

## General characteristics of Aschelminthes

Nematodes are commonly referred as non-segment roundworms, threadworms or pinworms as distinct from lower flatworms and higher segmented annelids. They constitute the largest phylum of Pseudocoelomate group combined under the super Phylum Aschelminthes. Main distinguishing feature of phylum Nematoda as follows—

- 1) Widely distributed, aquatic or terrestrial and parasitic or free living.
- 2) Body elongated, cylindrical unsegmented, worm like, bilaterally symmetrical and tapering towards both ends.
- 3) Body triploblastic with organ system grade of organization.
- 4) Body-wall with thick resistant cuticle, cellular or syncytial epidermis, and longitudinal muscle fibres in four bands.
- 5) True coelom absent, Persistent blastocoel or Pseudocoel present not lined by mesoderm.
- 6) No cilia, no circulatory and no respiratory system.
- 7) Digestive system complete with anus, with muscular pharynx and non muscular caecal intestine.
- 8) Excretory system of glandular organs or cilia or both. Flame cells absent.
- 9) Nervous system with circumenteric ring and anterior and posterior nerves.
- 10) Sense organs poorly developed, in the form of small papillae and amphids near on two body ends.
- 11) Dioecious with sexual dimorphism. Male smaller than female, gonads simple and coiled. Male genital duct lead into cloaca female genital ducts with a separate opening. Fertilization internal.

## Classification of Aschelminthes and/or Nematodes.

Nematodes are among the most numerous of any phylum. About 15,000 species of nematodes are known as present.

Chitwood (1933) divided them into two classes, Phasmodia and Aphasmodia, on the basis of presence or absence of phasmodia. These are group into 17 orders, but only some important orders have been described here.

### Class - Aphasmodia -

- 1) Phasmodia (caudal sensory organs) absent.
- 2) Amphids (anterior sense organs) of various types rarely pore like.
- 3) No excretory system, if present, poorly developed.
- 4) Mesenterial tissue well developed.
- 5) Caudal adhesive glands present.  
eg. Plectus, Desmoscolex etc.

### 2. Class Phasmodia (Secernentia)

- 1) Phasmodia present.
- 2) Amphids pore like.
- 3) Excretory system developed.
4. Mesenterial tissue weakly developed.
5. No caudal adhesive glands.  
eg. Trichuris, Rhabditis, Uncinaria etc.

### Some common nematodes -

- 1) Trichuris trichiura - (The whip worm)
- 2) Trichinella spiralis (The Trichina worm)
- 3) Enterobius vermicularis (The Pin worm man)
- 4) Dracunculus medinensis (The Guinea worm)
- 5) Loa loa (The eye worm)

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