

## Chapter 12 Eukaryotes

### Helminths (Parasitic Worms)

- Kingdom: Animalia
  - Phylum: Platyhelminthes (flatworms)
  - Dorsoventrally flattened; incomplete/no digestive tract
- Class: Trematodes (flukes)
  - Leaf-shaped body, oral and ventral suckers
  - Named for tissue they live in (definitive host)
- Class: Cestodes (tapeworms)
  - Long and thin, with scolex and proglottid sections
  - Intestinal parasites, but can invade tissues
  - Phylum: Nematoda (roundworms)
  - Cylindrical shape; complete digestive tract
  - Infective egg or infective larvae

### Characteristics of Helminths

- Reduced digestive system
- Reduced nervous system
- Reduced locomotion
- Complex reproduction

### Life Cycle of Helminths

- Monoecious (hermaphroditic)
  - Male and female reproductive systems in one animal
- Dioecious
  - Separate male and female
- Egg → larva(e) → adult

### Important Helminth Diseases

- Fluke – Lung Fluke
- Tapeworm – *Taenia saginata*, *Echinococcus*
- Nematode – Pinworm, Trichinellosis\*

\* CDC pathogen

### Arthropods as Vectors

- May transmit diseases (vectors)
- Kingdom: Animalia
  - Phylum: Arthropoda (exoskeleton, jointed legs)
- Class: Insecta (6 legs)
  - Lice, fleas, mosquitoes
- Class: Arachnida (8 legs)
  - Mites and ticks

### Arthropods Vector Types

- Mechanical transmission
- Biological transmission
  - Microbe multiplies in vector
- Definitive host
  - Microbe's sexual reproduction in vector

### Important Arthropod-Vectored Diseases

- Flea – Plague
- Mosquito – Dengue, Malaria, Yellow Fever
- Tick – Ehrlichiosis, Lyme Disease, Rickettsiosis, Tularemia