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Source: Journal of Wildlife Diseases, 15(3) : 405-408

Published By: Wildlife Disease Association

URL: https://doi.org/10.7589/0090-3558-15.3.405

GASTRO-INTESTINAL HELMINTHS IN WHITE-TAILED DEER *(Odocoileus virginianus)* OF ILLINOIS

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Abstract: Two deer populations, one in northern Illinois the other in southern Illinois, were examined by necropsy (n = 44 and 40 respectively) for helminth parasites of the gastro-intestinal tract and abdominal cavity. Both herds were parasitized by *Apteragia odocoilei, Haemonchus contortus, Gongylonema pulchrum, Setaria yehi, Trichuris ovis,* and *Moniezia benedeni. Nematodirus* sp. was found only in deer of northern Illinois. *Ostertagia mossi, Capillaria* sp., *Cooperia* sp., and *Oesophagostomum* sp. were found only in deer of southern Illinois.

INTRODUCTION

White-tailed deer *(Odocoileus virginianus)* have recovered to harvestable levels within the last 20 years in Illinois. Since no published reports of helminth fauna of deer are available for Illinois, a survey of the gastro-intestinal and abdominal helminths is clearly warranted. This is a report of the helminths recovered at necropsy from deer located in two northern and five southern Illinois counties.

MATERIALS AND METHODS

White-tailed deer killed by hunters were brought to check stations in Carroll and Jo Daviess counties in northern Illinois and in Hardin, Johnson, Massac, Pope, and Saline counties in southern Illinois during November and December, 1971.

The gastro-intestinal tract was removed and divided into eight sections for study: esophagus, rumen, reticulum, omasum, abomasum, small intestine, cecum and large intestine. The surface of viscera also was examined at this time for *Setaria.*

The contents and scrapings from the mucosal linings were preserved in 10% formalin. This material was then placed into shallow black pans; helminths were located with the aid of a dissecting microscope. Nematodes were preserved in 10% formalin, later cleared in lactophenol, and identified using keys of Becklund and Walker,[2,3,4] Levine,[5] Skryabin *et al.*,[10] and Yamaguti.[13] Cestodes were fixed in hot alcohol-acetic acid-formalin, and later stained, cleared, and mounted on slides for identification using keys of Wardle and McLeod[11] and Yamaguti.[12] Voucher specimens were sent to the United States National Helminthological Collection in Beltsville, Maryland (Nos. 74971-74980).

RESULTS AND DISCUSSION

A total of 10 species of nematodes and one species of cestode was recovered from deer herds in northern and southern Illinois (Table 1). Six species of nematodes were found in both populations. *Capillaria* sp., *Cooperia* sp., and *Oesophagostomum* sp. were found in deer in southern Illinois, while

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TABLE 1. Gastro-intestinal and abdominal helminths recovered from deer in two northern and five southern counties in Illinois.

Helminth species	Site*	No. infected/ No. examined		%		Intensity			
						Range		Mean	
		N	S	N	S	N	S	N	S
NEMATODA									
Gongylonema pulchrum	E	4/34	18/39	18.8	46.3	1-3	1-19	1.5	4
Apteragia odocoilei	A	27/44	27/40	61.5	67.5	1-84	1-238	14	30
Haemonchus contortus	A	10/44	9/40	22.7	22.4	1-13	1-13	4	3
Ostertagia mossi	A	0/44	14/40	0	35	0	1-38	0	7
Capillaria sp.	SI	0/44	2/40	0	5	0	2	0	2
Cooperia sp.	SI	0/44	2/40	0	5	0	1	0	1
Nematodirus sp.	SI	11/44	0/40	25	0	1-52	0	8	0
Trichuris sp.	LI	2/44	2/40	4.5	5	1-5	1-2	3	1.5
Oesophagostomum sp.	C	0/44	1/40	0	2.5	0	1	0	1
Setaria yehi	AC	6/44	7/40	13.6	17.5	1-4	1-8	2	2
CESTODA									
Moniezia benedeni	SI	8/44	6/40	18.2	15	1	1-3	1	1.3

*A = abomasum, AC = abdominal cavity, C = cecum, E = esophagus, LI = large intestine, and SI = small intestine.
N = N. Ill. and S = S. Ill.

Nematodirus sp. was found only in deer in northern Illinois. Using the t test, there was no significant difference ($P<0.05$) in prevalence between sexes in either deer herd.

The variety and prevalence of helminth species recovered were rather typical of recent surveys. [1,6,7,8,9] Although some of the genera identified *(Capillaria, Cooperia, Haemonchus, Oesophagostomum,* and *Trichuris)* also parasitize cattle, according to Prestwood, *et al.*,[6] it is unlikely that these deer are acting as reservoir hosts for livestock.

Acknowledgements

Facilities for processing deer tracts were provided in southern Illinois by M.E. Mansfield and the Dixon Springs Agricultural Center and in northern Illinois by Forrest Loomis of the Illinois Department of Conservation. This study was supported, in part, by Federal Aid to Wildlife Restoration, Illinois Project W-63-R, Illinois Department of Conservation.

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Received for publication 19 April 1978