NEMATODA

AKA: Round Worms

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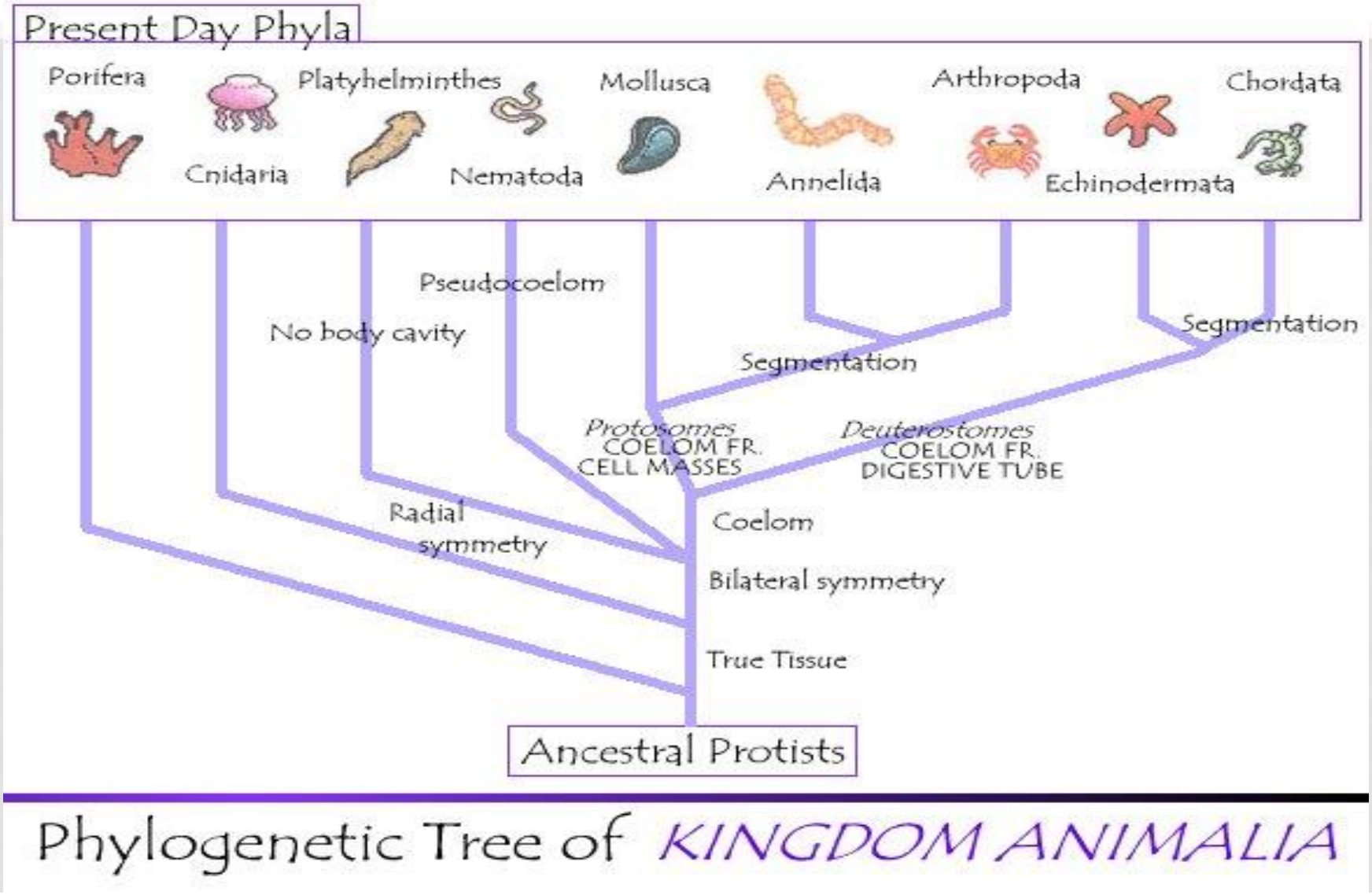


