

UNIT – 1

PHYLUM – ASCHELMINTHES

The Aschelminthes (Greek askes = cavity, helmins = worm) are pseudocoelomate, mostly vermiform fresh water and marine animals.

General Features of Phylum Aschelminthes

- Body of round worms is elongated, cylindrical, vermiform with tapering ends.
- Body is unsegmented or superficially segmented covered with tough cuticle.
- They are mostly minute to small size but some are of great length.
- Caudal end of the body is generally straight in female but coiled in males
- Males are shorter than females.
- Mouth is terminal surrounded by lips. In strongyloides the lips are modified into teeth known as leaf crown.
- The sensory organs are amphids and papillae which are of great taxonomic value in case of free- living forms.

- Body is covered by rough resistant cuticle with bristles, spines, warts and papillae etc.
- Body cavity is pseudocoel.
- Digestive tract is well developed generally made up of mouth, buccal cavity, pharynx or oesophagus, intestine and anus.
- Nervous system consists of a nerve ring encircling the oesophagus from it, nerves are given out anteriorly and posteriorly.
- Protonephridia are absent but excretory system is made up of canals.
- Sexes are separate.
- They are ovo-viviparous, oviparous or viviparous.
- Life cycle is complicated with or without intermediate host.
- The phylum includes free living, epizoic and parasitic members.

