



RAT LUNGWORM (*ANGIOSTRONGYLUS CANTONENSIS*)

RAT LUNGWORM (*ANGIOSTRONGYLUS CANTONENSIS* – PARASITIC NEMATODE (ROUNDWORM PARASITE))

Regulatory Status: Hawaii Department of Health (HDOH)

Established in Hawai'i

Description (https://health.hawaii.gov/docd/disease_listing/rat-lungworm-angiostrongyliasis/)

- Angiostrongyliasis, also known as rat lungworm, is a disease that affects the brain and spinal cord. It is caused by a parasitic nematode (roundworm parasite) called *Angiostrongylus cantonensis*. The adult form of *A. cantonensis* is only found in rodents. However, infected rodents can pass larvae of the worm in their feces. Snails, slugs, and certain other animals (including freshwater shrimp, land crabs, and frogs) can become infected by ingesting this larvae; these are considered intermediate hosts. Humans can become infected with *A. cantonensis* if they eat (intentionally or otherwise) a raw or undercooked infected intermediate host, thereby ingesting the parasite. For more information on the life-cycle of *A. cantonensis*, [visit the CDC website](#).

Impacts (https://health.hawaii.gov/docd/disease_listing/rat-lungworm-angiostrongyliasis/)

- This infection can cause a rare type of meningitis (eosinophilic meningitis). Some infected people don't have any symptoms or only have mild symptoms; in some other infected people the symptoms can be much more severe. When symptoms are present, they can include severe headache and stiffness of the neck, tingling or painful feelings in the skin or extremities, low-grade fever, nausea, and vomiting. Sometimes, a temporary paralysis of the face may also be present, as well as light sensitivity. The symptoms usually start 1 to 3 weeks after exposure to the parasite, but have been known to range anywhere from 1 day to as long as 6 weeks after exposure. Although it varies from case to case, the symptoms usually last between 2–8 weeks; symptoms have been reported to last for longer periods of time.

Distribution

- All Main Hawaiian Islands
- All Tropical/Subtropical regions worldwide
- Increasing prevalence in Temperate regions worldwide due to warming climate conditions

What you can do:

- Wash fresh vegetables thoroughly per HDOH guidelines (see links under Additional Resources below) prior to consumption
- Boil or Freeze fresh vegetables prior to consumption
- Conduct rodent control on your property
- Conduct slug/snail control on your property

Possible Vector (Carrier) Species

- Rats or other rodents
- Slugs/Snails (all species; but notably):
 - Semi-slug (*Parmarion martensi*)*
 - Cuban slug (*Veronicella cubensis*)
 - Giant African snail (*Achatina fulica*)
- Freshwater shellfish & land crabs
- Amphibians (frogs, toads, etc.)

Additional Resources

- [2018 Fall 2-Day, 3-Section \(10/20-21, 10/27-28, 11/3-4\) PDE Course Press Release \(9/18/18\)](#)
- [2018 Hawaii Island 2-Day, 3-Section PDE Course Flyer \(10/20-21, 10/27-28, 11/3-4/18\)](#)
- [2018 HPA 1-Day Workshop Flyer \(9/29/18\)](#)
- [HDOH Disease Outbreak Control Division](#)
- [Hawaii State Department of Health Rat Lung Worm Information Card \(PDF\)](#)

- [Angiostrongyliasis \(Rat Lungworm\) Info Sheet \(PDF\)](#)
- [Rodent Control Foldout Brochure \(PDF\)](#)
- [Centers for Disease Control and Prevention \(CDC\)](#)
- [Safe Produce: Keep it Clean \(Video\)](#)
- [CDC: What is Rat Lungworm \(*Angiostrongylus*\) Disease? \(Video\)](#)
- [Hawaii State Department of Health Rat Lungworm Fact Sheet \(PDF\)](#)
- [Rat Lungworm \(*Angiostrongylus cantonensis*\) in Hawaii: Updated Host Gastropod Records and Distributions on Maui](#), Yeung, et al/Bishop Museum, *Records of the Hawaii Biological Survey for 2017*. Edited by Neal L. Evenhuis. *Bishop Museum Occasional Papers* 123: 19-24 (2018)