

A blue crab (Callinectes sapidus) is shown from a top-down perspective, resting on a light-colored, textured surface. The crab's body is a mix of blue and brownish-grey, with its legs and claws showing a vibrant blue color. The claws are large and powerful, with a reddish-brown tip. The crab is positioned centrally, and its shadow is cast slightly to the right.

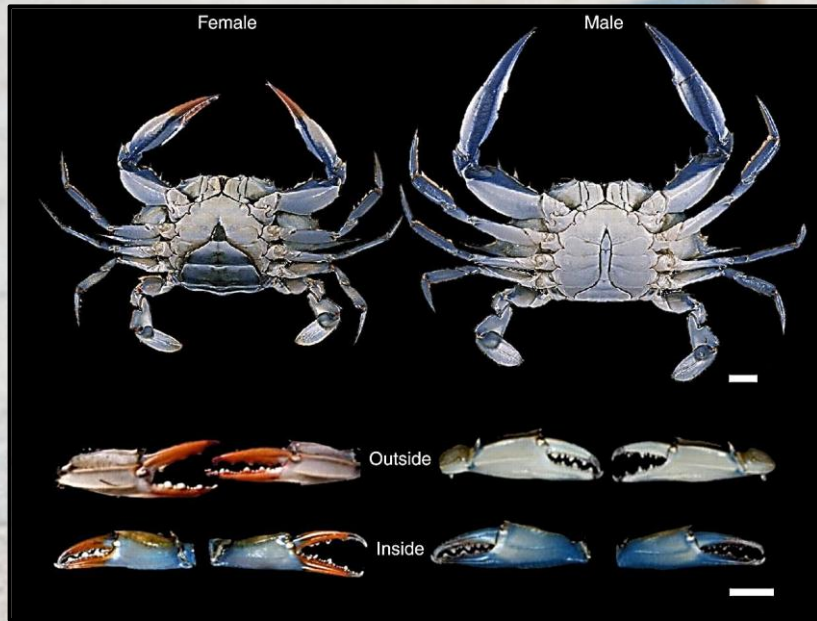
**Macroscopic and
microscopic morphological
features of the digestive and
reproductive systems of the
blue crab
(*Callinectes sapidus*)**

Dottoranda: Dott.ssa Gloria Metti (XL ciclo, posizione ordinaria)

Supervisor: Prof. Maurizio Mazzoni

Co-supervisor: Prof. Cristiano Bombardi

BLUE CRAB (*Callinectes sapidus* Rathbun, 1986)



Phylum Arthropoda
Subphylum Crustacea
Classe Malacostraca
Ordine Decapoda
Infraordine Brachyura
Famiglia Portunidae

IAS

- Omnivorous
- Euryhaline and eurythermic
- 700.000-8 million eggs



- Biodiversity
- Ecosystems
- Shellfish farming
- Fishing



! 🔍
Anatomical study to identify porposals for its management





Insufficient and conflicting anatomical studies in literature



Males
Females



Porto Viro (RO)
Cesenatico

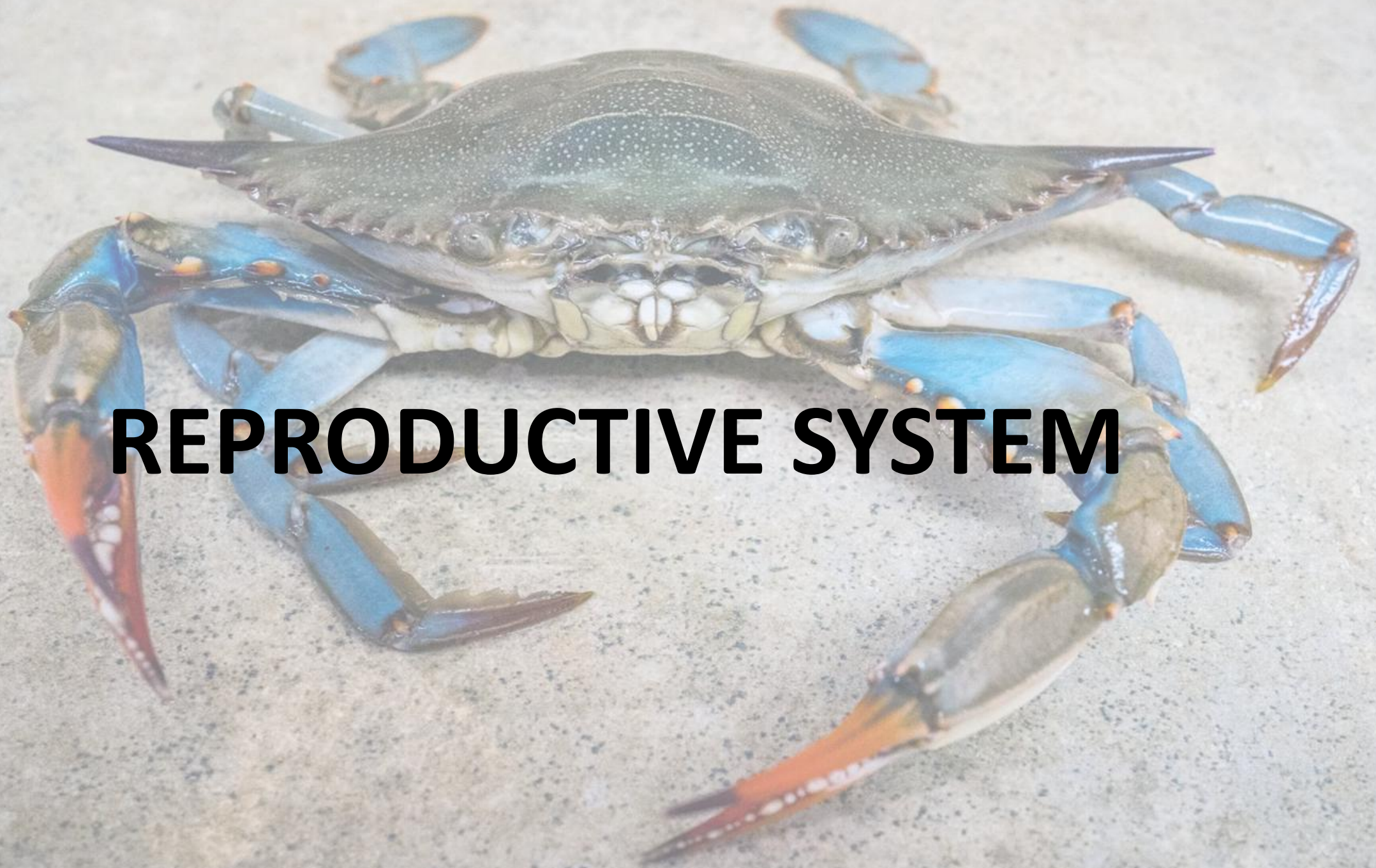
- Stomach
- Gut
- Ovaries / testis and vas deferens

