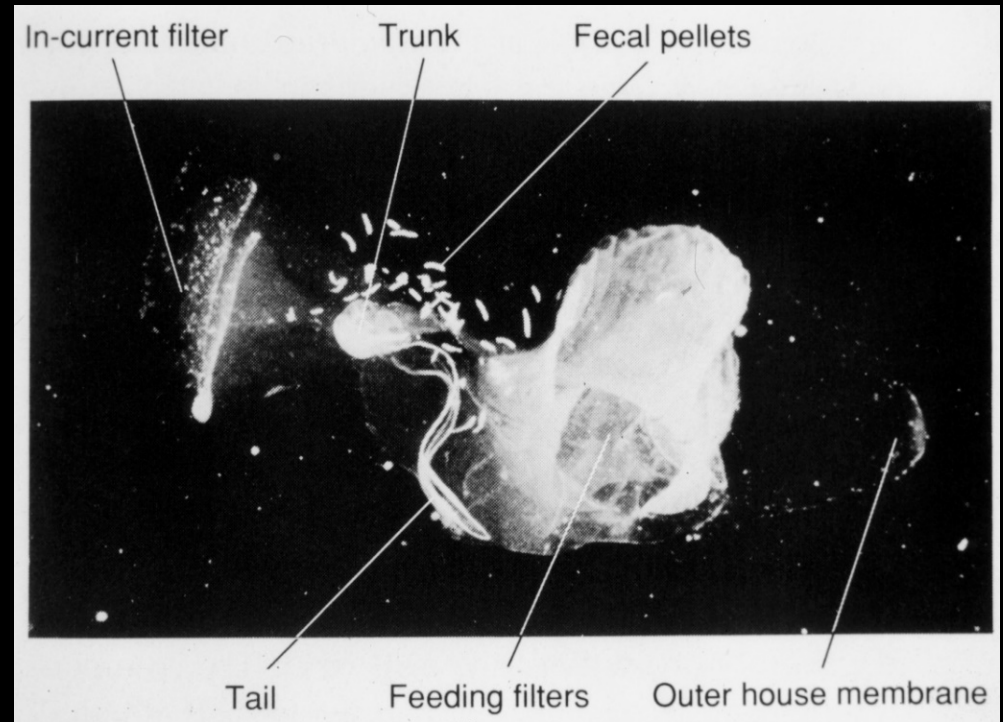
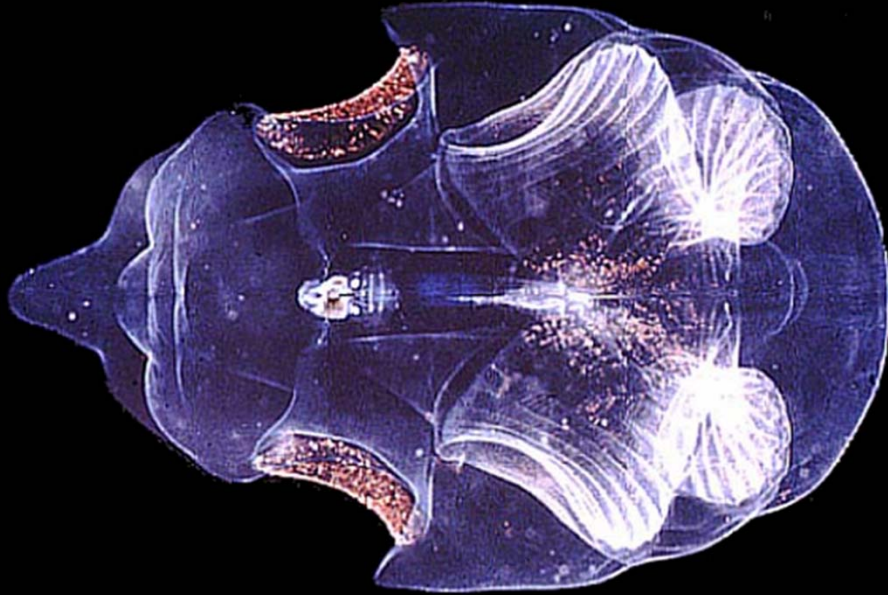
metamorphosis



Subph. Urochordata Cl. Larvacea (= Appendicularia)

