

Microparasites of raccoons introduced to Poland

Kinga Leśnianańska, Agnieszka Perec-Matysiak, Marcin Popiołek

Department of Parasitology, Institute of Genetics and Microbiology, Wrocław University, Przybyszewskiego 63, 51-148 Wrocław, Poland

Corresponding Author: Kinga Leśnianańska; email: kinga.lesnianska@uwr.edu.pl

The raccoon, *Procyon lotor*, a carnivore native to north America, is now a fast spreading, invasive species in Europe. The largest populations can be found near the German-Polish border, namely Brandenburg (Germany) and Lubuskie Province (Poland). Raccoons are omnivores which can live in both forested areas and urban spaces, and so are associated with a high risk of transmitting pathogens such as microparasites to other wildlife and humans. Data on the occurrence of *Cryptosporidium* spp. and/or microsporidia in raccoons is limited with regard to their introduction to Europe, being more focused on their presence in North America.

Therefore, the objective of this study was to investigate the occurrence of micropathogens from *Cryptosporidium* and *Microsporidium* genera (*Enterocytozoon bieneusi* and *Encephalitozoon* spp.) in raccoons from Kostrzyn on the Oder (Lubuskie Province), the surroundings of the „Warta Mouth” National Park and localities on German territory using molecular methods. A PCR-based approach that permitted genetic identification via sequence analysis was applied to raccoon fecal samples (n=49) collected during 2012–2014.

All fecal samples were simultaneously tested with the use of genetic markers. The DNA of microsporidia and *Cryptosporidium* spp. was detected among the examined raccoons.

Our findings confirm the presence of several species and genotypes of examined microparasites. This suggests that raccoons play a possible role in the contamination of the environment, both rural and urban areas, with pathogens of zoonotic significance, as well as in the transmission/introduction of new parasites and genotypes of microparasites in areas where *Procyon lotor* has not been observed so far.

The fecal samples of raccoons used in the study were collected as part of the project no. 2014/15/B/NZ8/00261.