MALE

FEMALE

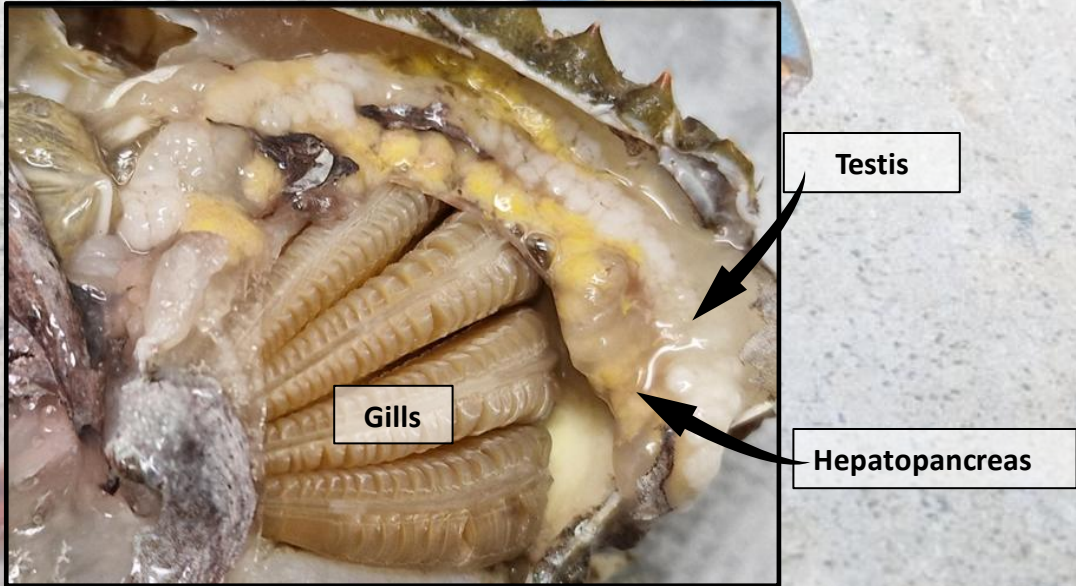
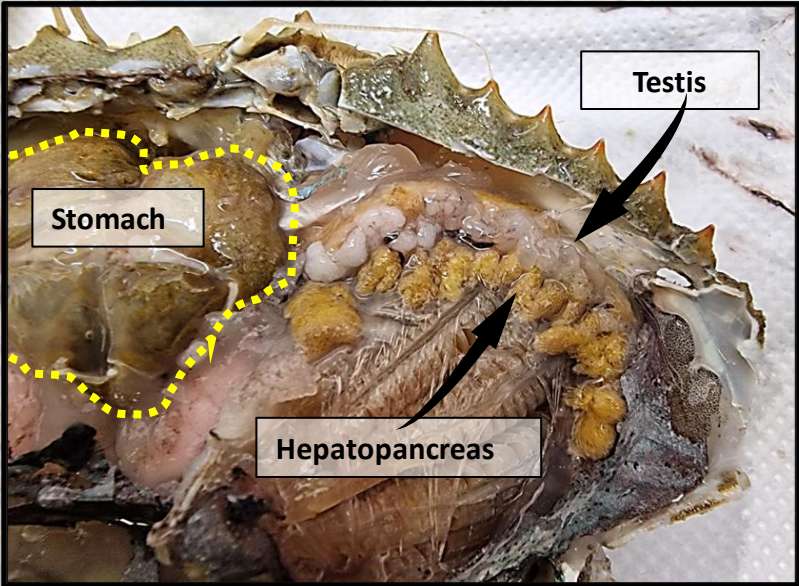
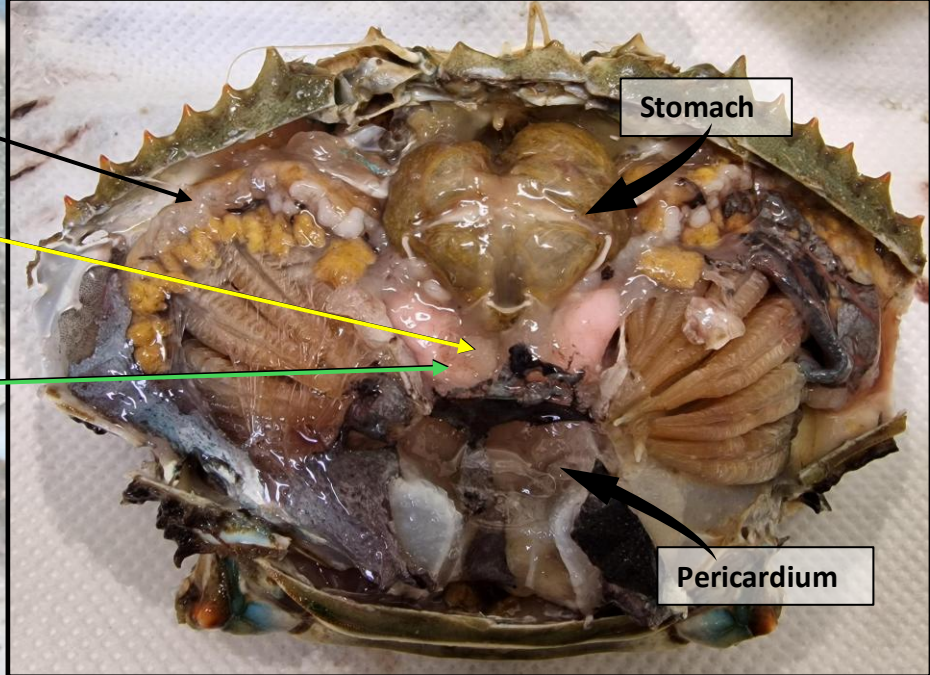
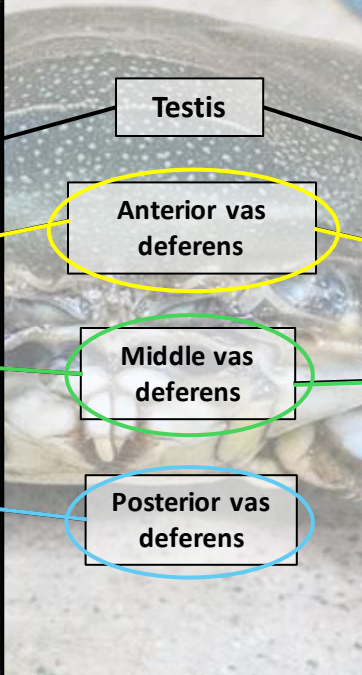
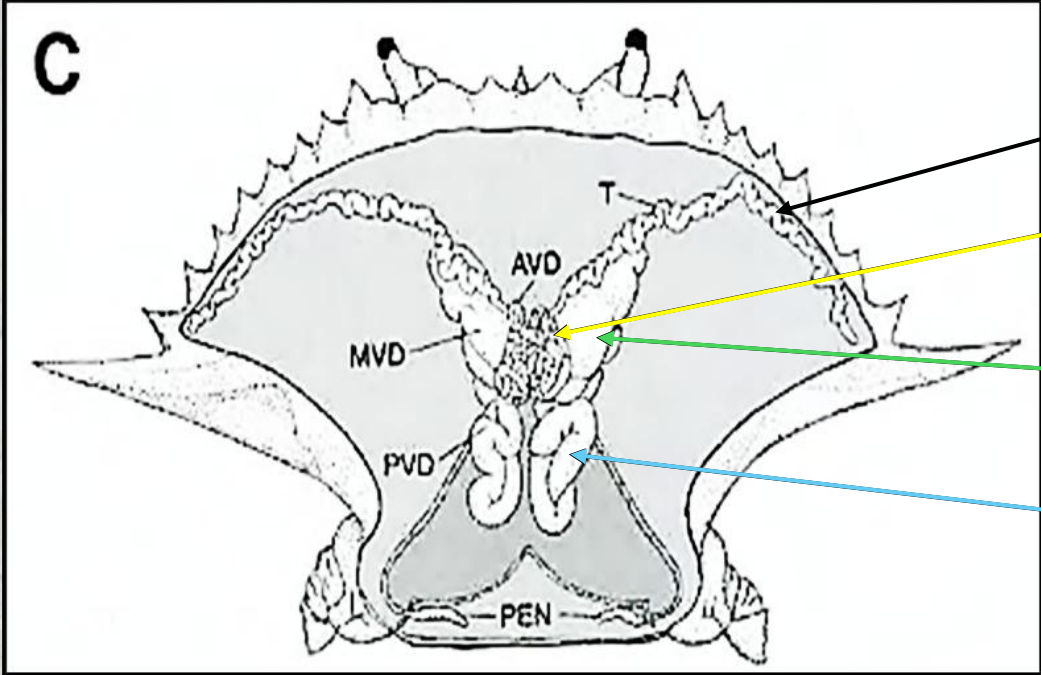


