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FLEA INFESTATION IN A NIGERIAN LOCAL CHICKEN: A CASE REPORT

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INTRODUCTION

Fleas refer to a blood-sucking wingless insect of the Order: *Siphonaptera*. They are parasites in their own right and also act as vectors which transmit diseases (Soulsby, 1982). Their bites leave wounds which become portals of entry for infection. There are three important Genera fleas that infest poultry. *Echidnophaga gallinacea*, the small stick fast (stick tight) flea, belongs to the Family: *Pulicidae and* is found in warm countries (Soulsby, 1982). It is unique among poultry fleas because the adults become sessile parasites and remain attached to the skin of the head for days or sometimes weeks. The flea spends much of its adult life on the host and feeds only on blood and causes intense irritation and related allergic dermatitis. The adult females forcibly eject their eggs so that they reach surrounding litter (Philips, 2005). These hatch into larvae which develop in sandy, well drained litter and feed mainly on organic matter. After pupating in a cocoon, the flea completes its life cycle. The adult flea can be found on chickens, turkeys, pigeons, pheasants, quail, man as well as many other mammals (Soulsby, 1982). Irritation and blood loss may cause anemia and death especially in young birds (Philips, 2005).

KEYWORDS: Echidnophaga gallinacea, infestation, chicken, Nigeria.

CASE REPORT

A local chicken was presented to Agbo Veterinary Ventures in Zarazong, Jos in Plateau State, Nigeria with a history of reduced feed intake, restlessness and non incubation of its ten eggs. On examination, there was a gregarious aggregation of the fleas on the comb and wattle. Feather damage was also observed together with loss of plumage around the head. (Plate 1).

Diagnosis was made based on the history of restlessness, clinical signs of aggregation of the parasite on the comb and laboratory identification of the insect. The insects were collected from around the eye of the chicken using cotton wool wrapped around a pair of tissue forceps and soaked in 10%Formalin. The insects seen under a light microscope, showed a laterally compressed body with the head broadly joined to the thorax as well as the absence of wings. They were also covered with two backward projecting bristles and spines distinguishing characteristics of fleas as described by Soulsby (1982).

Treatment was instituted by administration of Ivermectin (Ivomec®) at a dose rate of 200ug/kg subcutaneously. When the chicken was presented after five days most of the fleas had died and dropped off (Plate 2) and it was reported to have continued incubating its eggs.

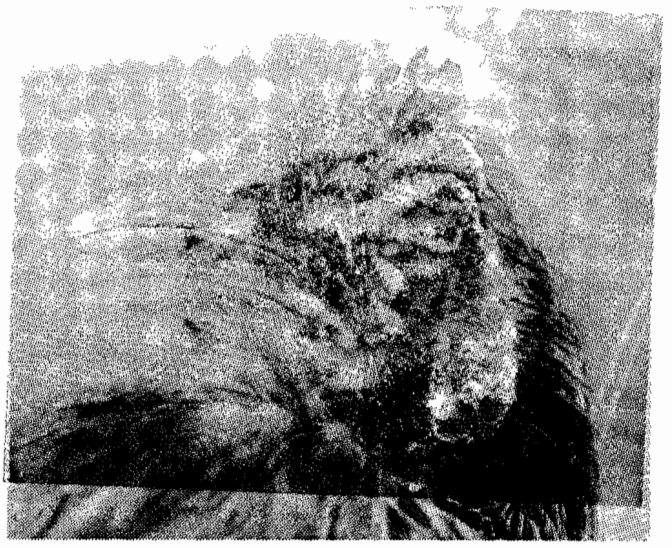

PLATE 1: Shows the hen with gregarious aggregation of fleas on the comb, wattle and around the eyes

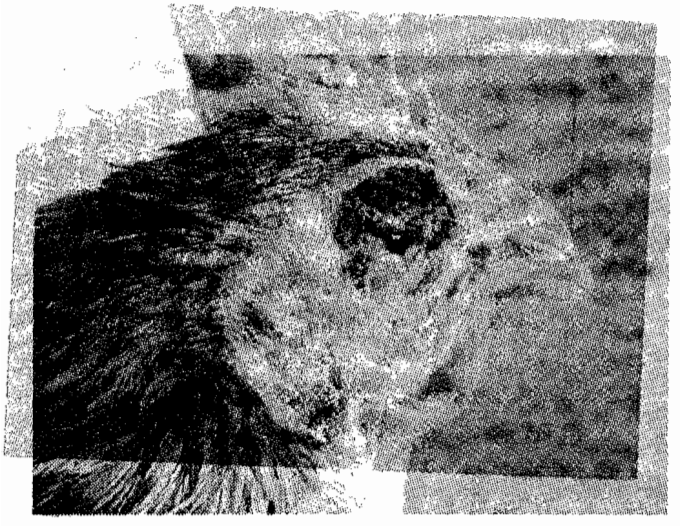

PLATE 2: Shows the hen 5 days post treatment. Note reduced aggregation of fleas around the comb, wattle and eyes

DISCUSSION AND CONCLUSION

Echidnophaga gallinacea is common in chickens and scavenging poultry in most communities in tropical and subtropical areas of the world. It may also occur on rodents, dogs, cats and occasionally man (Soulsby, 1982). In a survey of the ectoparasites of poultry in the southern guinea savanna zone of Nigeria, investigated by the examination of guinea fowl and local chickens in free range and guinea fowl under intensive management, it was reported that two fleas *Echidnophaga gallinacean and Ctenocephalides felis* infested the birds. Other ectoparasites seen were **lice**: *Menacanthus stramineus, Menopon gallinae, Goniodes gigas, Goniocotes gallinae, Lipeurus caponis, Numidilipeurus tropicalis, Damalinia bovis* .Three **mites**: *Bdellonyssus bursa, Megninia cubitalis, Dermanyssus gallinae;* and two **ticks** *Argas persicus and Amblyomma variegatum.* Infested the birds (Okaeme, 1988). It shows that birds on free range are more prone to ectoparasite infestation.

Studies have also shown that almost all families in developing countries keep chickens varying from 5 to 50 (average flock size of 10 adult chickens). The majority of these are kept on free-range scavenging systems, where the birds scavenge around the house during daytime and are kept in primitive housing at night. In some cases housing is not provided and the birds sleep on trees or roof tops. Supplementary feed consists mainly of household wastes, insects, larvae and seeds (Kabatange *et al.*, 1999 and Pandey, 1992). Since these chickens are kept in most households in developing countries such as Nigeria, *Echidnophaga gallinacea* infestation may pose a zoonotic hazard. The condition can also spread to other chickens because they are raised on free range. The reduced food intake and restlessness in the bird may result in poor weight gain as reported by Okaeme (1988). The failure to incubate eggs, feather damage and depluming of the bird may lead to poor market value and death subsequently leading to economic losses to the farmer. Control of this flea is recommended.

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