Snail Collection Manual

‘Ōkupu i ke ao Lamakū- 2016 Senior Class of Kanu o ka ‘Āina

- **Rat Lungworm:** A disease that causes severe (and sometimes permanent) negative effects to the body.
    - Scientific Name: *Angiostrongylus cantonensis*

- **Purpose:** To become educated on the dangers of Rat Lungworm Disease and to try to prevent any members of our school and community from becoming infected.

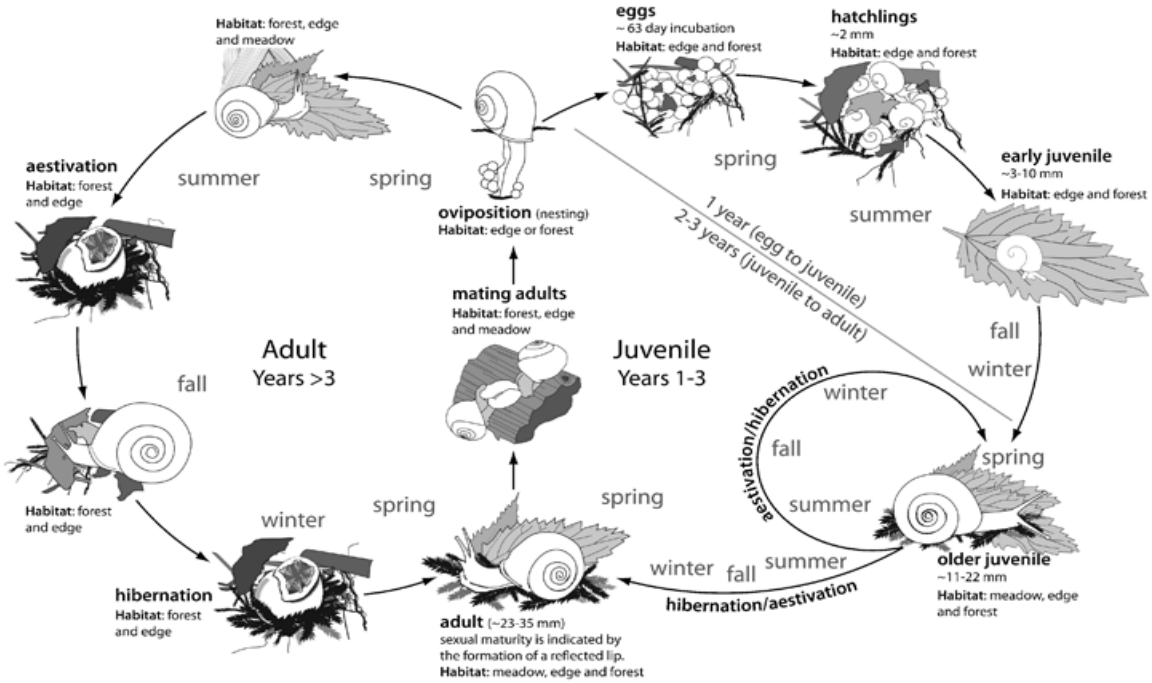
- **Background Information:**

  Angiostrongyliasis, also known as Rat lungworm, is a disease that affects the spinal cord and the brain. It is caused by a roundworm parasite (parasitic nematode) called *Angiostrongylus cantonensis*. This parasite is only found in rodents. However, rodents with the infection can pass the larvae of worms in their feces. Slugs, snails, and certain animals, including frogs, land crabs, and freshwater shrimp, can be infected by consuming the larvae. Such animals, are considered the intermediate hosts. Humans can be infected with the rat lungworm disease if they ingest raw or undercooked products that bears the infection.

  This infection can cause severe (and sometimes permanent) negative effects to the body. It can cause a rare type of meningitis (eosinophilic meningitis). Some infected people don’t have any symptoms or only have mild symptoms and others may have severe symptoms. Symptoms normally start 1 to 3 weeks after exposure, but can range from 1 day to 6 weeks because each case varies. Usually the symptoms last between 2-8 weeks and in some cases it has been reported to last longer.

