

## Chapter 8 Platyhelminthes 34,000 flatworms

Bilateral Symmetry

Triploblastic

Acoelomate

nerve network with pair of ganglia

eye spots (ocelli)

excretory system

circulatory system with blood

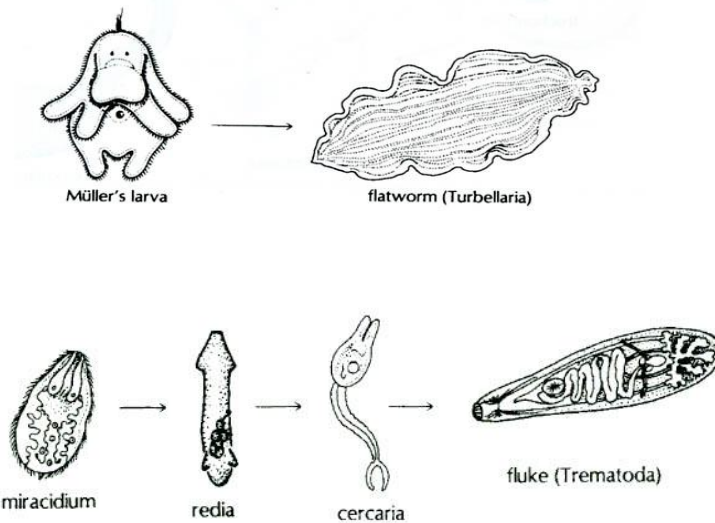
Class

Turbellaria → mostly free-living in aquatic or moist terrestrial environments; some are symbiotic or parasitic

Trematoda → flukes all parasitic

Cestoda → tapeworms all parasitic

### Larval Stages



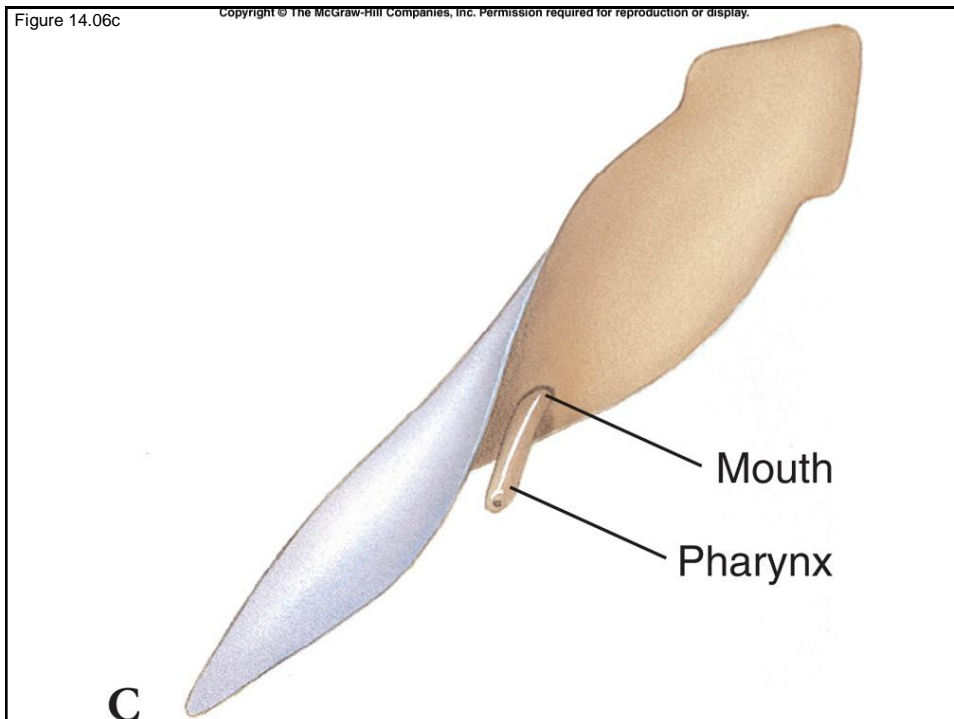
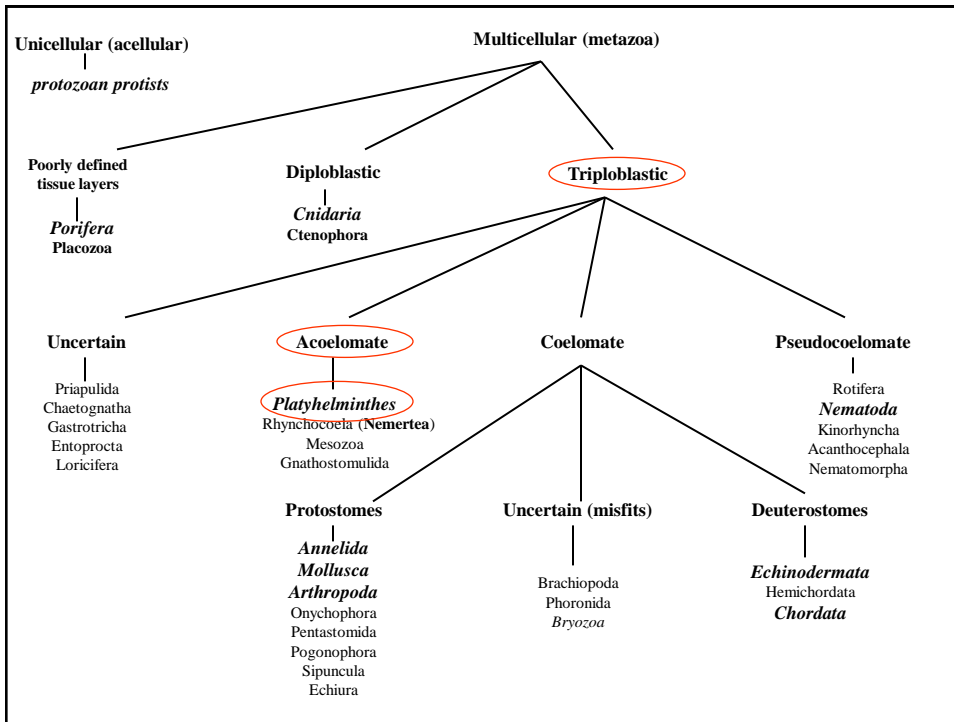


