

Trichostrongylus calcaratus

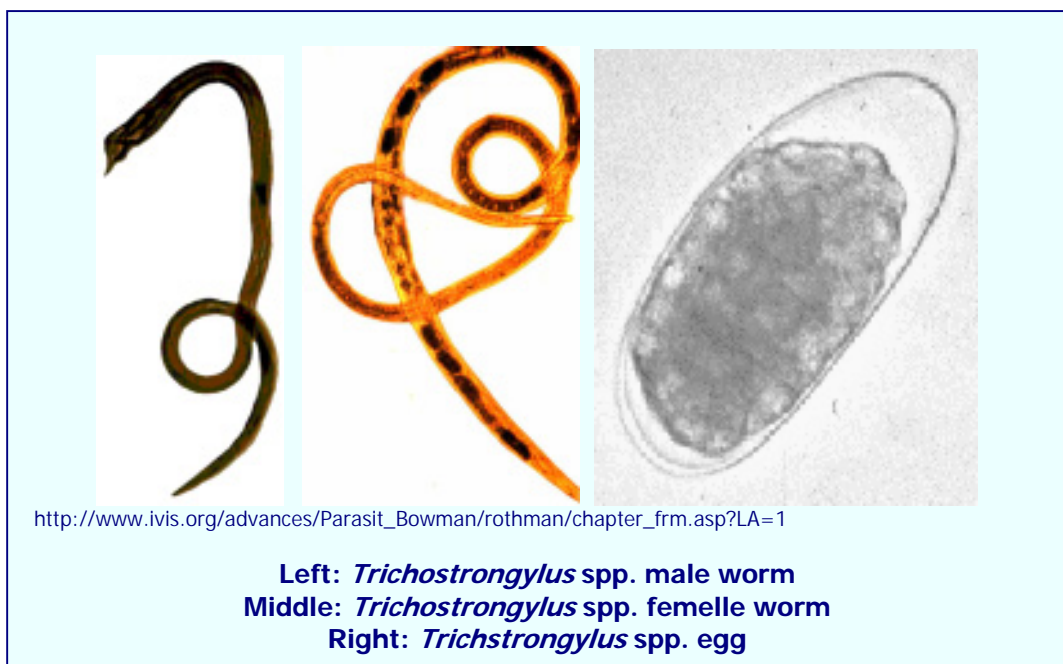
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Trichostrongylus calcaratus, and other species of *Trichostrongylus*, are commonly found in wild rabbits, especially in the eastern cottontail rabbits (*Sylvilagus floridanus*) in the USA, but are rare in house-rabbits. This parasite does not represent a public health danger.

Trichostrongylus calcaratus is located in the small intestine, or the colon of the rabbit; there is no known extra-intestinal migration. The rabbits become infested by eating food (hay, straw, fresh vegetables) that has been contaminated by the larvae.

The eggs produced by the female will pass in the feces and hatch outside the host. They measure between 80 and 90 μm . They are usually already segmented when laid and develop into infective larvae within 6 days. The L₁ and L₂ stages of the larvae are microbivorous, L₃ stage, reached after 16-18 days, is non-feeding and infective by ingestion. L₃, L₄ and L₅ are immature adults that develop into mature forms in the digestive tract. Their life cycle is direct, with no intermediate hosts.

The worms are slim, with small anterior ends and no buccal cavity. The male worm can be recognized by its asymmetrical dorsal ray and two short nearly equal spicules. The female has a vulva of about 1 mm, or slightly less, from



the tip of the tail.

Other members of the *Trichostrongylus* family have also been reported in rabbits. They can be differentiated by the size and the structures of the spicules.

T. affinis

It is encountered throughout the USA, in the cottontail rabbits (*Sylvilagus floridanus*) and snowshoe hares (*Lepus americanus*), rarely in house rabbits. It infects the cecum and the large intestine.

The eggs (average of 61 * 37 µm) will pass in the feces, hatch and develop outside the host and the larvae become infective after 10-11 days. The adult worms have an average size of 5-7.5 mm for the males and 8.7-9.3 mm for the females. The male possesses spicules, while the female has a vulva at the posterior end.

Severe infection can cause a loss of weigh.

T. retortaeformis

This parasite is found only in Europe, British Islands and was introduced to Australia. It can be found in the small intestine of rabbits and hares (*Lepus europaeus*). Its life cycle is probably close to that of *T. affinis*.

The eggs are about 87 * 33 µm. They are found in the portion of herbage with the least climatic changes, they will furthermore fail to develop when the maximum temperatures do not exceed 10°C. The larvae are able to migrate inside the vegetation to moist conditions. The adult worms measure between 6.8 and 8.4 mm long for the males and 9.6 and 10.4 mm long for the females. They are characterized by thin transverse and longitudinal grooves.

It is been reported that the pathogenesis of this nematode parasite is sufficient to reduce the population of rabbits. Clinical test include fecal flotation at 25 °C, 35 °C being lethal.

T. ransomi

It has been reported in *Sylvilagus floridanus* in Louisiana, USA, but it is not a common rabbit parasite. It is located in the small intestine. Its life cycle is unknown but probably close to that of *T. affinis*.

The eggs measure about 65 * 33 µm. The adult worms are small: 2.2 - 3 mm for the males and 3 - 3,5 mm for the females.

T. colubriformis (T. instabilis)

It is a cosmopolitan of the small intestine of cattle and other ruminants, but lagomorphs are naturally infected with this parasite.



Clinical Signs

The intrinsic pathogenic strength of these worms is weak and the infection is generally asymptomatic. Severe infections can, however, lead to a weight loss and/or anemia and aggravate other rabbit disorders, such as diarrhea and high eosinophilia and occasionally death. The mucous layer of the intestine is often irritated, which can lead to blood loss, sometimes the presence of nodules is observed.

Trichostrongylus sp. is diagnosed by fecal flotation for the presence of Strongyle- type eggs in the feces. The culture of these eggs to the L₃ stage is necessary for a specific identification. Adults can be specifically identified in the small intestine.

Treatment:

Benzimidazolen	albendazole:	10 mg/kg
	fenbendazole	10-20 mg/kg, PO, repeat in 10-14 days
	thiabendazole	100-200 mg/kg, PO
Macroliden	ivermectin	0.2 - 0.4 mg/kg, PO, SC, repeat in 10-14 days

Further information

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