



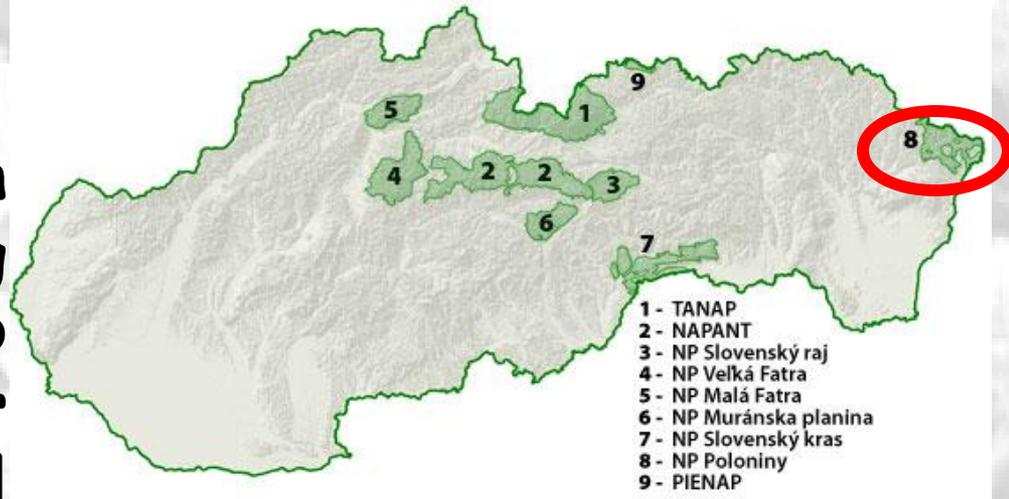
# Brown bear parasitosis in the Poloniny National Park and their zoonotical importance

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2. Poloniny National Park (Slovakia)

-Standardized flotation and specific staining techniques were used to survey 47 brown bear (*Ursus arctos*) fecal samples for parasites



-Samples were collected between October 2008 and April 2009 in Poloniny National Park (Slovakia)

We detected 4 species of parasites:

*-Baylisascaris transfuga*

*-Trichuris vulpis*

*-Ancylostoma sp.*

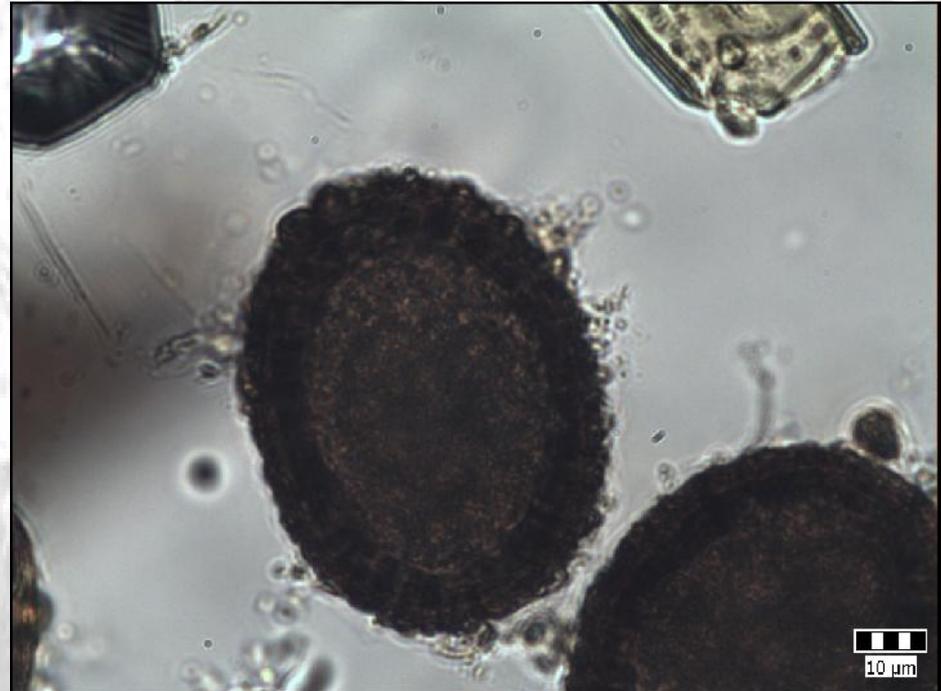
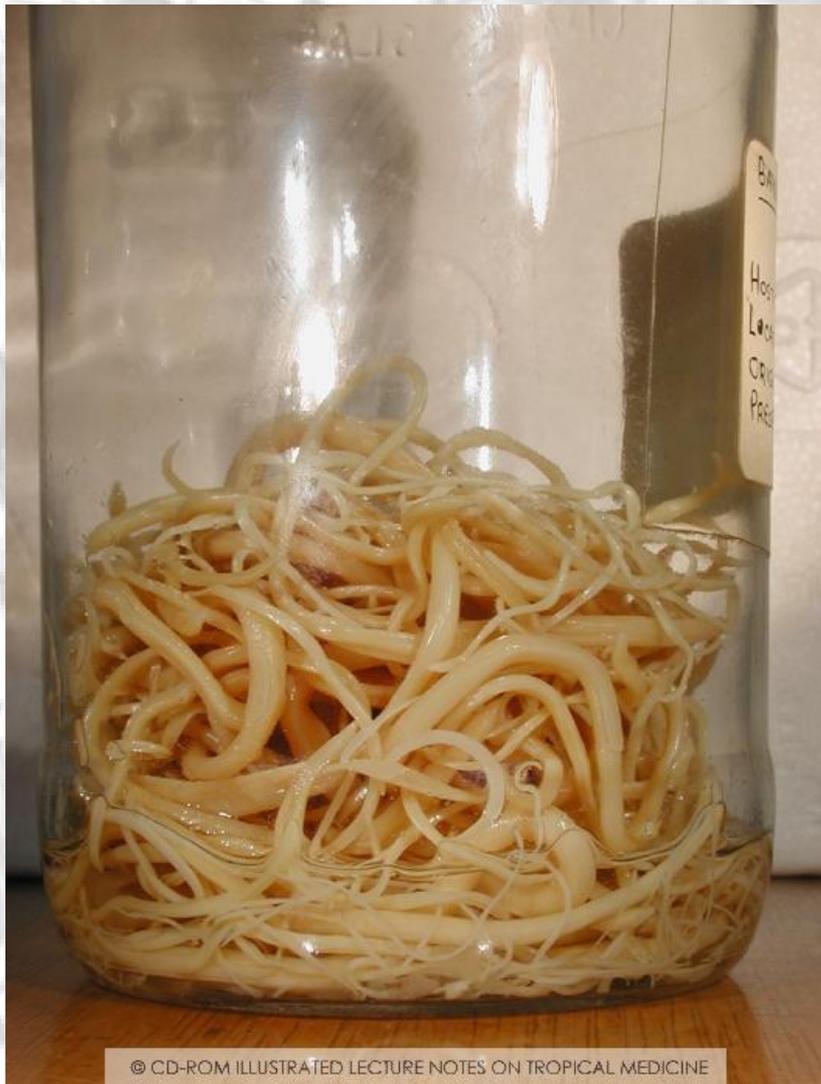
*-Cryptosporidium sp.*