Figure 14.06b

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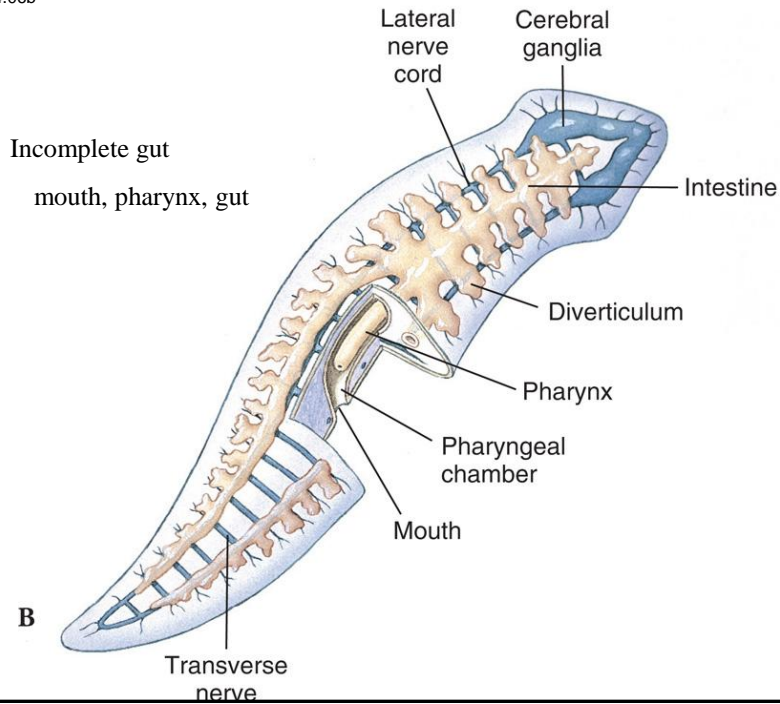


Figure 14.06a

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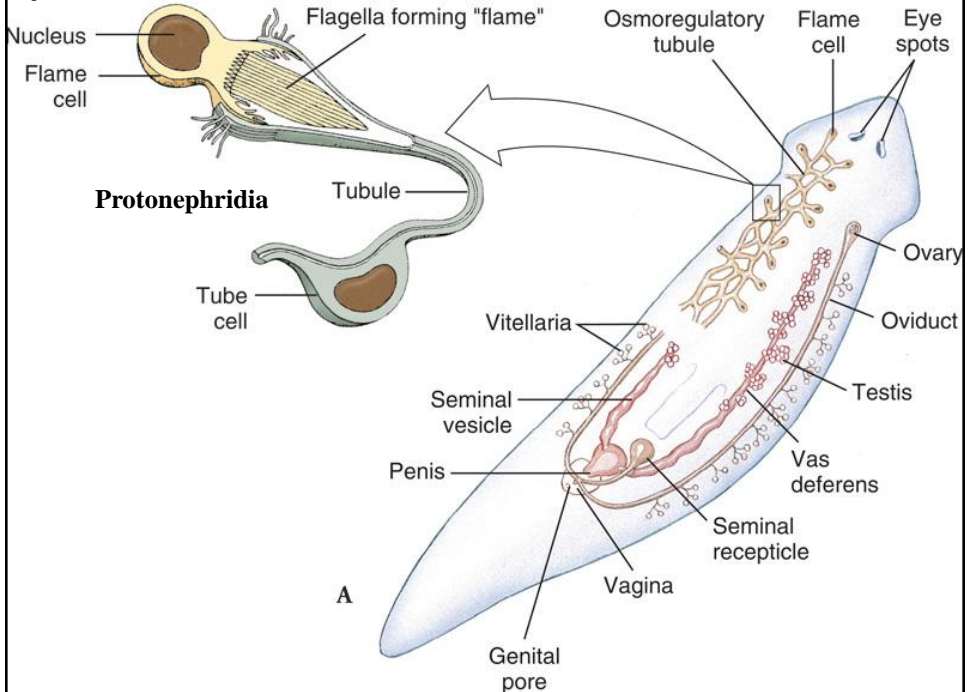


