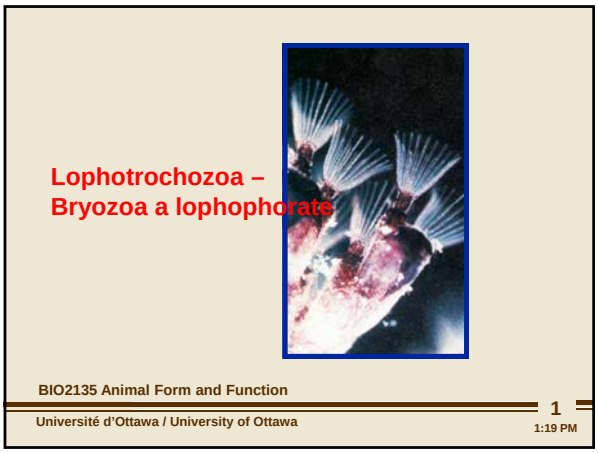
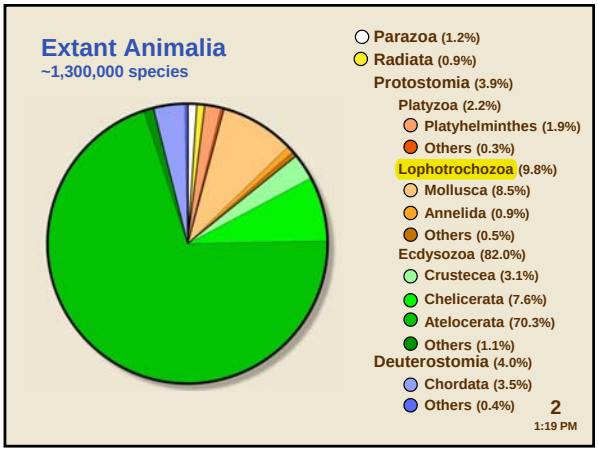
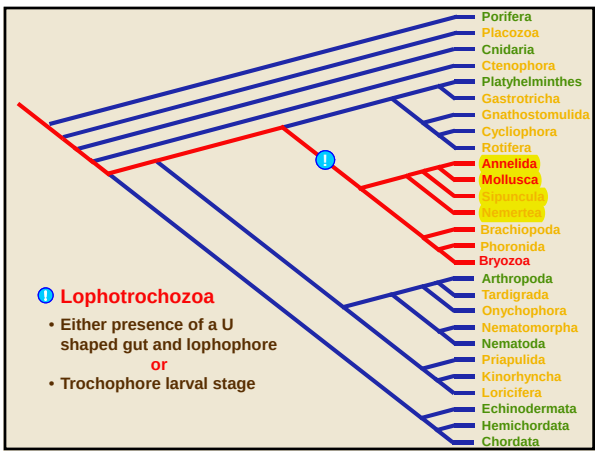
# Bryozoa




-has distinct morphology to animal
-2 important lineages in the protostome tree of life




-mostly tied up with molluscs and annelids




-brachlopoda-had tripartate coelom and radial clevage, used to be part of deuterstome
-their blastopore does become the mouth
-shared so many molecular autapomorphies with the mollusc and annelide
-monophyletic group- had one ancestor
-top branch- had a trochophore larve
-lower branch -lophophore (unique structure to eat, respiration) and sessile and lived in calcarius cases that they built - also called zooids
-possibly build another part of the tree the lophophorata - another body plan?

