

ZOOLOGY 101 SECTION 8 LECTURE NOTES

Phylum Annelida:

- The annelids, segmented worms

Characteristics:

1. Metamerism
2. Chitinous setae on parapodia
3. Schizocoel coelom
4. Closed blood system
5. Complete digestive tract
6. Respiration through gills, skin, or parapodia
7. Pair nephridia per segment for excretion
8. Body wall of circular and longitudinal muscles covered by cuticle
9. Nervous system of brain and two nerve cords
10. Sensory system of tactile, taste, sight (eyes in some)
11. Hermaphroditic or separate sexes

Body Plan:

- Schizocoel
 - Peritoneum
 - Mesenteries
 - Septa
 - Hydrostatic skeleton
- Segmentation
- Parapodia
- Regeneration

Three Classes:

Class Polychaeta: clamworms and sand worms

- Gross Anatomy
 - Head distinct and bearing eyes, antennae, sensory palps and tentacles (cirri)
 - Head called *prostomium*, may be retractable
 - *Peristomium*: first segment, may bear setae, palps or jaws
 - Most segments with **parapodia** bearing setae; two parts to parapodia:
 - **Notopodium** (dorsal part)
 - **Neuropodium** (ventral part)
 - No **clitellum**
 - Separate sexes
 - Gonads transitory

Example: *Nereis*

Class Oligochaeta: earthworms

- Gross Anatomy
 - Head absent
 - No parapodia
 - Typically four pair of setae per segment
 - Fleshy prostomium over mouth
 - Move by *peristaltic* movement
 - Segmentation obvious, number of segments variable
 - Intersegmental septa
- Circulation:
 - five hearts > dorsal blood vessel > capillaries > ventral blood vessel
- Respiration: through skin

- Excretion:
nephrostome > nephridia > nephridiopore
- Nervous:
pair cerebral ganglia (brain) > circumpharyngeal nerves > ventral nerve cord > segmental ganglia > segmental nerves/giant axons
- Digestion
mouth > pharynx > crop > gizzard > intestine > anus
- Reproduction:
 - Hermaphroditic
 - Development direct, no larva
 - Clitellum present
 join > sperm released > seminal receptacles > clitellum secretes cocoon > eggs, albumin and sperm (stored) put in cocoon > fertilization external > cocoon ends seal > worm hatches

Example: *Lumbricus terrestris*

Class Hirudinea: leeches

- Gross Anatomy
 - No setae
 - No parapodia
 - Clitellum present
 - Anterior and posterior suckers
 - Fixed number of segments (usually 32-34), species specific
 - Typically no septa
 - Direct development
 - Hermaphroditic