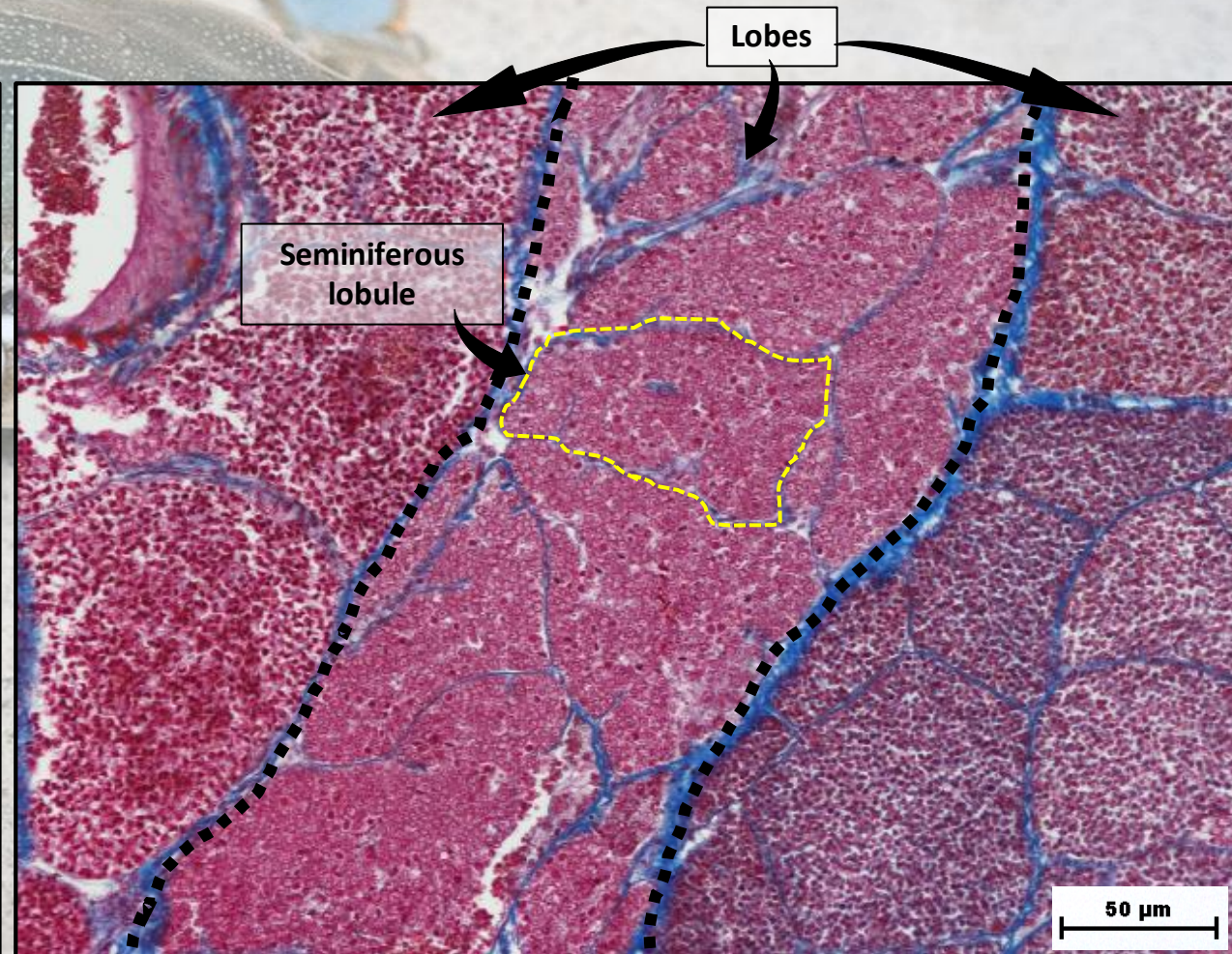
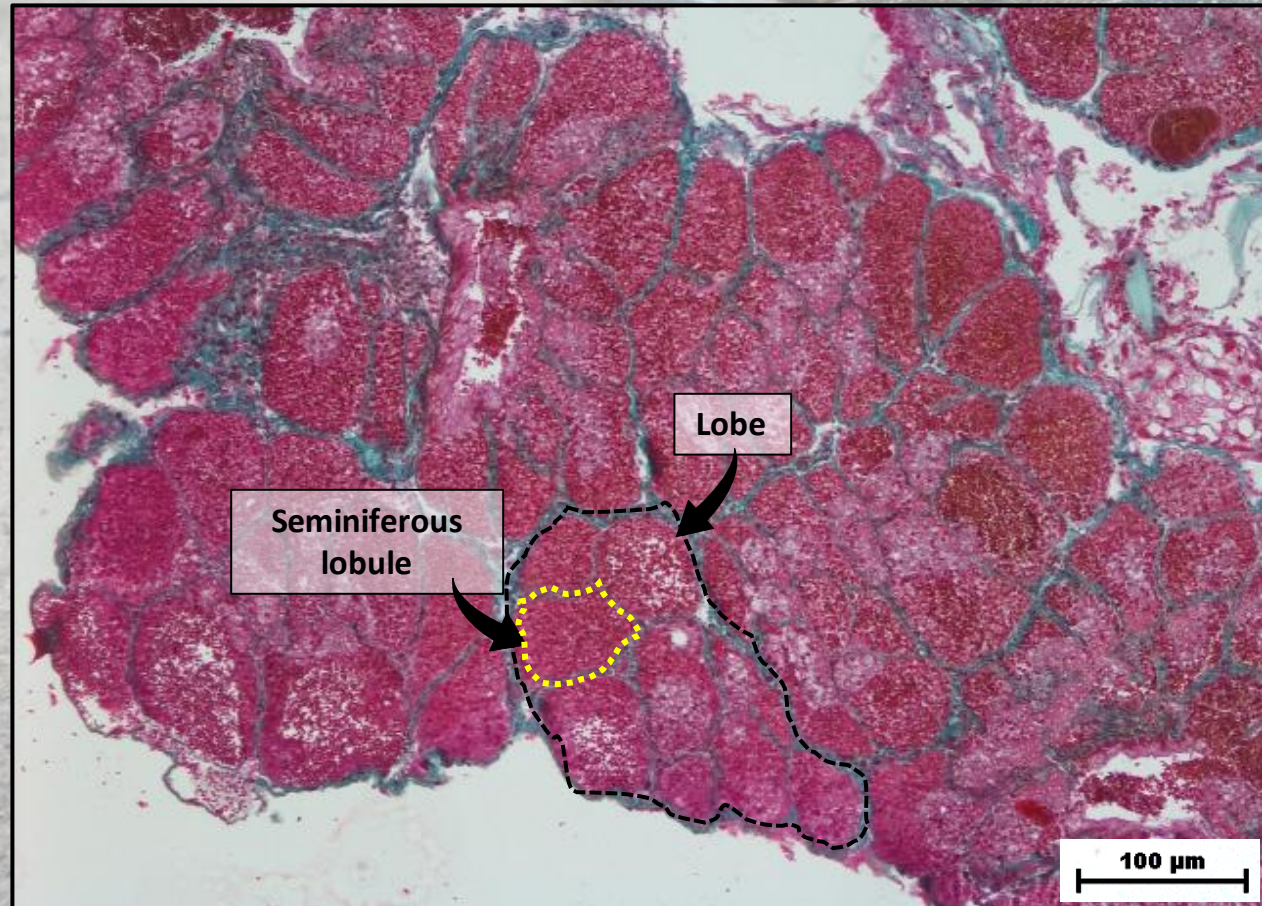
- + Fixation, embedding, microtomy
- + 1 Masson's thricrome
- + 2 Pas-Alcian Blue
- + Immunohistochemistry



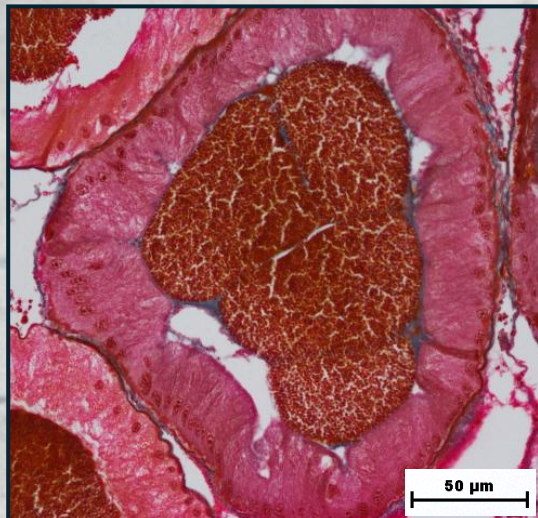
REPRODUCTIVE SYSTEM

MALE REPRODUCTIVE SYSTEM

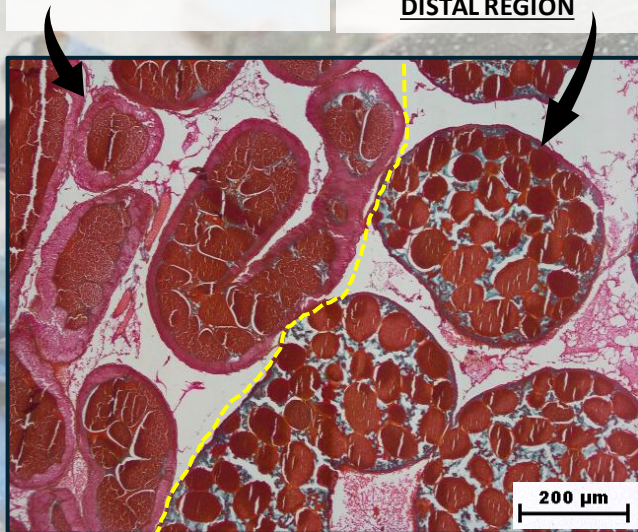




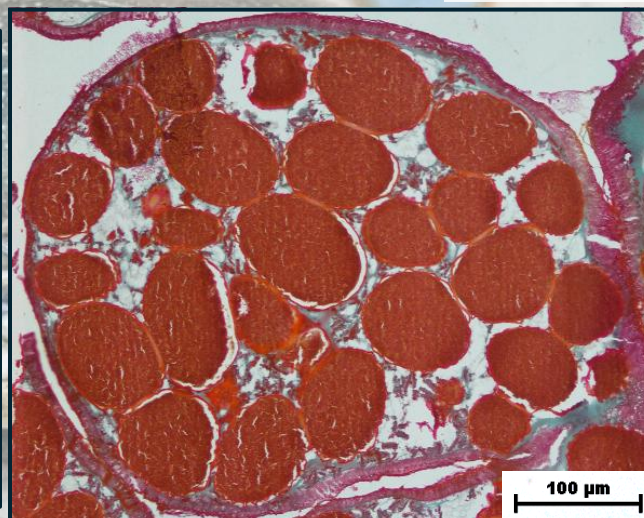
**ANTERIOR VAS DEFERENS
PROXIMAL REGION**



