

ANIMAL BIOLOGY LABORATORY

Lab 10: Phylum Chordata – Subphylum Vertebrata – Class Reptilia & Class Aves

Read pages 231-238 in your lab manual before coming to lab.

Objectives:

- Recognize the basic structure and organization of the following:
- Class Reptilia, Order Squamata, Order Testudines, Order Crocodylia, & Class Aves
- Compare and contrast the three major orders of Reptiles
- Be able to sort specimens into their correct Class & Order (if applicable)

Class Reptilia (lizards, snakes, turtles, crocodilians)

- Dry skin covered with epidermal scales
- Respiration via lungs
- 3 chambered heart – except for crocodilians
- Internal fertilization
- Amniotic eggs – covered by calcareous or leathery shell
- Some species – give birth to live young
- 2 pairs of legs (if present) and usually with 5 digits each

Order Squamata (lizards and snakes)

- Most lizards have legs – a few do not
- Snakes – no legs
- Males have paired copulatory organs (hemipenes)

Order Testudines (*Chelonia*) (turtles)

- Body enclosed by bony case made up of a dorsal carapace and ventral plastron
- Jaws without teeth; beak-like mouth
- Vertebrae and ribs fused to carapace
- Neck usually retractable

Order Crocodylia (crocodiles, alligators, caimans)

- Skull elongated and massive
- 4 chambered heart
- Forelimbs usually with 5 digits, hind limbs with 4 digits

Class Aves – Birds

- Forelimbs adapted for flight – wings and feathers
- Bones hollow
- Keeled sternum – attachment for flight muscles
- Beak with no teeth
- Internal fertilization – females have a left ovary and oviduct only
- 4 chambered heart

- Oviparous – eggs with hard external calcareous shell
- Many different beak types (different feeding habits) and feet (perching, grasping, swimming)

Exercise 18: Turtle Anatomy

Turtle Dissection

(see instructions: Lab Manual pp. 231-235; Figs. 18.1-18.3)

Identify the following external structures:

- Carapace
- Plastron

Identify the following internal structures:

- Liver
- Stomach
- Heart
- Large intestine
- Lungs
- Small intestine
- Urinary bladder
- Trachea
- Gall bladder
- Pancreas
- Kidney
- Spleen

Identify the following skeletal structures:

