

Phylum Annelida:
*Classification with
reasons and examples*

Phylum Annelida

- Annelids are vermiform, bilaterally symmetrical, triploblastic and schizocoelomate animals whose body is metamerically segmented and covered with a layer of cuticle. Body bears segmentally arranged setae or chetae. Acron is divided into prostomium and peristomeum and the posterior terminal segment is called pygidium. Blood vascular system is closed type and a respiratory pigment is usually present. Excretion takes place by nephridia.
- Body length varies from less than 1 mm to more than 3 m. The Giant Earthworm (*Megascolides australis*) can attain 1 m length. The South American leech, *Haementeriaghiliani*, can reach more than 40 cm in length. There are more than 9000 species of annelids in the world.

Classification with reasons and examples

Parker and Haswell classified phylum annelida into 4 classes as-

- Class-I : Polychaeta
- Class-II: Oligochaeta
- Class-III: Hirudinea
- Class- IV: Archiannelida

Class-I : Polychaeta (also known as the bristle worms or polychaetes, are a paraphyletic)

Characters:

1. Most of them are marine, 5-10 cm. in length and variously coloured.
2. External segmentation and internal septum distinct.
3. Each segment bears a lateral fleshy outgrowth help in swimming. These appendages are known as parapodia and parapodium bears many setae.
4. Body is with a distinct head, head with eyes, pulp and tentacles.
5. Clitellum is absent.
6. Generally unisexual, fertilization external.
7. Development through trochophore larva.

The Class Polychaeta has been divided in to two subclasses.

1. **Errantia**
2. **Sedentaria**

Sub Class I- Errantia

Characters:

1. Body is divided into many segments, except head and anal segment. All segments are equal.
2. Parapodium is with an endoskeleton known as aciculum.
3. Presence of mandible with teeth.
4. Most of them are free swimmers, some may live in the tube.

Examples- *Nereis, Aphrodite, Polynoe, Glycera, Syllus.*



Sub Class I- Sedentaria

Characters:

1. Sedentary, tubicolous worms, living in calcareous or chitinous tubes secreted by epidermal glands.
2. Head poorly developed with tentacles, pulps and feeding appendages.
3. Trunk segments differentiated into or three regions due to dissimilarity in the forms of segments parapodia and setae.
4. Pharynx not protrusible and devoid of jaws and teeth.

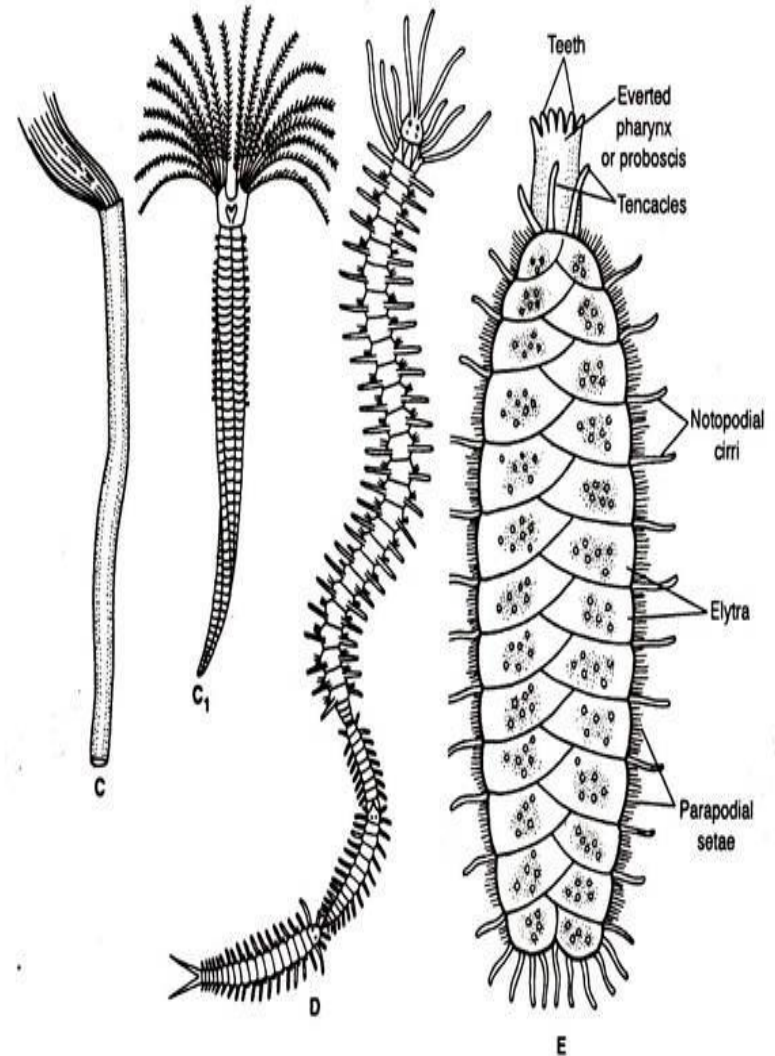


Fig. 17.42 (Contd.): Some interesting annelids (after various sources). C. *Sabella* within tube. C₁. *Sabella* outside the tube. D. *Autolytus*. E. *Polynoe*.

Examples-*Chaetopterus, Arenicola, Amphitrite, Terebella, Sabella etc.*

Class-II: Oligochaeta (Earthworms)

Characters:

1. Either freshwater or terrestrial forms.
2. Head indistinct and without head appendages.
3. Parapodia and bristles absent and setae remain embedded in the skin.
4. Clitellum present.
5. Sexes united, gonads few, permanent, development direct

Examples- *Tubifex*, *Dero*, *Pheretima*, *Megascolex* etc.



Class-III : Hirudinea (segmented worms)

Characters:

1. Mostly aquatic forms, either fresh water or marine, but a few may be terrestrial.
2. Body dorsoventrally flattened, divides into definite number of segments which may be divided externally into segments.
3. Head distinct, without head appendages, may bear eyes.
4. Parapodia, Setae, tentacles absent.
5. Usually with two sucker, posterior one large and used for adhesion anterior one suckorial.
6. Coelom filled with vacuolated parenchyma and botryoidal tissue.
7. Blood vascular system haemocoelomic type.
8. Fertilization internal, development direct, and are hermaphrodite.

Examples- *Acanthobdella*, *Pontobdella*, *Hirudo*.



Class-IV : Archiannelida Characters:

1. Body simple, elongated vermiform and threadlike.
2. Setae, parapodia, cirri absent.
3. External segmentation indistinct, internal septum present.
4. Hermaphrodite, gonads develop during reproductive season only.

Examples- *Polygordius*,

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Phylum

Class

Order

