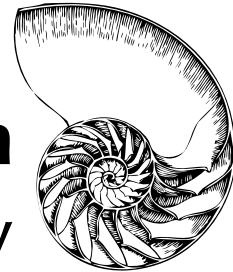


Bell Pettigrew Museum of Natural History

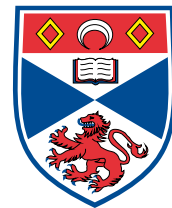


Interpretative Panels

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14:2 Bryozoa

Phylum Bryozoa (Ectoprocta)

Sub phylum

Super class

Class

The phylum Bryozoa, sometimes called the moss animals, consists of around 4300 species of small (c. 0.5 mm), colony-forming animals that create plant-like masses. The bryozoans, most of which are marine, have a fixed exoskeleton that is usually made of chitin but which can also exhibit some calcification. Within the phylum all species follow a similar lifestyle, but there is a moderate degree of structural diversity; some species exist as flat encrusting colonies, with box like individual animals (zooids) e.g. *Membranipora* **I**, whilst others form flattened leaf-like colonies e.g. *Catenicella* **J**.

Within a colony zooids often display considerable polymorphism, with specialisations including feeding, cleaning, defensive and brooding types. Each individual zooid, which lacks respiratory, vascular and excretory organs, is a separate sessile filter feeder, using a retractable, ciliated, tentaculate lophophore for collecting food. When feeding the lophophore is extended and the tentacles are spread to form a funnel. Ciliary action then collects food into the U-shaped through gut. Colonies are hermaphrodite, although zooids may be either hermaphrodite or gonochoristic.

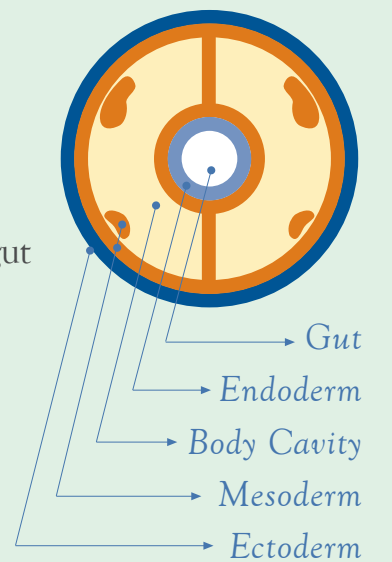
The phylum is divided into three classes:

Class: Phylactolaemata

Phylactolaemata contains around 50 species of entirely freshwater bryozoans which have a tripartite

Body Plan:

- Bilaterally symmetrical
- Triploblastic
- Reduced coelom with through gut
- Deuterostome?
- Box or tube-like exoskeleton



body, full body wall musculature and a large horseshoe-shaped lophophore. The exoskeleton is a chitinous or gelatinous cylindrical case and the colony is usually monomorphic.

Class: Stenolaemata

The approximately 900 entirely marine stenolaematans have a bipartite body with reduced body wall musculature and a circular lophophore with less than 30 tentacles. The cylindrical casing is calcified and colonies show limited polymorphism.

Class: Gymnolaemata

Gymnolaemata, the largest class of bryozoans, contains around 3000 freshwater and marine species. The gymnolaematans have a bipartite body and reduced musculature, with a small, circular lophophore. Each zooid is squat and cylindrical or box-like with partial calcification. The colony shows a high degree of polymorphism, with up to 7 types of zooid.

Classification

within

Bryozoa

Class: Phylactolaemata
Order: Plumatellida

Class: Stenolaemata
Order: Cyclostomata

Class: Gymnolaemata
Order: Ctenostomata
Order: Cheilostomata

I See specimen.

Moss animals

- Despite the fact that many bryozoans look like plants, they are animals that live in colonies that can be made of anything from a few to about a million individuals called zooids.
- These zooids are often polymorphic, which means that different individuals have different jobs in the colony, like feeding or defence.
- Several species of bryozoan (e.g. hornwrack, *Flustra foliacea* **K**) can be found around the coast of Fife. They are often found washed up after stormy weather and strong tides.
- Most species of bryozoan grow on rocks or seaweeds and cannot move around. However a few are capable of travelling limited distances (c. 10cm day⁻¹).