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Lice *LIPEURUS CAPONIS* infestation in turkey and chicken in Ibadan, Nigeria

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Abstract

Louse infestation in chickens and turkeys in Ibadan is reported. The birds including guinea fowl were housed together fed on corn, guinea corn, corn shaft and household left overs and left to roam together in an enclosed area in a semi intensive system type of management. Report was made on a sudden drop in egg production in the birds, which finally stopped in the chickens and turkeys. Clinical examination revealed massive lice infestation in the turkeys and chickens but the guinea fowls had no louse. Examination of blood samples from 47% of the birds revealed no haemoparasites and haematological parameters were within normal range. The lice was identified to be *Lipeurus caponis*

Introduction

Lice of birds belong to the order Mallophaga; the biting lice and are common external parasites. Although, most lice are host specific, it is not uncommon for the lice of chicken to infest turkey and vice versa, especially if the birds have physical contact (Bagust 1994; Calnek 1997). Various species of lice affect different bird types. *Menacanthus stramineus* affects chicken, turkeys and guinea fowls, *Menopon gallinae* shaft louse affects guinea fowls, pheasants, turkeys, chickens and pigeons. *Chelopistes meleagridis* affects large turkeys, *Gonoides numidae* and *Lipeurus numidae* affects guinea fowls. According to Soulsby (1986), *Lipeurus caponis* however, affects all types of birds. In Nigeria, unlike other animal species, not much is documented on lice infestation in Poultry. This work is a case report of louse infestation in domesticated birds raised under semi-intensive management system.

Case Report, Materials and Methods

A report concerning domestic birds was made to the Apete Satellite clinic of Veterinary Teaching Hospital of University of Ibadan. The report indicated a sharp decline in egg production among domestic turkey (8 hen turkeys & 4 stags), indigenious chicken (6 hens & 2 cocks) and 2 guinea fowls (1 male & 1 female).

The birds were managed semi-intensively, being fed guinea corn, corn, corn shaft, and household left overs they are allowed to roam in a fenced area at daytime and come together at night in a small house (4 feet by 6 feet). This type of housing encouraged close physical contact among the birds. The birds were given New Castle disease vaccine; Lasota and Komorov Nigerian Veterinary Research Institute Vom strains . The owner reported that 5 out of 8 female turkeys, 4 out of the 6 female indigenous chicken and 1 guinea fowl started laying eggs 4 months previously but suddenly the laying pattern in the chickens and turkeys became irregular which later stopped. The laying pattern in guinea fowl though became irregular, but did not stop.

Laboratory Finding

The birds were thoroughly examined for ectoparasites infestation. Blood sample were collected from the birds into a sterile sample bottles containing Ethylene diamine tetra acetic acid (EDTA). Thin and thick blood smears were prepared and stained with Giemsa Stain. Packed cell volume (PCV) was determined by micro haematocrit method, total red blood cell (RBC) and white blood cell (WBC) counts were also determined using routine laboratory methods according to standard procedure, by Jain (1986).

Treatment and Action

The turkey and chickens that had lice were treated using organophosphate acaricide Dizintol® (Animal Care). The concentration of the acaricide is 162mg/ml and administered at 1ml/8litres of water. This was used to dip the infested birds. The treatment was repeated 2 weeks later.

Result

All the birds were examined individually and it was observed that the turkeys and chicken haboured massive lice infestation with their eggs in clusters attached to the feathers, while the guinea fowls showed no evidence of louse infestation.

Samples of the lice picked from turkey and chicken was identified as *Lipeurus caponis*. (Fig.1). Examination of blood samples revealed no haemoparasites and haematological parameters were within normal range. (Table 1). Egg production resumed 7 and 10 days after the treatment in the turkey and chicken respectively. The egg production pattern in the guinea fowl however remained the same.

Discussion

It can be deduced from the result that the lice infestation which was found to be massive was the cause of the decline in egg production in the turkey and chicken flocks. This is in agreement with Daveney (1976), who reported that there is a positive correlation between lice infestation and decrease feed consumption and egg production in poultry. Severe lousiness in poultry will cause irritation of the birds which will in turn result to decrease feed intake and low productivity (Calnek, 1997).

In Nigeria Guinea fowls are generally susceptible to louse infestation but in this report it was found that despite the physical close contact with affected turkeys and chickens, the guinea fowls were free from lice infestation. It is worthy of note that the non-existence of louse in these species may be linked with the sexual interaction between the male and the female guinea fowls which prompted frequent pecking and grooming practices thus aiding natural delousing. The irregularity pattern of the egg production observed in these species may however be due to management problems especially associated with feeding.

Table 1 The Haematological Parameters Of Turkeys, Ckinken And Guinea Fowl During An Outbreak Of Lice Infestation

Serial Number	Bird Type	PCV (%)	Hb gm/dl	RBC $10^{12}/L$	WBC $10^{9}/_{L}$	Differential white blood cell count (%)			
						Neutrophil	Lymphocyte	Eosinophol	Monocyte
1	Turkey	33	10.7	1.8	12.5	6.1	6.3	0.1	-
2	Turkey	32	10.4	2.4	14.1	5.6	8.5	-	-
3	Turkey	41	13.0	3.1	12.1	5.4	6.7	-	-
4	Turkey	35	11.4	1.6	15.0	8.3	6.5	0.03	-
5	Chicken	29	9.4	1.4	17.3	11.8	5.5	-	-
6	Chicken	32	10.2	2.5	18.5	8.7	9.25	0.4	0.18
7	Guinea Fowl	39	12.8	1.7	12.6	7.4	5.2	-	-

Fig. 1 Microphotograph of the anterior segment of *L.Caponis* (head, thorax and part of the abdomen x 40 magnification)

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