**ANTERIOR VAS DEFERENS
PROXIMAL REGION**



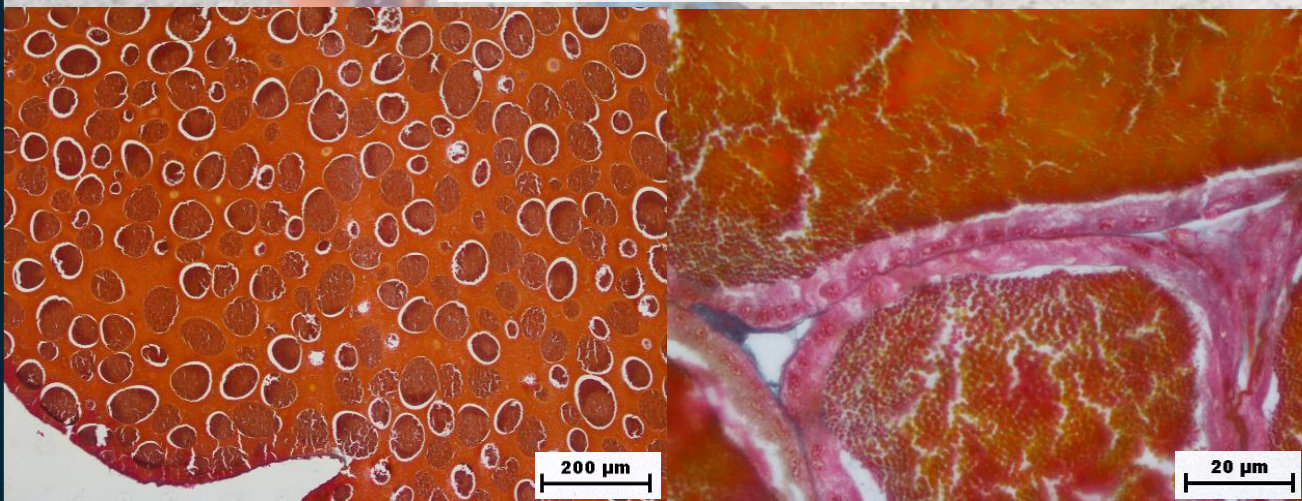
**ANTERIOR VAS DEFERENS
DISTAL REGION**



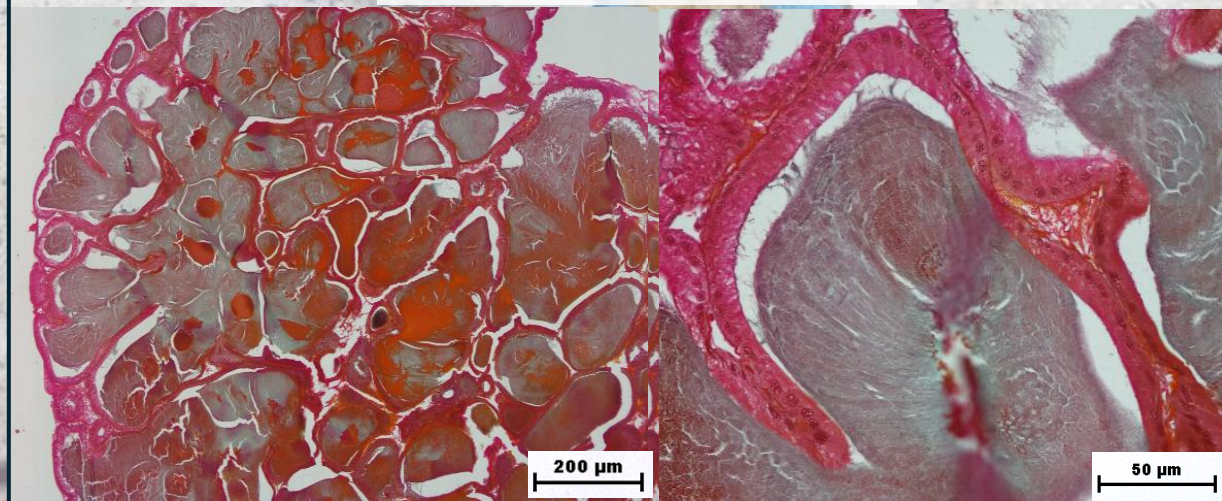
**ANTERIOR VAS DEFERENS
DISTAL REGION**



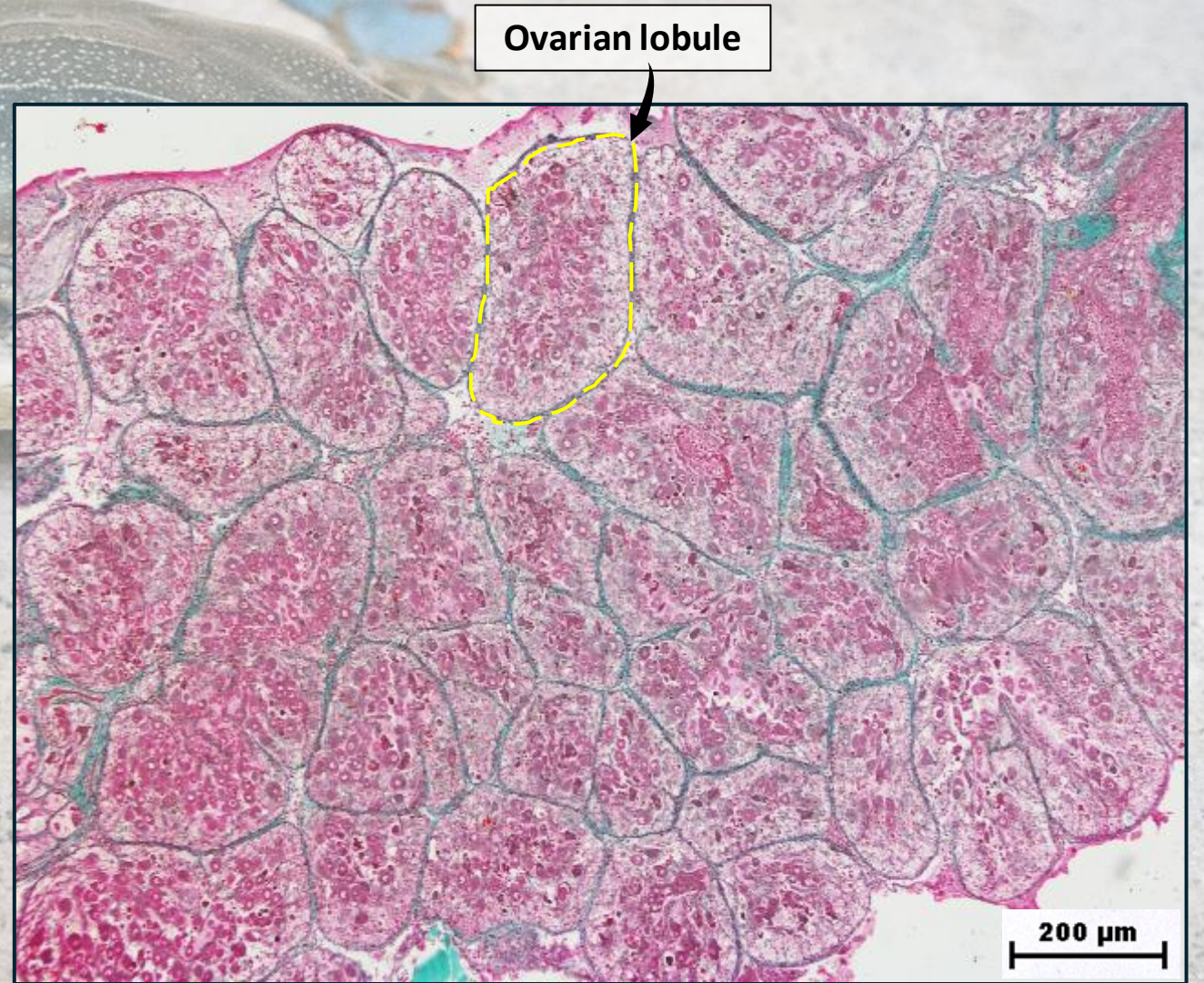
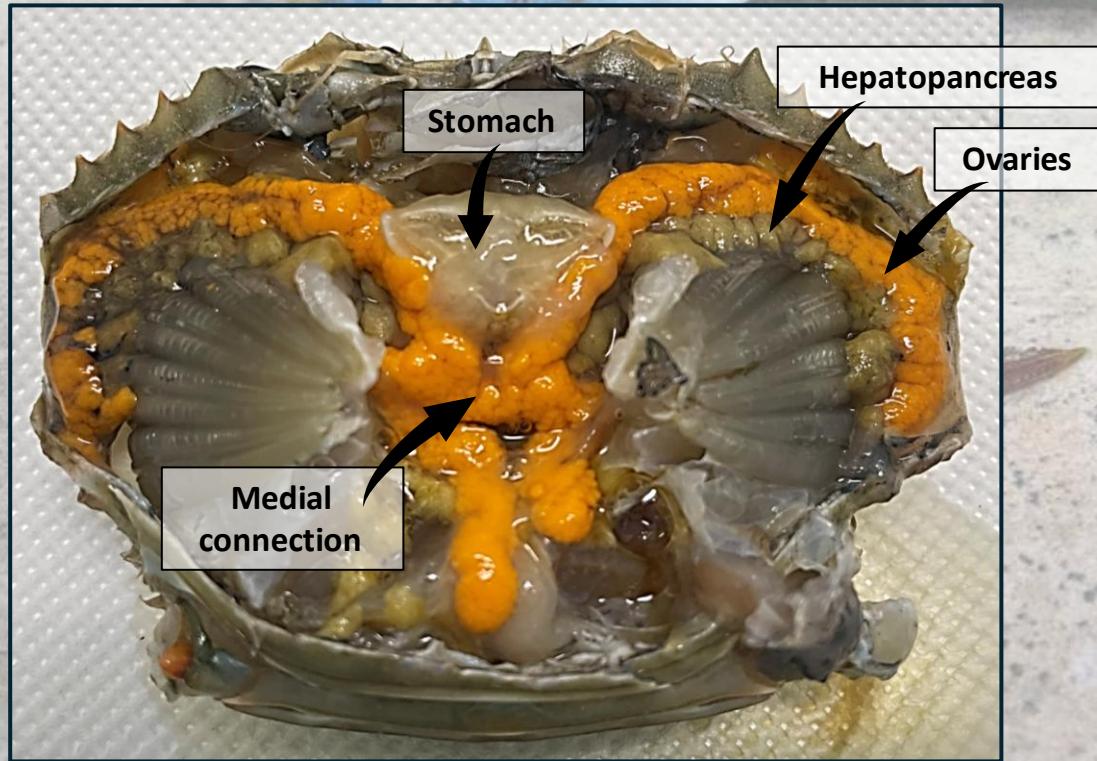
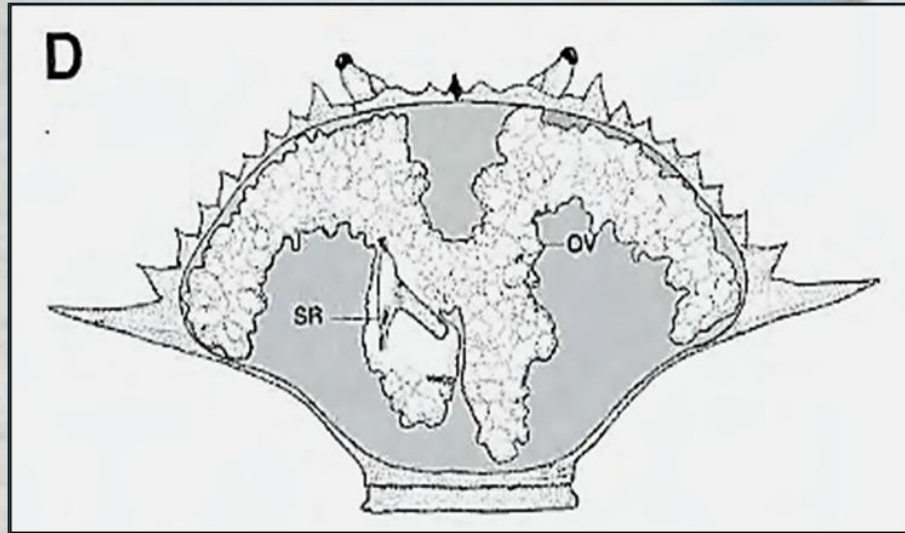
MIDDLE VAS DEFERENS