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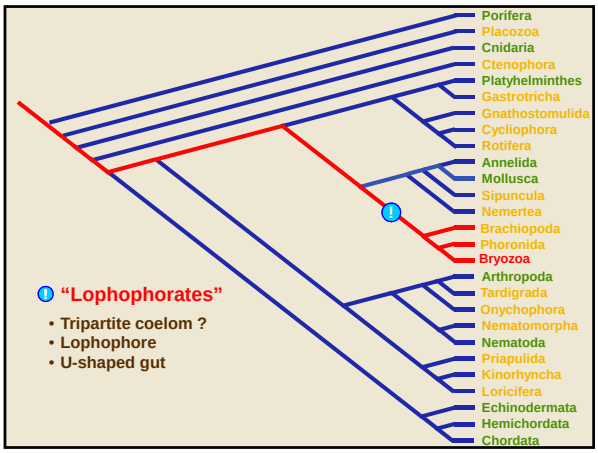
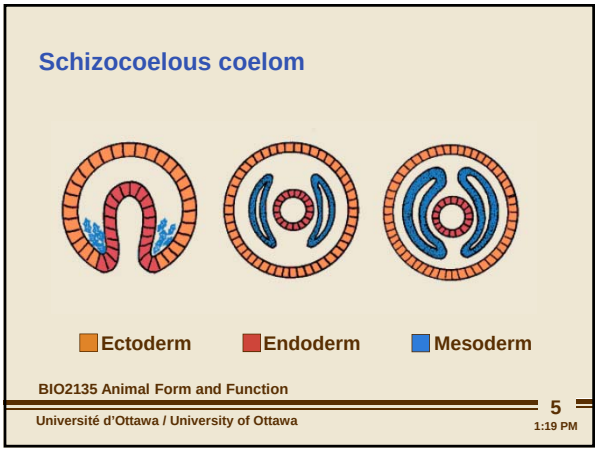
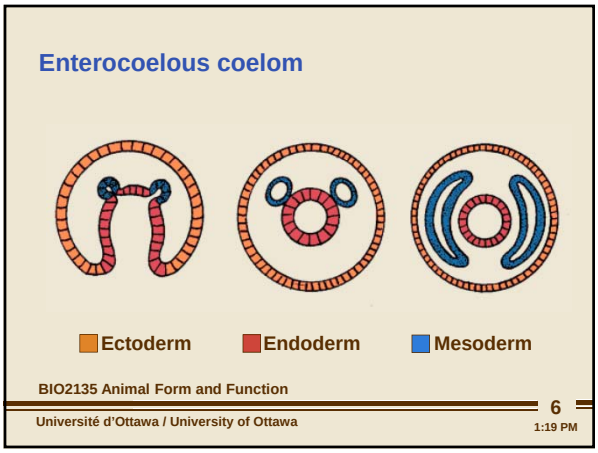


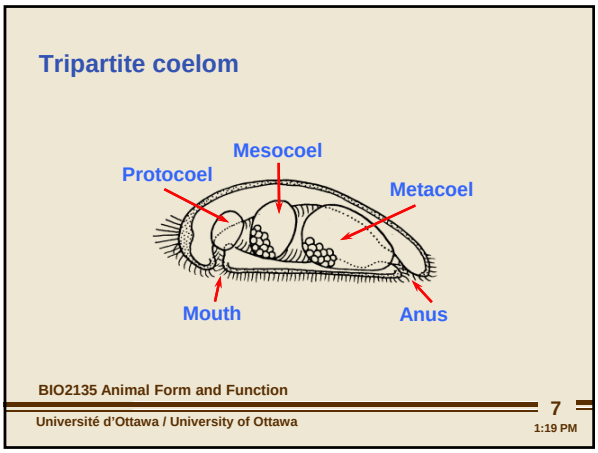

-another body plan with a tripartate coelom - see that as a deuterostome
-has lophophore and u-shaped gut
-tripartate coelom is part of dichotomy



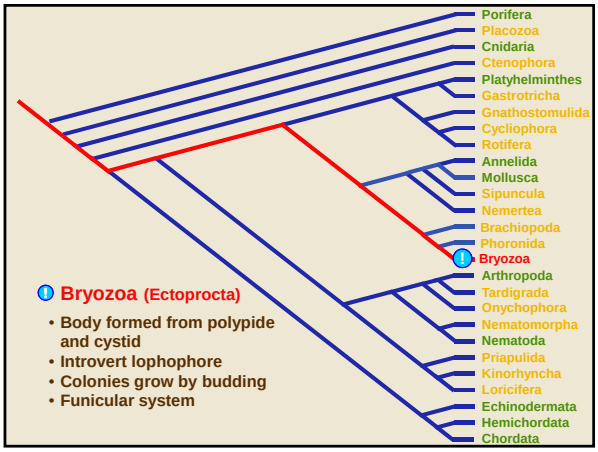

-coelom where there is a mesodermal block that fills the space between the endo and ectoderm and gets a split in it



