

Relationships between parasitism and body condition in migratory caribou

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Biotic and abiotic factors drive host-parasite systems

Parasites could affect the dynamics of caribou populations through their effect on body condition and fecundity of individuals. Parasitism rate is dependent on density of the host population, individual characteristics (age, sex) of the host and environmental conditions.

Climate change, especially the increase in mean annual temperature, could increase parasitism in caribou because it increases development, transmission, and maturation rates. Considering that the temperature increases will be faster at the poles than in the rest of the world, parasite-host interactions in the Arctic may be particularly affected.

Prevalence and intensity of infection of parasites can differ between herds. To understand how parasitism may affect body condition and population dynamics of migratory caribou, and to understand how parasitism rates differ between herds, [we need data from different herds across the Arctic.](#)

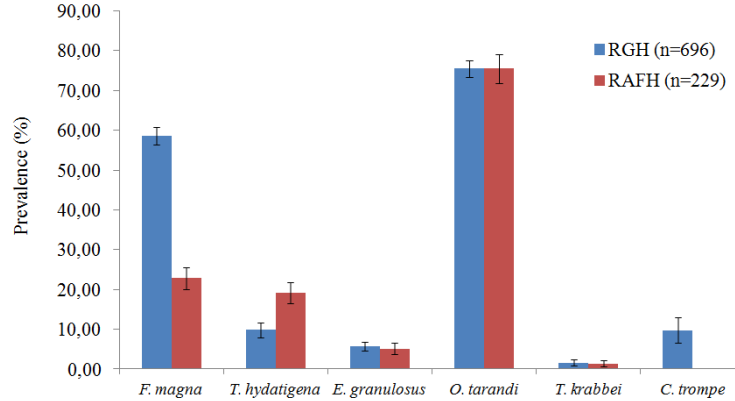
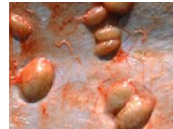
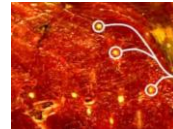
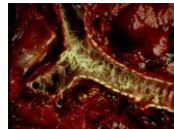
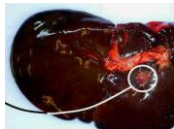


Fig. 1. Prevalence (proportion of infected individuals in the host population; ± SE) of seven of the main macro-parasites of migratory caribou for the Rivière-George herd (RGH; n=696) and the Rivière-aux-Feuilles herd (RAFH; n=229) since 1978 and 1987, respectively.

Objectives

- To describe the changes in parasitism rate – measured in terms of prevalence and intensity of parasites – of migratory caribou over time.
- To evaluate the impact of the prevalence and intensity of parasites on the body condition of migratory caribou.

Parasites studied



Echinococcus granulosus
(hydatid cysts)

Taenia hydatigena
(liver cysts)

Dictyocaulus viviparus
(lungworms)

Fascioloides magna
(liver flukes)

Cephemyia trompe
(nasal bots)

Taenia krabbei
(muscle cysts)

Hypoderma tarandi
(warbles)

Interested in participating and collaborating in the project ? Please contact us

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