

Expansion of raccoons (*Procyon lotor*) threatens already endangered native animal species and poses health risks for humans

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Background and aims

Raccoons (*Procyon lotor*) are considered as an invasive alien species (IAS) in Europe. Due to its omnivorous diet, adaptiveness and the lack of natural enemies, it has been spreading widely and will continue in the future. The aim of this study was to investigate the impact of raccoons on protected or endangered native species, as well as on the economy and animal and human health, the role as a vector of parasites and pathogens and its increased spread in urban areas.

Methods

234 raccoons were dissected to investigate diet composition and parasite fauna. 229 raccoons blood and swab samples were taken to test for viral infections in collaboration with the Friedrich-Loeffler-Institute (FLI). Current distribution and land use was used to model possible future distribution.

Results

A predation on endangered and protected native species, (e.g. yellow-bellied toad (*Bombina variegata*)) and birds could be proven through stomach content analyses. The parasite fauna shows a high number of parasite species from different classes. The key species is *Baylisascaris procyonis*, that appeared in 95% of the samples. Some of the blood samples were tested positive for WNV (West Nile Virus) and USUV (Usutu-Virus) which reveals a vector-competence of raccoons for this pathogens.

Conclusions

Raccoons can have strong negative impacts on native species like amphibians and birds as well as on animal and human health caused by the spread of zoonoses.

Keywords

Raccoon (*Procyon lotor*), invasive species, metazoan parasite fauna, *Baylisascaris procyonis*, *Plagiorchis muris*, zoonotic diseases, impact biodiversity

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