

**PULEX IRRITANS INFESTATION ON A NIGERIAN-LOCAL DOG:
A CASE REPORT**

¹M. D. LAWAL., ²S. BUHARI AND ¹M. O. ALAYANDE

¹Department of Veterinary Parasitology and Entomology,

²Veterinary Teaching Hospital,
Usmanu Danfodiyo University, Sokoto

Abstract

A three-year-old rottweiler cross dog was presented to the Veterinary Teaching Hospital, Usmanu Danfodiyo University Sokoto with alopecia, pruritus and restlessness. Examination of the animal on presentation revealed the presence of ectoparasite of humans (*Pulex irritans*). This rare finding has public health significance in this part of the country where pet keeping is gaining acceptance. *Pulex irritans* infestation of dogs in Sokoto is being reported for the first time.

Key words: *Pulex irritans*, dog, Nigeria

Introduction

Fleas are the most common external parasites of companion animals (Lloyd *et. al.*, 1989). The human flea, (*Pulex irritans*) does not commonly infest the domestic dog. There are six species in the genus and the one of veterinary importance is *P. irritans* (Soulsby 1982). Flea bite hypersensitivity is still the most common cause of allergic dermatitis in dogs (Keith *et. al.*, 2002).

The life cycle of the flea starts with the gravid female ovipositing on the host's bedding, the host or the ground. There are 3 larval instars. The larva feeds on faeces and blood depending on environmental temperature and humidity. A pupa is formed, and this stage lasts between 10 and 17 days (Richard *et. al.*, 2001).

Case Report

A 3-year-old male rottweiler cross male dog weighing 19kg was presented to the Veterinary Teaching Hospital, Usmanu Danfodiyo University, Sokoto with the complaints of restlessness, scratching and loss of hair on the inguinal and flank regions. Vital parameters such as temperature, respiratory and pulse rates were within normal range. The dog had ruffled hair coat, alopecia and excoriation on the flank region and was restless. The dog was housed within the premises.



Figure I: Dog with flea

Physical examination revealed the presence of fleas. The ectoparasites were collected by brushing them off the host onto a white piece of cloth spread beneath the dog with a brush treated with 5% solution of benzyl benzoate. Thereafter, the fleas were transferred into bottles containing 70% alcohol and taken to parasitology laboratory for identification. The dog was treated with ivermectin at a dose rate of 400µg/kg subcutaneously twice within two weeks.

For laboratory examination, fleas were poured onto a petri dish and observed under x20 magnification with a stereomicroscope.

Pulex irritans was identified based on the following criteria: (i) Absence of genal and pronatal combs (ctenidia) (ii) Absence of bristles on the head (Soulsby, 1982).



Figure II: *Pulex irritans*

Vapona® (Dichlorvos) (0.2%) was sprayed in the kennel, surroundings and resting place of the dog within the house. The dog was apparently free of the infestation 3 weeks post-presentation.

Discussion

The feeding habit of the flea especially in large numbers has serious effects on the health status of the host. It has been incriminated in the transmission of plague (*Yersinia*

pestis) from rodents to man as well as serving as an intermediate host of *Dipylidium caninum* (William, 2001). Roberts (1973) reported that it can cause hypersensitivity reaction by biting its host due to the presence of anticoagulants, polypeptides, amino acids and hapten in its saliva. The flea may be generally distributed over the entire body but are particularly concentrated on the dorsal lumbosacral area, inguinal and flank regions.

Infestation with *Pulex irritans* in man causes pruritus and other allergic responses and has been reported in people with poor hygienic standards. In dogs, *Pulex irritans* infestation manifests clinically as restlessness, scratching, weight loss, ruffled hair-coat, self-mutilation and alopecia (Soulsby, 1982). The dog in this case presented most of these signs. Even though observation of fleas on the body of dogs is possible with the naked eyes, the owner of the dog did not notice the fleas at the time of presentation and therefore the period of infestation could not be ascertained.

Dog owners are advised to keep close watch on the hygienic conditions of their dogs. They should institute proper cleaning of kennel and adequate disposal of faeces. Regular shampooing or tick bath will help. Free range dogs are more vulnerable to flea infestation than the better cared

for kenneled dogs.

The owner of this dog did not complain of being infested with the flea, but the chances are high. Therefore, there is need to investigate the incidence and prevalence of infestation with *P. irritans* in dogs and man in Sokoto.

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