

## **LAB (6)**

### **Phylum : Annelida**

#### **1-Class: Polychaeta ( poly: many , chaeta: bristle)**

**Order: Errantia**

**Genus: *Nereis* sp.**

#### **2-Class : Clitellata**

- **Subclass : Oligochaeta (oligo: few , chaeta: bristle)**

**Order: Opisthopora**

**Genus: *Lumbriculus terrestris***

- **Subclass : Hirudinea**

**Order : Gnathobdellida**

**Genus: *Hirudo medicinalis***

#### **General Characteristics :**

- Annelids are to be found in marine , freshwater and terrestrial habitats.
- The body is vermiform , bilaterally symmetrical and repeating segments called metamere.
- Each metamere is separated from the next by septa.
- The body surface is covered with a flexible non-chitinous cuticle.
- Each metamere acts as a (hydrostatic skeleton) that it has longitudinal and circular muscles; longitudinal muscle contraction causes segments to shorten; circular muscle contraction causes segments to elongate.
- The body is triploblastic with truecoelom .
- Most forms have chitinous bristles called setae .
- Digestive system is complete .
- Circulatory closed system, use hemoglobin as oxygen carrier.

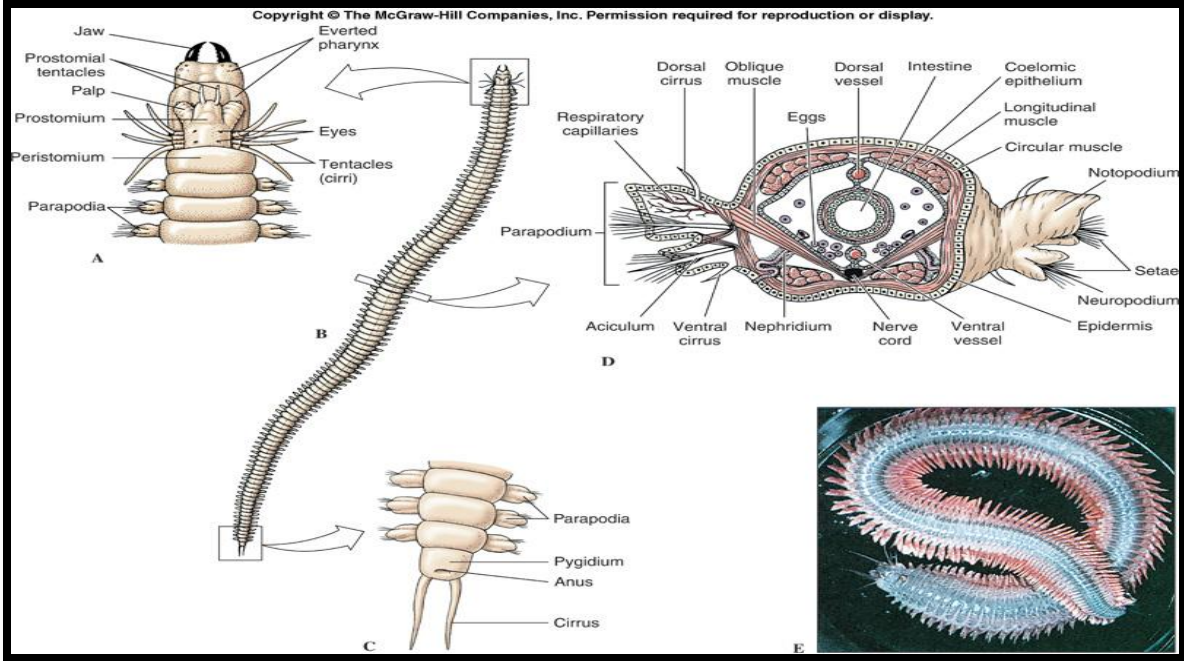
- Excretory system typically consists of a pair of nephridia per segment (metanephridia).
- Well developed nervous system consists of a brain and ventral nerve cord .
- Respiration by diffusion through body surface or gills.
- Dioecious in (polychaeta) or monoecious in (oligochaeta and hirudinea) .

