

Role of wild, captive and domestic birds in the environment contamination with *Giardia* cysts and *Cryptosporidium* oocysts in western Poland

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There are a lot of sources of environmental contamination with human waterborne parasites. A large variety of birds species can sustain a reservoir for human infectious protozoan parasites. However, the role of such birds in contamination of aquatic habitats with such parasites has not been adequately investigated. The aim of study was the examination of fecal samples of wild, captive and domestic birds for the presence of *Giardia* cysts and *Cryptosporidium* oocysts and determination which of examined bird species take part in environment contamination with dispersive stages of the protozoan parasites.

A total of 499 fecal specimens were sampled from 308 wild birds, 90 captive birds, and 101 domestic birds. From all fecal specimens wet and stained (hematoxylin and Ziehl-Neelsen techniques) smears were prepared. Moreover, to detect the *Giardia* cysts and *Cryptosporidium* oocysts the FISH technique (Fluorescent *In Situ* Hybridization) was used.

Giardia cysts were detected in 7.5% wild birds (greyleg goose, mallard duck, mute swan, ducks goosander and carrion crow), 2.2% captive birds (white stork and black crowned-crane) and in one domestic goose. *Cryptosporidium* oocysts were detected in feces obtained from 5.8% wild birds (mute swan, ducks goosander, white stork, carrion crow and rook) and in one mandarin duck from Zoo. The prevalence of both protozoan species was significantly higher in free-living avian species, than in captive and domestic birds. The results of our research demonstrated that birds play a role in the environment contamination with *Giardia* cysts and *Cryptosporidium* oocysts.