# ***Baylisascaris transfuga***

**-Large white worm living in the small intestine**

- Infection:**
- 1) swallowing infective eggs**
  - 2) eating another animals infested with *Baylisascaris***



*Baylisascaris transfuga* eggs

Adult worms of *Baylisascaris transfuga*

# *Trichuris vulpis*

„whipworm“

-approximately 7cm long  
worm parasitizing in the  
large intestine



Adult whipworm

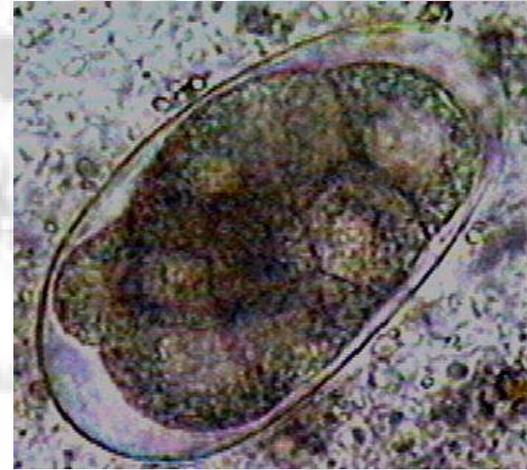


*Trichuris vulpis* eggs

Infection: swallowing  
infective eggs

## *Ancylostoma sp.*

-up to 2 cm long parasite  
of the small intestine



Eggs of *Ancylostoma sp.*



- igestion of hatched larvae
- percutaneous infection
- intrauterine and lactogenic infection

-Small protozoan parasite  
living in the small  
intestine

-“water borne disease”



Fecal smear stained with carbole-fuchsine.  
Oocysts of *Cryptosporidium* spp. appears as  
white spots. They measure about 4-6 $\mu$ m.