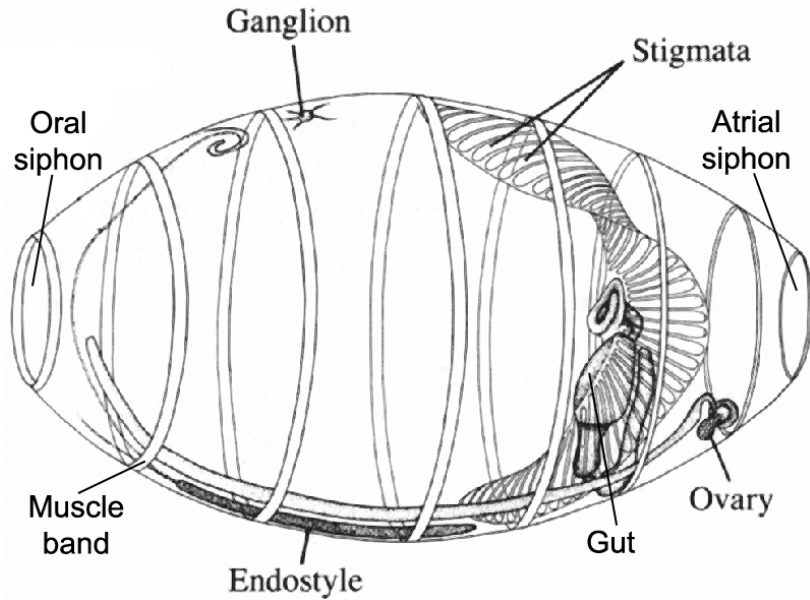


The larvacean house



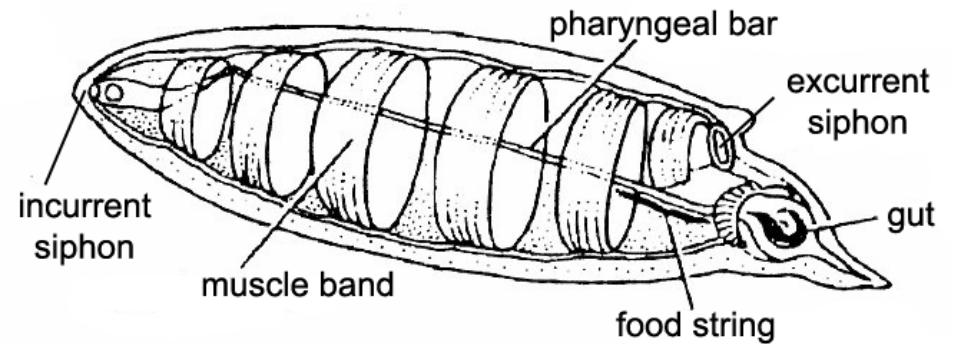
Portion of a feeding filter of an appendicularian, from a discarded house collected in "marine snow" at 1,650 m depth

doliolids (23 spp.)