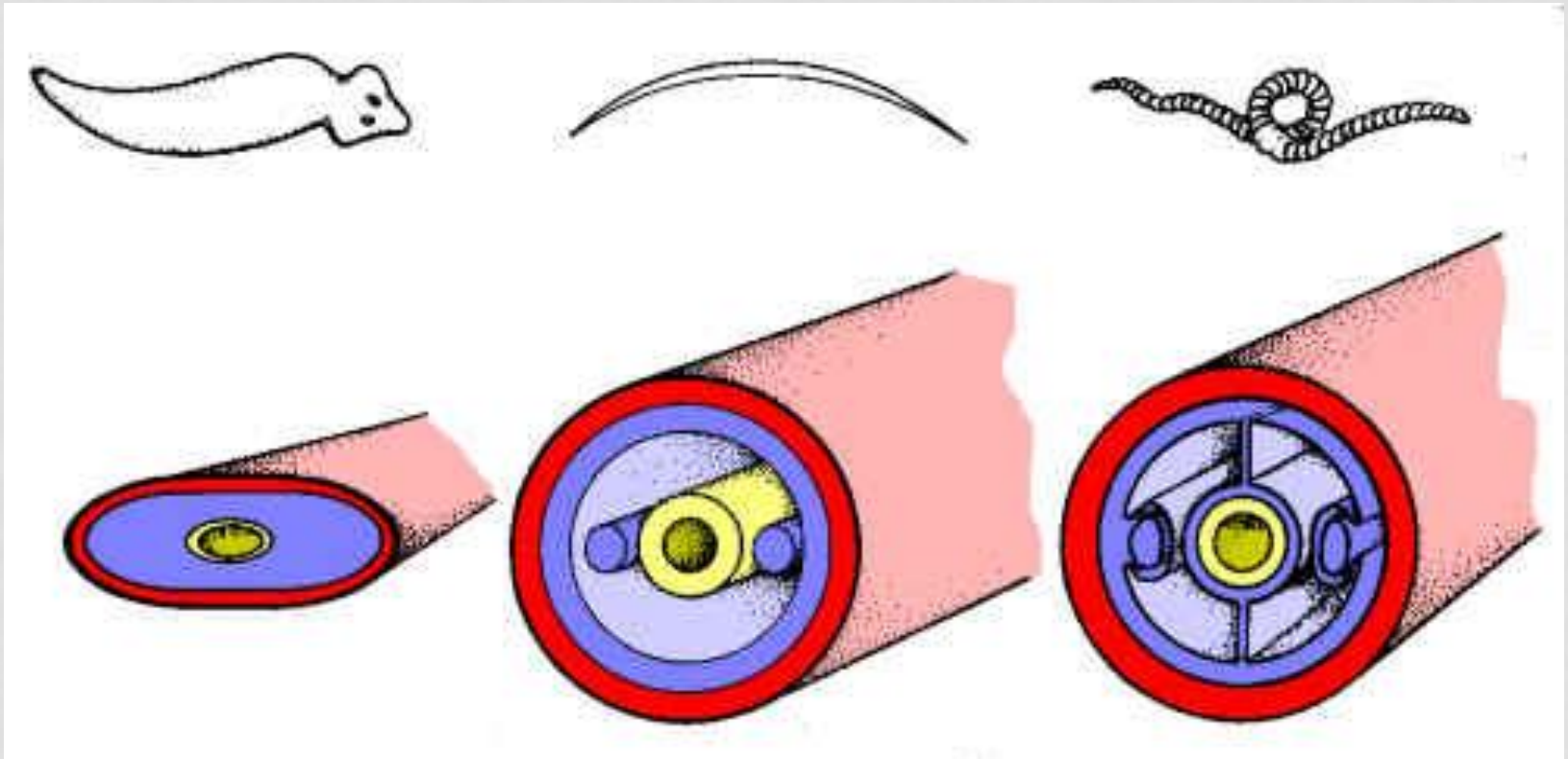
Phylogenetic Tree of *KINGDOM ANIMALIA*

WHAT IS A ROUNDWORM?

- What Is a Roundworm?
  - **Most** species of **roundworms** are **free-living**, inhabiting **soil**, salt flats, aquatic sediments, and water, from polar regions to the tropics.
  - Others are **parasitic** and live in **hosts**.

