Haematopinus suis (Lice) Infestation of Swine in Makurdi, Benue State, Nigeria

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**Abstract**

The aim of this study is to establish the prevalence of lice of swine in Makurdi, Benue State, Nigeria and to document the extent to which lice infestation poses problems to swine farmers. A six month study duration (July, 2009 to December 2009) during which 310 lice were collected from pigs using brushing and picking with forceps. The picked lice were placed in vials containing 70% alcohol. The specimens were identified by light microscopy. A total of 288 pigs from the only organised slaughter slab were investigated, and a total of 102 (35.4%) were infested with the hog louse (*Haematopinus suis*). 74 (37.0%) of 200 sows and 18 (20.5%) of 88 boars were infested. Heavy infestations were observed in the months of November and December. This is the first documented report of lice infestation in pigs from this part of Nigeria. This research has shown an appreciable high prevalence of hog lice and the urgent need for its control due to its pathologic effects and its incrimination in African swine fever.

**Key words:** *Haematopinus suis*, infestation, swine, Makurdi, Nigeria
Introduction

Lice are a group of common ectoparasites of swine that are of concern to pig farmers. The occurrences of ectoparasites of animals are well documented (Cohen, 1980; and Health et al., 1983). Natala et al. 2009) reported a low prevalence in a whole year survey of Haematopinus suis in Northern Nigeria. Lice of domestic animals are largely host specific; hence, Haematopinus suis is specially recognized as a hog louse. The activity of ectoparasites infesting livestock and companion animal hosts is of particular interest because it results in a wide range of pathogenic effects. Feeding on the host animals may cause direct damage to skin and other sub-cutaneous tissues, inflammation and significant blood loss have also been documented (Mohammed et al., 1980 and Richard, 2007).

The activity of this parasite is usually associated with pruritis, erythema, excoriation, papules, lichenification, scale and crustig formation and self-trauma. Wounds may lead to secondary infestation or bacterial infection. The salivary and faecal antigens produced by ectoparasites as they feed can stimulate immune responses, in some individuals leading to hypersensitivity (Van den Broek et al., 2003).

Haematopinus suis are incriminated in the transmission of the virus of swine pox that is often accompanied by skin lesions (papules, pustules, scabs), and African swine fever (Seifert, 1996). They are potential vectors of hog cholera and eperythrozoonosis, a reckettsial disease caused by Eperythrozoon suis which causes anemia and icterus and may lead to death (Agbede, 1981; Hall, 1993).

Economic importances of H.suis are due to their irritation to the pigs making them restive, and retarding their growth. The irritation and itching caused by lice punctures the skin, as the pigs rub against any convenient object. They may rub so hard as to cause their hair to fall off in patches and even cause bleeding (Oya et al, 2009; Hall, 1993).

High infestation may cause a skin condition that makes hair removal difficult at slaughter. Lice are a stress for the swine and increase their susceptibility to disease. They readily feed on man (James and Harwood, 1969). This may thus cause hazardous conditions for those who handle the hogs. The U.S. Department of Agriculture estimated that hog lice caused a 2-6% loss in market value of infested swine.

Plate 1: Representative photograph of Haematopinus suis collected from the hogs in makurdi.

Materials and Methods

During the period from July 2009 to December 2009, lice were collected from pigs at slaughter from Wurukum slaughter slab (Fig. 1) which is the only pig organised slaughter slab in Benue State. Records have it that pigs are brought for slaughter from different parts of the State to Markurdi, the State capital. The lice (Plate 1) were collected by brushing their body fur into large transparent polythene bags, and then picked with forceps. They were placed in vials containing 70% alcohol and transported to Entomology Laboratory of the Department of Veterinary Parasitology and Entomology, Ahmadu Bello University Zaria, Nigeria. The specimens were observed and identified with the aid of light microscope.
Results and Discussion

A total of 288 pigs were examined, hog lice were found in 102 pigs (35.4%). 200 of the total samples were from sows with 84(47.0%) positive, while 88 were boars, with 18(20.5%) of them positive (Table 1). The highest prevalence was recorded in the months of November and December, while the lowest were recorded in the months of July and August (Fig. 2).

