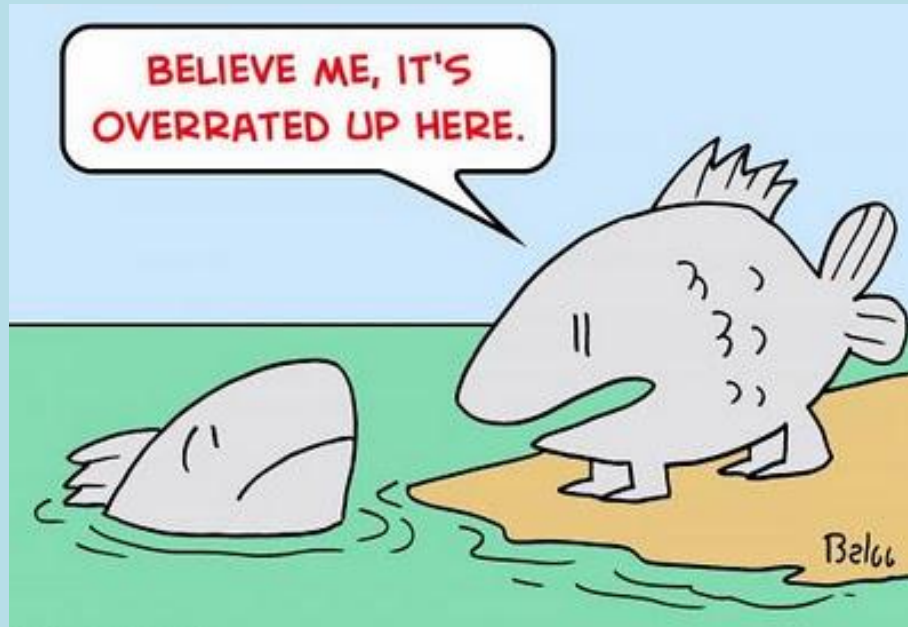


General Biology II

Lab Practical 2



Student Study Guide

Phylum Porifera

Sub phylum

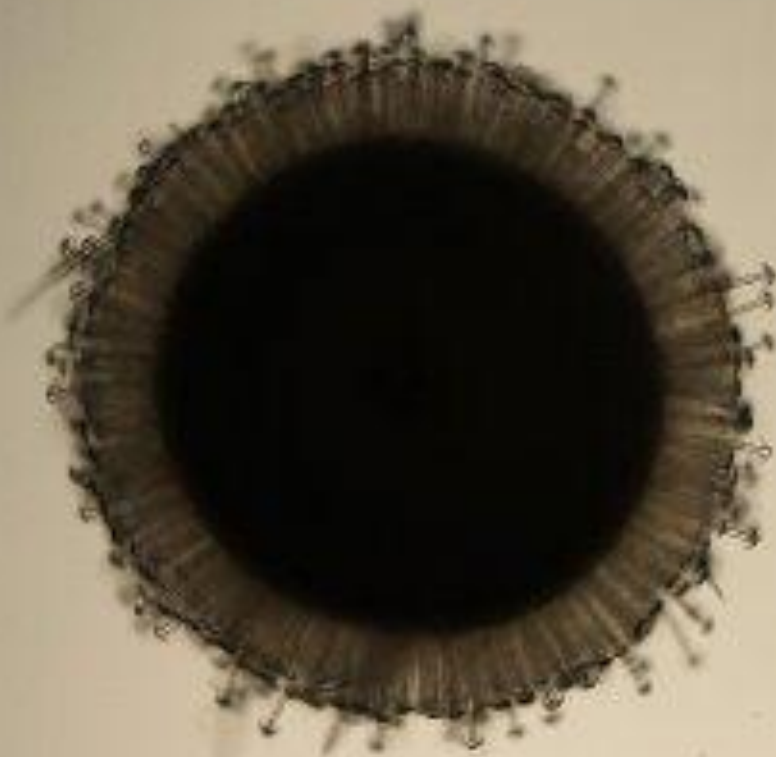
Calcarea

Silacea

Class

Demospongiae

Granita Gemmule

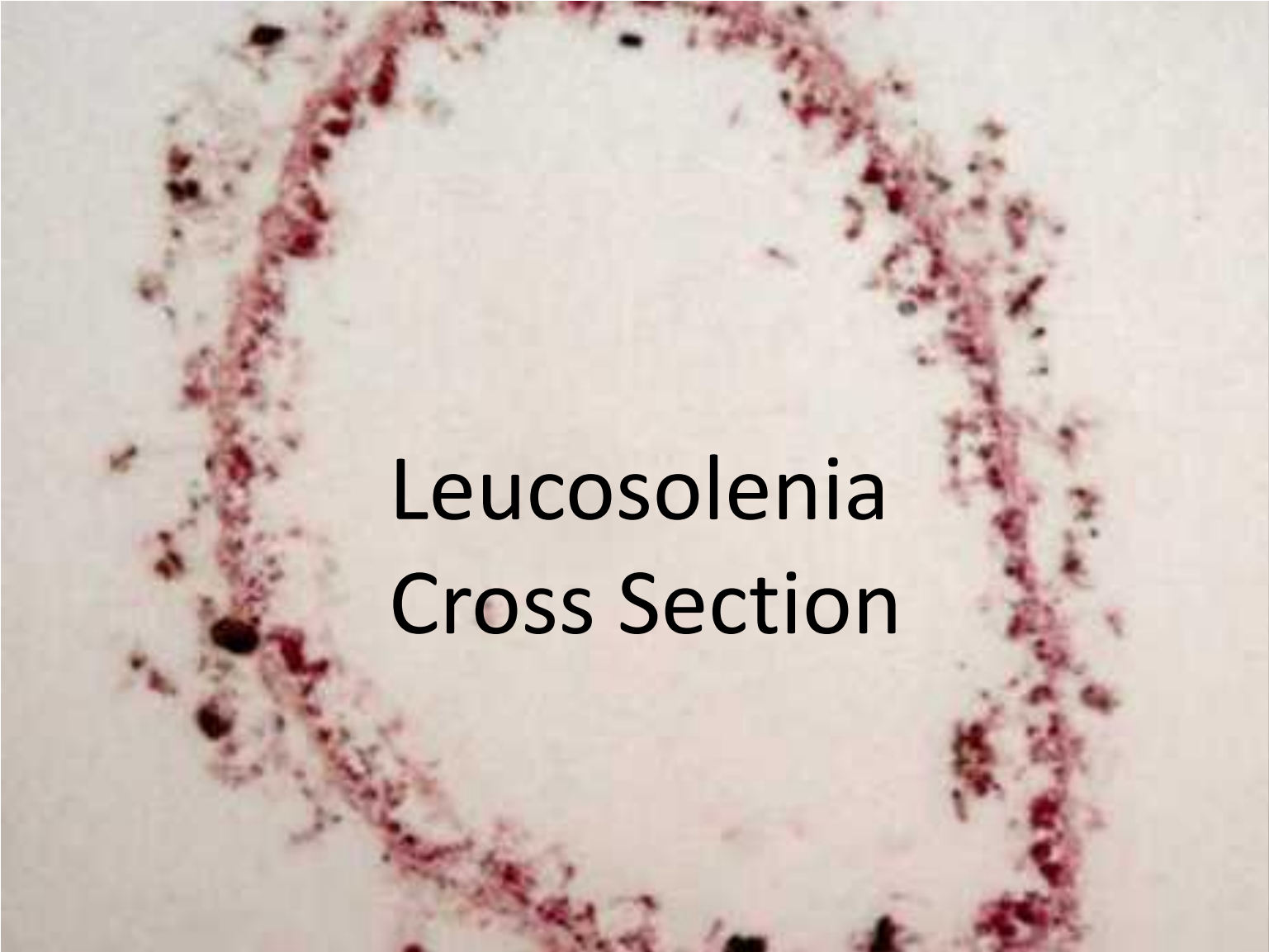


Granita

Granita Cross Section

Are Sponges
Autotrophic or
Heterotrophic?

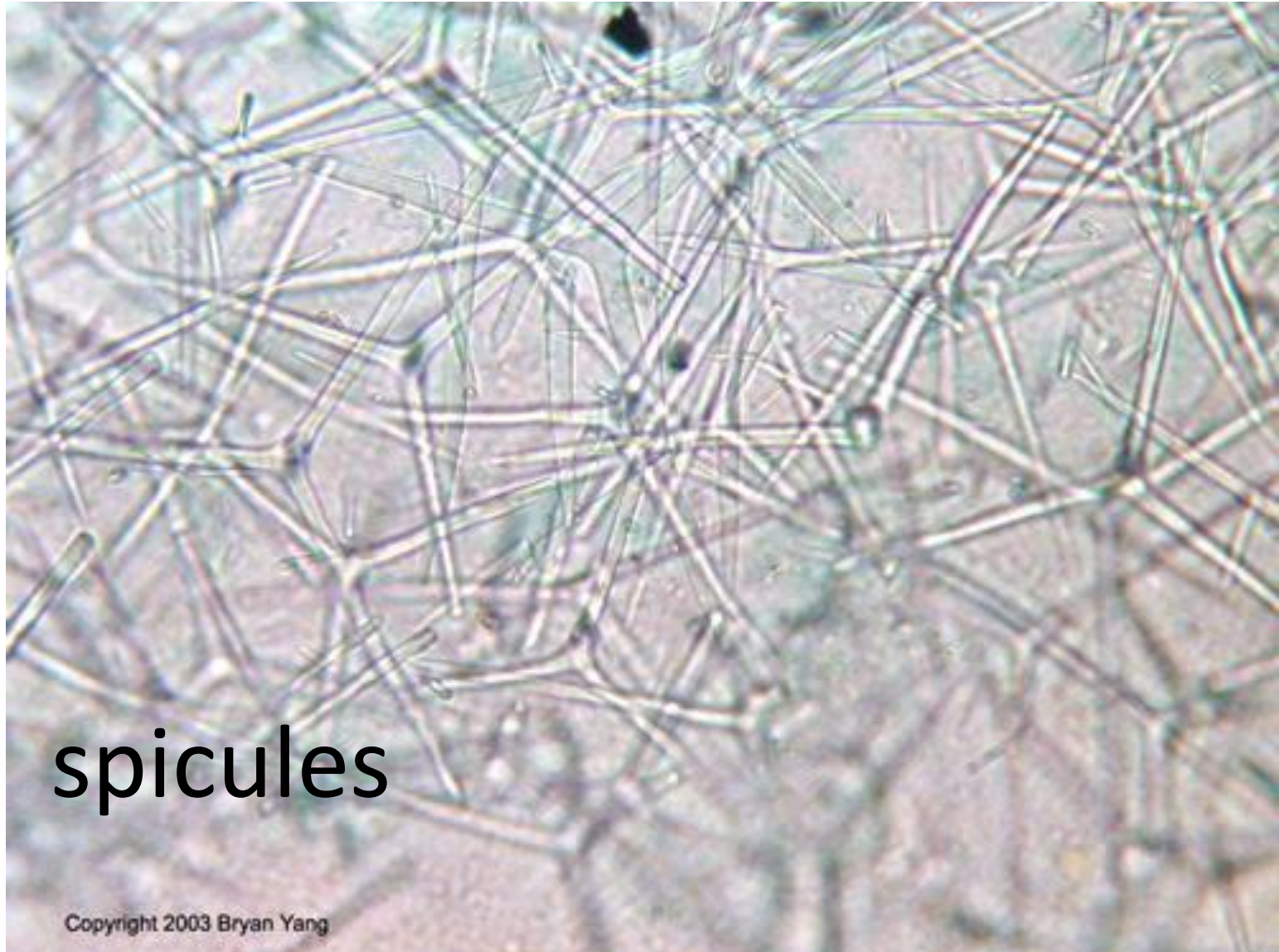
Heterotrophic

A microscopic image showing a cross-section of a Leucosolenia colony. The colony is circular and composed of numerous small, reddish-brown, rounded structures (likely individual zooids or gamete clusters) arranged in a ring. The center of the colony is a lighter, more uniform color. The overall appearance is that of a delicate, circular structure with a textured, granular surface.

Leucosolenia Cross Section

Leucosolenia Whole Mount





spicules

Copyright 2003 Bryan Yang

Lab specimens



Demospongia



What Is the “skeleton” (Spicules) made of for a sponge in the Calcarea sub phylum?

Calcium

What about Silacea?

Silicon

Phylum Cnidara

Class

Hydrozoa

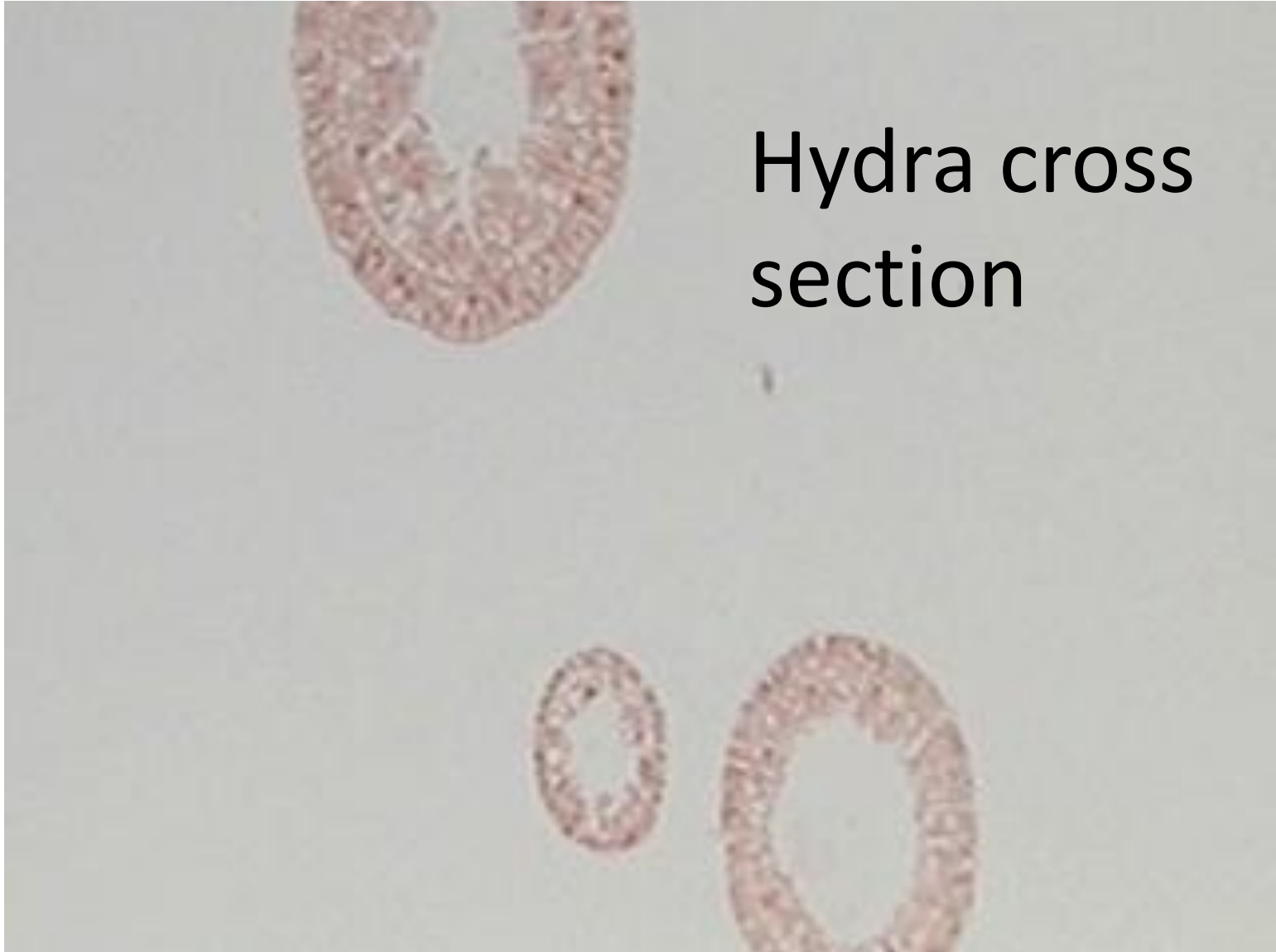
Scyphozoa

Anthozoa

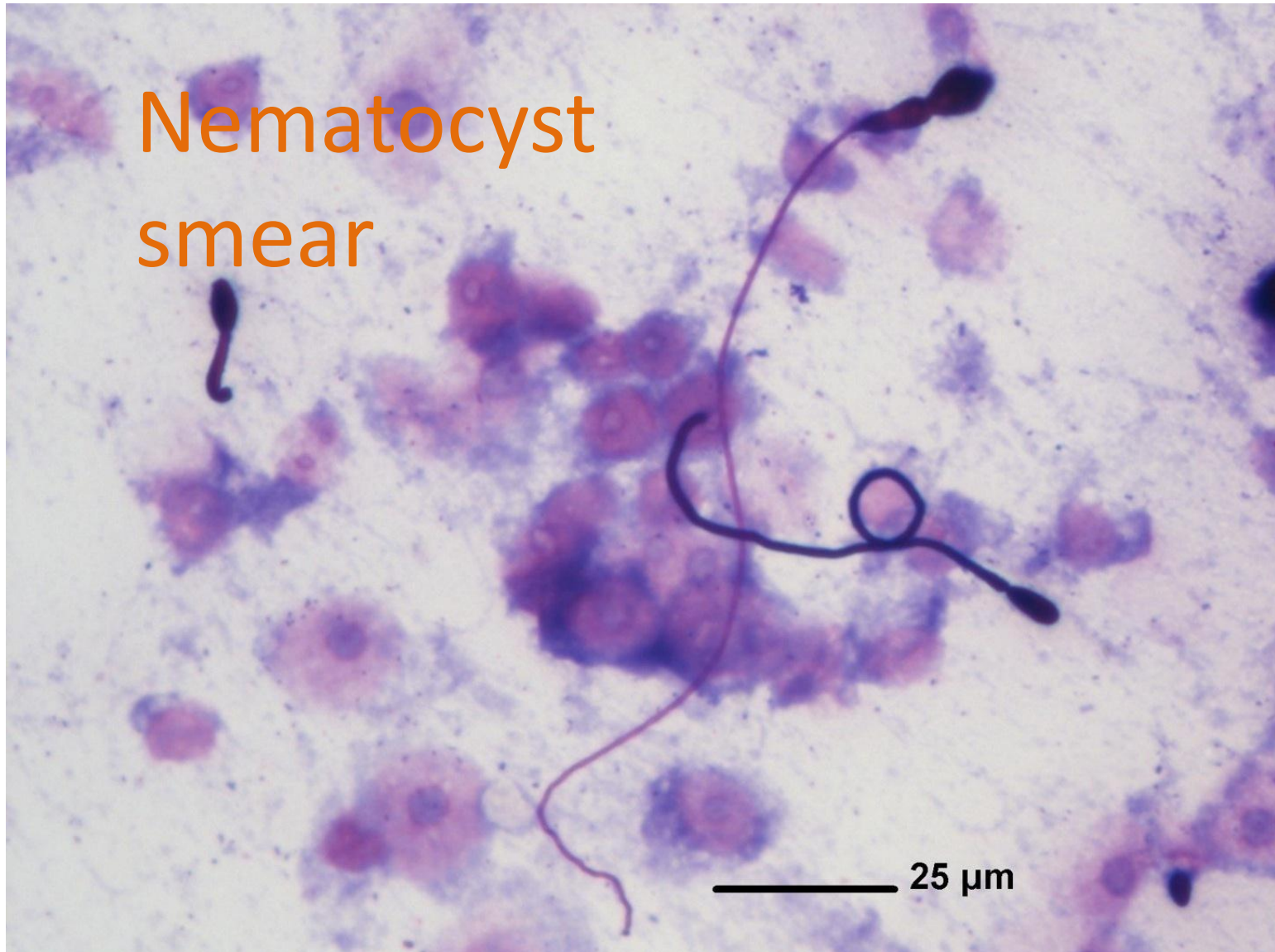
Hydra, Plain Budding



Hydra cross section



Nematocyst smear





Hydrazoa



Obelia
hydroid

Aurelia

A close-up photograph of an Aurelia jellyfish, showing its bell and oral arms. The jellyfish is translucent with a yellowish-orange center and is set against a dark blue background.

What type of Symmetry
do cnidarians have?

Radial

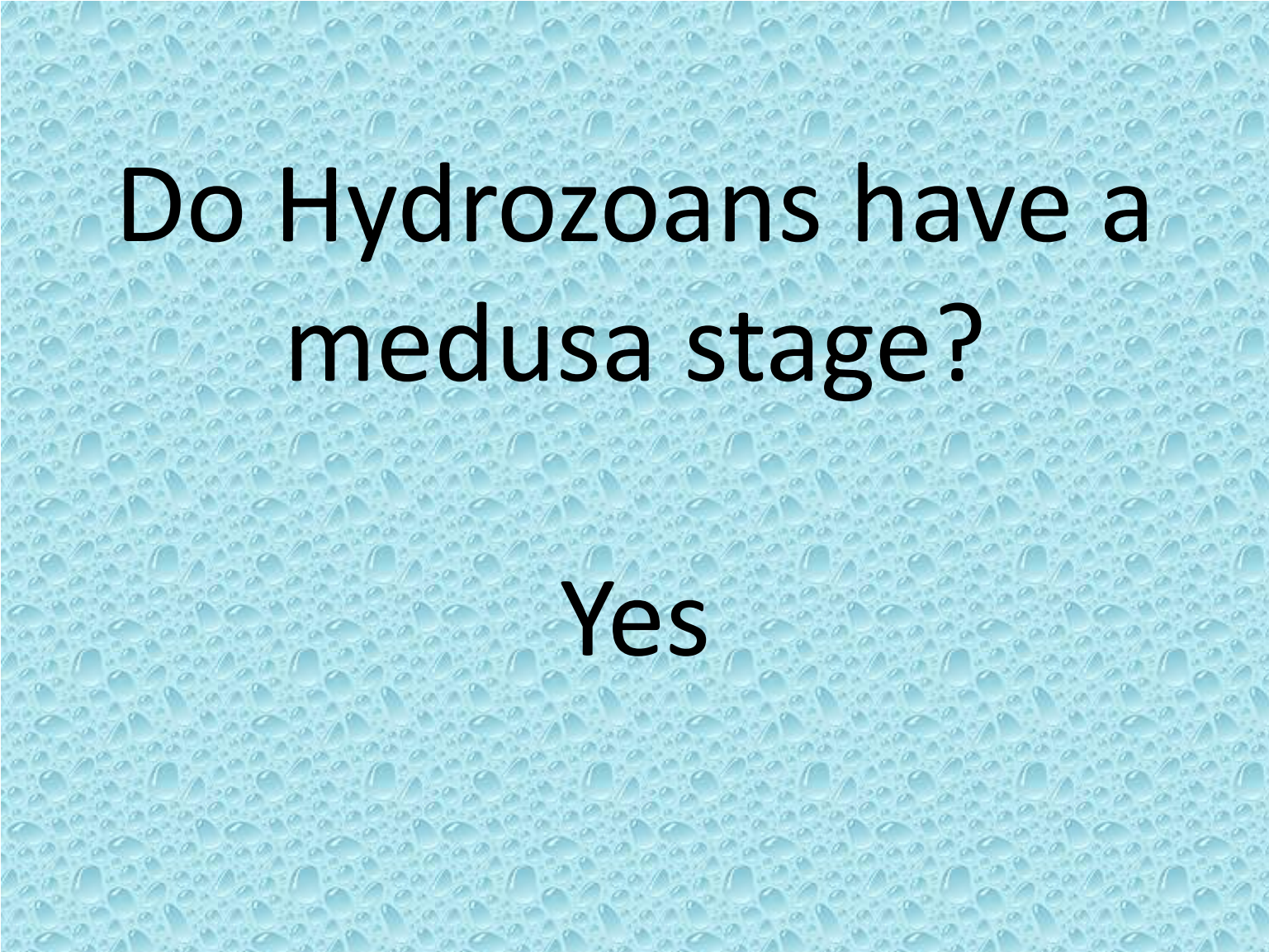
Aurelia Scyphistoma



Copyright 2003 Marc Perkins



Aurelia planula
larva



Do Hydrozoans have a
medusa stage?

Yes

Phylum Platyhelminthes

Class

Turbellaria

Trematoda

Cestoda

Tapeworm

What sex is this tapeworm?

**Male and Female!
Each proglottid
contains both male
and female organs!**

What is the head of a tapeworm called?

Scolex

What is the “Crown” structure at the top of the scolex that is often hooked?

Rostellum

What is the name of each segment below the neck, and how do you tell the gender?

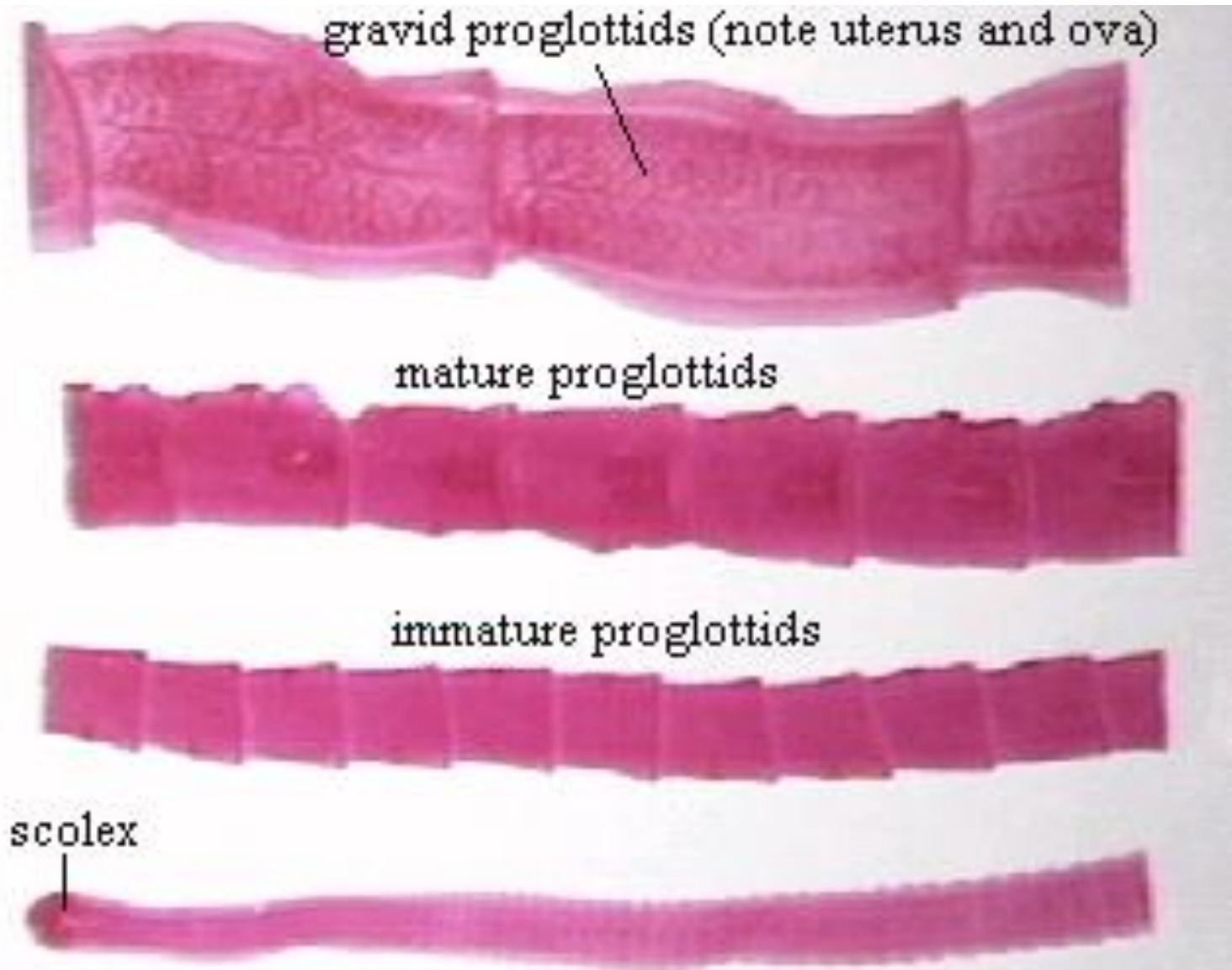
Proglottid – each proglottid contains BOTH M and F reproductive organs

What is the name of the entire “body”, or the “chain” of proglottids

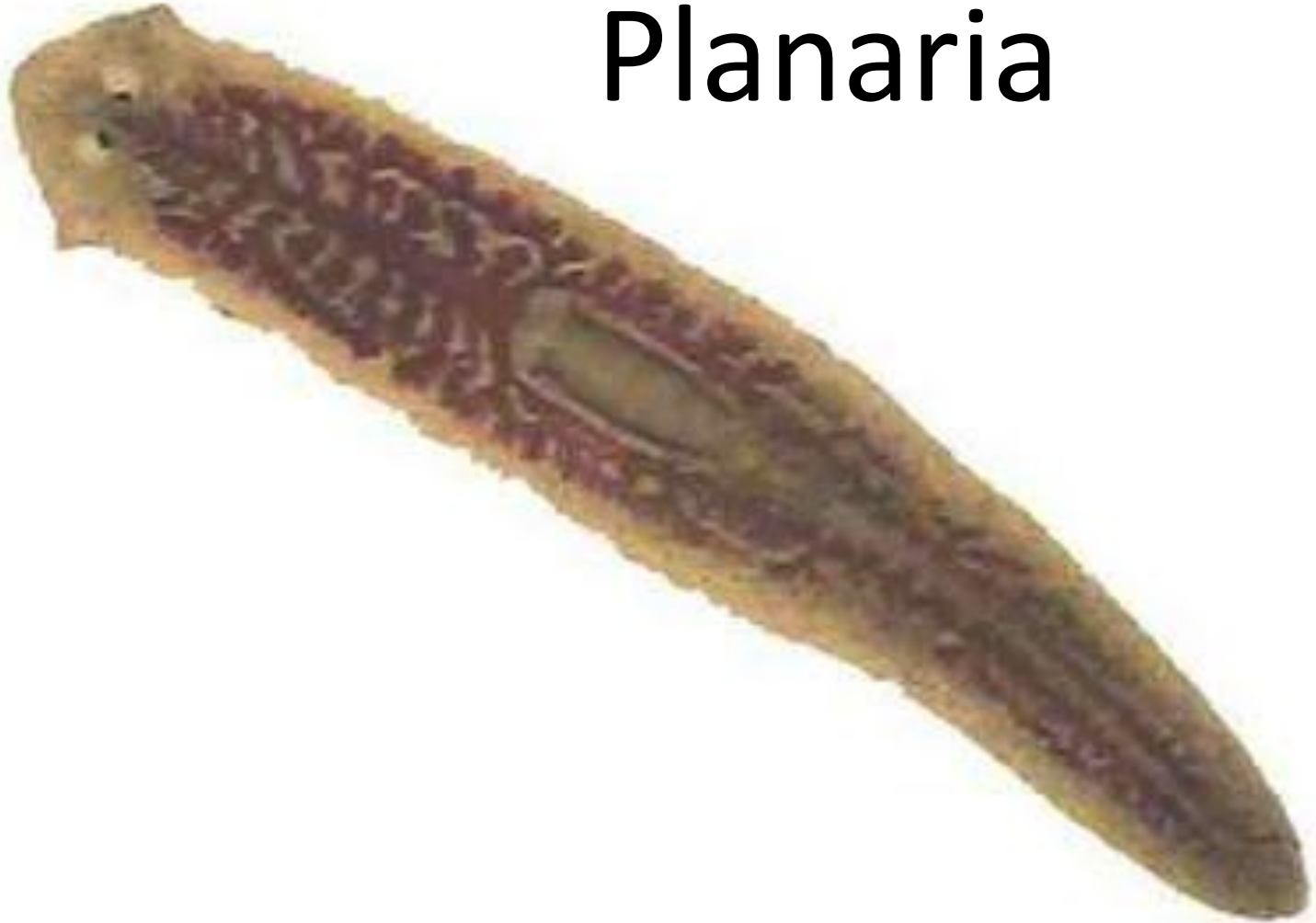
Strobila- does not contain the head or neck

What is the continuous covering over the tapeworm through which it absorbs food?

cuticle



Planaria





Planaria Cross
Section



Liver flukes clonorchis sinensis



Liver Fluke – A clearer look



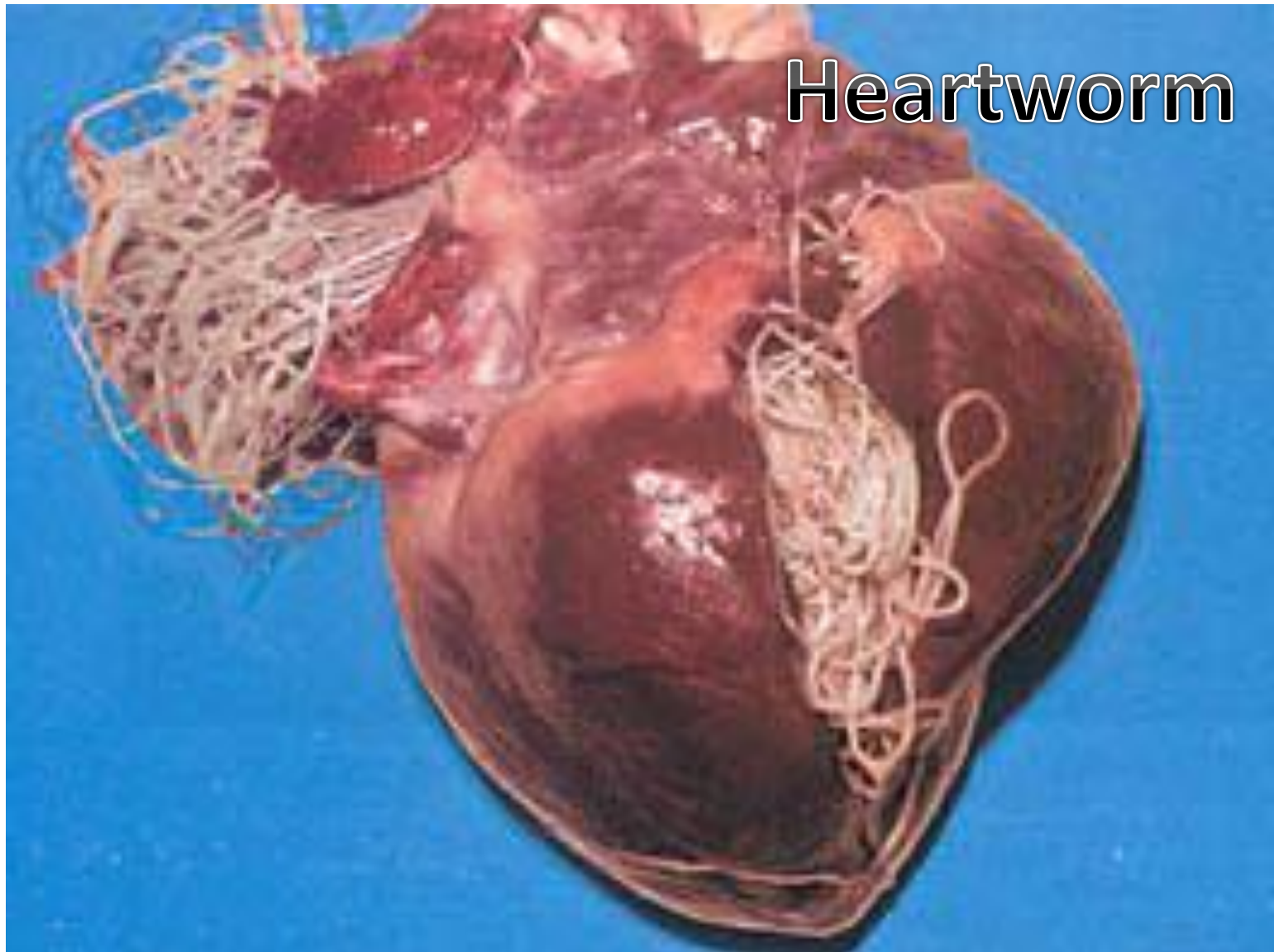
Fasciola Hepatica (Liver Fluke)



