Prevalence and predilection sites of lice infestation on cattle in Abeokuta, Nigeria

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Abstract
Lice are one of the most prolific ectoparasites on the bovine skin and they have a detrimental impact on production and performance of cattle. A survey of the prevalence and predilection sites of lice in Abeokuta, Nigeria was carried out using 150 heads of indigenous cattle of both sexes recently acquired in batches from different parts of Nigeria. Adult lice were found on the eyelids, inner commissure of the pinna and caudal end of the tail. Of the 150 animals examined, 10.67% were infested with lice; Damalinia bovis, Haematopinus spp and Linognathus spp accounting for 4.67%, 3.33% and 2.67% respectively of the infestation. None of the cattle had mixed lice infestation. Lacrimation was the only clinical sign associated with lice infestation in all the 16 affected animals. In conclusion, there is need for a nationally coordinated comprehensive study of the parasite-host interaction, life-cycle and epidemiology of these species of lice. Also, there is need to adopt the policy of de-lousing trade cattle before transportation to the point of sale.

Keywords: Predilection sites, Prevalence, Louse Infestation, Cattle
walls (Jackson and Cockcroft, 2002). Lice infested animals have poor physical condition and develop unthrifty coats, anaemic appearance, and discoloured greasy hair (Nelson, 1984). Lice infestation causes 15 to 25% decrease in milk production and weight loss of 25 to 30 kg per animal per year (Fadok, 1984; Loomis, 1986). It also causes huge economic losses in terms of damage to the hides and skin (Nasfad and Gronstol, 2001). This study presents the prevalence and predilection sites of lice of cattle recently acquired in batches from different parts of Nigeria.

**Materials and Methods**

This study was conducted in Federal University of Agriculture, Abeokuta where 150 heads of indigenous cattle of both sexes were acquired in batches from different parts of Nigeria. The animals were assessed for the presence of lice on arrival on the University farm in addition to the general clinical examination. Briefly, the animals were placed in the holding yard and the skin examined individually. Every region of the body was examined; the face, neck, ears, eyelids, dewlap, dorsum, tail base and tail switch in broad daylight.

The eggs of the lice, which were grey to brown in colour, cemented to the shafts of coat hairs in clumps were also observed. The samples of lice were collected and preserved in 70% ethanol and submitted to the Veterinary Parasitology laboratory. The preserved specimens were examined in the laboratory under a stereo-microscope for identification of species of lice based on morphological characteristics as described by Soulsby, (1982).

**Results and Discussion**

Adult lice were found with the naked eye, especially around the eyes, inner commissure of the pinna and the caudal end of the tail (Figure 1). Hundreds of nits cemented by female lice to the tail switch were also found (Figure 2). Of the 150 animals examined, 10.67% were infested with lice; with *Damalinia bovis* (Figure 3), *Haematopinus spp* (Figure 4) and *Linognathus spp* (Figure 5) accounting for 4.67%, 3.33% and 2.67% respectively of
the infestation. Heavy infestation with lice can cause discomfort, lacrimation, unthriftiness and severe anaemia in young animals in addition to the damage of the skins causing considerable losses in the leather industry.

Even though significant economic losses caused by lice infestations in goats and sheep have been reported in Nigeria, Kenya and Tanzania (Kusiluka and Kambarage, 1996), significant economic losses have not been reported in cattle in Nigeria.

Lice have a detrimental impact on production and performance of cattle. Affected animals bite, scratch and rub their bodies against yards and trees which they use as rubbing posts. As a result, the coat of lousy cattle take on a rough scruffy appearance and at times, areas of skin are rubbed raw. This will reduce the hide and skin value at slaughter (Walker, 2007). Parasitic infestations often lead to decreased appetite. The reduced amount of feed ingested by parasitized animals may also be digested less efficiently than by non-parasitized animals. In addition, the presence of parasites may increase metabolic rate, reducing the amount of metabolizable energy available for production (Byford et al., 1992).

Lacrimation was the only clinical sign associated with lice infestation in all the 16 affected animals while none of the cattle had mixed lice infestation in this study. In this study, Damalinia bovis which is a biting louse had the highest prevalence of 4.67% and was found at the caudal end of the tail, inner commissure of the pinna and on the eyelids, where the eggs are also laid. This disagrees with the reports of some others (Jackson and Cockcroft, 2002; Walker, 2007) who stated that Damalinia bovis infestation occur mainly on the
dorsum of the neck, shoulders, back and rump of cattle. This variation in predilection sites of lice may be as a result of absence of thick hair coat in the dorsum of the neck, shoulders, back and rump of Nigerian indigenous cattle.

In conclusion, there is need for a nationally coordinated comprehensive study of the parasite-host interaction, life-cycle and epidemiology of *Damalinia bovis*. Also, there is need to adopt the policy of de-lousing trade cattle before transportation to the point of sale.

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