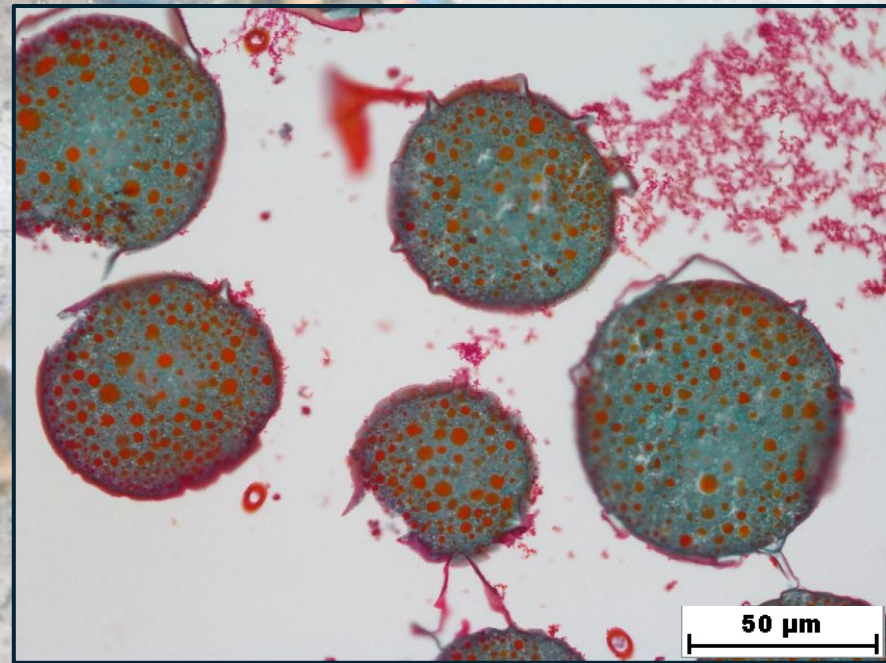
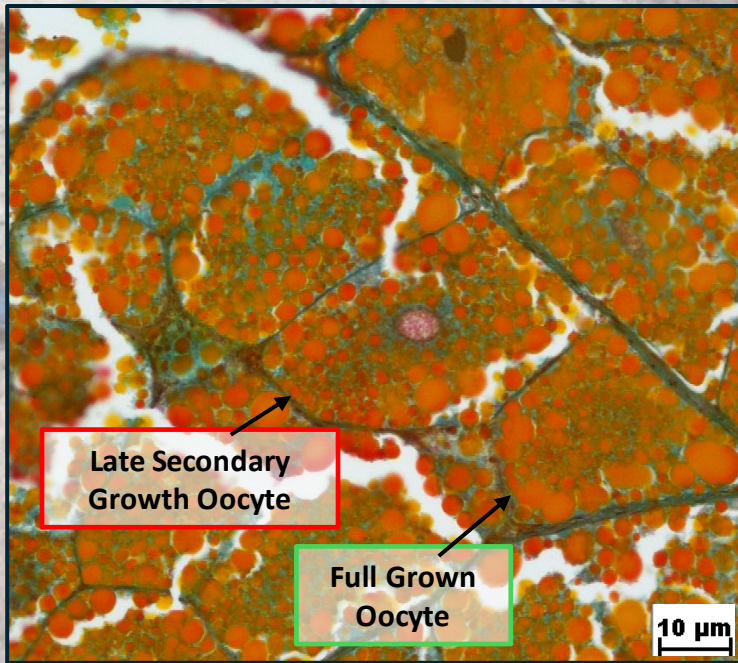
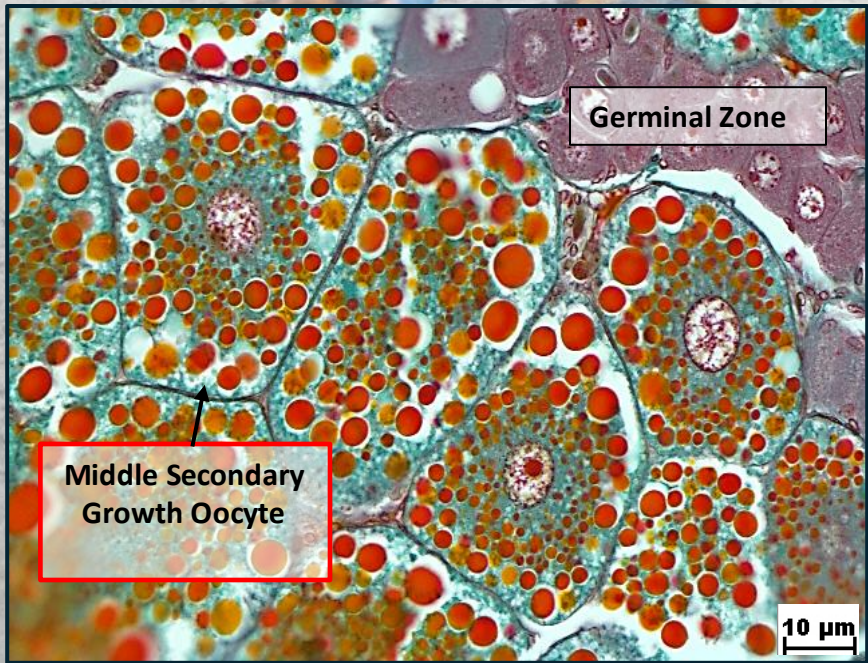
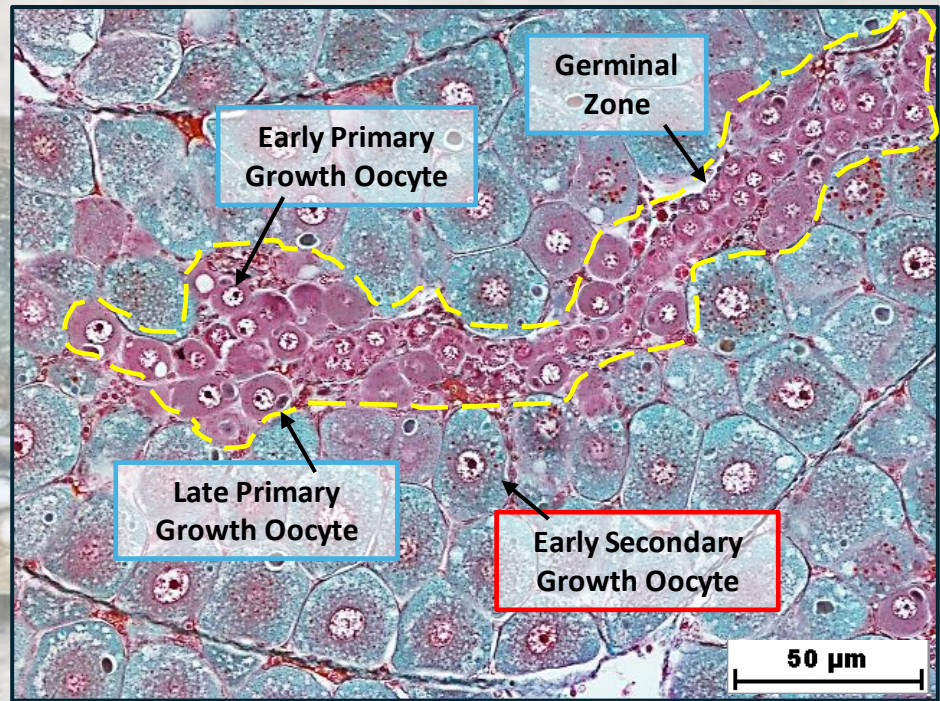
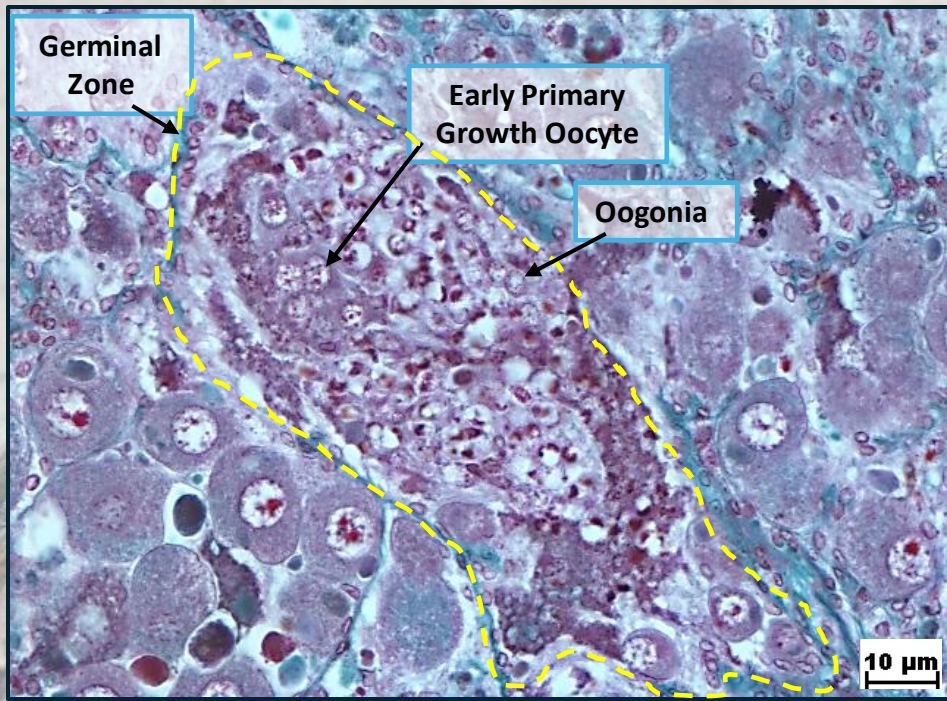


