

ANIMAL BIOLOGY LABORATORY  
Lab 5: Phyla Platyhelminthes and Nematoda (Kingdom Animalia)

*Read pages 77-78, 93-94 in your lab manual before coming to lab.*

**Objectives:**

- Recognize and distinguish between the three platyhelminthes classes.
- Understand characteristics associated with different flatworm lifestyles.
- Recognize the basic characteristics of nematodes.

**Phylum Platyhelminthes**

- Aquatic or parasitic flatworms
- Soft-bodied, bilaterally symmetric
- Triploblastic tissue (acoelomate)

**Class Turbellaria** (planarians)

- Mostly free-living, carnivorous, aquatic forms
- Ciliated epidermis

*Exercise 5: Planaria Anatomy*

*Planaria*: whole mount slide (Figs. 7.1)

*Lab Manual*: pp. 80-81

**Identify** the following structures:

- |             |                         |           |
|-------------|-------------------------|-----------|
| • Head      | • Auricles              | • Pharynx |
| • Eye spots | • Gastrovascular cavity | • Mouth   |

*Planaria*: cross-section through pharyngeal region slide (Fig. 7.2)

**Identify** the following structures:

*Lab Manual*: pp. 80-81

- |             |                |                     |
|-------------|----------------|---------------------|
| • Epidermis | • Gastrodermis | • Pharyngeal cavity |
| • Mesoderm  | • Pharynx      | • Intestine         |

***Review Questions***

All questions pp. 80-81

**Class Trematoda** (flukes)

- Parasitic with wide-range of invertebrate and vertebrate hosts
- Suckers for attachment to host

*Fasciola*: whole mount slide (use Fig. 7.3 to help you)

**Identify** the following structures and label the image below:

- Oral sucker
- Ventral sucker
- Testes

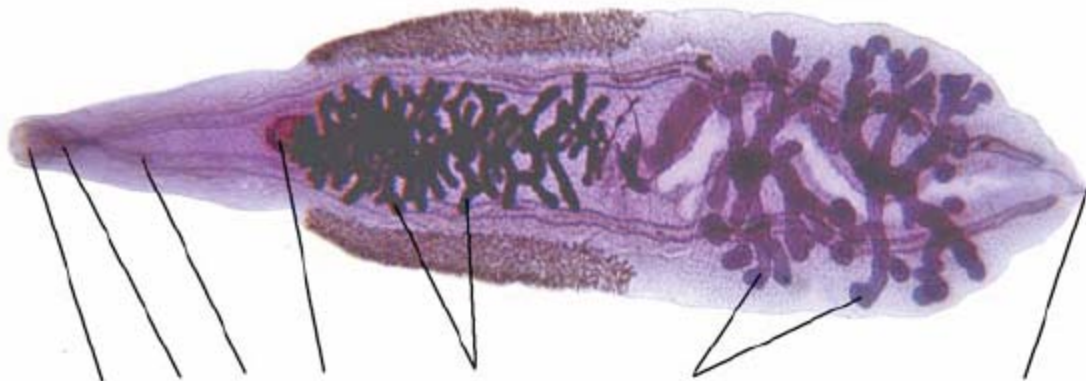


*Exercise 7B*: Below is an image of *Clonorchis sinensis* (Fig. 7.3)

*Lab Manual*: pp. 83-84

**Identify** the following structures and label the image below:

- Oral sucker
- Ventral sucker
- Intestine
- Testes
- Uterus
- Excretory pore
- Pharynx



What anatomical features of trematodes suggest adaptation to a parasitic lifestyle?

**Review Questions**

All questions pp. 83-84

**Class Cestoda** (tapeworms)

- Parasitic in most vertebrate hosts
- Complex lifecycle with intermediate and multiple hosts

*Exercise 7C: Taenia:* composite slide (Figs. 7.5 & 7.6)

*Lab Manual:* pp. 86-89

**Identify** the following structures:

- Scolex
- Neck
- Gravid proglottids
- Hooks
- Immature proglottids
- Suckers
- Mature proglottids

**Review Questions**

All questions pp. 83-84

*Exercise 8A: Nematode Anatomy*

**Ascaris Dissection**

(See instructions: pp. 94-96; Fig. 8.1 & 8.2)

**Phylum Nematoda**

- Pseudocoelom with complete digestive tract
- Usually dioecious
- Free-living and parasitic members

*Ascaris:*

**Identify** the following structures:

- Mouth
- Pseudocoelom
- Females
- Pharynx
- Anus
- Males

**Review Questions**

All questions pp. 94-96; fill out tables on pages 103 and 104.

*Exercise: Live cultures:*

Obtain a sample from one of the three numbered containers at the front of the room.

**Identify** the sample as containing cnidarians, turbellarians or nematodes and record your answer in the chart below, including a brief description of how the organisms move.

**Identify** the organisms and observe movement for the other two containers.

\*Have your TA check your identifications.

Container 1:

Container 2:

Container 3:

*\*Read pages 105-106 and 120-121 in your lab manual before coming to lab next week*