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## A NOTE ON THE BLOOD PARASITES OF SOME BIRDS FROM THE REPUBLIC OF MADAGASCAR

GORDON F. BENNETT<sup>1</sup> and J. BLANCOU<sup>2</sup>

**Abstract:** Sixty-four birds of 32 species from Madagascar were examined for haematozoa; 14 birds of eight species harboured species of *Leucocytozoon*, *Plasmodium*, *Trypanosoma* and *Lankesterella*. The haematozoa involved occur commonly elsewhere in the world. No evidence of haemoproteid infection was found.

Relatively little has been recorded concerning the haematozoa of the avifauna of Madagascar, an area zoologically interesting because of its long-term geographic isolation from mainland Africa and concurrent evolution of a unique avifauna. Relatively few migrant birds visit the island<sup>2,3</sup> and the evolution of a discrete haematozoan fauna with the indigenous birds might be anticipated. A small sample of native Malagasian birds, collected in 1971 and 1973 by one of us (JB), together with material collected by Dr. G. Uilenberg, gave an opportunity to test the validity of this hypothesis.

A total of 64 birds of 32 species were surveyed for blood parasites (Table 1), and 14 (22%) of eight species harboured haematozoa; no multiple infections were noted. All infections were light, usually less than 1 parasite per 10,000 erythrocytes. Species of *Leucocytozoon* were the commonest parasites, occurring in eight birds: *L. toddi* in *Buteo brachypterus*, *L. ardea* in *Egretta dimorpha*, *L. centropi* in *Centropus toulou*, *L. fringillinarum* in *Foudia madagascariensis*, *Plasmodium rouxi* occurred in *Margaroperdix madagascarensis* and an unidentified *Plasmodium* in *Saxicola torquata*. *Trypanosoma avium* was found in both *Acridotheres tristis* and *Falco newtoni*. An unidentified *Lankesterella* was found in *Acridotheres tristis*.

Results from this small sample indicate a low prevalence of haematozoa in Madagascar. Furthermore, the haematozoa involved occur commonly elsewhere in the world. At this time there is no suggestion that the birds of Madagascar harbour a unique blood parasite fauna but a more extensive sample may prove otherwise. The failure to find evidence of a unique haematozoan fauna is, perhaps, not surprising. Although Madagascar is an island and has relatively few migrant birds, its proximity to the African mainland does permit the chance introduction of mainland species and their blood parasites. It is possibly significant that many of the bird genera sampled in this study also occur on the mainland and some, such as *Buteo*, *Falco*, *Saxicola*, *Egretta* and *Acridotheres* are widespread; members of these five genera contribute seven (50%) of the infected birds of this study. More surprising and presently inexplicable, is the absence of haemoproteids in this study. Haemoproteids are probably the dominant avian haematozoan in mainland Africa<sup>1,4</sup>; unpublished records of some 1500 birds from Kenya and Uganda in the collection of the WHO International Reference Center for Avian Malaria Parasites indicate that over 80% of the infected birds harbour species of *Haemoproteus*.

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TABLE 1. Blood parasites of some birds of the Republic of Madagascar.

Bird Species	Total Number		L.*	Pl.*	La.*	T.*
	examined	infected				
<b>ACCIPITRIDAE</b>						
<i>Buteo brachypterus</i>	4	1	1			
<b>ARDEIDAE</b>						
<i>Egretta dimorpha</i>	1	1	1			
<b>CUCULIDAE</b>						
<i>Centropus toulou toulou</i>	2	2	2			
<b>FALCONIDAE</b>						
<i>Falco newtoni</i>	3	1				1
<b>PHASIANIDAE</b>						
<i>Margaroperdix madagarensis</i>	1	1		1		
<b>PLOCEIDAE</b>						
<i>Foudia madagascariensis</i>	15	4	4			
<b>STURNIDAE</b>						
<i>Acridotheres tristis</i>	3	3			2	1
<b>TURDIDAE</b>						
<i>Saxicola torquata</i>	2	1		1		
Uninfected species (see below)	33					
<b>TOTALS</b>	<b>64</b>	<b>14(22%)</b>	<b>8</b>	<b>2</b>	<b>2</b>	<b>2</b>

\*L.—*Leucocytozoon*; La.—*Lankesterella*; Pl.—*Plasmodium*; T.—*Trypanosoma*.

UNINFECTED SPECIES: ACCIPITRIDAE—*Gymnogenys radiatus* (1); *Milvus migrans parasitus* (2); ANATIDAE—*Anas erythrorhyncha* (1); *Anas melleri* (1); *Dendrocygna bicolor* (1); *Dendrocygna viduata* (1); *Sarkidiornis melanota* (2); ARDEIDAE—*Ardea cinerea johanna* (1); *Ardeola idae* (1); *Ardeola ralloides* (1); *Bulbulcus ibis* (1); *Casmerodius albus melanorhynchus* (2); *Melanophox ardesiaca* (1); *Nycticorax nycticorax* (1); CICONIDAE—*Ibis ibis* (1); COLUMBIDAE—*Streptopelia picturata* (2); CUCULIDAE—*Coua caerulea* (1); HIRUNDINIDAE—*Phedina borbonica* (1); PHASIANIDAE—*Gallus gallus* (2); PLATALEIDAE—*Threskiornis aethiopicus bernieri* (1); RALLIDAE—*Porphyrio madagascariensis* (1); SCOLOPACIDAE—*Capella macrodactyla* (3); TURDIDAE—*Copsychus saularis* (1); TYTONIDAE—*Tyto alba* (3).

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