



SOME HELMINTH PARASITES OF THE AMERICAN BALD EAGLE

Author: KOCAN, A. ALAN

Source: Journal of Wildlife Diseases, 10(1) : 8-10

Published By: Wildlife Disease Association

URL: <https://doi.org/10.7589/0090-3558-10.1.8>

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

SOME HELMINTH PARASITES OF THE AMERICAN BALD EAGLE

A. ALAN KOCAN, [□] Department of Parasitology and Laboratory Practice, School of Public Health, University of North Carolina, Chapel Hill, North Carolina 27514, U.S.A.

LOUIS N. LOCKE, Bureau of Sports Fisheries and Wildlife, Patuxent Wildlife Research Center, Laurel, Maryland 20810, U.S.A.

Abstract: Bald eagles (*Haliaeetus leucocephalus*) found dead or moribund in the United States and Canada and submitted to Patuxent Wildlife Research Center were examined for helminth parasites. Nine genera of helminths were reported which include new host records for *Clinostomum complanatum*, *Neogogatea pandionis*, *Centrorhynchus* sp., *Serratospiculum amaculata*, *Capillaria contorta*, and *Habronema americanum*.

INTRODUCTION

The American bald eagle (*Haliaeetus leucocephalus*) has shown a dramatic decline in numbers over the last two decades throughout the continental United States. A great deal of attention has been focussed on the importance of pesticide poisoning and other factors which have contributed to mortality and reduced fecundity.^{8,9,2,12} Few reports are available on the helminth parasites of this North American bird, perhaps because of its general decline in numbers and intensified protection in recent years.

MATERIALS AND METHODS

Fifty-nine eagles, found dead or moribund in the United States and Canada and submitted to Patuxent Wildlife Research Center were examined for helminth parasites. These eagles were collected between 1963 and 1971. Because of the condition of the birds upon receipt and the variable care afforded the birds prior to arrival, no attempts could be made to determine prevalence or degree of infection.

RESULTS

Nine genera of helminths (four trematodes, one cestode, one acantho-

phalan, and four nematodes) were recorded from the eagles examined (Table 1). *Clinostomum complanatum*, *Neogogatea pandionis*, *Centrorhynchus* sp., *Capillaria contorta*, *Habronema americanum*, and *Serratospiculum amaculata* are reported here for the first time from this host. Although this is the first report of these genera from bald eagles, many of them have been previously reported from European and Asian eagles and a number of other raptors.^{10,6,5,7}

DISCUSSION

The exact role of helminths in raptor populations is not clear. It appears that birds subjected to greater than normal stresses, hand reared birds, and captive birds are more susceptible to parasitic infections and other environmental and biological insults than are birds from wild populations.^{10,4,3} Although no evidence of pathogenicity or mortality could be directly attributed to the helminths recovered in this study, pathogenicity has been previously reported for *Serratospiculum amaculata* by Bigland et al.,¹ and esophageal capillarids by Cooper² and Trainer et al.,¹² in other raptors.

[□] Present address: Dept. of Veterinary Parasitology and Public Health, Oklahoma State University, Stillwater, Oklahoma 74074.

TABLE 1. Helminths found in North American bald eagles.

