

Raccoon Roundworm

Encephalitis Due to Raccoon Roundworms

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Species

Infection with raccoon roundworms can occur in any bird species that has access to and ingests the feces of raccoons. This disease is most frequently seen in emu and ostrich but rhea are also susceptible. The disease can likely occur in all other bird species and it has been reported in pigeons, chickens and turkeys and pet psittacines (parrot family). Any age of bird can be affected but it occurs most commonly in juveniles.

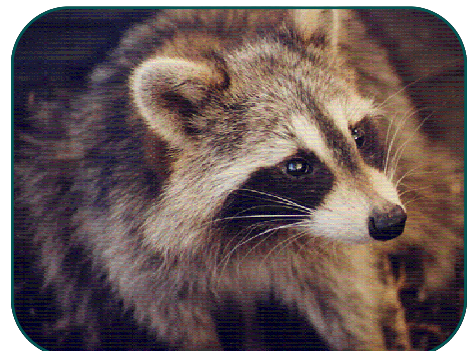
Status in Canada

The disease occurs fairly commonly in ratites bedded with straw and in regions of Canada (like Ontario) that have high populations of wild raccoons.

Etiology

Raccoons in southern Ontario and other parts of Canada are commonly infected with intestinal roundworm (*Baylisascaris procyonis*). The parasite does not cause many problems for the raccoon except with very heavy infestations. Infected raccoons shed large numbers of eggs of this parasite in their feces, and these eggs are extremely hardy in the environment and will remain viable for years. The habit of raccoons living and defecating on hay and straw bales stored in barns results in contamination of this common source of livestock bedding.

The disease occurs when birds ingest dried raccoon feces or bedding material that has been contaminated with raccoon feces. Once the eggs are ingested the larvae emerge in the intestine and then migrate through the bird's body, sometimes ending up in the brain and causing clinical signs.





The Disease

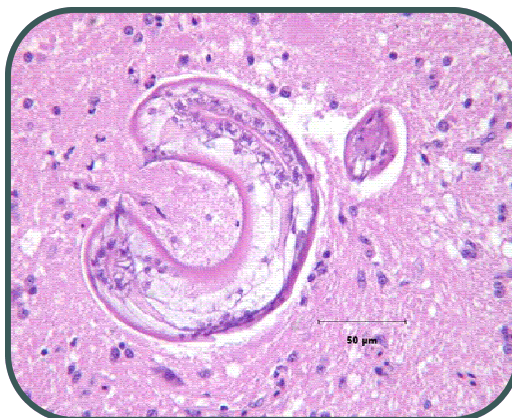
Birds characteristically show clinical signs related to damage to the portion of the brain called the cerebellum, which controls balance. They typically remain bright and interested in their environment and usually continue to eat, but may stagger, walk backwards, fall, and even be unable to stand and walk. Diagnosis can only be made after death where the brain is removed and examined by histopathology to identify the worms, or the characteristic lesions that they produce as they migrate through the brain tissue (see photo below).

Prevention & Treatment

The only method of prevention is to use bedding and feed sources that are not contaminated with raccoon feces. Raccoons should not be allowed access to the barn or to feed or bedding storage areas. Raccoons also defecate in latrine sites which are often located in the crutches of large trees, or on the roofs of sheds or outbuildings. Feces from these sites may fall into bird pens or contaminate the ground. Contaminated sites can only be cleaned by thorough removal of all materials and by flaming or burning. There is no treatment for the disease once the worms reach the brain and clinical signs develop. Farms with continuing problems have incorporated antiparasitic drugs into their pelleted feed to kill the larvae on their path to the brain.

There is no health risk to people from infected birds. However people can be infected from handling raccoon feces or contaminated materials and then inadvertently putting fingers in their mouths and ingesting the eggs. Similar signs of brain damage and even blindness have been reported in people due to migrating raccoon worms. Proper sanitation and hand washing should always be done and particular care with young children who are usually less concerned about personal hygiene.

Microscope photo of a brain from a bird with a raccoon roundworm migrating through it. The worm on the right is cut in cross section.



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