



E-ISSN: 2320-7078

P-ISSN: 2349-6800

JEZS 2019; 7(1): 484-485

© 2019 JEZS

Received: 01-11-2018

Accepted: 03-12-2018

Shanmugasundaram Udhayavel
Assistant Professor, Poultry
Disease Diagnosis and
Surveillance Laboratory,
Namakkal, Tamil Nadu
Veterinary and Animal Sciences
University, Tamil Nadu, India

Kandasamy Senthilvel
Professor, Poultry Disease
Diagnosis and Surveillance
Laboratory, Namakkal, Tamil
Nadu Veterinary and Animal
Sciences University, Tamil
Nadu, India

**Tippichettyalayam Ramasamy
Gopala Krishna Murthy**
Professor and Head, Poultry
Disease Diagnosis and
Surveillance Laboratory,
Namakkal, Tamil Nadu
Veterinary and Animal Sciences
University, Tamil Nadu, India

Vasudevan Gowthaman
Assistant Professor, Poultry
Disease Diagnosis and
Surveillance Laboratory,
Namakkal, Tamil Nadu
Veterinary and Animal Sciences
University, Tamil Nadu, India

Correspondence

Shanmugasundaram Udhayavel
Assistant Professor, Poultry
Disease Diagnosis and
Surveillance Laboratory,
Namakkal, Tamil Nadu
Veterinary and Animal Sciences
University, Tamil Nadu, India

Sticktight flea (*Echidnophaga gallinacea*) infestation in desi chicken- a case report

**Shanmugasundaram Udhayavel, Kandasamy Senthilvel, Tippichettyalayam
Ramasamy Gopala Krishna Murthy and Vasudevan Gowthaman**

Abstract

Five numbers of 24 months old desi chicken were diagnosed with flea infestation during a clinical examination in Poultry disease diagnosis and surveillance laboratory, Namakkal. The fleas were embedded around the eyes and were identified as sticktight fleas (*Echidnophaga gallinacea*). The infestation was treated with manual removal of fleas combined with topical malathion dusting and environmental treatment. Subsequent recheck exams did not reveal any fleas on the affected birds or on any of the other birds housed in the same farm.

Keywords: Desi chicken, *Echidnophaga gallinacea*, infestation

1. Introduction

Echidnophaga gallinacea, The sticktight flea is a major poultry parasite in tropical countries like India. The sticktight flea is one of the smallest fleas found on domestic animals, usually measuring less than half the size of the cat flea. The adult females forcibly eject their eggs so that they reach surrounding litter. The larvae develop best in sandy, well-drained litter. The adult fleas usually attached to the skin of the head or anus of the birds for several days or weeks. Chickens, quails, turkeys and pigeons are the major hosts of the adult flea. The clinical manifestations include restlessness, irritation, anaemia. In severe infestation of the fleas around the eyes cause ulcerations, blindness and death due to starvation [1]. In the present study *Echidnophaga gallinacea* infestation in desi chicken and its therapeutic management is discussed.

2. Materials and Methods

Five numbers of 24 months old desi chicken were brought to Poultry disease Diagnosis and surveillance Laboratory, Namakkal with a history of restlessness, anorexia in a flock of 150 birds in Tamil Nadu. Clinical examination revealed the fleas were embedded around the eyes, comb and wattle and resulted in partially closed eyes as well as ulcerations around eyes (Figure 1). The fleas collected were washed in tap water. Thereafter the samples were dehydrated using ascending grades of alcohols (70%, 90% and absolute alcohol) with 5 minutes of gap between each step and then clearing with xylene. Finally, samples were permanently mounted using DPX. The slides were viewed under 10X magnification for morphological identification as per the standard protocol [2].

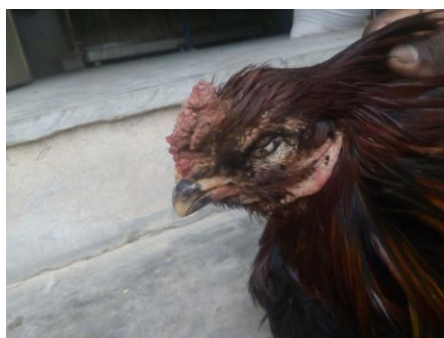


Fig 1: Fleas embedded around the eyes, comb and wattle in desi chicken



Fig 2: *Echidnophaga gallinacea* under 10 X magnification

3. Results and Discussion

The fleas collected from wattle, comb and around eyes were processed and identified as *Echidnophaga gallinacea* as per the morphological characters described by Soulsby^[3] (Figure 2). Several authors also reported the sticktight flea infestation in many places of Tamil Nadu^[4-6]. The birds were treated with manual removal of fleas combined with topical malathion dusting. To avoid reinfestation, the entire flock of desi chickens were sprayed with deltamethrin solution (12.5 %, 1 ml in 2 litres of water)^[7]. The farmer was advised to burn the infested organic material in the farm premises and also recommended to use wire cages at least 3 feet above the ground to minimize chances of flea infestation as described by Koehler *et al*^[8]. Subsequent recheck exams did not reveal any fleas on the birds housed in the same shed. Ectoparasites not only cause discomfort to the chicken but also act as vectors for transmission of some diseases. So, early identification of infestation and periodic cleaning of enclosures has to be practiced for healthy maintenance of birds.

4. Acknowledgement

The authors are highly thankful to the Director, Centre for Animal Health Studies, TANUVAS for providing necessary facility for the study.

5. References

1. Boughton RK, Atwell JW, Schoech SJ. An introduced generalist parasite, the sticktight flea (*Echidnophaga gallinacea*), and its pathology in the threatened florida scrub-jay (*Aphelocoma coerulescens*). *Journal of Parasitology*. 2006; 92(5):941-948.
2. Cable RM. *An Illustrated Laboratory Manual of Parasitology*. Indian Edition, Allied Pacific Private Limited, 1963.
3. Soulsby E.J.L. *Helminths, arthropods and protozoa of domesticated animals*. 7th ed. ELBS, London, U.K. 1982, 381.
4. Rani N, Lalitha J, Abdul Basith S. Prevalence of ectoparasites of chicken reared under different systems of management *Journal of Veterinary Parasitology*. 2008; 22(2):93-94
5. Sen SK, Fletcher TB. *Veterinary entomology and acarology for India*. ICAR Publication, New Delhi. 1962, 668
6. Sivakumar K, Chandrasekaran D, Senthilvel K, Arumugam R, Krishnakumar S. Occurrence of *Echidnophaga gallinacea* in Desi chicken. *Indian Veterinary journal*. 2013; 90(9):86
7. Zoltan S, Gyimesi, Elizabeth, Hayden R, Ellis. Sticktight

flea (*Echidnophaga gallinacea*) infestation in a victoria crowned pigeon (*Goura victoria*). *Journal of Zoo and Wildlife Medicine*. 2007 ; 38(4): 594- 596

8. Koehler PG, Pereira RM, Kaufman PE. Sticktight Flea, *Echidnophaga gallinacea*. 2015. doi : <http://edis.ifas.ufl.edu/mg236>