

IV. Platyhelminthes Chapters 13, 14 & 19 (BLY 459 2009)

- A. Characteristics of the phylum Platyhelminthes
 1. Flattened dorsoventrally
 2. Without true body segmentation
 4. Acoelomate (Lack a cavity around body organs)
 5. Without the following systems
 - a. Skeletal
 - b. Circulatory
 - c. Respiratory
 6. Reproduction
 - a. Most are MONOECIOUS (= hermaphroditic)
 - b. A few are DIOECIOUS (= sexes separate)

- B. Class Turbellaria (pp 199-208)
 1. Characteristics of the Turbellaria
 - a. Epidermis with cilia
 - b. Incomplete digestive tract
 - (1) With a mouth and a PHARYNX
 - (2) Without an anus
 2. Examples
 - a. *Dugesia* (= *Planaria*) is free-living
 - b. *Bdelloura*
 - (1) Ectocommensal
 - (2) Book gills of horseshoe crabs

Slides (2): Turbellaria, *Bdelloura*, Commensal on Bookgills of Horseshoe Crabs

- C. Class Monogenea (Chapter 19)
 1. Monogenetic flukes
 2. Characteristics
 - a. Epidermis without cilia
 - b. Feed on host blood
 - c. Direct Life-cycle (= no intermediate hosts)
 - d. Hermaphroditic, but do not fertilize their own eggs
 3. Where are they found?
 - a. On gills & scales of fish (ectoparasites)
 - b. In body cavities that have openings to the outside of frogs, salamanders and turtles
 - (1) Mouth
 - (2) Gills
 - (3) Urinary bladder
 4. Taxonomy based upon attachment organs
 - a. OPISTHAPTOR
 - (1) Large attachment organ containing suckers
 - (2) Posterior location
 - b. PROHAPTOR: anterior attachment organ

Slide: Monogenea. *Gyrodactylus*

5. *Gyrodactylus* species (pp. 303-304; Fig 19.14)
 - a. Important pests of trout, bluegills and goldfish in fish ponds
 - b. VIVIPAROUS (= live birth)
 - (1) Parasites are adult at birth
 - (2) Offspring developing in uterus of parent has in its uterus another developing embryo which, in turn, may carry another embryo.
 - (3) Exponential population growth

Slide: Figure 19.14 Generalized anatomy of a viviparous *Gyrodactylus* species

6. *Polystoma* species (pp. 304-305; Fig. 19.15)
 - a. Parasitize urinary bladders of Old World frogs
 - b. Opisthaptor has suckers as well as hooks
 - c. Reproductive cycle synchronized with host hormones

Slide Figure 19.15 *Polystoma integerrimum*, a parasite of Old World frogs

Slide: Monogenea, *Rajonchocotyle*

Slide: Monogenea, *Rajonchocotyle*

D. Class Trematoda

1. Subclass Aspidobothrea (Chapter 14)
 - a. Have a huge attachment organ
 - b. *Cotylaspis*
 - (1) Turtles
 - (2) Freshwater mollusks

Slides (2): Aspidobothrea, *Cotylaspis*

Slide: Aspidobothrea, *Aspidogaster* in cross-section

2. Subclass Digenea

E. Class Cestoidea (= Tapeworms)