POSTERIOR VAS DEFERENS



FEMALE REPRODUCTIVE SYSTEM







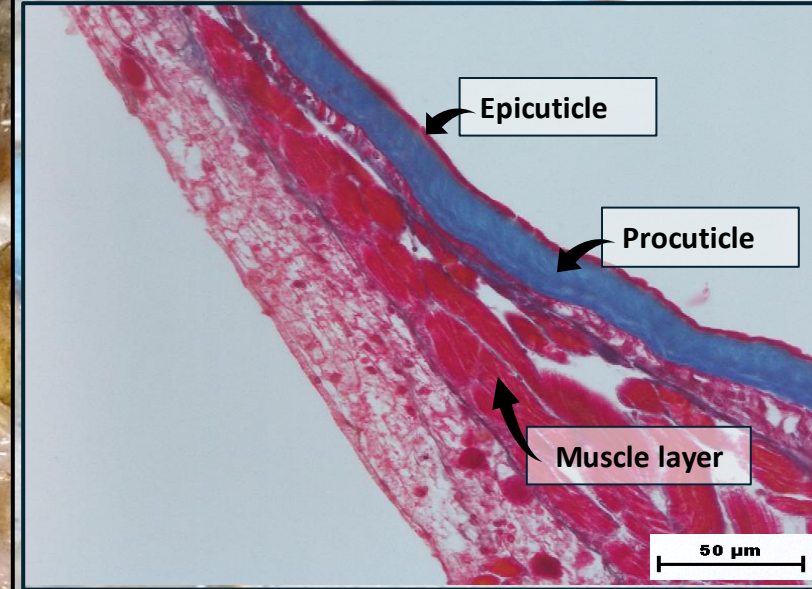
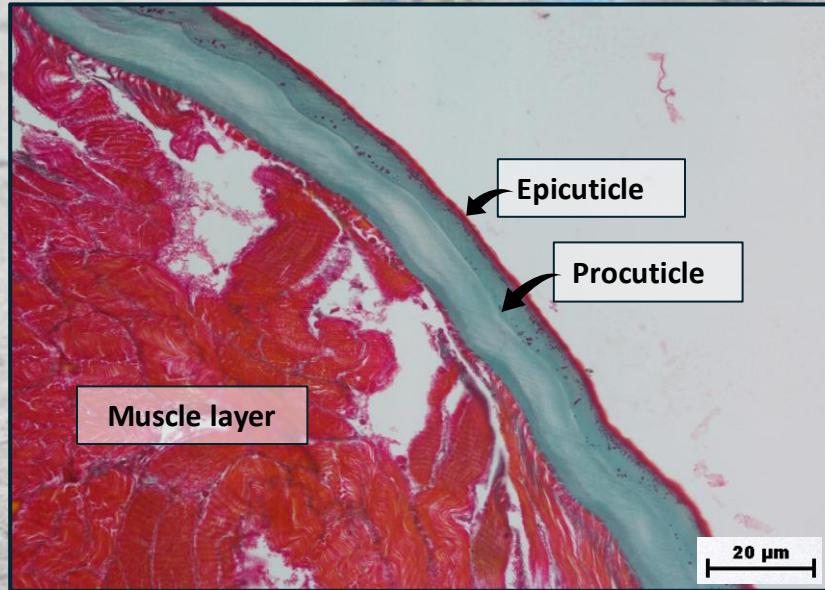
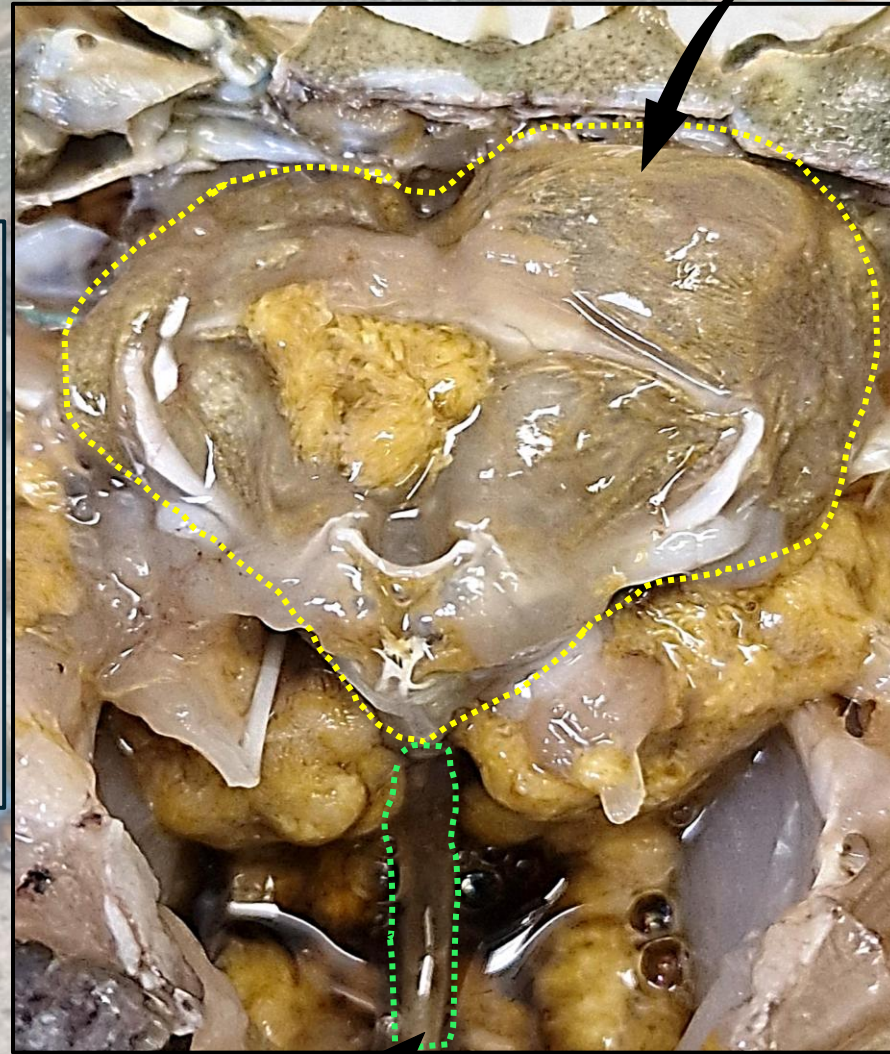
DIGESTIVE SYSTEM

