

Moss animals

- 1) Clade polyzoa
 - a) Consists of 3 phylum
 - b) Overall very simple body plans
 - i) Looks like a crown of tentacles that are all ciliated
 - c) Still radial symmetrical
 - d) Size:
 - i) They are typically very small and in many cases microscopic
 - ii) The largest species are still small but form large colonies
 - e) Feeding
 - i) They seem very similar to cnidarian polyps
 - ii) Tentacles protrude from the top and are lined with cilia, these cilia help draw food in toward the mouths.
 - iii) Tentacles are supported by strong muscles and can withdraw them into the head if needed
 - iv) Importantly stomachs are **one directional**
 - v) They make a "U" shaped pattern
 - f) Reproduction
 - i) Can be sexual or asexual
 - ii) Most are hermaphrodites
 - (1) Some have just one organ that produces both sperm and then an egg after. These can self-fertilize creating a clone of itself
 - iii) Asexual reproduction is completed by budding
 - g) Locomotion
 - i) The organisms themselves are sessile but they can attach themselves to mobile items such as lobsters or free floating algae
 - h) Respiration
 - i) No true circulatory system or respiratory system however the thin membranes on the tentacles absorb oxygen from the aquatic environment
- 2) Clade brachiozoa
 - a) These are often called lampshells, or ribbon worms (depends on the phylum)
 - b) All three of these phylum contain **Lophophores**
 - i) These are the crown structures of tentacles.
 - c) One phylum resembles clams but is always attached to the bottom and their valves that bring in water is located on the top and bottom rather than the sides.
 - d) The other two phylum have a worm like appearance
 - e) Size
 - i) Most are small, less than a centimeter,
 - ii) But some can expand over 30cm and be predatory
 - f) Feeding
 - i) Vast majority are filter feeders, utilizing the same methods as the polyzoans
 - ii) However one phylum has an adapted lophophore to be predatory

- (1) These worms use this **Proboscis** to thrust out and grasp prey
 - (a) They repeatedly stab prey injecting it each time with a potent neuro toxin
 - (2) They have a completed gut and small intestine
- g) Respiration
 - i) All forms have to absorb oxygen through their skin
 - ii) However the predatory form has evolved a true circulatory system
 - (1) This is a great way to get oxygen and nutrients to the body
 - (2) It allows for greater movement and growth
- h) Nervous system
 - i) As well as a circulatory system the predatory form has two nerve cords running down the sides of the body cavity
 - (1) Previous groups had a rudimentary neural net, but when you have a larger body you need a better way to transmit electrical signals to the body
- i) Locomotion
 - i) Most are sessile, however the predatory form is very mobile to capture prey.
 - ii) Having a circulatory system and a nerve cord provide muscles with all they need to flex efficiently
- j) Reproduction
 - i) Reproduction is done mostly sexual but all phylum are hermaphroditic.