## Prevalence of endoparasites was 72,34%

| Species                        | Prevalence |
|--------------------------------|------------|
| <i>Baylisascaris transfuga</i> | 63,82%     |
| <i>Trichuris vulpis</i>        | 14,89%     |
| <i>Ancylostoma</i> spp.        | 4,25%      |
| <i>Cryptosporidium</i> spp.    | 12,76%     |

Tab.: Prevalence of endoparasites in the faeces of brown bear (*Ursus arctos*)

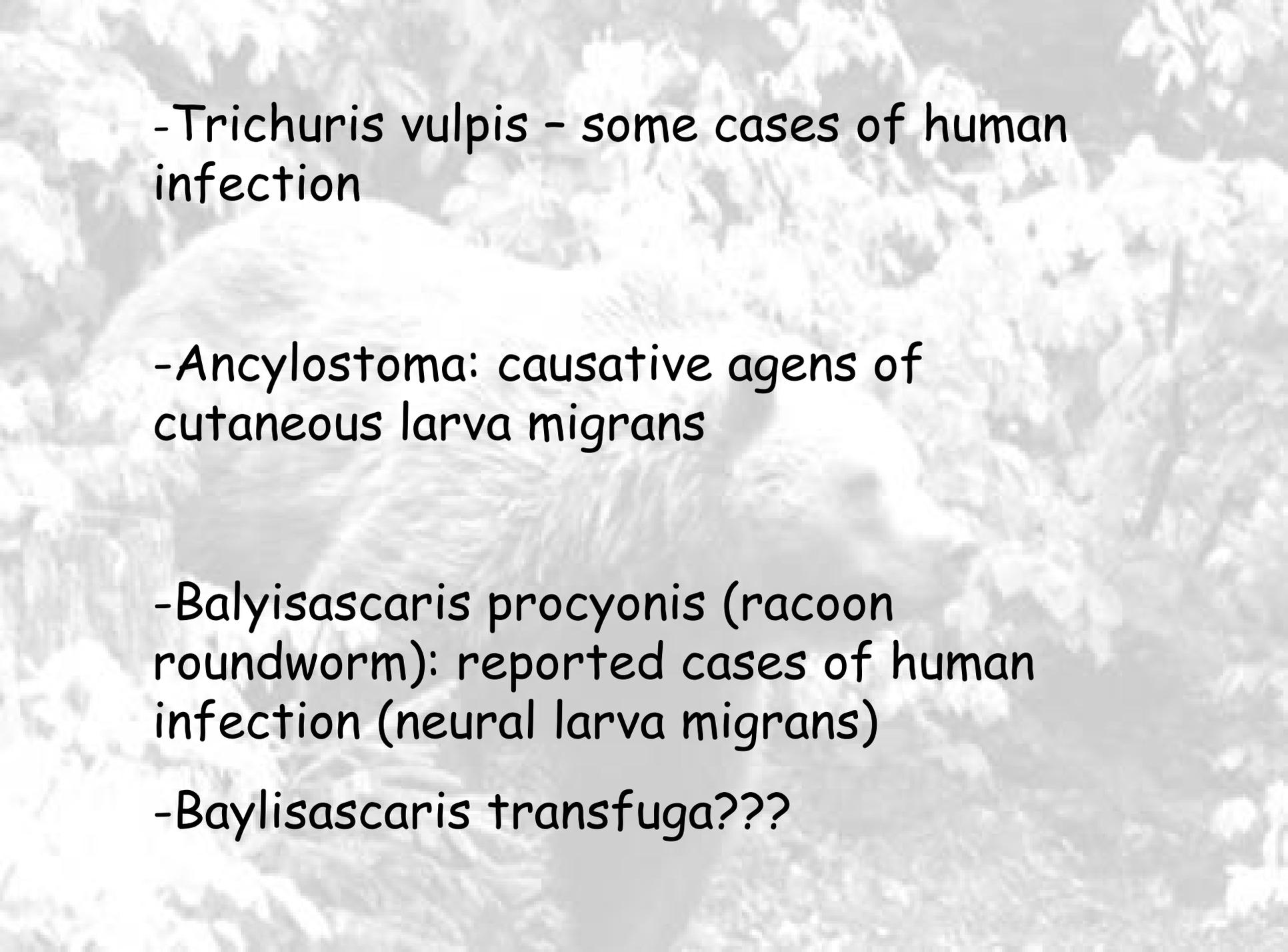
## **Seasonal dynamics:**

**-Largest number of positive samples were in the autumn**

**-In the spring - very low prevalence**

**Human health risk...**





-*Trichuris vulpis* - some cases of human infection

-*Ancylostoma*: causative agents of cutaneous larva migrans

-*Balyisascaris procyonis* (raccoon roundworm): reported cases of human infection (neural larva migrans)

-*Baylisascaris transfuga*???

# *Syndrome „larva migrans“*



ADAM.



