

Trichinella, Echinococcus, Anisakis and Toxoplasma in the Slovak Republic in 2018

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Trichinella

Examined: 667 161 animals

The species of animals tested for the presence of *Trichinella spp.* were mainly pigs and wild boars, but we also analyzed tissues of other animal species - such as foxes and bears.

Table 1: Examined and positive animals

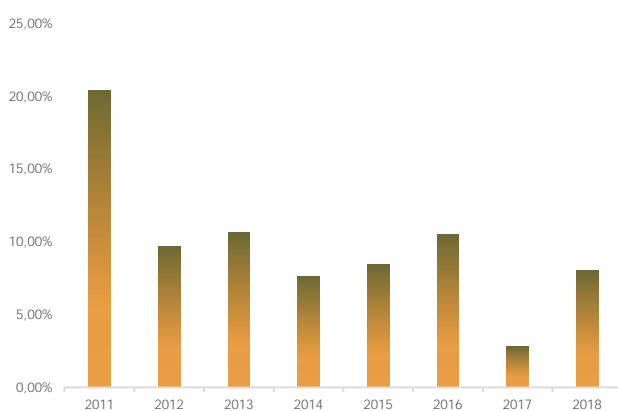
Animal species	Number of examined	Number of positive
pig	653 323	0
wild boar	13 708	5
fox	112	9
bear	18	0

- 14 positive samples
- We used multiplex PCR method to identify the species from these positive samples.
- Species identification: 12x *Trichinella britovi*, 1x *Trichinella spiralis*, 1x *Trichinella spp.*
- Maximum positivity: red foxes – a primary reservoir of trichinellosis



Figure 1: Distribution of positive cases in 2018

- foxes
- wild boars



Graph 1: Prevalence of *Trichinella* in fox in the years 2011-2018

The prevalence of *Trichinella* in animals is higher compared to last year, with dominant species of *Trichinella britovi*.

Echinococcus

Examined: 709 266 animals (3353 definitive hosts and 705 913 intermediate hosts).

The species of animals that were analyzed mostly for the presence of adult tapeworm *Echinococcus spp.* were foxes, as well as other canids and felids. All animals slaughtered for human consumption are examined for the presence of hydatid cysts.

Table 2: Examined and positive animals

Animal species	Number of examined	Number of positive
pig	653 097	13
cattle	35 432	0
sheep	17338	25
goat	46	0
fox	145	39
dog	2501	3
other	707	0

- 39 positive *E. multilocularis* in foxes (species identification by morphological characters and PCR method)
- 3 positive *E. multilocularis* in dogs (species identification by morphological characters and PCR method)
- 13 positive *Echinococcus* larvocyts in pigs and 25 positive *Echinococcus* larvocyts in sheep found by veterinary inspection in slaughterhouses

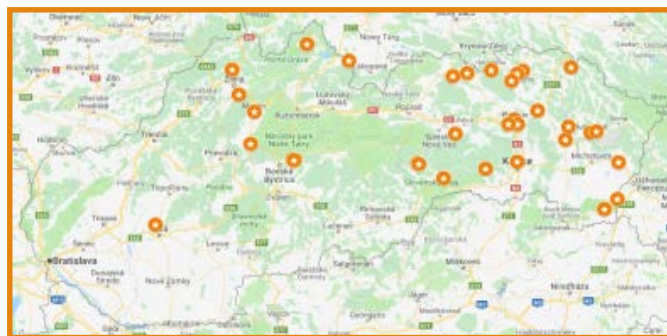
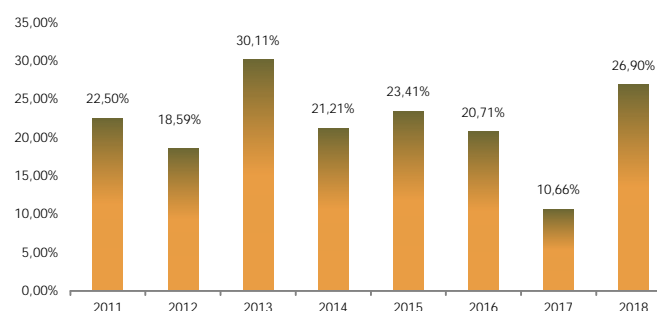


Figure 2: Distribution of positive cases in foxes



Graph 2: Prevalence of *Echinococcus* in fox in the years 2011-2018

The prevalence of *Echinococcus* in foxes is higher compared to previous years and the parasite shows a tendency to spread into southwest areas of Slovakia.

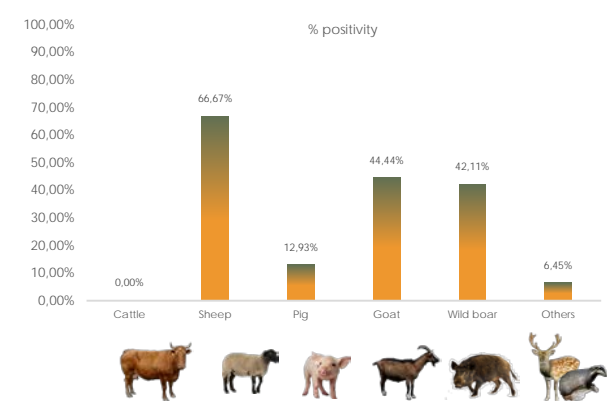
Toxoplasma

Blood: 99 samples

- 23 positive samples

Analytic methods: serological tests such as complement fixation test, ELISA and latex agglutination test

Faeces: 662 samples of faeces were analyzed from felines including cats, tiger, jaguar, cheetah, lion and wildcat. *Toxoplasma gondii* - like oocysts were detected in 1 faeces.



Graph 3: Presence of IgG antibodies against *T. gondii* in a meat juice of intermediate hosts

Meat juice and blood of different intermediate hosts collected during 2016 – 2018 were tested for *Toxoplasma gondii* antibodies using ELISA test. Antibodies to *T. gondii* were detected in 23,3 % of samples.

Anisakis

Anisakid worms were found in 2 samples from 51 examined samples. One of them was from the canned cod liver the and second one was from cod filet. Slovakia doesn't have any sea, so we analyzed only fish that were imported from abroad.



Figure 3: Anisakid larva in cod filet (photo: VFI in Bratislava, 2018)