European Journal of Innovation in Nonformal Education (EJINE)
Volume 2 | Issue 2 | ISSN: 2795-8612

Belieologies of Capillaria Columbae, Railletina Tetragona, Ascaridae Avium Types

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A B S T R A C T

The article describes the structure, biology and pathology of the parasites Capillaria columbae, Ascaridae avium, Railletina tetragona, which are widespread in the fauna of birds of the genus Cestoda and Nematoda, found in pigeons and birds belonging to this category, and cause helminthiasis.

A R T I C L E I N F O

Article history:
Received 26 January 2022
Received in revised form
29 January 2022
Accepted 12 February 2022

Keywords: birds, pigeons, nematodes, cestodes, helminthiasis, small intestine, diarrhea.

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In the wild, the pigeon family feeds on domestic and wild blue pigeons, muskrats, and grasshoppers, as well as insects and their larvae, which feed most of their plant food on fruit trees and seeds. Regularities such as the fact that these wild birds are adapted to living in different environments, that they feed on different foods during the seasons and live in different environments, and that they are directly connected to wild birds through the food chain in the biocenosis, the prevalence of the population, allows the phenomenon of parasitism to spread in nature. This serves as a carrier and distributor of several types of parasites in the bird fauna during the development cycle of parasitic organisms, as well as the bird's body as a habitat and food source for certain types of parasites.

Helminthiasis is a disease caused by parasitic worms. Helminths - parasitize the body of birds, with the products of their vital activity they gradually damage the body, help microbes to enter the body and, consequently, lead to the emergence of infectious diseases. Most young birds die from helminthiasis. In birds, nematodes from roundworms, tapeworms in cestodes, flatworms in trematodes, and several species of acanthocephalus are parasitic. They are localized in various organs and tissues of birds as a habitat and food source. Most nematodes develop directly without the involvement of an intermediate host. In the eggs of parasites isolated by females and released into the environment, the larvae develop over a period of time and become infected with helminthiasis when they are ingested by birds. Some nematodes and almost all cestodes, trematodes and acanthocephalus develop in the presence of intermediate hosts, in whose bodies the larvae of these helminths go through the appropriate stages of development, and birds become infected with helminthiasis when swallowed by intermediate hosts. Examples of such intermediate hosts are ants, insects and earthworms.

Today, scientific sources and research show that parasitic helminths in pigeons belong to three classes of parasites: tapeworms-Cestoda, roundworms-Nematoda and capillaries-Capillarioses. Parasitic diseases are common in most parts of the world and cause problems with the death of animals, reduced productivity, and dysfunction of their organs.

The parasitic nematodes are one of the most abundant and widespread groups of helminths, with the most common type of capillaries among birds (Capillardae Neveu-Lemaire 1936) and the type Capillaria (Zeder 1800). Studies have shown that capillaries of 400 species of vertebrates are parasitic [3]. These

parasites are often found in pets and birds. The capillary stimuli have a thin fibrous body structure, the outer surface is not divided into joints, and the posterior part is thickened. Capillaria columbae is the causative agent of capillaries in pigeons. These helminths parasitize the small intestine. The spreaders of the invasion are domestic and wild birds. Capillaries have been found to occur throughout the year in birds, but the strongest invasion occurs in summer.

In capillaria pigeons, the male body length is 7.2–10.6 mm, the spicule is dense, cylindrical, 0.05–0.07 mm wide, the female is long, 11.5–15.3 mm, 0.07–0 mm wide, 09 mm. The length of the egg is 0.048-0.056 mm and the width is 0.024-0.028 mm. The parasite parasitizes in the small intestinal area of pigeons. Gagarin studied the developmental cycle of helminths. The development cycle of the parasite takes place without an intermediate host. Females lay their eggs in the intestinal cavity, where they are excreted with bird droppings. Eggs develop from larvae in 6-8 days when the external environment is favorable, ie heat and humidity. Birds are infected by swallowing the invasive stage eggs of the parasite with food. The parasite develops in the gut in 21-22 days and has been found to live up to seven months. The clinical signs are the same in all types of capillaries, first appearing in the host's digestive tract and then causing persistent diarrhea. Sick birds lose their appetite, stay in one place for a long time and cannot move. Weakness and general damage to the body result in the death of the bird. The disease is more common in young birds from one to three months of age. Many wild birds, including pigeons, are carriers and distributors of capillaries.

About 10 species of tapeworms were found in pigeons. Raillietina tetragona (Molin, 1858), a cosmopolitan species belonging to the genus Cectodes of parasitic tapeworms, occurs in the gastrointestinal tract of pigeons. Railletina is the longest tapeworm found in tetragona birds, with a body length of 30 cm and a width of 1–1.5 cm, white, elongated and dorsoventral flat, divided into joints. The body consists of a "scolex" divided into a head, a non-articulated and very long neck, and a segmented body "strobila". Strobila consists of a series of tape-like body segments called proglotids that grow slowly from the anterior end to the posterior end. The front of the body gradually enlarges towards the back. The scolex has a round apical shape and has four suckers, each of which has 5-6 rows of loops. The main feature of this parasite in comparison with other species is its round scolex and long neck. Raillietina tetragona is a complete hermaphrodite, each joint has a reproductive system. Each adult proglatid has both male and female reproductive organs. There are sperm on both sides of the ovary. Each ovary has 4-12 egg cells and many oxalate bodies, each of which is surrounded by a shell. As both reproductive systems mature, proglotids are fertilized and the mature eggs are released into the intestinal cavity. Cestodes biohelminth. The parasite's life cycle develops in two different hosts. The main hosts are birds, the intermediate hosts are ants and house flies. The larvae of the parasite - cystosercoids - develop in the body of the intermediate host. The eggs develop in the soil and form the oncosphere. After the birds are infested with the parasite, the adult helminth develops in the small intestine of the bird’s digestive system. There are reports that severe stages of the infection can cause death in birds, but there is no scientific evidence. Under natural conditions, the parasite is completely harmless and does not cause serious complications. However, experiments have shown a decrease in body mass and egg production in birds. Pathological symptoms include a decrease in glycogen in the liver and inflammation of the intestinal mucosa, enteritis, hemoglobin depression, infiltration of lymphocytes and macrophages, a general decrease in white blood cells [4].

Ascariasis. The disease is caused by adult roundworms and their larvae that live in the intestines of pigeons. There are several different species of ascarids, including Ascaridae avium, which is common to pigeons and other birds. The larvae are 3 to 7 cm long, the females are longer than the males, the eggs are oval in shape, and their development takes place in the soil in the external environment. The development period of the parasite in the natural environment depends on the temperature and humidity. Larval eggs live up to a month. When the eggs hatch in the soldier, the larvae hatch in the glandular and muscular stomach and pass into the duodenum. The disease is mainly observed in spring and autumn.

In conclusion, helminthiasis of birds cannot be controlled in the natural environment because helminth eggs are prevalent in the external environment by wind and a number of mechanical means. Frequent cleaning, disinfection, use of anthelmintic drugs in domestic birds, and measures to limit their contact with wild birds should be carried out as much as possible [4]. Young pigeons are especially affected.

Symptoms of parasitic diseases include weight loss, diarrhea, worsening of the bird's development, and loss of appetite. The female parasite lays many eggs during her lifetime. Occasionally parasites are found in bird droppings. The disease is especially severe with obstruction of the intestinal cavity and can lead to the death of birds.

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