Parasite	Collection location	Age	Sex	Necropsy diagnosis	Date
Trematoda					
<i>Clinostomum complanatum</i>	Minnesota	fledgling	F	enteritis emaciation	1972
<i>Phagicola longus</i>	North Carolina	2 years	F	gunshot	1965
<i>Neodiplostomum banghami</i>	Arkansas	adult	M	none	1963
	Iowa	immature	M	gunshot	1966
<i>Neogogatea pandionis</i>	Iowa	immature	M	gunshot	1966
	Massachusetts	immature	F	gunshot	1966
	Wisconsin	immature	M	none	1966
Acanthocephala					
<i>Centrorhynchus</i> sp.	Maine	adult	F	none	1967
	Florida	immature	F	gunshot	1971
	Iowa	immature	F	gunshot	1966
	New Jersey	adult	F	none	1963
Cestodes					
<i>Cladotaenia banghami</i>	Minnesota	immature	M	beating	1968
	Idaho	immature	M	impact injuries	1968
	Florida	immature	F	gunshot	1971
	Minnesota	immature	F	impact injuries	1968
	Wisconsin	immature	M	gunshot	1968
Nematodes					
<i>Contraecaecum</i> sp.	New Jersey	adult	F	none	1963
	Minnesota	immature	F	neck fracture	1969
	South Dakota	immature	M	gunshot	1968
	Illinois	immature	F	gunshot	1971
	Minnesota	adult	M	impact injuries	1969
	Wisconsin	adult	F	pesticide poisoning (Dieldrin)	1968
	South Dakota	adult	F	gunshot	1968
<i>Habronema americanum</i>	Minnesota	immature	F	impact injuries	1967
	Iowa	adult	F	none	1971
	Illinois	immature	F	gunshot	1970
	Wisconsin	immature	M	gunshot	1969
	Illinois	immature	F	none	1967
	Minnesota	immature	F	impact injuries	1967
<i>Serratospiculum amaculata</i>	Wisconsin	immature	M	gunshot	1969
	Illinois	immature	F	gunshot	1971
<i>Capillaria contorta</i>	Iowa	immature	F	strangled	1967
	Missouri	immature	F	gunshot	1969
	Minnesota	immature	F	gunshot	1966
	Wisconsin	adult	M	none	1965

Acknowledgements

The authors wish to thank Mr. Stanley N. Wiemeyer, Wildlife Biologist, Patuxent Wildlife Research Center, for his critical review of the manuscript and for information on the histories of the eagles.

LITERATURE CITED

1. BIGLAND, C. H., SI-KWANG, LIU and M. L. PERRY. 1964. Five cases of *Serratospiculum amaculata* (Nematoda: Filarioidea) infection in prairie falcons (*Falco mexicanus*). Avian Dis. 8: 412-419.
2. COON, N. C., L. N. LOCKE, E. CROMARTIE and W. L. REICHEL. 1970. Causes of bald eagle mortality, 1960-1965. J. Wildl. Dis. 6: 72-76.
3. COOPER, J. E. 1969. Oesophageal capillariasis in captive falcons. Vet. Rec. 84: 634-636.
4. COOPER, J. E. 1969. Some diseases of birds of prey. Vet. Rec. 84: 454-457.
5. COOPER, J. E. 1972. Hawks and parasites. Hawk Chalk 11: 31-35.
6. KEYMER, I. F. 1972. Diseases of birds of prey. Vet. Rec. 90: 579-594.
7. MAROTEL, G. 1899. Sur un type particulier d'Acanthocephale (*Echinorhynchus tenicandatus* n. sp.) C.R. Soc. Biol. 6: 226-228.
8. MULHERN, B. M., W. L. REICHEL, L. N. LOCKE, T. G. LAMONT, A. BESILE, E. CROMARTIE, G. E. BAGLEY and R. M. PROUTY. 1970. Organochlorine residues and autopsy data from bald eagles 1966-1968. Pesticides Monitoring J. 4: 141-144.
9. REICHEL, W. L., T. G. LAMONT, E. CROMARTIE and L. N. LOCKE. 1969. Residues in two eagles suspected of pesticide poisoning. Bull. Environ. Contamination and Toxicol. 4: 24-30.
10. SHEN, S. and S. WU. 1964. A preliminary survey of trematode and nematode parasites in aquatic birds from Inner Mongolia, China (Eng. Sum.) Tung Heuh Pao. 16: 398-415.
11. STICKEL, L. F., N. J. CHURA, P. A. STEWART, C. M. MENZIE, R. M. PROUTY and W. L. REICHEL. 1966. Bald eagle pesticide relations. Trans. 31st N. Amer. Wildl. Nat. Res. Conf. 190-200.
12. TRAINER, D. O., S. D. FOLZ and W. M. SAMUEL, 1968. Capillariasis in the gyrfalcon. Condor 70: 276-277.
13. WOODFORD, M. H. 1966. *A Manual of Falconry*. Adam and Charles Black, London.

Received for publication May 3, 1973