**PHYLUM-PLATYHELMINTHES**

1. The phylum name was coined by **Gegenbaur**
2. Body is **-** dorso ventrally compressed hence popularly called **-** Flat worms
3. They show moderate **-** cephalization & unidirectional movement associated with bilateral symmetry.
4. They are first**,** triploblastic organisms with bilateral symmetry
5. They produce embryonic mesoderm - a third germinal layer which contributes to the development of true muscle tissue
6. They are **-** acoelomates (body cavity is absent) The space between the gut & body wall is **filled with-** parenchyma of mesodermal origin
7. The body shows **-** organs & organ-systems level of body organization
8. Most members of the phylum are parasites and few are free living
9. **Digestive system -** not present in some -(eg: Taenia) Digestive system has only one opening, the mouth
10. **Anus is -** absent as in cnidarians (except in turbellarians) Ingestion of food & egesiton of undigested food is through- **mouth**
11. Lumen of gut is comparable to gastrovascular cavity of - **cnidarians**
12. Most of the food particles are phagocytized & digested intracellularly by the cells **-of gastrovascular cavity like cnidarians**
13. Segmentation in flat worms is **- pseudometamerism**
14. Excretion is performed by specialized cells called - **flame bulbs or protonephridia**
15. Flame cells primarily help in maintaining of **- osmotic balance**
16. Osmoregulatory structures of platyhelminthes are- **flame cells**
17. Special respiratory & circulatory systems are absent in platyhelminthes
18. **Nervous system consists of a moderately developed -** brain (ganglia in the cephalic region representing a primitive brain) nerve cords
19. Nervous system in flat worms is- **ladder-like**
20. Sense organs occur in - **'free-living forms**
21. Reproductive system is very well developed in Flat worms and are mostly- **hermaphrodites.**
22. Fertilization is- **internal**
23. Life cycle is simple or complex with - **one or more intermediate hosts & many larvae / embryonic stages**
24. Larva-/ embryonic stages of flat worms are **- miracidium, sporocyst, redia, cercaria etc**
25. Polyembryony is common in some- **(eg: sporocyst stage produces many redia stages in the life history of liver fluke)**

**CLASSIFICATION**

Phylum Platy helminthes is divided into - 3 classes

Class: TURBELLARIA eg.Dugesia

Class: TREMATODA eg. Fasciola

Class: CESTODA eg. Taenia

**Class: Turbellaria:**

- Free living flatworms are - Planarians,
- Body wall-of planarians contains- ciliated epidermis with rod like rhabdites Epidermis has rod shaped mucus forming structures called- rhabdoids,
- Mouth is present on ventral side with Pharynx as an eversible form of proboscis
- Gastrovascular cavity ofTurbellarians is - extensively branched to supply digested foods to all-parts of body ( Eg: Dugesia ) but absent in other planarians **i** Turbellarians are commonly called- Planarians
- Planarians reproduces by - sexual-method and show remarkable power of - Regeneration
- Free swimming larval stage is called Muller's larva or Goette's larva
- Planarians reproduces asexually also through regeneration

Example: Dugesia (Planaria), Convoluta (acoel)

CLASS: TREMATODA

- Trematodes are commonly called - flukes All-trematodes are - either ectoparasites (Diplozoon) or endo parasite (Fasciola)
- Body is covered by - tegument (neodermis)
- Trematodes are attached to the host by - two suckers, anterior sucker & a ventral- sucker called - acetabulum Life cycle is complex with- miracidium larva sporocyst (Parthenogenetic) redia, cercaria larva, inetacercaria (encysted juvenile)
- Example: *Fasciola hepatica* (liver fluke), *Schistosoma haematobium,* (blood fluke)

CLASS: CESTODA

- These are commonly called - tapeworms
- All-cestodes are – parasites
- Body covering of tape worms is syncitial cytoplasmic layer called tegument
- Strobila is divided into 3 types of Proglottids -
    i. Immature proglattids ii) Mature proglattids iii) Gravid proglottids
- Anterior part of body is called- scolex with suckers & hooks
- Organs of attachment in tape worms- hooks & suckers
- Gastro vascular cavity is - absent
- All cestodes are- bisexual/hermaprodites/ monoecious

- Basic life cycle includes - hexacanth stage which develops into cysticercus larva (Extra intestinal-juvenile) metacestode (e.g. cysticercus)
- Taenia solium (pork tapeworm) *Echinococ- cus granulosus* (dog tapeworm)