Echinococcus multilocularis in cats and dogs from shelter and rural owners in a highly endemic area – first detection of this tapeworm in cats in Poland

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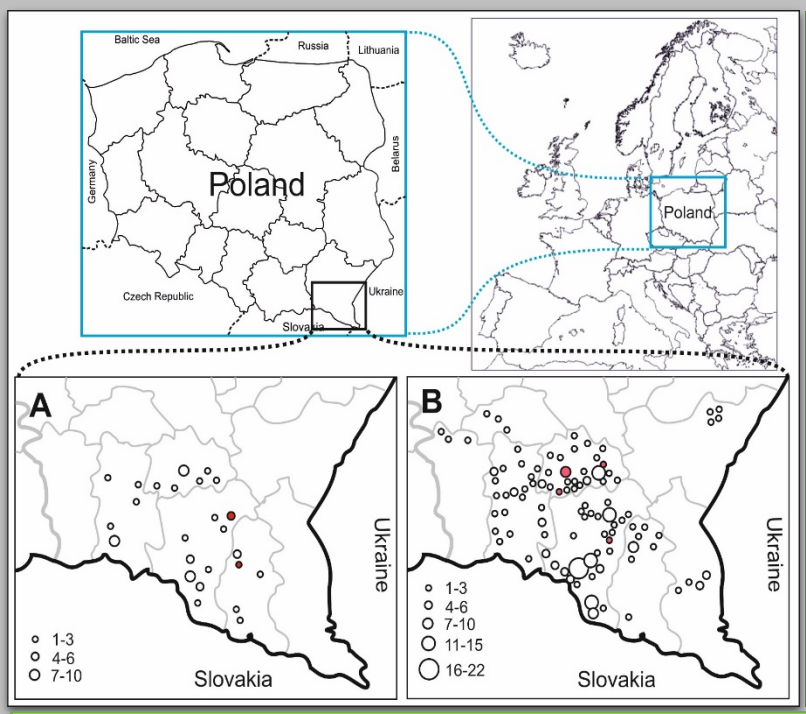
The aim of the study was to find the infection of *E. multilocualris* in cats and dogs in highly endemic area and compare the results between owners' and shelter animals.

MATERIAL AND METHODS



Samples of faeces were collected from **67 cats and 268 dogs** from part of south–eastern Poland,. Animals in villages, rural areas (39 cats and 145 dogs) and in shelter from newly cough animals (28 cats and 123 dogs). DNA was isolated from faeces and examined with the use multiplex PCR (E. multilocularis and Taenia spp.) PCR (Echinococcus granulosus s.l.) and nested PCR (E. multilocularis). Samples was examined by flotation

RESULTS

DNA of ***E. multilocularis*** was detected in:

- **6.1% of cats** – all from shelter cages.;
- **1.5% of dogs -** (shelter dogs and dogs with owners, 1.6 % and 1.4 %)

Taenia spp.-specific product in multiplex PCR was found in 14 cats (20.9%) and 29 dogs (10.8%). One of the cat was co–infected with *E. multilocularis* and *Taenia (Hydatigera) taeniaeformis*. One of the dog was co-infected with *E. multilocularis* and *Mesocestoides litteratus*. None of dogs and cats were positive for *E. granulosus* s.l

Helminth eggs were detected in 32.3% of cats. Eggs of Taeniidae were found in 9.0% of cats. Moreover, eggs of *Toxocara cati* (26.9%) and *Capillaria* spp. (6.0%) were found. Compilation of PCR and flotation results showed that helminths were detected in 43.3% of cats (and tapeworms in 26.0%). In dogs, helminth eggs were detected 20.1% of samples. Taeniidae eggs were found in 3.4% of dogs. Two dogs shedding taenid eggs were also positive in PCR for *E. multilocularis*. Other parasite eggs found in dogs by corposcopy: *Capillaria/Trichuris* (10.8%), *Toxocara canis* (7.5%), hookworms (0.7%), *Toxascaris leonina* (0.4%).

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