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FEBRUARY TUESDAY
2019 D 12 (Years)

Classification of Platyhelminthes

Def -

Platyhelminthes are dorsoventrally flatted bilaterally symmetrical with no Coelom, definite anus, circulatory, respiratory or skeletal system with flame bulb, protonephridia and with a Connective tissue in between the organ system. In short, they are acoelomate Bilateria without a definite anus.

General characters:-

1) They are lowest of the worms with the body usually dorsoventrally flattened.
2). They are bilaterally symmetrical with no true segmentation.
3) - slightly cephalized with ant. eye spots chaem - moreceptive organs and brain.
4) - 3rd germ layer is fully established & produces a mesenchymal parenchyma that fills the space between the epi. & gastrodermis
5) Epidermis is soft & ciliated (Turbellaria) or covered by cuticle and with ext. hooks or hooks or both for attachement to host.
6). The Digestive sys. is incomplete with a mouth but no anus. Intestine is usually much branched. None in Acoela, or Cestode.
7) - No respiratory, circulatory or skeletal system
8) - Excretory sys. consists of many flame cells connected to excretory duct (Protonephridia).
9). Nervous sys. of a pair of ant. ganglia or nerve ring connecting to 1 to 3 pairs of

long nerve cords with transverse commissures.
10) Usually hermaphroditic.
11) Fertilization - internal. Development either direct or with one or more larval stages.
12) In some forms sexual reprod. occurs and alternation of generation.
13) Most Turbellarians are entirely free swimming & a few dwell in the exterior of other animal & few are endo parasites. Flukes are ext. or int. parasites & all tape worms are internal parasites.
14) Some Acoela are microscopic but Nemertea may attain a length of 500 mm.

classification:-

Phylum is devided into 3 classes with dissimilar features & habits. Here by and large the classification of Storer & Usinger (1979) has been followed.

Class-1 - Turbellaria

1) Mostly free living, unsegmented, non parasitic.
2) Body is unclivided & epidermis is partially ciliated.
3). - Posses large dig. cavity with ventral mouth ex Acoela.
4) - Development is usually direct.
5) - Asexual reprod. is found in some.
6). - Life cycle is simple.

Order — 1 — Acoela.

1) They are small delicate marine worms with mouth & occasionally a pharynx but no intestine.
2). Protonephridia, oviducts & distinct gonads — absent.

3). Submuscular nerve plexus is present.
4). Many are free living & others live in intestine of Sea-urchins & Sea-cucumbers.
Ex — Convoluta, Aphanostoma, Ectocotyle etc.

Order-2- Catenulida -
1)- exclusively freshwater usually found in stagnant water
2)- Body slender & thread like.
3)- Pharynx is simple & intestine is devoid of diverticula
4)- only one Protonephridia. Ex- catenula, Stenostomum

order- 3 - Macrostomida -
1)- They are freshwater.
2) - Body is flat or cylindrical;
3)- Pharynx simple & intestine has small lateral diverticula
4). Two Proto nephridia. Ex - Macrostomum. Microstom
order-4- ~~Neorhab~~ Neorhabdocoela.
1) freshwater, marine or terrestrial.
2) Mostly free living but some are parasite or commen cels,
3). Pharynx is bulbus & intestine is variable.
4). Two Protonephridia Ex- Mesostoma, castrella.

order-5 - Tricladida
1). - Freshwater, marine or terrestrial.
2)- Body small with Proboscis & mid ventral ~~SUNDAY 17~~ C.
3). - Intestine is 3 branched.
4). - 1 to 4 Protonephridia in each side.
5) - one pair of ovaries & 2 or many testes.
Ex - Dugesia, Dendrocoelum.

order-6 - Polycladida.
1). Marine & few are Pelagic.
2). Small to large leaf like.
3) Body is usually thin & oval.

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4). There are many eyes.
5) Intestine posses many irregular branches.
6). ovaries & testes are many & scattered.
Ex — Notoplana, stylochus, Planocera.

Class — II TREMATODA.

1) They are ecto. or endo parasites.
2) Epi. without cilia & rhabdites.
3). Unsegmented flat body is covered by cuticle.
4). Suckers - present for attachement to hosts.
5) Branched alimentary canal. Anus absent.
6). Excretory, Ner. & repro. system well developed.
7). Sense organs are not developed.
8). Single ovary. ♂ & ♀ genital pores - separate
9). Simple or deve. includes many larval forms.

Order — 1 — Monogenea.

1). Ectoparasites of fishes or cold blooded animals.
2) Monogenetic - requires one host to complete (L.c) life cycle.
3). oral sucker lacking or poorly developed.
4). Post. end has disc sloped str. with spines called opisthapter.
5) Separate ♂ & ♀ genital pores Ex - Gyrodactylus,

order - 2 - Digenea - 1) Endoparasite requires 2 hosts.
2) Two suckers without hooks.
3). One exc. pore at the post. end & one genital pore for both ♂ & ♀ genital organs.
4). Uterus long with numerous eggs.
5). L. cycle includes many larval forms.
Ex — Fasciola, Schistosoma.

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Order-3- Aspidobothrea —
1) Endoparasite of gut of fishes & reptiles.
2) Oral sucker absent, ven. sucker without hooks.
3) one excretory pore.
4). only one testes is pr. Ex- Aspidogaster.

Class - 3 CESTODA.
1). These are endoparasitic tapeworms.
2). Body has a scolex (head) with suckers & hooks neck & long segmented body segment - Proglottids
3). Body covered with cuticle.
4). Alı. canal absent.
5) Each segment with one set of repro. organs but in many each seg. has both ♂ & ♀ genital ~~pores~~ organs
6). Larva with hooks. It develops into a bladder worm stage called cysticercus.

Sub class - 1 — Cestodaria —
1). Body is formed of 1 segment & 1 scolex.
2). No. Alı. canal.
3). Single set of repro. organs.
4) Larva with 10 hooks.
Order - 1 - Amphilinidea
1) Endoparasite of coelom of fishes.
2) Suckers absent.
3). ♂ & ♀ genital openings at the post. end. of body
4) Uterus is coiled. Ex- Amphilina.
Order - 2 - Gyrocotyllida.
1). Eversible proboscis at ant. end.
2) ♂ & ♀ pores are at ant. half of the body.
3) uterus not coiled. Ex - Gyrocotyles.

order - 3 - Tetraphyllidea.

1) Endoparasite of intestine of Elasmobranch fishes.
2) Scolex with 4 bothridia.
3) Hooks may or may not be present.
4) Testes are infront of ovaries. Ex. Phyllobothrium

order - 4 - Diphyllidae

1) Scolex with 2 bothria. Parasites on Elasmobranch.
2) Body has not more than 20 segments. Ex - Echinobothrium

order - 5 - Cyclophyllidae.

1) Endoparasite of warm blooded animal with 4 suckers
2) Suckers with hooks for attachment to intestine of host.
3) Genital pores on one or both the sides.
4) Many lobed ovaries.

Ex - Taenia, Echinococcus.

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