Phylum Nematoda



Roundworm



Phylum Rotifera

Rotifers





Phylum Annelida

Class

Oligochaeta

Polychaeta

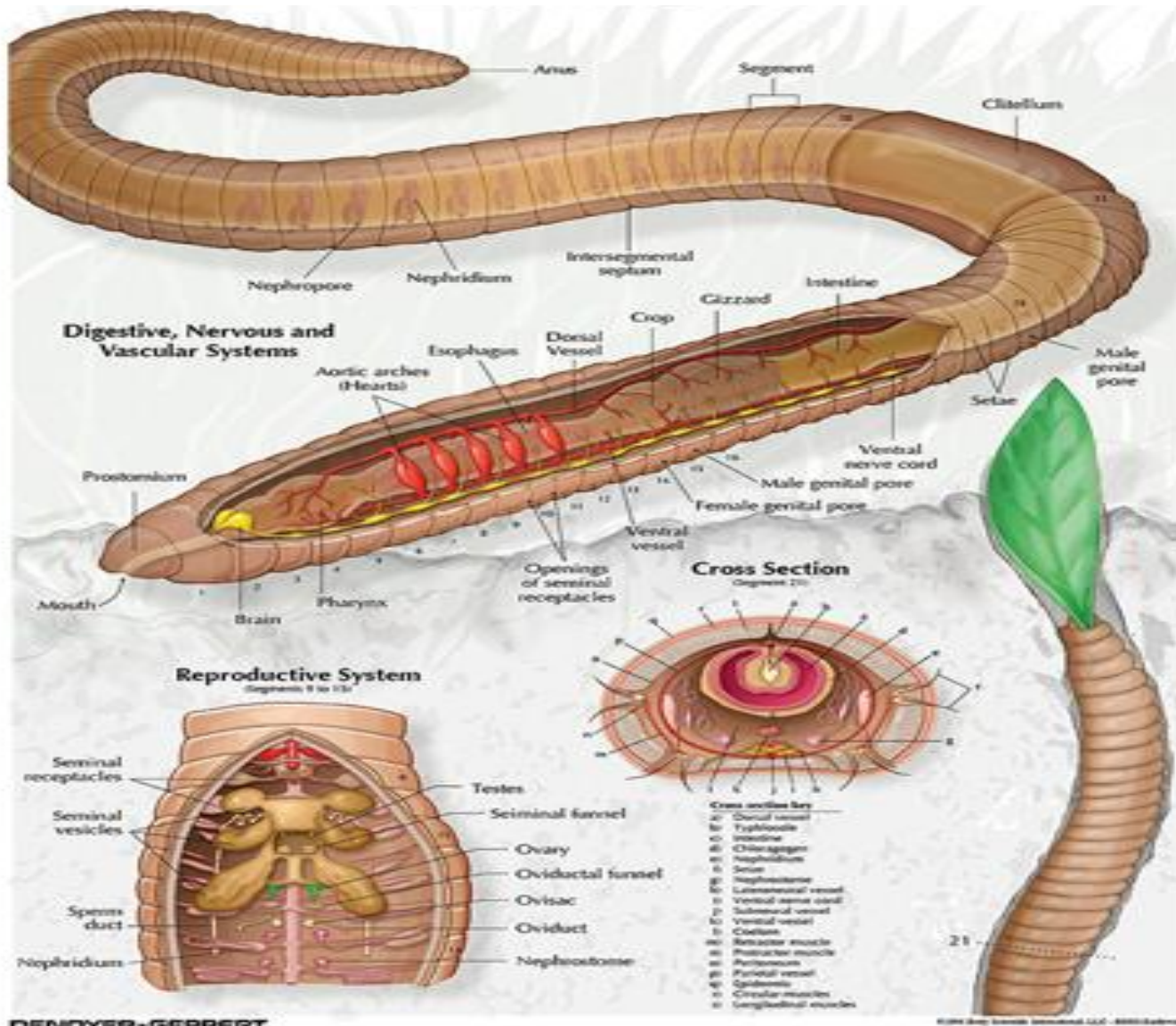
Hirudinea

Bloodworm





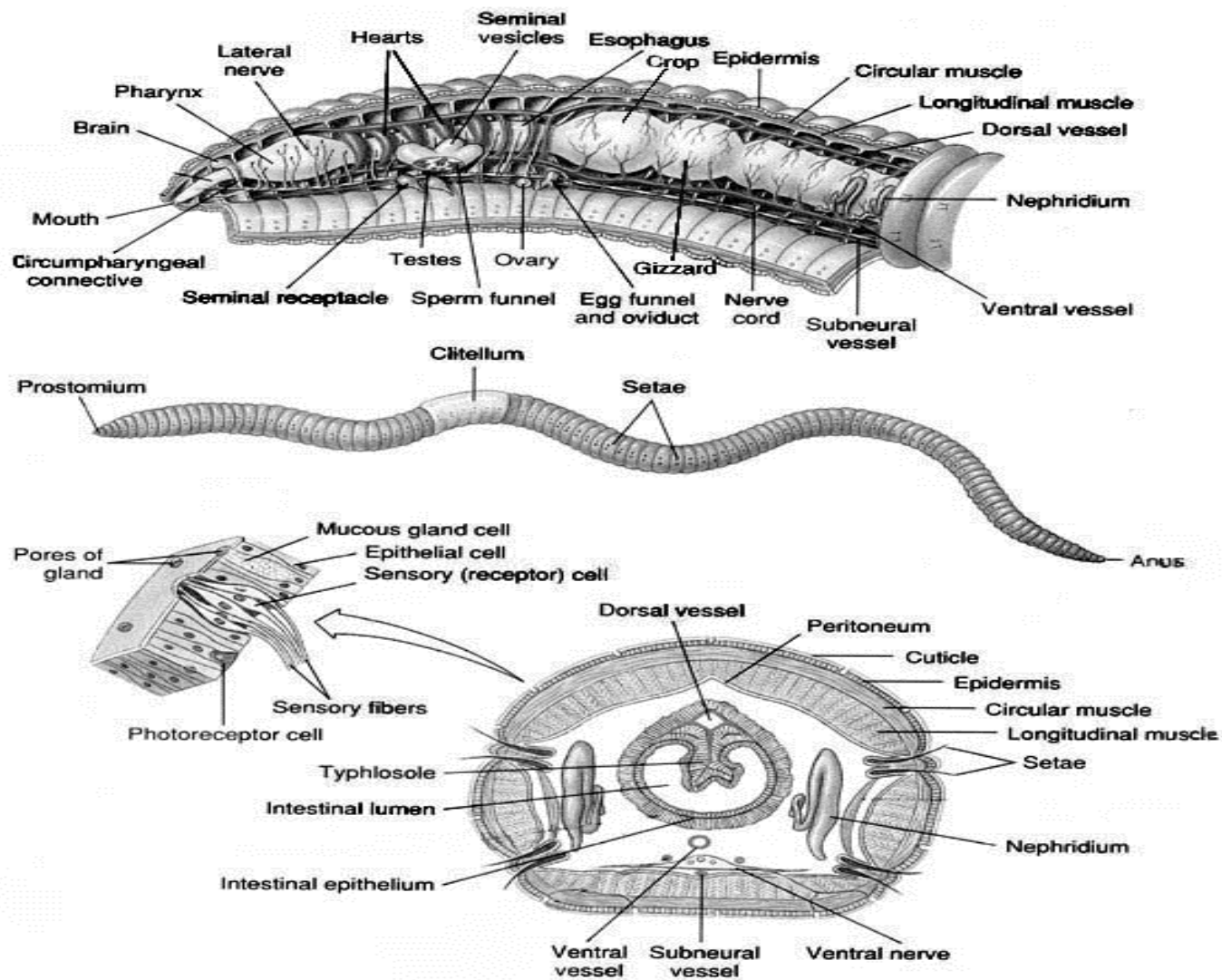
Clam Worm





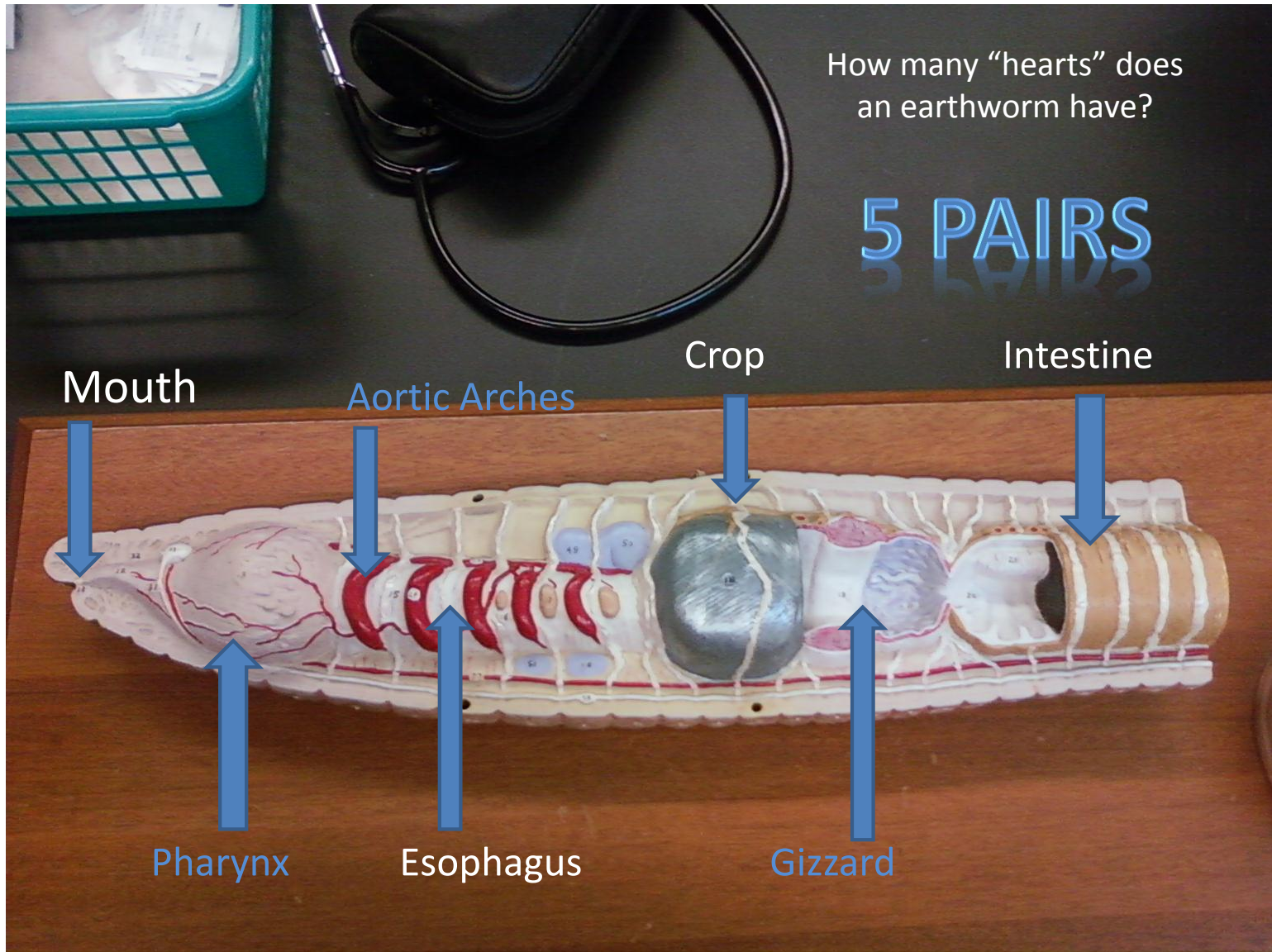
Lug Worm

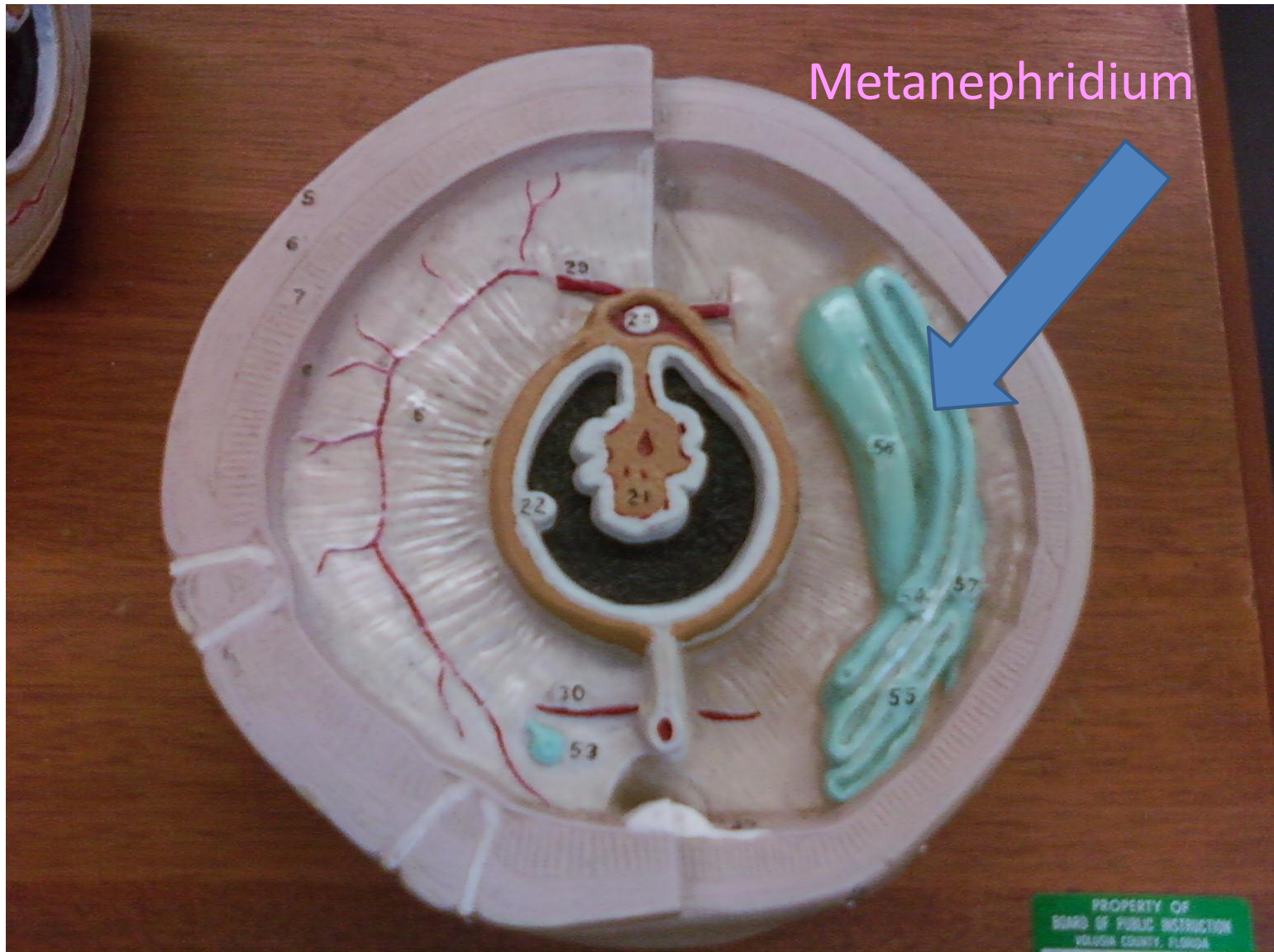




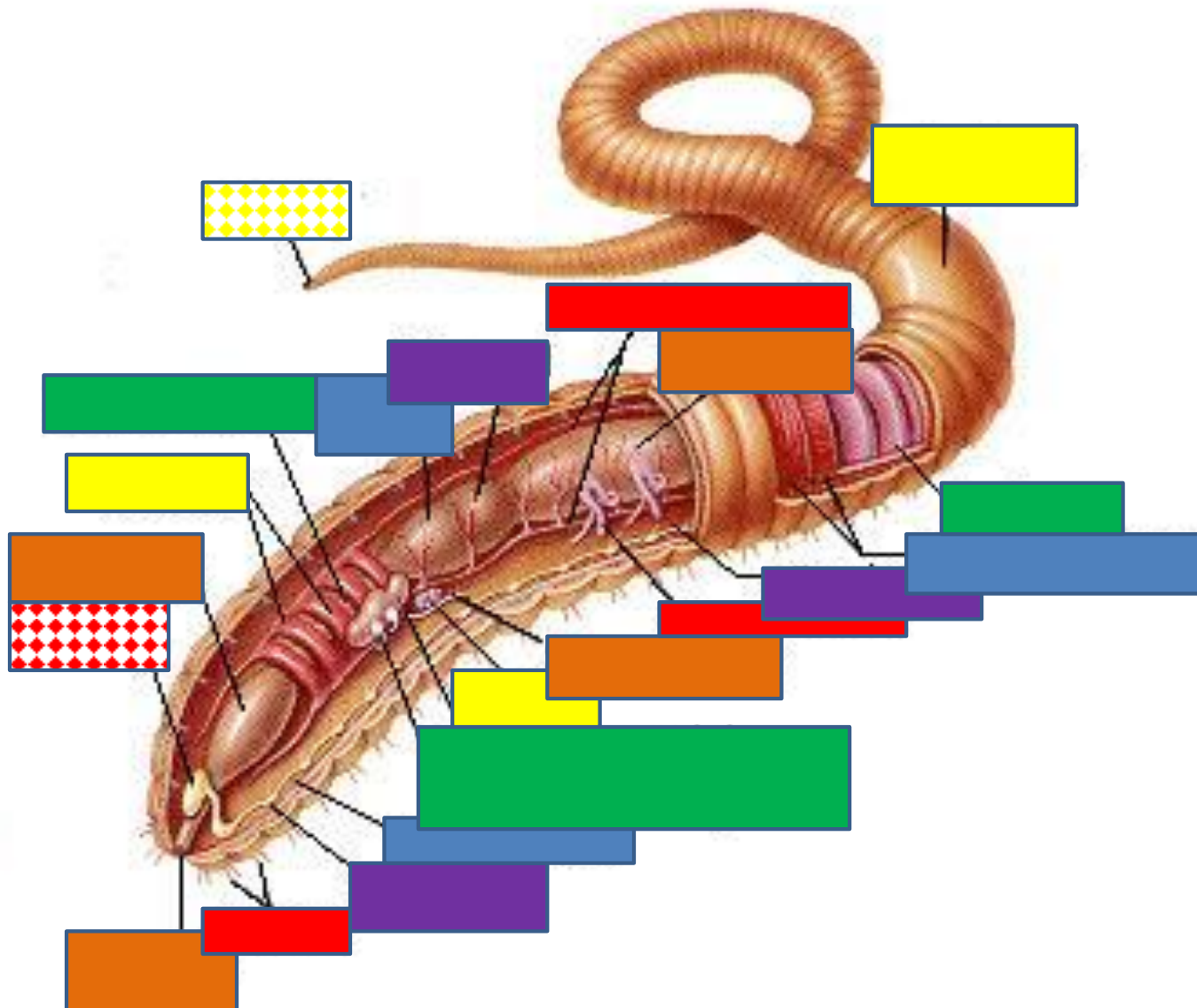
How many “hearts” does an earthworm have?