## **1-Class: Polychaeta**

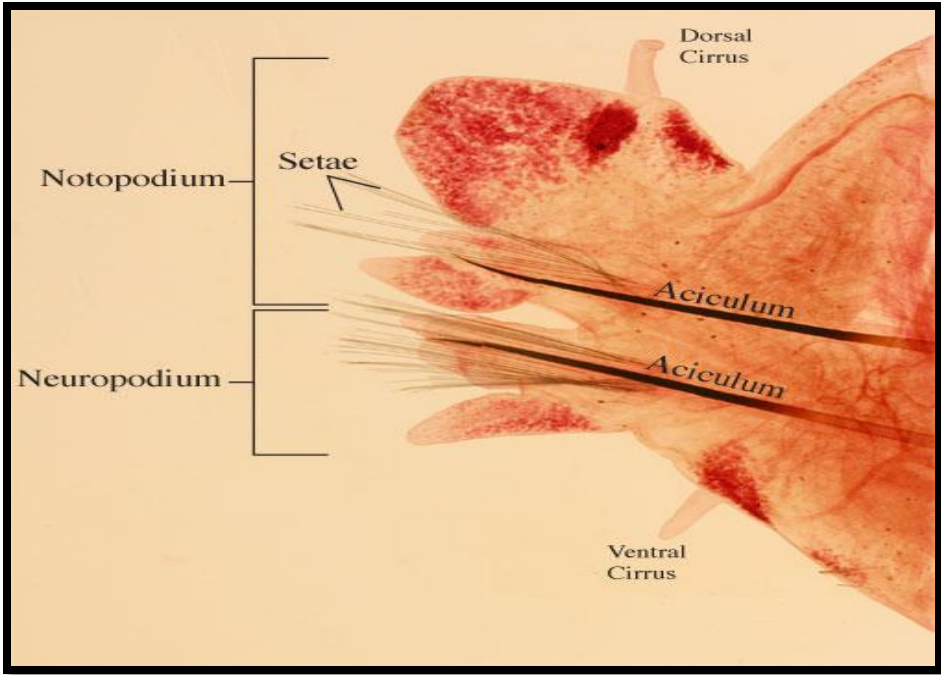
### **Order: Errantia**

#### **Genus: *Nereis* sp.**

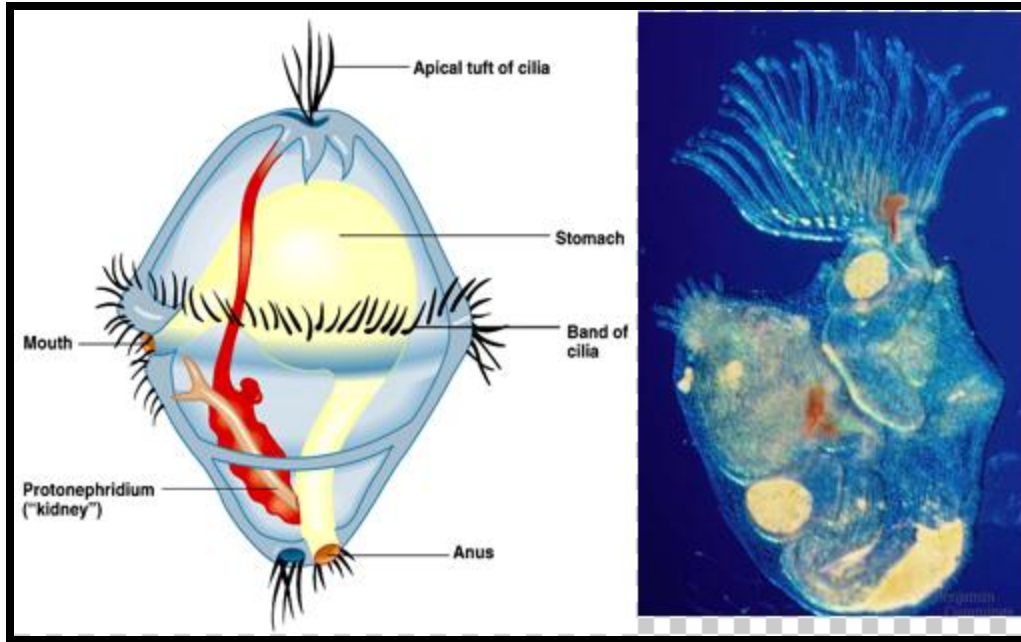
- Cylindrical , adults reach between 12-20 cm in length having 80-120 segments.
- Well developed head has prostomium and peristomium.
- Prostomium bears a pair of palps sensitive to touch and taste, a pair of short sensory tentacles, and two small dorsal eyes sensitive to light.
- Peristomium has a ventral mouth, a pair of jaws, and four pairs of sensory tentacles.
- Each metamere has a pair of fleshy lateral outgrowths of the body wall known as parapodium used for movement and respiration .
- Parapodium contain a bundle of setae , notopodium with dorsal cirrus and neuropodium with ventral cirrus.
- Respiration by Gills are usually modification of the parapodium.
- Sexes separate (dioecious) , with a free-swimming ciliated trochophore larva.



