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HEMATOZOA OF MALLARD DUCKS *(Anas platyrhynchos)* OF THE PACIFIC FLYWAY, WASHINGTON

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Abstract: Blood smears from 837 mallard ducks *(Anas platyrhynchos),* collected during January and February from various locales in Washington during the period 1974-1977, were examined for hematozoa. Of these, 339 (40.5%) harbored blood parasites: *Leucocytozoon simondi* was the most common, occurring in 24.4% of the birds, followed by *Haemoproteus nettionis* (23.4%). Microfilariae were found in 14 birds (1.7%).

INTRODUCTION

Evidence suggests that certain avian hematozoa, particularly *Leucocytozoon simondi,* can cause mortality in young anatids.[3,6,7,8] Because of this there has been increased interest in the blood parasites of the Anatidae[1,2,4,9] and the impact these parasites might have on breeding populations. Baseline information on the prevalence of hematozoa in waterfowl is required before the overall impact on the breeding population can be assessed.[1] The purpose of this investigation was to determine the prevalence of hematozoa in mallards in the Pacific Flyway, with particular emphasis on ducks wintering in the state of Washington.

MATERIALS AND METHODS

Blood smears were made from 837 banded adult mallards *(Anas platyrhynchos)* collected during January and February from 1974-1977. All birds were live-trapped and bled from the tarso-metatarsal vein on the inside of the shank. Smears were air dried, fixed in absolute methyl alcohol, and stained with buffered Giemsa's (pH 6.8). All smears were scanned for 10 minutes and the kinds and numbers of parasites recorded.

The ducks were collected from three localities in Washington, with the majority (77%) being obtained from the National Wildlife Refuge located near Othello. The other two sites were Yakima-Buena and the National Wildlife Refuge near Toppenish.

RESULTS AND DISCUSSION

Of the 837 mallards examined, 339 were infected with one or more species of blood parasites. Table 1 shows the prevalence and percentages of *Leucocytozoon simondi, Haemoproteus nettionis,* and microfilariae found in the four year study. The prevalence of these parasites is expressed as a percentage of the total birds examined.

Leucocytozoon simondi was observed most frequently, occurring in 24.4% of the sample. The overall prevalence ranged from 15.0% in 1974 to 31.8% in 1977, with the latter being a significant increase over 1976 (21.5%). *Haemoproteus nettionis* was found in 23.4% of the birds and, with the exception of the 41.7% prevalence in 1974, the prevalence of *H. nettionis* remained rather stable (range of 20.4-24.2%). Microfilariae were found in only 14 birds (1.7%), however, this was to be expected since blood smears are not the best method for assessing prevalence of these parasites.

Multiple infections involving two or more parasites were not common: 66

TABLE 1. Prevalence of Hematozoa in Mallard Ducks of Washington During the Period 1974-1977.

	Total Mallards			Mallards Infected with					
				Leucocytozoon		Haemoproteus		Microfilaria	
Year	Examined	Infected	% Infected	No.	%*	No.	%*	No.	%*
1974	60	30	50.0	9	15.0	25	41.7	-	-
1975	132	51	38.6	23	17.4	32	24.2	2	1.5
1976	321	121	37.7	69	21.5	71	22.1	4	1.3
1977	324	137	42.3	103	31.8	66	20.4	8	2.5
Total	837	339	40.5	204	24.4	194	23.4	14	1.7

*Percentage of the total birds examined.

infected birds carried two species and four harbored three organisms.

Only a slight difference in prevalence existed between drakes and hens (37.6% and 39.7%). The number of parasites observed while screening the slides would indicate a low level of infection, with *Leucocytozoon simondi* averaging only two organisms per examination period and *Haemoproteus nettionis* being higher with an average of twelve. Fluctuations in the prevalence of blood parasites noted in this study are comparable to those reported in other surveys.

Data reported herein lead one to further speculate on the affect that such a high prevalence of *Leucocytozoon simondi* in the migratory population may have on the duckling population in the breeding grounds.

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