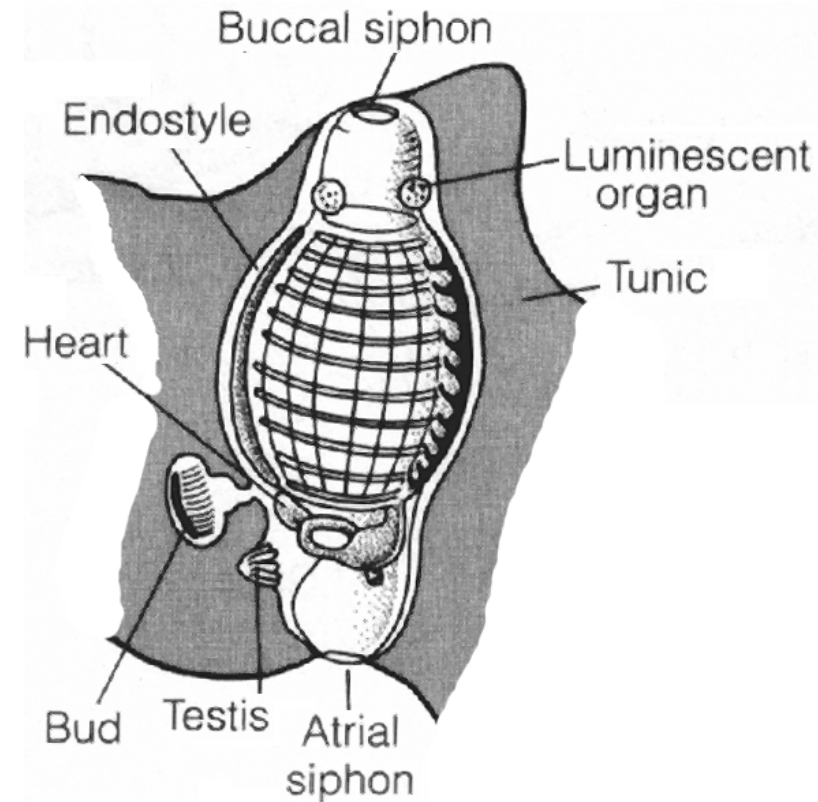
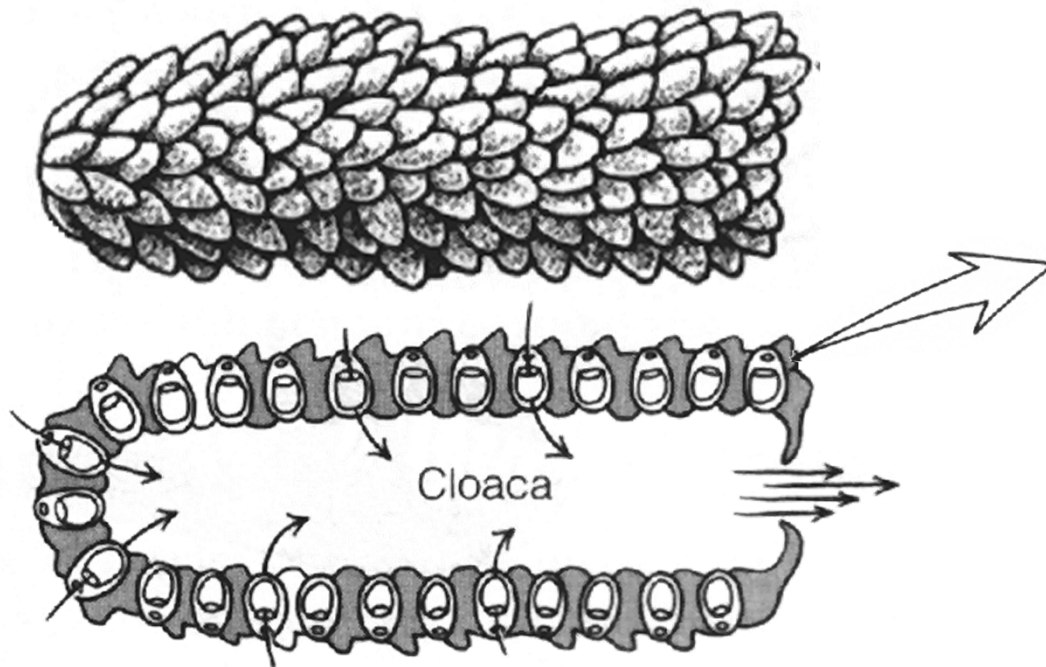


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salps (40 spp.)



pyrosomes (10 spp.)

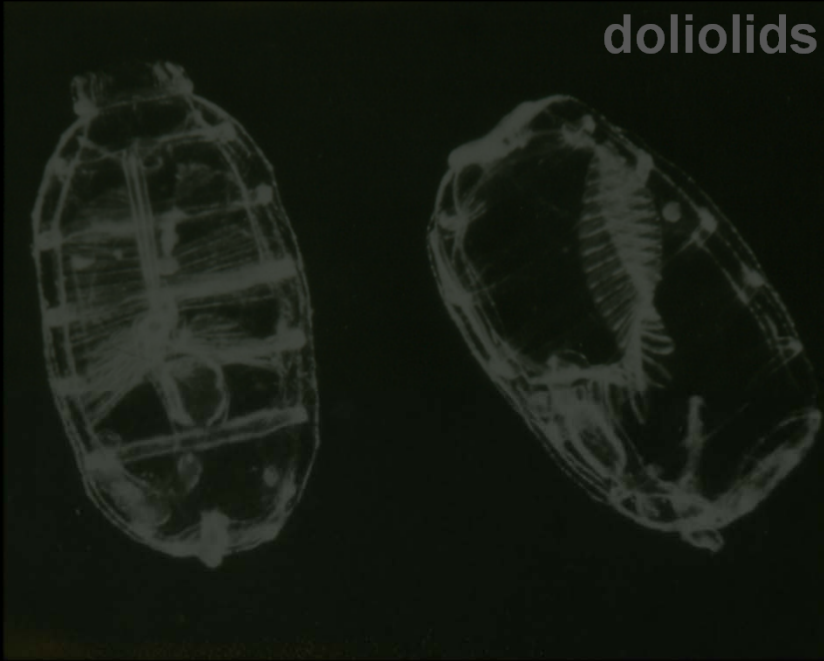




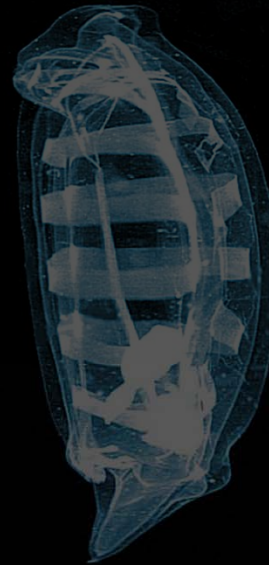
Cl. Thaliacea

(Subph. Urochordata)

