

Free-living carnivores as an important reservoir of zoonotic parasites in the Tatra Mountains region, Slovakia

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The Tatra Mountains has been in the long time the most favourite tourist area in Slovakia and also a region with variety of protected wildlife. The aim of our long-term research is to study the host-parasite-landscape interactions in wildlife. Parasitological research on the monitoring of selected parasites with zoonotic potential was launched in 2007. Since then, more than 400 wild carnivores from the Tatra region have been examined for the presence of *Echinococcus multilocularis* tapeworm, *Trichinella* spp., *Dirofilaria* spp. nematodes, and intestinal helminths of zoonotic importance. All samples came from the death animals and were collected by TANAP workers. Small intestines of carnivores were examined for the presence of *E. multilocularis* using modified sedimentation and counting technique; muscle samples were examined individually for the presence of *Trichinella* spp. larvae by the artificial HCl-pepsin digestion and species identification was performed by means of PCR (Pozio and La Rosa, 2003). DNA isolated from spleens was analysed using PCR according to Rishniw et al. (2006). Faecal samples were investigated using coproscopic flotation methods. The presented research revealed the presence of *E. multilocularis* in more than 44 % of foxes from the Tatra Mountains and adjacent areas. The tapeworm was detected also in badger, polecat, racoon dog and wild cat. *T. britovi* larvae harboured over 27% of wolves, 19% of foxes and also 19% of predators from the family Mustelidae. Otter, brown bear, and lynx were also infected. Dirofilariosis has also been found to be circulating in the studied area. *D. repens* was identified in 24.6% of investigated foxes and in one beech marten. Moreover, examination of the faecal samples of free living carnivores revealed 38.5% of them being infected with at least one zoonotic parasite (Taeniidae, *Dipylidium caninum*, *Trichuris vulpis*, *Toxocara canis*, *Toxascaris leonina*, *Strongyloides stercoralis*, *Ancylostoma* spp.). Zoonotic nature of the parasitic diseases in TANAP as the most visited tourist area in Slovakia greatly increases the risk of transmission to humans. From a public health perspective, the monitoring of serious parasitic diseases transmissible to humans in their natural reservoirs is of great importance. Our results point out the need to comply with hygiene rules as the most effective measure for prevention of infection.

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