PSEUDOCOELOM

- This cavity is **partially lined** with tissue derived from the mesoderm and is called a **pseudocoelom,** meaning, "**false coelom**."



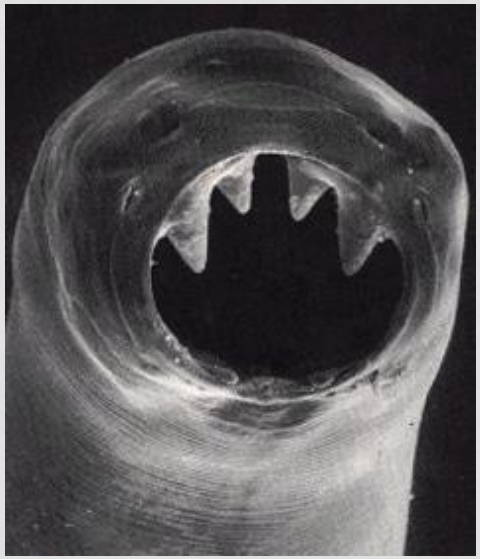
DIGESTION

- Roundworms have a **digestive tract** with **two** openings.
- **Food moves** in **one direction** through the digestive tract of roundworms.
- Any **food** that is **not digested** leaves the body through the **anus.**

DIGESTION

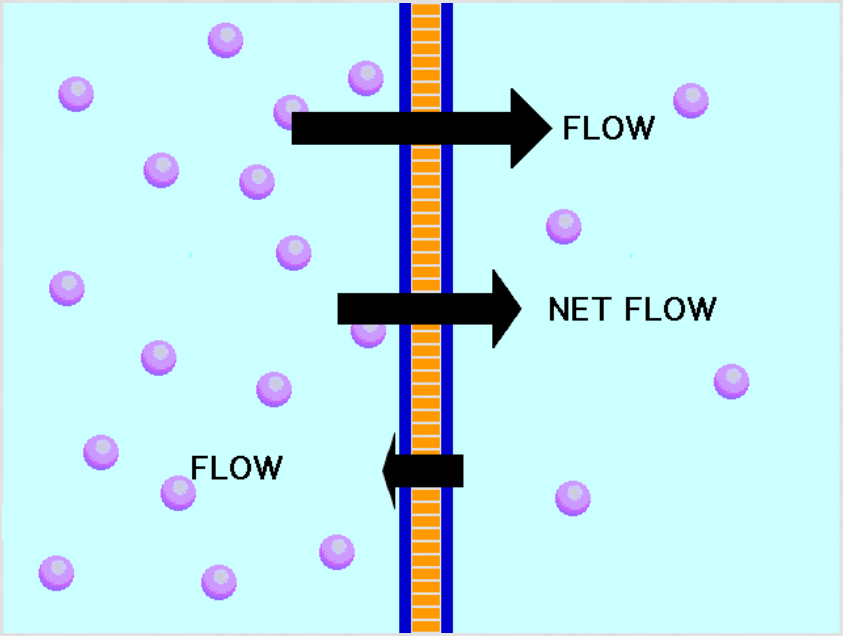
Feeding

- Many free-living roundworms use **grasping mouthparts** and **spines** to **catch** and **eat** other small **animals**.



RESPIRATION, CIRCULATION, AND EXCRETION

- Roundworms **exchange gases** and **excrete** metabolic **waste through** their **body walls**.
- They depend on **diffusion** to **carry nutrients** and **waste** through their bodies.



