Lab 6: The Neurogenic Crustacean Heart

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Before Lab

This will be our first invertebrate lab. We will be studying the control of the neurogenic heart of crustaceans using the lobster as a model.

Prepare for lab by:

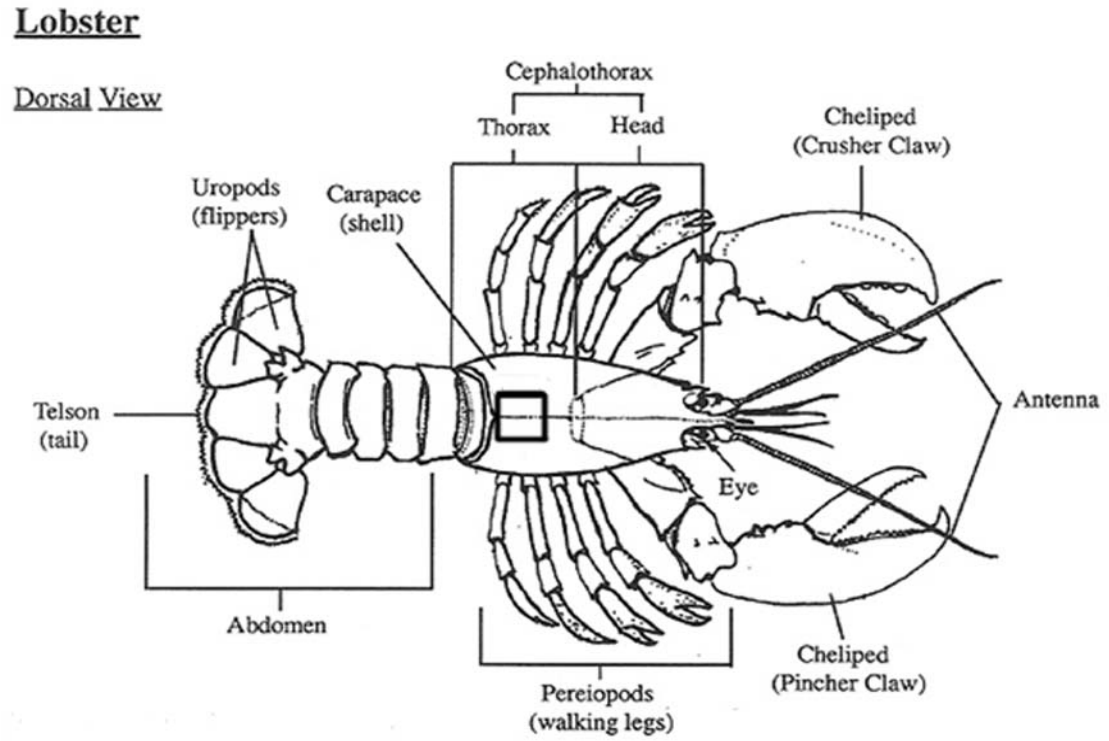
- Read the lab manual for this week s experiment [Lab 6] exploring the physiology of the toad heart using ECG and a force transducer.
- Write the [Prelab] in your lab notebook.
  - For the **Intro**, focus on identifying the physiological mechanisms (outline them), and end with a paragraph of hypotheses/expectations (like the worksheet).
  - Think about **strong hypotheses**! *Strong hypotheses lead to excellent reports.*
  - **Methods**: subjects, experimental methods and analyses (how you will compare to address the hypotheses – *you should start thinking about how you will plot the data for the results to make these answers pop*).
- Do prelab Quiz on Laulima (open 24 hrs before lab).
- Please check out the [powerpoint notes] and the review paper on the [crustacean cardiac ganglion] by our very own Dr. Ian Cooke who was an emeritus faculty from the Zoology Department and PBRC, a pioneer in invertebrate neurophysiology!

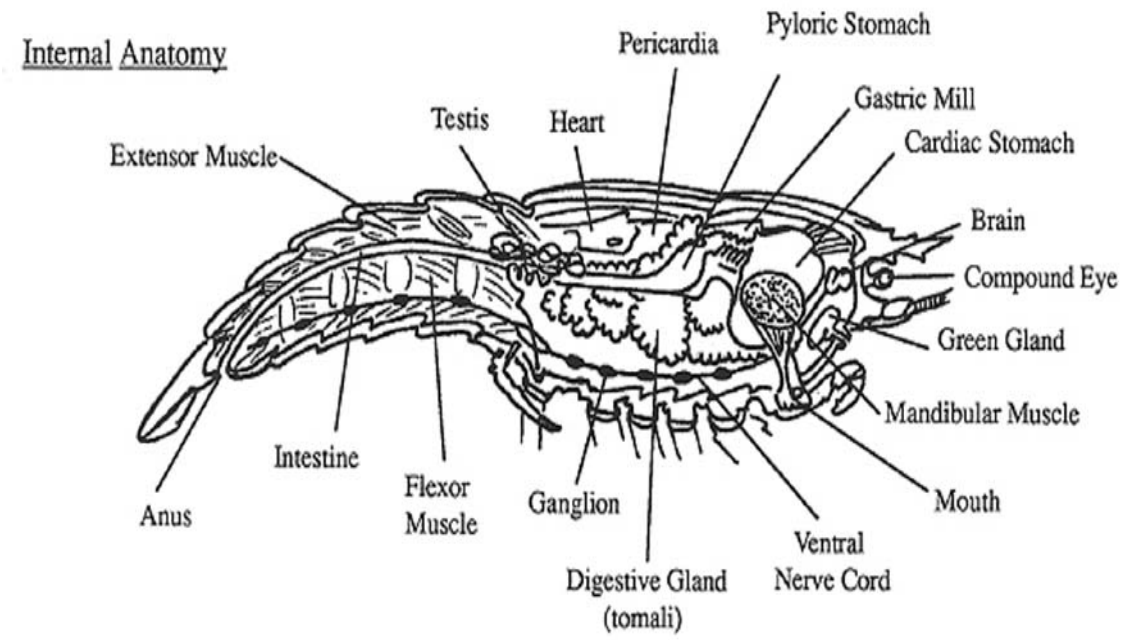
In Lab:

- *Plan to Work quickly!* **You will have 30 min (and very lucky if you have an hour)** once you open the carapace.
- Keep your animal chilled (they are Maine lobsters!) and irrigated with ice-cold Lobster ringers at all times.
- Lab 6 manual [pdf] . Record data in your lab notebook.
- You should have plenty of time to complete the data collection and your figures during lab.

- This will be a Group Lab. Begin planning with your partners as you work.
- Start an outline with your lab partners and start outlining your discussion points, and the rest of the report. Use your time wisely to brainstorm as you work.

- Lobster external anatomy [jpg]
- Lobster internal anatomy [jpg]





After Lab:

- Group lab report due next week. See the guidance at the end of the [Lobster Heart lab manual]. You may also want to look over the guidance at the end of the [Toad Heart Lab].

- Always follow the content guidelines: [grading guidelines]
- It is a good idea to divide up the work of writing the lab **by experiment**. That way, *each person writes a portion of the intro, methods, results, and discussion for their* ***hypothesis***.
- Work out your timeline with your lab partners during lab (and plan a face-to-face meet up [hey! you can do your lab EC]) *so that everyone has a chance to comment and edit* before the lab is submitted.