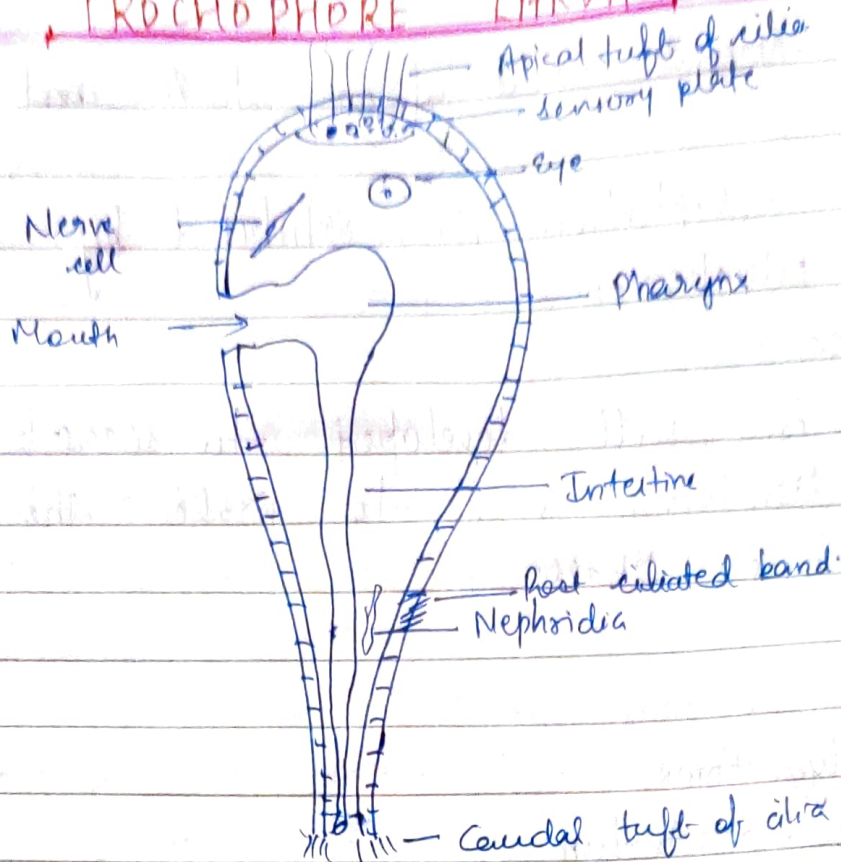


TROCHOPHORE LARVAE

Fig:



- Term trochophore larvae is used for larvae of many group of animals by many zoologists. The same name is used in many phyla because in all these group, structure is more or less is similar.

General structure:

- Pear shaped body. (almost)
- Transparent and bound by single epidermal cell layer externally.
- Anterior most part of body is blunt and post. end is tapering.
- Ant. end contains a plate c/a apical sensory plate provided with apical tuft of sensory cilia followed by a simple eye spot.
- In a mid-dorsal line there is a depression is called mouth. Mouth is followed by short pharynx which is followed by stomach and long intestine terminated in post. region as anus which is surrounded by caudal tuft of cilia.
- There is loose nerve cells is dispersed throughout body.
- In post. side just above anus 2 tube like str. called protonephridial nephridia is found.
- Pr. of 2 ciliated band i.e. ^{one} prototroch found just above mouth (median dorsal line) and other telotroch which is pr. on post. region. Sometimes 3rd row of ~~the~~ ciliated band also found at it depends upon species to species. It is found in b/w prototroch and telotroch.

Affinity:

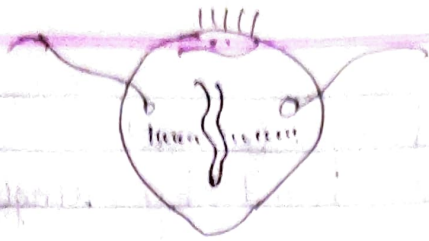
Systematic position:

① Affinity with ctenophora:-

① Point of similarities:-

In free swimming larvae

- Amt of yolk is less and cleavage is complete



Shape of both of animal is pear shaped.

2) Both animals have apical sensory plate

provided with tuft of cilia.

3) Complete cleavage as larvae is free swimming

② Point of dissimilarities:-

1) Presence of ~~too~~ long flagella in ctenophores which can't be compared with ciliated band of telotroch and prototroch of trochophore larvae.

2) A. canal is not similar as in ctenophore (Herbiphora) as can it is blind and bears ~~no~~ no anus.

3) Absence of caudal tuft of cilia in herbiv ctenophorans.

Compare with ctenophora

Platyhelminthes (Turbellaria)

Mollusca

Hemichordates

① Affinity with turbellaria:-

① Similarity -

1^o Posⁿ of sense organ.

Tuesday
29/10/20

2. Eye spot is similar in both cases.
3. Development (cleavage - gastrulation) is similar.

② Dissimilarity -

1. Poorly developed sense organ in turbellaria larva.
2. Absence of prototroch and telotroch " " "
- ③ (lack of pre-oral and post-oral ciliated band)
3. Digestive canal in trochophore larva is divided into mouth and other part and anus but in turbellaria is poorly developed as it is parasite.

③ Affinity with mollusca:- (veliger larva)

Trochophore larvae shows affinity with larval stage of mollusca. (veliger)

① Similarities -

1. In shape (appearance).
2. Differentiation of the mesoderm during larval development.
3. Pattern of cleavage is same [mode of development is similar]

② Dissimilarity -

1. Veliger larvae possess a uniform ciliation but in trochophore only prototroch and telotroch is found and part of these two prototroch and telotroch produces tufts of cilia.
2. Sensory eye spot is well defined - trochophore completely absent in veliger.

④ Affinity with hemichordate:-

In protochordates, trochophore larvae has not an affinity but it shows similarity with trochophore larva of hemichordate (Balanoglossus)

① Similarity -

1. Early development is much more similar.

2. Almost general shape size and mode of development is similar.

4. Mode of development

4.

5.

① Dissimilarity

- 1- Apical sensory plate
- 2- Prototroch & telotroch.
- 3- Mode of mesoderm differentiation
- 4- Mouth

CONCLUSION:

It shows affinity with larval condition first. During course of evolution it has given rise to protozoa and other branches like porifera, ~~and~~ coelenterata and so on. Trochophore larvae have been emerged out ~~at~~ in b/w origin of two phyla i.e. coelenterates and platyhelminthes. These show independent existence