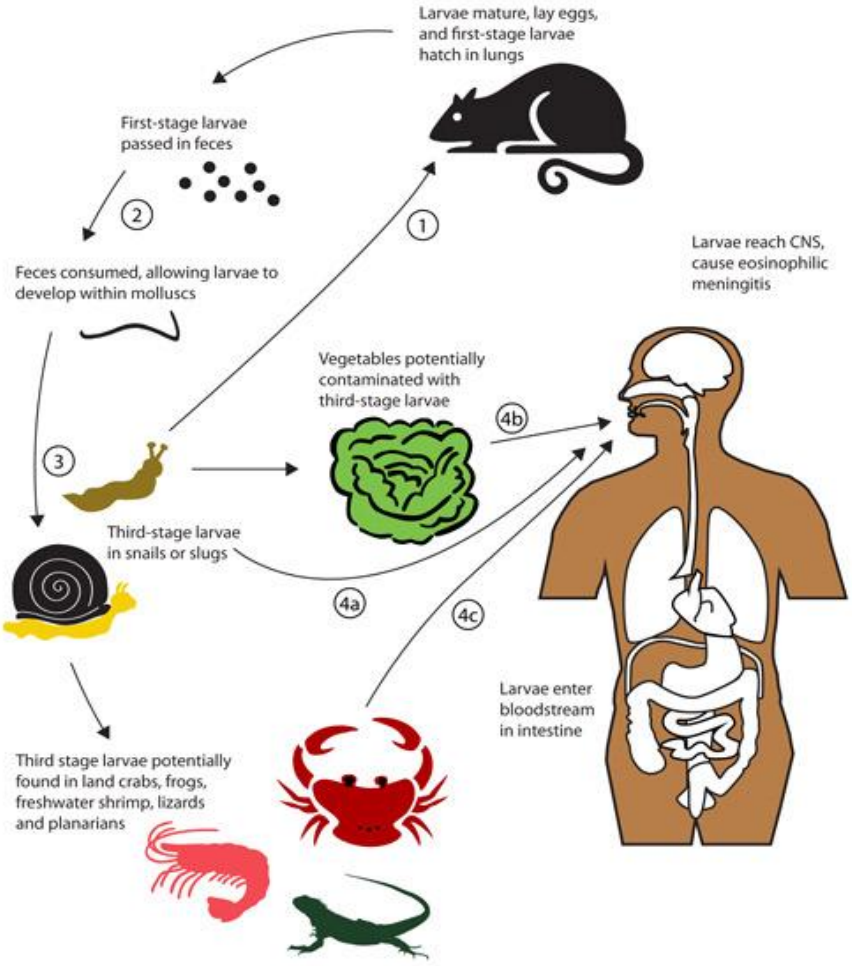
- **Symptoms of Rat Lungworm:**
    - Usually begins with a severe headache
    - Stiffness in the neck
    - Fever
    - Joint pain
    - Fatigue
    - Nausea
    - Itchy skin
    - Extremely sensitive skin
    - Memory loss
    - Loss of muscular coordination
    - Waves of body temperature fluctuations

- **Snail Life Cycle:** This diagram shows the life cycle of the average garden snail, the variety we are collecting.



http://bioweb.uwlax.edu/bio210/2011/allsop_dani/reproduction.ht

- **Cycle of Rat Lung Disease:**



http://entnemdept.ufl.edu/creatures/nematode/rat_lungworm.htm

- **Materials Needed**
    - "Slug Jug" One gallon size jar with wide mouth
    - Water
    - 1⅛ cup of sea salt
    - One cap full of Clorox© bleach (to cover up the smell)
    - Tongs or chopsticks
    - Latex gloves
    - Pencil
    - A notebook to keep data

- **Procedure of eradicating snails:**
    - Use any empty container for gathering snails.
    - Fill container halfway with water.
    - Add salt to container (1 cup of salt to ½ gallon of water.)
        - **Tip:** Add one cap full of Clorox bleach into the container to ease smell
    - Gather snails (use gloves, tongs and/or chopsticks while gathering.)
    - Keep a tally of how many snails and slugs are collected.
    - Identify snails if possible.
    - Empty container in designated area (**Caution:** Saltwater solution will kill plants.)
    - Repeat process once a week or as often as needed.

- **Safety Precautions:**
    - Wear gloves at all times while doing snail collection to reduce the chances of coming into contact with the snails or any of their excretions which could potentially harbor bacteria or possibly even worse, such as Rat Lungworm.
    - Be sure to wash your hands thoroughly with soap and water after you finish collecting.
    - Refrain from touching your eyes and mouth while doing snail collection.

- **<u>Links to Identify Snails and Slugs</u>:**
    - http://www-personal.umich.edu/~daviscj/snail%20key.html
    - http://www.ctahr.hawaii.edu/oc/freepubs/pdf/FST-39.pdf
    - http://www.discoverlife.org/mp/20q?guide=Molluscs