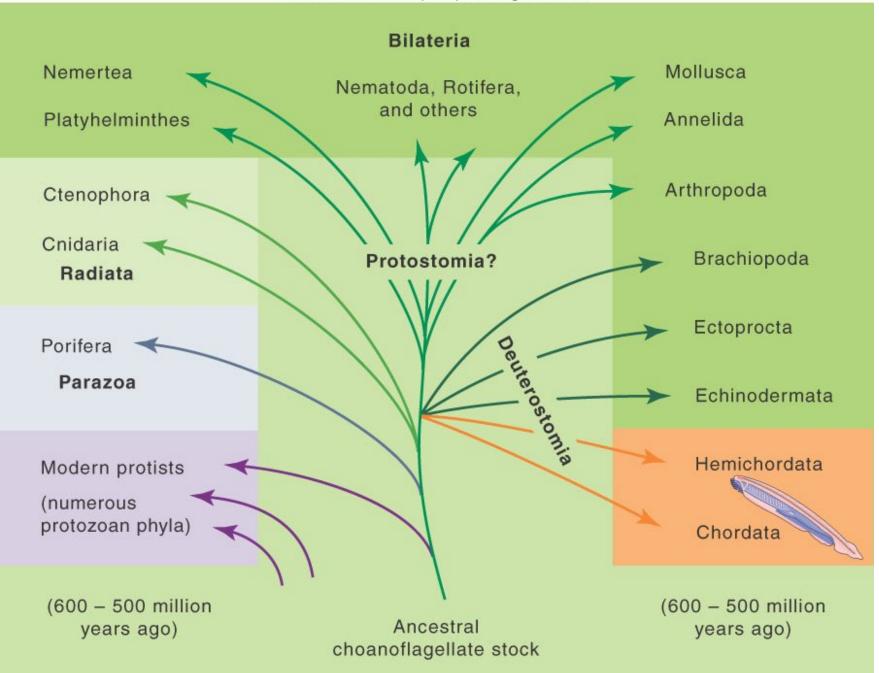


### CHAPTER 17

# Hemichordata and Invertebrate Chordates

#### INTRODUCTION

- •Are the organisms derived from common diploblastic or triploblastic ancestor
- Both the phyla share deuterostome characteristics
- Both the phyla have pharyngeal slits

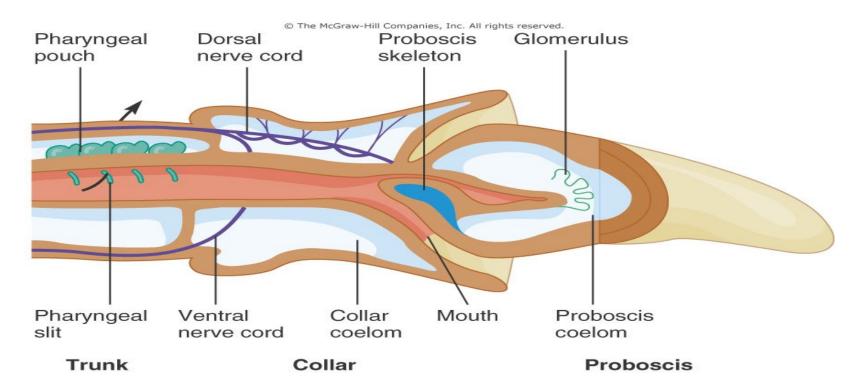


# PHYLUM:HEMICHORDATA INTRODUCTION

Include acorn worms and pterobranchs, are marine

#### **Characteristics:**

1) Body consists of proboscis, collar and trunk



# PHYLUM:HEMICHORDATA INTRODUCTION

- 2) Coelom well developed
- 3) Pharyngeal slits are ciliated
- 4) Tubular nerve cord
- 5) Circulatory system open type
- 6) Digestive tract complete

#### **CLASSIFICATION: HEMICHORDATA**

#### Divided into 3 classes

- 1) Enteropneusta
- 2) Pterobranchia
- 3) Planctosphaeroidea

### 1) CLASS - ENTERONEUSTA

- •Includes 70 species
- •Live in U-shaped burrows in sand Marine dioecious species

**EXAMPLE - BALANOGLOSSUS** 

### 2) CLASS - PTEROBRANCHIA

- •Includes 20 species
- •Secrete tubes to live in colonies
- Asexual reproduction for colony formation
- Marine dioecious species

**EXAMPLE - RHABDOPLEURA** 

### 3) CLASS - PLANCTOSPHAEROIDEA

•Only 1 species is known to exist

**EXAMPLE - PLANCTOSPHAERA** 

# PHYLUM: CHORDATA INTRODUCTION

Includes successfully established 45,000 species

#### **Characteristics:**

A unique combination of four characteristics

- 1) Presence of notochord
- 2) Pharyngeal gill-slits or pouches
- 3) Dorsal tubular nerve cord
- 4) Post anal tail

# PHYLUM: CHORDATA INTRODUCTION

#### **Characteristics contd.:**

- 5) Bilaterally symmetrical deuterostomates
- 6) Digestive tract complete
- 7) Ventral contractile blood vessels

#### Is divided into 3 subphyla

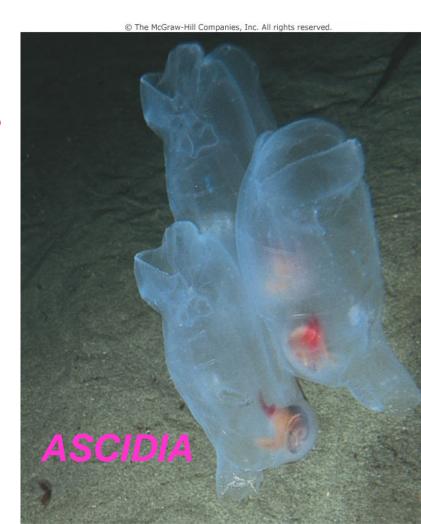
- A) Urochordata
- B) Cephalochordata
- C) Craniata

## A) SUBPHYLUM - UROCHORDATA

Are commonly called as tunicates or

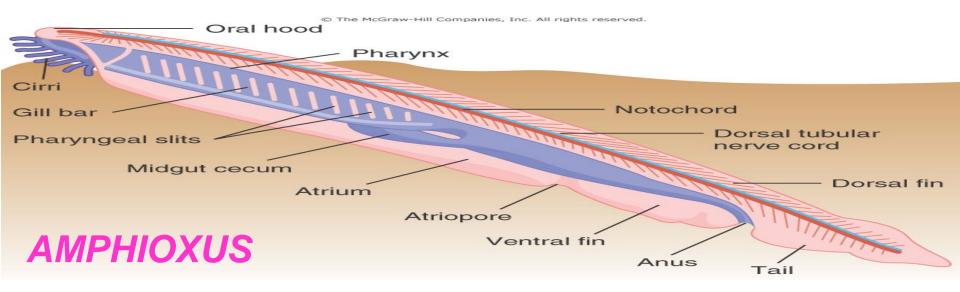
sea squirts

- •Includes 1600 species
- •Sessile forms with sac like body
- •Monoecious forms with metamorphosis for development



#### **B)SUBPHYLUM-CEPHALOCHORDATA**

- Are commonly called as lanceletes
- •Includes 20 species
- •Elongate fish like forms with sac
- Dioecious forms



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Tadpole larva Three-part body form Postanal tail Calcium Notochord carbonate endoskeleton Loss of tentacles Water -Dorsal tubular nerve cord vascular Pharyngeal slits system Crown of ciliated feeding tentacles Radial cleavage, enterocoelous coelom formation