Figure 14.01

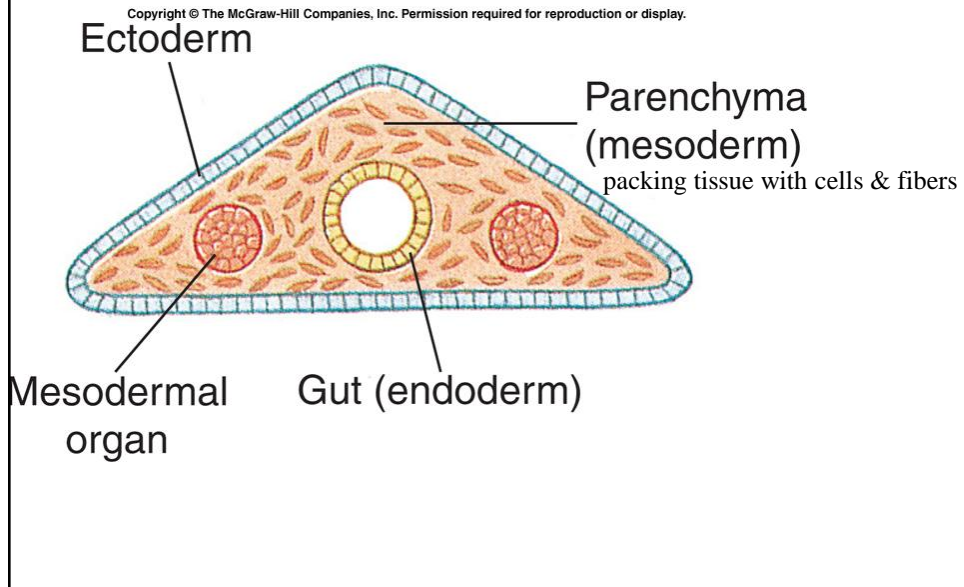


Figure 14.03

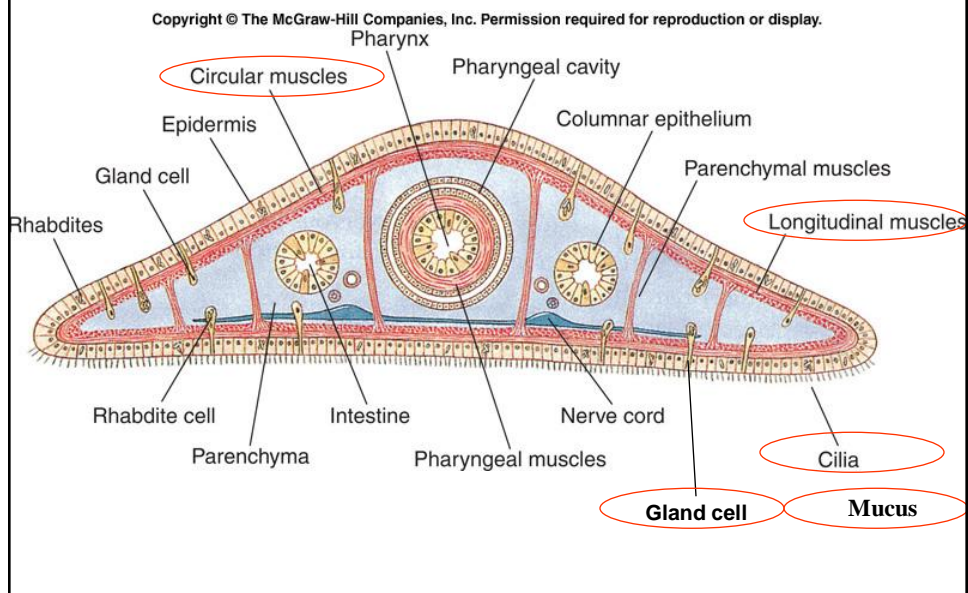


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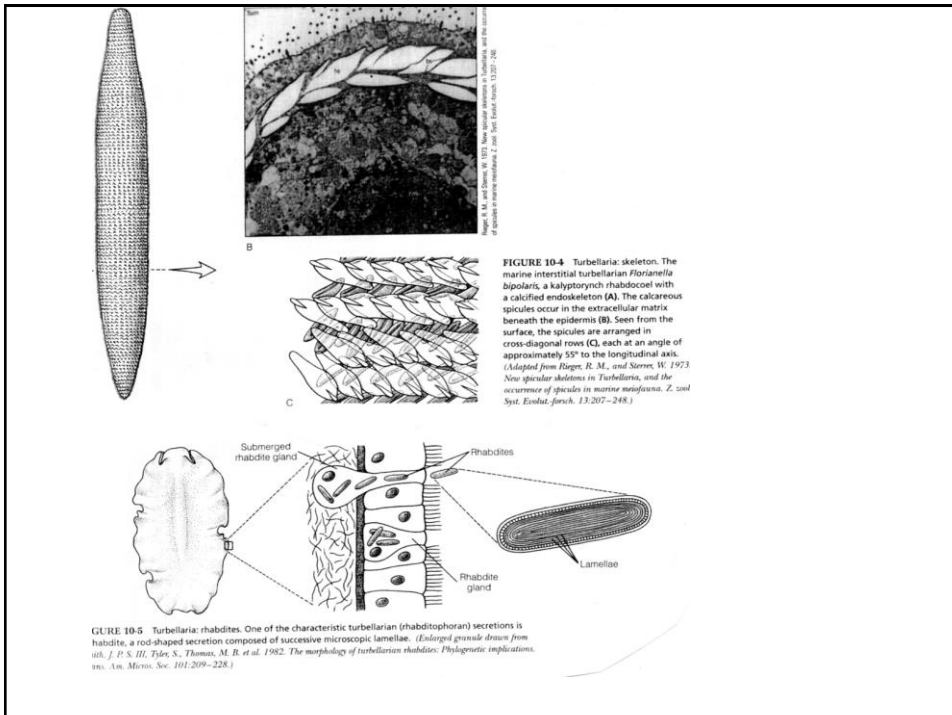
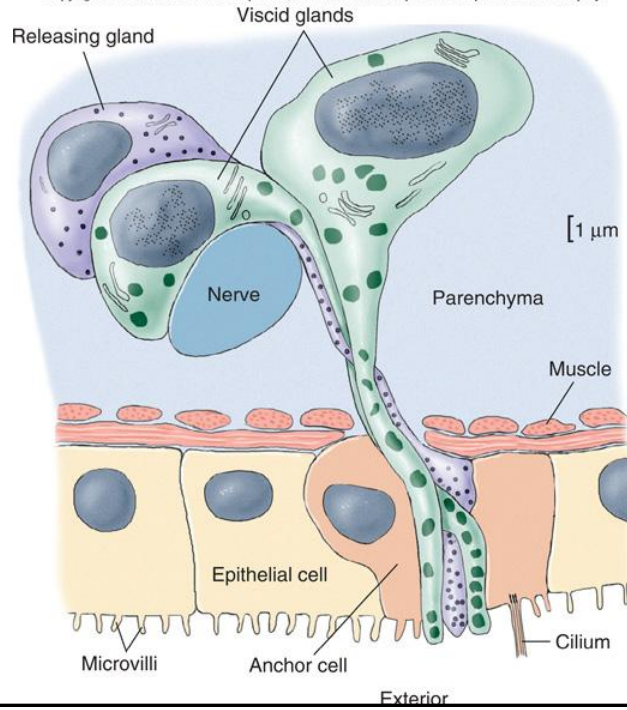


Figure 14.02

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Figure 14.co

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marine polyclad  
*Thysanozoon  
nigropapillosum*



