A study was conducted to determine the seasonal incidence of scaly leg mite (Cnemidocoptes mutans) infesting guinea fowl (Numida meleagris galeata) in Sokoto metropolis for a period of one year November 2016 to October 2017. Results from the examination of two hundred (200) birds randomly selected comprising of one hundred and ten (110) males and ninety (90) females using skin scrapings to recover ectoparasites revealed that 30 birds (15%) were infested with the Parasite. Similarly, there was significant differences (p<0.005) between the warm wet season and cold /hot dry season but no significant differences (p>0.005) between cold dry and hot dry season. It was concluded that the scaly leg mite constituted considerable health and production problems. It is thus imperative to adopt integrated vector control strategies to improve guinea fowl production as such studies have not been hither-to carried out in the study area..

Key words: Ectoparasite, Prevalence, guinea fowl, Sokoto metropolis.

INTRODUCTION

Poultry production is one of the important and cheap assets provided by many farmers in the tropics. In Nigeria, for example, it is capable of generating an annual revenue of about 5.75 million USS and provide a cheap source of protein for human consumption in the form of eggs and meat (Sonaiya,1990). It will also provide occupation for over one million families engaged in the poultry industry (Ojo,2013).

Cnemidocoptes mutans, the scaly leg mite, has been reported to be one of the notorious mite species that burrows into the tibia-tarsal joints and toes of avian species causing irritation, inflammation and difficulty in flexing the joints of the legs which may lead to lameness, arthritis, loss of toes, cessation of feeding, low egg production, lowering of resistance to other infection, emaciation, skin lesions which may provide portals of entry for infectious organisms and death if untreated (Agbede,2013). Most of the studies conducted on ectoparasites of Poultry have been confined almost entirely to the Northwestern Nigeria (Bala et al., 2011), Central Nigeria (Njila et al., 2018), South Western Nigeria (Ekpo et al., 2010) and North eastern Nigeria (Biu et al., 2007). To date, only scanty information is available on the seasonal incidence of scaly leg mite in the country. Based on this observation, the study was aimed at elucidating the seasonal prevalence of Scaly leg mite (Cnemidocoptes mutans) on Guinea fowls (Numida meleagris galeata) from Sokoto, north western Nigeria.

MATERIALS AND METHODS

The study area, Sokoto, is situated in North-western Nigeria at 12°5'-13°12’N; 05°51'-05°25’E in the...
**Picture 1**: Photograph of A=infected bird, B=mite, showing their physical characteristics of identification.

**Table 1.** Prevalence of Scaly leg mite with respect to season.

<table>
<thead>
<tr>
<th>Season</th>
<th>No Examined</th>
<th>Number Positive</th>
<th>% Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cool dry</td>
<td>92</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Hot dry</td>
<td>88</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Warm Wet</td>
<td>20</td>
<td>6</td>
<td>30</td>
</tr>
</tbody>
</table>

**Table 2.** Prevalence of scaly leg mite with respect to sex.

<table>
<thead>
<tr>
<th>Sex</th>
<th>No Examined</th>
<th>No positive</th>
<th>% Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>112</td>
<td>25</td>
<td>22</td>
</tr>
<tr>
<td>Female</td>
<td>88</td>
<td>13</td>
<td>15</td>
</tr>
</tbody>
</table>

**Table 3.** Prevalence of scaly leg mite with respect to age.

<table>
<thead>
<tr>
<th>Age</th>
<th>Number examined</th>
<th>Number positive</th>
<th>% Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Young</td>
<td>93</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Adult</td>
<td>117</td>
<td>28</td>
<td>14</td>
</tr>
</tbody>
</table>

Sudan savannah, a semi-arid region (Keay, 1959). The climate is tropical, being marked by a hot dry season (March–June). Followed by a pronounced warm wet season (July–September/October), and the cool dry Harmattan season (November–February). The hot dry season and cool dry season are associated with relatively low humidity. Sometimes, during the warm wet season, mean relative humidity could be up to 60%.

**Procedure**

The legs were scraped for microscopic examination of mites. The recovered mites were identified using light microscope at 40×-100× magnification following clearing in lactophenol. Identification of mites to species level was made using illustrations and descriptions by (Arends, 2003). Data thus collated was analyzed with SPSS (Version 10) Statistical Package. Chi-square was used to test for significant differences between seasons. Differences were considered significant at a probability level of $p<0.05$.

**RESULTS AND DISCUSSION**

Mites were collected throughout the three seasons with peak collections recorded during the warm wet season which corresponds with the season with highest rainfall.
and humidity, followed by cold dry and warm wet seasons. This corroborated with the reports of Ahmed et al., 2013 but contrasts the reports by Fabiyi 1980 who observed that infestations were more during the hot dry season in the Jos Plateau. This might be attributed to differences in the study sites and physical factors such as climatic conditions, temperature vegetation cover and humidity which presumably enhance arthropod growth and multiplication.

From this study, males were more infested than females which agree with the reports made by(Bala et al.,2011) but contrast the work done by Ekpo (2010). This is probably due to the fact that male guinea fowls are more aggressive during the mating season thereby having greater chances of coming in contact with infested birds. Conversely, older birds were also more infested than younger ones this confirms the report made by Njunga2003 but paralles that of Fabiyi this might be due to the fact that older birds may acquire infestation during mating thereby having greater chances of acquiring and disseminating various species of arthropod parasites. Although in a study in Kenya (Waruiru et al.,2017) and Malawi (Njunga,2003) virtually no scaly leg mite was encountered. This might be due to differences in scope, search for the parasites, management systems and proficiency of techniques.

REFERENCES


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