5 PAIRS









Phylum Mollusca

Class

Bivalvia

Cephalopoda

Polyplacophora



Clam Glochidia



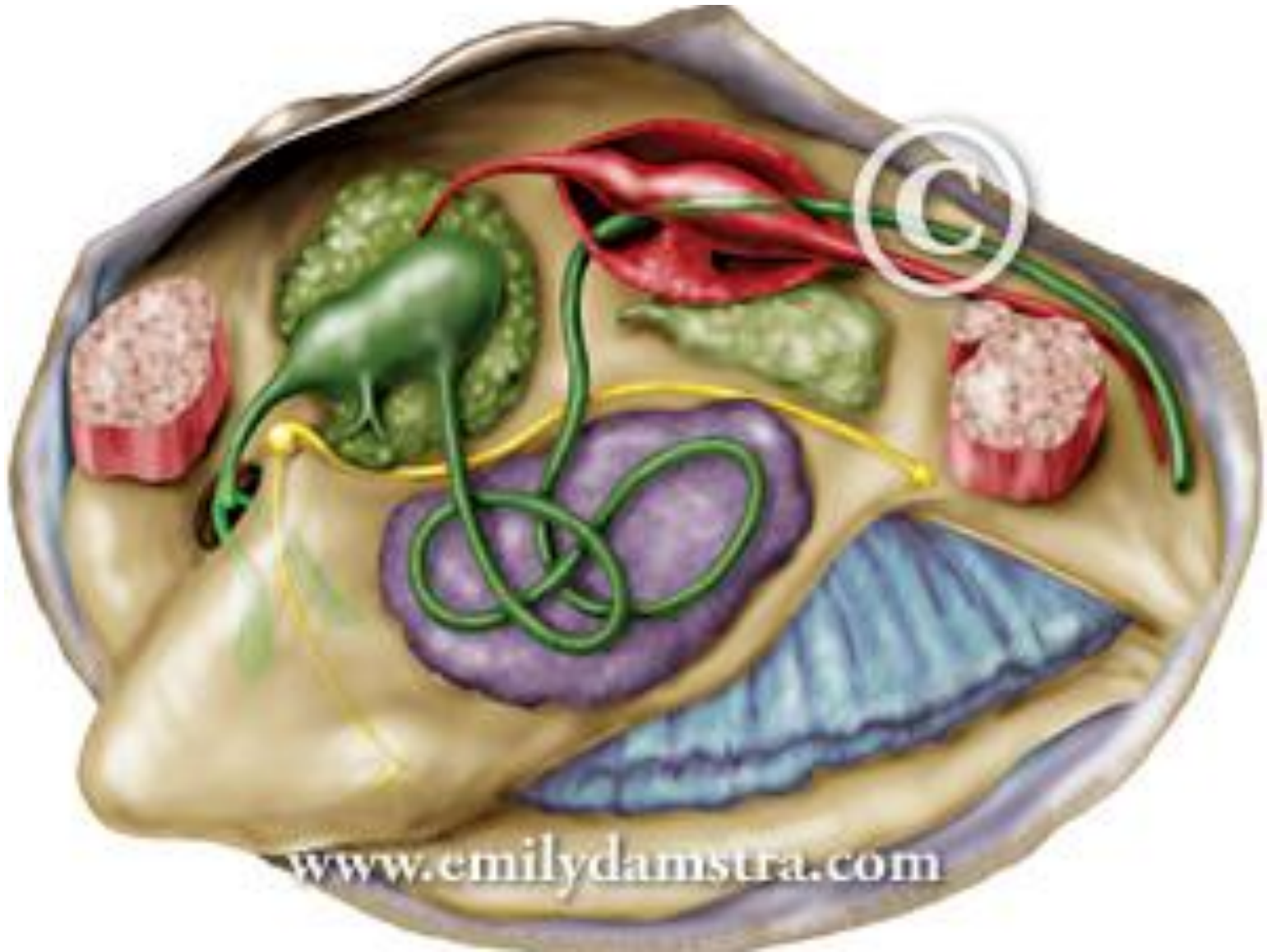
Banana Slug



Clam

**What part of the clam
secretes the shell?**

The Mantle

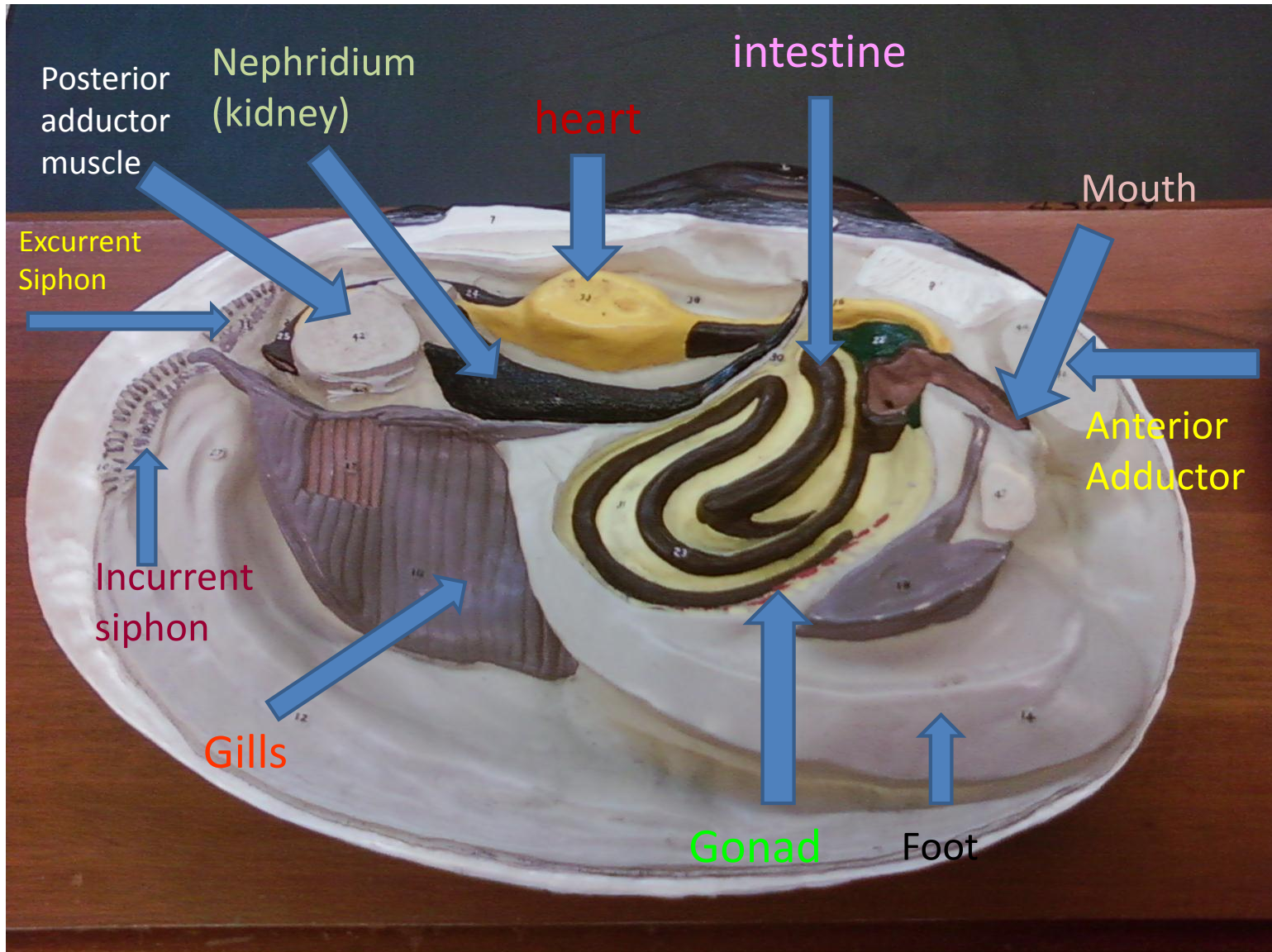


Chiton



Cuttlefish

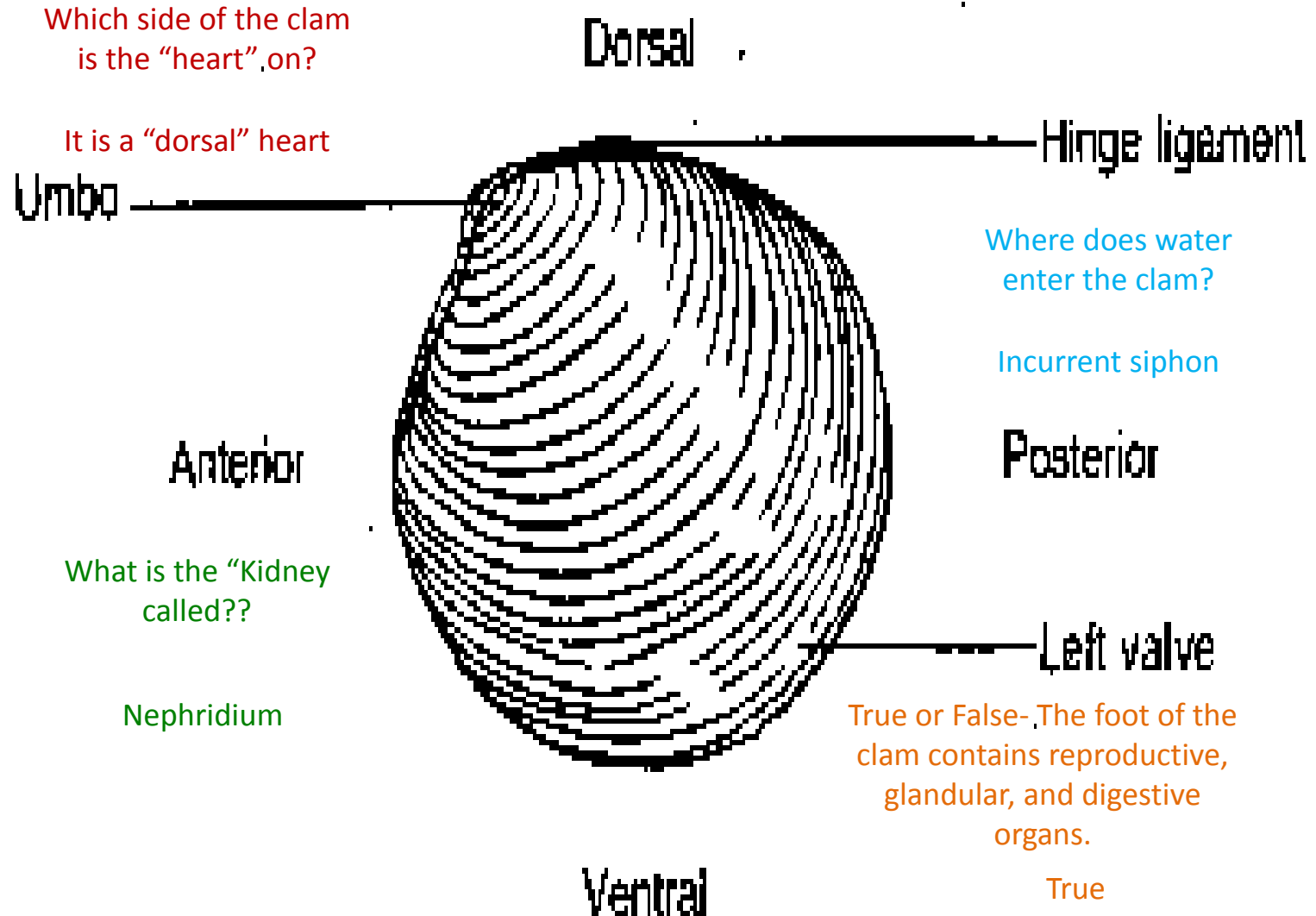






Nautilus





Keyhole Limpet

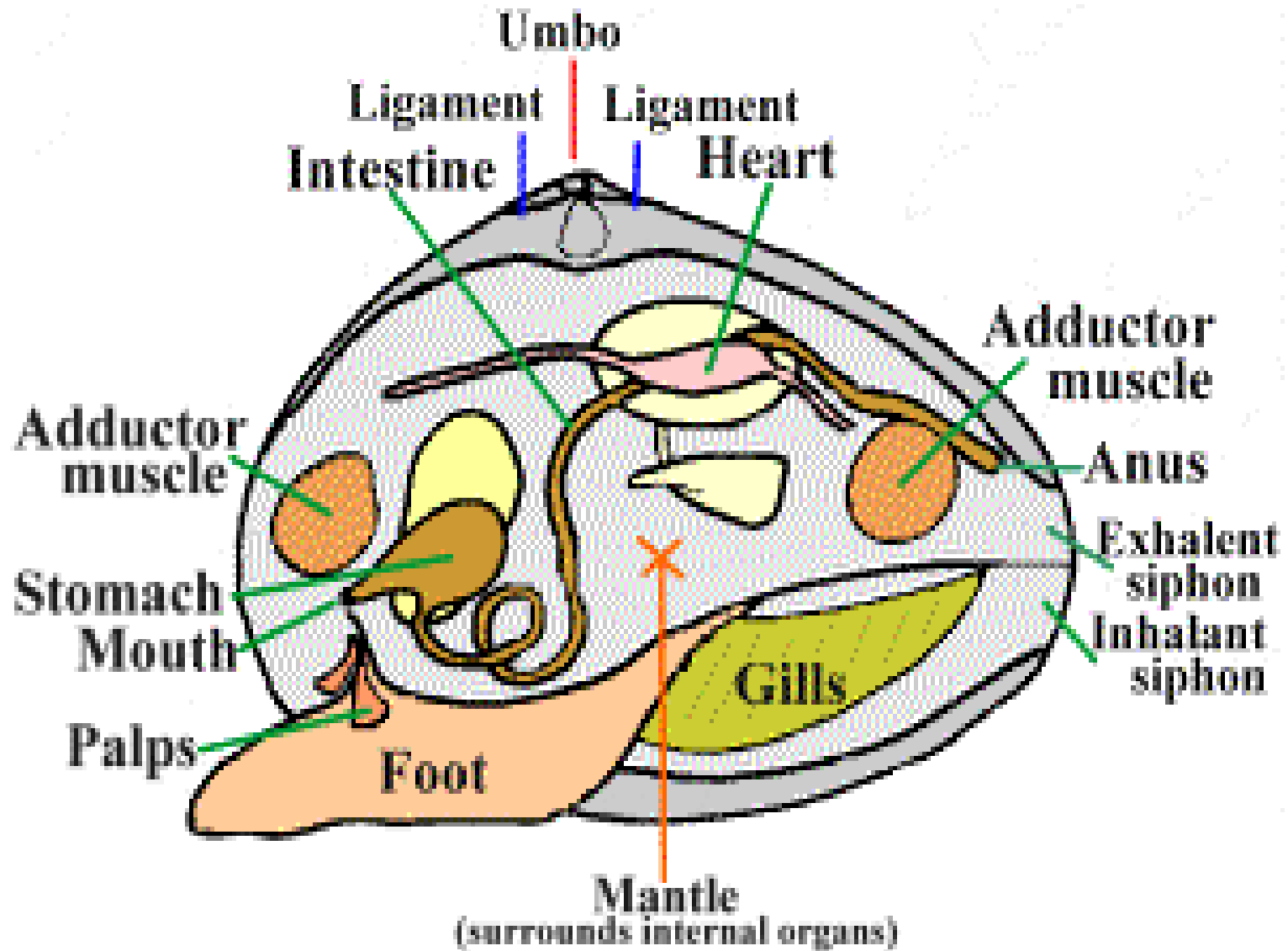


Oyster

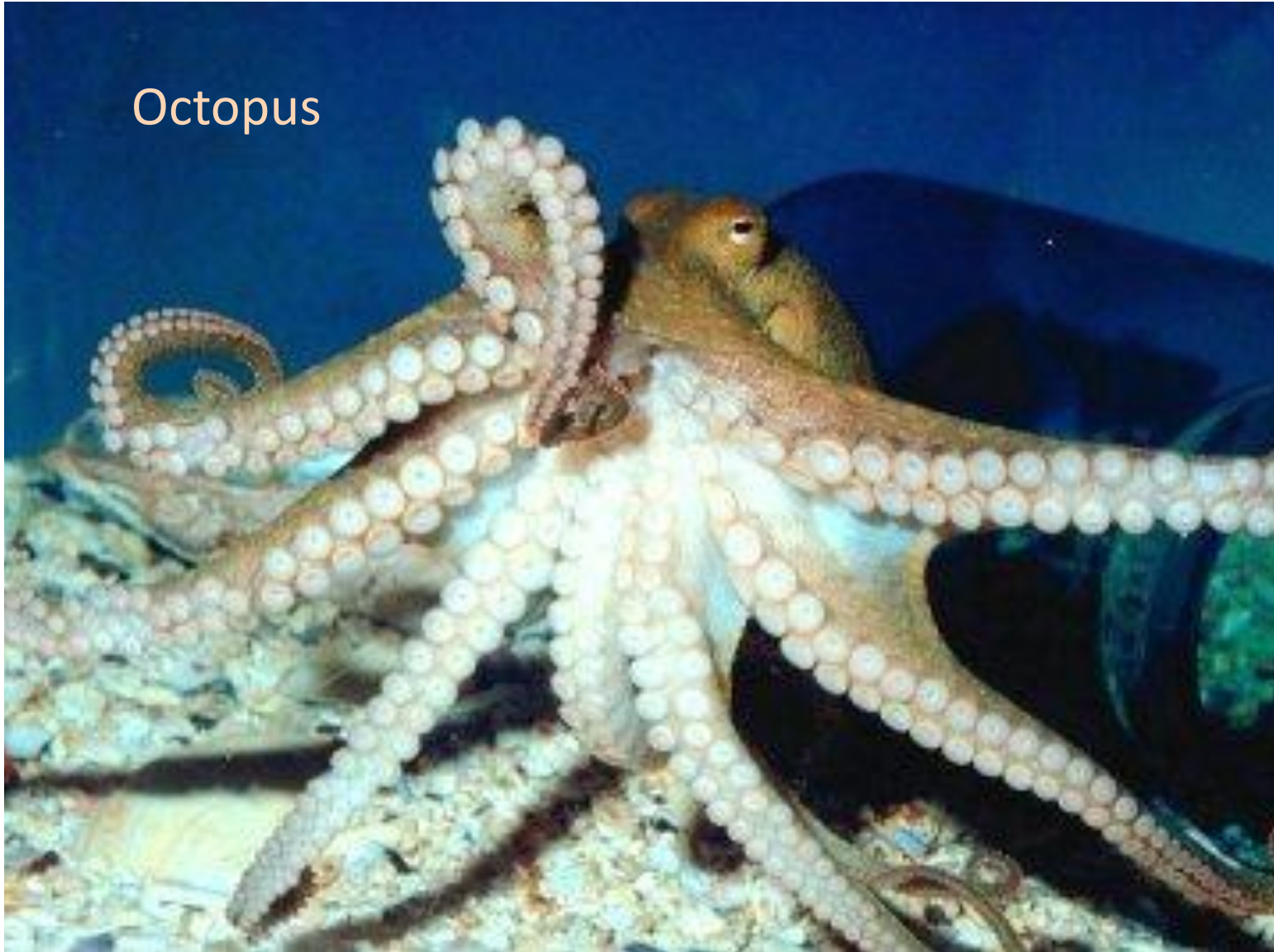


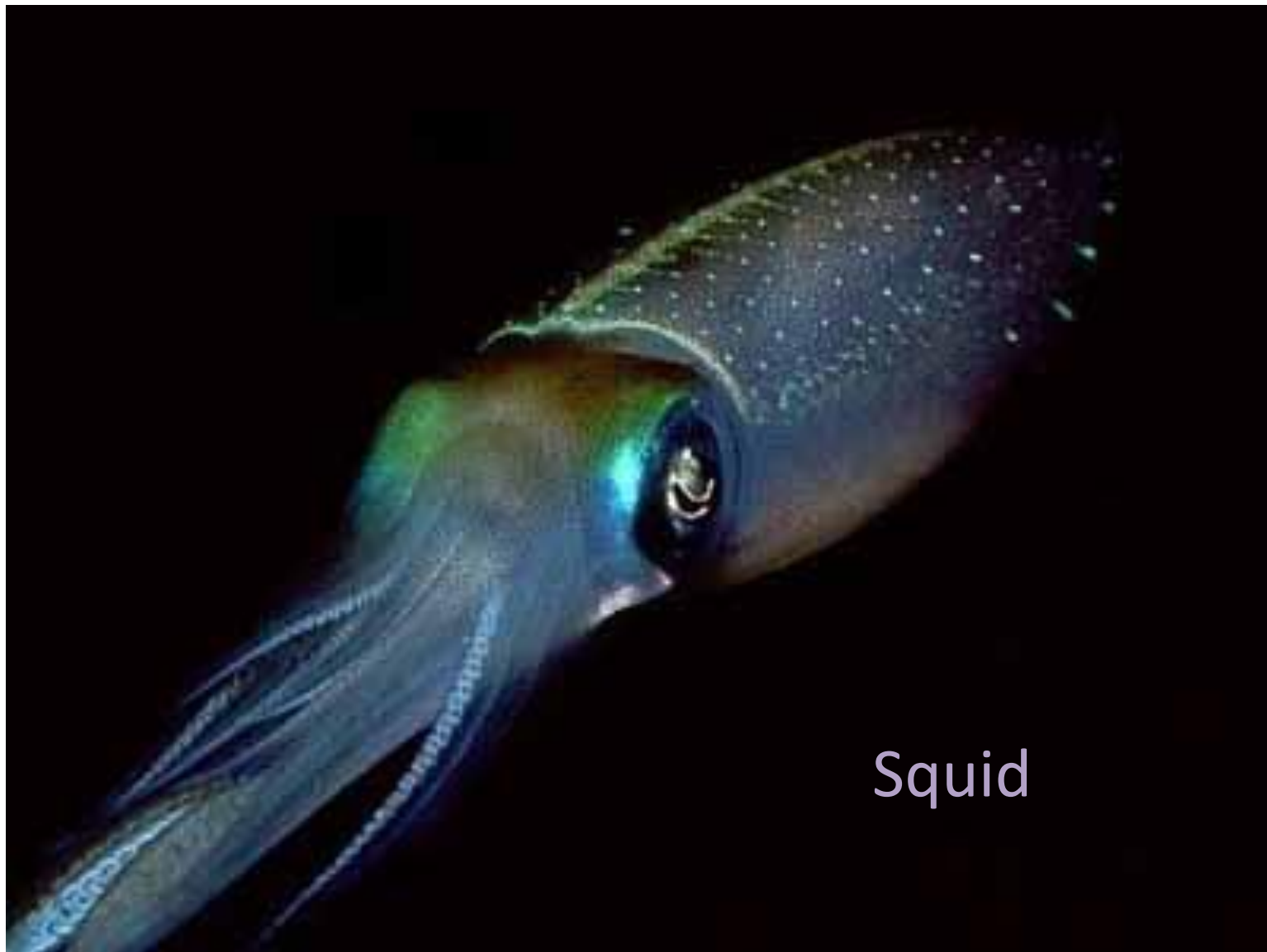


Snail

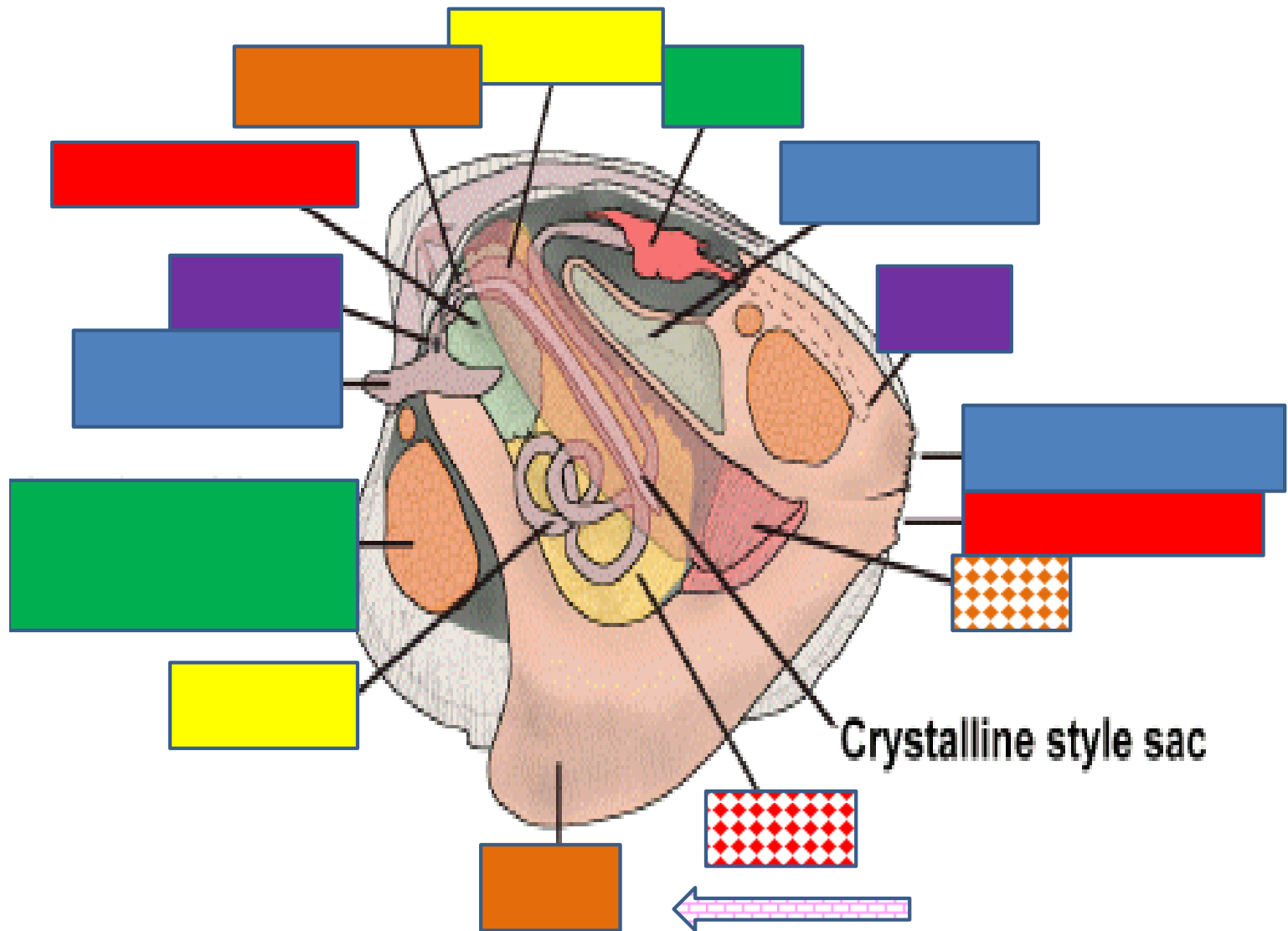


Octopus





Squid



Phylum Arthropoda

Class

Arachnida

Insecta

Chilopoda

Piplopoda

Crustacea

(S)Malacshraca

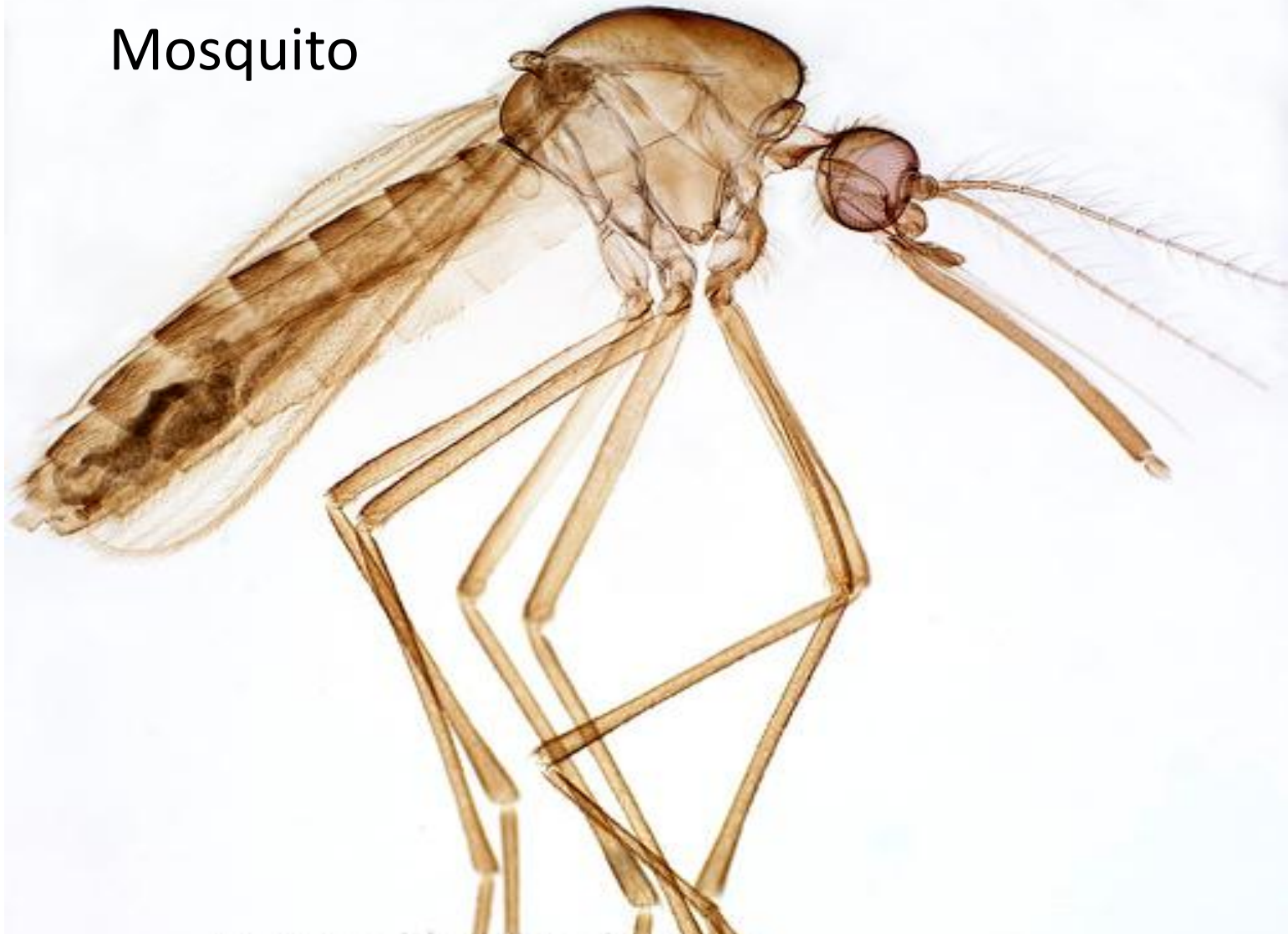
(S)Cirripoda

(S)Merostomata

Crawfish Testes



Mosquito

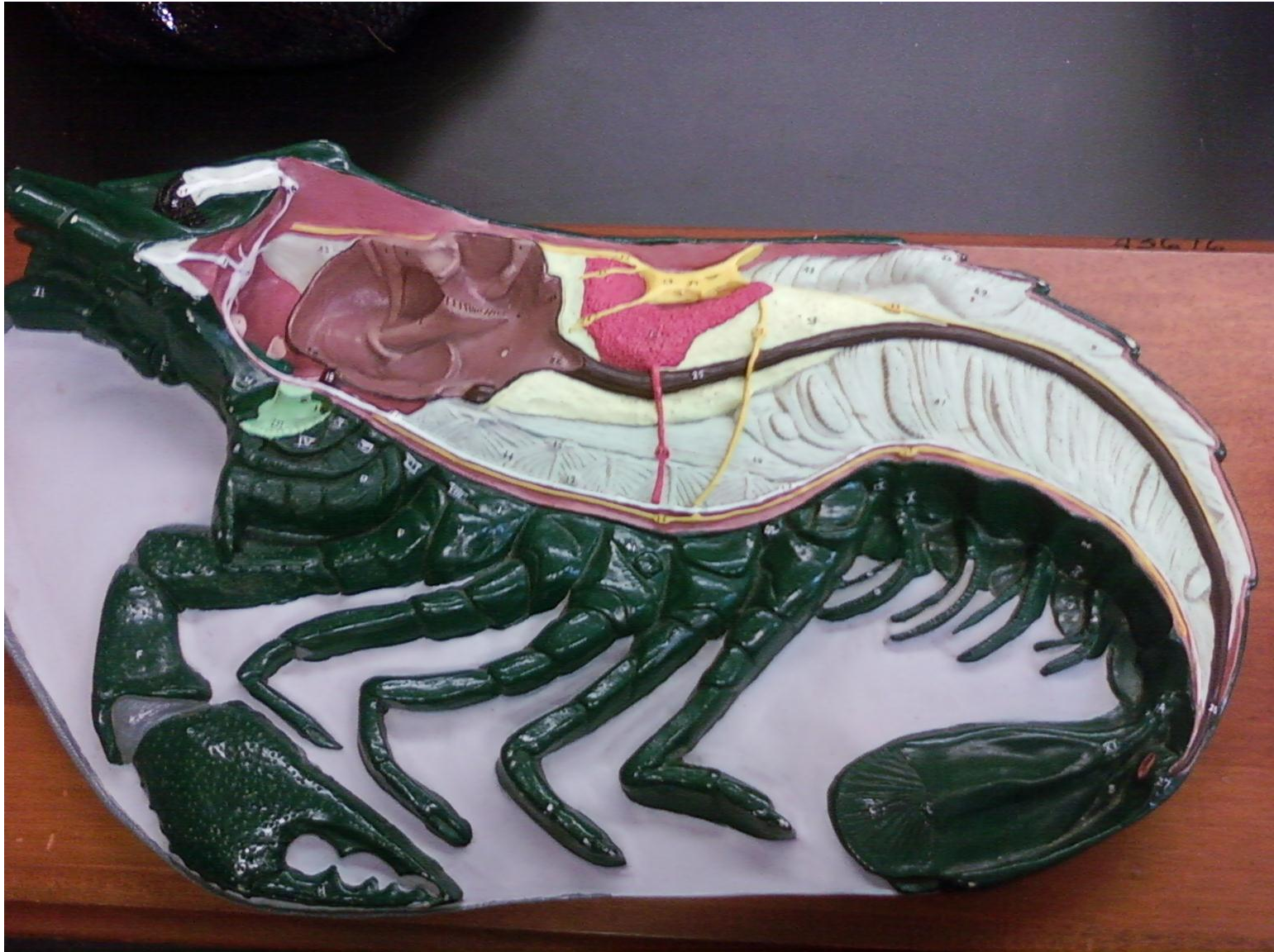


What does arthropod mean?

**Jointed
Foot**



Daphnia





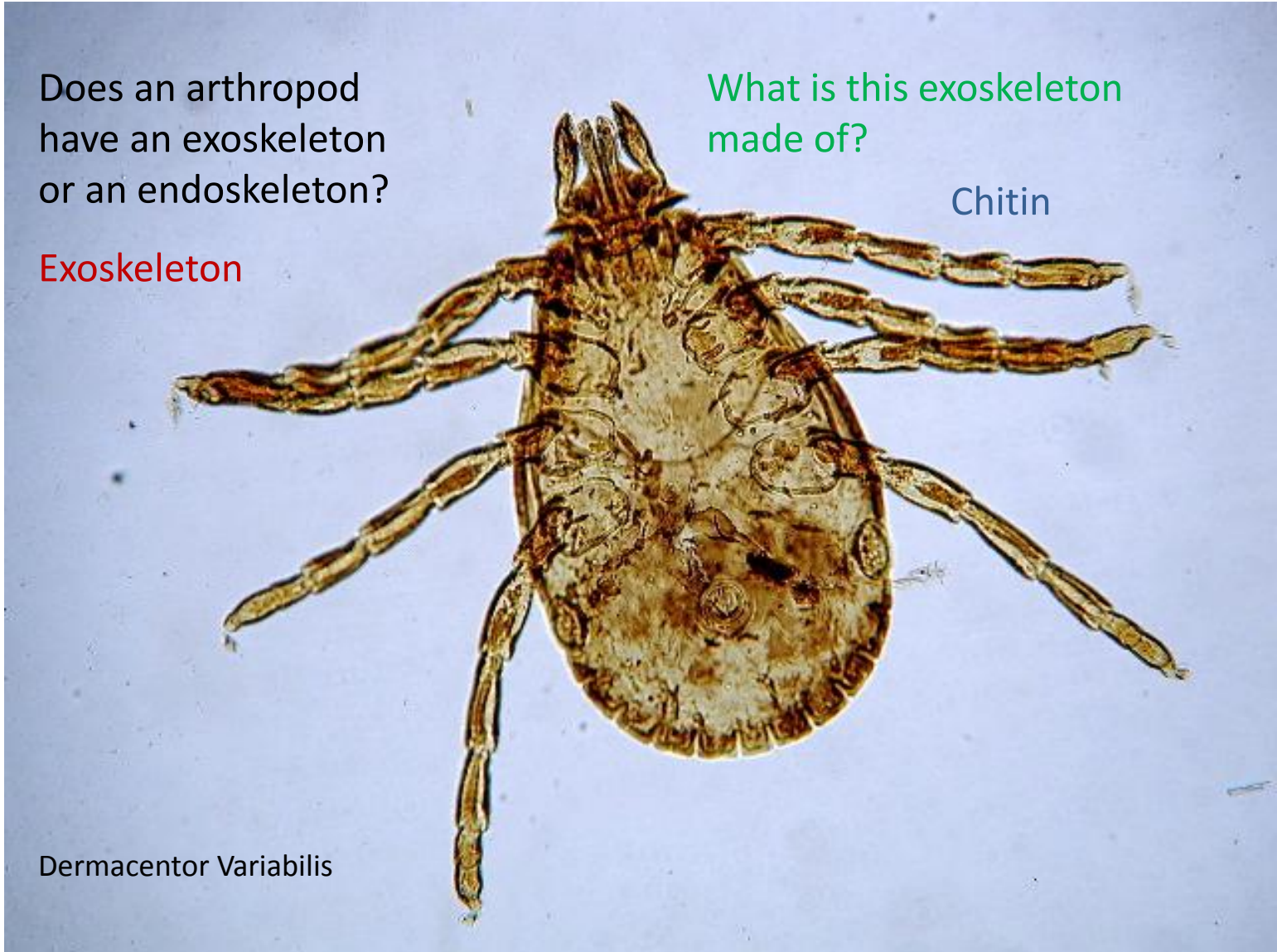
Does an arthropod
have an exoskeleton
or an endoskeleton?

Exoskeleton

What is this exoskeleton
made of?

Chitin

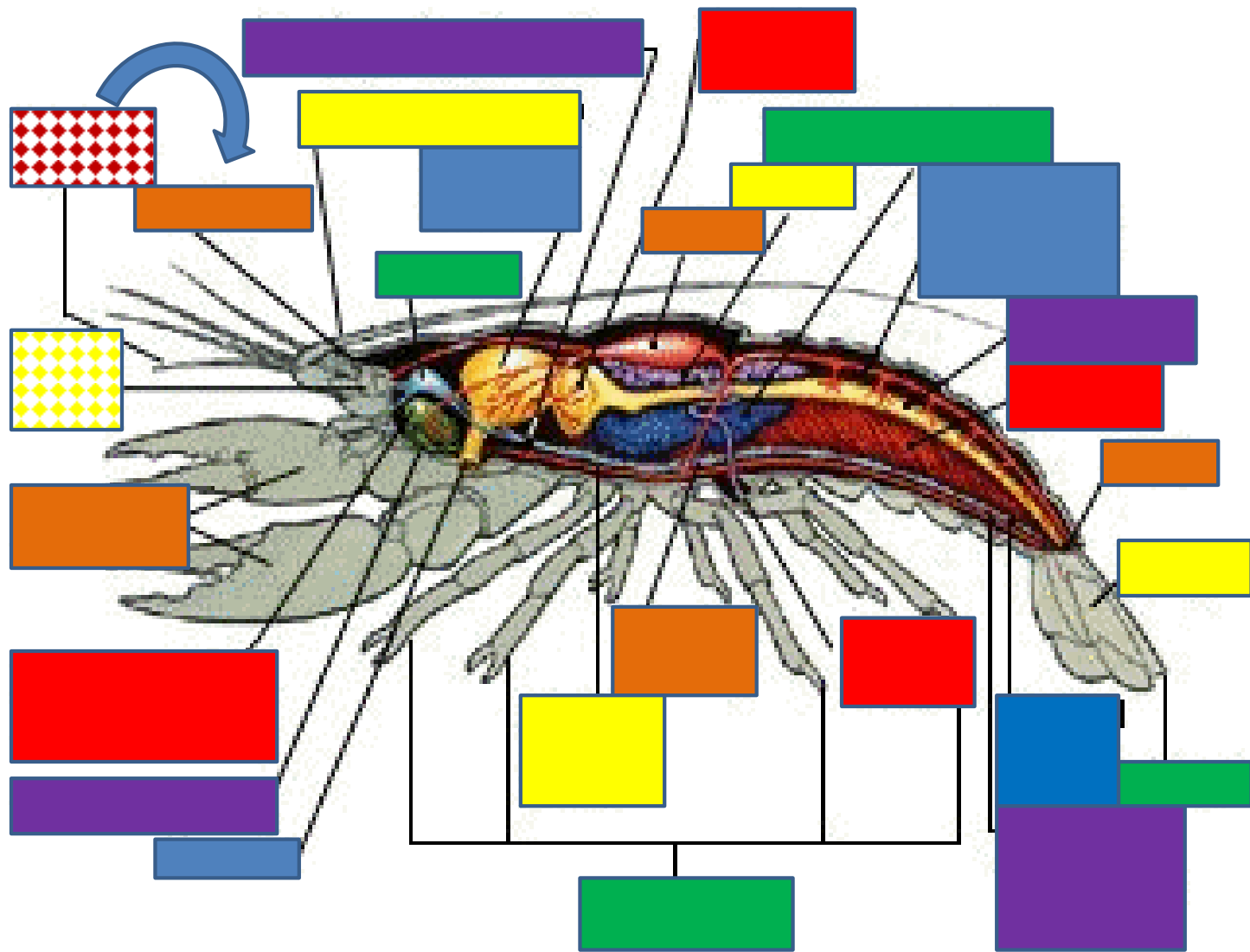
Dermacentor Variabilis



Drosophila Salivary gland chromosomes







Phylum Echinodermata

Class

Asteroidea

Ophiuroidea

Echinoidea

Holothuroidea

Crinoidea

A photograph of a sea urchin with long, reddish-brown spines, resting on a wet, sandy beach. The spines are arranged in a radial pattern, pointing outwards from a central point. The background is a mix of sand and small rocks.

What kind of symmetry does
an adult echinoderm have?

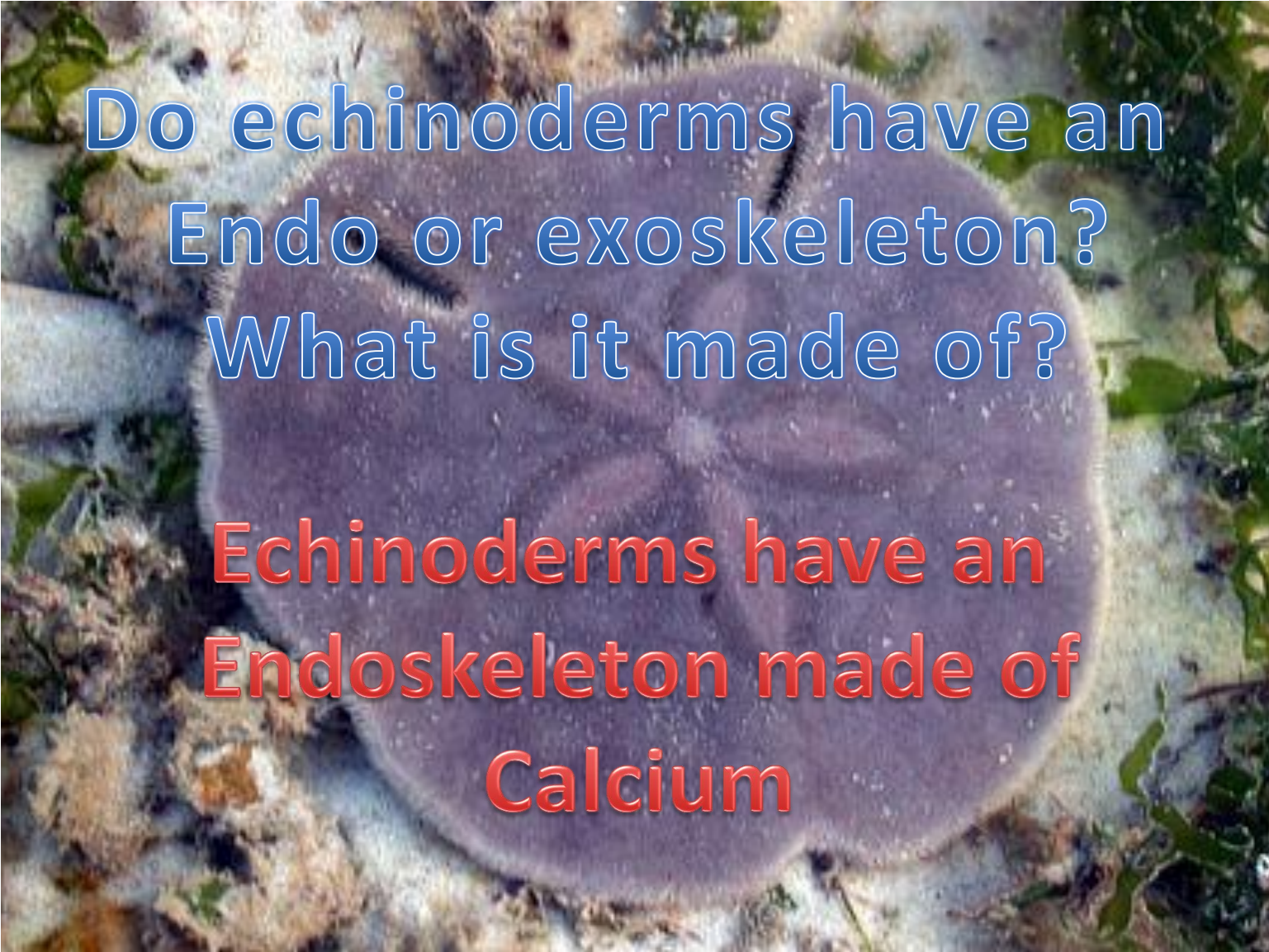
Radial










A close-up photograph of a purple sea urchin resting on a rocky, algae-covered seabed. The urchin's body is a deep purple color, and its spines are visible. The background shows various types of green and brown marine life on the rocks.

**Do echinoderms have an
Endo or exoskeleton?
What is it made of?**

**Echinoderms have an
Endoskeleton made of
Calcium**



A five-armed starfish with a purple body and orange-red borders is resting on a sandy beach. The starfish has small, dark spines along its arms. The background is a mix of sand and small pebbles.

What system is unique to
Echinoderms?

Water vascular system





Starfish Arm cross section



Phylum Hemichordata

Acorn Worm



Phylum Chordata

Sub Phylum

Urchordata

Cephalochordata

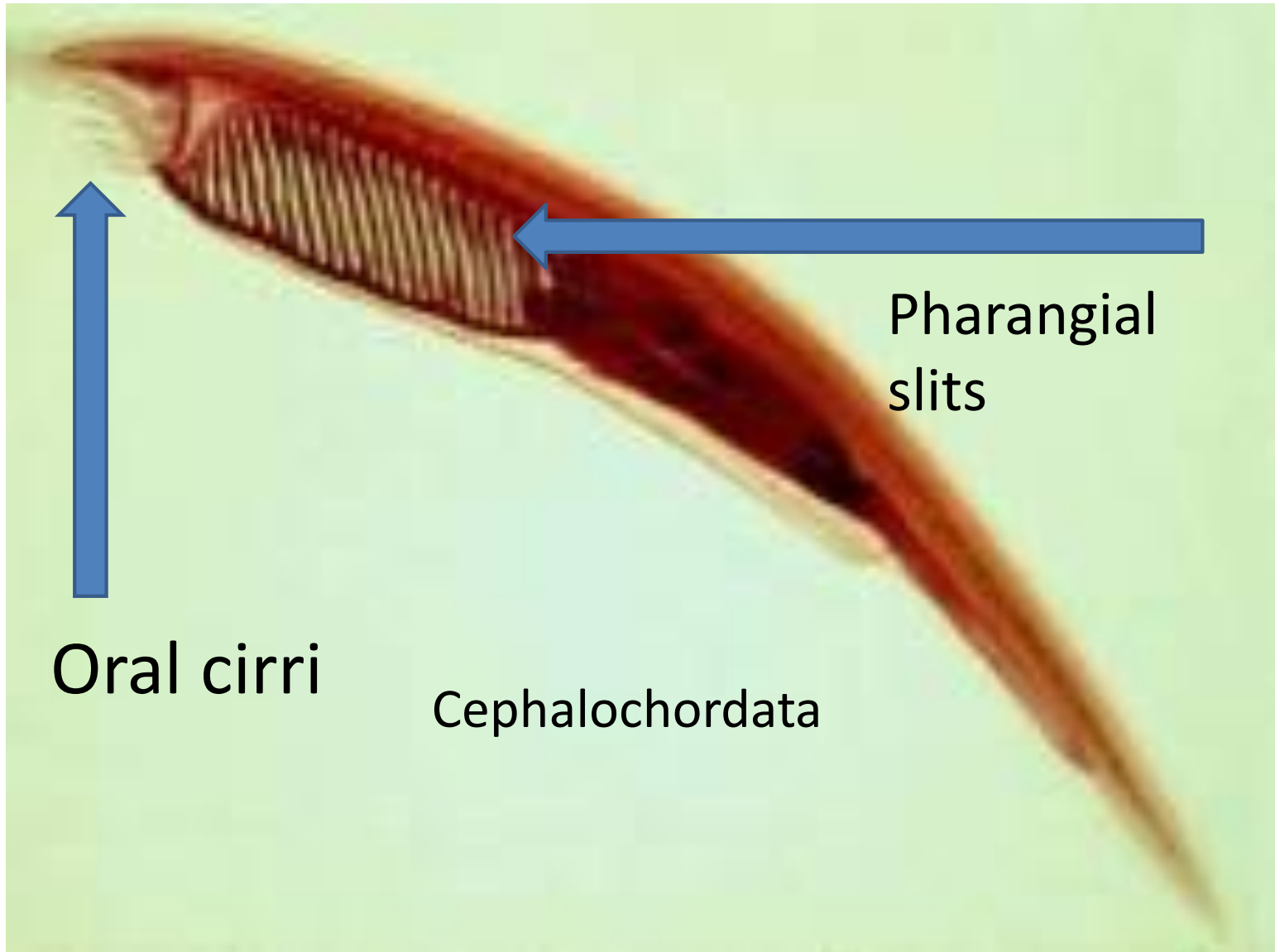
Vertebrata



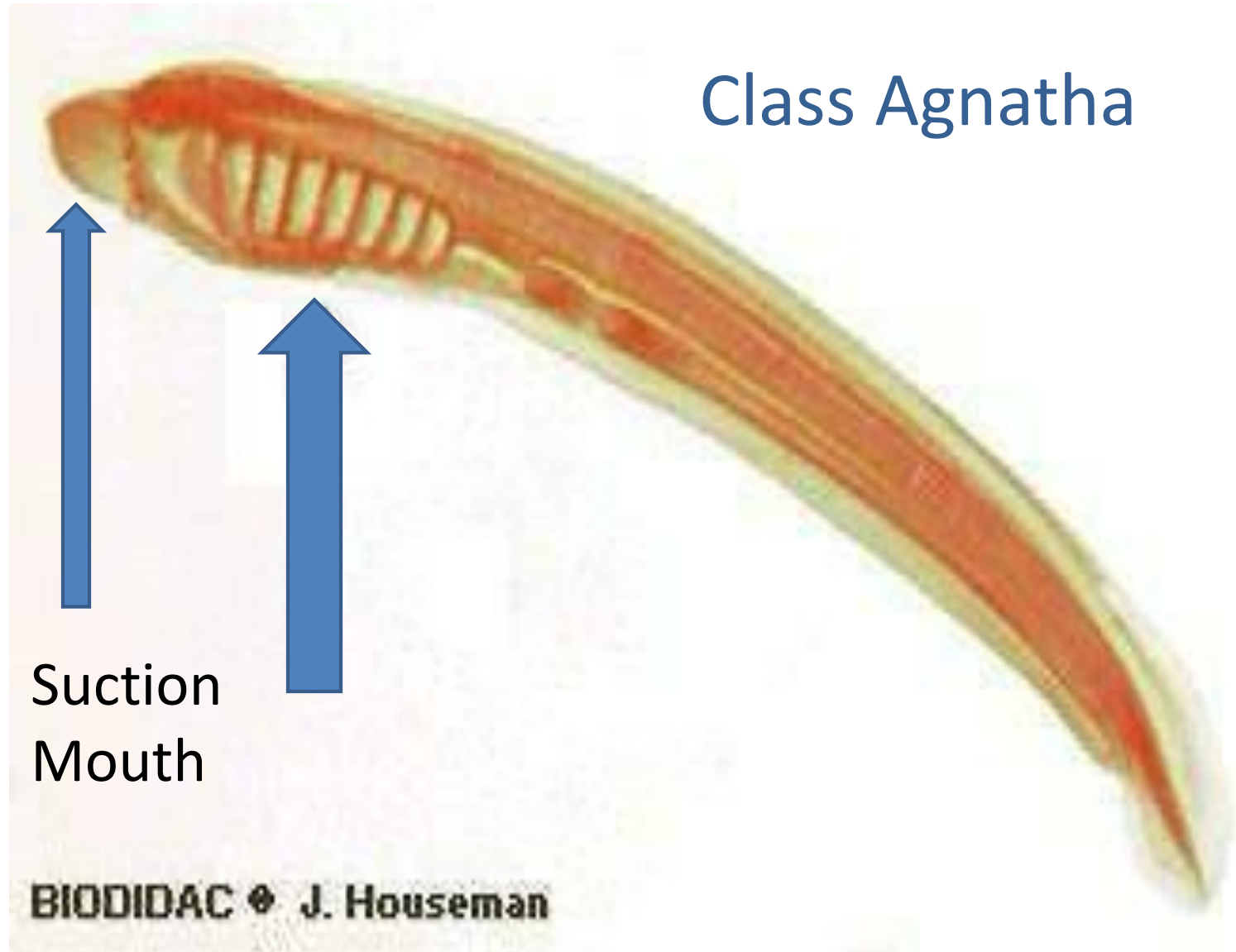
Adult Lancelets (amphioxus)

Cephalochordata

How can lancelets be
distinguished from
Juvenile lampreys?



