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Rumen ciliate fauna of Icelandic cattle, sheep, goats and reindeer

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Abstract

Concentration and percentage generic and species composition were determined in rumen contents from five cows, five sheep, two goats and five reindeer living in Iceland. In general, total concentrations of ciliated protozoa in all species were similar to previously reported values. Concentrations of total protozoa ranged between 5.2 x 10^4 and 44.5 x 10^4 in the three domesticated species, as compared to a range of 130 x 10^4 – 250 x 10^4 in reindeer. Thirty-four species of protozoa plus 10 subspecies or forms were observed in Icelandic cattle, 27 species plus four forms were found in sheep, 13 species plus 2 forms in goats and 19 species in reindeer. Both *Polyplastron* and *Ophryoscolex* species were absent from all domestic animal species. However, this has been observed in a number of other geographical locations. The fauna present in reindeer was a typical rangifer-type fauna which is unique to that species and would further substantiate the occurrence of some host specificity in the genus *Rangifer*. It would appear that neither climate, nor isolation has markedly influenced protozoan populations in Iceland.
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Key words: Cattle, ciliate protozoa, goats, Iceland, reindeer, rumen, sheep

Introduction

Faunation of young ruminants or transfaunation between adults occurs only as a result of direct contact between animals. A mother can transfer protozoa to her young by grooming, in which case the protozoa present in her mouth from rumination are passed in the saliva. Also, an adult can salivate on feed or pasture and another animal then ingests the protozoa with the feed (Dehority 2003). Several studies have clearly demonstrated that young animals isolated at birth from other ruminants do not become faunated (Bryant *et al*. 1958;

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