NERVOUS SYSTEM

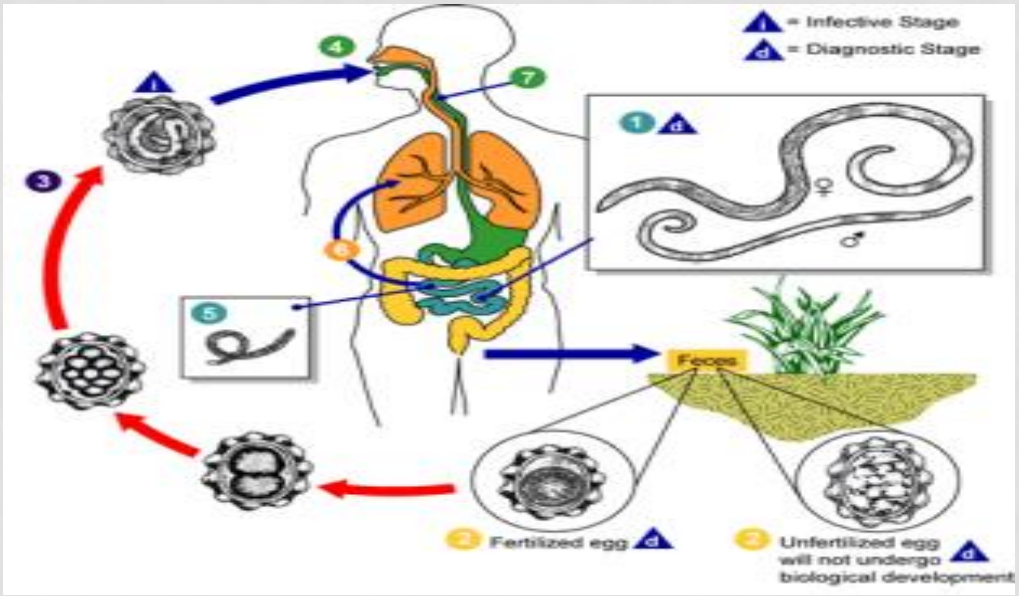
- Roundworms have **simple nervous systems**
- Several **nerve nets** extend from **anterior** ganglia
  - **Run** the **length** of the body
- Have several types of **simple sense organs**
  - Structures to **detect chemicals** given off by **prey** or **host**

MOVEMENT

- Fluid in the **pseudocoelom** and muscles extending the length of their bodies function as a **hydrostatic skeleton**.
- **Aquatic** roundworms contract muscles to move like snakes through the water.
- **Soil-dwelling** roundworms push their way through the soil by thrashing around.

REPRODUCTION

- Roundworms reproduce **sexually**.
- **Most** species have **separate sexes**.
- Parasitic roundworms often have life cycles that involve **two** or **three** different **hosts** or **several organs** within a **single** host.



ROUNDWORMS AND HUMAN DISEASE

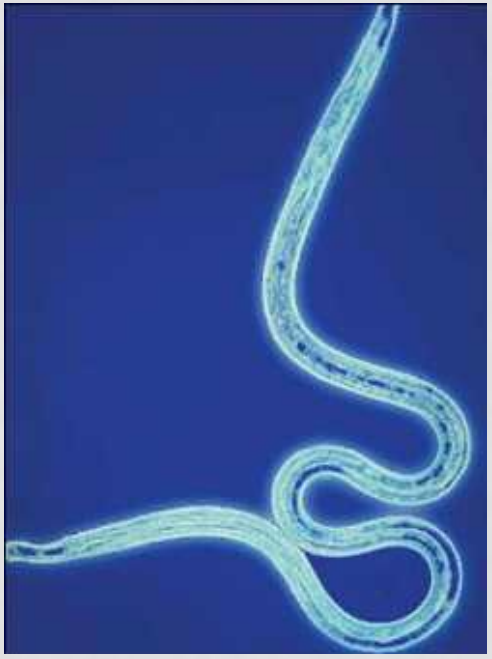
- **Parasitic** roundworms include **trichinosis-causing** worms, **filarial** worms, **ascarid** worms, and **hookworms**.

