BLOOD PARASITES OF THE MAGPIE AND ENGLISH SPARROW OF EASTERN WASHINGTON[1]

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Extensive studies on the blood parasites of birds have been carried out in many parts of North America, especially in the eastern areas of the United States. Since there has been little, if any, work of this nature reported from the Pacific Northwest, it seems worth while to find out: (1) what blood parasites are present in the magpie and English Sparrow in eastern Washington, (2) the incidence of parasitism, and (3) whether these findings differ from those reported from other localities.

The eighty-two specimens, 57 magpies *(Pica pica hudsonia)* and 25 English Sparrows *(Passer domesticus)* were collected in Whitman County at or near Pullman, Washington from April, 1944, through May of 1945. Blood smears stained with Wright's blood stain were made from all birds and in several cases Harris' Hematoxylin-Eosin and Heidenhain's Iron-Hematoxylin were also employed.

Haemoproteus picae, Leucocytozoon berestneffi Sambon, *Trypanosoma avium* Danilewsky, and microfilaria were found in the magpies while microfilaria was the only parasite found in the English Sparrow. See Table I for incidence. With the following exceptions the findings of this investigation agree in general with those reported from other localities: in the magpie, Trypanosoma infections have not been reported previously. Plasmodia, found in magpies by Coatney and Jellison (1940), were not observed in the 57 specimens examined in this study. In general the percentage of blood parasite infection of magpies is higher in this investigation than reported by others.

Plasmodia, Haemoproteus, Toxoplasma, Trypanosoma and microfilaria (Herman, 1944) have been reported from the English Sparrow, but microfilaria was the only parasite found in the 25 birds examined. Some factors which may account for the low incidence of parasitism in English Sparrows are the small number of birds examined, the relative absence of malaria in the Pacific Northwest, light parasitism in general in this locality, and possibly the absence of proper transmitting agents.

Three types of microfilaria were found in magpies. The first measured from 75 to 135 micra in length and 4.5 to 6 in width. They were blunt anteriorly and tapered to a point posteriorly. Distinct cross striations were present. The second type was cross-striated, blunt at both ends and were from 170 to 200 micra long and about 6 micra wide. Only one specimen of the third form was found. Cross-striations

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were not visible and it measured 38 micra in length by 3 micra in width. The microfilaria found in English Sparrows were cross-striated and measured about 50 micra in length by 5 micra in width.

TABLE I. INCIDENCE OF BLOOD PARASITES

Bird	Age	No. examined	No. infected	Per cent infected	Parasites							
					Haemoproteus		Leucocytozoon		Trypanosoma		Microfilaria	
					No. infected	Per cent	No. infected	Per cent	No. infected	Per cent	No. infected	Per cent
Magpie	Adult	22	21	95	15	68	8	36	6	27	17	77
	Immature	5	4	80	4	80	0	0	0	0	0	0
	Fledgling	30	23	77	22	73	8	27	0	0	0	0
Total		57	48	84	41	72	16	28	6	10	17	30
English Sparrow	Adult	24	2	8	0	0	0	0	0	0	2	8
	Fledgling	1	0	0	0	0	0	0	0	0	0	0
Total		25	2	8	0	0	0	0	0	0	2	8

The finding of *Trypanosoma avium* in magpies constitutes a new host record. It is the opinion of Roudabush (personal communication) that the *Trypanosoma* belong to the species *avium*, both myonemed and non-myonemed forms being represented.

In conclusion, the author wishes to express his appreciation to Dr. R. L. Roudabush of Ward's Natural Science Establishment, Inc., Rochester, N. Y., for checking the identification of the protozoan parasites and identifying the *Trypanosoma;* and to Herbert L. Eastlick, Associate Professor of Zoology, of the State College of Washington, who directed the study.

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GENERAL NOTES

Bobwhites that Traveled.—The "Bobwhite is essentially sedentary" was the conclusion reached by H. L. Stoddard (The Bobwhite Quail, p. 182) after extensive banding of the species. Out of about 250 recoveries, which was a more than ten per cent return, only eleven individuals were taken as much as three miles from the place of banding, and the longest distance traveled was seven miles. A single recovery from farther away he considered out of the picture since it was apparently the result of a known destruction of habitat. We have no such information to guide us to a proper interpretation and evaluation of the following records of adventurous Bobwhites. In some cases the distance traveled by the bird may be somewhat less than that figured between post-offices from the map when there is no information as to whether the directions from the towns of banding and recovery places reduced the apparent distance.

623590, banded at Quincy, Illinois, January 25, 1930, by T. E. Musselman, was killed November 23, 1930, 5½ miles northeast of the banding place.

A451455, banded as an immature at Kansas, Illinois, August 19, 1933, by W. B. Taber, Jr., was killed November 11, 1933, 7 miles north of Martinsville, Illinois, about 7 miles from the place of banding.

620054, banded at Manorville, Long Island, New York, in July, 1931, by J. K. Jerome, was shot about November 20, 1932, at Westhampton Beach, about 10 miles away.

A442247, banded at Cushing, Minnesota, November 14, 1934, by M. F. Gunderson, was caught with a dip net and probably released July 17, 1935, at Motley, Minnesota, about 14 miles from where banded.

38-347814, banded as an immature on the White River National Wildlife Refuge, St. Charles, Arkansas, June 29, 1938, by Howard A. Miller, was shot December 24, 1938, near Tichnor, Arkansas, a reported distance of about 15½ miles.

A454670, banded September 8, 1933, in Ellis County, Oklahoma, 26 miles north and 2 miles west of Cheyenne, was killed about December 2, 1933, 8 miles north of Cheyenne, which would make the distance traveled about 17 miles.

506067, banded at Yemassee, South Carolina, early in March, 1927, by H. C. Morrison, was killed January 27, 1928, at Smoaks, South Carolina. These towns are about 28 miles apart.

A408428, banded as an immature, at Fairhope, Alabama, July 23, 1932, by Mrs. W. H. Edwards, was shot about February 16, 1933, at Atmore, Alabama, about 40 miles distant.

A429771, banded at Madison, Wisconsin, December 28, 1931, by George Wagner, was killed by a locomotive December 24, 1934, at Wauzeka, Wisconsin, more than 75 miles west.—MAY THACHER COOKE, U. S. Fish and Wildlife Service, Washington, D. C.

Eastern Kingbird Uses Rose Petals As Nest Material. In discussing the nest of the Eastern Kingbird *(Tyrannus tyrannus)* Eaton (1914), Forbush (1927), and Bent (1942) mention the use of rootlets, soft bark, fine grass, hair, wool, moss, plant-down, and catkins as lining materials. There seem to be no