

CLASSIFICATION OF NEMATODA

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Classification of Nematoda

The phylum Nematoda is popularly known as 'round worms'. They are the largest aschelminth group. A nematode is a 'tube within a tube' pointed at both ends and round in cross-section.

General characters

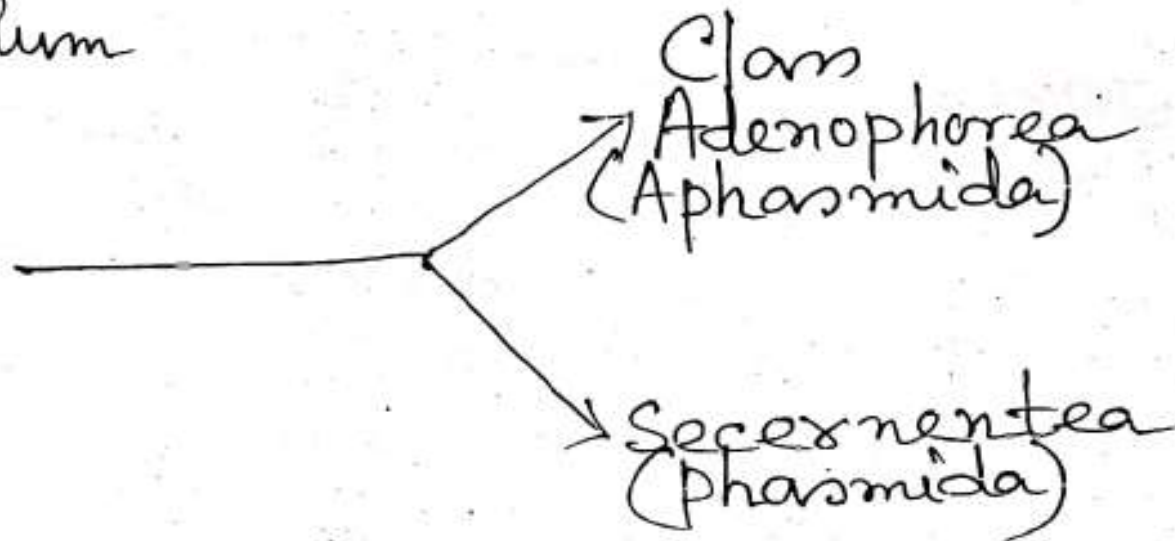
- i) Nematodes are slender, elongated, cylindrical, unsegmented, worm-like bilateria and tapering towards both ends.
- ii) Body triploblastic with organ-system grade of organisation.
- iii) Body wall with thick resistant cuticle, cellular or syncytial epidermis.
- iv) True coelom absent. Body cavity is a pseudocoel, usually derived from the blastocoel.
- v) Circulatory system absent.
- vi) Mostly dioecious with sexual dimorphism.
- vii) Fertilization internal and development usually direct.

Scheme of Classification

According to Ruppert and Barnes (1994) phylum Nematoda is classified under the following table.

Phylum

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① Class - Adenophorea

- i) Phasmids (caudal sensory organ) absent.
- ii) Amphids are of various types, (anterior sense organ) rarely pore-like.
- iii) No excretory system.
- iv) Presence of paired testis, (testes)
- v) Presence of cephalic setae and papillae.

This class comprises of 12 orders.

Eg. - Trichuris, Mononchus.

② Class - Secernentea

- i) Phasmids present. (one pair)
- ii) Amphids pore-like.
- iii) Only anterior testis is present.
- iv) Excretory system develop.
- v) No caudal adhesive glands.

This class comprises of 8 orders.

Eg. - Ascaris, Wuchereria,
Ancylostoma

Male Ascaris

- i. Male is smaller
- ii. The posterior aperture is cloacal aperture into which digestive and genital tubes open. A pair of curved chitinous rods or copulatory spicules or pineal spicules protrude beyond the cloacal aperture.
- iii. Many ventral anal papillae are present.
- iv. The tail-end is curved ventrally in the form of a hook with a conical tip.
- v. No vulval aperture in the mid-ventral line, one third from the anterior end.

Female Ascaris

- i. Female is larger than male.
- ii. The posterior aperture is the anal aperture where the duct of alimentary canal opens here.
- iii. Only one pair of caudal papillae are present on the ventral surface.
- iv. The tail-end is straight.
- v. The vulval or genital aperture is situated at about $\frac{1}{3}$ from the anterior side, on the mid-ventral line.