Figure 14.10

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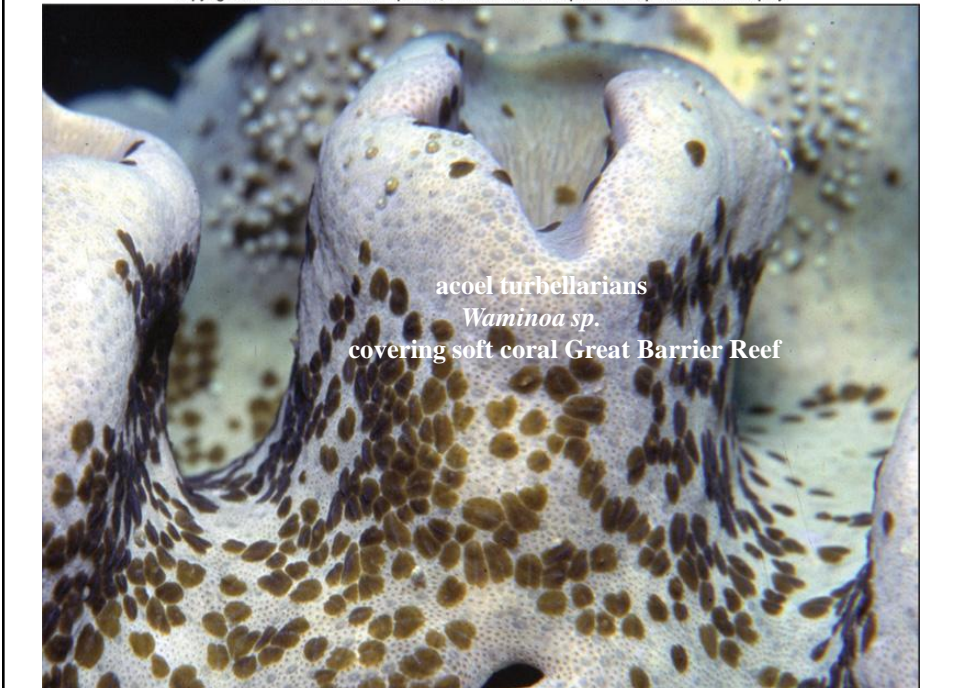


Figure 14.09a

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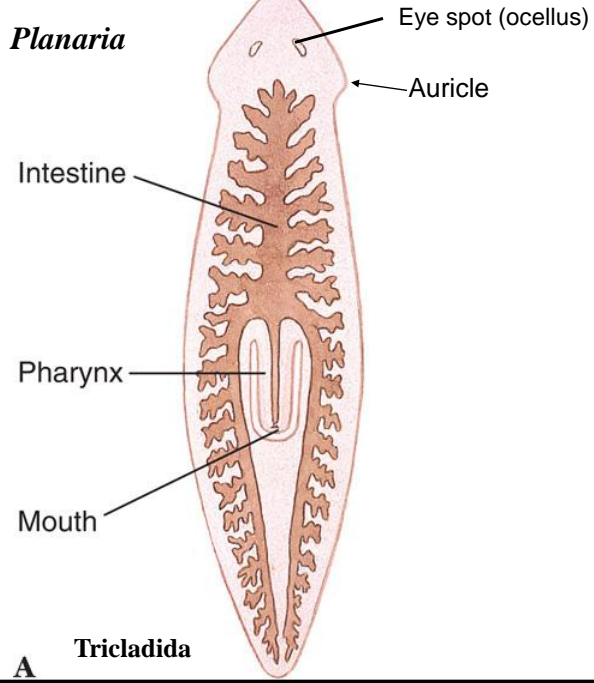


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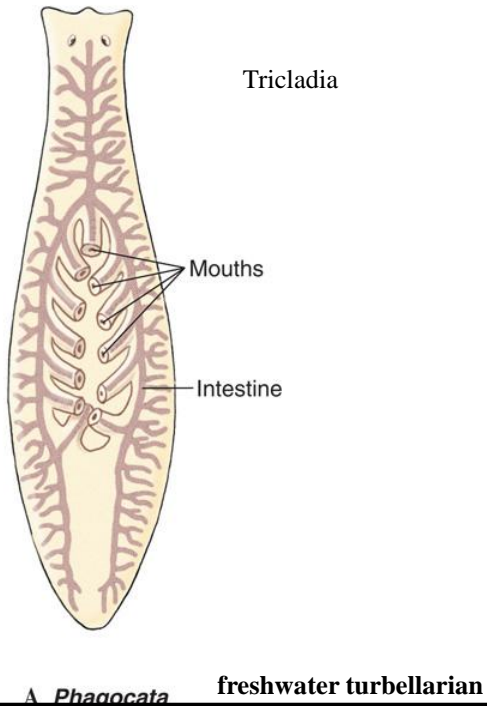
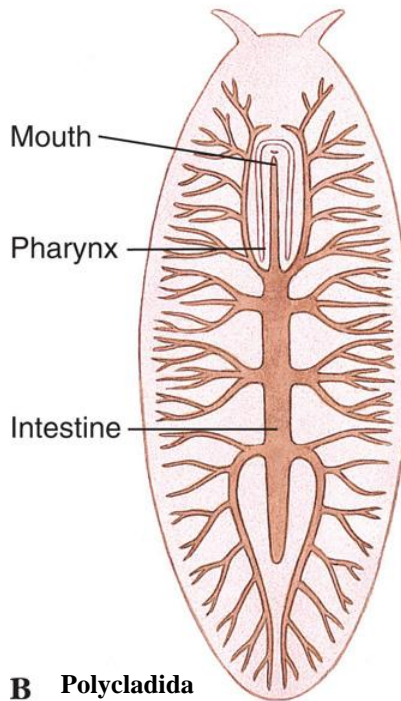


Figure 14.09b

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**B Polycladida**

Figure 14.01

### Class: Trematoda

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TABLE 14.1

#### Examples of Flukes Infecting Humans

Common and Scientific Names	Means of Infection; Distribution and Prevalence in Humans
Blood flukes ( <i>Schistosoma</i> spp.); three widely prevalent species, others reported <i>S. mansoni</i> <i>S. haematobium</i> <i>S. japonicum</i>	Cercariae in water penetrate skin; 200 million people infected with one or more species Africa, South and Central America Africa Eastern Asia
Chinese liver flukes ( <i>Clonorchis sinensis</i> )	Eating metacercariae in raw fish; about 30 million cases in eastern Asia
Lung flukes ( <i>Paragonimus</i> spp.), seven species, most prevalent is <i>P. westermani</i>	Eating metacercariae in raw freshwater crabs, crayfish; Asia and Oceania, sub-Saharan Africa, South and Central America; several million cases in Asia
Intestinal fluke ( <i>Fasciolopsis buski</i> )	Eating metacercariae on aquatic vegetation; 10 million cases in eastern Asia
Sheep liver fluke ( <i>Fasciola hepatica</i> )	Eating metacercariae on aquatic vegetation; widely prevalent in sheep and cattle, occasional in humans