*Nereis sp.*



*Nereis sp.* (parapodium)



## Trochophore larva

### 2-Class : Clitellata

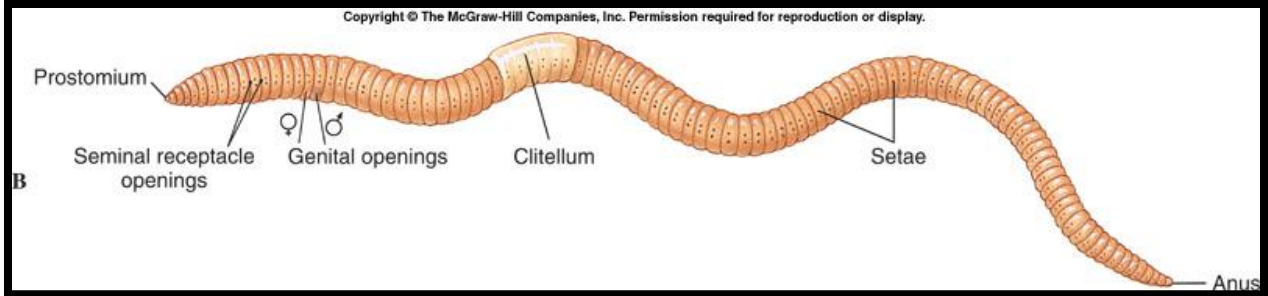
- Subclass : Oligochaeta

Order : Opisthopora

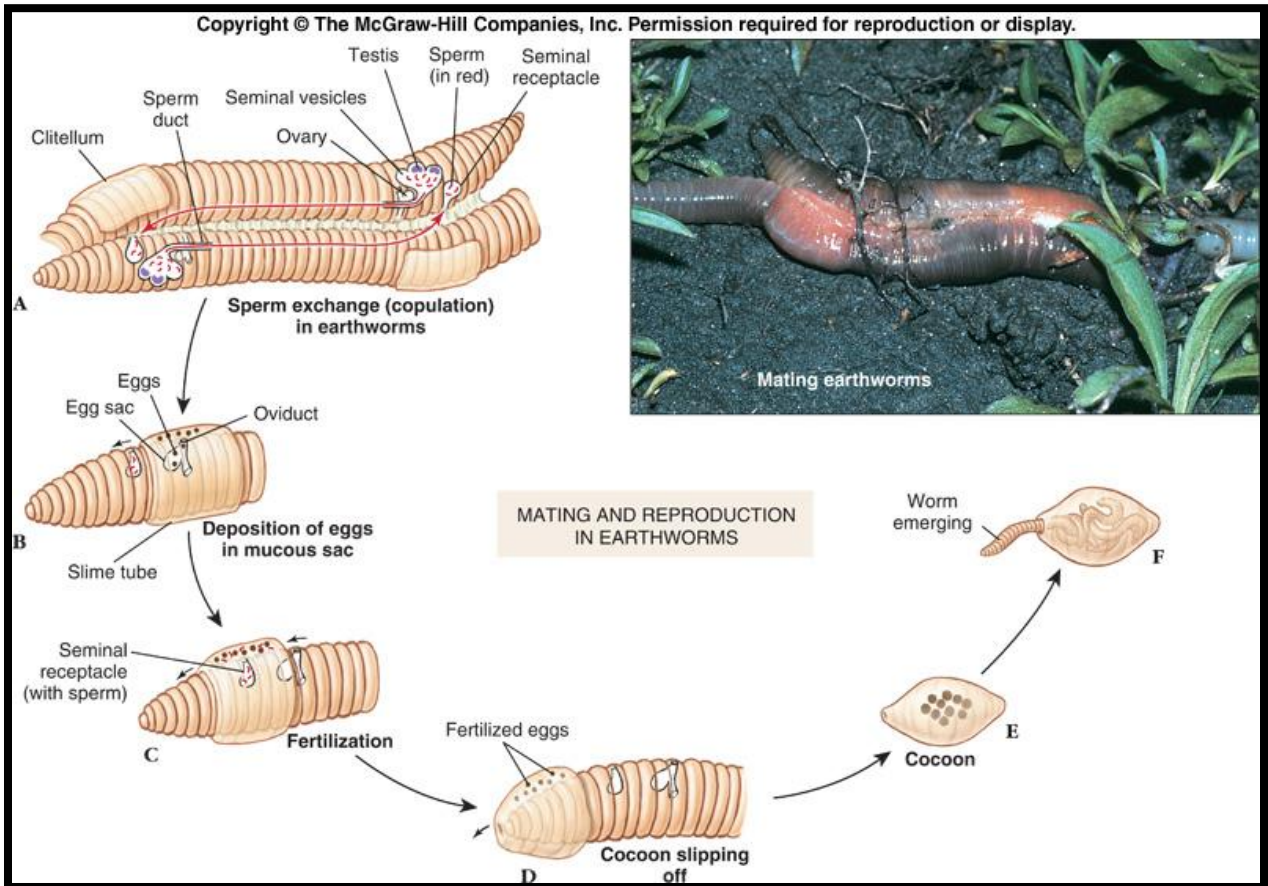
The Opisthopora have male pores opening posteriorly to the last testicular segment.