STOMACH

Stomach

Anterior = mastication

Posterior = filtration



IMMUNOHISTOCHEMISTRY - STOMACH

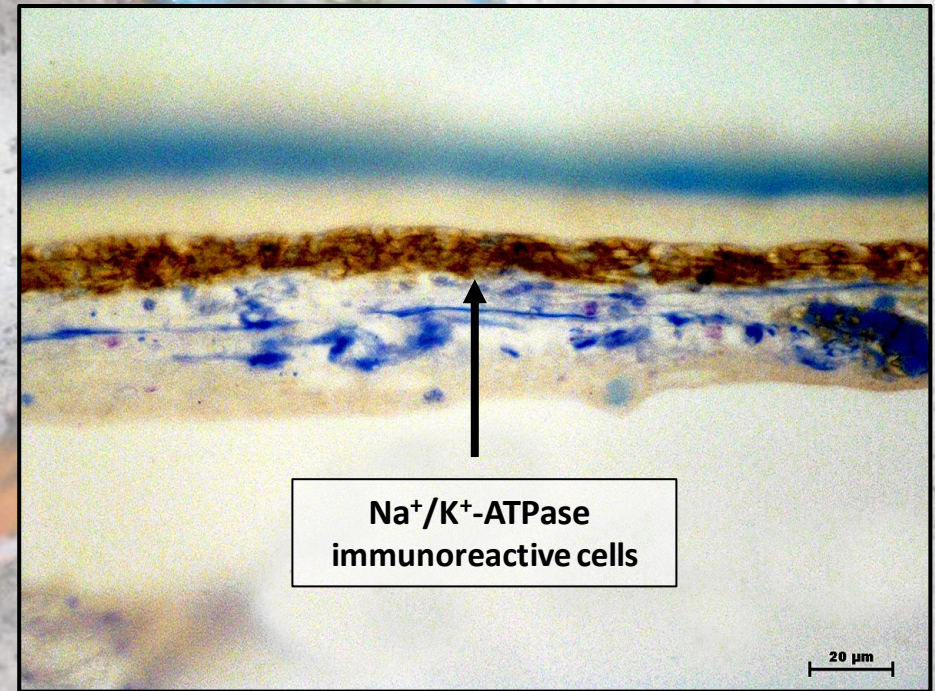
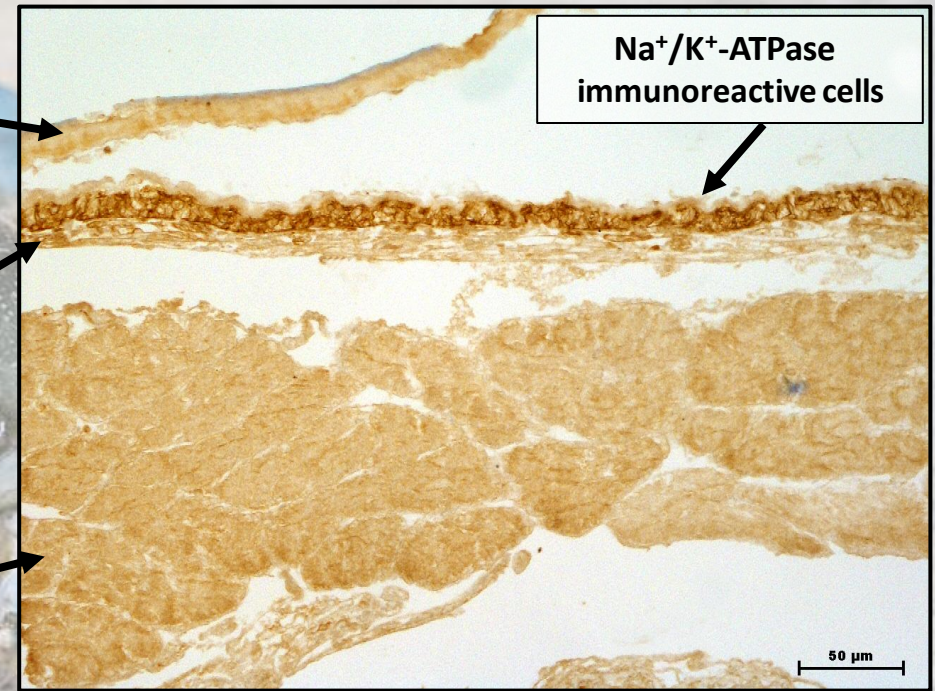
Na^+/K^+ -ATPase

Cuticle layer
(chitin)

