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Short Communication

Lice infestation on Japanese quail (*Coturnix coturnix japonica)* Temminck & Schlegel 1849 in Sokoto metropolis, Nigeria

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ABSTRACT

Two hundred Japanese quails *(Coturnix coturnix japonica)* from different locations in Sokoto metropolis were collected and examined between October and November (2013) for ectoparasites. All the birds were dusted with Rambo® (Permenthrin 0.60%) powder for lice recovery. The recovered lice were then cleared with lactophenol overnight, before been examined under the light microscope (×40). Of the 200 quails examined, only 4 (2%) were infested with lice. The lice recovered were *Menacanthus* sp. 2%, *Lipeurus* sp. 2% and *Gonoides* sp. 0.5%. No other ectoparasite was found. Lice infestation constitutes the common ectoparasitism of Japanese quails in Sokoto metropolis and is a very low, with little or no observable harm.

Keywords: Lice, quail, Sokoto, metropolis, infestation.

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INTRODUCTION

Poultry is an acceptable form of animal protein to most people throughout the world, with the exception of strict vegetarians and vegans (Smith, 2000). Animal protein consumption per head is greater in developed countries than in developing countries such as Nigeria with a population of over 140 million, over the years has not been able to meet the food and agricultural organization (FAO) recommended minimum protein intake requirement of 65g per person per day (Musa et al., 2008). The number of poultry in the world is large and domestic chickens contribute 90% to poultry populations (Smith, 2000). So, many factors such as inadequate supply of day-old chicks, diseases, high cost of drugs and biological and the time taken to raise the birds all these led to search for an alternative cheaper source of poultry production and subsequent introduction of quail birds in Nigeria (not clear). Japanese quails (*Coturnix coturnix japonica)* are an old world bird found in the East Asia. They are migratory species which dwell on grasslands and cultivated fields (Musa et al., 2008).

Japanese quails were widely domesticated for their meat and egg in that country. This led to sharp increase in the population of Japanese quails. In Nigeria, Japanese quails were introduced at National Veterinary Research Institute, Vom (NVRI) Plateau State, with the support of Directorate for Food, Road and Rural Infrastructure (DFRRI). Diseases from endo and ectoparasites origins may however limit the production of quail. Ectoparasites cause a lot of damage and economic losses in poultry production. In view of this, there is need to investigate the ectoparasites affecting Japanese quails in the study area and their effect on its production.

MATERIALS AND METHODS

Study area and laboratory identification

The study was carried out in Sokoto, Sokoto State, located in the

Table 1. Prevalence of ectoparasite on Japanese quails.

No. of samples	No. of positive samples	Prevalence %
200	4	2

Table 2. Prevalence of lice species on Japanese quails.

Ectoparasite	No. of samples	No. of positive samples	Prevalence %
Menacanthus sp.	200	4	2
Lipeurus sp.	200	4	2
Gonoides sp.	200	1	0.5

extreme northwestern part of the country, covering between longitudes 5°14′ E and latitudes 13°04′ N. A total of 200 quail birds collected from different residential locations of the metropolis were examined. Each bird was examined carefully, taking cognizance of each region, the head, neck, wings, and breast/keel muscle and around the vent. Each bird was then placed on a white background (about 60 × 60 cm white cardboard), then dust-ruffled with about 2 g of Rambo® (Cypermethrin) powder to recover the lice from the birds as described by Clayton and Drown (2001). Plain thumb forceps were then used to pick the ectoparasites. The recovered lice were then stored in 70% alcohol for identification after clearing in Lactophenol for about 12 h. The identification of lice was as described by Ansari (1955), Emerson (1956) and Matsudaira and Kaneko (1969). Both stereo- and binoculars microscopes were used for the identification, at magnification of X40.

RESULTS

Of 200 birds examined, only four were positive representing 2% (Table 1). The only ectoparasite found was lice. Four different species of lice were identified (Table 2).

DISCUSSION

This study conducted showed very low prevalence of ectoparasitism on Japanese quails in Sokoto (2%). The ectoparasites that were obtained on the quails were lice of the genera *Menacanthus* sp., *Lipeurus* sp. and *Gonoides* sp. (Figure 1 to 3) with prevalence of 2, 2, and 0.5%, respectively. This low prevalence can be as a result of the management systems due to the fact that quails are kept in cages or deep litter system with improved biosecurity measures. This low prevalence was similar to that obtained on wild quails in Turkey by Nursel (2010). In addition to other lice, *Cuclotogaster cinereus* was obtained, while in this study, *Lipeurus* sp. was identified. No significant lesion was observed to be associated with any of the species obtained in this research. Doster et al. (1980) also recorded similar result on quails in south-eastern United States.

The presence of the lice on the Japanese quails is due to the fact that mallophagans' spend their entire lifecycle

Figure 1. *Gonoides* sp, X4.

Figure 2. *Menacanthus* sp. (X4).

Figure 3. *Lipeurus* sp. (X4).

on the host (Keymer, 1982) irritation and discomfort arises only when there higher infestation.

Though lousiness can be a problem, but effects are only observed when the number on the host is very high. Some of the observable problems include; irritation, anorexia, pale mucous membrane, loss in production and reduced egg production. It is important that for maximum production, adequate preventive measures should be taken into consideration so as not to allow the infestation of lice exceed the level at which the impact of lice will manifest.

Currently, this study showed that there is low ectoparasitic infestation on Japanese quails in Sokoto. Farmers are advised to embark on Japanese quail production and ensure more biosecurity/control measures.

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