Genus : *Lumbricus terrestris* (earth worm)

- Terrestrial with a few freshwater species.
- No parapodium and less number of setae.
- No distinct head appendages and have no eyes .
- Respiration by diffusion through body surface .
- Clitellum present (function in reproduction).
- Hermaphrodites, with copulation required ( Cross-fertilization).
- Eggs are deposited in a cocoon (formed by albumin added by clitellum) and development is direct.



*Lumbricus terrestris* (earth worm)



*Lumbricus terrestris* (life cycle)



- **Subclass : Hirudinea**

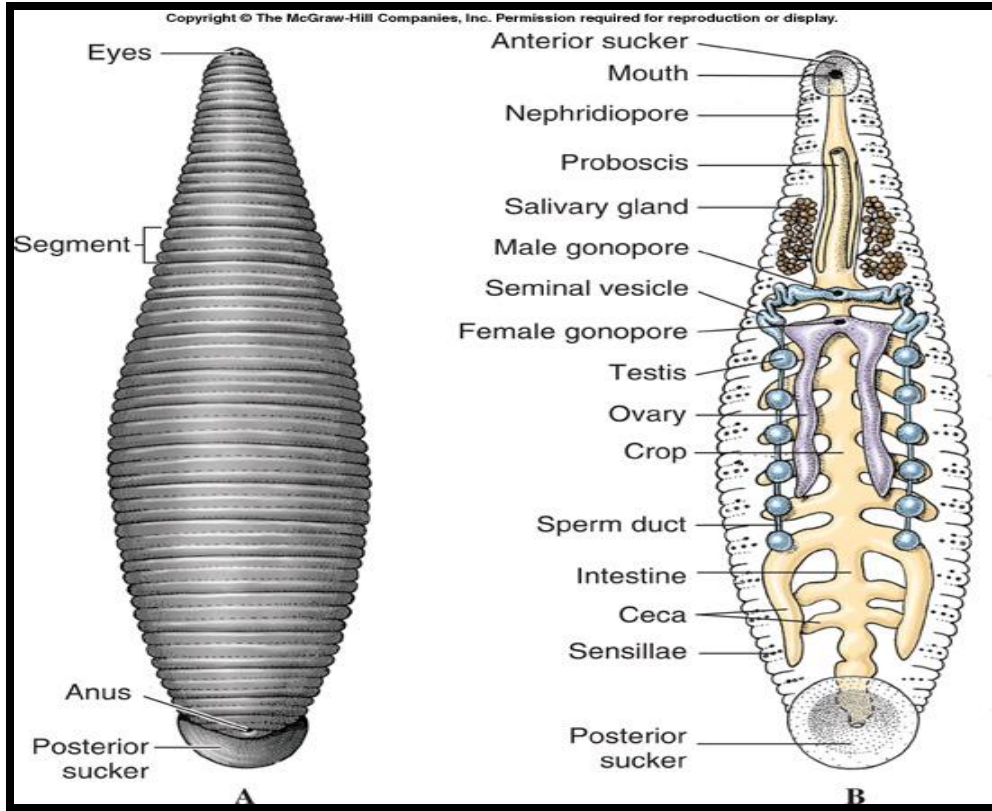
**Order : Gnathobdellida**

**Genus : *Hirudo medicinalis* ( Leeches)**

- Cylindrical, dorso-ventrally flattened body with (34) segments
- The dorsal side is dark brown to black
- No parapodium and no setae.
- Two suckers (anterior sucker) which surrounded the mouth consisting of jaw and teth and (posterior sucker).
- Five pairs of eyes located in front end



***Hirudo medicinalis***



*Hirudo medicinalis*