Mucosal
layer

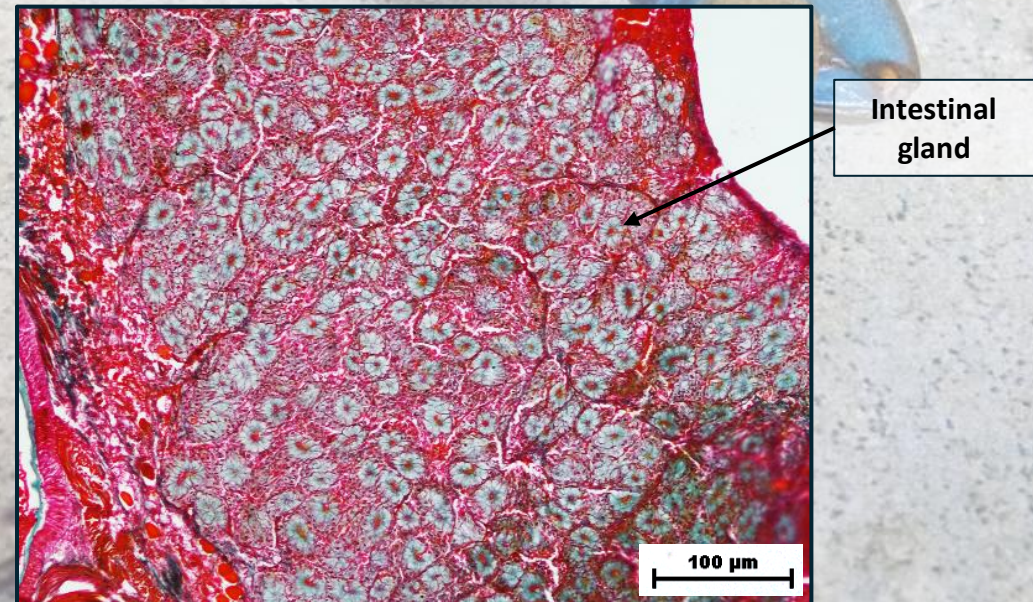
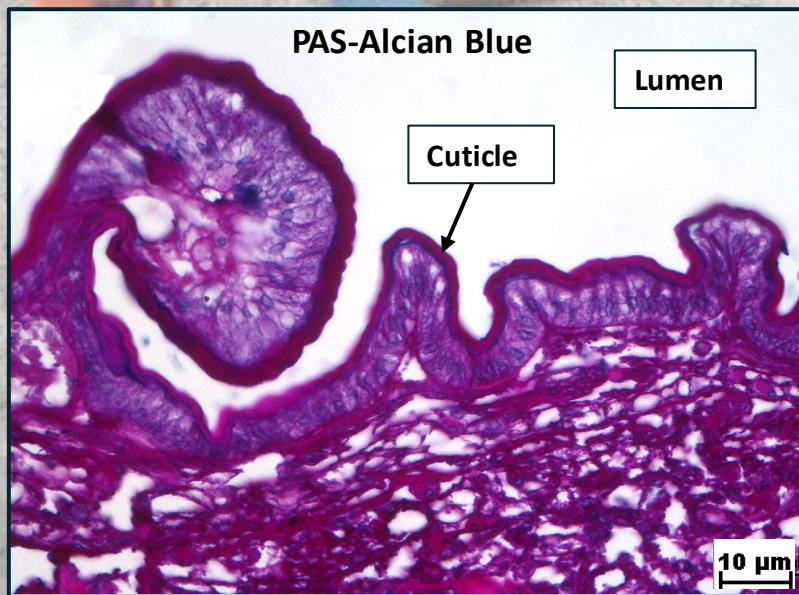
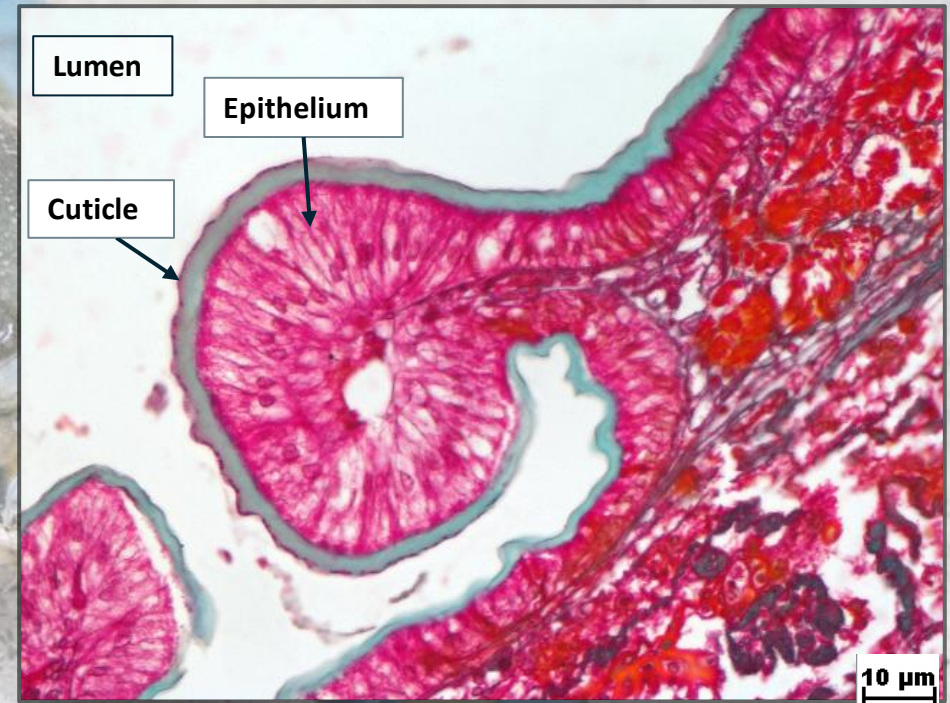
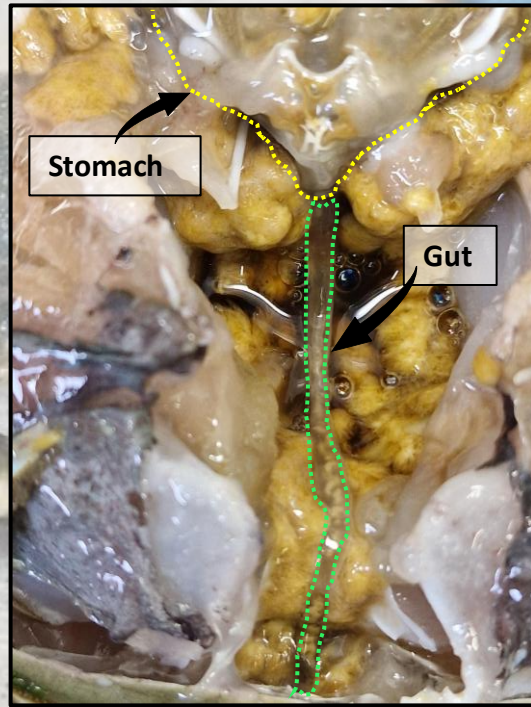
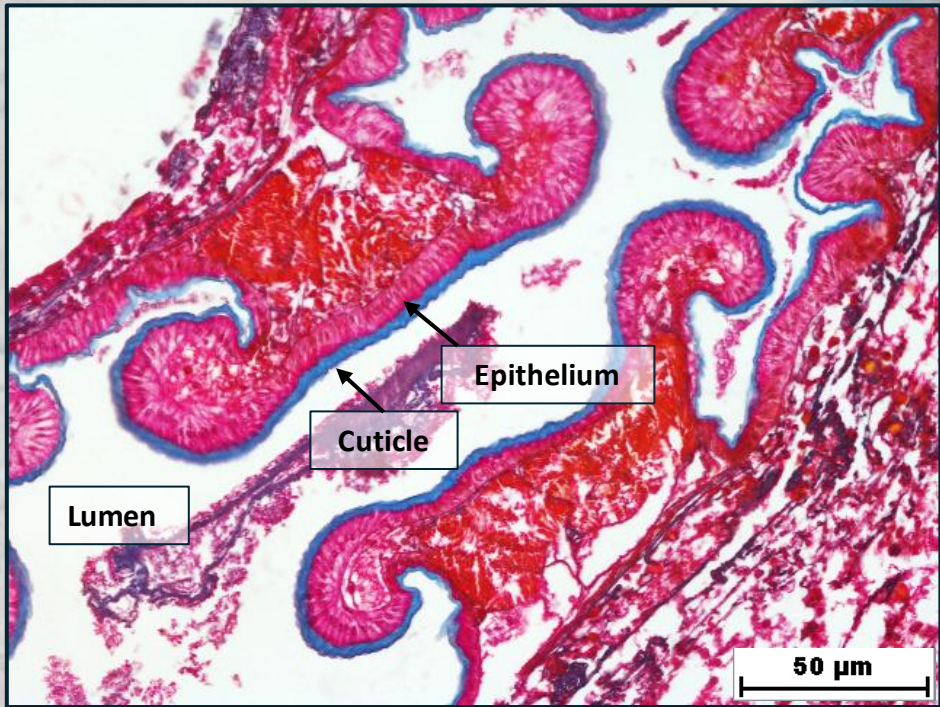
Muscle
layer

Na^+/K^+ -ATPase
immunoreactive cells



Na^+/K^+ -ATPase
immunoreactive cells

GUT



IMMUNOHISTOCHEMISTRY - GUT

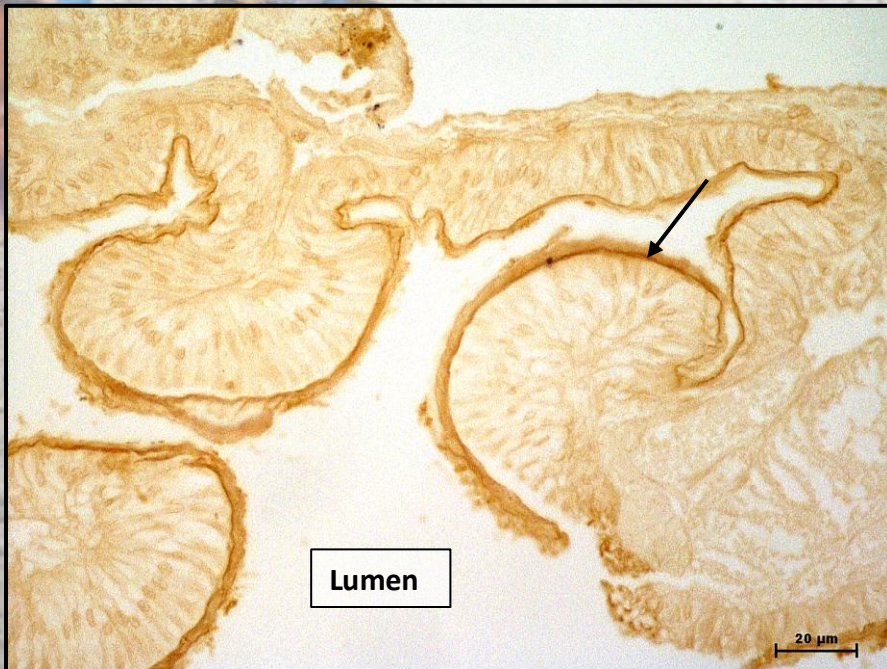
CCK-8



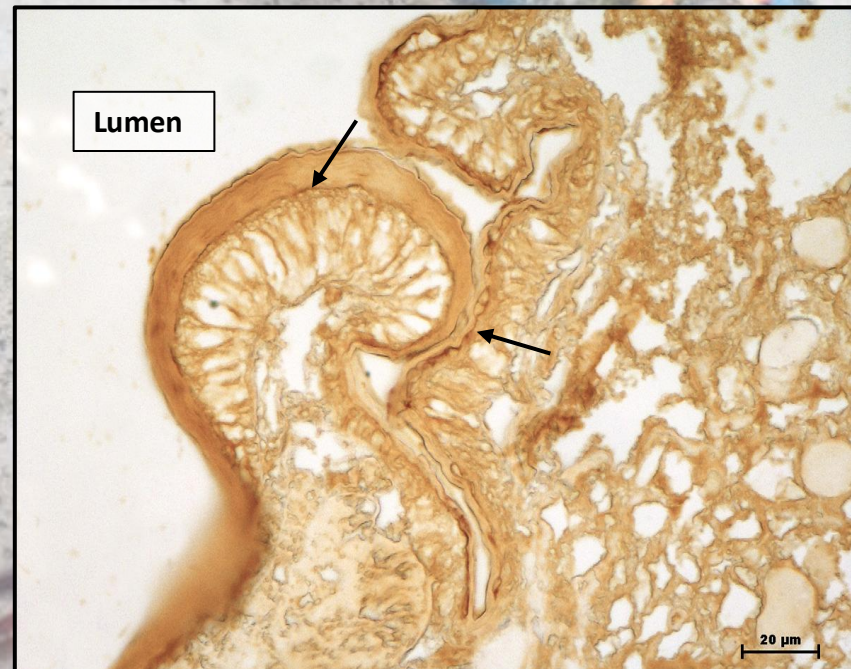
CCK-8



SP



5-HT



NEXT OBJECTIVES



More morphological studies;



**Molecular biology
methods (PCR);**



Scientific papers.

A blue crab is shown from a top-down perspective, resting on a light-colored, sandy surface. The crab's body is a mottled blue-grey color, and its legs are a vibrant blue. The large claws are prominent, with the tips being a bright orange-red. A semi-transparent white rectangular box is centered over the crab's body, containing the text "THANK YOU ALL FOR YOUR ATTENTION" in a bold, black, sans-serif font. The text is arranged in two lines, with the first line underlined.

THANK YOU ALL FOR
YOUR ATTENTION