

THE PSUEDOCOELOUS PHYLA ("ASCHELMINTHES")

Bilateral Symmetry

Triploblastic (ectoderm, endoderm, & mesoderm)

Pseudocoelous

Blastopore mouth, Determinate cleavage

Complete Digestive Tract

Small body size ("Cryptobiosis"), therefore:

 No respiratory system

 No circulatory system

 Some have protonephridia

Body covered by a cuticle

Adhesive glands usually present

Usually dioecous

8 Phyla

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|-------------------|----------------|
| 1. Nematoda | (12,000+ spp)* |
| 2. Nematomorpha | (240 spp) |
| 3. Acanthocephala | (700 spp) |
| 4. Rotifera | (1,800 spp)* |
| 5. Gastrotricha | (450 spp)* |
| 6. Kinorhyncha | (100 spp) |
| 7. Loricifera | (<10 spp) |
| 8. Priapulida | (13 spp) |

Why is a coelome advantageous?

1. Physical space for organs to develop and grow.
2. Facilitates flexibility of animal for locomotion
3. Provides spatial independence between organs
 Peristalsis

Respiration

heart beat

4. Contains fluids for:

Hydrostatic support

Buffers temperature change

Buffers shock damage to organs

Facilitates circulation (gases, food, amoebocytes)

Coelome lined with mesoderm ("Peritoneum")

Nematoda

Excretory cells (RENETTE CELLS), but lack protonephridia

Nervous system well developed (4 longitudinal nerve cords)

Sensory - tactile (setae & papillae), chemoreceptor (PHASMIDS)

Nematode Parasites:

Ascaroids - single host - egg (in feces) larva to blood lung esophagous
intestines (adult)

e.g., Enterobius vermicularis, Ascaris
lumbricoides, Necator americanus

Trichinellids - viviparous - same individual acts as 1st & 2nd hosts - larvae encyst in muscle

e.g., Trichinella spiralis

Filaroids - arthropod 2nd host - viviparous - microfilariae larvae, associated with lymph

e.g., Wuchereria bancrofti, Dirofilaria spp.