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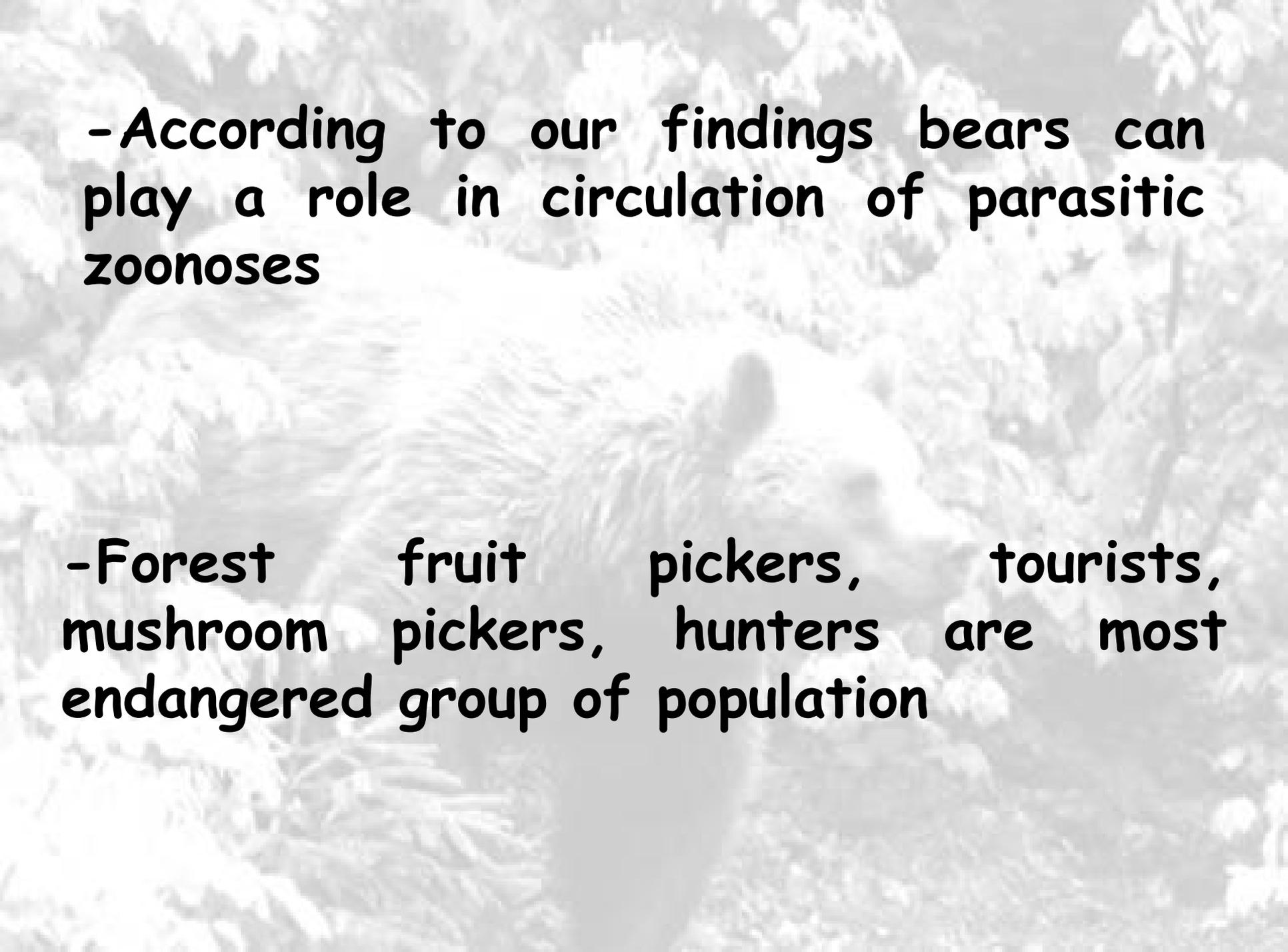


## **Cryptosporidium sp.:**

Cryptosporidiosis is a cause of morbidity and mortality in animals and humans, resulting primarily in diarrhea, and resulting in the most severe infections in immune-compromised individuals.

Waterer dam Starina  
located in Poloniny  
National Park -source of  
drinking water for whole  
east part of Slovakia





**-According to our findings bears can play a role in circulation of parasitic zoonoses**

**-Forest fruit pickers, tourists, mushroom pickers, hunters are most endangered group of population**

# Prevention:

- Regular check the fecal samples to determine the possible risk
- Veterinary check the carcasses and GIT tract of shot and died animals (special attention of *Trichinella* sp. in cases of bear meat consumption)
- Implementing hygiene measures in touristical important places (warnings)
- further study is needed to confirm the potential zoonotic effect
- effect of medication and treatment of bears



-Limited information are regarded health status of brown bears from Carpathian mountains, further study and investigations are needd in this field (Special thanks to Simon Finnegan D.V.M. who carried out research in Slovakian brown bear population)



**Thank you for your  
attention**

