

Life Cycles, Symptoms, Diagnosis, and Treatment of Pentastomes in Reptiles: Respiratory Parasites

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What are pentastomes?

Pentastomes, also called "tongue worms," look like small conical-shaped worms, but are actually arthropods, related to spiders and mites. Unlike their relatives, however, pentastomes are internal parasites, generally living in the lungs and respiratory tract of reptiles. The adults range in size from 0.8 to 4.5 inches. There are over 70 different species of pentastomes and they commonly infect snakes, lizards, and crocodilians. The most common species in reptiles include:

- *Armillifer* in pythons and vipers
- *Porocephalus* in boas and rattlesnakes
- *Kiricephalus* in colubrid snakes
- *Sebekia* in crocodilians
- *Raillietiella* in lizards and snakes

What is the life cycle of pentastomes?

The adult worms live in the respiratory tract of a reptile where they mate, and the females lay eggs. The eggs are coughed up by the reptile, swallowed, move through the digestive system, and are expelled in the feces. The eggs develop into larvae in the environment, and are eaten by an intermediate host, usually a bird or rodent. The larvae develop into nymphs within that host. When the host is eaten by a reptile, the nymphs are released, burrow through the intestine, and migrate to the lungs where they develop into adults.

What clinical signs are associated with a pentastome infestation?

Some animals with a pentastome infestation may not show any signs of disease. In others, the parasite can cause severe lesions in the lungs, and even death. Reptiles may have dyspnea (difficulty breathing), lethargy, and a loss of appetite. Secondary bacterial infections may occur. In severe infections, aneurysms may develop. Occasionally, the adult worms may burrow through the lung and protrude from the skin.

How is a pentastome infestation diagnosed?

Diagnosis may be made by finding the eggs in the feces or respiratory secretions.

How is a pentastome infestation treated and controlled?

There is currently no effective treatment for pentastome infestations. Infestations can be controlled through good hygiene and feeding parasite-free prey.

Do pentastomes pose a risk to humans?

Yes. Humans can act as intermediate hosts, becoming infected by having their hands contaminated from the feces or saliva of the reptile, and accidentally ingesting the eggs. Handling fecal contaminated water, dishes, and other equipment may also result in accidental transmission. Usually, there are no clinical signs, however, some people may develop localized inflammation. The larvae can encyst in various tissues, causing abdominal pain, vomiting, constipation, diarrhea, and a tender abdomen. In isolated cases, septicemia may occur.

To prevent transmission of pentastomes, as well as other zoonoses such as salmonellosis, it is important for owners and handlers of reptiles to use good hygiene, including handwashing. To learn more about protective measures see [Salmonella & Its Risk to Reptile Owners](#).