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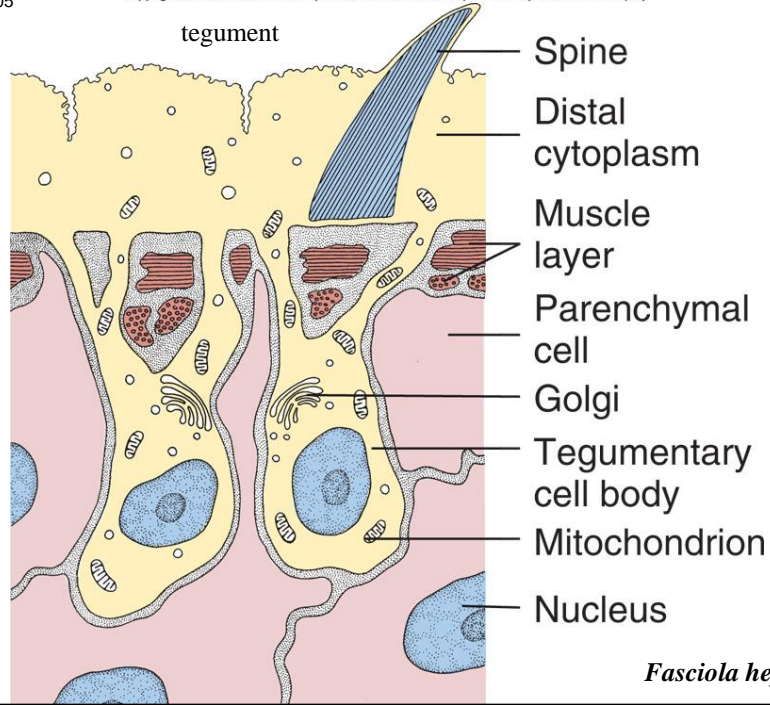
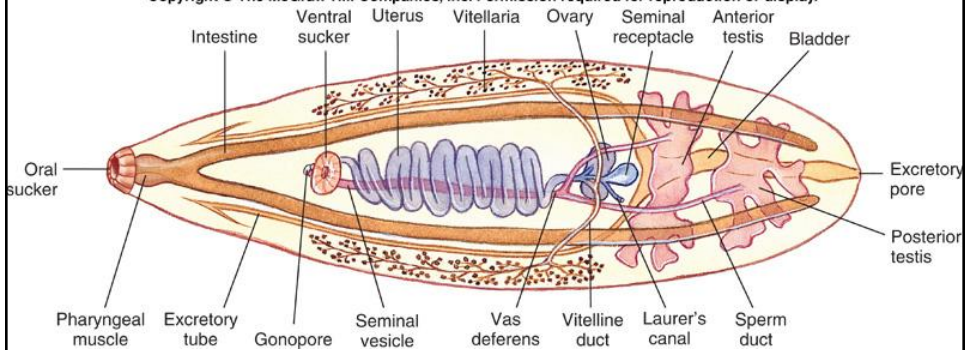


Figure 14.07

### Liver fluke: *Clonorchis sinensis*

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**oral & ventral suckers**  
**pharynx, muscular esophagus, two long unbranched intestinal caeca**  
 monoecious

Figure 14.12

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### Liver fluke: *Clonorchis sinensis*

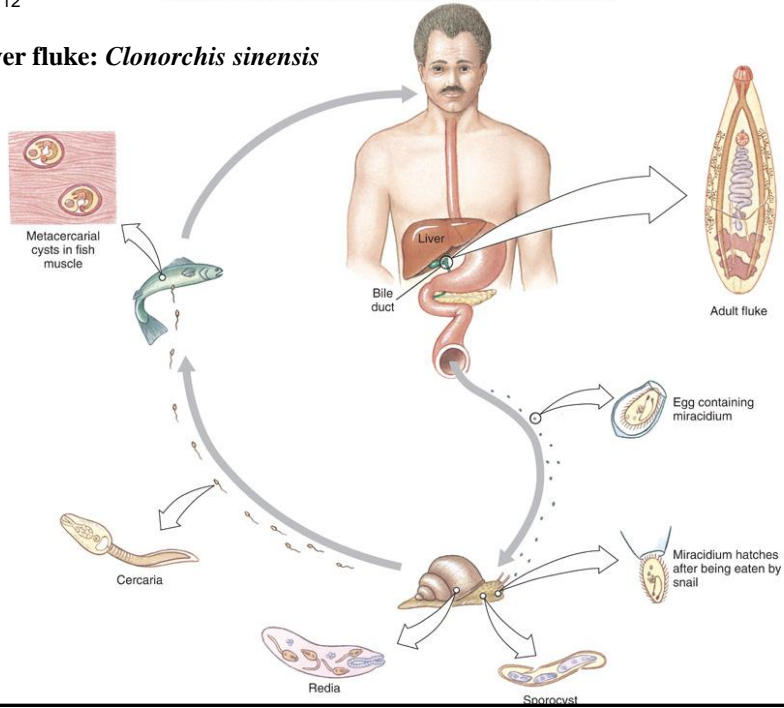


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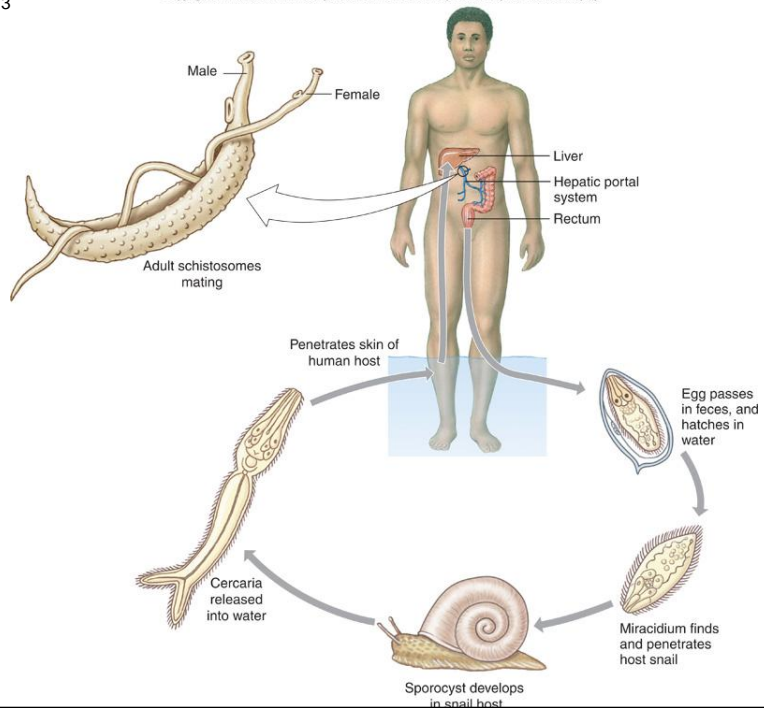


