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Title: *The occurrence of etiological agents of parasitic zoonoses in Svalbard.*

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Droppings of terrestrial mammals and birds, collected in central part of Svalbard, were examined for the presence of intestinal parasites. Classical coprological methods and much more sensitive molecular analyses (PCR and consequential sequencing) were used for the detection and the determination of parasites. Several species belonging to cryptosporidia (Apicomplexa) and Microsporidia (Fungi) and one tapeworm species (Cestoda) were recorded: all of them can produce human infections as well.

Cryptosporidium parvum genotype IIa was revealed in Pink-Footed Goose (*Anser brachyrhynchos*), *Cryptosporidium* goose genotype II in Barnacle Goose (*Branta leucopsis*) and *Cryptosporidium muris* TS 03 in Svalbard Reindeer (*Rangifer tarandus platyrhynchus*). *Encephalitozoon cuniculi* genotype II was found in reindeer (*R. tarandus platyrhynchus*), Polar Fox (*Alopex lagopus*) and Barnacle Goose (*Branta leucopsis*). Two new genotypes of *Enterocytozoon bieneusi* were identified, the first one in Svalbard Reindeer and the second in Pink-Footed Goose. These findings represent the first records of cryptosporidia and microsporidia in Svalbard and the proof that the extreme conditions of high Arctic can enable their surviving and circulation.

Fox tapeworm (*Echinococcus multilocularis*) was found in droppings and cadaver of one Polar Fox in Nybyen near Longyearbyen. The life cycle of this highly dangerous parasite in Svalbard has been enabled by antropogenic unintentional introduction of Sibling Vole (*Microtus levis*). However, two Sibling Voles caught in dog sled base in Longyearbyen were negative for the hydatid cysts.

Human settlement in Svalbard represents the cause of propagation of some etiological agents of parasitic zoonoses in Svalbard.