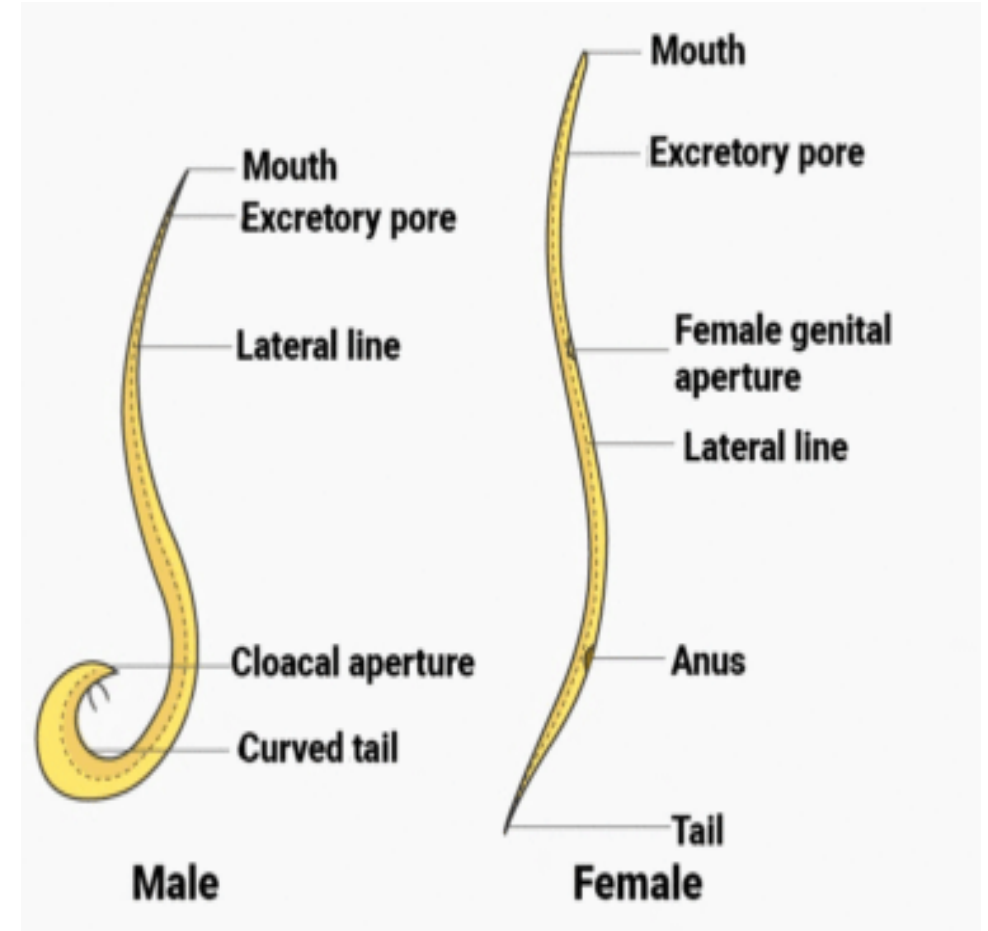
Class – Nematoda

- Body is cylindrical, tapering towards both the ends.
- Body is covered with cuticle.
- Intestine is well developed.
- Body cavity is not lined with epithelium.
- Cloaca is absent in female.
- Male and female reproductive organs are well developed.

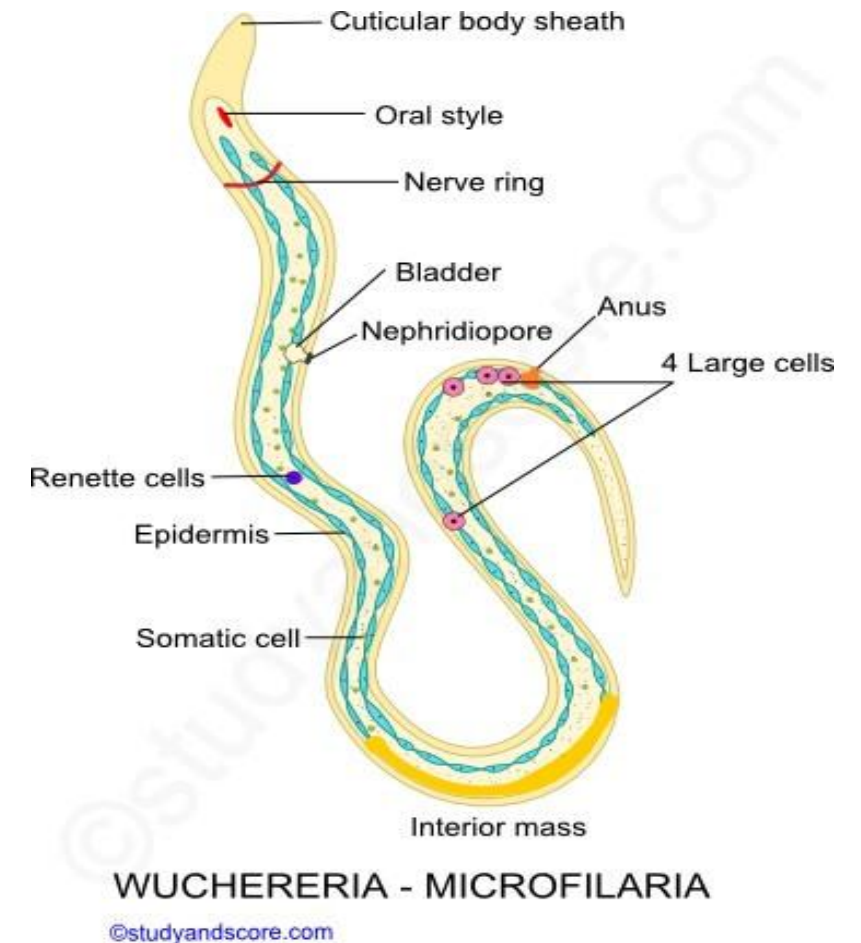
Examples: *Rhabditis*, *Loa loa*, *Dracunculus medinesis*, *Trichinella spiralis*, *Ascaris lumbricoides*, *Ancylostoma*, *Wuchereria*.

