

Phylum: Aschelminthes

Aschelminthes are commonly known as roundworms. They are characterized by the presence of a pseudocoelom. It is now an obsolete phylum of invertebrates and the animals grouped under this are now kept in ten different phyla.

General Characters of Phylum Aschelminthes

- They are mostly aquatic, free-living or parasitic.
- They are bilaterally symmetrical, unsegmented worms.
- The body is slender, vermiform and usually worm-like or flattened.
- They are usually small, even microscopic, while some reach a meter or more in length.
- They are triploblastic and pseudocoelomate with organ system grade of body organization.
- Body wall with a syncytial or cellular epidermis, externally covered with the thick cuticle of scleroprotein.
- [Cilia](#) are absent except anterior cilia of rotifers.
- Muscles include mostly longitudinal fibers.
- The digestive canal is straight and complete with a mouth, straight non-muscular intestine, and anus, pharynx muscular and highly specialized.
- Respiratory and circulatory systems are absent.
- Excretory system includes a system of canals, protonephridia (in some) for osmoregulation. Cloaca present in some.
- The nervous system is simple and consists of circumenteric nerve ring with anterior and posterior longitudinal nerves.
- Sense organ are in the form of pits, papillae, bristles, and eyespots.
- They are mostly dioecious i.e. sexes separate. Gonads and ducts single or double.
- Asexual reproduction doesn't occur in them.
- Eggs have a chitinous shell, cleavage determinate and spiral.
- Their life cycle is simple or complicated usually with no special larval stages.

Class 1. Nematoda (**Gr., *nema*=thread+ *idos*= form**)

- Aquatic or terrestrial, free-living or parasitic, elongated roundworm.
- Body elongated, cylindrical and unsegmented.
- Body wall with thick cuticle, cellular or syncytial epidermis and longitudinal muscles in four bands.
- No cilia, no circulatory and respiratory system.
- The digestive system completes with **muscular pharynx** and
- Excretory system of glandular organs or canals or both.
- Nervous system with circumenteric ring and anterior and posterior nerves.
- Sense organs simple.
- Male with penial spicules and smaller than females.

- Gonads one or two. Male genital ducts lead into the cloaca, female genital duct with a separate opening.
- Fertilization
- Development is usually direct. No asexual reproduction or regeneration.
- Examples: *Ascaris*, *Necator*, *Wuchereria*, *Trichinella*.

Order 1. Ascaroidea



- Mouth surrounded by 3 prominent lips.
- Pharynx without posterior bulb or if present it is not Valvulated.
- Pharynx or intestine or both often with caeca.
- No buccal capsule.
- Blunt female tail; male without caudal alae and possesses two equal or nearly equal spicules.
- Examples: *Ascaris*.

Order 2. Filarioidea



- Filiform worm without lips.
- Small or rudimentary buccal capsules.
- The pharynx is anteriorly muscular and posteriorly glandular.
- Pharyngeal bulb absent.
- Vulva anterior in females.
- Brusa wanting, spicules unequal and dissimilar.
- Examples: *Wuchereria*