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180 pairs of *Schistosoma mansoni* found in this liver

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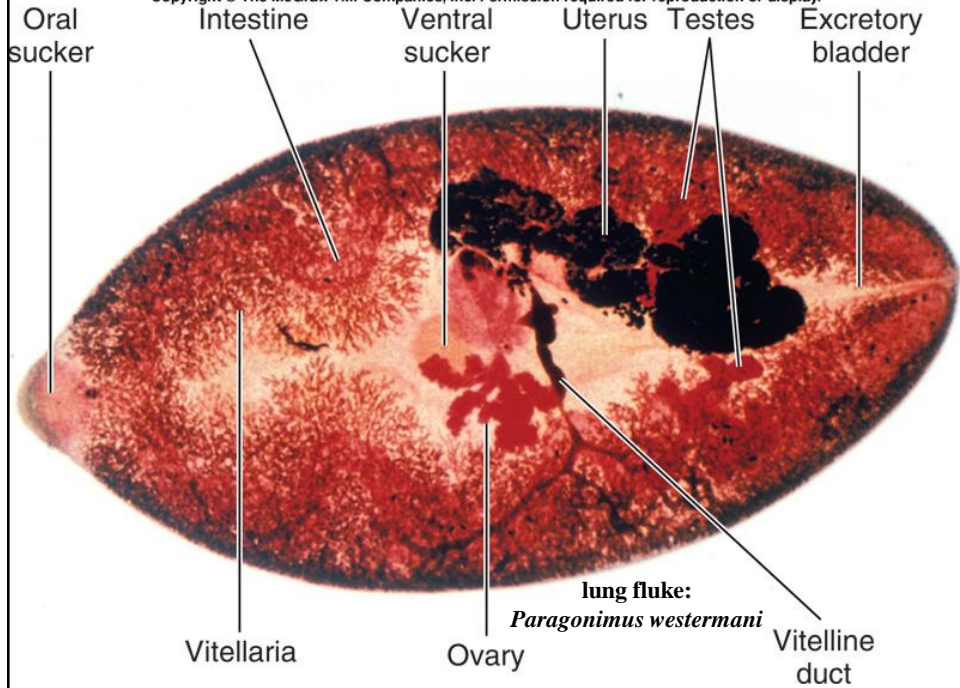


Figure 14.02

**Class: Cestoda**

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**TABLE 14.2**

**Common Cestodes of Humans**

Common and Scientific Name	Means of Infection; Prevalence in Humans
Beef tapeworm ( <i>Taenia saginata</i> )	Eating rare beef; most common of all tapeworms in humans
Pork tapeworm ( <i>Taenia solium</i> )	Eating rare pork; less common than <i>T. saginata</i>
Fish tapeworm ( <i>Diphyllobothrium latum</i> )	Eating rare or poorly cooked fish; fairly common in Great Lakes region of United States, and other areas of world where raw fish is eaten
Dog tapeworm ( <i>Dipylidium caninum</i> )	Unhygienic habits of children (juveniles in flea and louse); moderate frequency
Dwarf tapeworm ( <i>Hymenolepis nana</i> )	Juveniles in flour beetles; common
Unilocular hydatid ( <i>Echinococcus granulosus</i> )	Cysts of juveniles in humans; infection by contact with dogs; common wherever humans are in close relationship with dogs and ruminants
Multilocular hydatid ( <i>Echinococcus multilocularis</i> )	Cysts of juveniles in humans; infection by contact with foxes; less common than unilocular hydatid

Figure 14.18

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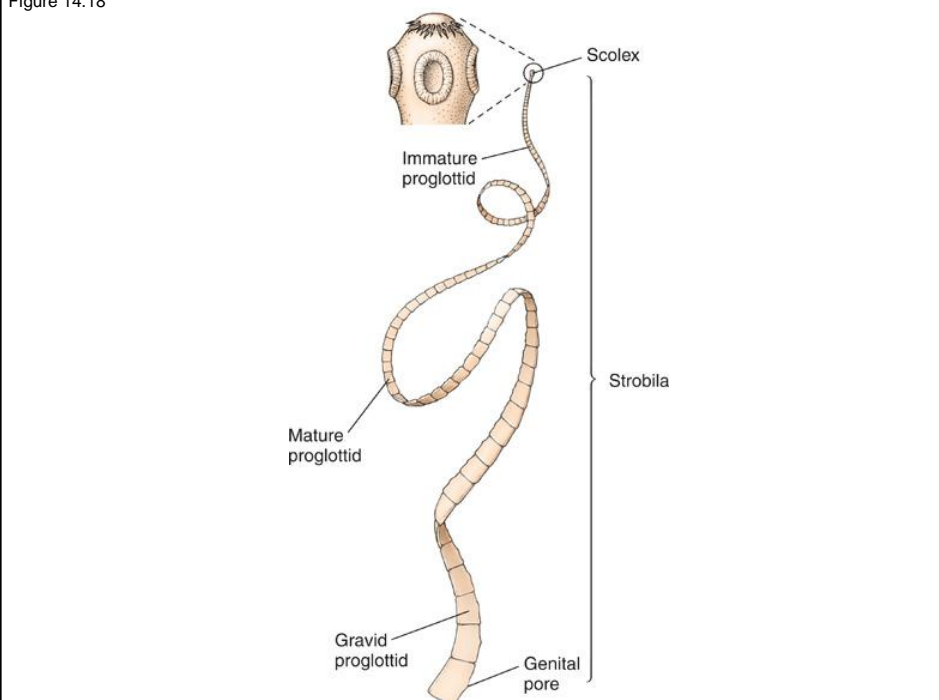


