

BRIEF NOTE

A SURVEY OF THE HELMINTH FAUNA OF TWO TURTLE SPECIES FROM NORTHWESTERN OHIO.¹

The helminth fauna of turtles in Ohio is poorly known. The only published account of turtle helminths was by Rausch (1947), an examination of 7 species of turtles from a variety of locations throughout the state. Additional studies of turtle helminths have been conducted in the north central United States; these include, Michigan (Esch and Gibbons 1967); Wisconsin (Guilford 1959); and Illinois (Martin 1973). The present study is a description of helminth fauna of two turtle species in northwestern Ohio.

Forty-six midland painted turtles, *Chrysemys picta marginata* Agassiz, and 13 Blanding's turtles, *Emydoidea blandingii* (Holbrook), collected at the Ottawa National Wildlife Refuge, Ottawa Co. OH, were examined.

Turtles were captured in hoop nets from 15 August to 30 October, 1972 and from 1 March to 1 May, 1973. All turtles were transported to the laboratory alive and euthanized by the injection of chlorotone, into the peritoneal and pericardial cavities. Animals were necropsied within 48 hours of capture. Turtles awaiting necropsy were held in sinks containing tap water. Necropsies were performed following standard procedures.

Trematodes were killed and fixed with AFA (alcohol-formalin-acetic acid) under light coverglass pressure and were subsequently stained in Semichon's Acetocarmine. Nematodes were killed in glacial acetic acid, stored in 5% glycerine-alcohol and cleared by allowing the gradual evaporation of the alcohol and daily addition of pure glycerine until all the alcohol had evaporated. Specimens were examined microscopically as temporary mounts in pure glycerine and measured with an ocular micrometer.

Forty-three of 46 (93.5%) of *C. picta*

marginata were infected (table 1). The trematodes *Spirorchis scripta* and *Protenes angustus* represent new locality records for Ohio and *Telorchis attenuatus* and *Telorchis corti* were each found in a single host. Monogenetic trematodes found included *Polystomoides coronatum* and *Neopolystoma orbiculare*, from the buccal cavity and urinary bladder, respectively. *Camallanus trispinosus*, an intestinal nematode, was the most prevalent (91%) of all the helminths found in the painted turtle and *Spiroxys contortus* was identified from the stomachs of 11% of these turtles. Each of the 13 *E. blandingii* harbored some type of helminth. The trematodes *Spirorchis scripta* and *Gorgoderina amplivava* are new host records for Blanding's turtle.

This is the first report of a member of the genus *Gorgoderina* Looss, 1899, occurring naturally in a reptilian host. Goodchild (1955) reported the successful transfer of adult *G. amplivava* and *Gorgoderina attenuata* from the urinary bladder of the bullfrog, *Rana catesbeiana*, to the urinary bladder of the eastern painted turtle, *Chrysemys p. picta*. He transferred 77 adult worms and recovered only single individuals of each species 7 to 10 days post transfer. *Gorgoderina amplivava* normally inhabits the urinary bladder of anurans and their metacercariae migrate up the ureter to the kidney for a period of maturation before reaching the adult condition in the urinary bladder (Goodchild 1955).

Telorchis compactus was recorded from 2 of 4 female Blanding's turtles examined. This is a new state record for Ohio and the first report of this oviduct fluke since the original description by Cable and Sandborn (1970). *Heronimus mollis*, *Polystomoides coronatum* and an immature member of the genus *Telorchis* were also identified. Other nematodes found in *E. blandingii* were *Camallanus trispinosus* and *Spiroxys contortus*. And, 23% of the turtles harbored immature *Spiroxys* sp., most probably *S. contortus*.

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TABLE 1
*Helminths of the turtles Chrysemys picta marginata and Emydoidea blandingii from the
 Ottawa National Wildlife Refuge.*

Host and Parasite	% Prevalence	Intensity		Location*
		Mean	(Range)	
<i>Chrysemys picta marginata</i> Agassiz				
† <i>Spirorchis scripta</i> Stunkard, 1923	37	2	(1-2)	2,3,4,5,6,7
<i>Telorchis attenuatus</i> Goldberger, 1911	2	1	—	10
<i>Telorchis corti</i> Stunkard, 1915	2	1	—	10
† <i>Protenes angustus</i> (Stafford, 1900)	13	2	(1-5)	10
<i>Polystomoides coronatum</i> (Leidy, 1888)	2	1	—	1
<i>Neopolystoma orbiculare</i> (Stunkard, 1916)	4	1	—	11
<i>Camallanus trispinosus</i> (Leidy, 1851)	91	9	(1-25)	9,10
<i>Spiroxys contortus</i> (Rudolphi, 1819)	11	3	(1-7)	9
<i>Emydoidea blandingii</i> (Holbrook)				
<i>Heronimus mollis</i> Leidy, 1856	38	10	(1-36)	6
†** <i>Spirorchis scripta</i> Stunkard, 1923	46	2	(1-4)	2,5,7
† <i>Telorchis compactus</i> Cable and Sandborn, 1970	50††	6	(5-6)	8
<i>Telorchis</i> sp. Luhe, 1899	8	1	—	10
** <i>Gorgoderia amplicava</i> Looss, 1899	8	1	—	11
<i>Polystomoides coronatum</i> (Leidy, 1888)	46	3	(1-5)	1
<i>Camallanus trispinosus</i> (Leidy, 1851)	46	4	(1-12)	10
<i>Spiroxys contortus</i> (Rudolphi, 1819)	15	1	—	9
<i>Spiroxys</i> sp. Schnieder, 1866	23	3	(1-8)	9

*Numbers indicate location in host: 1—buccal cavity; 2—body washings; 3—cranial arteries; 4—esophageal submucosa; 5—heart; 6—lungs; 7—mesenteric arteries; 8—oviducts; 9—stomach; 10—small intestine; 11—urinary bladder.

**New host record.

†New state record for Ohio.

††2 of 4 females.

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