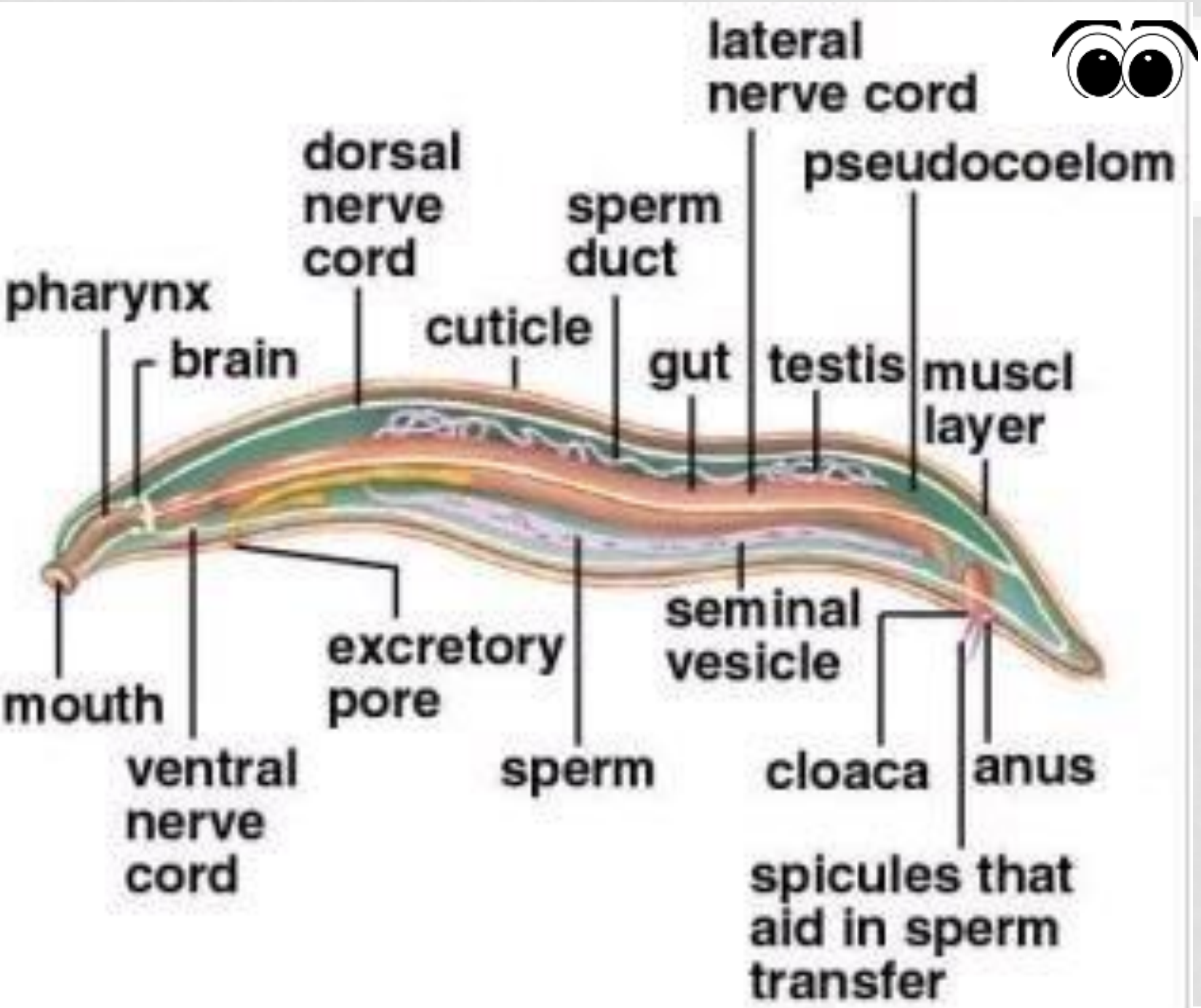
ASCARIS

- Ascarid Worms
  - ***Ascaris lumbricoides*** is a **serious parasite** of **humans** and many other **vertebrate animals**.
  - It **absorbs** digested food from the host's **small intestine**.

FILARIAL

- Filarial Worms
  - **Filarial worms** are **threadlike** worms that **live** in the **blood** and **lymph** vessels of **birds** and **mammals**.
  - They are **transmitted** by **mosquitoes**.
  - Causes **Elephantiasis**




lateral nerve cord
dorsal nerve cord
sperm duct
pseudocoelom
pharynx
brain
cuticle
gut
testis
muscl layer
seminal vesicle
excretory pore
mouth
ventral nerve cord
sperm
cloaca
anus
spicules that aid in sperm transfer