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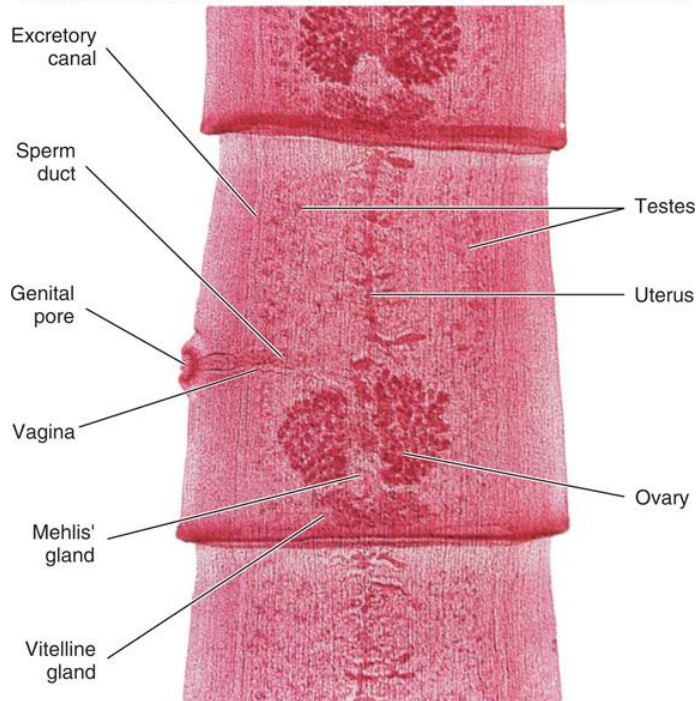


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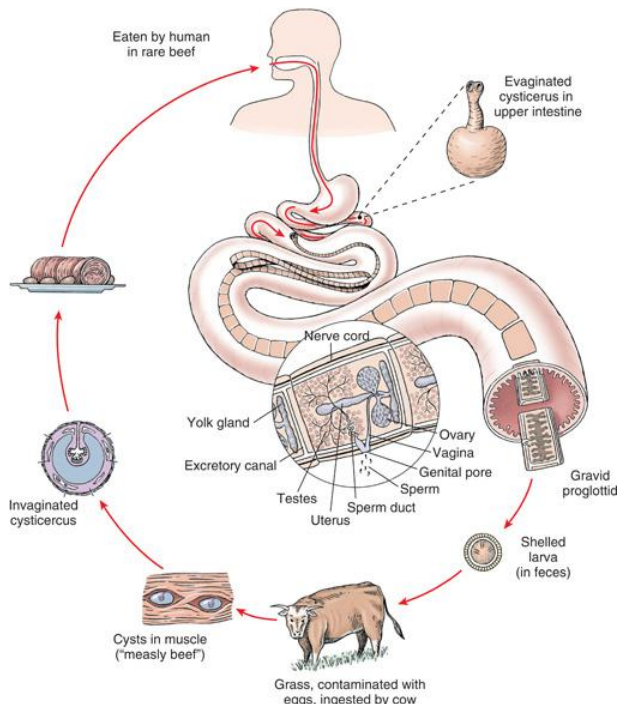


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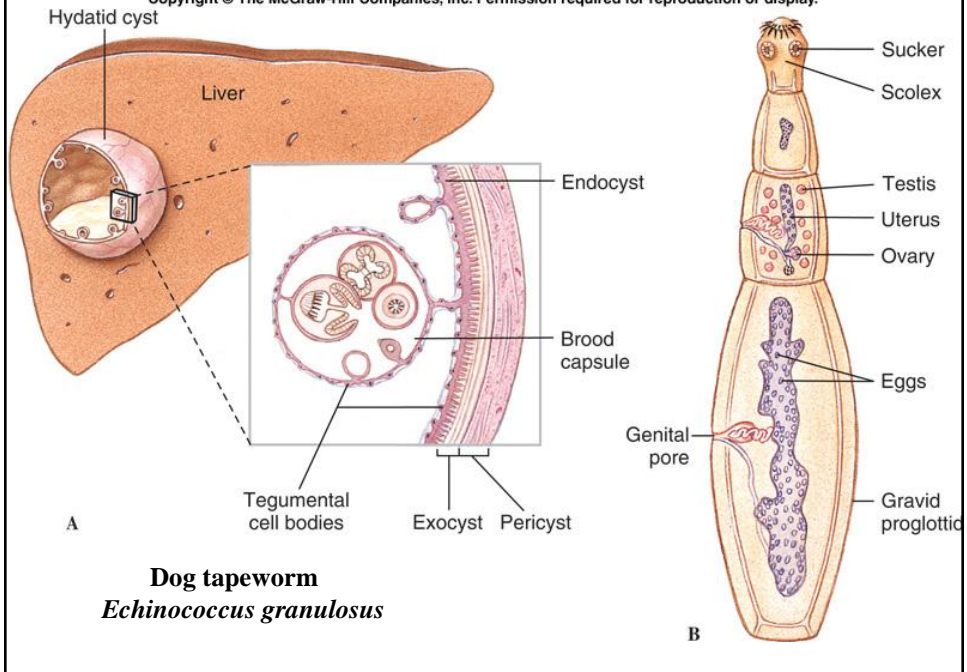


