

SHORT COMMUNICATION:

NOTE ON THE PREVALENCE AND DISTRIBUTION OF THE EYEWORM OF THE DOMESTIC FOWL IN PAPUA NEW GUINEA

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ABSTRACT

Oxyspirura mansoni, the eyeworm of the domestic fowl, was recovered from the conjunctival sacs, nictitating membranes or nasolacrimal ducts of 55 out of 240 domestic fowls from throughout Papua New Guinea. Of the fowls examined, 42% of those reared under extensive systems of management were infected, whereas only 2% of those reared under semi-intensive systems and none of those reared intensively were infected. No worms were recovered from fowls originating from highland areas.

INTRODUCTION

Oxyspirura mansoni, the eyeworm of the domestic fowl, has been recognised in Papua New Guinea for many years (Rothwell 1961) but the extent to which it occurs has not been defined. This communication describes the prevalence of eyeworm in fowls reared under different systems of management and the geographical distribution of the parasite throughout Papua New Guinea.

MATERIALS AND METHODS

The conjunctival sacs, nictitating membranes and nasolacrimal ducts of 240 domestic fowls were examined post-mortem for the presence of *O. mansoni*. Fowls were collected between September 1975 and May 1977. Systems of Management were classified as intensive (fowls maintained on wire mesh or deep litter), semi-intensive (fowls confined in outdoor pens on the ground) and extensive (fowls

unconfined). Geographical locations were divided into highland (above 1200 m altitude) and lowland (below 1200 m altitude). The worms were identified by comparison with specimens identified by the British Museum and by reference to standard texts.

RESULTS

The prevalence of *O. mansoni* in fowls reared under each system of management and their geographical distribution are shown in Table 1. None of the fowls reared intensively, and only one of the fowls reared semi-intensively, was infected with eyeworm. Conversely, 54 (42%) of the fowls reared under extensive systems of management were infected. Of the 128 fowls reared extensively, 106 originated from the lowlands and 22 from the highlands. Of the lowland fowls, 51% were infected whereas none of the highland fowls harboured *O. mansoni*.

DISCUSSION

The results of this survey show that eyeworm is common in fowls reared under extensive methods of management in the lowlands of Papua New Guinea.

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Table 1.—Prevalence of *Oxyspirura mansoni* in 240 domestic fowls reared under different systems of management in Papua New Guinea and a comparison of infection rates in highland and lowland fowls

	Extensive management			Semi-intensive management			Intensive management		
	High-land	Low-land	Total	High-land	Low-land	Total	High-land	Low-land	Total
No. of fowls examined	22	106	128	10	33	43	11	57	68
No. of fowls infected	0	54	54	0	1	1	0	0	0
Percent fowls infected	0	51	42	0	3	2	0	0	0

One known intermediate host of *O. mansoni* is the cockroach, *Pycnoscelus surinamensis* which has a preference for warm tropical climates (Mackerras 1970). This cockroach is common in the lowlands and islands of Papua New Guinea with only one record of its occurrence in the highlands above 1200 m altitude. The occurrence and distribution of eyeworm in the domestic fowl thus seems to reflect the availability of the intermediate host under the different systems of management practised and the geographical distribution of the intermediate host.

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