

The establishment of parasites in reindeer calves

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Abstract: During the reindeer calf gatherings in June and July 1990, rectal faecal samples were collected from 494 reindeer calves at 6 locations in Finnish Lapland. The samples were analyzed according to a modified McMaster method with a detection level of 40 epg (eggs per gram) and, when the sample size was sufficient, also for nematode larvae using the Baermann method. The parasite eggs and larvae were identified according to their morphological characteristics. Sam-

ples with coccidial oocysts were incubated in a 2% potassium dichromate solution to sporulate the oocysts for identification.

Typical trichostrongylid eggs (<100µm in length) were found in 36%, *Nematodirus*-type eggs (probably mostly *Nematodirella longispiculata*) in 25% and coccidial oocysts in 35% of the samples. The prevalences of the respective parasites at the different reindeer calf gatherings are presented in figures.

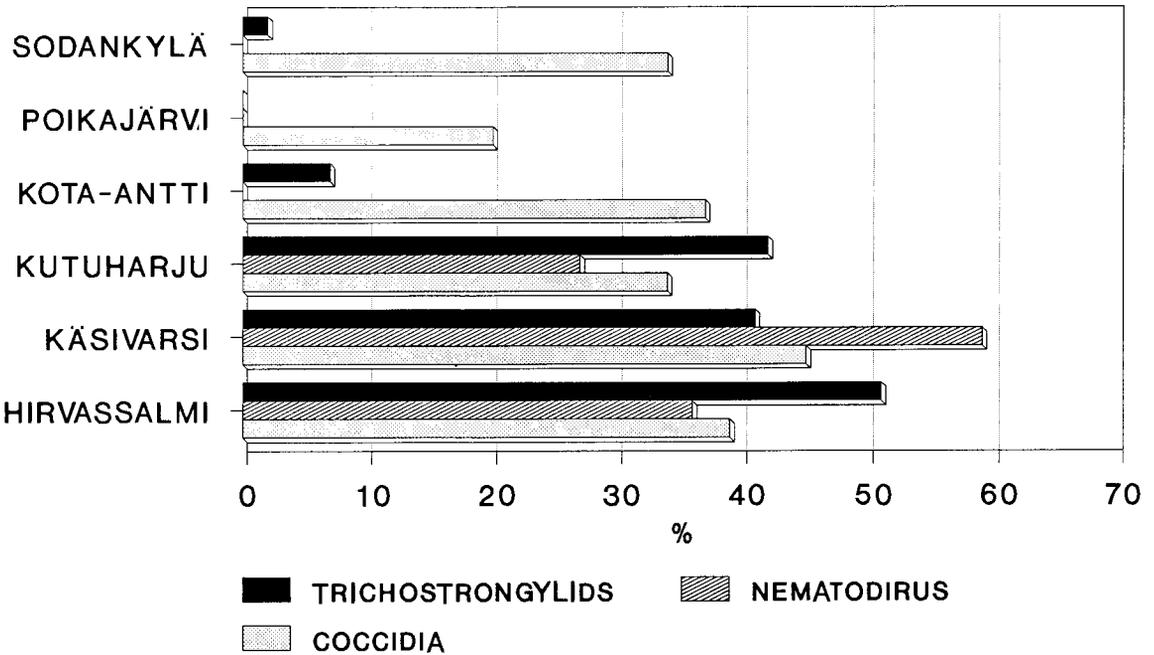


Fig. 1. Reindeer calf parasites. Prevalence during summer gatherings 1990.