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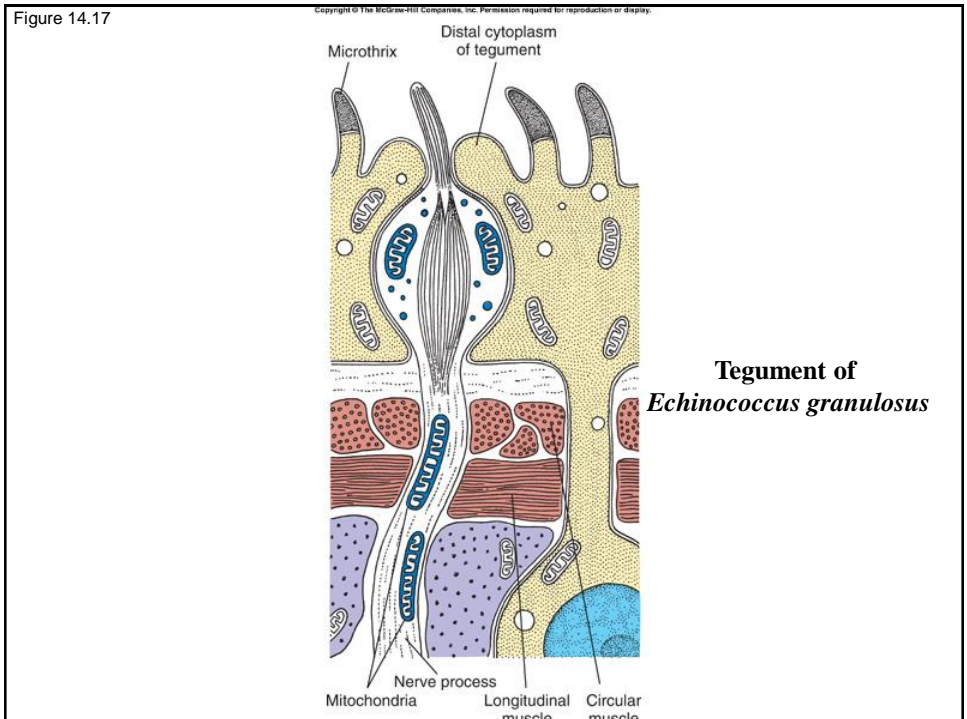


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Pig tapeworm: *Taenia solium*  
cysticerci infection in brain

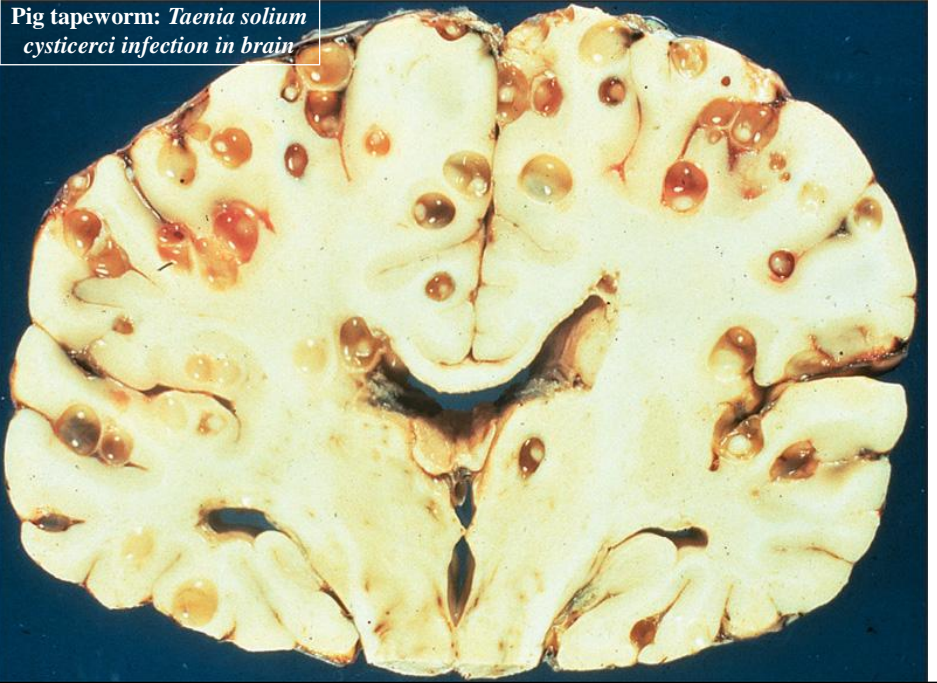
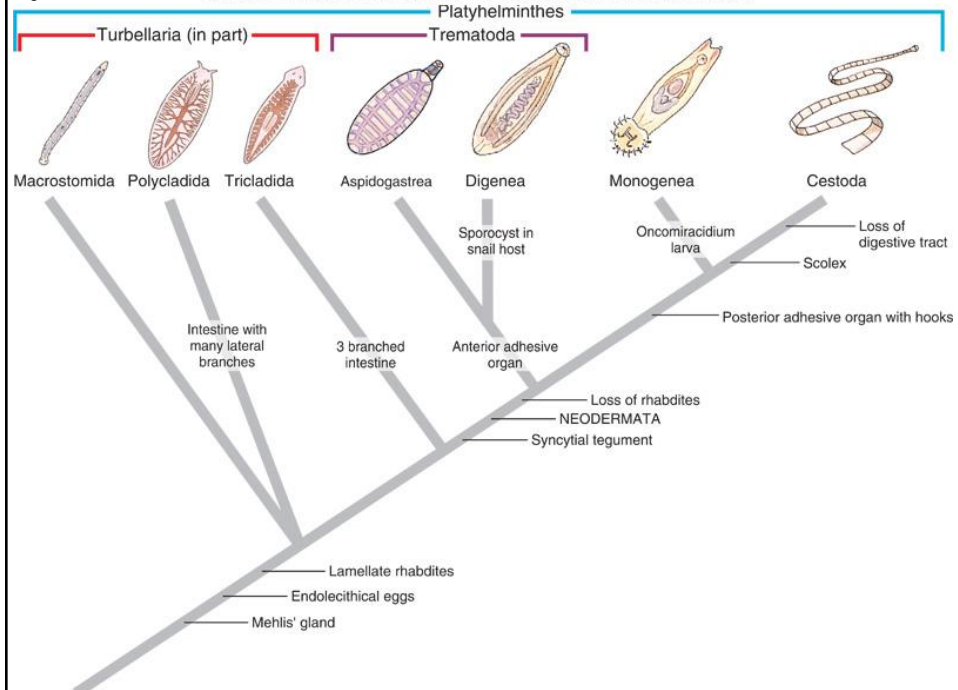


Figure 14.28

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## Phylum: Nemertea (Rhynchocoela)

Ribbon Worms 1000 species

### Nemertean Characters

- 1) proboscis—hollow extrusible organ for prey capture
- 2) complete gut— mouth-digestive tract-anus
- 3) advanced circulatory system  
with contractile vessel walls for irregular flow
- 4) true excretory system