Class Agnatha



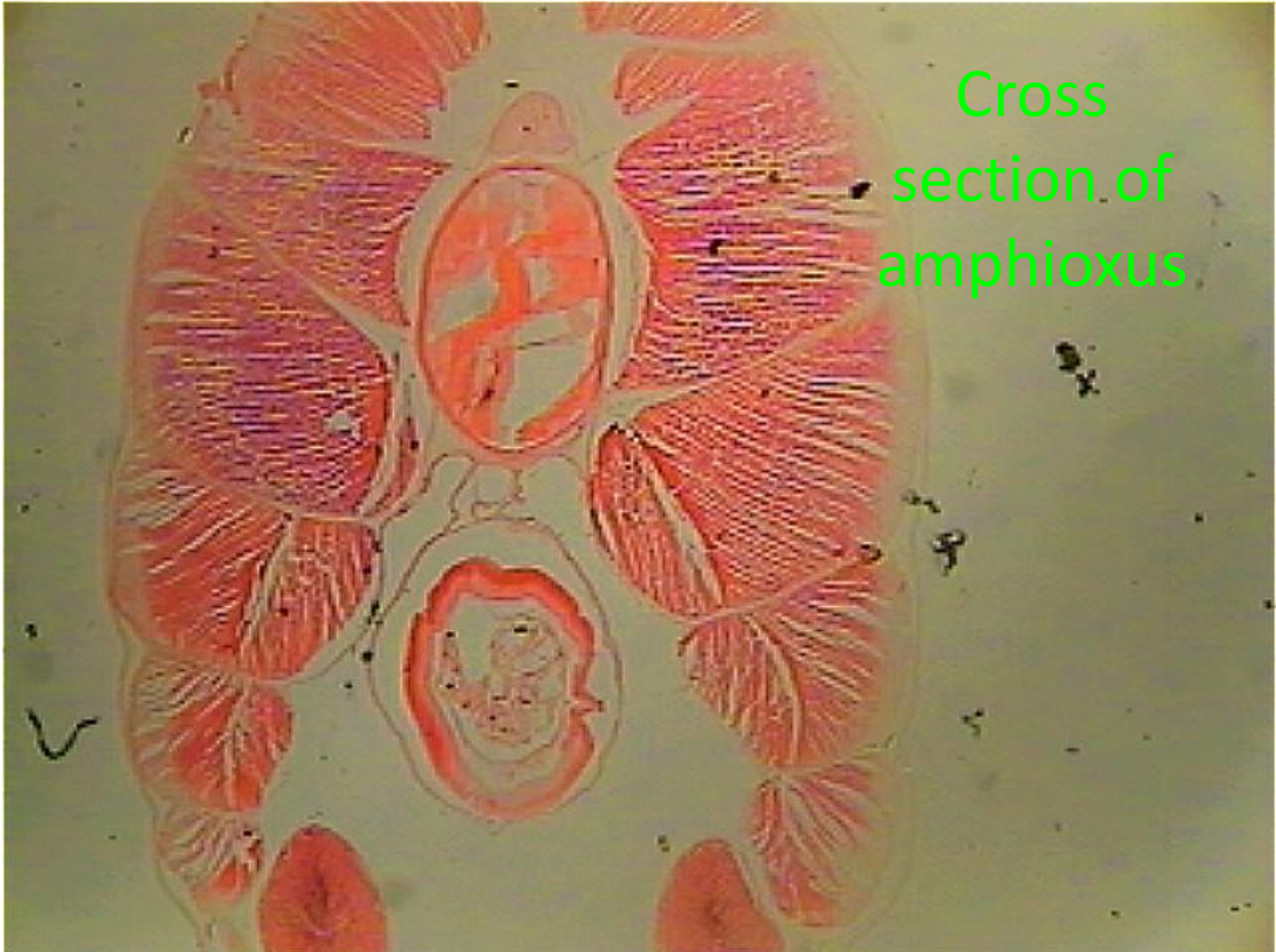


Urochordata

Ascidian swimming tadpole



Cross
section of
amphioxus



Chordata

Class

Agnatha

Chondrichthyes

Osteichthyes

Amphibia

Reptilia

Mammalia

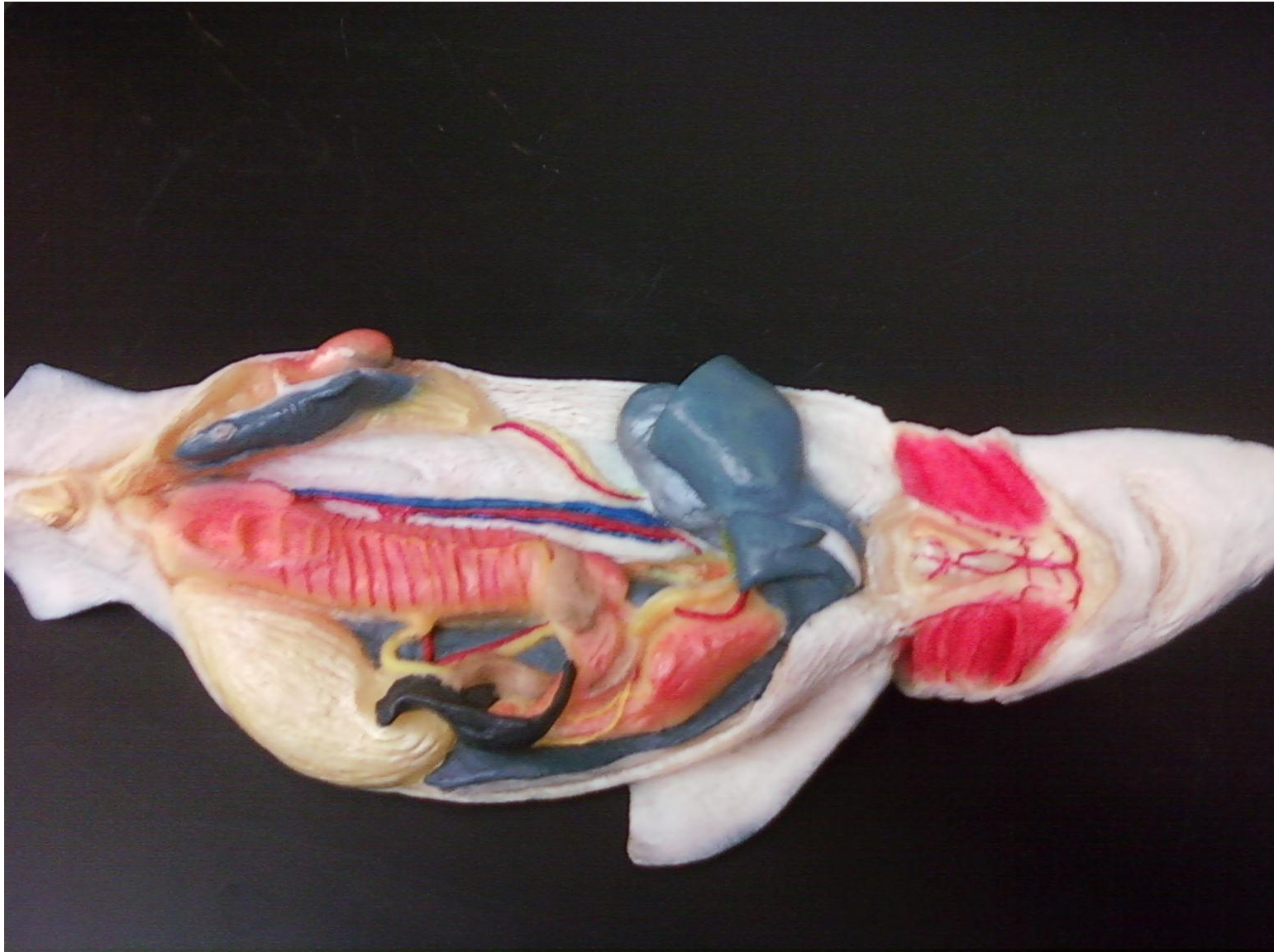
Aves

Agnatha





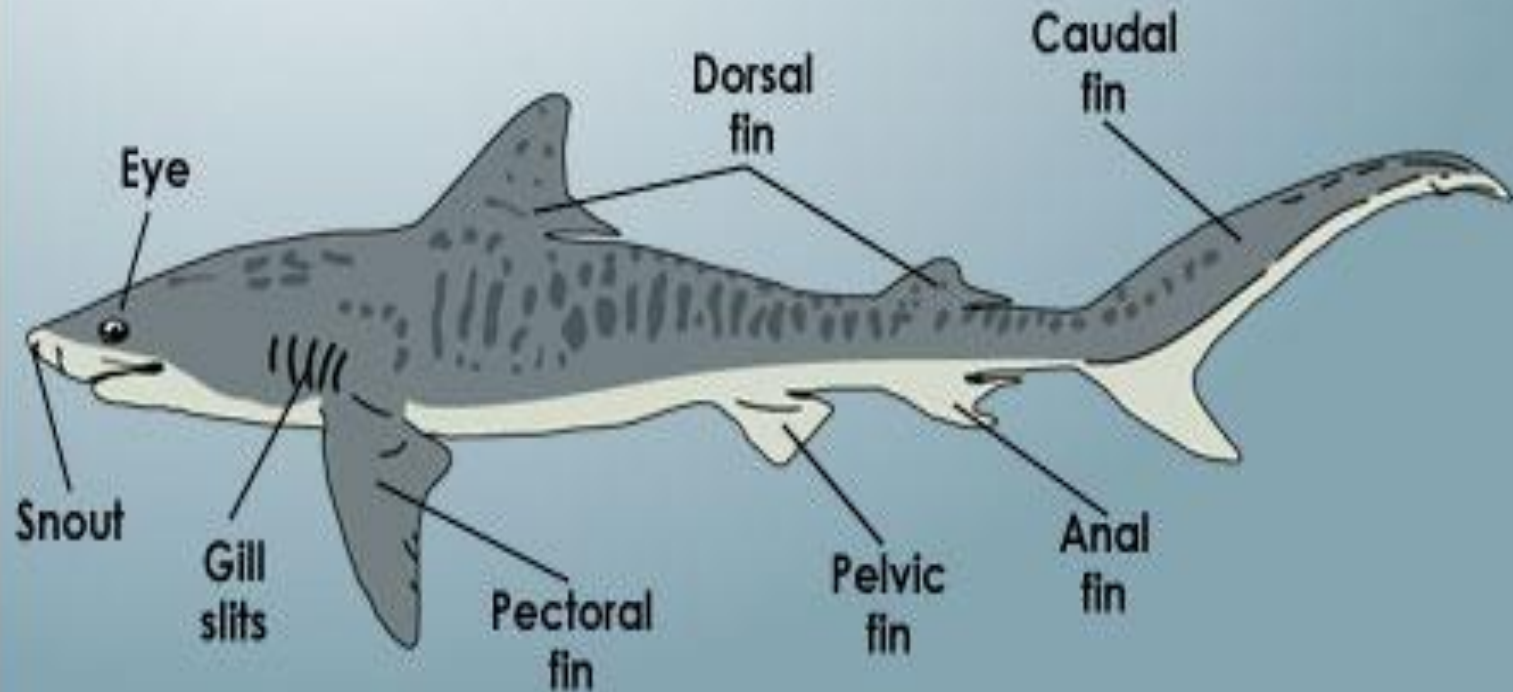






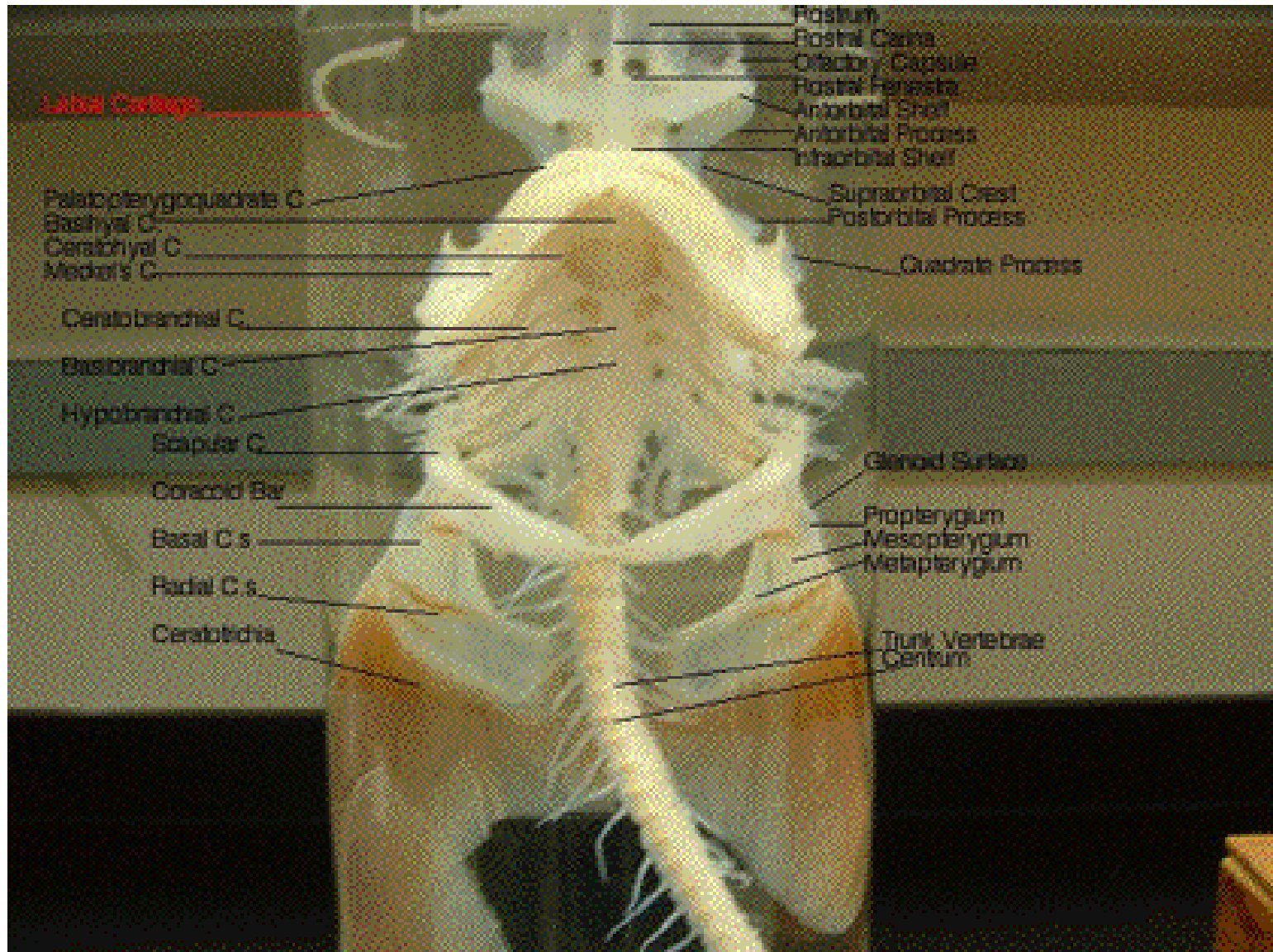
Tiger Shark Anatomy

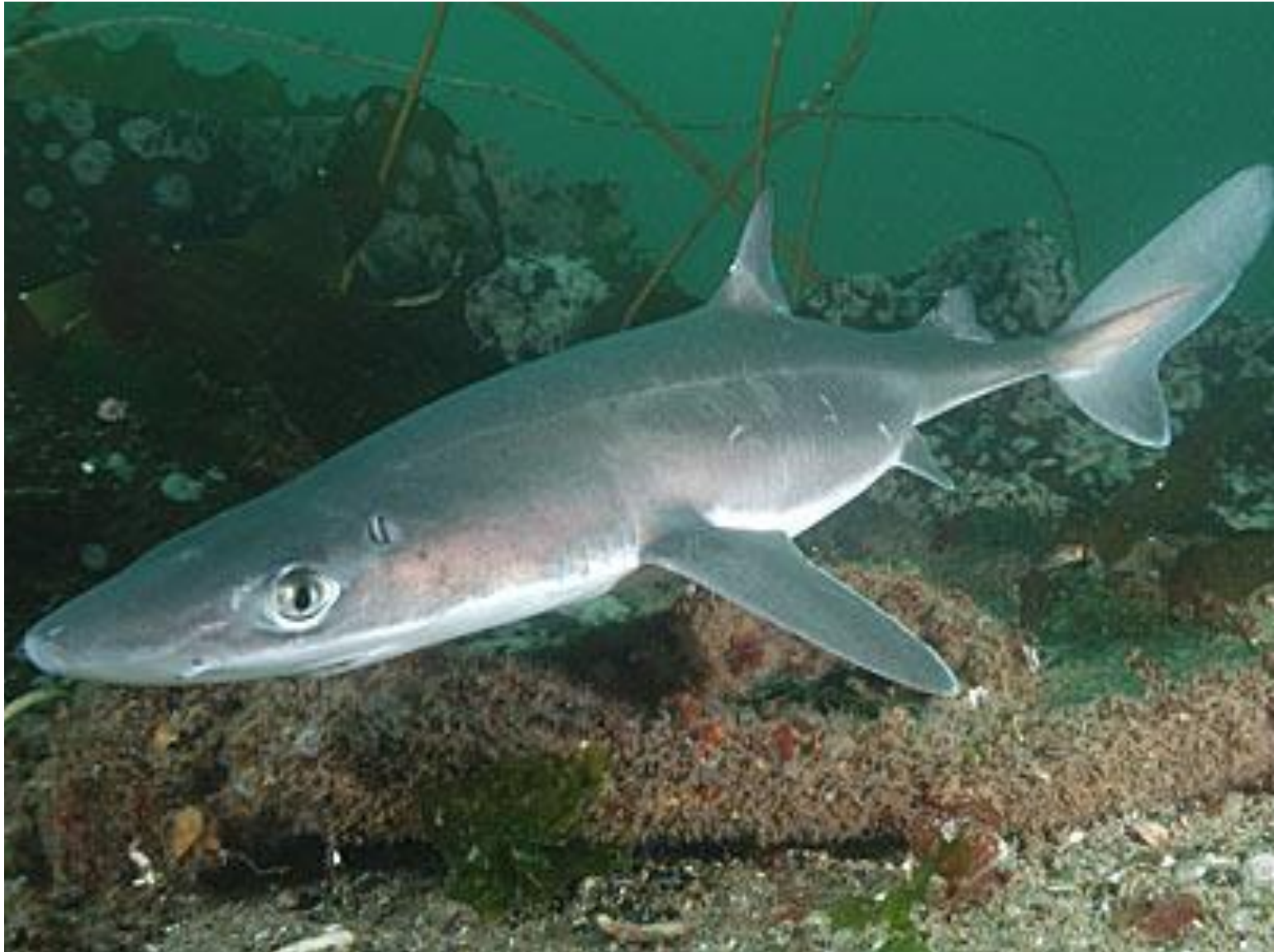
©2008 HowStuffWorks



Chondrichthyes



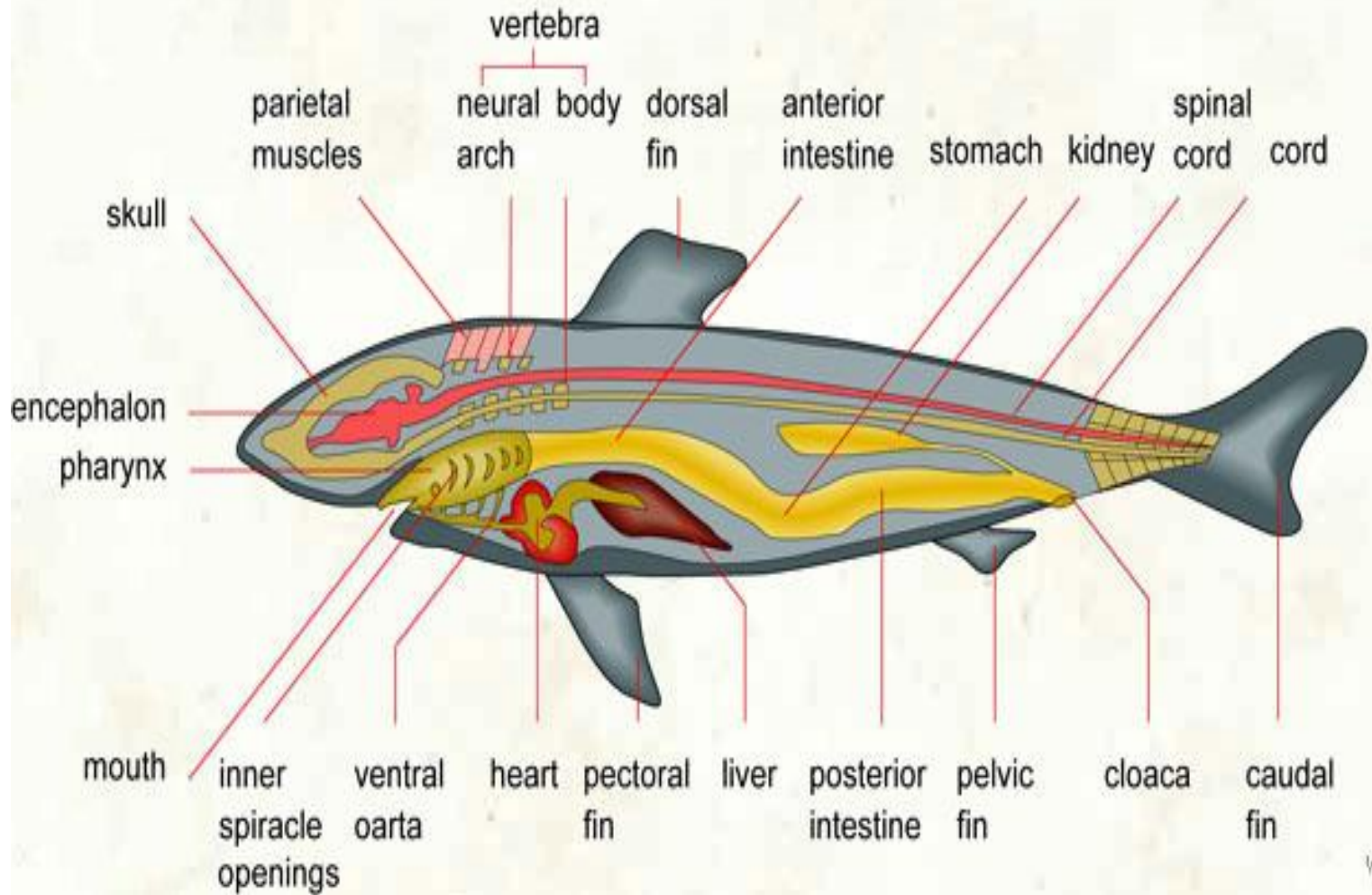




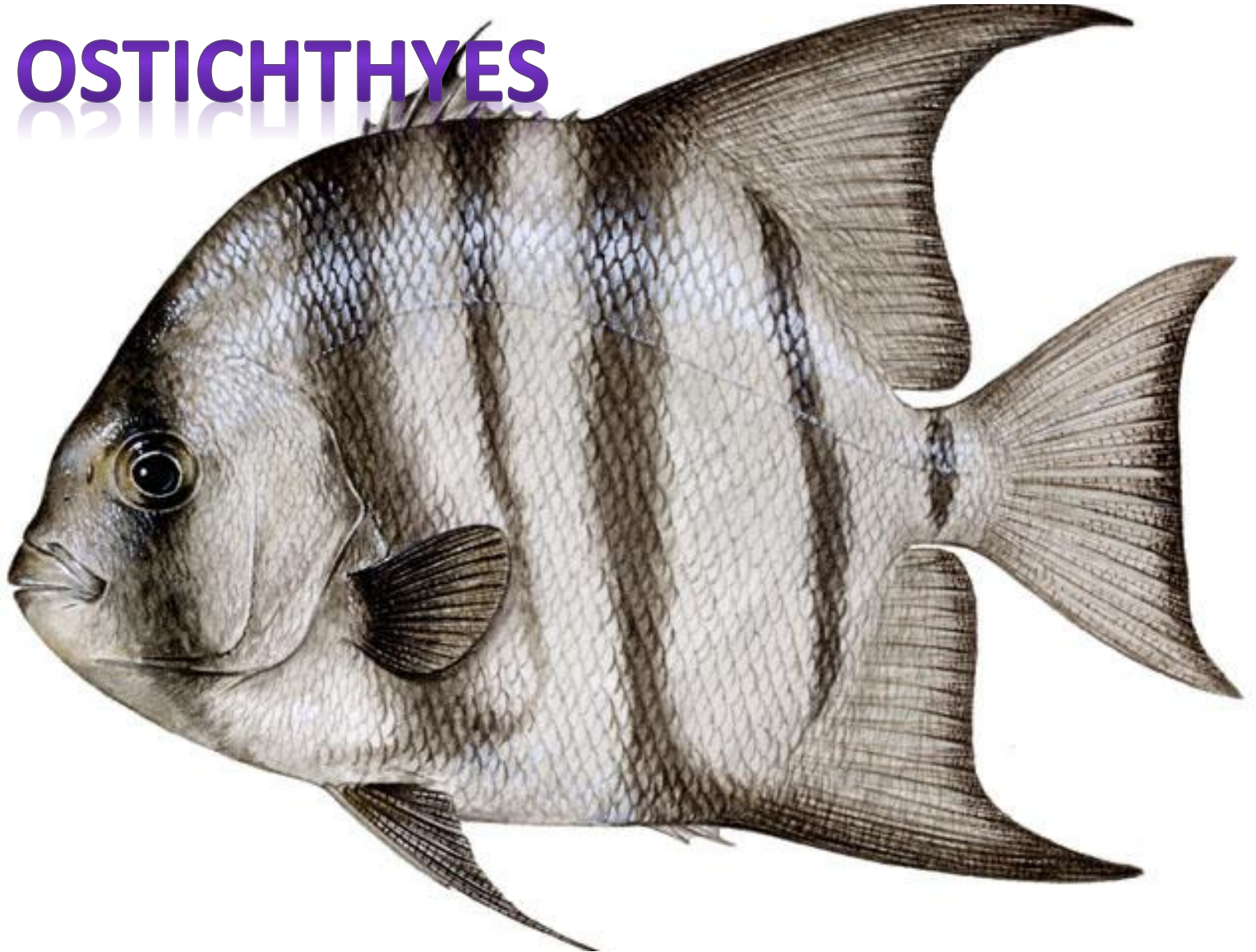




INTERNAL ANATOMY OF A SHARK

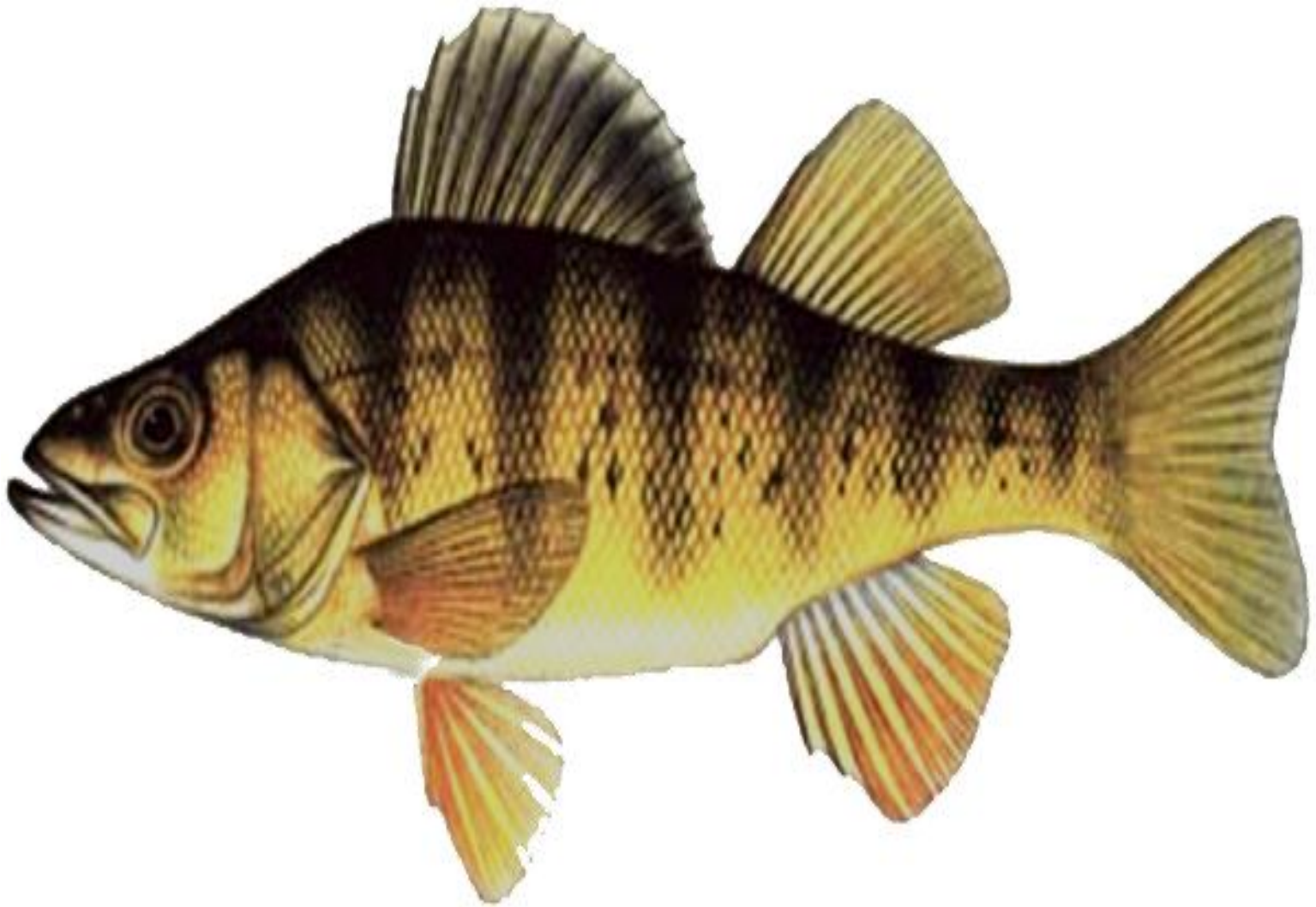


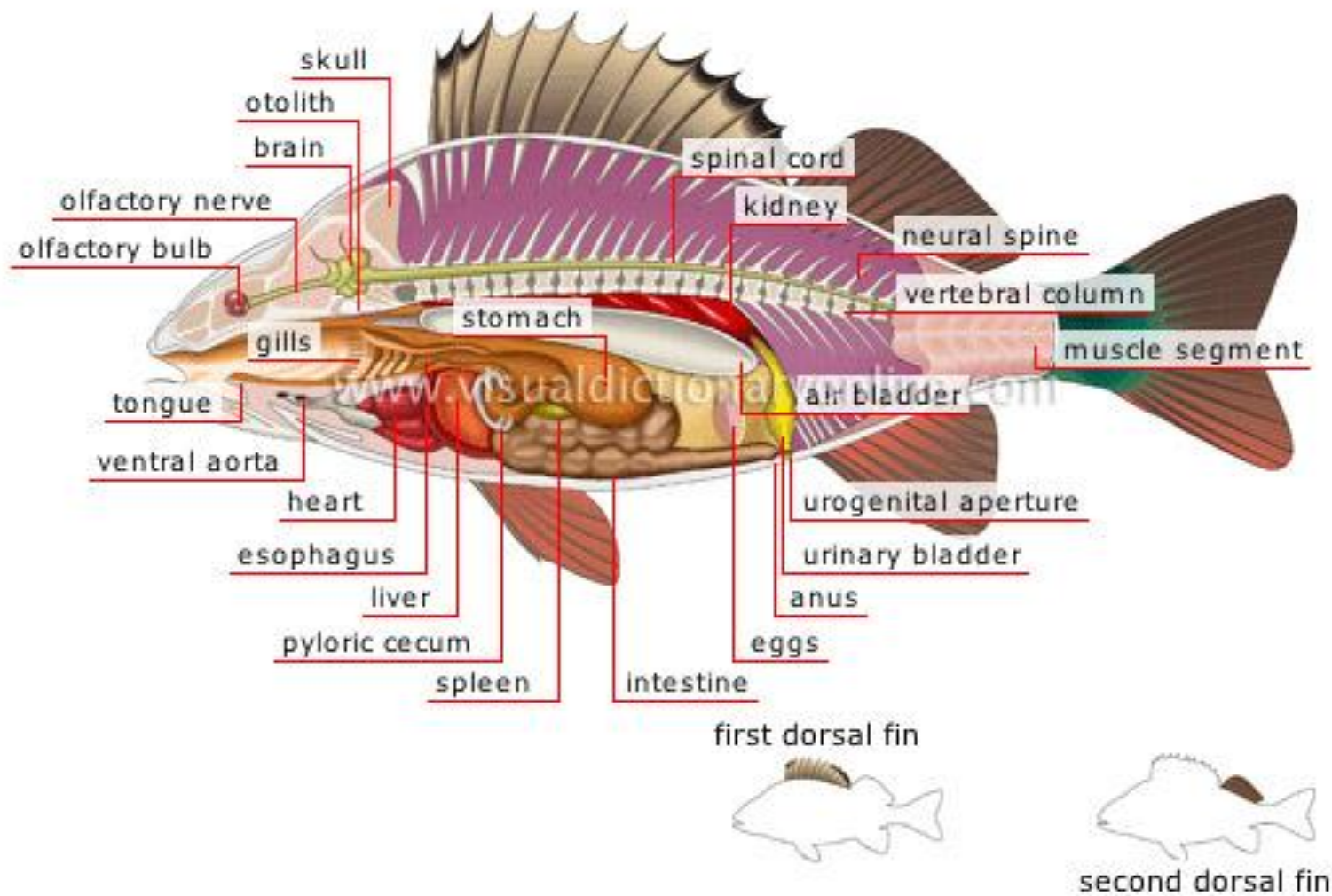
OSTICHTHYES



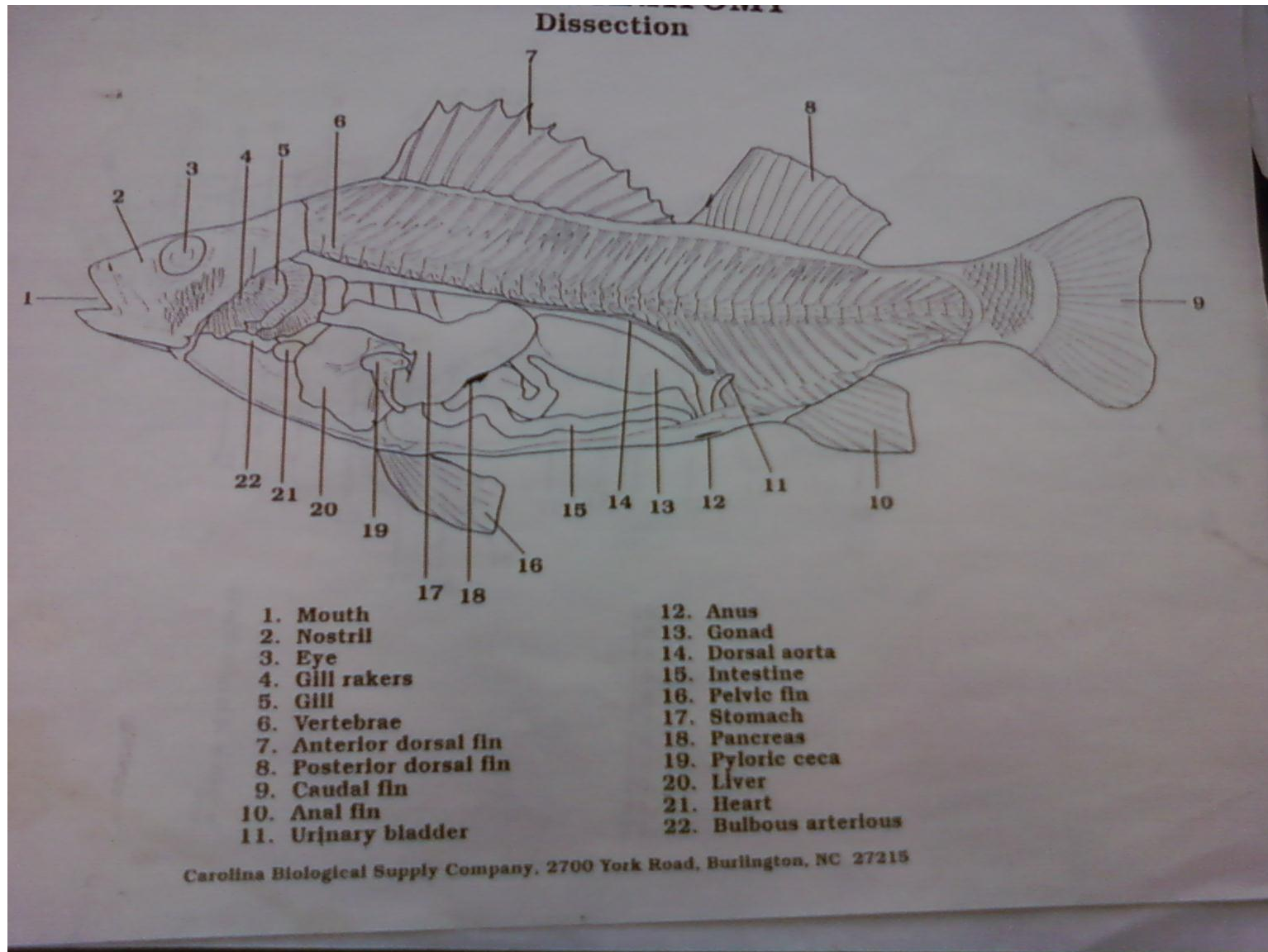




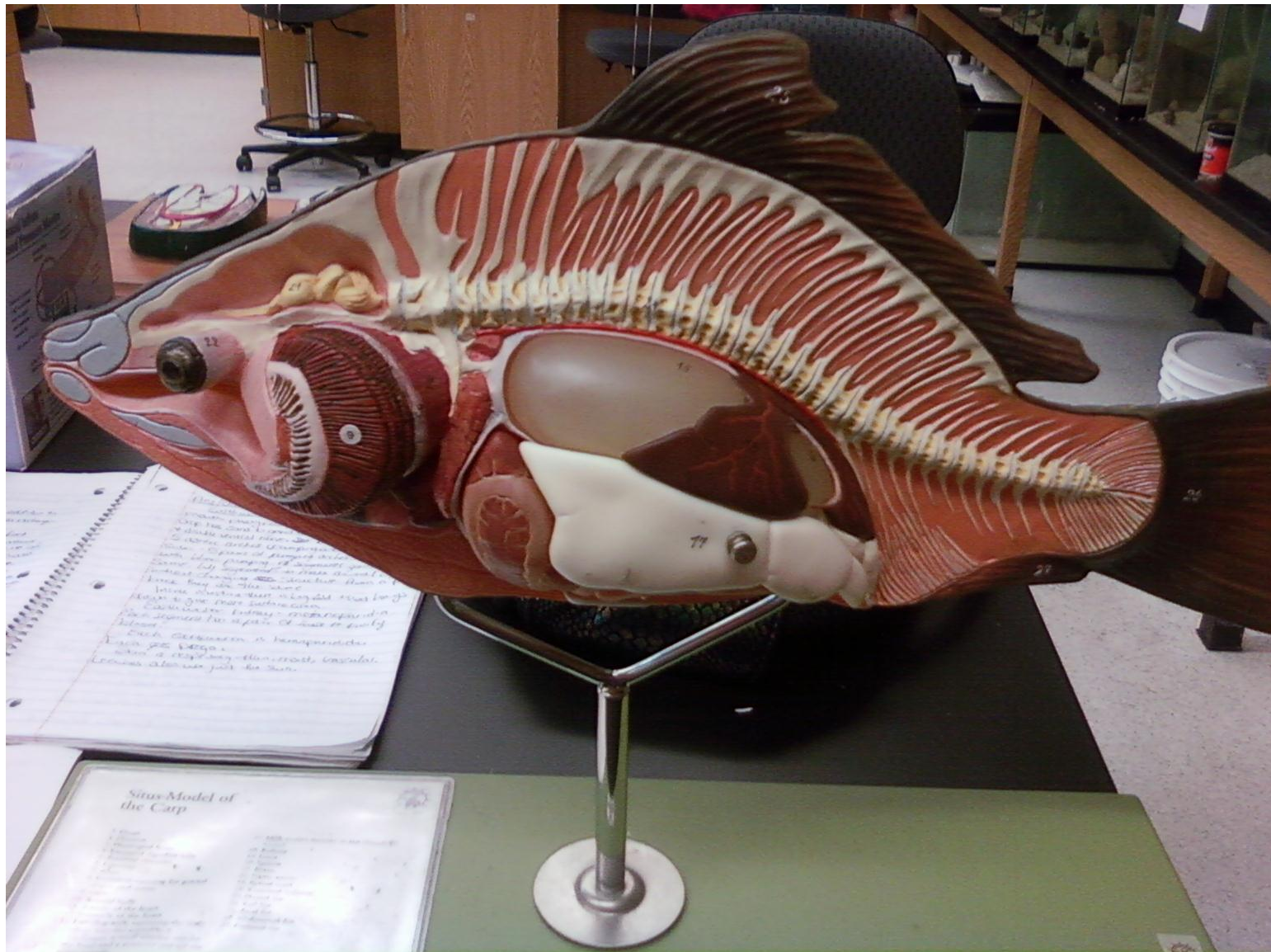




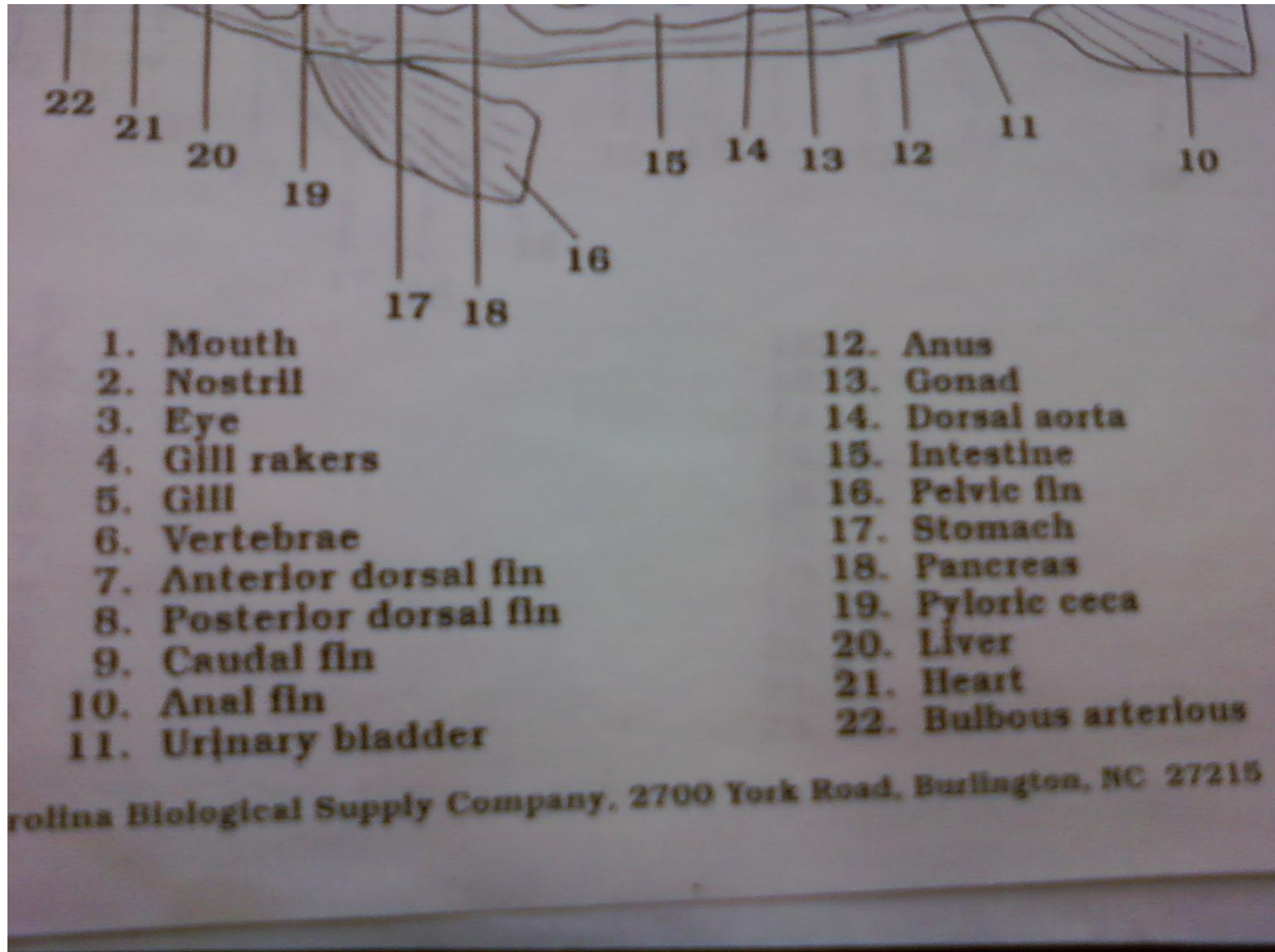


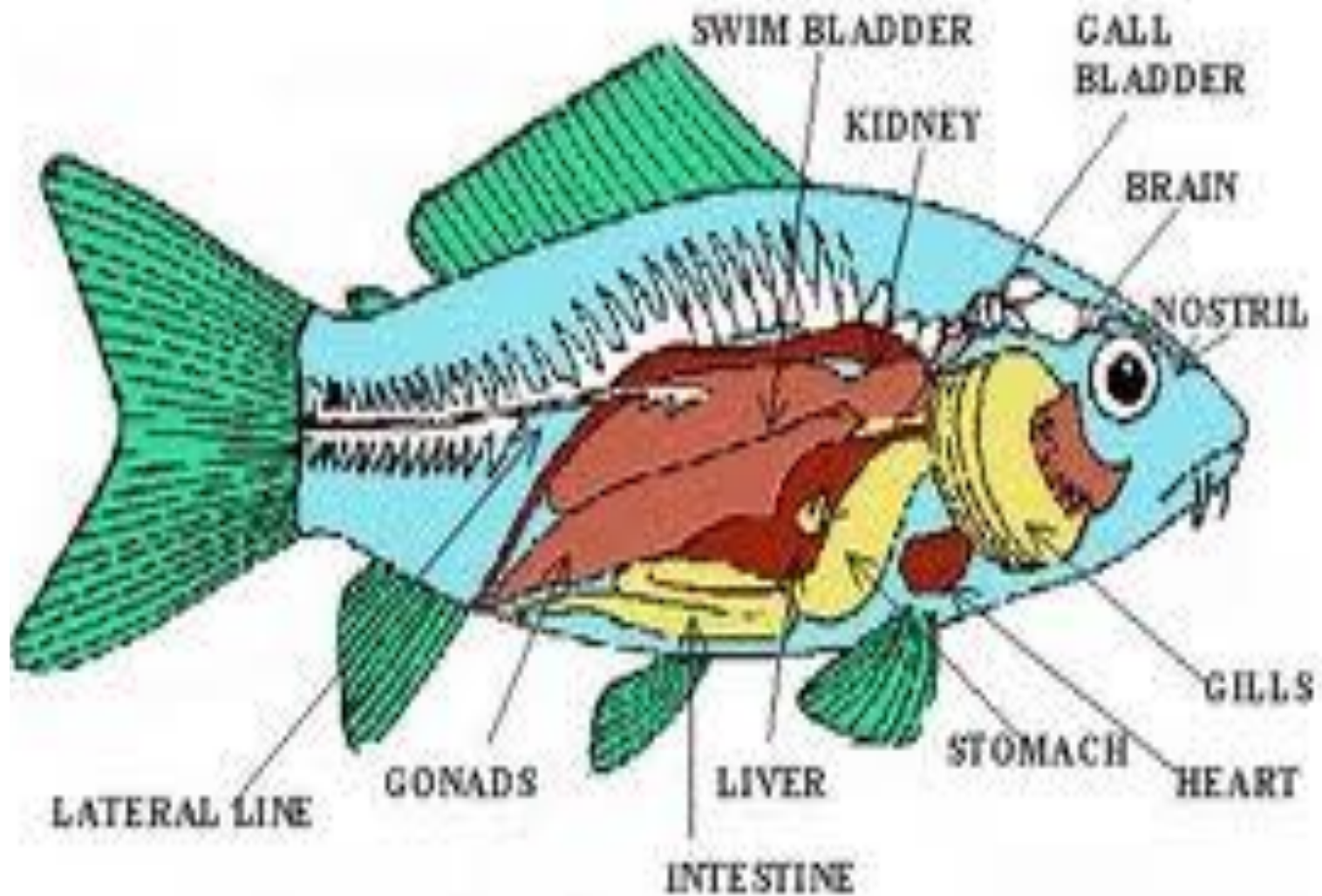








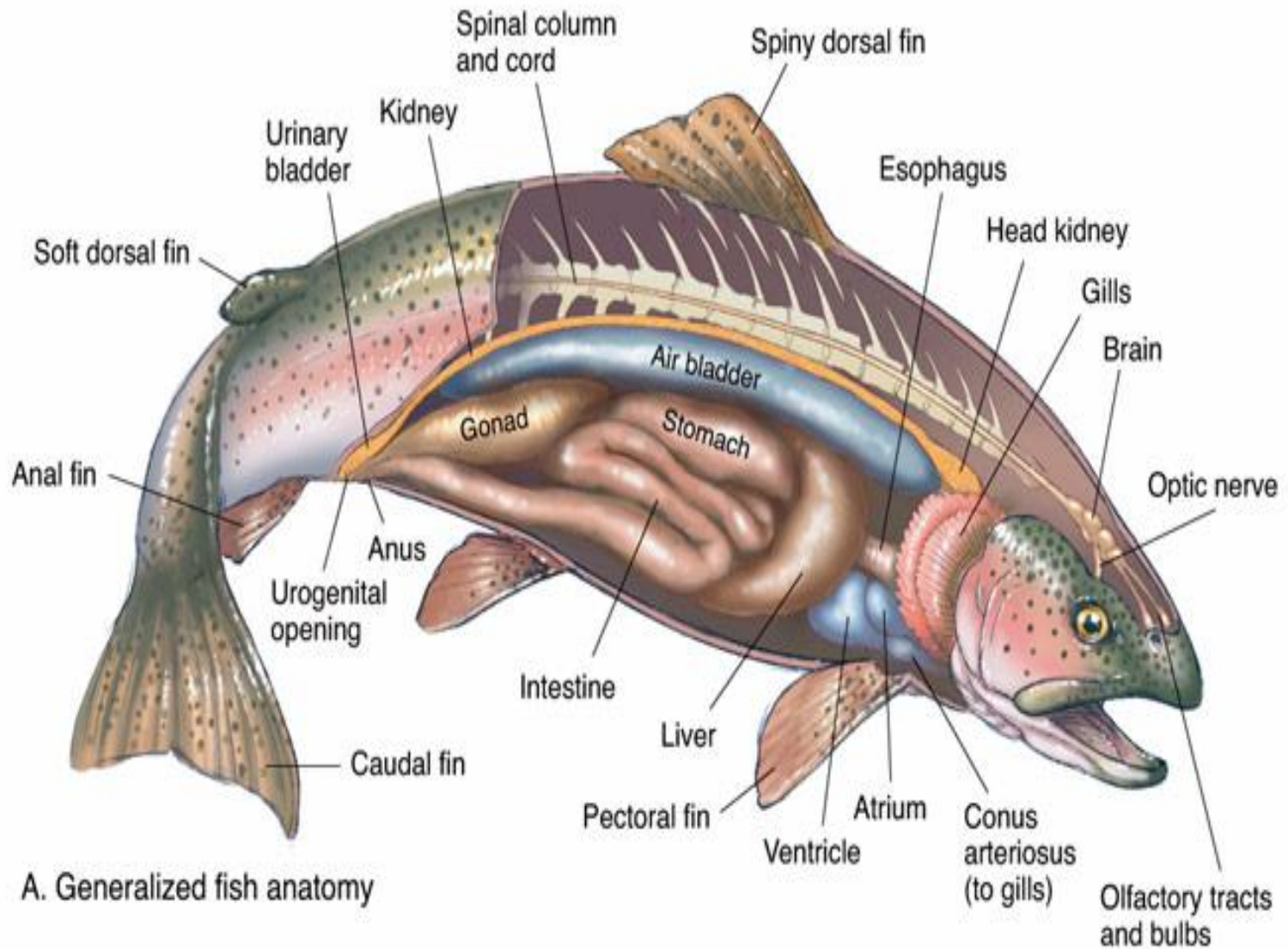






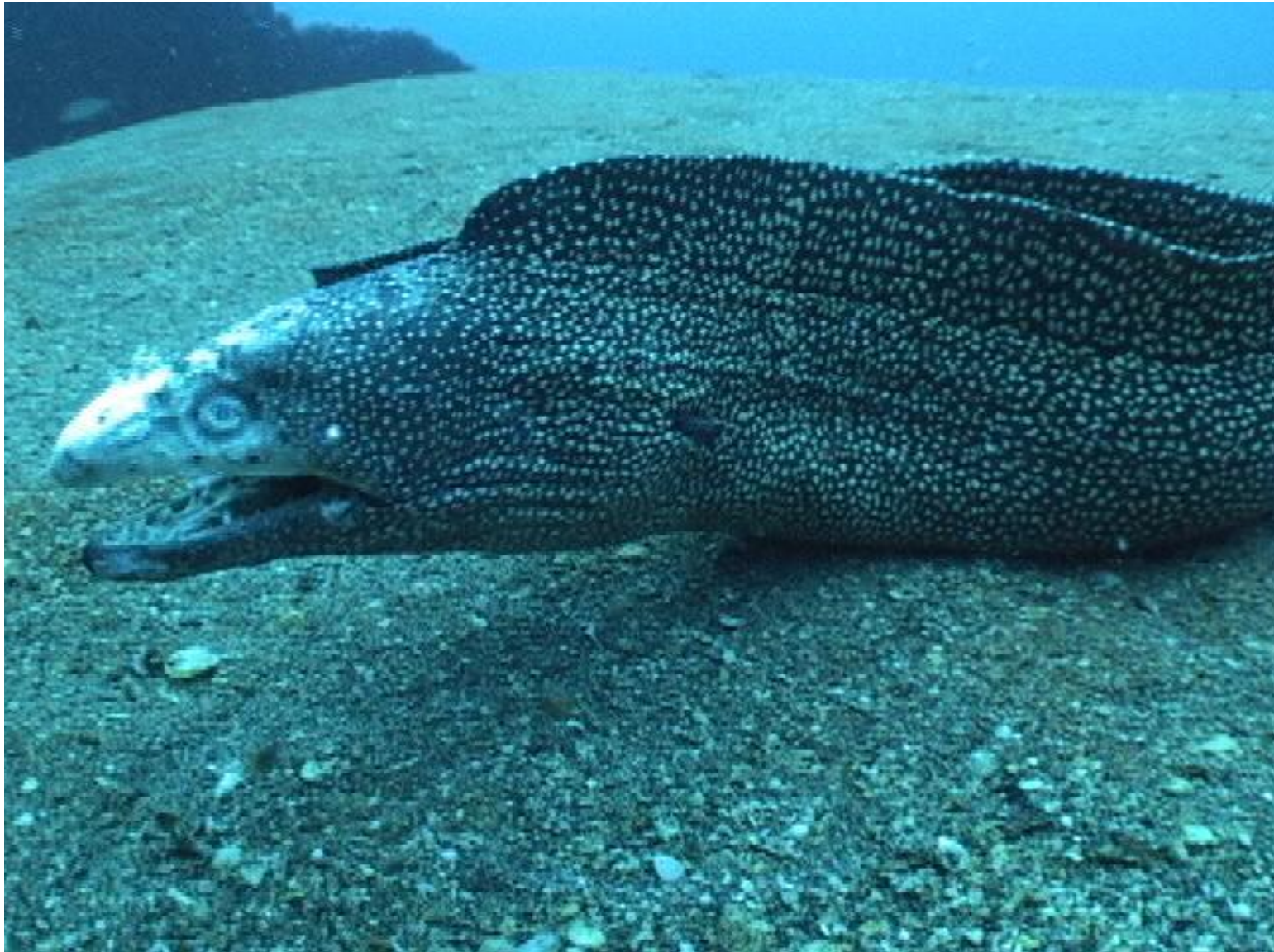






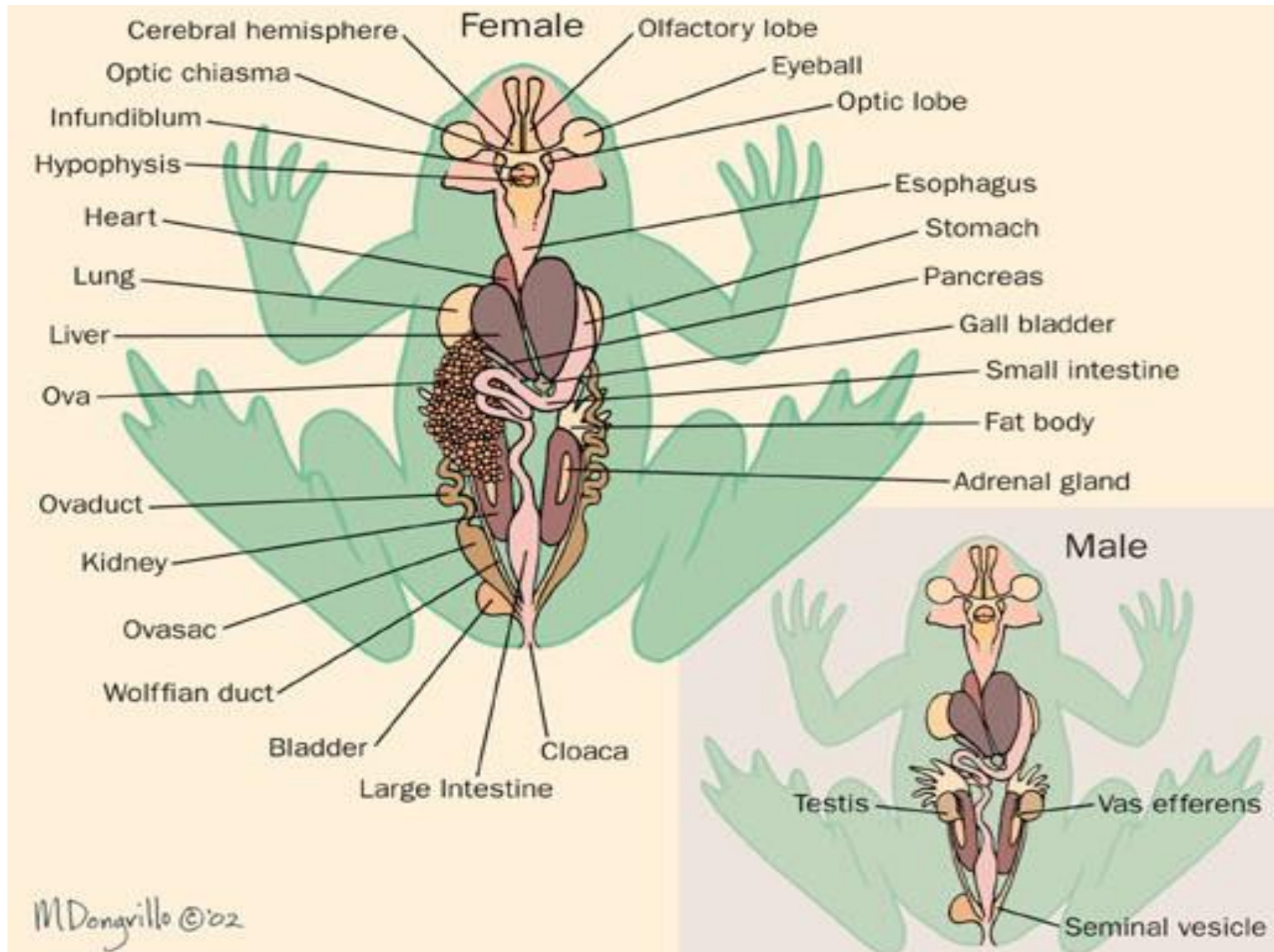




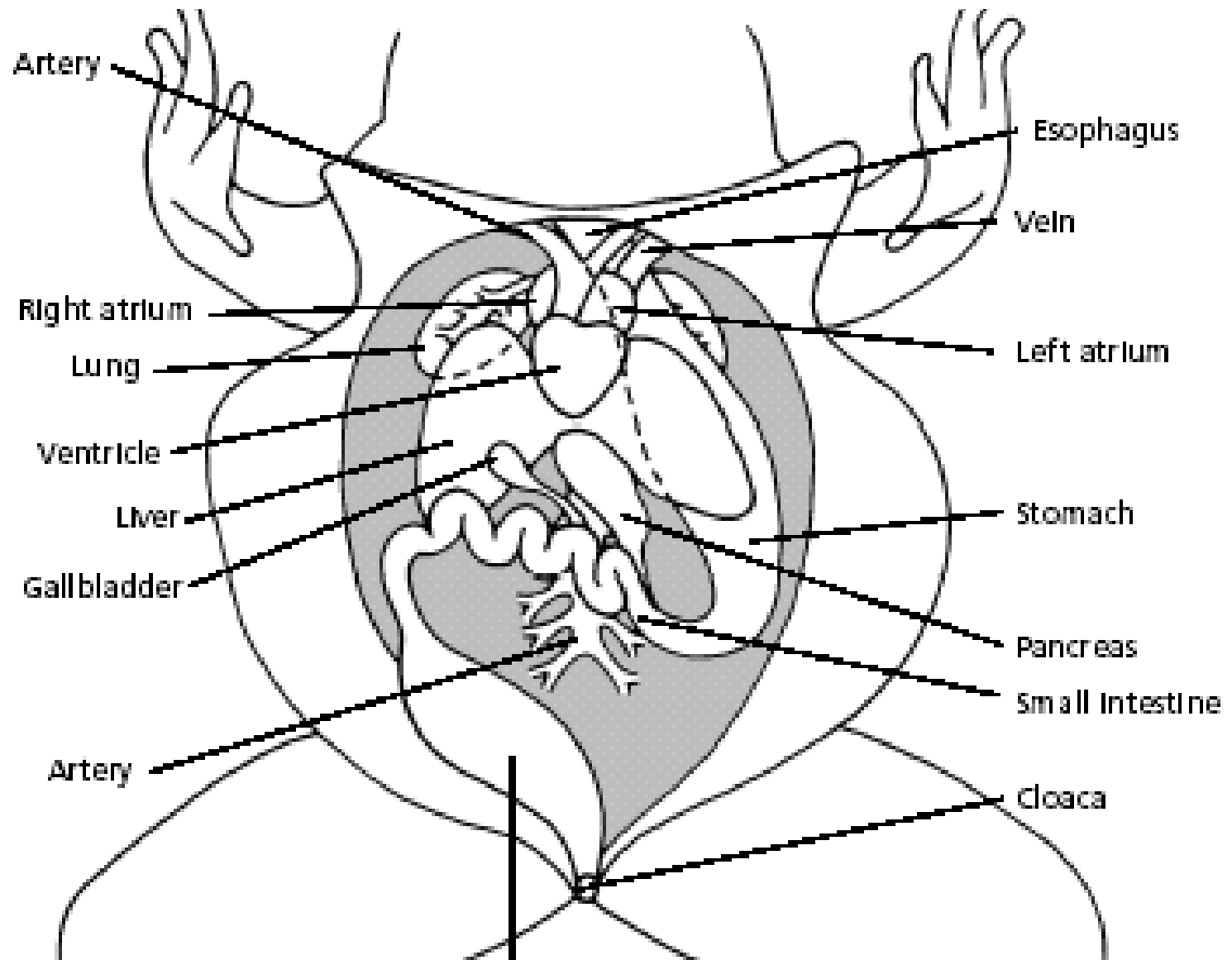


