

Kingdom Animalia Eukaryotic, multi-cellular, heterotrophic, lack cell-wall, most show mobility, mostly reproduce sexually

Simple animals

Refer to **Table 1** for distinguishing characteristics among different phyla

- Sponges (**Phylum Porifera**) e.g. *Grantia*

Presence of numerous pores, filter feeders,

Spicules are microscopic skeletal elements, Sponges are classified on the basis of spicules

Water flows through (unidirectional)→

Incurrent pores→ radial canal → Spongoecol (central cavity) → Osculum

Specialized cells like Choanocytes with flagella (collar cells) and amoebocytes are present. Most sponges are monoecious.

- Cnidarians (**Phylum Cnidaria**) e.g. *Obelia*, *Hydra*, jellyfish, corals and sea anemone

Cnidarians show tissue level organization, radial symmetry, sac like body plan, presence of stinging cells and dart like nematocysts

Alternation of Generation e.g. *Obelia*, **Polyp** form-attached

Medusa form-free swimming

- Flat worms (**Phylum Platyhelminthes**), show bilateral symmetry- dorsal, ventral surface and anterior, posterior ends, presence of 3 germ layers (triploblastic)

Free-living flatworms **Cephalization** -show presence of Eye spots, Auricles

Excretory structure -flame cell

e.g. *Dugesia*

Parasitic flatworms- **tapeworms** e.g. *Taenia saginata* in uncooked beef

Suckers and hooks of the scolex – used for attachment

Series of proglottids- reproductive parts

- **flukes** -- areas infected can include the lungs, liver, blood and digestive systems of vertebrates

Suckers-used for attachment

e.g. *Clonorchis* and *Schistosoma*

- Round worms (**Phylum Nematoda**) show bilateral symmetry, complete digestive tract (tube within a tube body plan), organ system level organization, presence of **pseudocoelom** and protective layer of cuticle.

Distinguish between *Ascaris* male and female (male worms are smaller and have curved posterior end)

Human parasite - e.g. *Ascaris lumbricoides*.

Trichinella spiralis- in uncooked pork, causes Trichinosis

Other examples *Wuchereia boncrofti* causing elephantiasis, Hookworms, Pinworms and vinegar eels *Turbatrix*