Economic Importance of Aschelminthes:

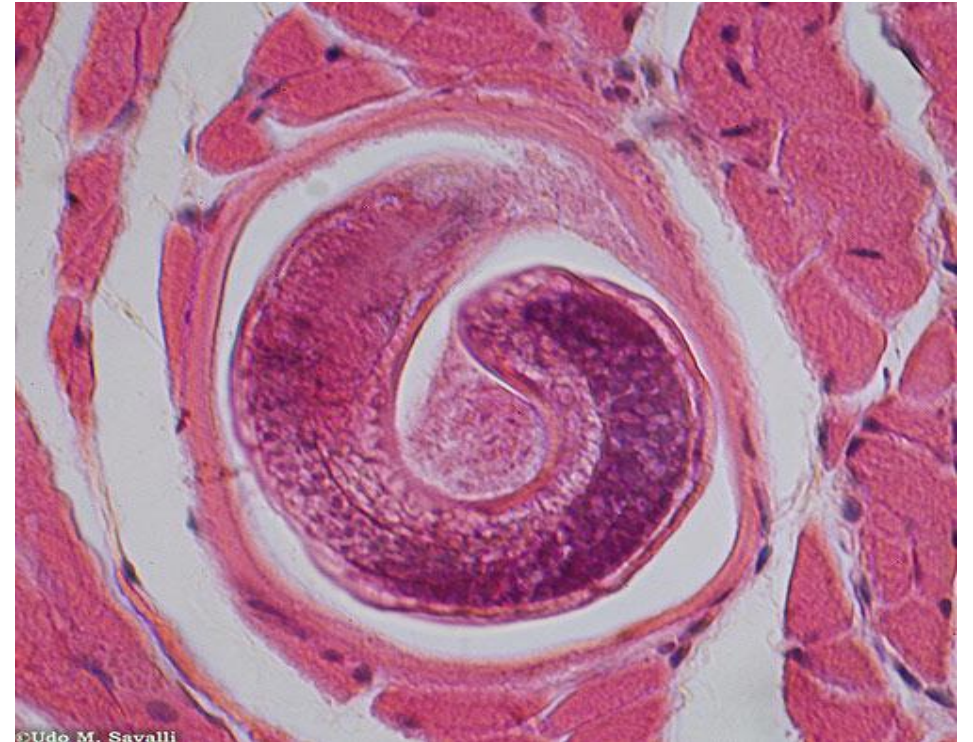
- Several nematode worms are the parasites of man. There are four major prominent nematodes namely, round worms, hook worms, pin worms and whip worms that affect humans.
- *Ascariasis* is disease caused by the most common worm *Ascaris lumbricoides*. Children are common victims. They are acquired in human body through contaminated food, water, raw vegetables and fruits. The patients complain of abdominal pains, weakness, vomiting, headache, dizziness, nervous disorder, skin rashes and fever often patient grinds his teeth in sleep.



- *Ancylostoma duodena* is called hookworm, causing disease *Ancylostomiasis*. They are common parasites within the intestine. They are common in rural areas. Children suffer more from these parasites. These parasites suck blood and tissue juices of host. They enter blood vessels and are carried to the heart and lungs. The symptoms seen in the patient are gastrointestinal disorders, anaemia, nervous disorders.
- *Enterobiosis* is caused by pinworm called **Enterobius**. They lay the eggs near the anal ring where they cause intense itching. They are picked upon the fingers and under the nails where they find their way to food and are swallowed. They hatch in stomach and juveniles migrate to the colon and develop into adult worms. Patient loss of appetite, sleeplessness, bed wetting, grinding of teeth, nausea and vomiting.



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- *Trichinella spiralis*, the trichina worm cause disease called *Trichinosis*. It is transmitted by raw meat, especially pork. The symptoms of this disease are nausea, vomiting, odema of face and eyelids and fever.



➤ The *Elephantiasis* or *Filariasis* is disease caused by filaria worm *Wucheria bancrofti*. They live in the lymphatic system and connective tissues of the body and through which they circulate in the blood at night. Infection is spread through *Culex* mosquito. The worm causes enlargement of the limbs, scrotum and mammae. Swelling takes place due to blockage of lymph circulation by parasitic worms.

