

CHEWING LICE (INSECTA: PHTHIRAPTERA) INFESTATION ON NATIVE DUCK (*ANAS PLATYRHYNCHOS DOMESTICUS*, LINN.) IN TAMIL NADU

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ABSTRACT

*Lice infestation is one of the major problems to the duck farming, causing irritation that lead to lowered feed intake, retarded growth, reduced weight gain and decreased egg production. The present communication deals with occurrence of different species of lice in a desi duck from Cauvery delta region of Tamil Nadu. A farmer from Thanjavur district of Tamil Nadu brought five dead two year old native ducks for necropsy at Dept. of Veterinary Pathology, Veterinary College and research Institute, Orathanadu, Tamil Nadu. External examination of ducks revealed presence of 13 lice specimen in one bird. They were examined and identified as *Trinoton querquedulae* (n= 8), *Anatoecus dentatus* (n= 4) and *Anaticola crassicornis* (n= 1) morphologically. This study is the first to establish the presence of mixed lice infestation in native ducks from Cauvery delta region of Tamil Nadu and also first report of *Trinoton querquedulae* in ducks from India.*

Keywords: Domestic duck, Chewing lice, *Trinoton querquedulae*, *Anatoecus dentatus*, *Anaticola crassicornis*

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Lice infestation or lousiness is one of the common menaces in animals and birds causing severe irritation, restlessness and loss of production. It has been reported that more than 4000 species of chewing lice as ectoparasites of birds (Aksin, 2011). Several species of lice affects growth and productivity of domestic and wild ducks. Affected ducks become restless and do not feed or sleep well. They may injure themselves or damage their

feathers by biting and preen continuously. The plumage no longer repels water and ducks become chilled and may die from pneumonia, if large areas of the body are affected (Jeyathilakan *et al.*, 2016). There are seven species of chewing lice reported in domestic duck, *Anas platyrhynchos domesticus* throughout the world. *Anaticola crassicornis*, *Anatoecus dentatus*, *A. icterodes*, *Holomenapon leucoxanthum*, *H. maxbeieri*, *H. transvaalense* and *Trinoton querquedulae* are identified in domestic ducks (Naz *et al.*, 2016). Reports about lice species affecting domestic ducks is mostly sporadic in nature and concentrated in northern and north eastern areas of India although duck population is seen in other parts also. Ahmad *et al.* (2015) recovered three phthirapteran species, *Anaticola crassicornis*, *Anatoecus dentatus* and *Holomenapon leucoxanthum* in Bareilly and Rampur district of northern India. However, lice infestation on domestic ducks is not well documented from southern India (Jeyathilakan *et al.*, 2016). The present communication reports the mixed chewing lice infestation on domestic ducks from Tamil Nadu.

MATERIALS AND METHODS

A nomadic farmer from Mayiladuthurai, situated in Cauvery delta region of Tamil Nadu, India, is having a flock of 10000 non descript desi ducks comprising of 8000 eight month old ducks and 2000 one year old ducks. About 1500 eight month old ducks and 500 one year old ducks died in his flock. The farmer brought five dead

ducks to Department of Veterinary Pathology, Veterinary College and Research Institute, Orathanadu, Tamil Nadu for necropsy. External examination of ducks revealed small, medium and large sized lice in hairy areas of beak and feather of one duck. The collected lice specimens were processed for identification at the Department of Veterinary Parasitology, Veterinary College and Research Institute, Orathanadu, Tamil Nadu. Collected lice were boiled in 5% sodium hydroxide followed by repeated washing in tap water. The lice were then treated with ascending grades of alcohol, cleared in carbolic acid and mounted in glass slide with Canada balsam. The mounted lice were examined under stereo zoom microscope and identified based on the morphological features given by earlier authors (Naz *et al.*, 2010; Aksin, 2011; Fryderyk , 2013)

RESULTS AND DISCUSSION

Among the five dead ducks examined, only one duck was infested with three species of chewing lice. Similar observations were reported worldwide including India (Dik and Uslu, 2010; Naz *et al.*, 2010; Ahmad *et al.*, 2015). They were identified as *Trinoton querquedulae* (n= 8), *Anatoecus dentatus* (n= 4) and *Anaticola crassicornis* (n= 1) based on the morphological characters. Among this lice population, all were male in the case of *T. querquedulae* and one female in the case of *A. crassicornis*. The sex of collected *A. dentatus* showed one male and three females. *Trinoton querquedulae* is a large duck louse about 5.6 mm length (Fig.1) and found all over the body of ducks particularly the base

of bill and causes feather abrasion on the back of ducks (Frederyk, 2013). Population density of *T. querquedulae* is comparatively higher (61%) than other two species in this study. However, many reports mentioned nil or low density of this lice in ducks (Ahmed *et al.*, 2015; Naz *et al.*, 2016; Siyal *et al.*, 2022). This lice species was reported from many species of *Anas* in India except *Anas platyrhynchos domesticus* (Laxminarayana, 1979; Ahmad *et al.*, 2015). This is the first report of occurrence of *T.querquedulae* in domestic ducks from India. The female *Anaticola crassicornis* is a slender duck louse with the length of 3.5mm and found in the wing of duck (Fig.2). Ahmad *et al.* (2015) reported higher population of *A.crassicornis* in domestic ducks from Uttarpradesh. However, only one female louse of this species was collected from the duck in this study. *Anatoecus dentatus* is the common duck louse found in hairs around the junction of beak and head. The size of male and female lice was 1.2 and 1.5 mm respectively (Fig.3 &4) and reported on mallards worldwide including many parts of India (Aksin, 2011; Jeyathilakan *et al.*, 2016; Siyal *et al.*, 2022). It was suggested that lice infestation rate and species in ducks mainly depends on the number of birds examined, geographical location and climatic conditions.

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Fig. 1. *Trinoton querquedulae* male



Fig. 2. *Anaticola crassicornis* female



Fig. 3. *Anatoechus dentatus* male



Fig. 4. *Anatoechus dentatus* female