Amphibia











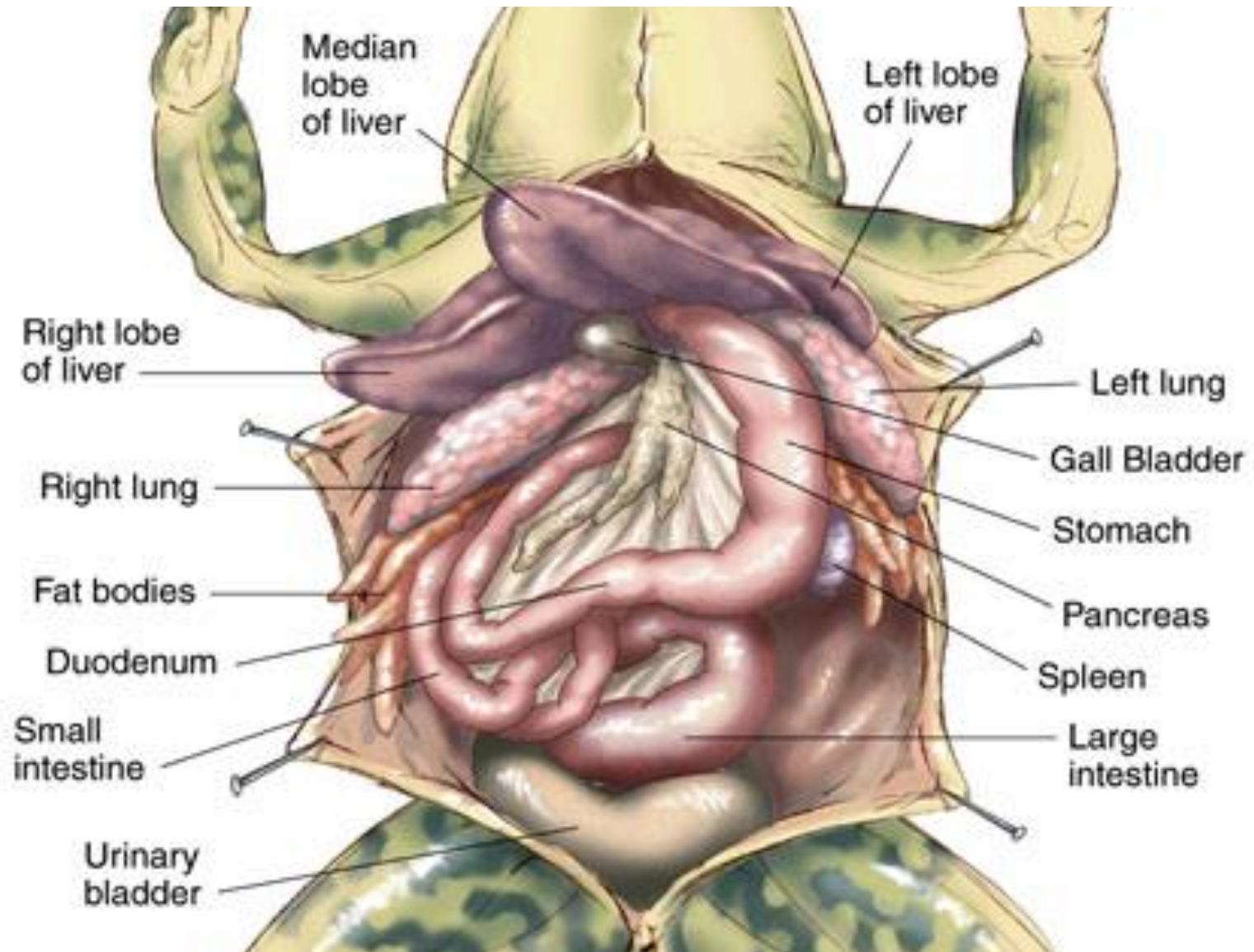




























1906 [RF] © www.visualphotos.com



































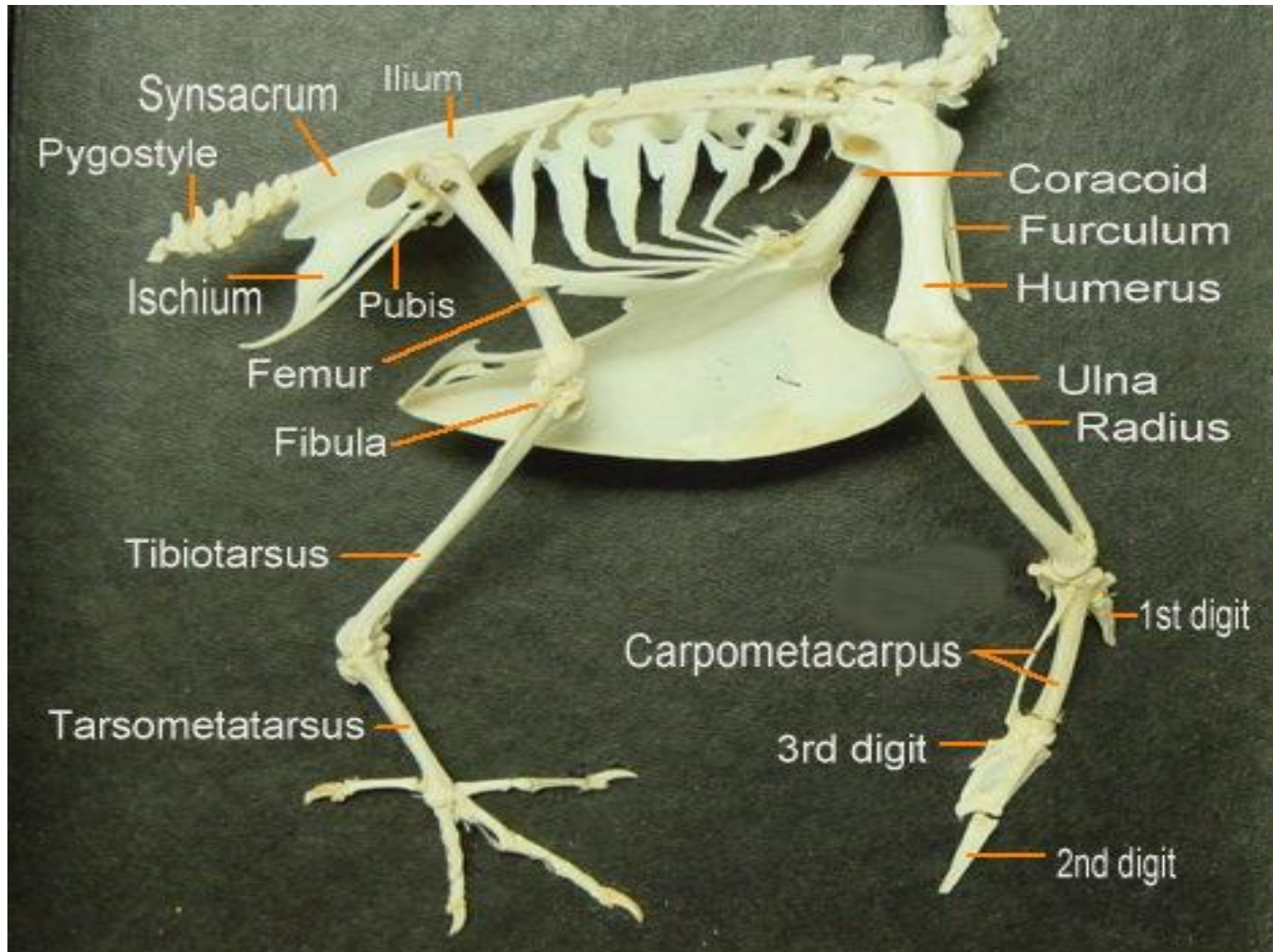








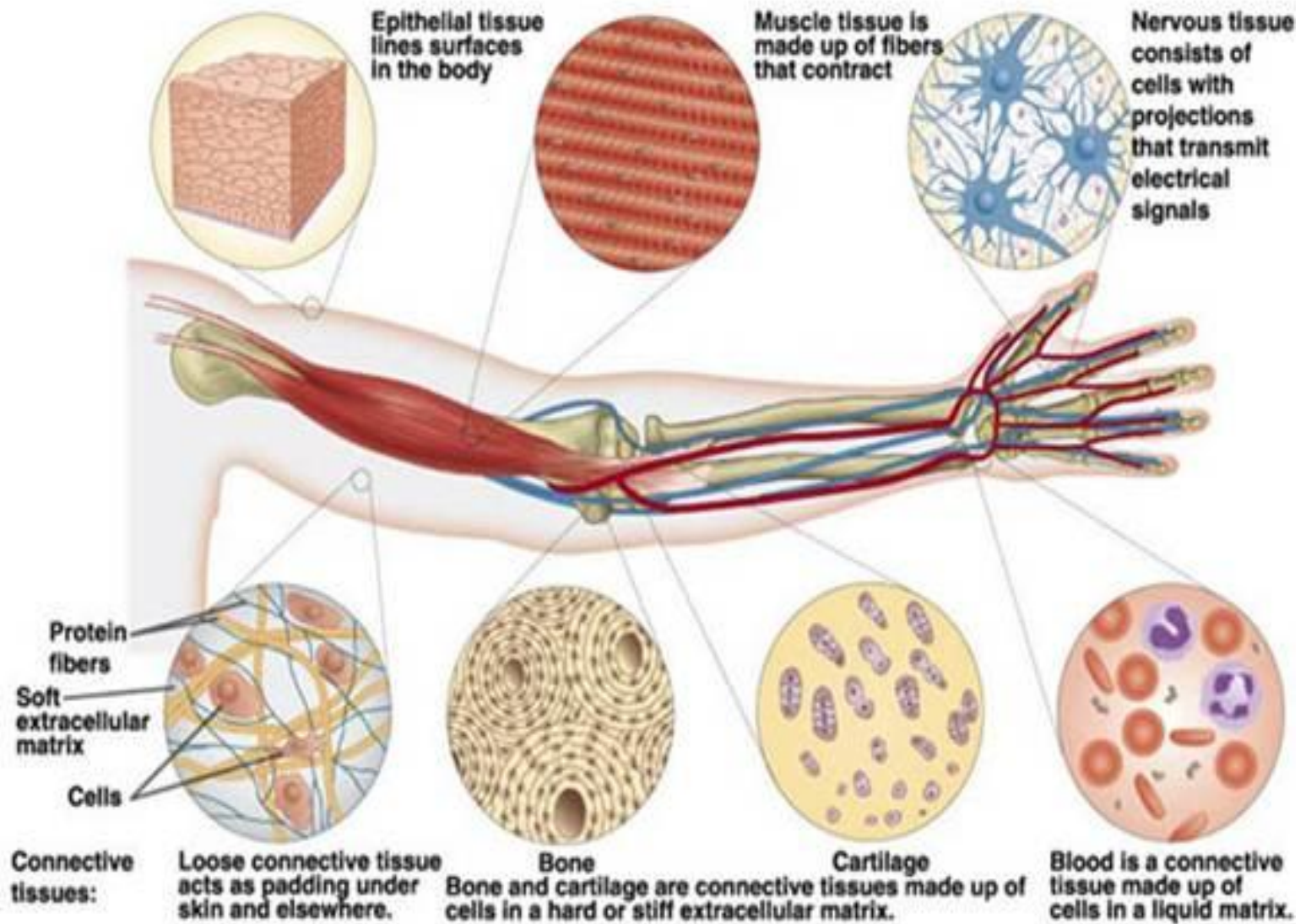






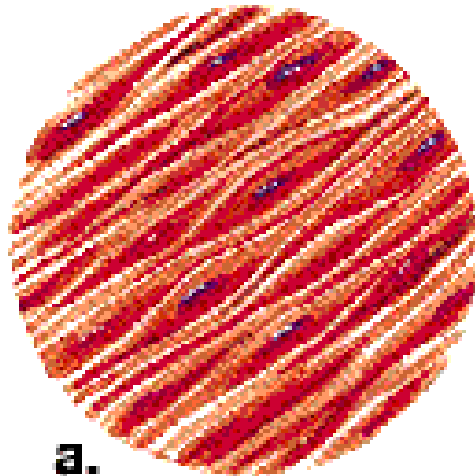




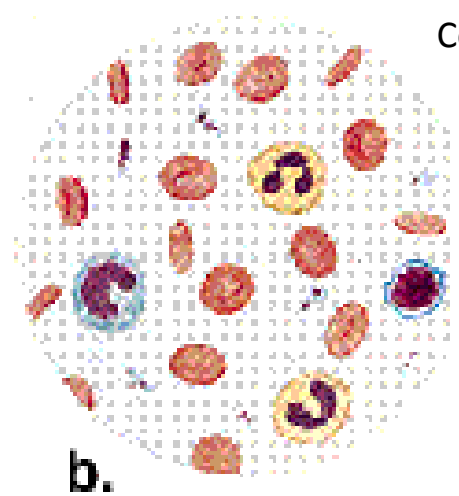


Identify these tissues.

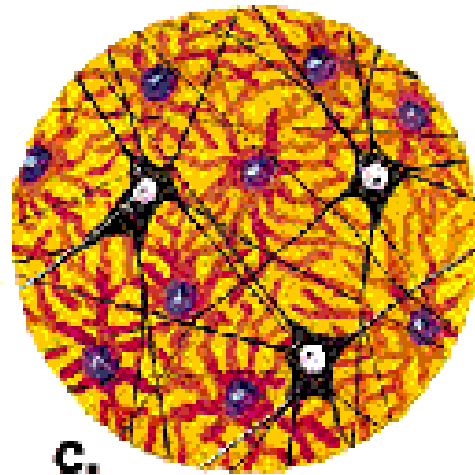
Muscle



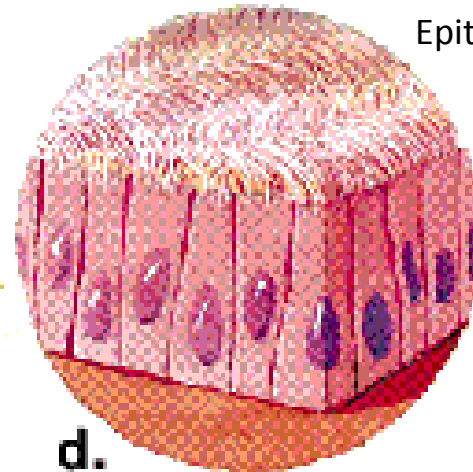
Connective

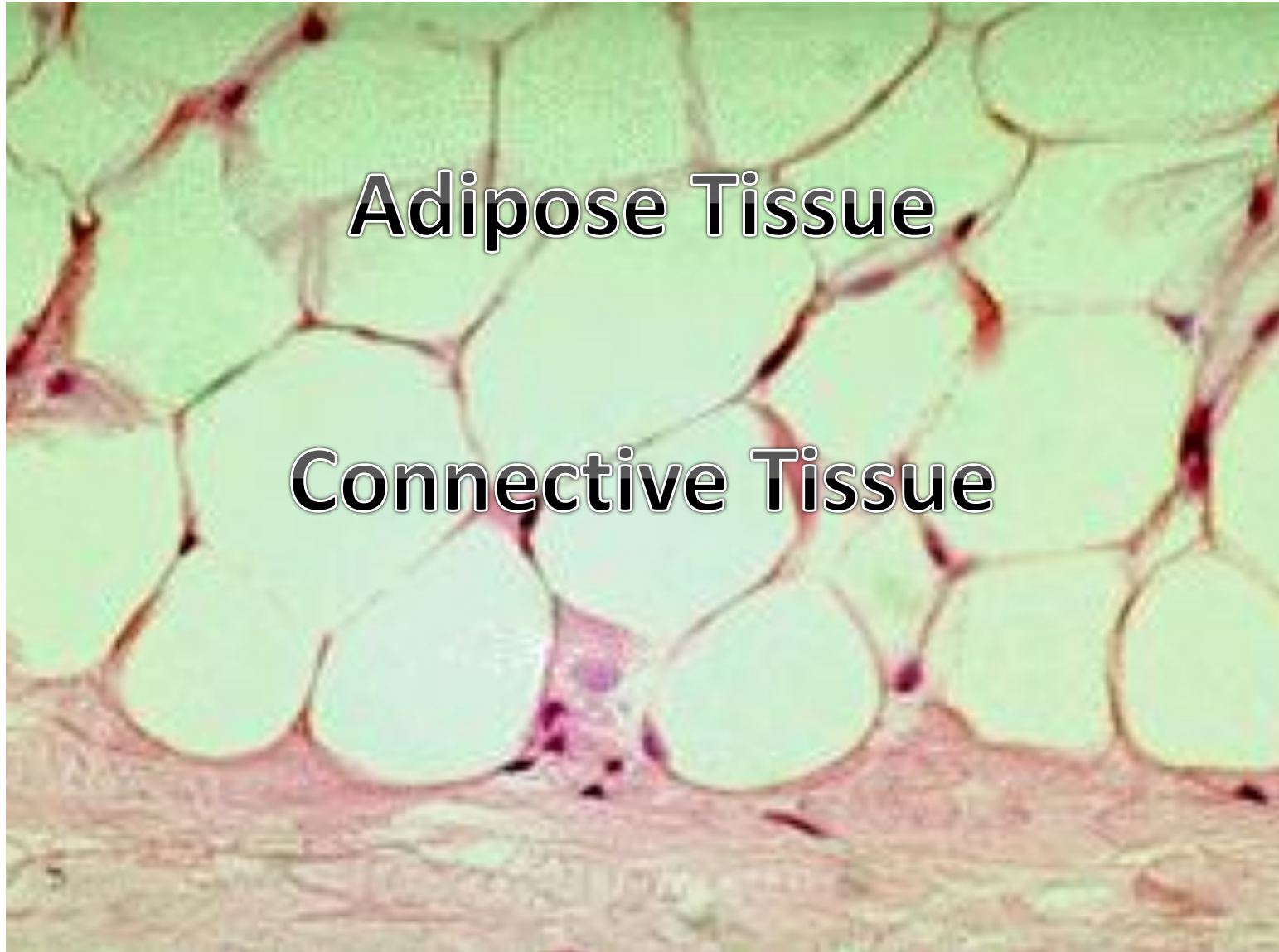


Nervous



Epithelial



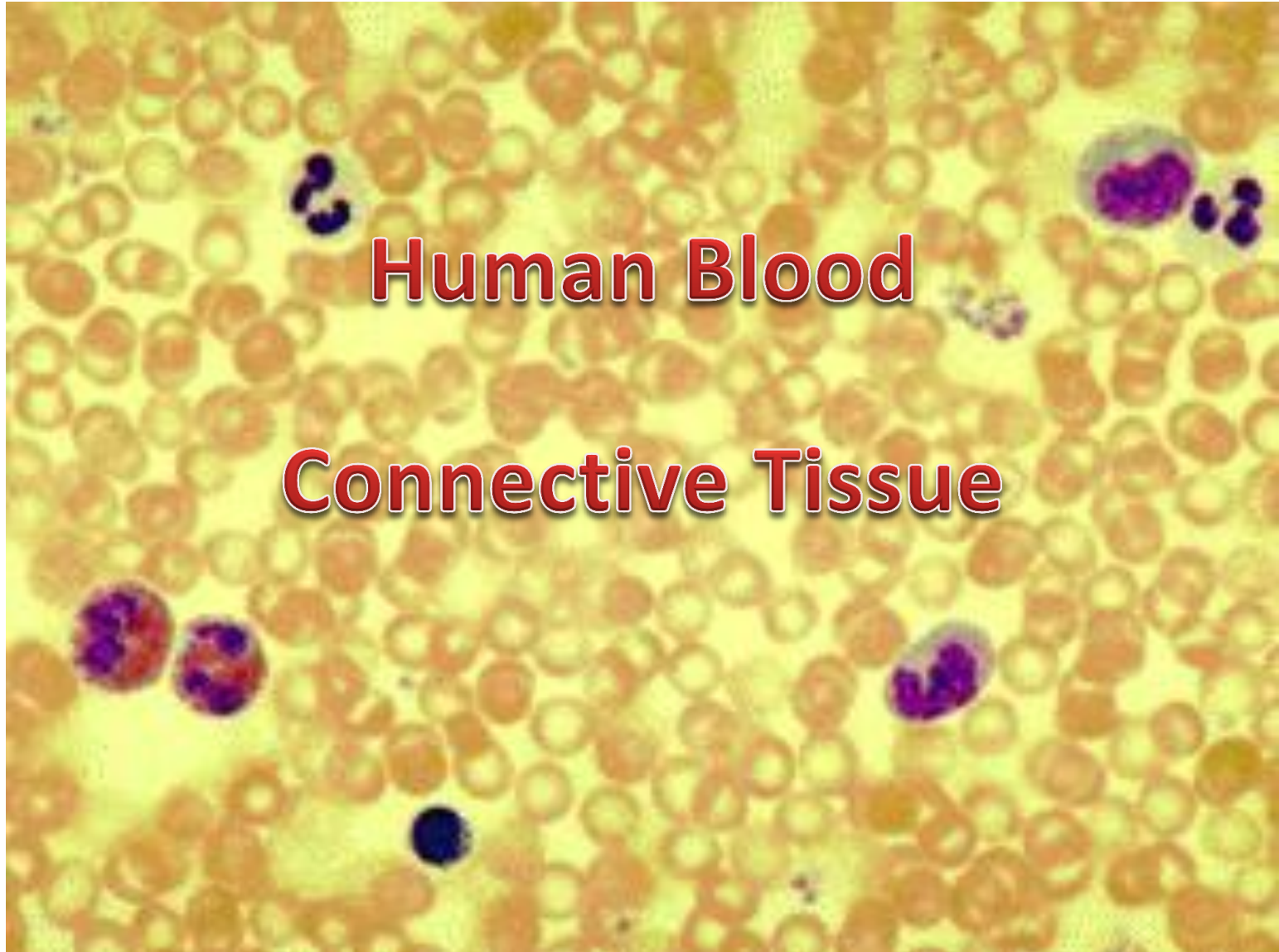


Adipose Tissue

Connective Tissue



Adipose Tissue



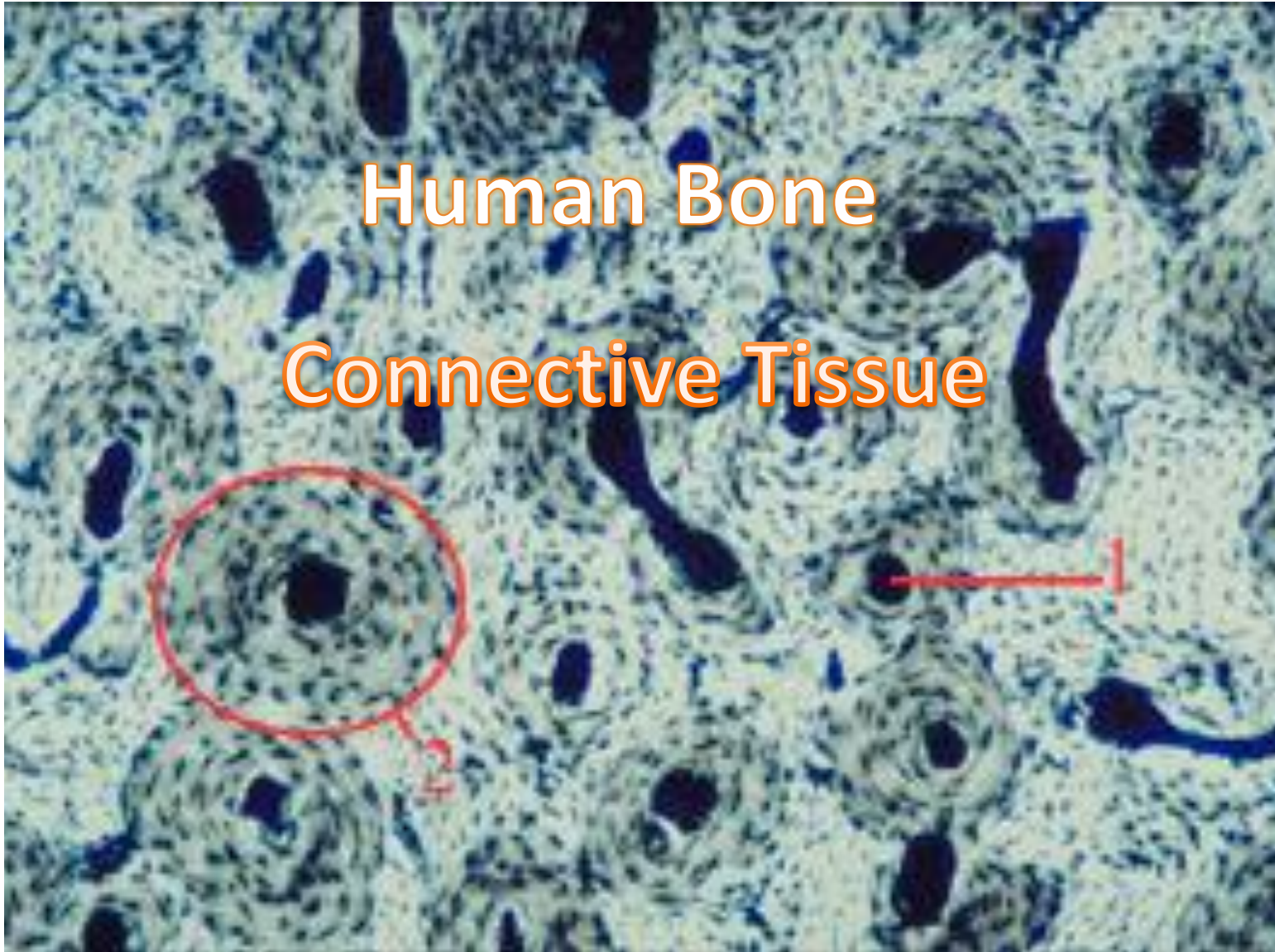
Human Blood

Connective Tissue

A microscopic view of a blood smear. The field is filled with numerous red blood cells, which appear as pinkish-red discs. In the lower-left quadrant, there is a single white blood cell with a large, multi-lobed blue nucleus. The text "Human Blood" is overlaid in the center in a red, bold font with a white outline.

