

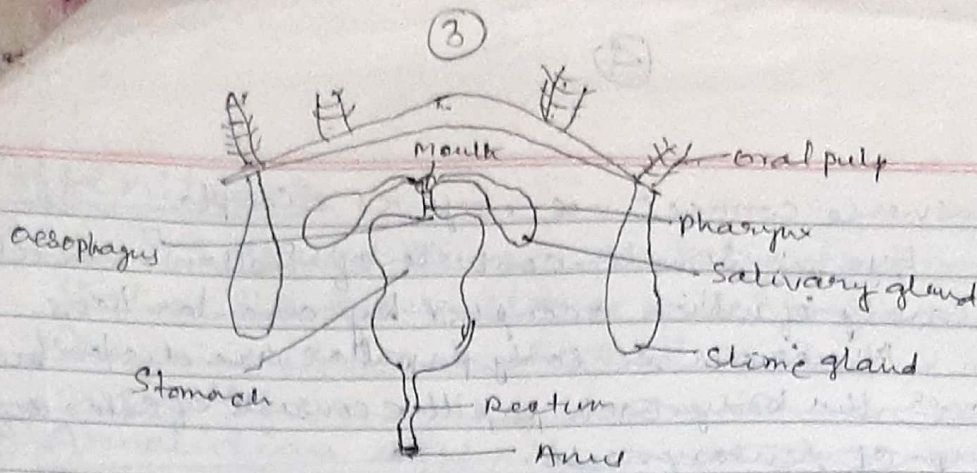
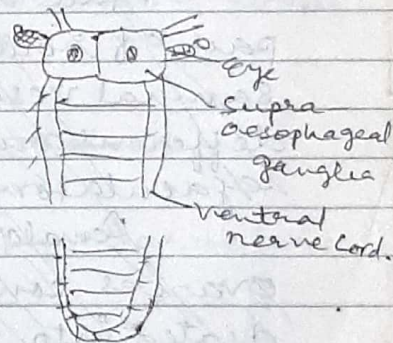
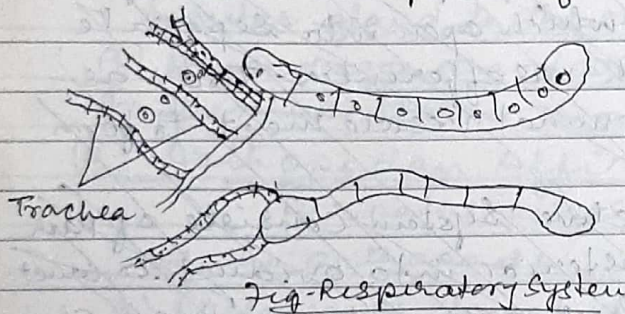


Fig - Alimentary Canal of Peripatus.

- i) Oesophagus open into dilated stomach.
- ii) Stomach is largest part of alimentary canal which open into anus through rectus. Intestine is absent.
- v) Salivary glands open into buccal cavity.

Respiratory System :-

They have air tube called trachea, which open by means of spiracles scattered irregularly on the various part of body.



Blood vascular System:-

consists of dorsal tubular heart with paired ostia leading into pericardium. Heart extends from head to tail. Body cavity is called haemocoel.

Nervous System :-

Consists of brain and pair of longitudinal nerve cords, peripheral nerves and sense organs. Brain is constituted by a pair of supra-oesophageal ganglia. A pair of circumoesophageal connective unite the brain with ventral nerve cord. Two ventral nerve cord extends up to anus. Two cords are connected by

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transverse connectives. Eye is simple.

Eye is simple, consists of hollow vesicles, the cavity of which occupied by circular lens.

Numerous sensory papillae are distributed all over the body. Each papillae consists of setae and group of sensory cells.

Excretory System:-

Excretory system is carried mainly by nephridia. A typical nephridium consists of a long ciliated funnel, a coiled duct and a contractile bladder ^{called} vesicle.

Anal gland is a pair of gland open close to the anus of unknown function.

Reproductive System

Sexes are separate and gonads are paired and ciliated but the genital opening is single.

Male reproductive organ consists of a pair of round testes which open into separate seminal vesicle through vas efferentia. Two vas-defferens arise from seminal vesicle meet to form ejaculatory duct.

Female reproductive system consists of pair ovaries continue posterior into oviduct. Oviduct dilated into uterus which open into median chamber called vagina.

Eggs are large and full of yolk (Telolecithal). Fertilization is internal. Youngs are fully developed at the time of birth. A female may lay produced 30 to 40 young ones in a year. Segmentation is peculiar and lead to formation of solid gastrula.

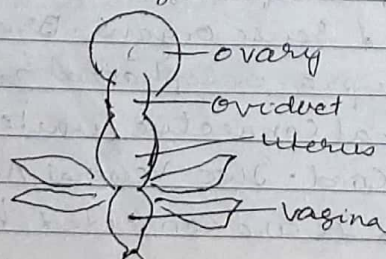


Fig. Female

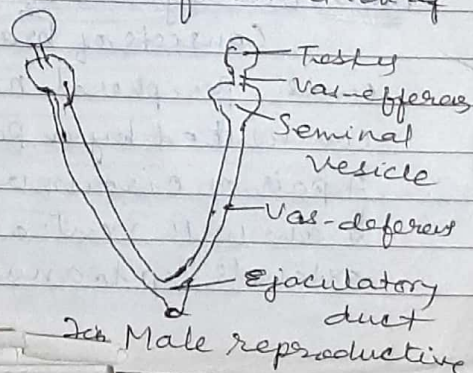


Fig. Male reproductive

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Affinities:

The detailed study of peripatus have now confirmed that it shows resemblance with 3 major phylum. —

i) The annelidian, ii) the arthropoda and iii) the mollusca

A) Annelidian Affinity: —

Annelidian structures of peripatus are the following:

- The body is soft elongated and cylindrical in the annelids.
- The cuticle is non-chitinous.
- The segmentation is more or less similar.
- The presence of paired nephridia in almost every segments of the body.

⑤ The structure of the eyes is similar to the polychaetes.

⑥ Coxal gland and salivary glands correspond to the similar gland to the chactopoda.

⑦ Appendages are hollow

⑧ The muscular is similar to annelids.

B) Arthropodan Affinity: —

Peripatus possess the following characters of the arthropods.

- Presence of clawed appendages
- ~~The legs have definite musculature.~~
- The head bears paired appendages
- The heart is tubular with paired ostium.
- Body cavity is haemocoel.
- ~~Mandible with teeth like edge.~~
- ~~Brain is large and similar to arthropods.~~
- Respiration by trachea.
- ~~Presence of salivary gland~~ Presence of salivary gland.

C) Molluscan affinity: —

- Slug like appearance.
 - Ladder like nervous system similar to chitin.
- But molluscan affinity is only superficial

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and in no other anatomical detail peripatus resembles mollusca and hence its relationship with molluscan was discarded.

Conclusion :

The similarity of peripatus with annelids and arthropods suggest that it is midway between the two phylum and hence it was regarded as connecting link.

But the arthropodan characters of peripatus such as the presence of trachea, haemocoel, salivary gland etc definitely outweigh the annelidian affinities and therefore peripatus has been placed under the phylum Arthropoda.

