

## INTESTINAL HELMINTHS FROM WILD TURKEYS OF SHELBY FOREST WILDLIFE MANAGEMENT AREA

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### ABSTRACT

In April of 1978 and 1979 intestinal tracts from 34 wild turkeys (*Meleagris gallopavo silvestris*) were collected from the Shelby Forest Wildlife Management Area and examined for helminth parasites. Six species of parasites were found including two cestodes, three nematodes, and one trematode.

### INTRODUCTION

Since 1940 the wild turkey population (*Meleagris gallopavo silvestris*) in the United States has increased sevenfold to 750,000 birds. This increase is due to habitat restoration and stocking operations (Prestwood et al., 1973). Because stocking continues to play an important role in wild turkey management, the possibility of transmitting helminth parasites needs to be considered. The Shelby Forest Wildlife Management Area provides wild turkeys for stocking throughout Tennessee. This is a report of the intestinal helminth parasites from turkeys of this area.

### MATERIALS AND METHODS

In April of 1978 and 1979 the intestinal tracts of 34 hunter-killed turkeys were obtained at the ranger station located in Shelby Forest near Memphis, Tennessee. Prior to laboratory examination the intestines were kept at  $-4^{\circ}\text{C}$ . For recovery of parasites the intestines were thawed, opened, and the contents successively washed through a 10-mesh and a 40-mesh screen. Helminths were removed from material trapped on the screen and stored in 70% ethanol before mounting. Nematodes were mounted in Hoyer's or Turtox mounting media. Cestodes and trematodes were stained with hematoxylin or Grenacher's borax carmine using standard procedures.

### RESULTS AND DISCUSSION

Six species of helminth parasites were found in the intestinal tracts of 34 turkeys examined (Table I). In a previous study (Maxfield et al., 1963), 9 species of gastrointestinal helminth parasites were found in 24 wild turkeys taken at Shelby Forest (Table I).

Both studies showed *Raillietina williamsi*, *Ascaridia dissimilis*, and *Heterakis gallinarum* were widespread. *Heterakis gallinarum* is particularly important because *Histomonas meleagridis*, the infective agent for black-head disease in wild turkeys of the southeastern states,

TABLE I. *Intestinal helminth parasites of 34 turkeys examined by Newsome et al. (1979) and 24 turkeys examined by Maxfield et al. (1963) from Shelby Forest.*

Parasite	Number Parasitized		Percentage Parasitism	
	1963	1979	1963	1979
<b>Cestoda</b>				
<i>Davainea meleagridis</i>	10	—	41.7	—
<i>Hymenolepis carioca</i>	—	10	—	29.4
<i>Raillietina ransomi</i>	1	—	4.2	—
<i>Raillietina williamsi</i>	23	29	95.8	85.3
<b>Nematoda</b>				
<i>Ascaridia dissimilis</i>	19	18	79.2	52.9
<i>Capillaria bursata</i>	4	—	16.7	—
<i>Capillaria obsignata</i>	17	—	70.8	—
<i>Capillaria</i> sp.	—	3	—	8.8
<i>Heterakis gallinarum</i>	24	14	100.0	41.2
<b>Trematoda</b>				
<i>Cotylurus flabelliformis</i>	8	—	33.3	—
<i>Echinoparyphium recurvatum</i>	2	—	8.3	—
<i>Postharmostomum gallinum</i>	—	1	—	2.9

et al., in press) but has been reported from poultry elsewhere. In the study by Maxfield and in our study, turkeys taken in the spring months represented sample sizes of approximately three and eight percent respectively. A comparison of the two studies (Table I) suggests that a modification of the intestinal helminth fauna has taken place. The introduction of a new parasite (*P. gallinum*) to North America, observed in our study, may be significant since trapped birds are transported to other areas of Tennessee.

The role of parasitism as a limiting factor of wild turkey populations is poorly understood. However it is believed parasitism and disease could account for a large proportion of the total annual mortality presently attributed to unknown causes (Prestwood et al., 1973).