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**Title:** *What is hidden in reindeer's droppings? A botanical and parasitological study.*

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During the field seasons 2011 and 2012, we focused on collection of reindeer droppings to realize two projects:

- i) Could reindeer enhance plant succession in glacier forelands?
- ii) The diversity of parasites in terrestrial vertebrates in Svalbard.

Excrements of Svalbard reindeer (*Rangifer tarandus platyrhynchus*) were collected into plastic bags and then in the lab subsampled for parasitological examination and the rest was left for analysis of seeds.

Newly emerged stands in the arctic, e. g. glacier forelands or river banks are typical primary succession stands. Dispersal of diaspores in the arctic is rather limited due to adaptations to arctic conditions. We wanted to find out, whether reindeer could serve as seed vector via their excrements and thus enhanced species succession. Faeces were diluted in KOH solution, washed through a 0.25 mm mesh sieve and analyzed for the presence of seeds. Undamaged seeds of *Draba* sp., *Chrysozplenium tetrandum*, or bulbils of *Polygonum viviparum* were found most often. According to the preliminary results, the reindeers could serve as proper vectors of seeds. Moreover, the droppings could help the establishment of seedlings in newly exposed terrain by providing nutrients and substrate for growth.

There are not many studies about intestinal parasites of terrestrial vertebrates in Svalbard. Faeces of reindeer were used to detect the presence of intestinal parasites. Samples were concentrated by sedimentation and flotation and then examined by microscope. Molecular diagnostic was used for detection of microsporidia, cryptosporidia, coccidia and giardia. The molecular detection proved the presence of cryptosporidia (*Cryptosporidium muris* TS03) and microsporidia (*Enterocytozoon bieneusi* – new genotype, *Encephalitozoon cuniculi* – genotype II). Based on preliminary findings we can conclude that intestinal unicellular parasites are able to survive in those extreme polar conditions.