Table 1: General prevalence of Haematopinus suis on swine in Makurdi, Benue State, Nigeria

<table>
<thead>
<tr>
<th>Month</th>
<th>No. of sows Examined</th>
<th>No. of Boars Examined</th>
<th>Total No. of pigs Examined</th>
<th>Sows infested # (%)</th>
<th>Boars infested # (%)</th>
<th>Total Pigs infested # (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 2009</td>
<td>36</td>
<td>12</td>
<td>48</td>
<td>6(16.7)</td>
<td>1(8.3)</td>
<td>7(14.6)</td>
</tr>
<tr>
<td>Aug 2009</td>
<td>30</td>
<td>13</td>
<td>43</td>
<td>7(23.3)</td>
<td>0(0.0)</td>
<td>7(16.3)</td>
</tr>
<tr>
<td>Sept 2009</td>
<td>36</td>
<td>18</td>
<td>54</td>
<td>10(27.8)</td>
<td>4(22.2)</td>
<td>14(25.9)</td>
</tr>
<tr>
<td>Oct 2009</td>
<td>26</td>
<td>10</td>
<td>36</td>
<td>12(46.2)</td>
<td>2(20.0)</td>
<td>14(38.9)</td>
</tr>
<tr>
<td>Nov 2009</td>
<td>30</td>
<td>16</td>
<td>46</td>
<td>18(60.0)</td>
<td>3(18.8)</td>
<td>21(45.7)</td>
</tr>
<tr>
<td>Dec 2009</td>
<td>42</td>
<td>19</td>
<td>61</td>
<td>31(73.8)</td>
<td>8(42.1)</td>
<td>39(63.9)</td>
</tr>
<tr>
<td>Total</td>
<td>200</td>
<td>88</td>
<td>288</td>
<td>84(37.0)</td>
<td>18(20.5)</td>
<td>102(35.4)</td>
</tr>
</tbody>
</table>

Fig. 2: Shows the monthly distribution of Haematopinus suis infestation (July - December).

This study shows that hog lice are of moderate occurrence in Makurdi (35.4%). In an earlier report in Zaria, North Central Nigeria, the prevalence was as low as 5% (Natala et al., 2009). In Ghana, 66% prevalence was recorded (Permin et al., 1999), while in Germany and Bangladesh 25% were reported respectively (Damriyas et al., 2004; Islam et al., 2005). The discrepancies in the various places could be attributed to different management practices; different seasons of sample collection, vegetational/regional differences, and different sampling techniques used and perhaps miss identification of the parasites.

The highest infestation was recorded in the months of November and December (Table1), this is in consonance with the seasonal prevalence reported by Foata et al. (2006) and Alex et al. (2009). The proliferation of ectoparasites during this period has been linked to increase in close contact between the animals due to cold, thus increase in spread and proliferation (Wooten-Saadi et al., 1987). The reasons for higher infestation in Sows as compared with the Boars is not quit clear, however, the disparity in their sample sizes available at the slaughter slab could be the responsible.
Surveys carried out on piggeries within and outside Makurdi metropolis (areas that feed the slaughter slab with pigs) suggests that the pigs are poorly managed and poorly fed. About 70% were allowed to scavenge or fed with human left over food (when available). This situation often leads to gross malnourishment, and immuno – compromise thus heavy lice infestation (Roberts and Janovy Jr. 2000).

The high prevalence of *H. suis* is of great concern as it has been established to be one of the vectors of African Swine fever, which is controlled only through “test and slaughter” thus capable of wiping out whole pig population (Natala et al., 2009). Of course the after mat would be the depletion of available protein source and loss of job by the rural populace who breed the pigs.

The findings of this study therefore makes it imperative for the strategic control of lice in piggeries through constant application of insecticides especially during the months of heavy lice infestation (November and December) as suggested by Gipson et al. (1999). Regular grooming would also assist in dislodging the lice from the body of the pigs. Good feeding would go a long way at boosting their immune system. Constant monitoring and surveillance of the piggeries by government agencies would assist in maintaining almost ectoparasite free piggeries, thus helping in the control of African swine fever which was previously reported in the area.

**Conclusion**

This study established a prevalence of 35.4% of *H. Suis* infestation in pigs in Makurdi, Benue State. Heavy infestations were observed in the months of November and December. To the best of our knowledge this is the first documented report on lice infestation in swine from this part of Nigeria. This research has shown appreciable presence of hog lice and the urgent need for its control due to its pathologic effects and its incrimination in African swine fever.

**References**


Alex DW, Christopher E (2009); Lice (*H. suis*) Infestation of swine from southern Mississipi. J. Mississipi Acad. Sci., 54:153-156.