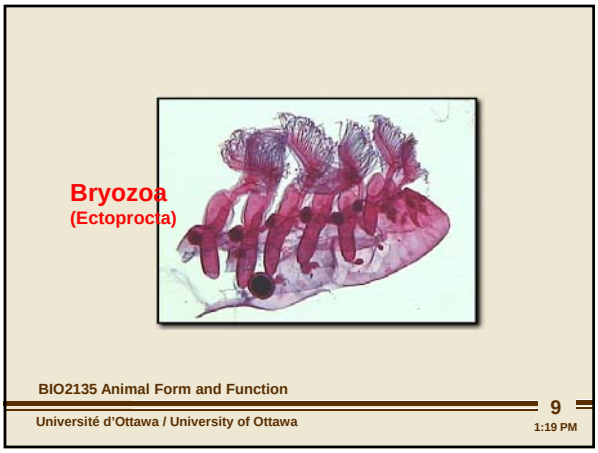

-little pouches formed from the enteron (the gut) -kept enlarging until they filled the 2 sides
-cavity in the middle of it
-when you have enterocoelous- in all animals there are 3 pouches that comes form the cavity




-get 3 coelomic body cavities: proto, meso, and metacoel - makes up the tripartate coelom
-u-shaped gut is important because every member of lophophorate group are sessile
-the bum is at the bottom so need to adapt - end up bending it into a u-shape and poop goes to the side
-lophophore creates a water current that washes the waste away




-bryozoan - live in shell casings - get concept of polypide -where lophophore sticks in and out of the cystid (shell)
-have a retractor muscle that can pull the lophophore into its shell - gives protection
-colonies grow by budding- undergoes asexual reproduction- grows beside it
-lophophore are connect by a funicular system - helps with transfer of nutrients




-has a gelatin casing- in a jelly-like matrix in freshwater system
-calcarious casing in marine environment

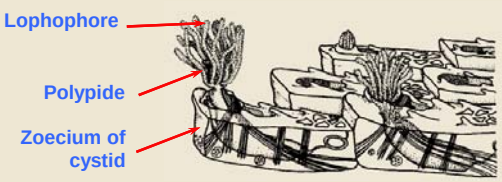
## Some unique bryozoan terms

- Zoarium
- Zooecium
- Ancestrula
- Polypide
- Cystid



1 - name of the whole colony
2- casing were they live
3 - original bud - first zooid that undergoes branching to form a zoarium
4 - piece of the lophophore
5 - part that is living inside

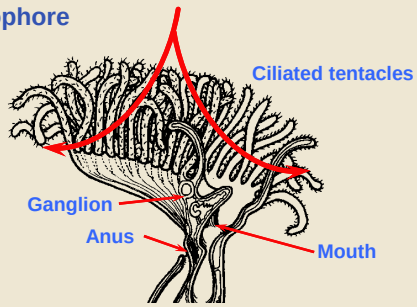
## Bryozoan zoarium (colony)





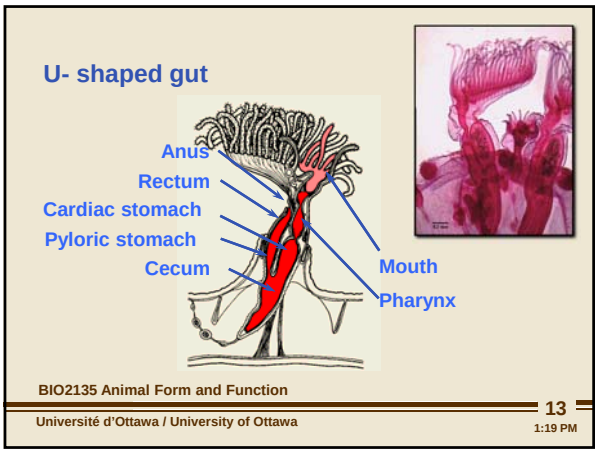

-marine lophophore -living in a case
-colony is the zoarium
-cystid is the thing that is living inside
-zooecium is the casing that it made outside
-and there is the polypide that can pull in and out of it's shell
-that is the main structure of the group - thought there were two organism
-one that made the casing and a parasite that lived inside of it