- Humerus
- Radius
- Ulna
- Femur
- Tibia
- Fibula
- Fused ribs
- Vertebrae

Review Questions

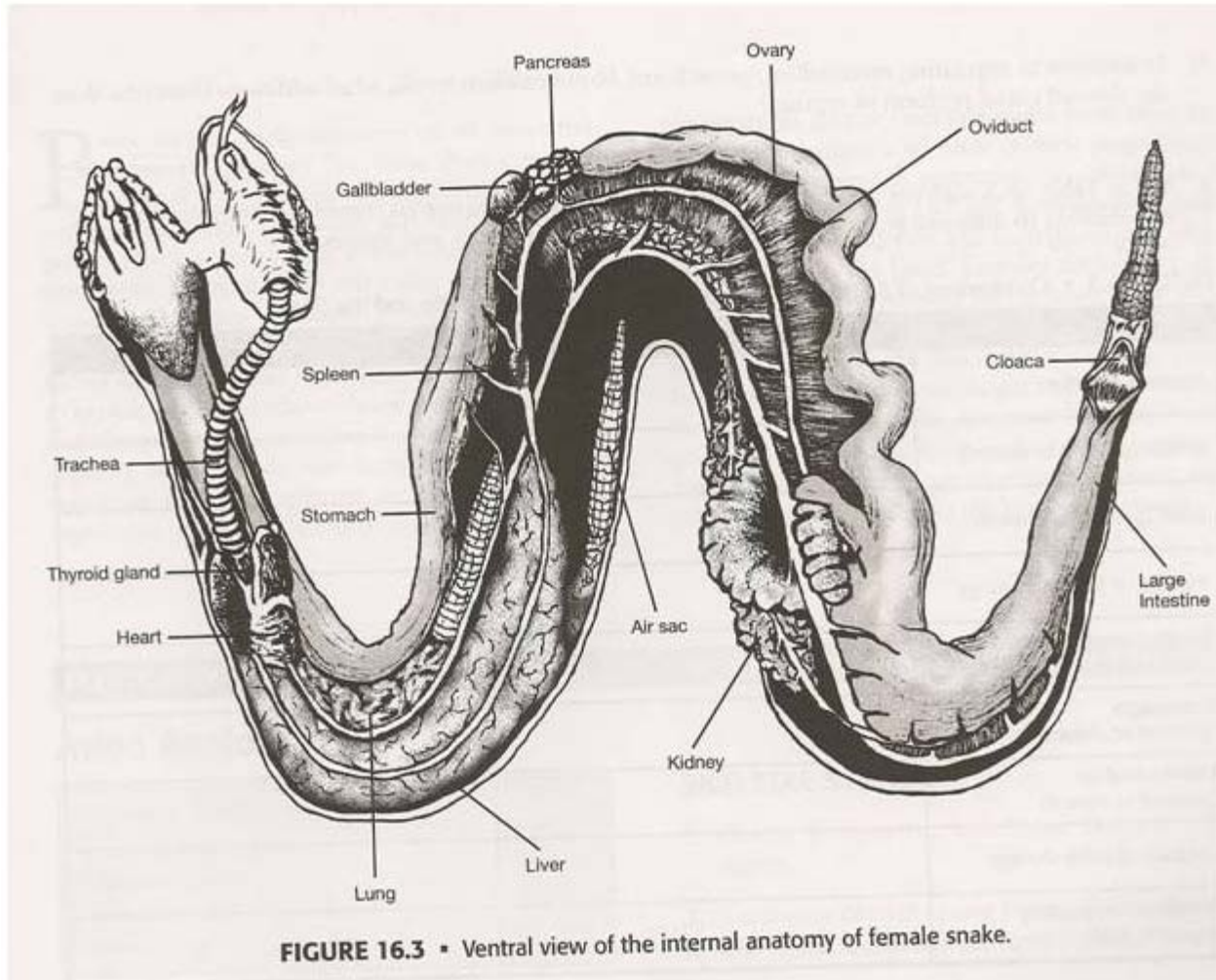
All questions pp. 234-235

Exercise Snake Anatomy

Snake Dissection

Identify the following internal structures:

- Liver
- Stomach
- Heart
- Gall bladder
- Intestine
- Right lung
- Trachea
- Esophagus



Exercise 19: Avian Anatomy

Bird Dissection

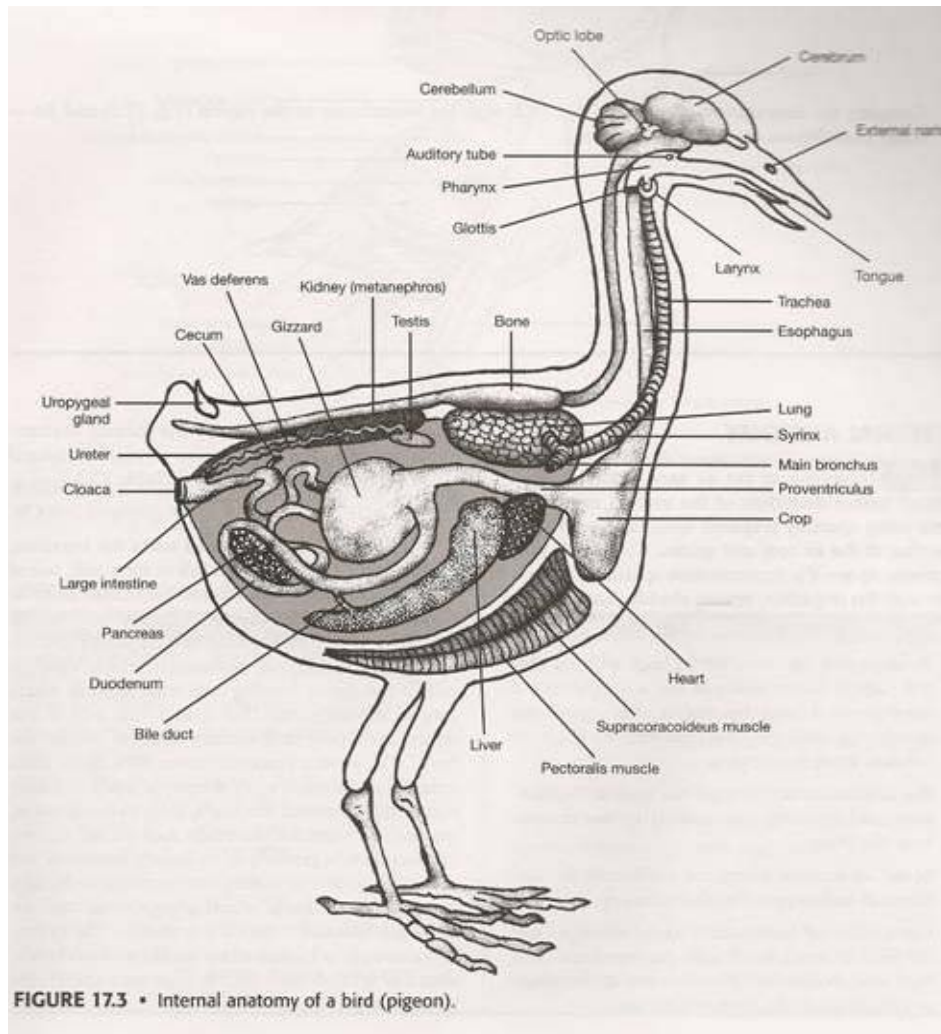
(see instructions: Lab Manual pp.236-238; Figs. 19.1 and 17.3 below)

Identify the following internal structures:

- | | | |
|-------------------|-------------------|---------------------|
| • Esophagus | • Liver | • Cloaca |
| • Trachea | • Gizzard | • Kidney |
| • Crop | • Pancreas | • Pectoralis muscle |
| • Heart | • Small intestine | • Lungs |
| • Large intestine | | |

Identify the following skeletal elements:

- Pelvic girdle
- Cranium
- Humerus
- Keel
- Fibula
- Femur
- Clavicle
- Pygostyle
- Beak
- Radius
- Scapula
- Rib
- Ulna
- Sternum
- Tibiotarsus
- External
- Digits nares
- Phalanges



Review Questions

All questions pp. 236-238.

Read page 239 in your lab manual before coming to lab next week.