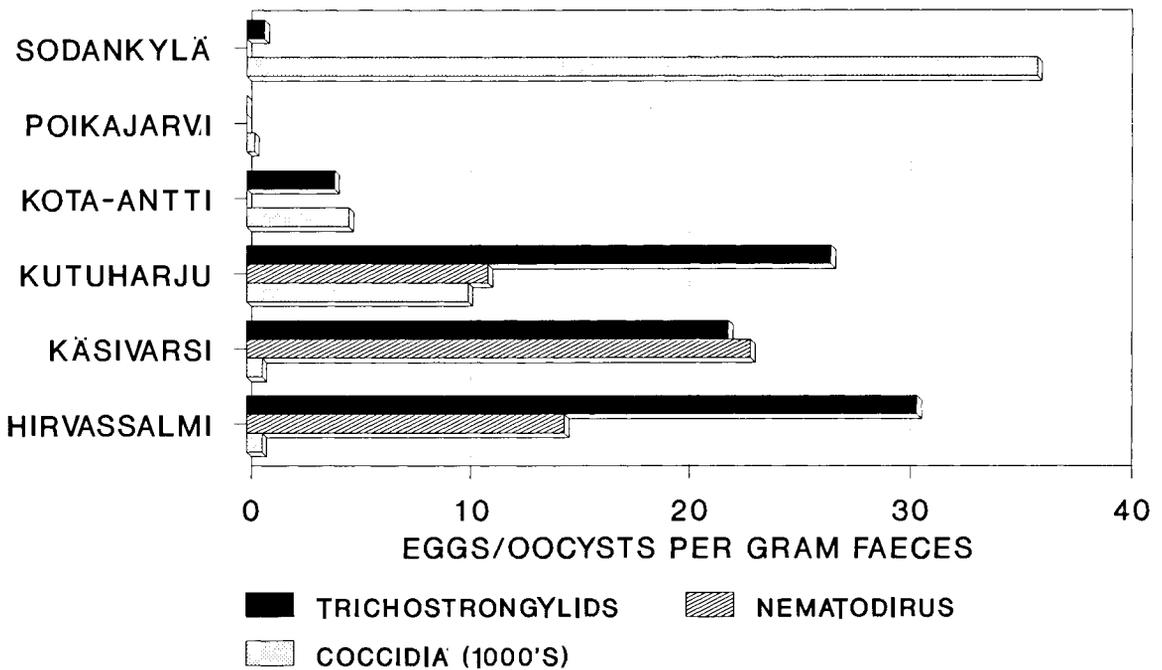


Fig. 2. Parasite infection intensity in average.

In many of the baermannized samples, nematode L₁ larvae were seen that closely resembled those of *Dictyocaulus viviparus*.

The calves are born in May throughout the reindeer husbandry area, and it is understandable that the infection level of parasites acquired from the pasture increases when the summer proceeds, as has earlier been observed in Sweden. This explains a lot of the differences between the different areas in the present study. Very few helminth eggs were found at the locations where the sampling was first carried out. Obviously, many of the «negative» calves were undergoing the prepatent period of their parasites.

Assuming the prepatent period of coccidia is two to three weeks and that of trichostrongylids (including *Nematodirus*) around three weeks, it is evident that the majority of the reindeer calves are infected with pasture-borne parasites during their first month of living.

Some parasite genera (e.g. *Nematodirus*) are known as poor egg producers and, therefore, the detection level of 40 epg may contribute to faulty negatives. So, the real prevalence of these

parasites was probably even considerably higher than observed in this study.

Moniezia cestode eggs were never observed. The prepatent period of this genus is around six to seven weeks. Neither were *Elaphostrongylus rangiferi* larvae seen, which is natural, as the prepatent period of *Elaphostrongylus* probably is around three months.

The prevalence of coccidia was high at all locations. This is a common feature with ruminant calves. More surprising was that often the infection intensity also was high. In farmed cervids, coccidiosis is not considered a problem, although the infection with direct life cycle parasites is favoured by crowding in enclosures. Because each coccidian oocyst destroys at least one epithelial cell when emerging to the intestine lumen, the peak values (up to 800000 opg (oocysts per gram) in this material) cannot be considered apathogenic. In domesticated ruminants, even values of thousands or tens of thousands opg's may be met in clinical cases of coccidiosis. Two coccidian species were detected, which will be named later. At least the smaller oocysts belong to a species not earlier described.