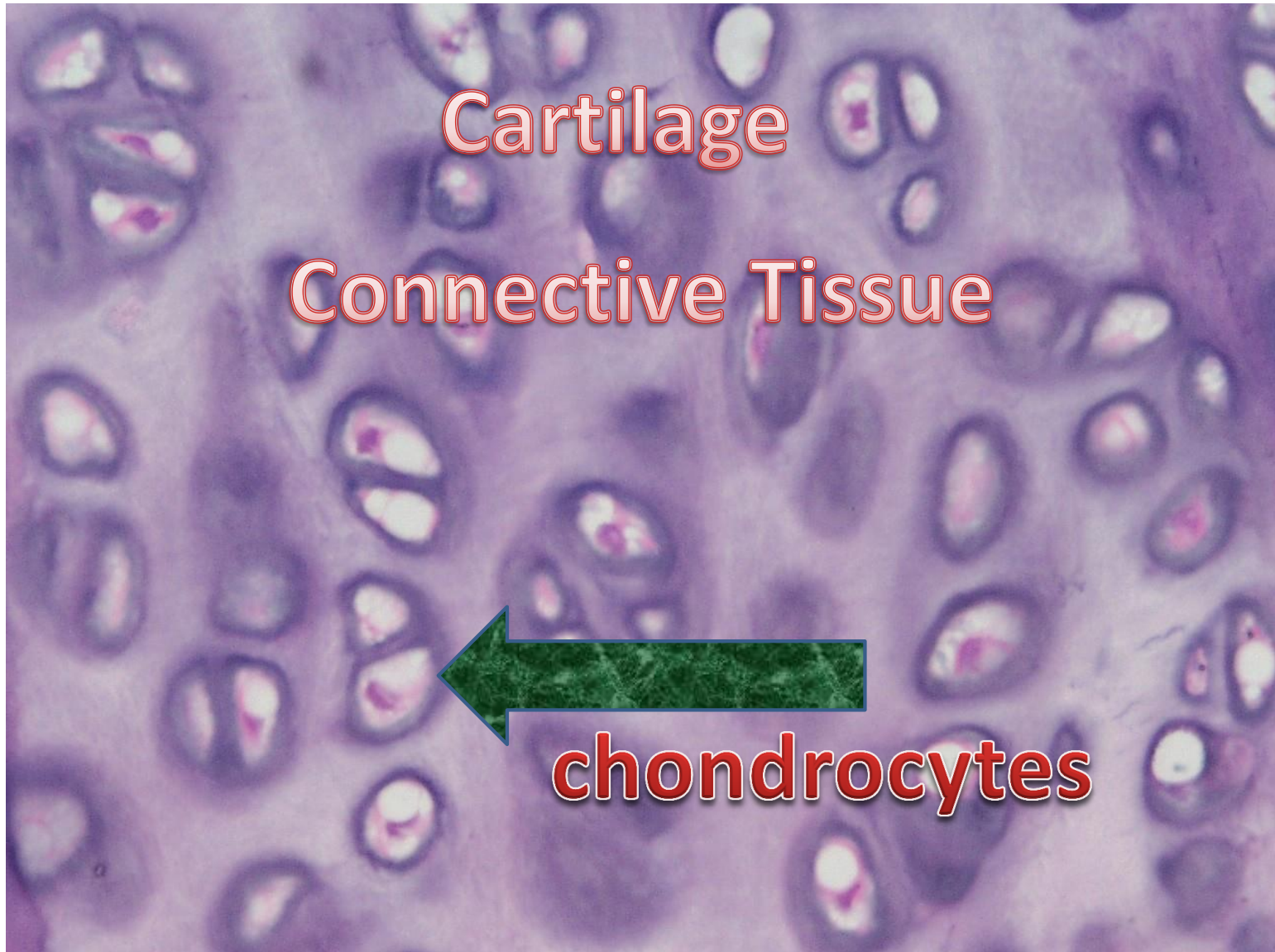
Human Blood

Human Bone Connective Tissue



Human Bone



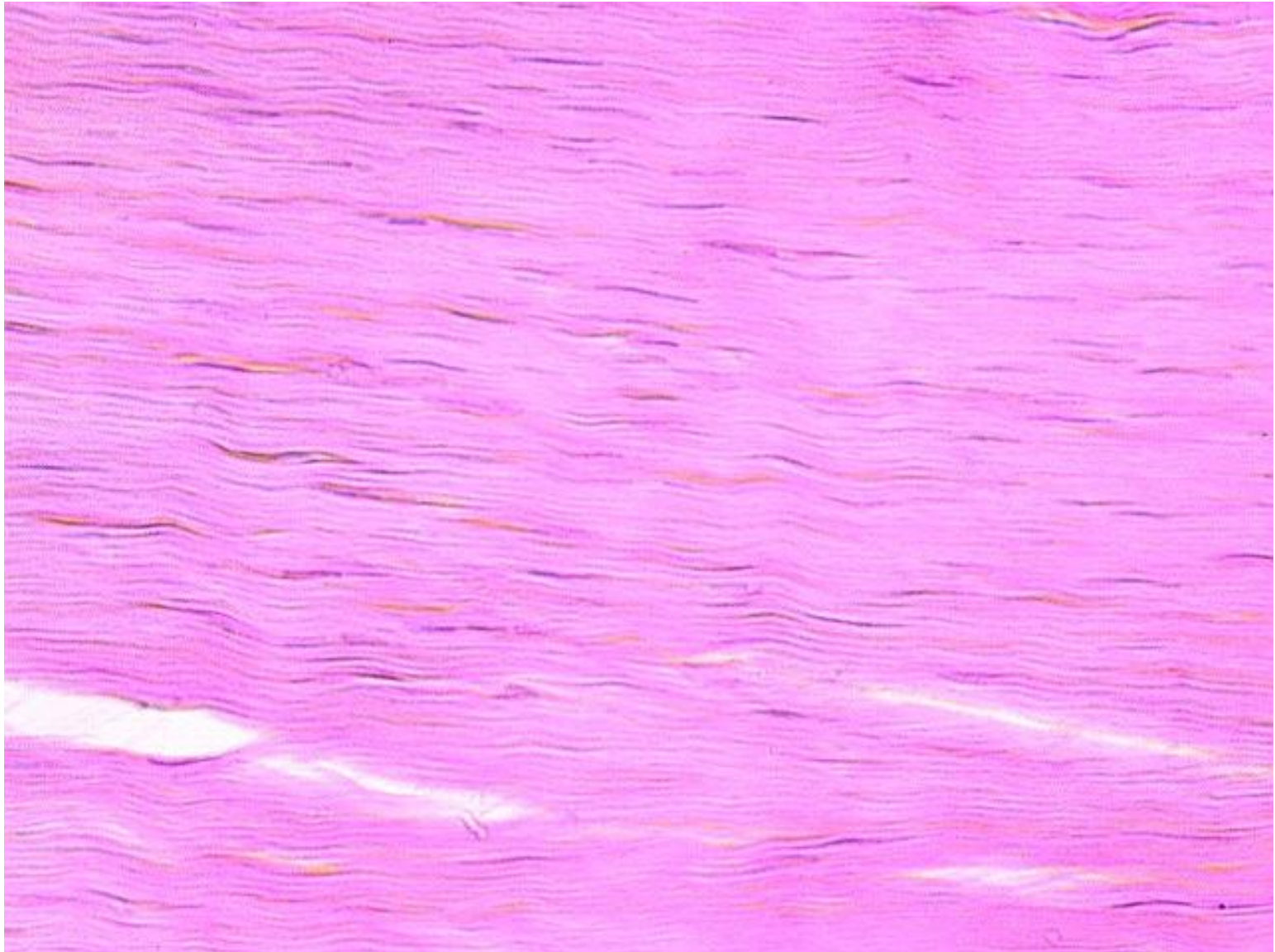


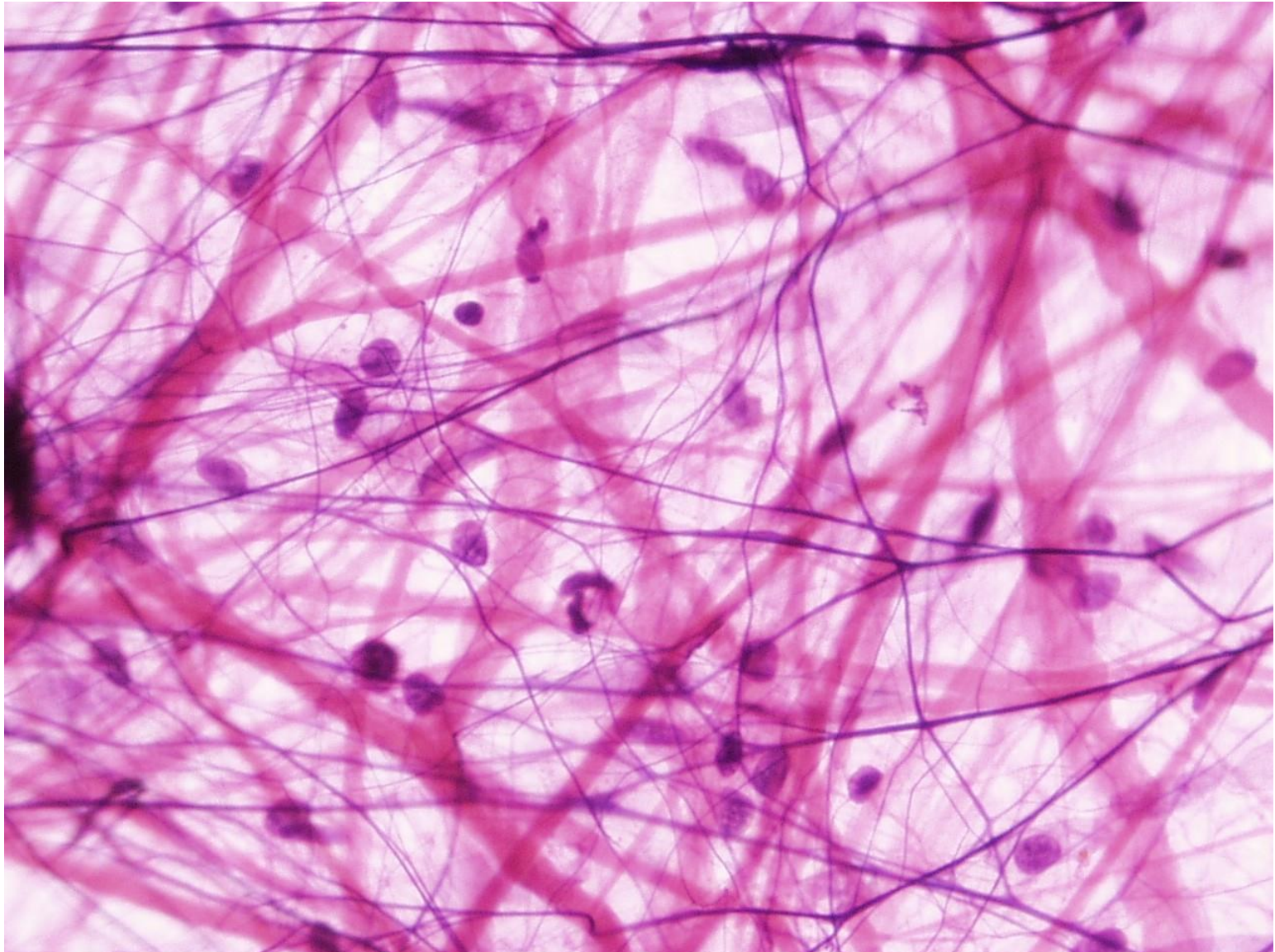
Cartilage

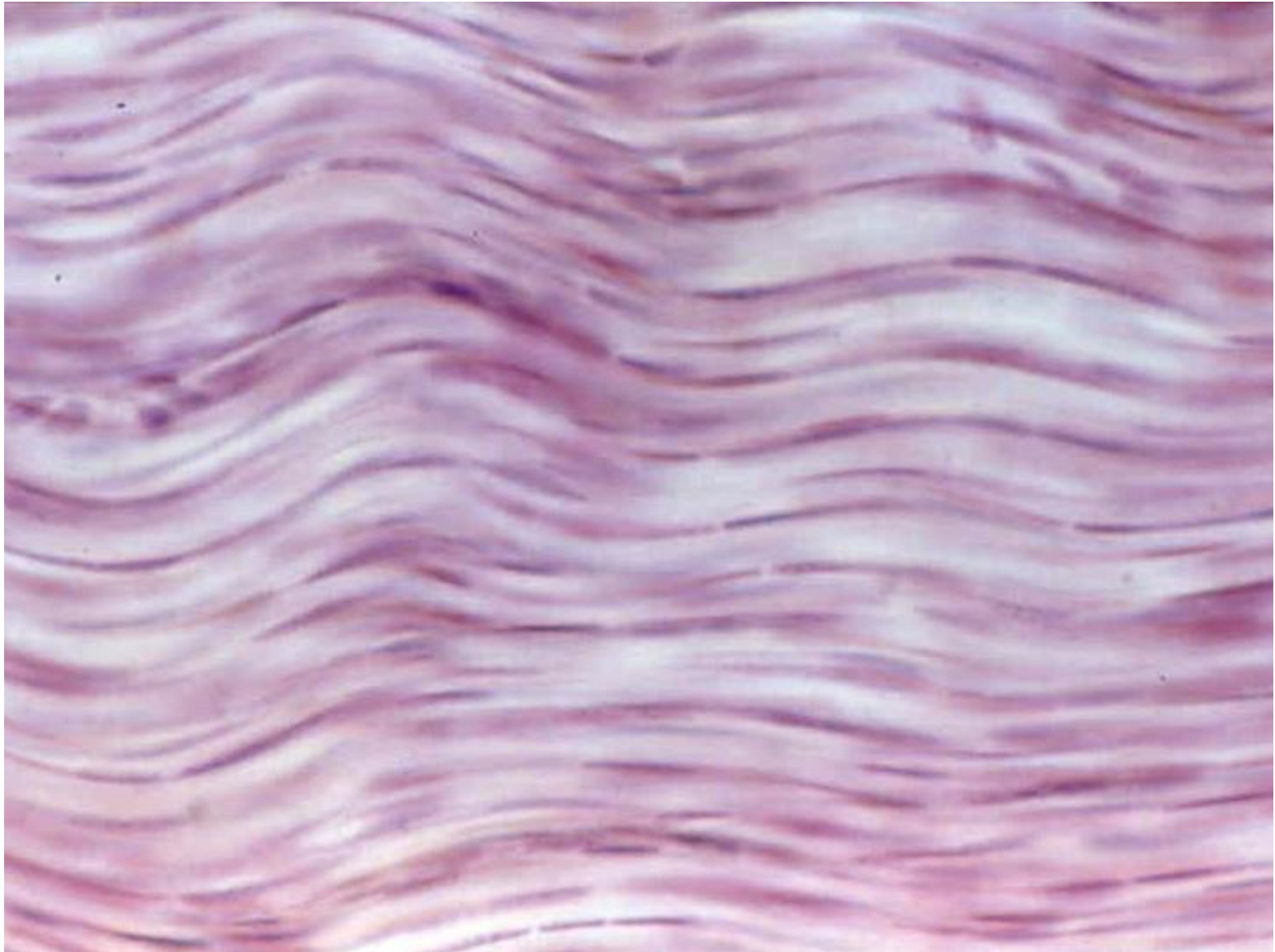
Connective Tissue

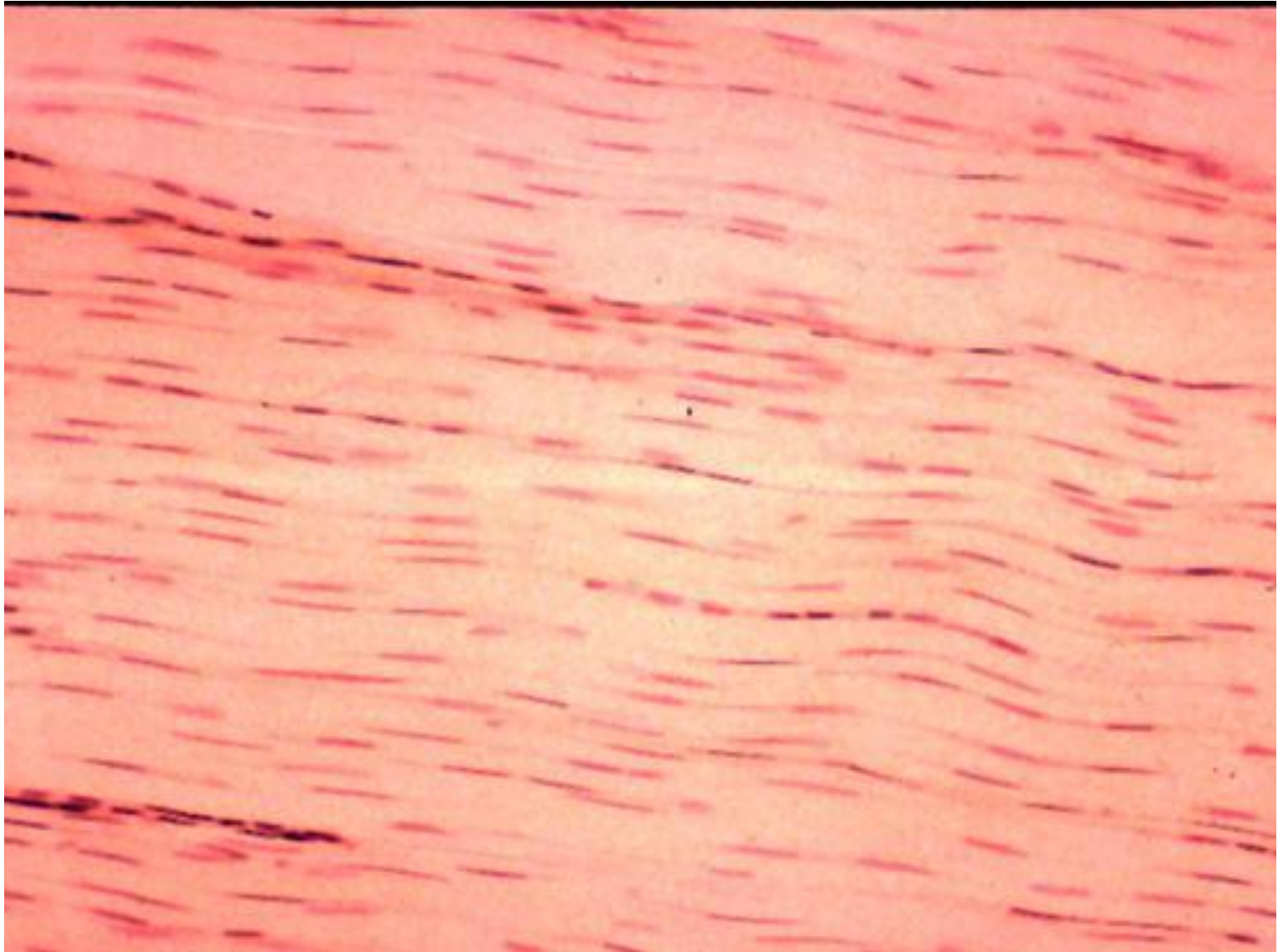


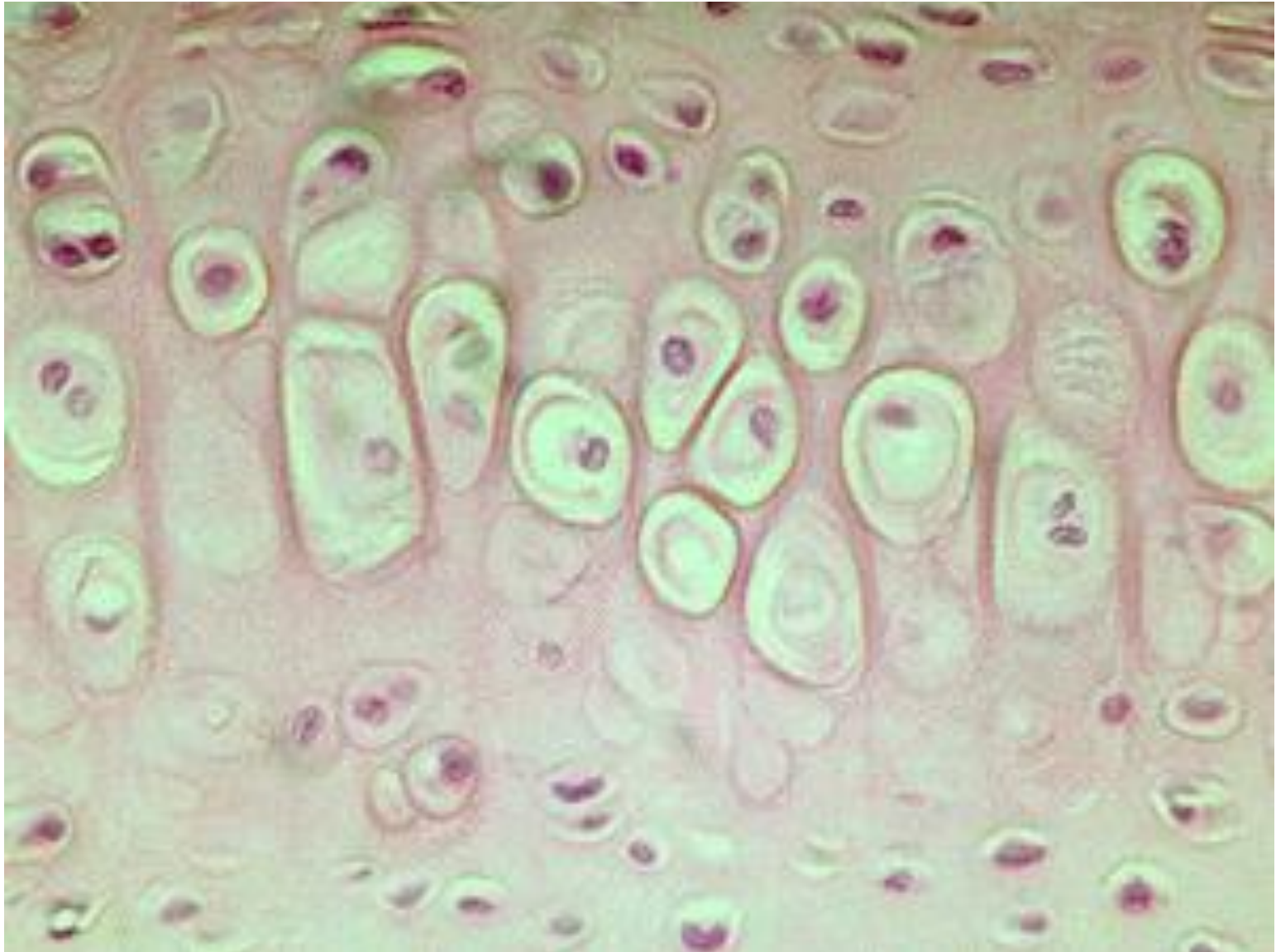
chondrocytes







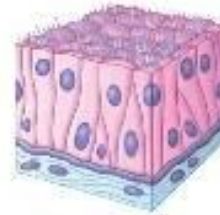




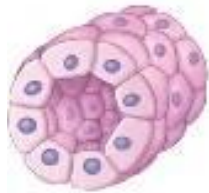
Epithelial Tissue



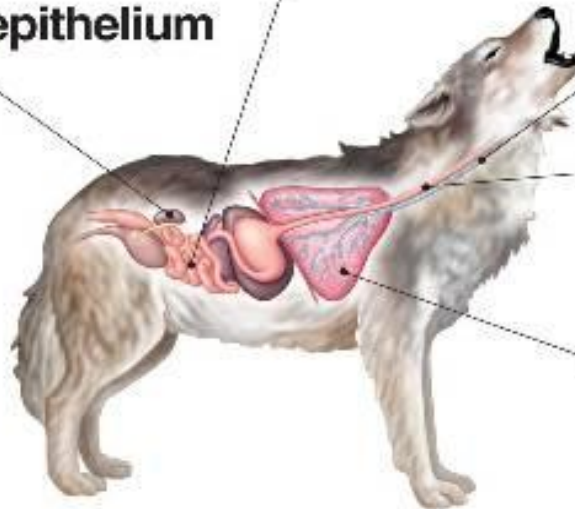
Simple columnar epithelium



Pseudostratified ciliated columnar epithelium



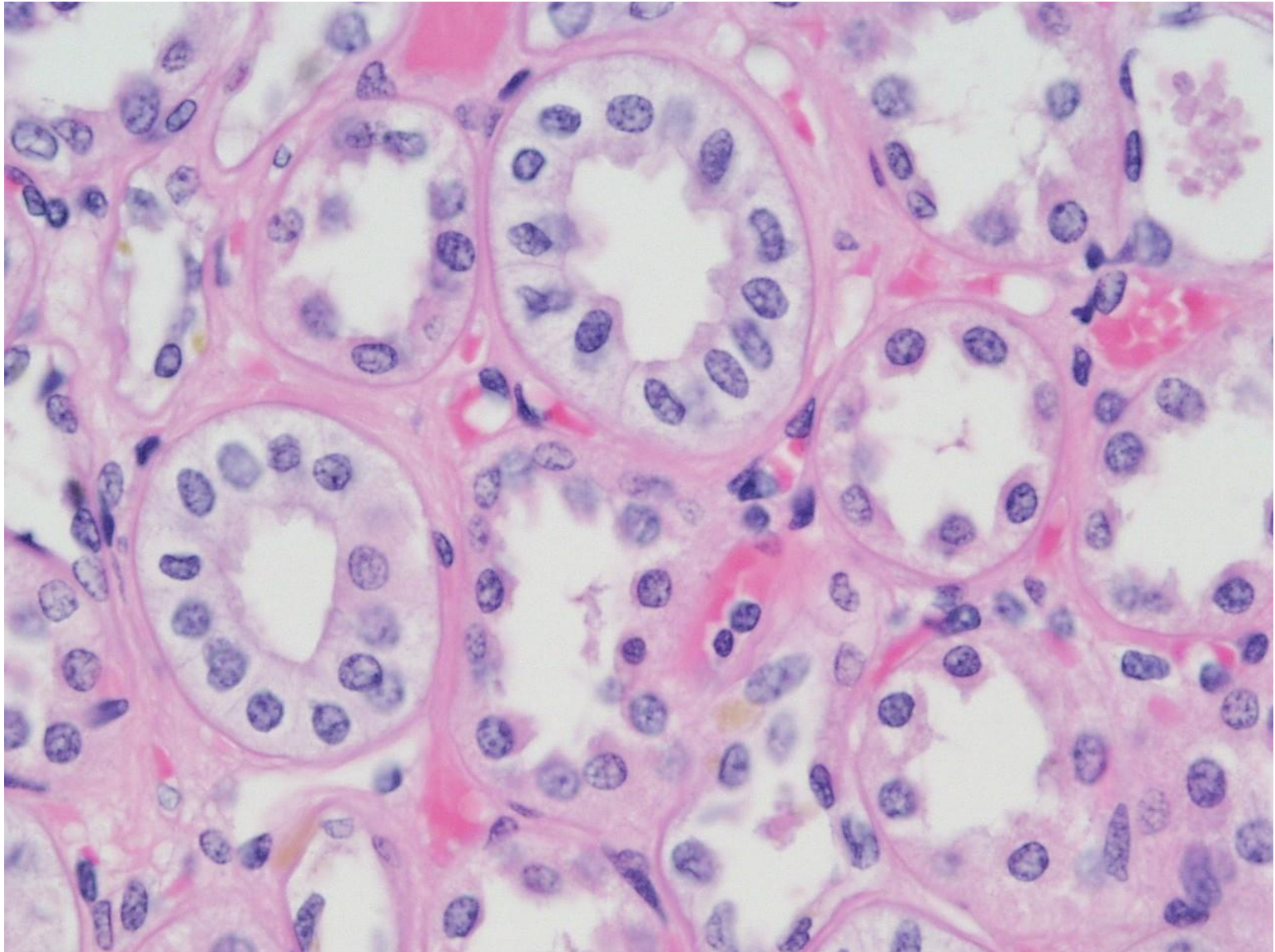
Cuboidal epithelium

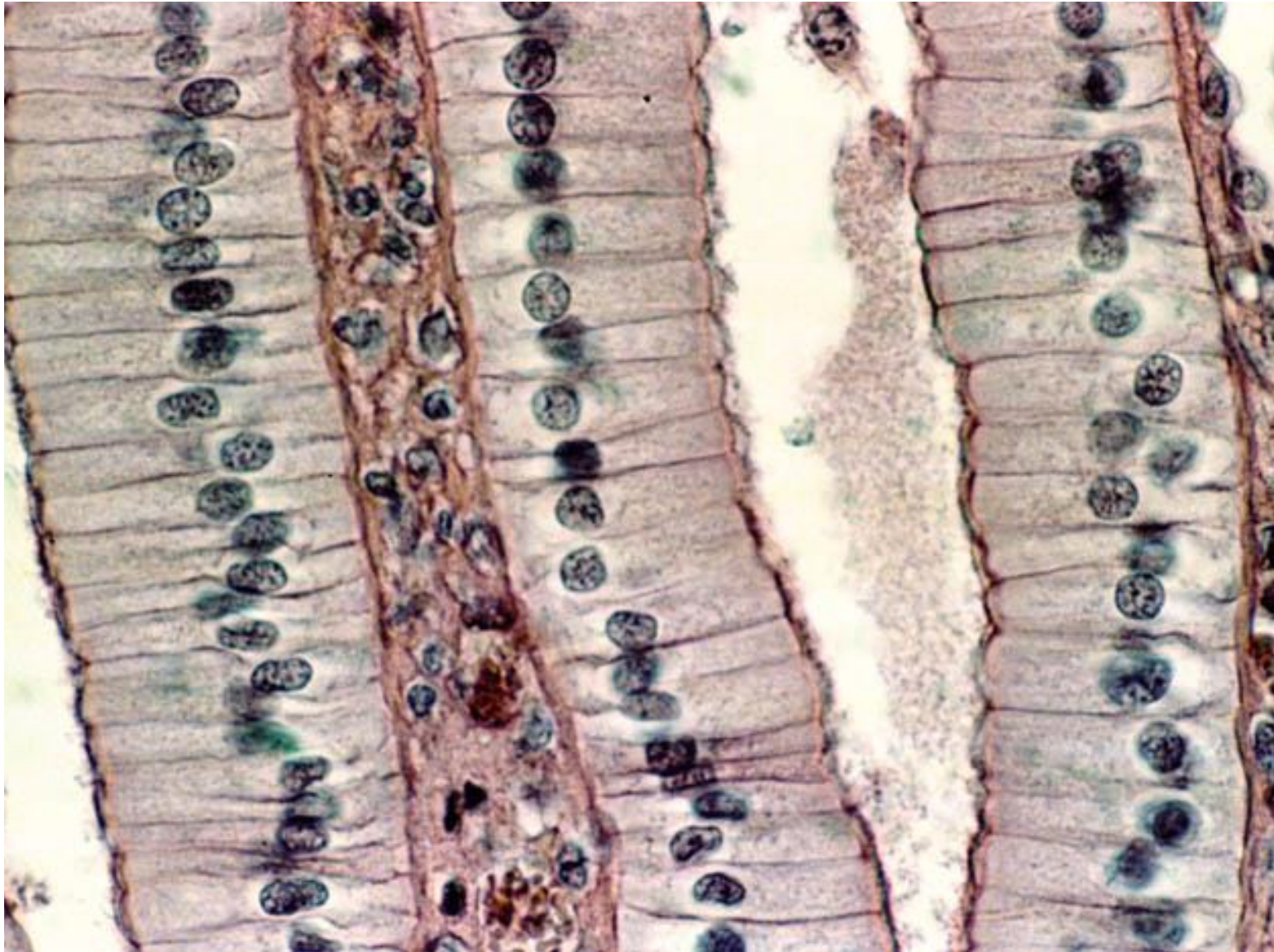


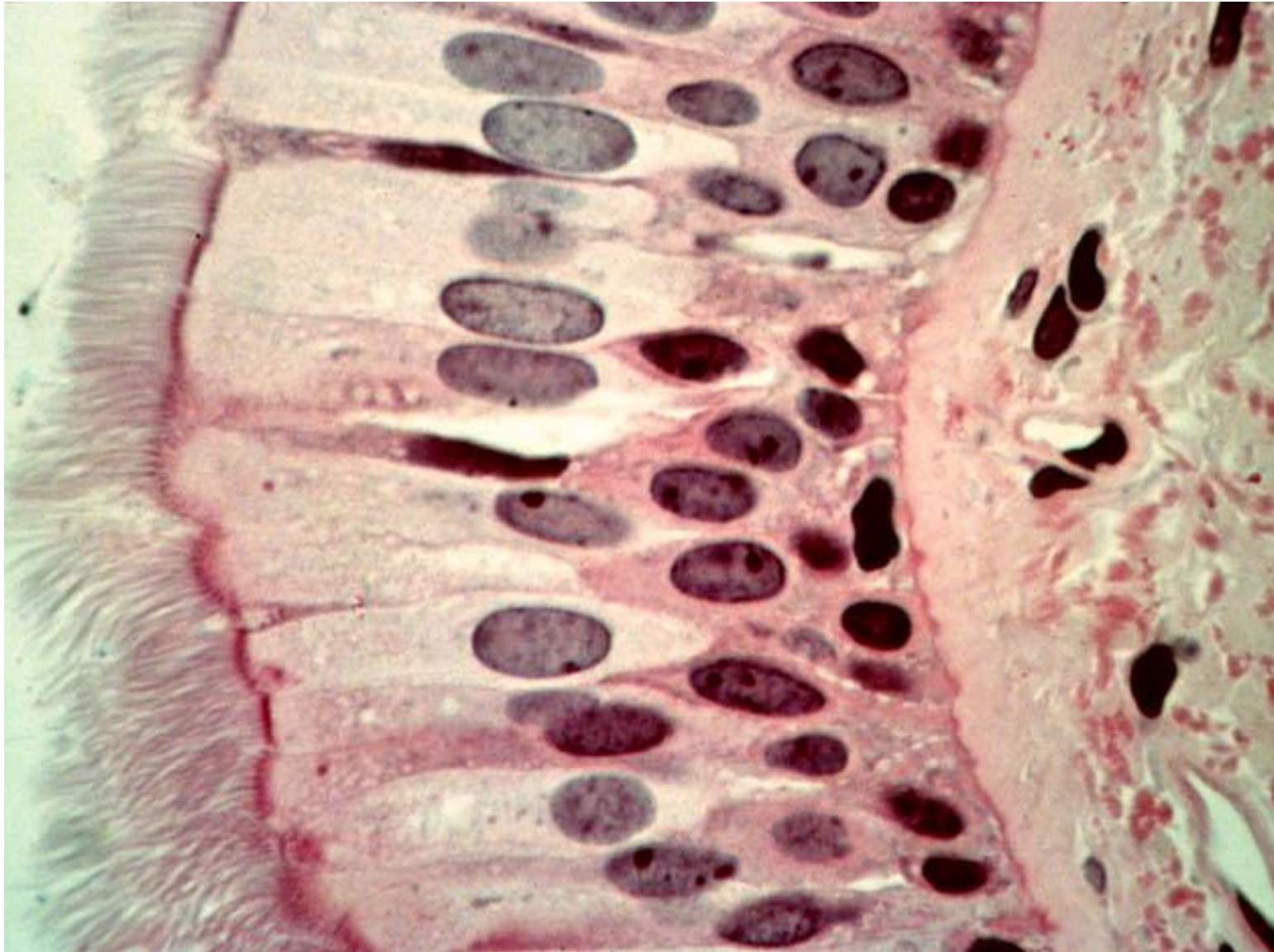
