Summary of D.V.M. thesis No:30947 , Faculty of Veterinary Medicine of Urmia University. The academic year 2025-2026

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Title of thesis: Investigation of gastrointestinal parasites in geese(*Anser anser*) in eastern Guilan Province (based on fecal exam)

Summary:

Gastrointestinal parasitic infections in aquatic birds, particularly the goose (*Anser anser*), represent a significant challenge for animal health and wildlife conservation, potentially causing substantial economic and health impacts in both traditional and industrial farming systems. Identifying dominant species and their distribution patterns across different regions forms the basis for planning control and surveillance programs. In the present study, aiming to identify and determine the prevalence of gastrointestinal parasites in geese from eastern Gilan Province, 100 fresh feces samples were collected from seven different locations. Sampling was performed either directly from droppings or rectally and was immediately preserved in 2.5% potassium dichromate solution, labeled accurately, and transported to the Parasitology Laboratory of the Faculty of Veterinary Medicine, Urmia University. After macroscopic examination, parasites were identified using the flotation method in saturated sugar solution and optical microscopy at 10×, 40×, and, when necessary, 100× magnifications. Various parasite forms, including nematode eggs and protozoan oocysts or cysts, were identified based on morphological features and size.. Data were analyzed and results were presented in tables and charts.The findings revealed a high overall prevalence (94%) of gastrointestinal infections in the sampled geese. Protozoan infections predominated, and the morphological characteristics of the oocysts (13–15 µm in diameter, spherical to ovoid) corresponded to *Tyzzeria parvula*. This parasite, one of the important coccidia of aquatic birds, can impair nutrient absorption and reduce feeding efficiency. In contrast, nematode infections were less frequent, comprising *Capillaria* spp. (2%) and *Heterakis* spp. (3%). The observed pattern suggests a greater survival capacity and more effective transmission cycle of protozoa under the ecological conditions of the study area. From an ecological perspective, high bird density, environmental humidity, and direct contact with water bodies were considered facilitating factors for infection. Based on these results, the implementation of continuous surveillance programs and the use of molecular identification methods for accurate species diagnosis are essential. Such strategies, in addition to improving bird health and productivity, can reduce potential zoonotic risks to humans and other hosts.

Keywords: Gastrointestinal parasite, Goose ,Guilan , feces