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## Besnoitiosis in caribou: What we know and what we don't know

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*Besnoitia* spp. are protozoan parasites known to occur in many species worldwide. *Besnoitia tarandi* has been described in caribou and reindeer in which it is often associated with hair loss, skin thickening and ulcerations. In *Rangifer* species, cysts of *Besnoitia* often induce inflammation and are observed mainly in the sclera and subcutaneous tissues, and to a lesser extent in other organs such as lungs and testes. Very little is known about the significance of this parasite on caribou health. However, it has been hypothesized that massive infections could impede the animal's tolerance to exercise and movement and therefore contribute to mortalities. In addition, extensive infections implicating the testicular appendages might impact the fertility of caribou as reported in other species. It is believed that *B. tarandi* has a two-host life cycle with caribou as intermediate hosts. Carnivores and biting arthropods have been respectively suggested as potential definitive hosts and vectors of *B. tarandi*. Presently, the gaps in understanding the life cycle of *B. tarandi* prevent any attempts to assess the potential effects of the changing arctic environment on the balance between this parasite and its hosts. In order to better characterize the ecology of this parasite in Canadian migratory caribou herds, our research team wishes to present data on the distribution of *B. tarandi* in association with body condition, gender and age and the potential association between intensity of infection with fertility and tolerance to exercise.