doliolids



salps



pyrosomes

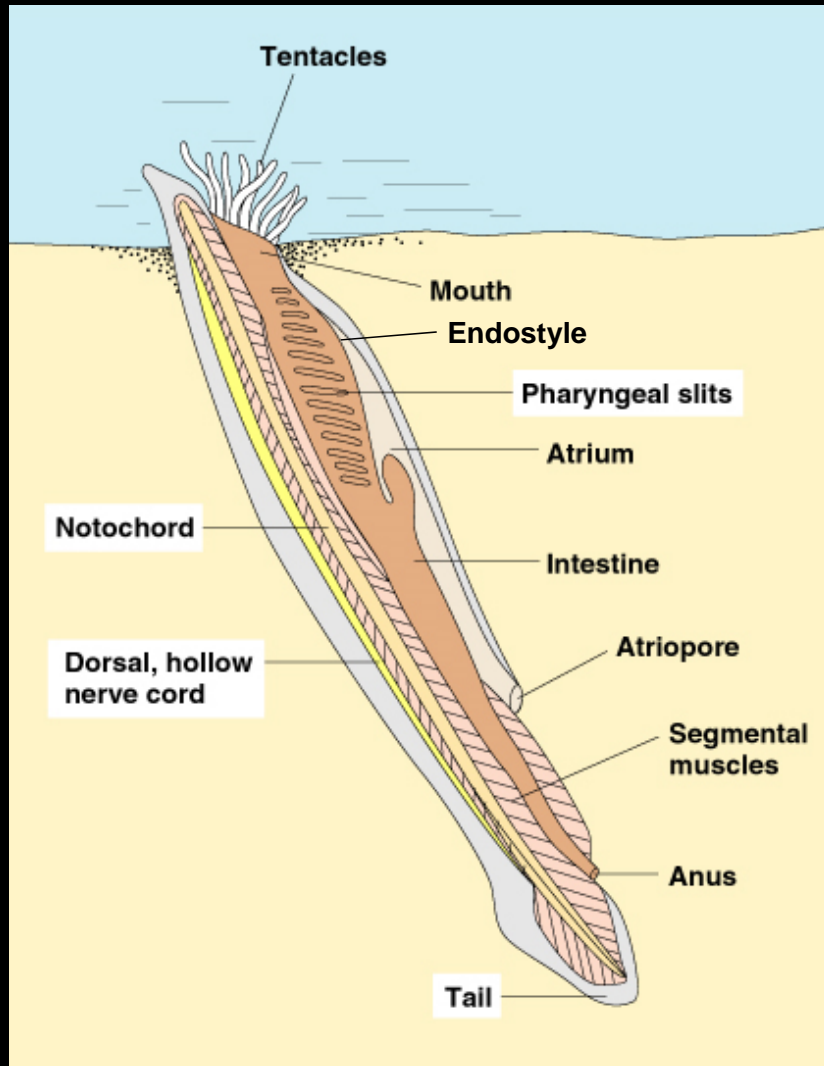
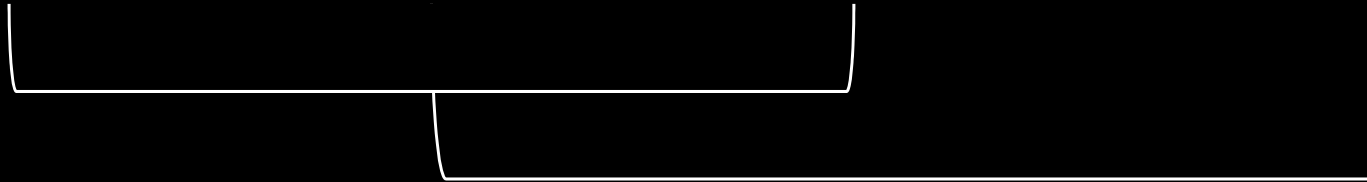


Ph. Chordata

Subph. Urochordata

(Subph. Vertebrata)

Subph. Cephalochordata



Chordate characteristics

- Notochord
- DHNC
- Pharyngeal slits
- Endostyle
- Post-anal tail