## Lophophore

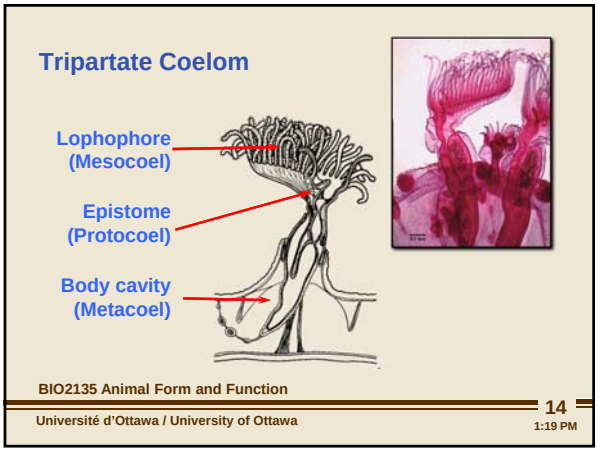


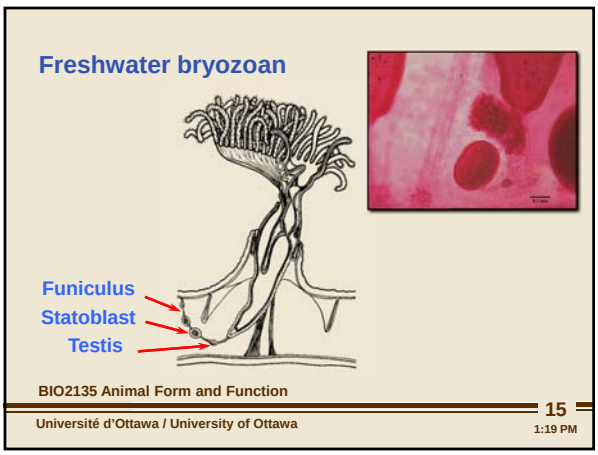



-lophophore is the key - is a set of ciliated tentacles surrounding a mouth and it is hollow because it is a coelomic space - formed form the mesocyl
-tentacle has a coelomic space have endo, meso, and ectoderm -very manipulative and can move in any way
-draws water into the center, through the center of the tentacles and out the anus (sitting on the side so that that waste gets washed away)
-cover with cilis so that food can get pushed down into the mouth
-has a lot surface area is going to be good for respiratory system - good for diffusing out metabolic waste - small animal that has a good surface to volume ratio - there is not complex internal structures
-no circulatory system or complex organs




-look at single individual-end up seeing the u-shaped gut that leads to the anus
-if gut were to be straightened out - there is a sac on the side -cecum- where there is final digestion and absorption of nutrients
metacyl - at the bottom contains all of the organs
mesocyl -tentacles at the top




-there is a strand that comes off the base of the cecum -connect to a lophophore that is adjacent to it
-known as the funiculus - transfers nutrients between members of the colony
-on the surface funiculus -there is the development of testis
-reproductive bits are always near nutrient rich part of the digestive tract
-ovary at the top of the lophophore - because the cilia on the tentacles will grab the sperm and move it to the egg to be fertilized
-group mostly grows asexually
-other structures that are found on the funiculous
-statoblast - solution to being a freshwater animal
-colony will die when water is cold and condition are bad -gelatin structure will just disintegrate
-when it disintegrate - statoblast settles into the group and stay there over winter
-when conditions are better - statoblast will hatch and create the ancestral polypide of the colony