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Source: Journal of Wildlife Diseases, 16(1) : 65-66

Published By: Wildlife Disease Association

URL: <https://doi.org/10.7589/0090-3558-16.1.65>

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HELMINTH PARASITES OF BAND-TAILED PIGEONS IN COLORADO¹

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Abstract: Examination of 609 band-tailed pigeons (*Columba fasciata fasciata*) collected in Colorado revealed two species of cestodes and four of nematodes. Two of these were new host records. Helminths found were *Hymenolepis armata*, *Raillietina* sp., *Ascaridia columbae*, *Splendidofilaria columbensis*, *S. hiblieri* and *Chandlerella robinsoni*. Of 609 pigeons examined, 76 (12.5%) harbored helminths. Helminths were not found in pigeons younger than 9 months of age.

INTRODUCTION

Band-tailed pigeons (*Columba fasciata*) occur in forested mountain areas in western North America with two major groups being recognized. The Interior group, *C. f. fasciata*, occurs primarily in the states of Colorado, Utah, Arizona and New Mexico and winters in North central Mexico. The Coastal group, *C. f. monilis*, occurs primarily west of the Sierra and Cascade crests from British Columbia south into northern Baja California. Despite the wide distribution and economic importance of this migratory game bird, little is known regarding its helminth parasites. Only three references mention helminths from bandtails. Neff¹ reported that a pigeon collected near Durango, Colorado had "at least 12 flatworms in its abdominal cavity". Smith² reported one specimen of *Ascaridia columbae* from the connective tissue of a pigeon collected near the Upper Van Duzen River in California. Olsen and Braun² described *Splendidofilaria columbensis*, *S. hiblieri*, and *Chandlerella robinsoni*.

During an extensive study of this forest-dwelling columbid by one of us (C. E. B.), a large number of pigeons was examined for helminth parasites.

METHODS

Band-tailed pigeons were collected from 25 June 1969 through 13 September 1973 for various studies. Most birds examined for parasites were trapping casualties; approximately 100 were shot in 1969 in an effort to control depredations by them. In addition, a few birds killed annually from miscellaneous causes such as electrocution, predation, and striking objects were available for examination. A total of 609 birds, consisting of 535 adults and 74 immatures was examined.

Upon collection, each pigeon was tagged, giving location and date of collection, placed in individual plastic bags, and promptly frozen. Examination was made within 3 to 4 months after death. This procedure permitted some deterioration of the worms before they were collected and preserved but not enough to destroy all taxonomic characters needed for identification.

Routine examinations were made of the entire alimentary tract, liver, heart, kidneys, reproductive tract, and connective tissue between the skin and body. Cestodes were stored in alcohol-formalin-acetic acid fixative and nematodes in a mixture of 70% alcohol and 5% glycerin.

¹ Contribution from Colorado Federal Aid to Wildlife Restoration Project W-88-R.

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RESULTS

None of the birds less than 9 months of age was infected, which suggests the source of infection may not be in the hatching area. Cestodes and nematodes were the only helminth parasites recovered.

Of 535 adult birds examined, 76 (14.2%) harbored parasites. This percentage was similar each year. The number of birds infected with cestodes was about double that with nematodes. Fifty-two pigeons (9.7%) were infected with cestodes and 24 (4.5%) with nematodes.

Cestoda. All specimens lacked the scolex, making specific identification difficult. Special efforts on our part to recover a scolex failed. What we consider to be *Hymenolepis armata* (Fuhrman, 1906) was found in 50 birds. It is of interest to note the scolex of this species has never been described, suggesting it has not been seen.

Two birds harbored fragments of two strobilae of what appeared to be a single species of *Raillietina*.

Nematoda. The pigeon ascarid, *Ascaridia columbae* (Gmelin, 1790) was recovered from 11 birds. The nematode reported as *A. columbae* by Smith³ from the connective tissue of a pigeon was more likely one of the filarioid nematodes which occur in those tissue. *A. columbae* is an intestinal parasite.

Three filarioid nematodes were found in the subcutaneous tissue of the thighs of seven birds: *Splendidofilaria columbensis* Olsen and Braun, 1976, *S. hiblieri* Olsen and Braun, 1976, and *Chandlerella robinsoni* Olsen and Braun, 1976.²

DISCUSSION

The low prevalence of helminth parasitism noted in this large sample of pigeons most likely is reflective of the pigeon's diet which consists primarily of fleshy fruits, acorns, grain and buds and flowers of deciduous shrubs and trees. Of interest is the observation that none of the infected pigeons was emaciated or appeared to be adversely affected by the light infections.

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Received for publication 1 May 1978