Stratified squamous epithelium

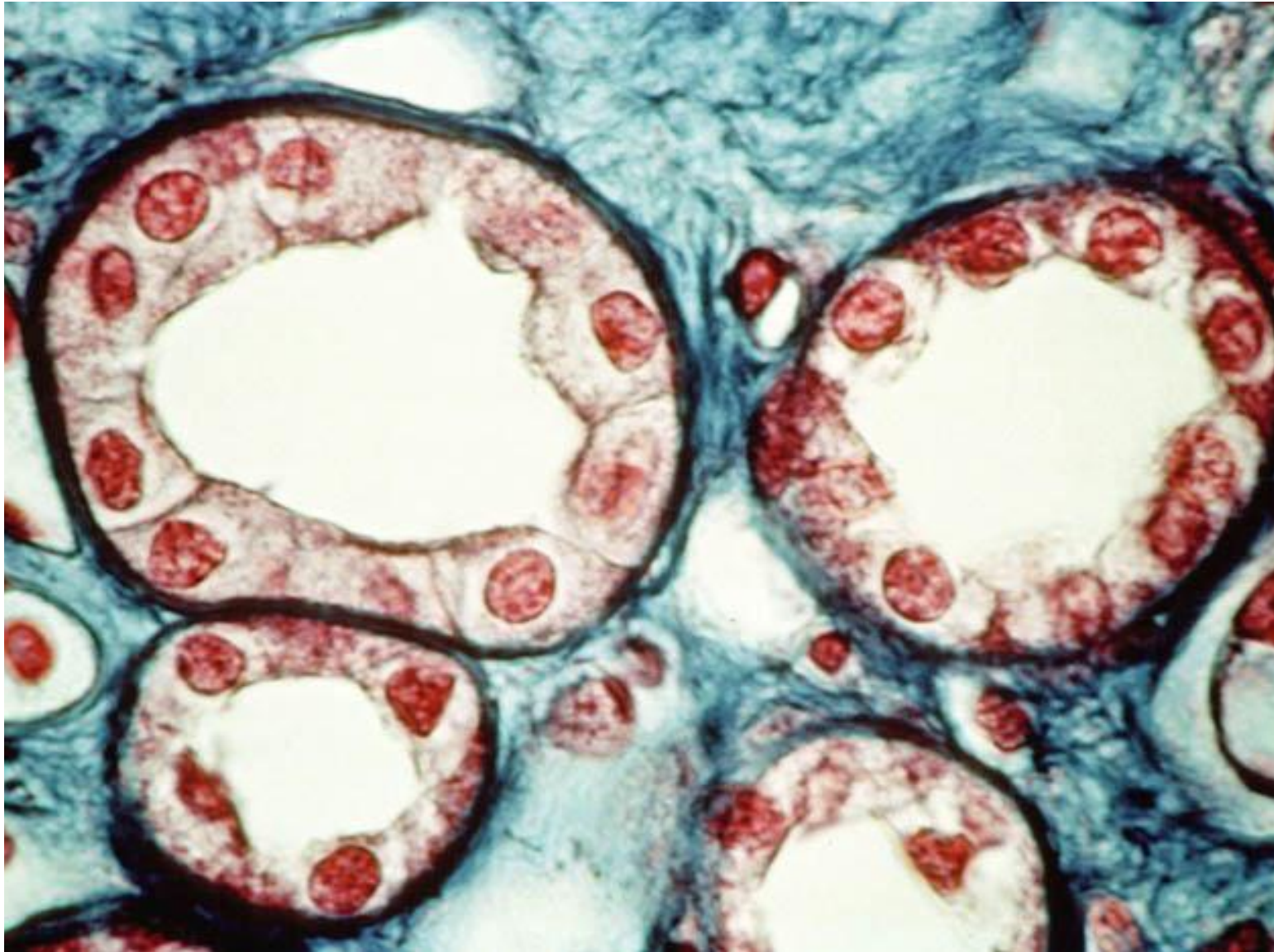


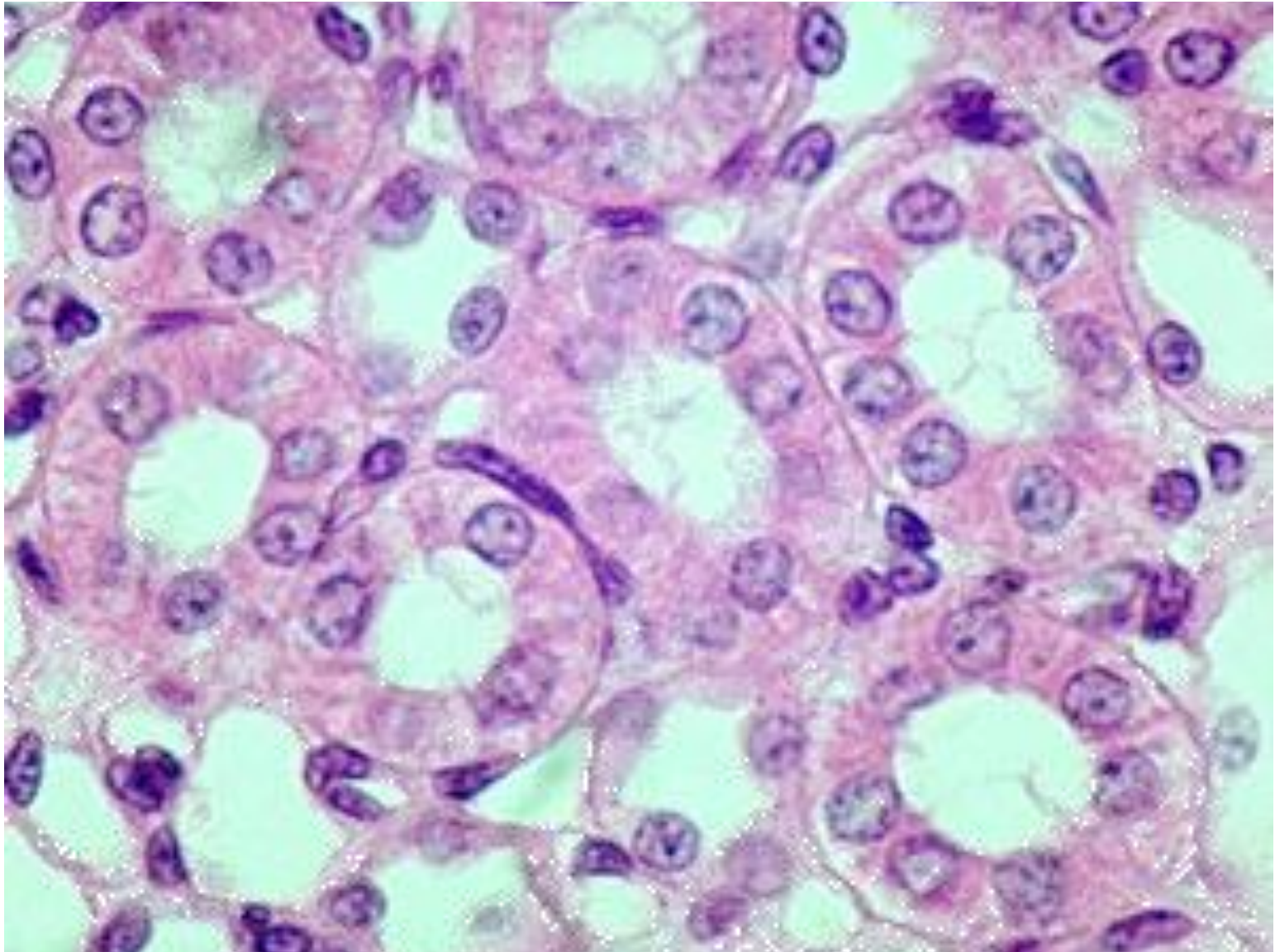
Simple squamous epithelium



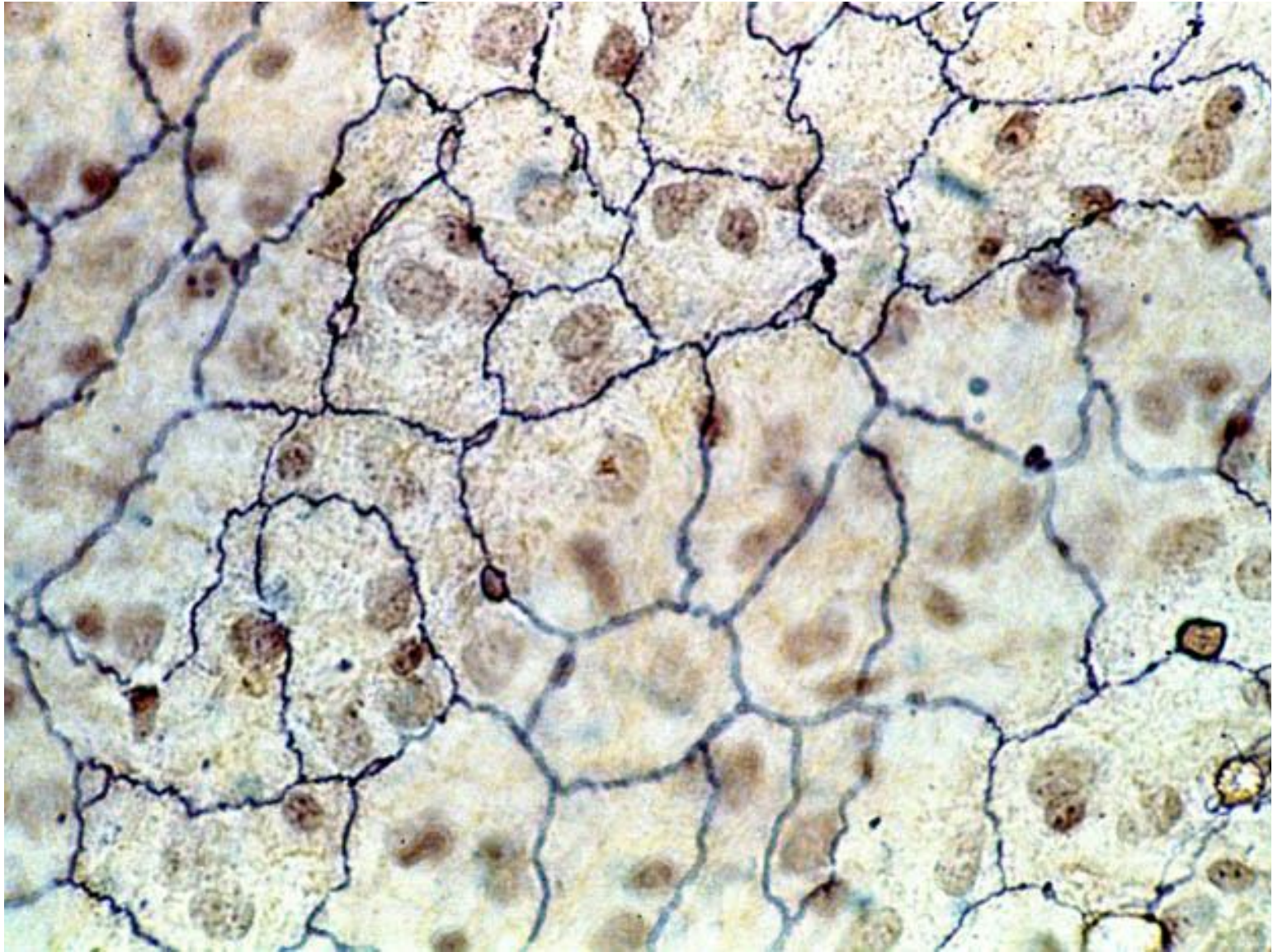


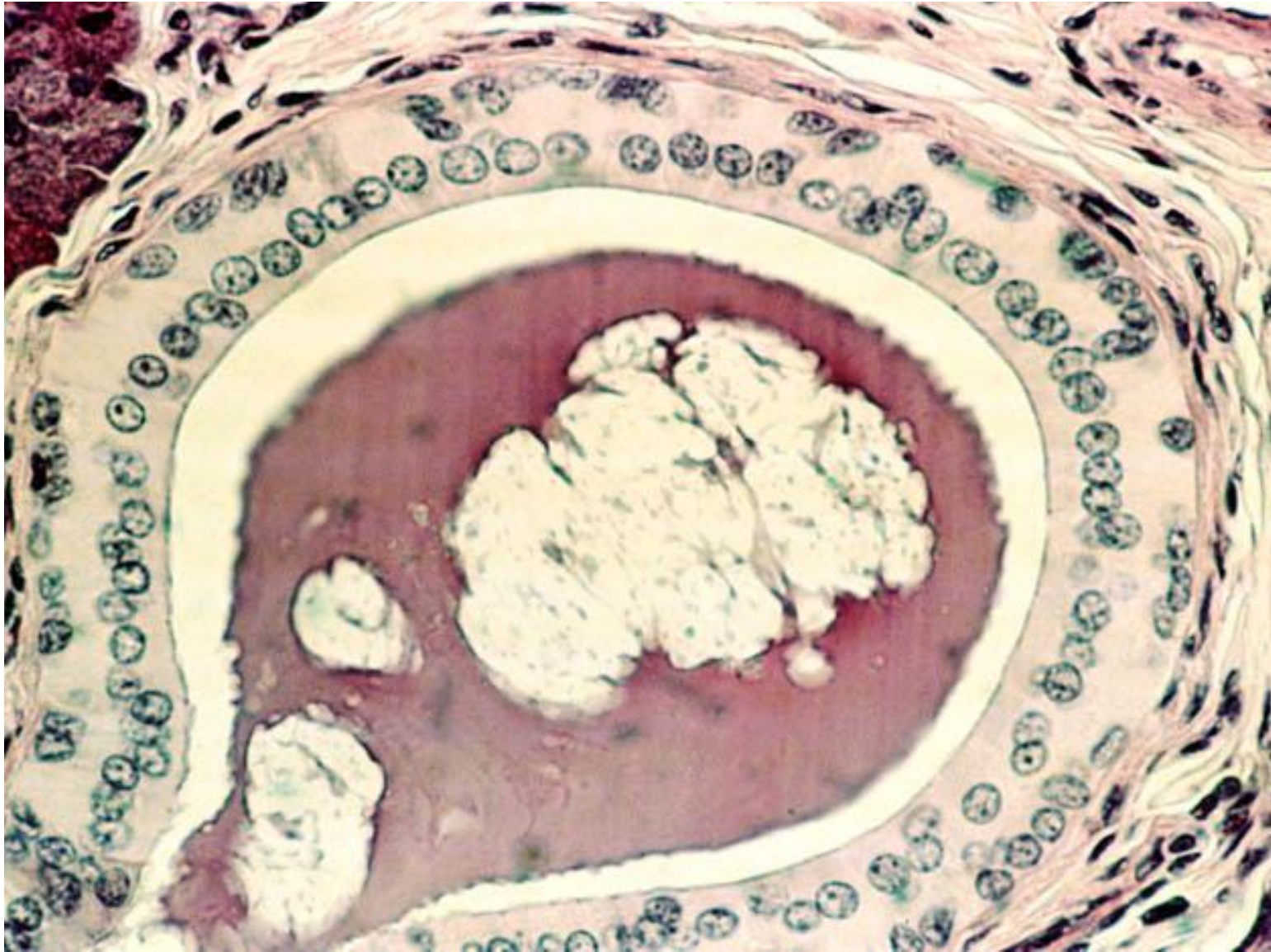


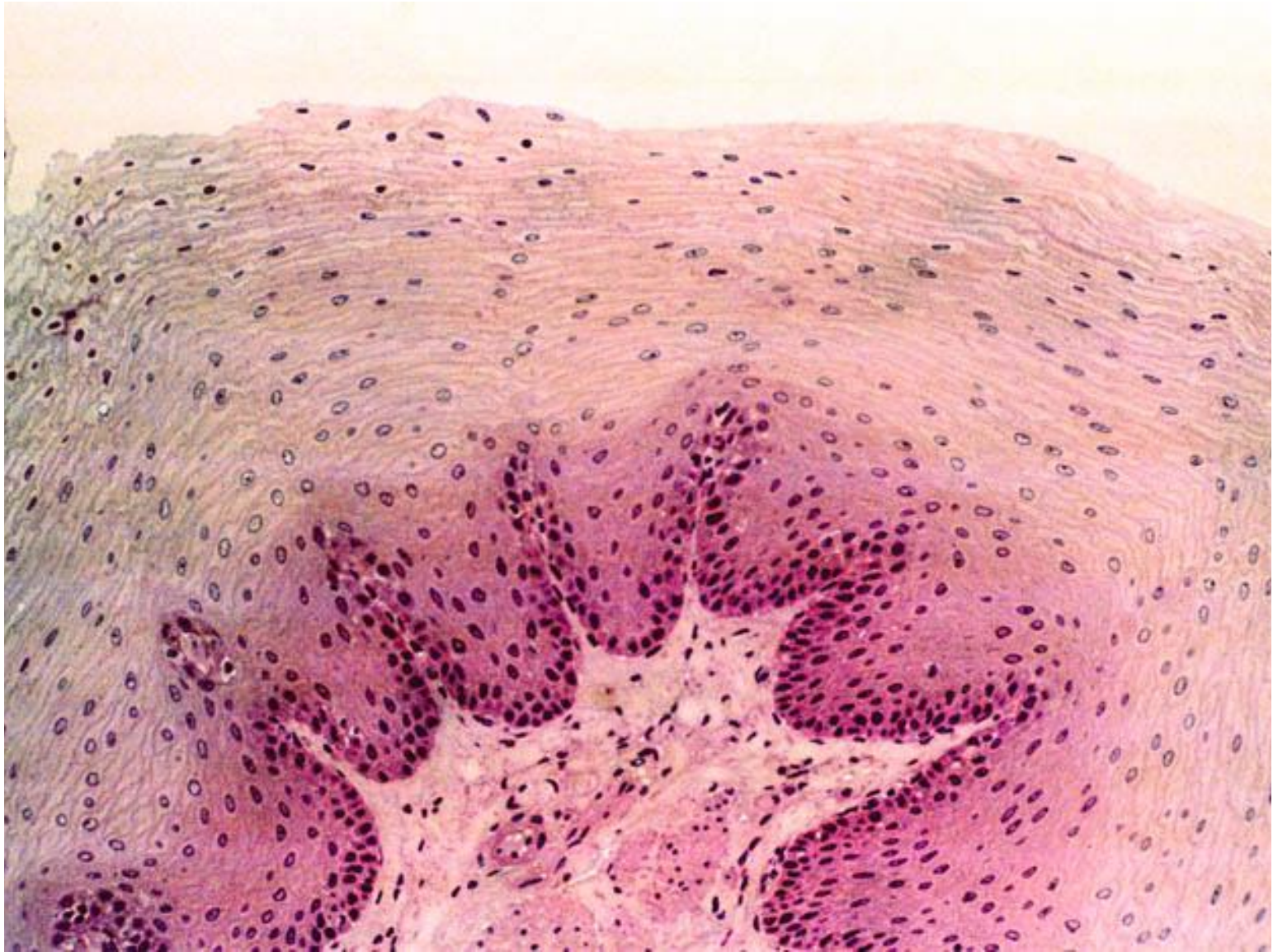


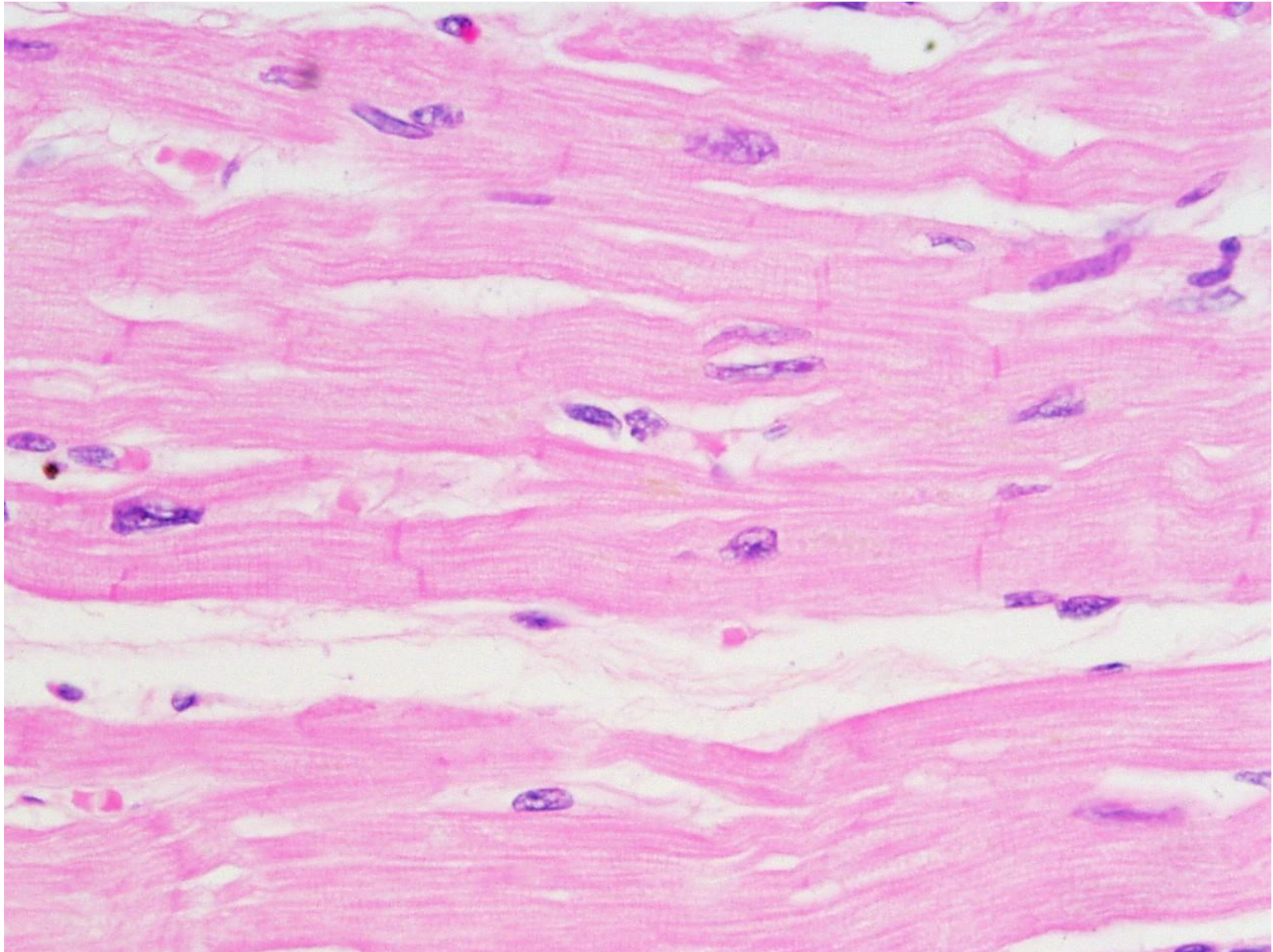


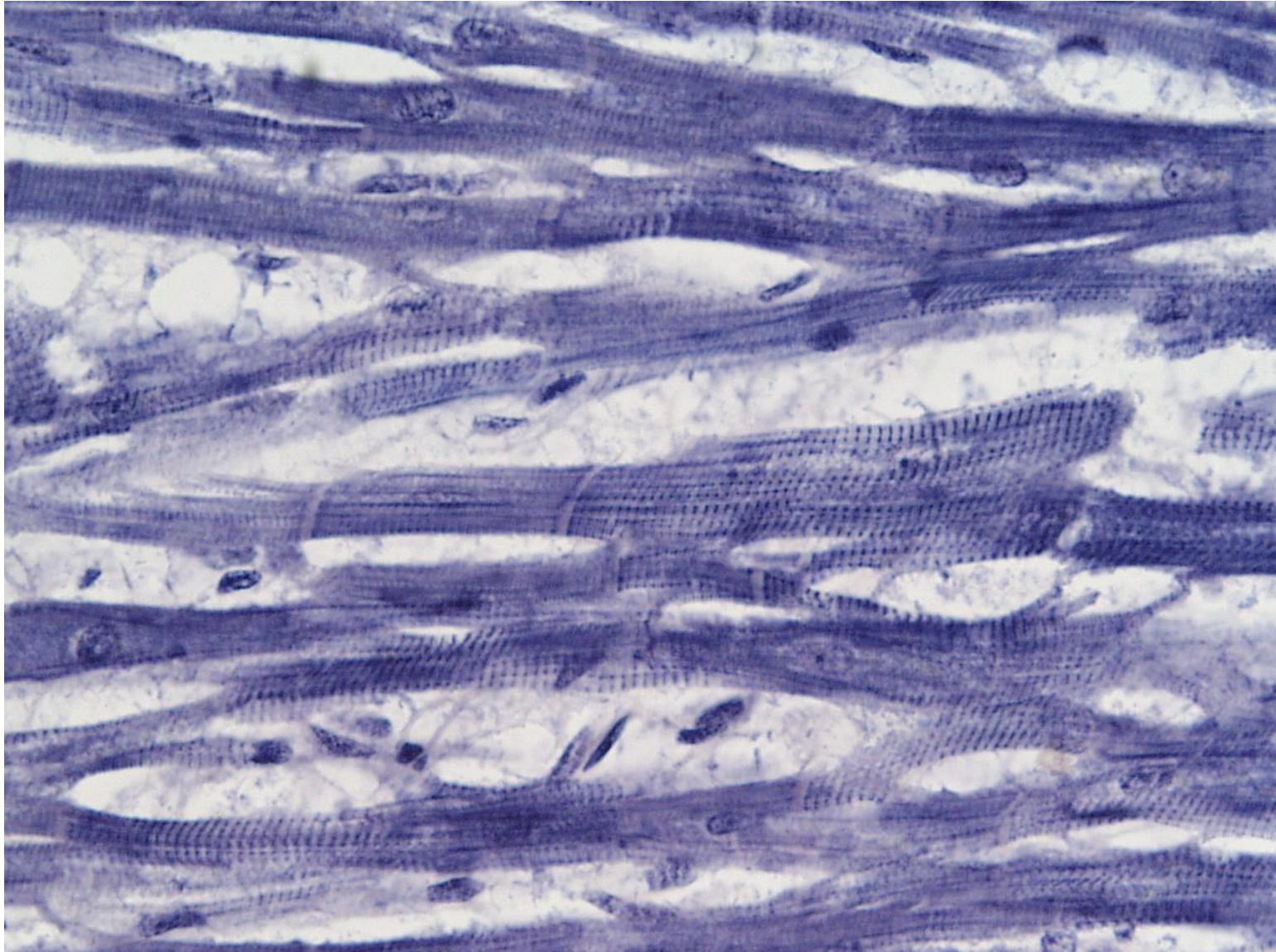




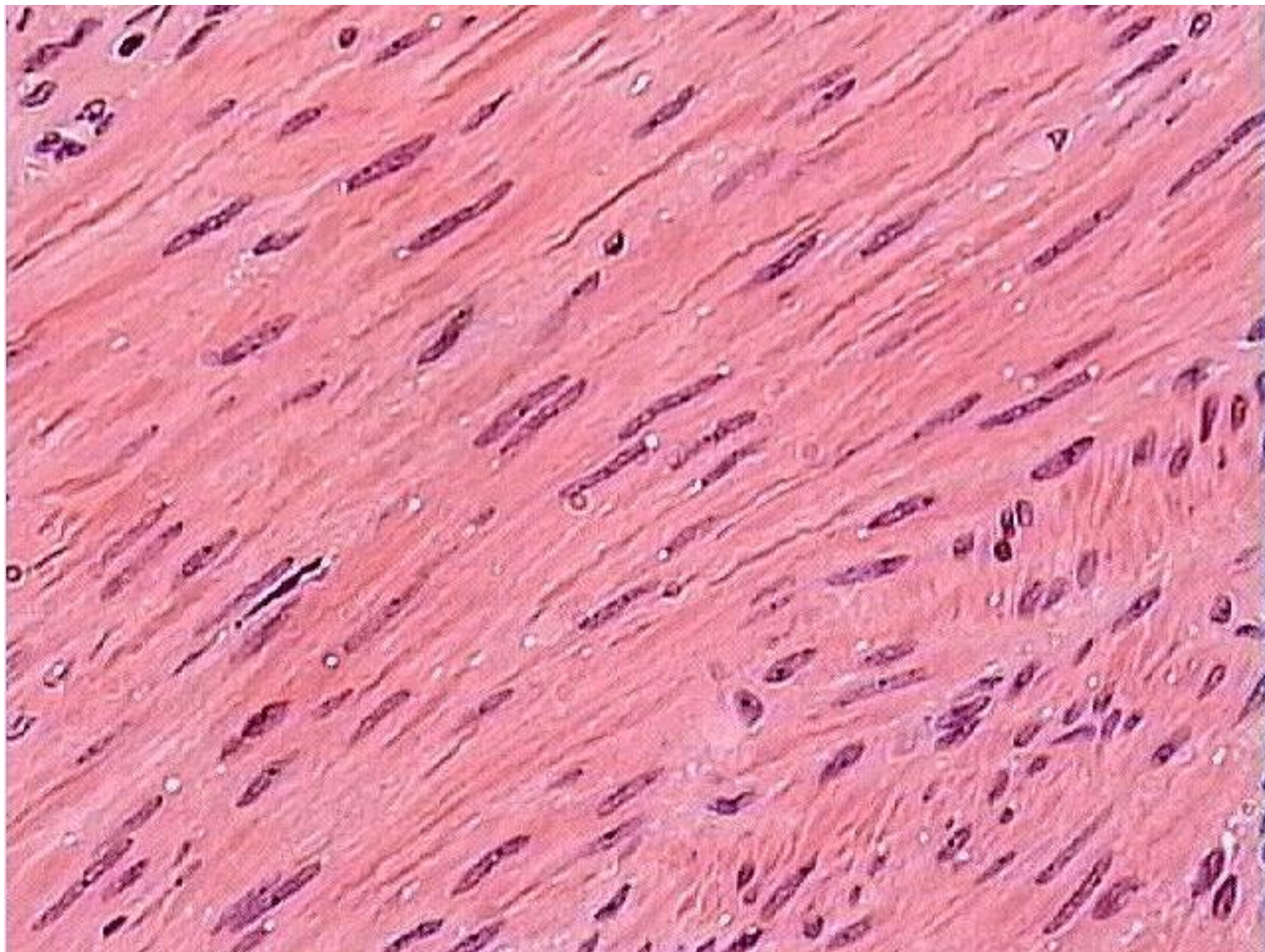


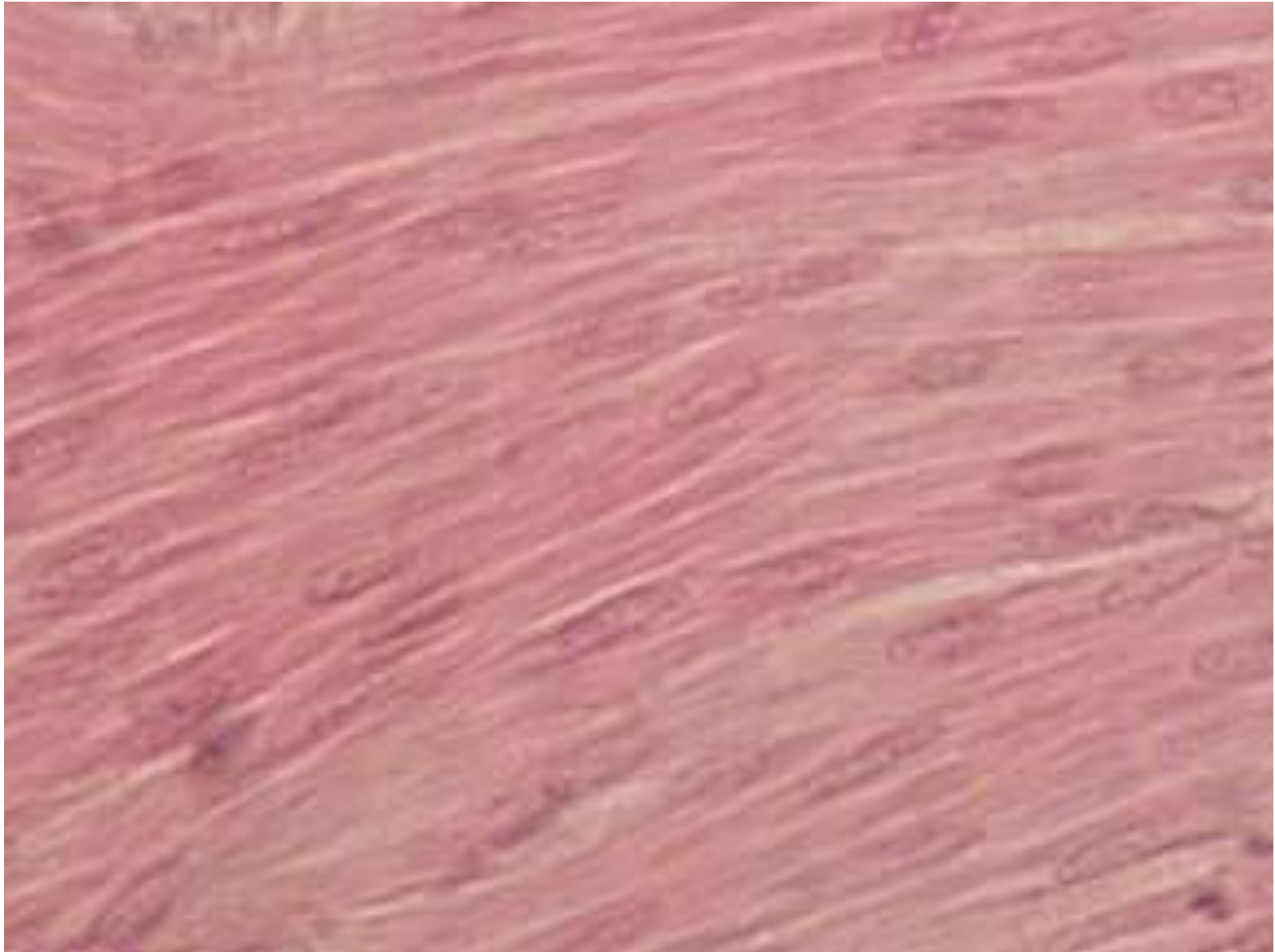


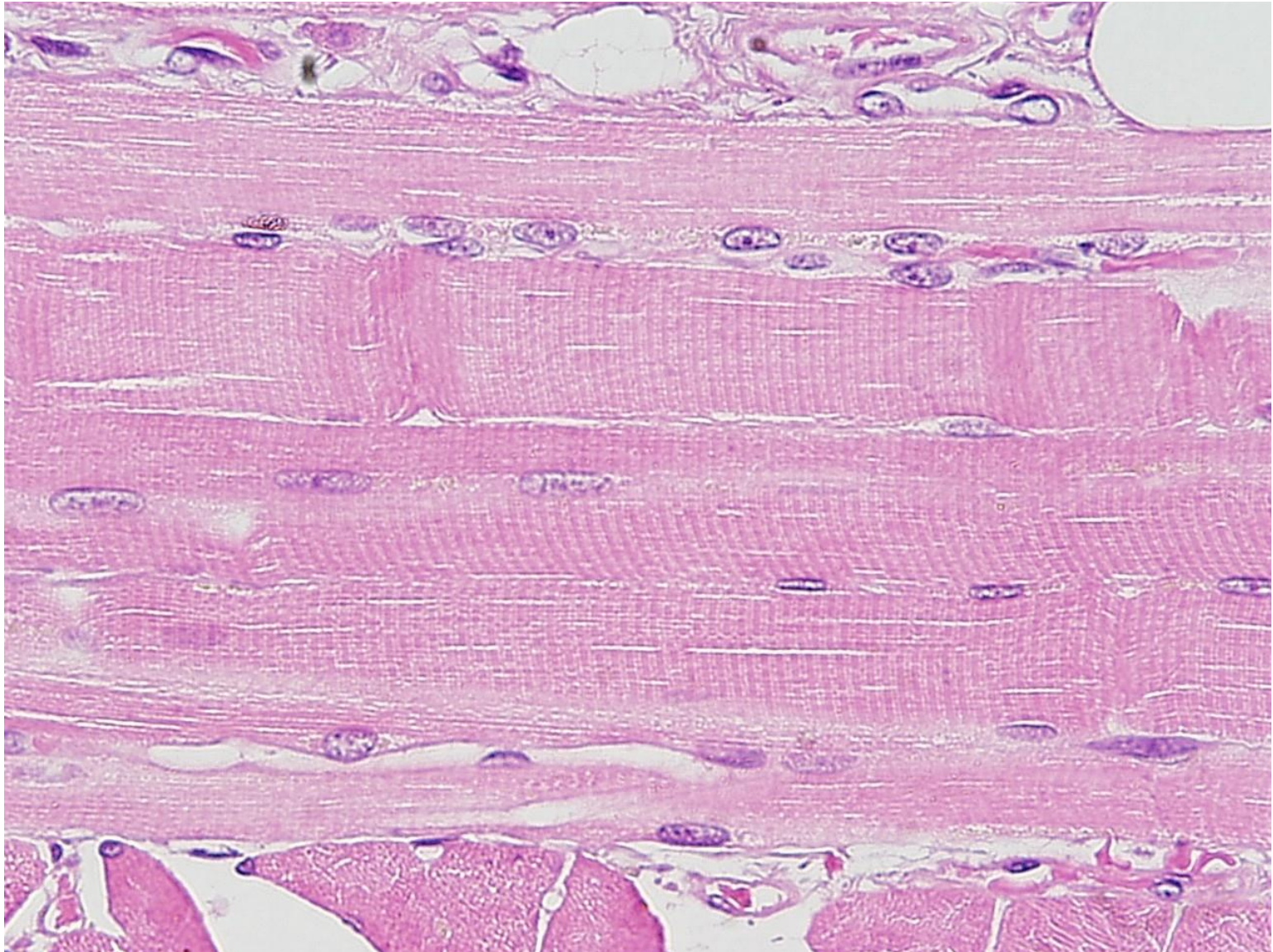


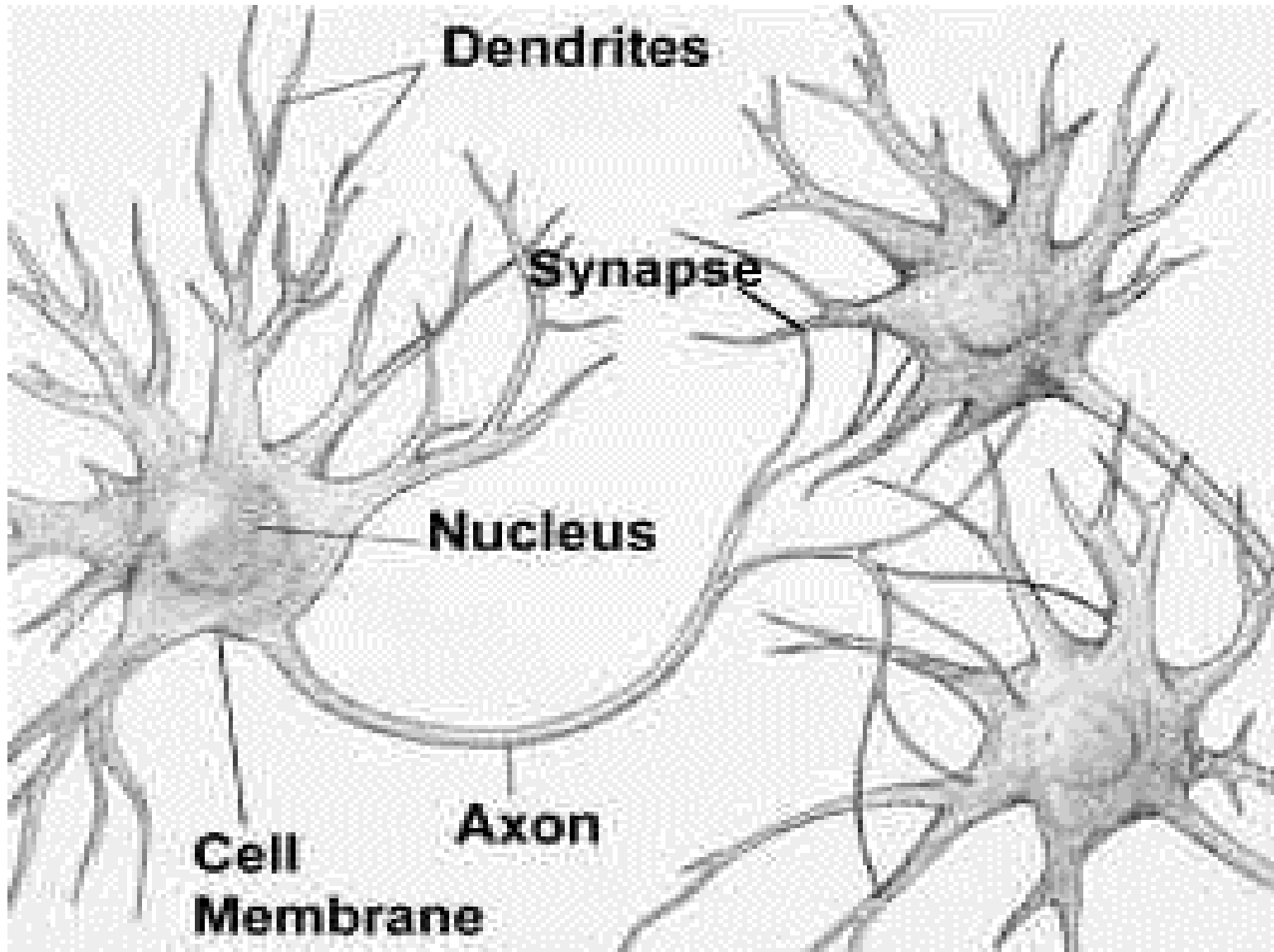




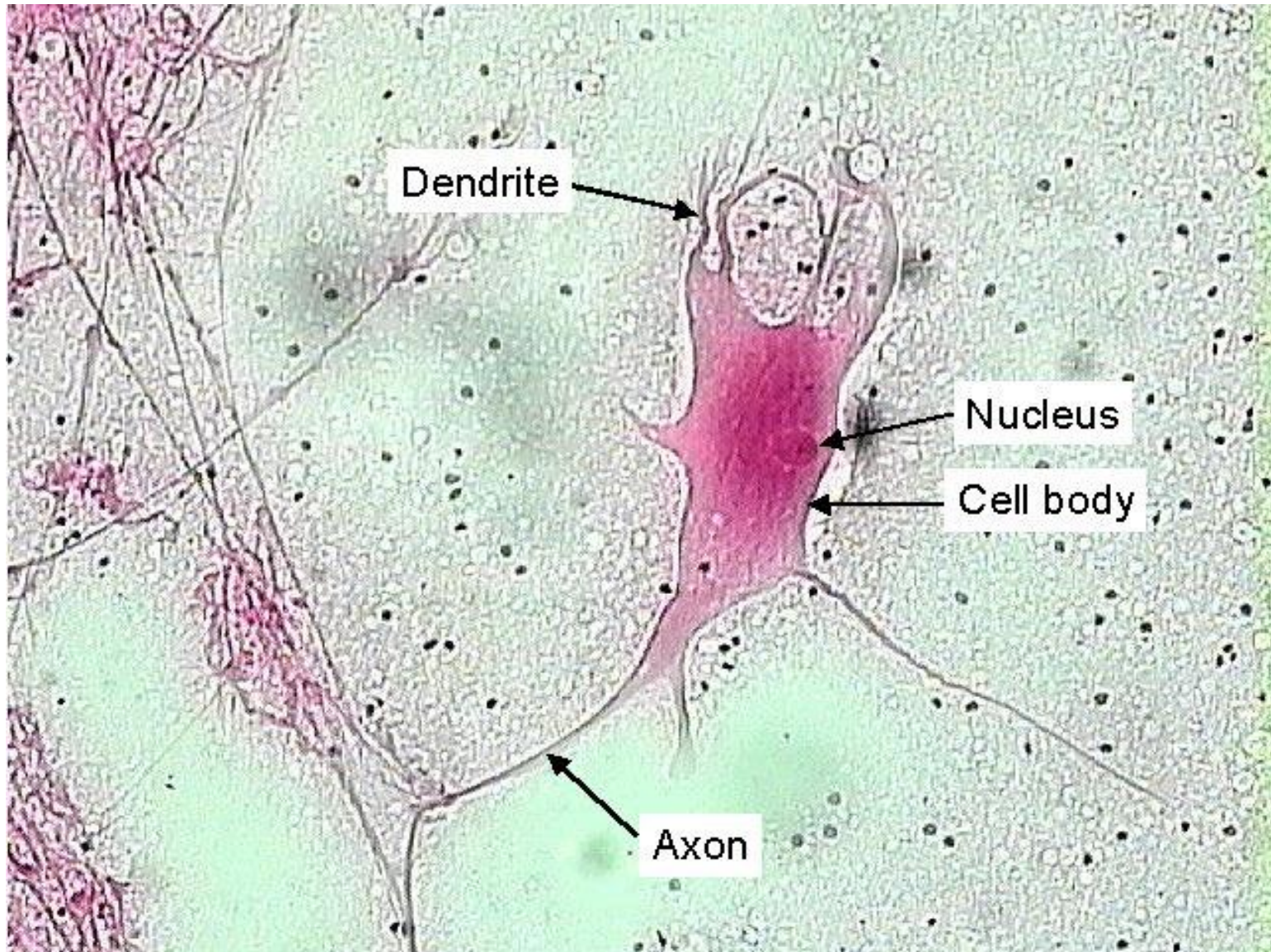






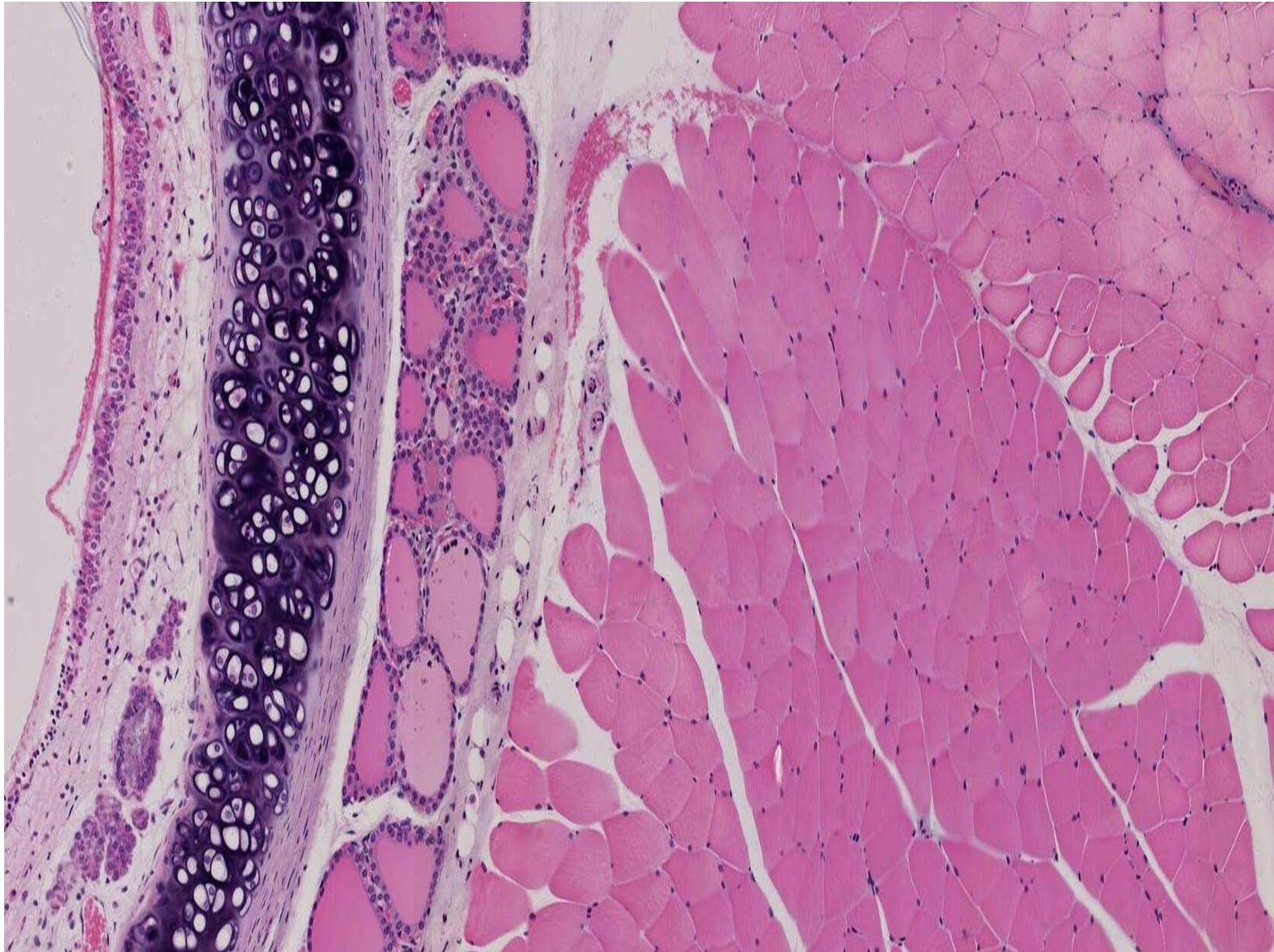


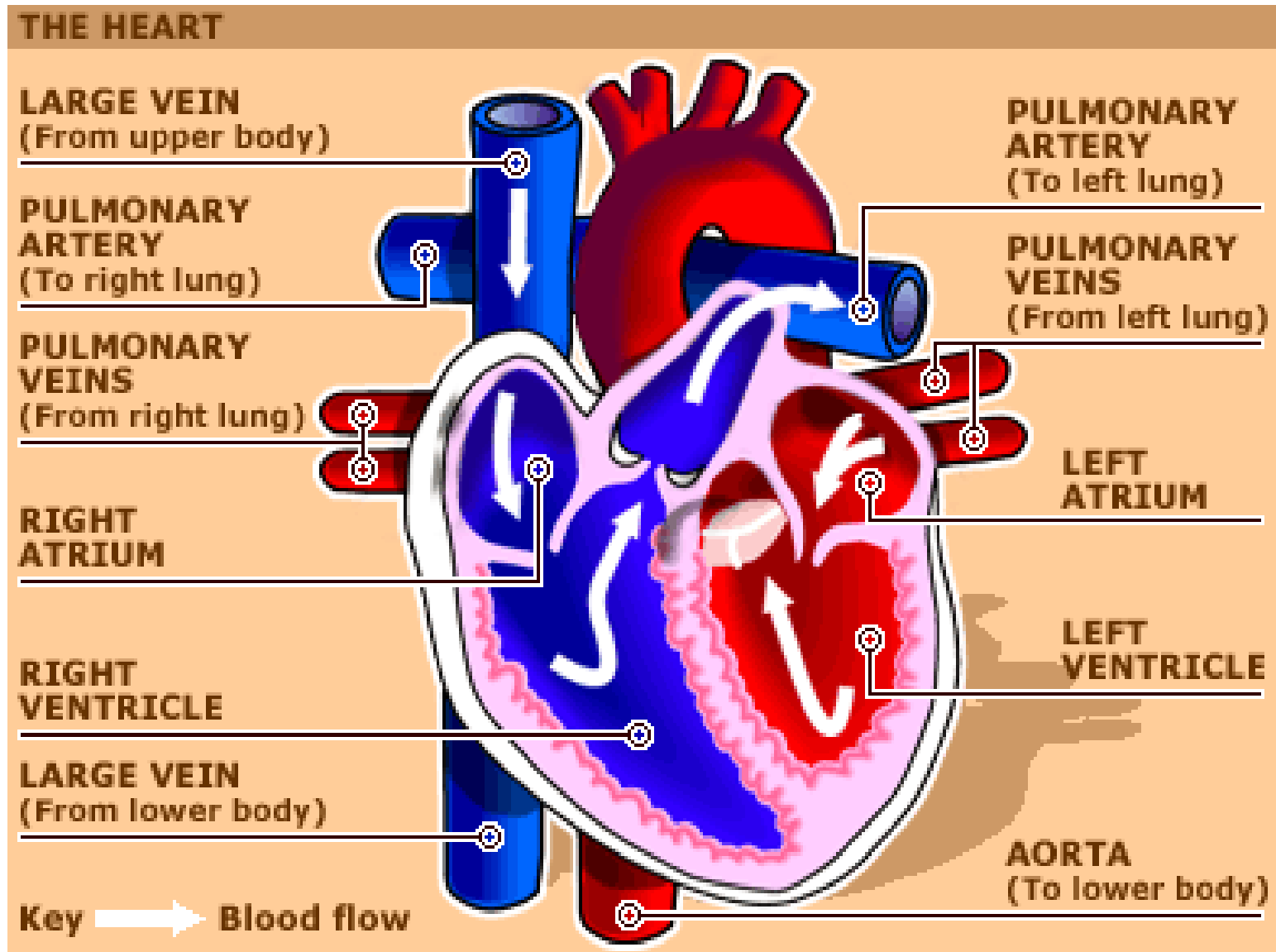


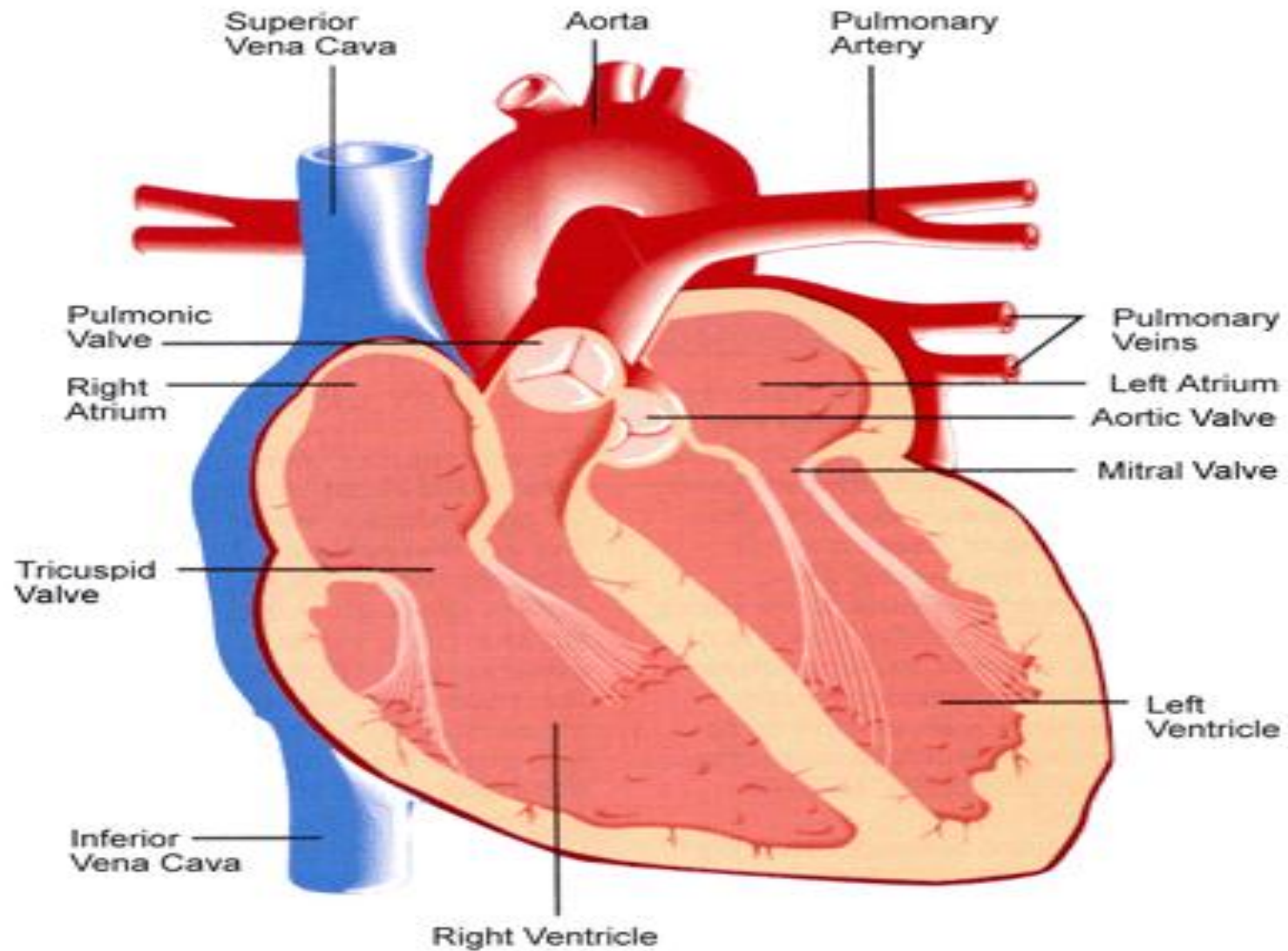


