

Subclass 3. Archiannelida

1. Subclass Archiannelida (Gr., *archi* = first) includes small-sized animals which are aquatic—marine or freshwater.
2. Body elongated, thread-like.
3. Segmentation chiefly internal. There is no external segmentation.
4. Parapodia and setae are reduced or absent.
5. Tentacles occur on prostomium.
6. Nephridia are either simple (protonephridia) or complex (metanephridia).
7. Nervous system is primitive, *i.e.*, it is continuous with epidermis.
8. Hermaphrodite or unisexual (sexes are separate in *Nerilla*).
9. Larva is typical trochophore.

Subclass Archiannelida includes the following **three** families:

Family 1. Nerillidae. Examples. *Nerilla*, *Nerillidium*.

Family 2. Polygordiidae. Examples. *Polygordius*, *Protodrilus*.

Family 3. Dinophilidae. Examples. *Dinophilus*, *Diurodrilus*.

(**Note.** Archiannelida was previously considered as a separate class of phylum Annelida. Now it is regarded as a heterogenous group of polychaetes (**Fauchald, 1975**).

Class 2. Oligochaeta

Class Oligochaeta is divided into following three orders on the basis of differences in the productive organs (Jamieson 1978).

Order 1. Lumbriculida

1. Male gonopores and at least one pair of testes in the same segment.
2. Each body segment consists of four pairs of setae.
3. Clitellum is one cell thick and includes male and female gonopores.
4. All are freshwater animals.

Example. *Lumbriculus*.

Order 2. Tubificida

1. Male gonopores situated in the segment immediately anterior or posterior to the segment containing testes.
2. One pair of testes followed by one pair of ovaries in adjacent segments.
3. Clitellum is one-cell thick including male and female gonopores.
4. Setae hair-like or modified. Each segment contains setae bundles-each containing two or more setae.
5. Marine, freshwater and a few terrestrial forms.

Examples. *Tubifex*, *Nais*, *Dero*, *Chaetogaster*, *Enchytraeus*.

Order 3. Haplotaxida

1. Male gonopores are situated atleast one segment posterior to last pair of testes.
2. Basically have two segments with testes followed by two segments with ovaries. One pair of testes or ovaries or often both absent. If there is one pair of testes, these are separated from the ovaries by one or two segments.
3. Clitellum one-cell or more than one cell in thickness. Male gonopore is not situated in the clitellum.

Examples. *Lumbricus*, *Megascolex*, *Pheretima*, *Drawida*, *Eutypheus*.

Class 3. Hirudinea

Class Hirudinea is divided into following four orders:

Order 1. Acanthobdellida

1. This order includes only one species which is parasitic on the fins of salmon fishes.
2. Body comprises thirty segments only. Each segment contains four annuli.
3. Anterior sucker is absent but posterior sucker is well developed and composed of four segments.
4. Anterior five segments are provided with two pairs of setae.
5. First five segments show internal segmentation (septa are present).
6. Proboscis is short; jaws absent; anus dorsally situated.
7. Acanthobdellida forms a connecting link between Oligochaeta and Hirudinea.

Example. *Acanthobdella peledina*.

Order 2. Rhyncobdellida

1. Blood-sucking ectoparasites of snail, fishes, frogs, tortoise and turtles. May be freshwater or marine.
2. Each typical segment consists of 3, 6, or 12 annuli.

3. Proboscis is protrusible and without jaws and teeth.
4. Setae are absent.
5. Both anterior and posterior suckers are present.
6. Coelom is reduced to sinuses but botryoidal tissue absent.
7. Circulatory system is separated from the coelomic sinuses. Blood is colourless.
8. Eyes absent.

Examples. *Pontobdella*, *Glossiphonia*, *Helobdella*, *Placobdella*, *Piscicola*.

Order 3. Gnathobdellida (or Archnychobdellida)

1. Most are ectoparasites on insect larva, worms, snails, amphibia, cattles and human beings, some are predators.
2. Freshwater and terrestrial forms.
3. Each typical body segment consists of five annuli.
4. Body with anterior and posterior suckers.
5. Proboscis is absent.
6. They contain three jaws with strong cuticular teeth in their buccal cavity.
7. They contain five pairs of eyes. Host finding occurs by means of olfactory sense.
8. Setae are absent.
9. Coelom is reduced to sinuses and body cavity filled with botryoidal tissue.
10. Blood is red coloured.

Examples. *Hirudo*, *Hirudinaria*, *Haemopsis*, *Macrobdella*, *Xerobdella*.

Order 4. Pharyngobdellida

1. Freshwater or amphibious carnivorous (predaceous) leeches.
2. Proboscis nonprotrusible. Jaws absent but they may contain one or two piercing

Examples. *Erypobdella*, *Dina*.