

***Baylisascaris collumnaris* infection in a pet skunk (*Mephitis mephitis*) in Warsaw**

Dawid Jańczak, Wioletta Rozej-Bielicka, Elżbieta Gołąb

Division of Parasitology, National Institute of Public Health – National Institute of Hygiene, ul. Chocimska 24, 00-791 Warsaw, Poland

Corresponding Author: Dawid Jańczak; e-mail: djanczak@pzh.gov.pl

Baylisascaris are parasitic nematodes of the gastrointestinal tract of skunks, raccoons, raccoon dogs and bears. Ingestion of infective eggs leads to the formation of larvae migrans which can locate themselves in different tissues and organs of many mammals and birds species. Until now only cases of *B. procyonis* infection in wildlife animals have been described in Poland. However, the source of infection for human and domestic animals might be wild animals kept at home as pets.

The aim of the study was to describe a *Baylisascaris* infection in a skunk kept as a pet at home. A cream-colored nematode, size approx. 20 cm×2.5 mm, was expelled with the feces of a four-month-old skunk kept as an indoor pet in Warsaw. The skunk stool samples collected before treatment and seven adult nematodes expelled after oral administration of 50 mg/kg fenbendazole for seven days were examined. Morphometric and molecular studies were performed of the nematode. DNA isolated from eggs using RIDA[®]Xtract kit (R-Biopharm AG, Germany) was used for the molecular studies. The PCR products of nuclear rDNA (ITS1, 5.8S, ITS2) and mitochondrial cytochrome oxidase 1 (CO1) amplification were sequenced.

Seven adult female nematodes *Baylisascaris* sp. size 210–235 mm×2–25 mm were classified by microscopy. Eggs obtained from stool samples had an oval shape and a size of 70–86 μm×60–66 μm. Sequences of nuclear ribosomal ITS1 markers had 99% similarity to sequences of *Baylisascaris collumnaris* isolated from a skunk from the Netherlands (KC543484.1), and ITS2 sequences had a 100% similarity to the sequences of *Baylisascaris collumnaris* isolated from two skunks from the Netherlands (KC543485.1 and KC543486.1). The analysis of the CO1 marker sequence of the examined nematode showed 100% sequence identity with *Baylisascaris collumnaris* sequences KC543472.1 obtained from a skunk from the Netherlands deposited in GenBank[®].

Skunks kept as pets may be a reservoir of the nematode *Baylisascaris collumnaris* pathogenic for human and domestic animals. Due to the high morphological similarity of *Baylisascaris* species, a molecular study of the mitochondrial marker CO1 could facilitate species differentiation.