

## Coproscopical investigations of the European otter (*Lutra lutra*) from Białowieża Primeval Forest

Paweł Górski<sup>1</sup>, Andrzej Zalewski<sup>2</sup>, Katarzyna Kazimierczak<sup>1</sup>, Grzegorz Kotowski<sup>1</sup>

<sup>1</sup>Department of Parasitology and Invasiology, Department of Preclinical Sciences, Faculty of Veterinary Medicine, Warsaw University of Life Sciences – SGGW, Ciszewskiego 8, 02-786 Warsaw, Poland

<sup>2</sup>Mammal Research Institute, Polish Academy of Sciences, Waszkiewicza 1, 17-230 Białowieża, Poland

Corresponding author: Paweł Górski; E-mail: pawel.kryzys@op.pl

**ABSTRACT.** The parasitofauna of the European otter (*Lutra lutra*) remains poorly known in Poland. In the presented study 106 fecal samples from otters living in the Białowieża Primeval Forest were examined, using standard flotation and sedimentation methods. We found that the overall prevalence of parasitic infections was 30.1%. Eggs of *Alaria alata* (0.9%), *Opisthorchis* or *Metorchis* sp. (5.7%), *Diphyllbothrium latum* (1.9%) and *Aonchotheca putori* (1.9%) were identified, but in other cases the species of parasite could not be reliably determined. Parasitological dissections should give better results in future studies.

**Key words:** *Lutra lutra*, parasites, Białowieża Primeval Forest

### Introduction

The parasitofauna of wild carnivorous mammals in Poland is still poorly understood. Only the helminths of the red fox (*Vulpes vulpes*) seem to have been well studied because of the importance of foxes as reservoirs of dangerous zoonoses (such as echinococcosis) [1–3]. Whilst the helminths of several other wild carnivorous mammals have been studied, such studies are rare and their parasites are not well known [4–6]. In particular the parasites of the European otter (*Lutra lutra*) from Poland remain poorly studied, with only limited data on the species involved and their prevalence being available in the public domain [6]. The aim of the presented study was to examine as many fecal samples as possible from otters living in the Białowieża Primeval Forest, in order to improve our knowledge and understanding of the parasitofauna of this mammal in Poland.

### Material and methods

In total, 106 fecal samples from otters were collected in the period 2000–2009 by workers of the Mammal Research Institute in Białowieża, from the river banks (mainly under bridges) within the borders of the

Białowieża National Park, among the surrounding timber forests and also in local villages. Because of the long period involved and large area over which samples were found, the possibility that more than one sample originated from a single otter is considered to be remote. Samples were kept frozen until examination. Standard flotation and sedimentation methods were used in our investigations.

### Results

We found that 30.1% of the fecal samples contained the eggs of helminths (32 samples). Oocysts of coccidia were found in four fecal samples (prevalence 3.8%), but the species of protozoan involved remain undetermined. Eggs of trematodes were found in ten samples. In one case the species of fluke was determined as *Alaria alata* (0.9%), in six cases as *Opisthorchis* sp. or *Metorchis* sp. (5.7%), and in three cases the identity of the eggs could not be determined (2.8%). *Alaria alata* and *Opisthorchis felineus* have been reported as parasites of European otters from western Byelorussia (Polesie), less than 100 km from the Białowieża Primeval Forest [7]. Eggs of a tapeworm – *Diphyllbothrium latum* were found in two samples (1.9%). This species has also been reported

previously from otters [8,6]. The intermediate hosts of all the identified trematodes and tapeworms are fish or amphibians – all important components of otter's diet [9]. Nematode infections showed the highest prevalence (15% – sixteen cases) in the examined material, but only one species – *Aonchotheca* (syn. *Capillaria*) *putorii* was identified in a single sample, and the rest remain unidentified (there are several possibilities as to the species that may be involved). However some of these parasitic helminths were found for the first time from otters in Poland. In order to improve further our knowledge and understanding of the parasites of this host, the next step must be to dissect freshly killed animals to recover the adult worms.

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