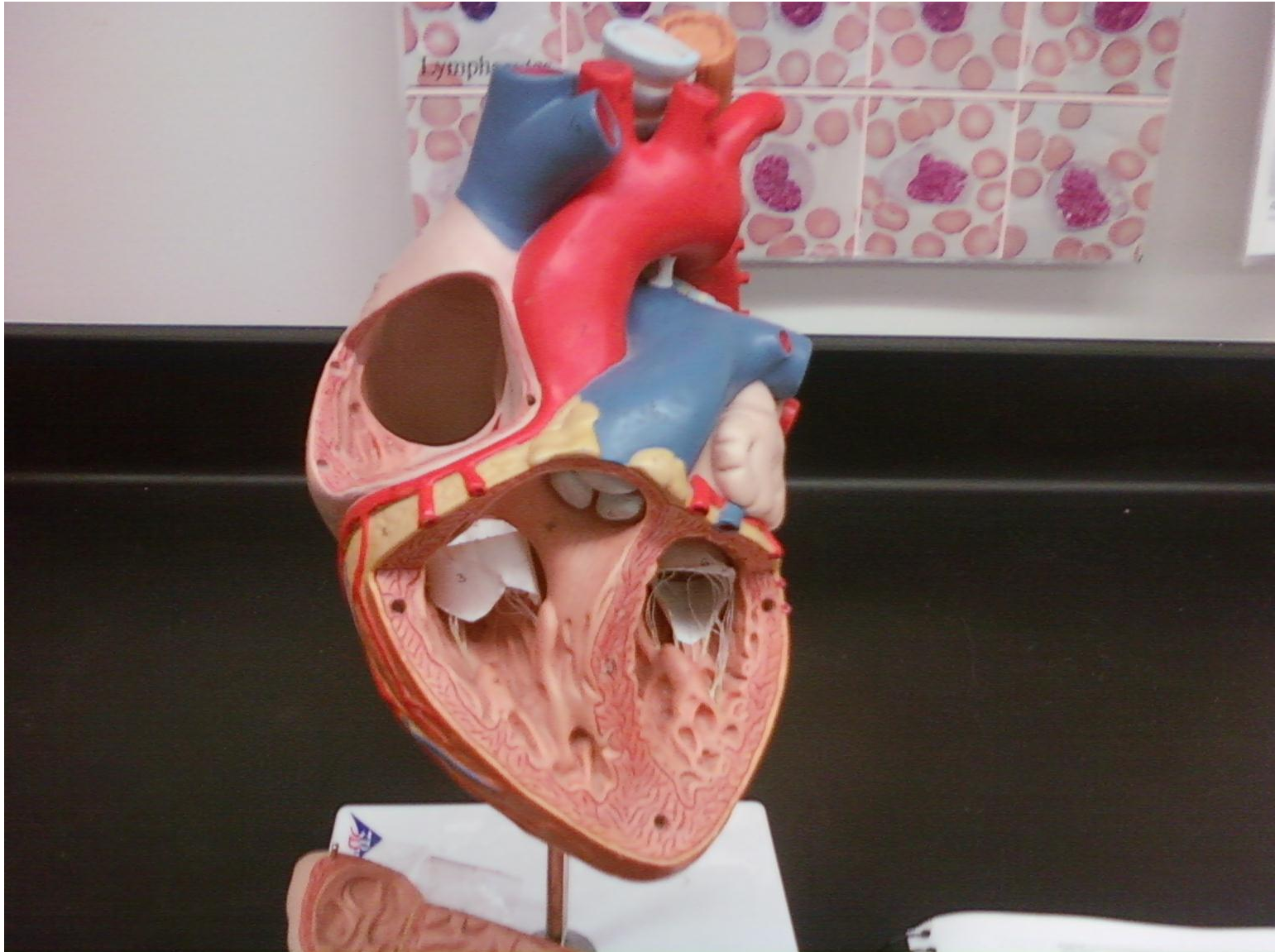
Nervous Tissue

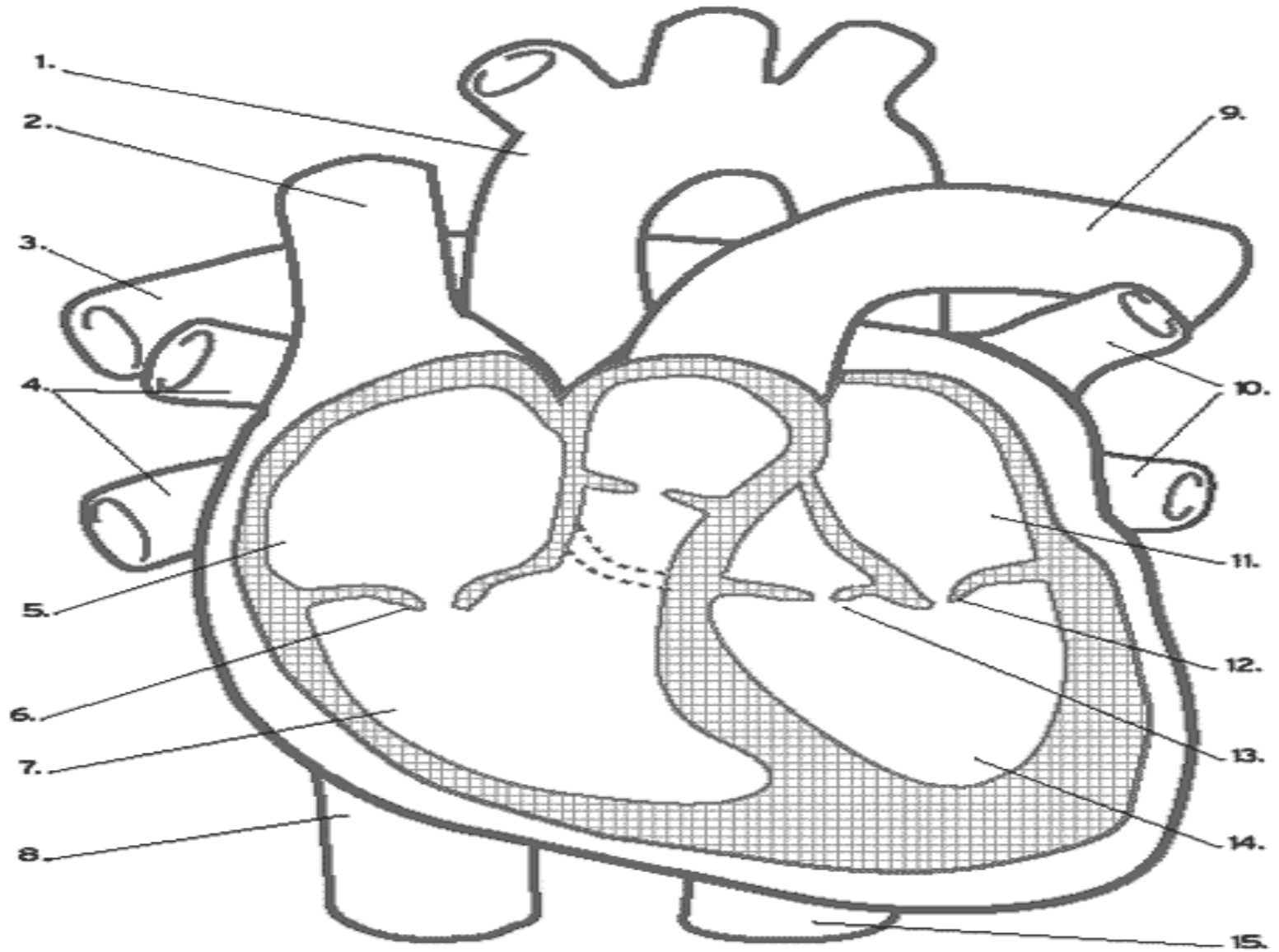


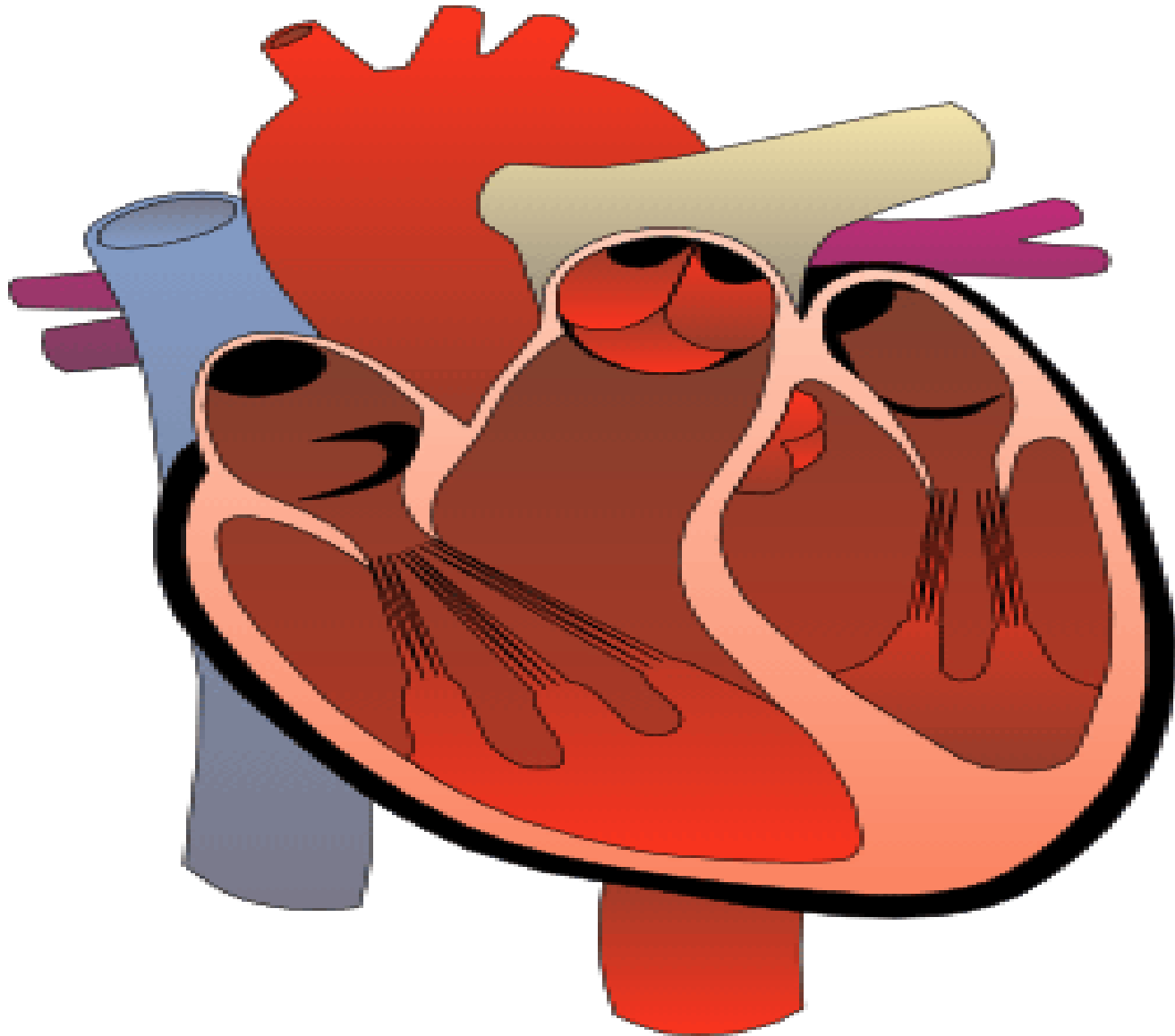


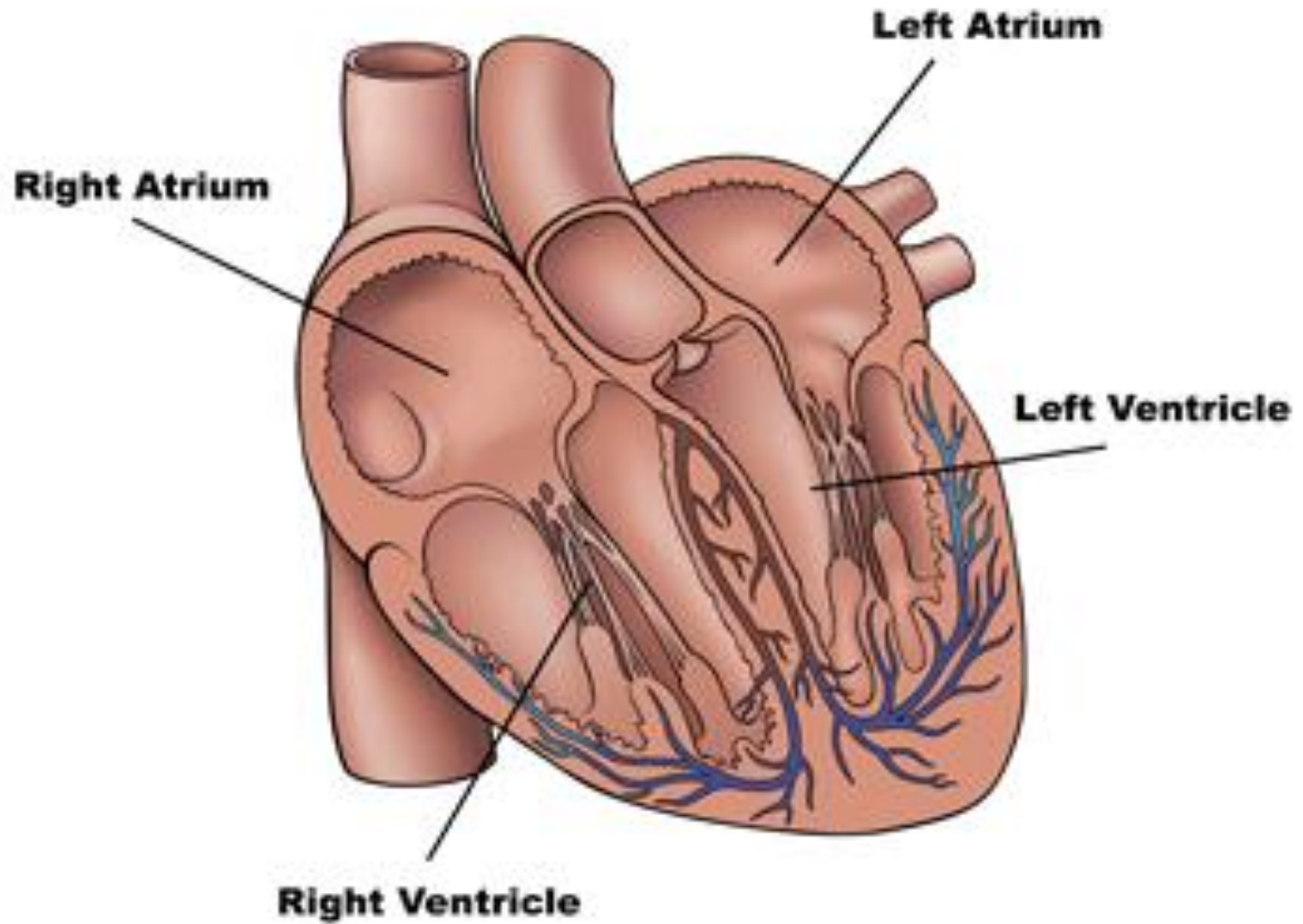


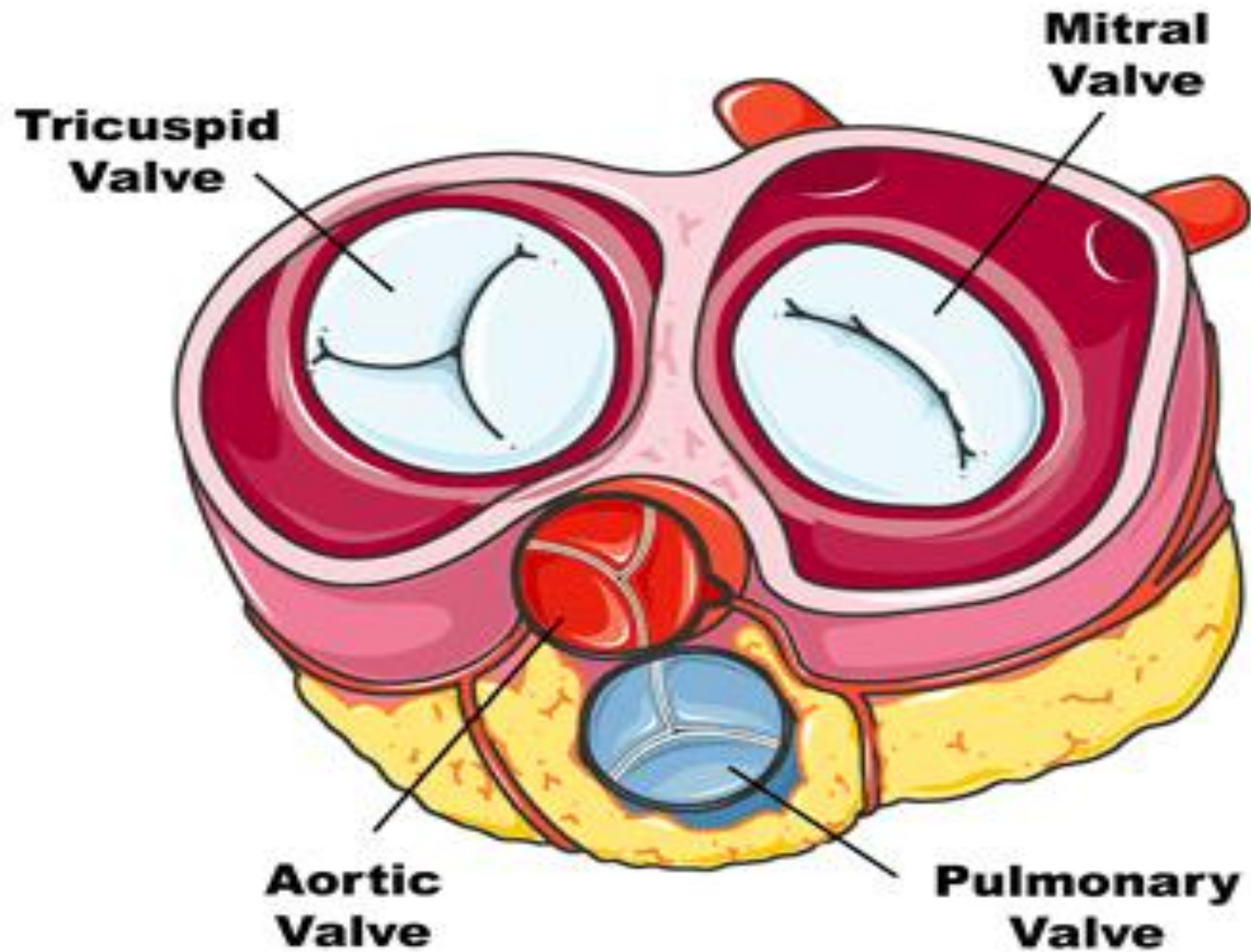


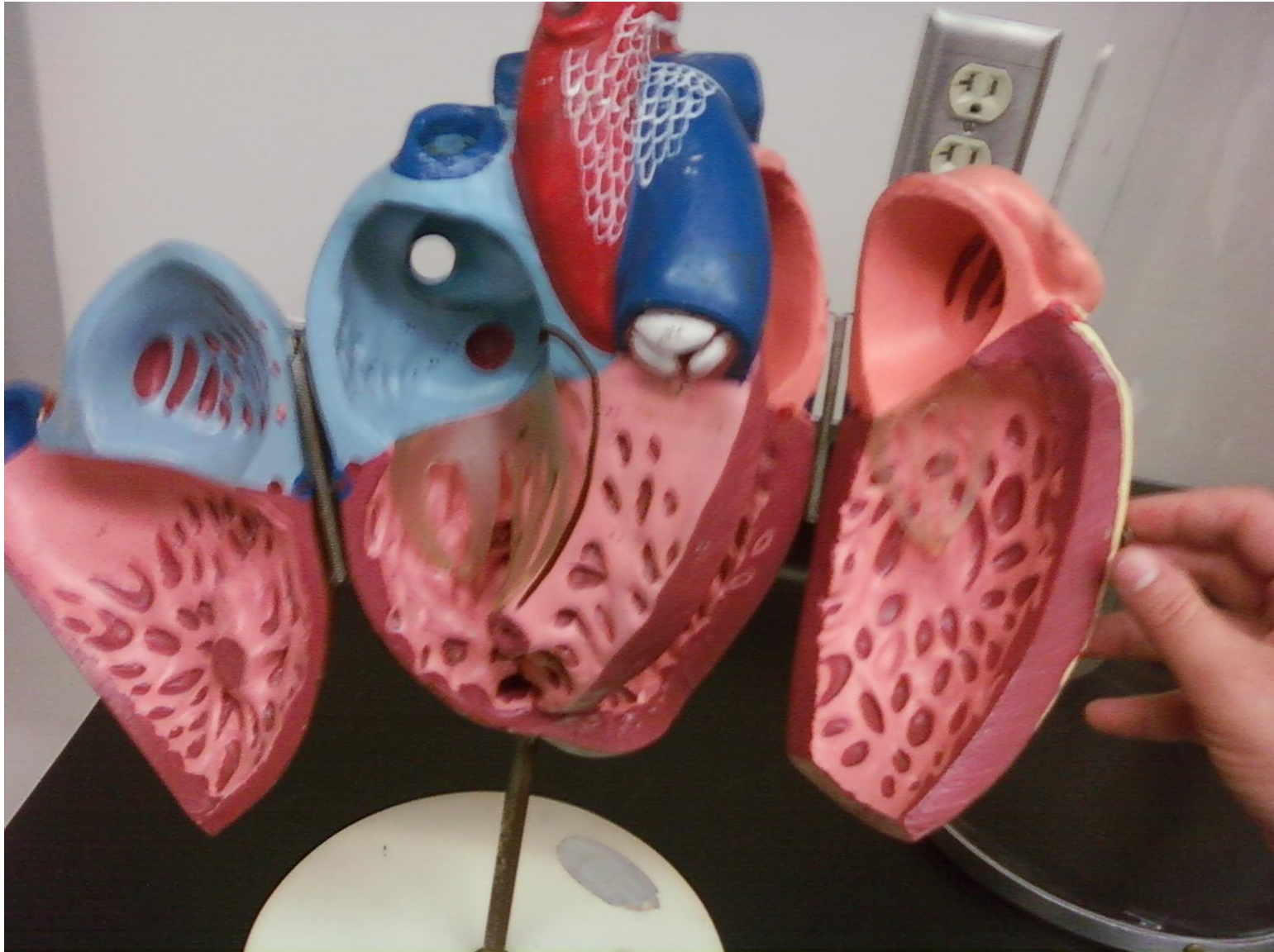




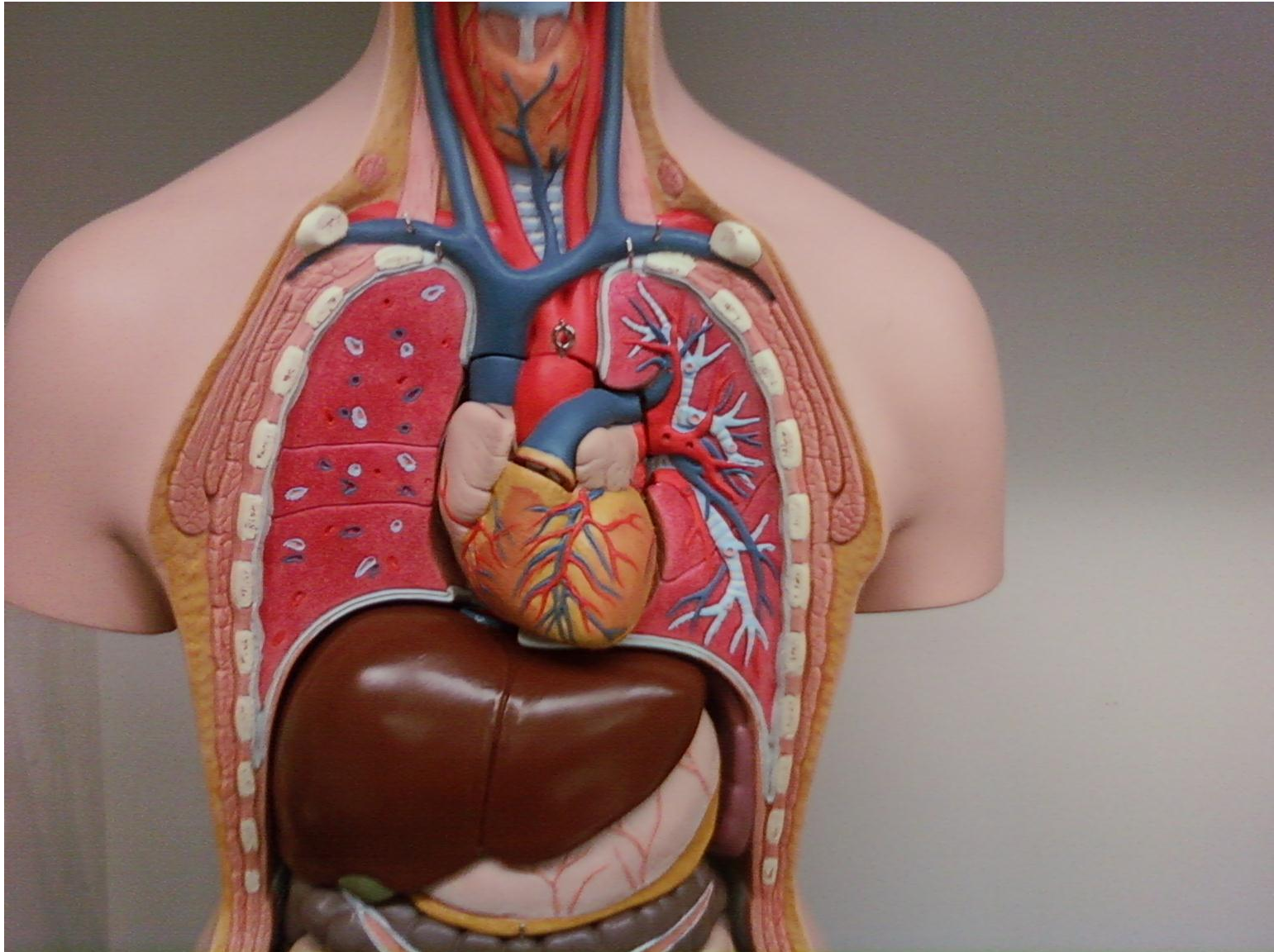


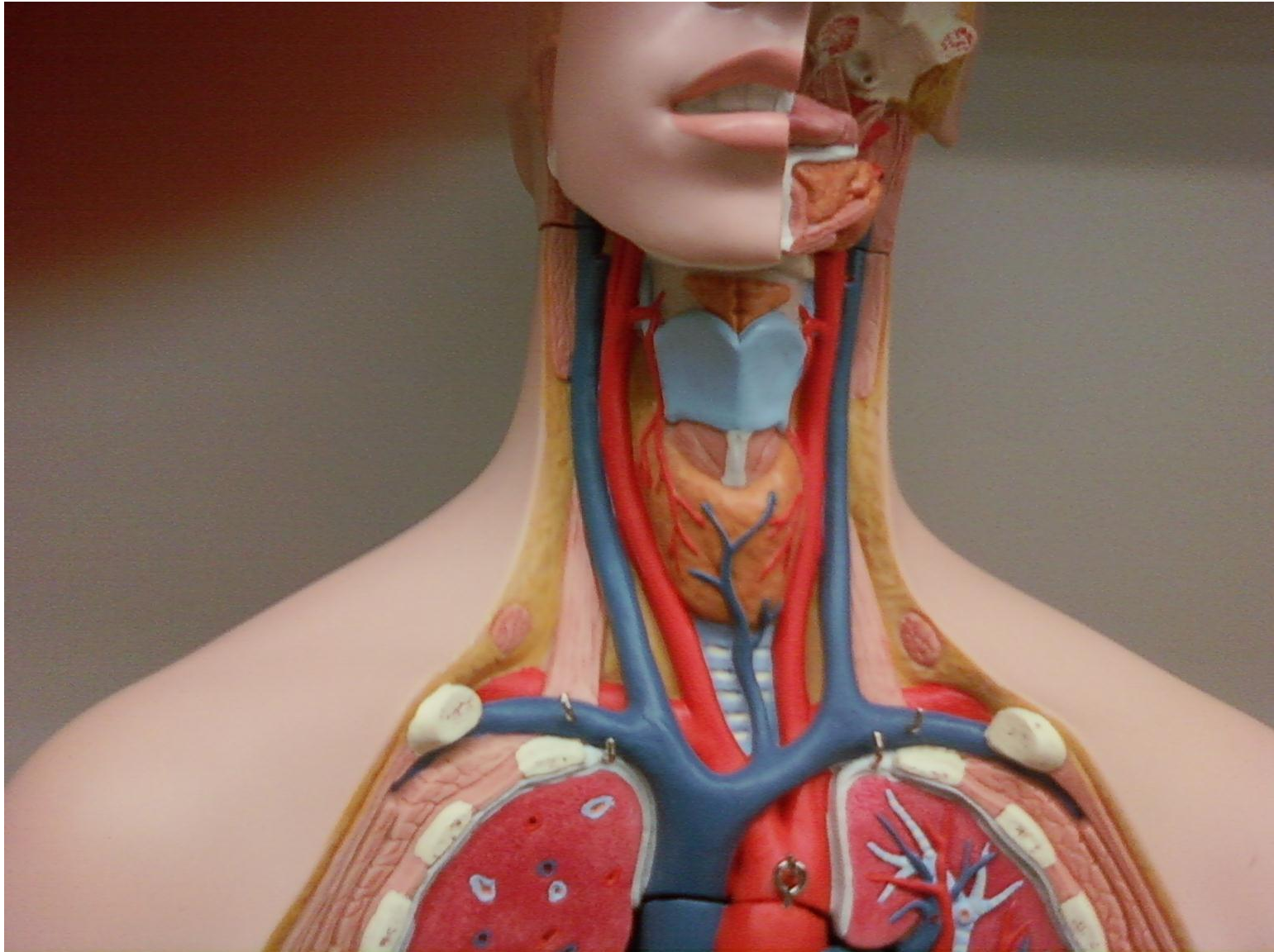


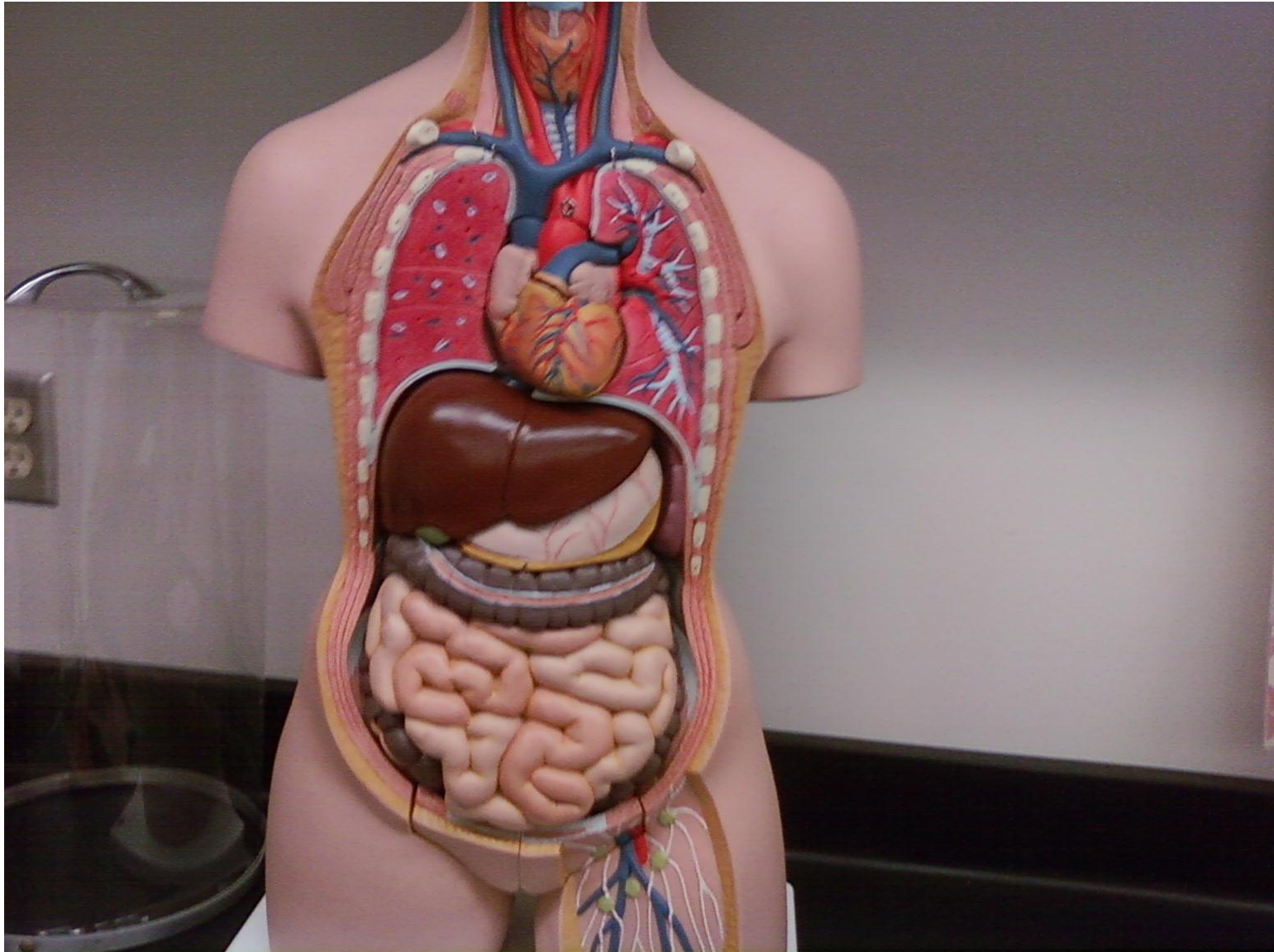


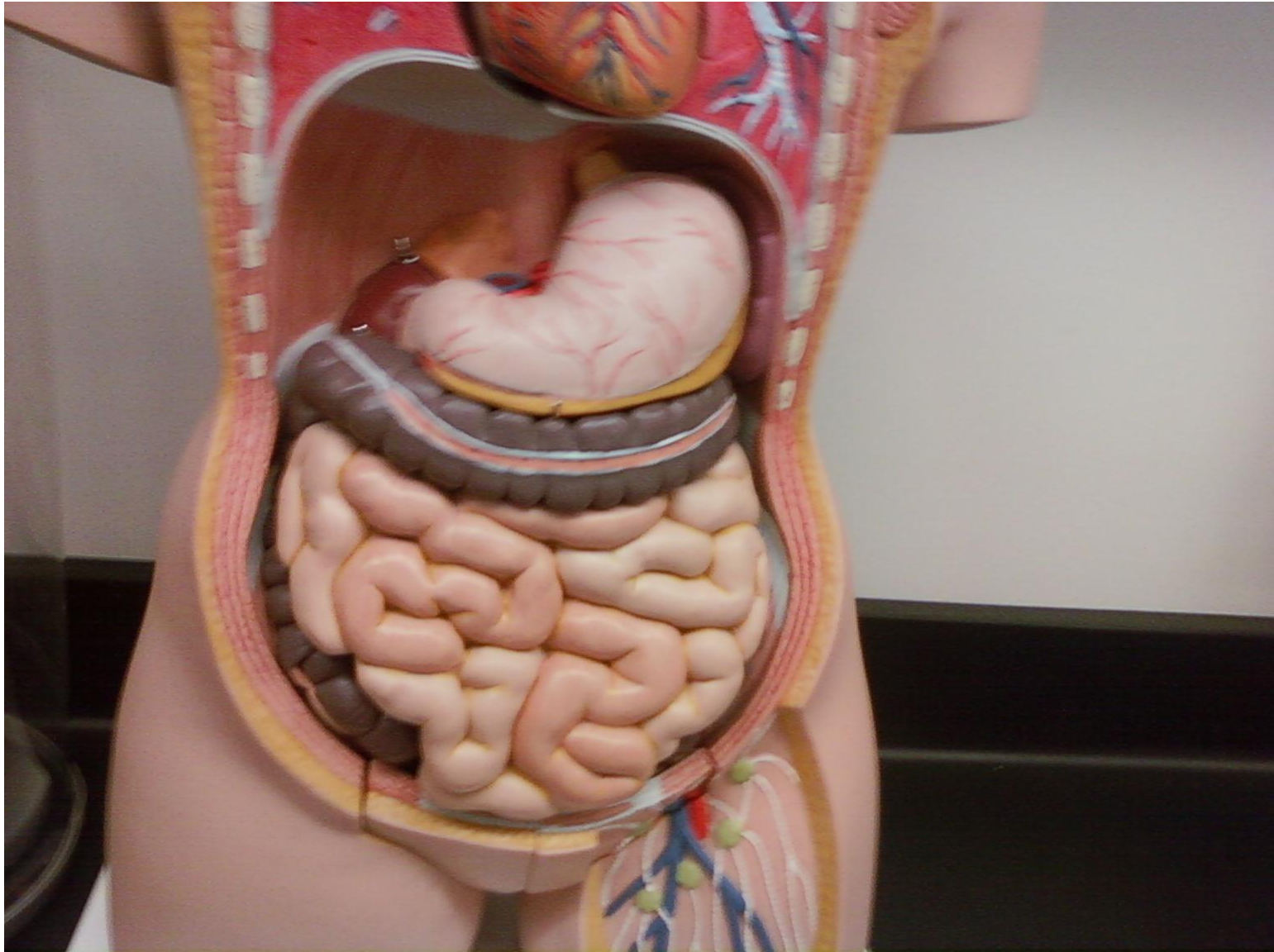














DAYTONA STATE COLLEGE

Questions



Prepared by

E. Dickinson – Former Biology II Student

Edited by

D. Leonard – Learning Specialist

The Academic Support Center @ Daytona State College

<http://www.daytonastate.edu/asc/ascsciencehandouts.html>