Kingdom Animalia

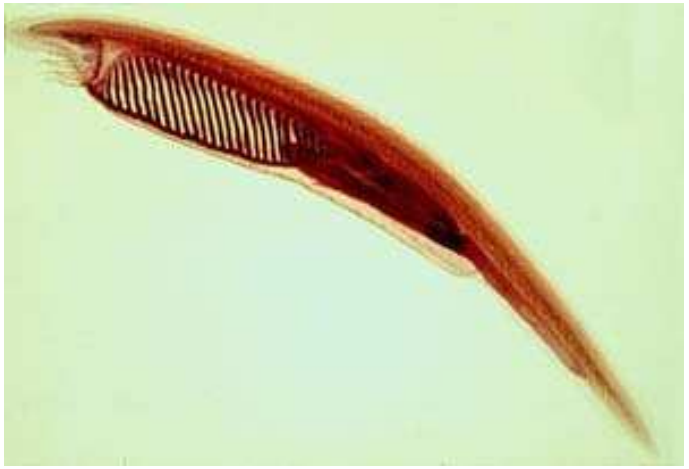
Phylum Chordata

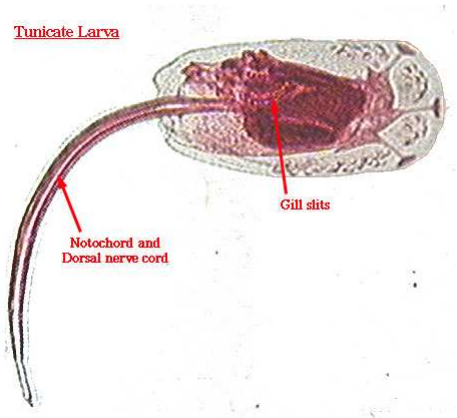
Chapter 14 - 1

The Tunicates, Lancelets and Vertebrates,

What are Chordates?

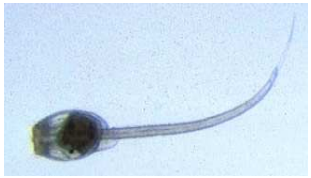
- All chordates possess these 4 characteristics during sometime of its life cycle:
  - Dorsal nerve cord
  - Notochord
  - Gill slits
  - tail

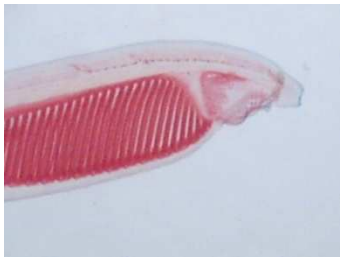




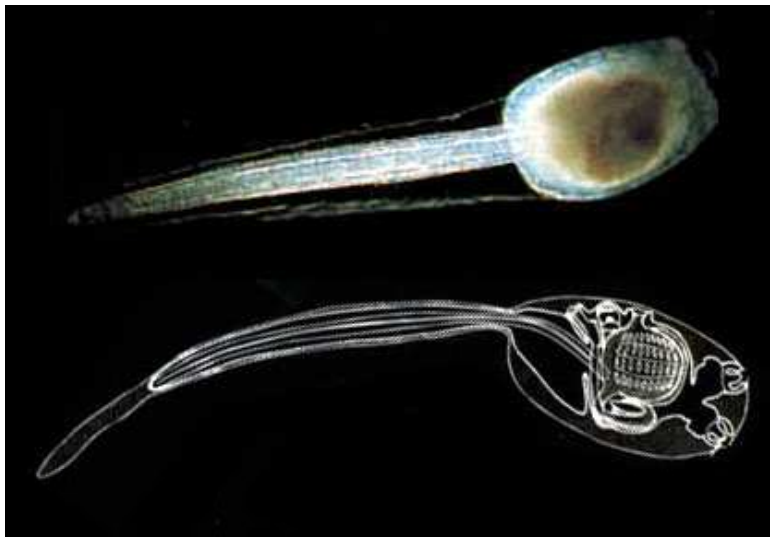
Chordate Characteristics

- **Dorsal Nerve Cord** – tubular in shape, main nerve cord runs along the back of the animal
- **Notocord** – rigid yet flexible supporting rod. Most chordates have notocords during embryonic stage only. Most are replaced by boney vertebral column.
- **Gill slits** – aka. pharyngeal pouches – paired structures in the throat region. In fish & amphibians these structures develop into gills
- **Tail** – Muscle/boney structure extends past ventral anus.
- **3 subphyla**:
  - **Urochordata** – the Tunicates
  - **Cephalochordata** – Lancelets
  - **Vertebrata** – the backboned animals –
    - **Agnatha** – jawless fishes
    - **Chondrichthyes** - Cartilaginous fish
    - **Osteichthyes** – boney fish
    - **Amphibia** – Amphibians
    - **Reptilia** - Reptiles
    - **Aves** – Birds
    - **Mammalia** - mammals





Urochordata – The Tunicates



- Characteristics
  - **Soft-bodied –** **marine & sessile**
  - **Filter feeder**
    - Gill slits trap food
    - Gill slits absorb O_2
  - **Adults**
    - With gill slits, without nerve cord or notochord
  - **Larval form** – look like a tadpole
    - Mobile w/ all three chordate characteristics

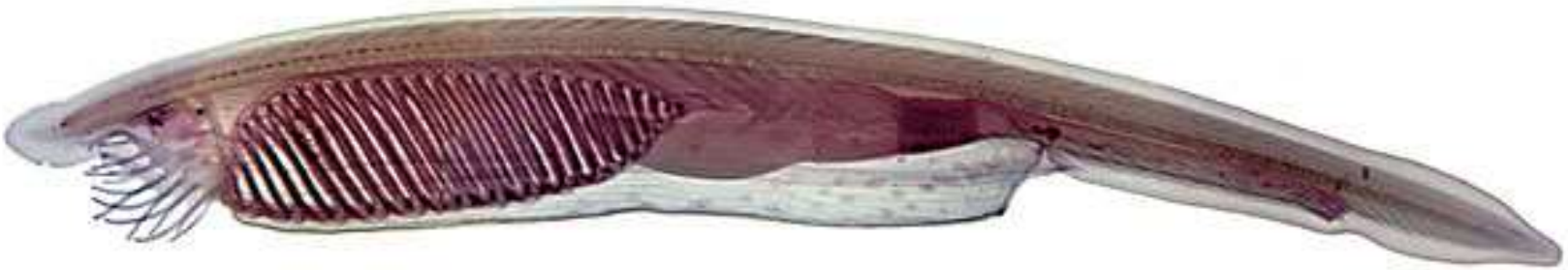
Common name of the group :

Sea Squirts

Cephalochordata – The Lancelets

- Characteristics
  - **All are marine**
  - **Filter feeder**
    - Gill slits trap food
    - Gill slits absorb O_2
  - **Mobile**
  - **Adults w/ all three chordate characteristics**

- Example of the group : *Amphioxius* sp.



Vertebrata– The Backboned Animals

- Characteristics
  - **Most numerous & complex of Chordates**
  - **NTK 7 Classes**
    - Agnathis, Chondrichthyes, Osteichthyes,
    - Amphibia, Reptilia, Aves, Mammalia
  - **Spinal column replaces notochord**
  - **Anterior end of nerve cord modified into brain**
  - **Body usually divided into head, neck & trunk**
  - **Two pair of appendages (arms & legs)**
  - **Heart w/ 2, 3 or 4 chambers**
  - **Respiration – gills & lungs**
  - **Closed circulatory system**
  - **Endothermic or exothermic**

That’s all Folks!!

Keep an eye out for part 2
Fishes, Amphibians & Reptiles