

The occurrence of *Trichinella spiralis* in raccoon (*Procyon lotor*)

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Trichinellosis is a zoonosis caused by parasitic nematodes of the genus *Trichinella*. Infections with this genus have been reported from more than 150 different hosts. It has been shown to have a worldwide distribution in domestic and/or sylvatic animals. The majority of *Trichinella* spp. cause disease in humans. Four species of *Trichinella*: *T. spiralis*, *T. nativa*, *T. britovi* and *T. pseudospiralis* have been detected in Poland. The raccoon is a medium sized bear-like mammal that was originally found in North America. Raccoons are grey, omnivorous animals surviving on a diet consisting of insects, plants and small animals such as fish and the occasional bird. Due to the deliberate introduction of the raccoon into other countries, the common raccoon can also be found now in Europe. In Poland, raccoons appeared in the 1950s. According to data published by the Ministry of the Environment, the species occurs in large numbers in the Lubuskie and Zachodniopomorskie Districts. However, individual specimens occur throughout the western part of the country. The aim of the study was to determine the prevalence of these parasites in raccoons in Poland and Czech Republic.

The study was performed on 33 raccoons from Słońsk (52°33'46"N 14°48'22"E; Poland) and Tovačov (49°25'44"N 17°17'19"E; Czech Republic) collected in 2015. Muscle samples were taken from the diaphragm pillars, tongue, masseters and muscles of the lower forelimb. Each sample was examined individually by artificial pepsin-HCl digestion according to Gamble et al. (2000). Muscle larvae were identified as *Trichinella* based on gross morphology. Genomic DNA was extracted from single larvae. *Trichinella* larvae were identified at species level by multiplex polymerase chain reaction (multiplex PCR). The overall prevalence in examined samples was found to be 15% (five specimens). All infected individuals were male. The weight of examined muscle samples varied from 0.22 to 7.42 g. The intensity of infection was very low, and infected animals harbored from 0.04 to 0.65 larvae per gram (LPG). Muscle larvae recovered from three animals were identified as *T. spiralis*. One infected animal came from Słońsk (Lubuskie District) and two Tovačov (Olomoucký District). In two cases, identification of *Trichinella* species was impossible, probably due to DNA degradation. This is the first report of *Trichinella spiralis* infection of raccoons in Europe.

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