

A Survey of the Ectoparasites and Grazing Habits of Goats In Uli Town, Ihiala L.G.A Anambra State

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Abstract. A survey of ectoparasites of goats was carried out between June to November 2011, to determine the prevalence of ectoparasites and evaluate the grazing habits of the small ruminants in Uli town, Ihiala L.G.A Anambra state, Nigeria. Of the 92 goats randomly sampled from four communities in Uli, 65 goats were found infested with different ectoparasites respectively. The ectoparasites identified were ticks (19.5%), lice (28.5%), mites (26.1%) and fleas (39.15%). Chi-square analysis of the prevalence of ectoparasites of goats revealed that there is significant difference. The prevalence is higher in female (70.7%) than the male goats (70%). Close observation was found to disturb the grazing habit of the animal and overall foraging behaviour was affected by weather. Advocacy programmes on control of ectoparasites in goats is hereby recommended.

Keywords: Goats, Ectoparasites, infestation, prevalence

1. Introduction

Goats are multipurpose animals producing milk, fur and skin [1]. They maintain a valuable economic and ecological niche in Nigeria agriculture [2]. Majority of the livestock owners earn their livelihood through sale of surplus animals and their by-products. There are several factors affecting the production potential of livestock. Among these parasitic infestations are wide spread, affecting different livestock species throughout the world [3]. These parasitic infestations cause considerable economic losses in terms of low productivity and mortality in livestock populations.

Many studies revealed the West African dwarf goats (*Capra hircus*) which are locally reared in Nigeria are exposed to some parasitic arthropods which includes; Ticks, lice, mites, fleas etc. They are major limitations to efficient goat production in the tropical and temperate regions of the world causing reduced productions [4] and estimated one billion naira loss annually.

Ectoparasites particularly ticks are very important parasites because of their voracious blood feeding activities and vectors for various disease agents in both man and livestock. They also transmit disease such as Theileriosis, Onchocerciasis, Dermacentor etc [5]. They are also characterised by severe morbidity and mortality. It is as a result of these conditions that necessitated this study. However, this study was conducted to bridge the gap on the paucity of documented information on the prevalence and distribution of this infestation on the goats sold at Ihiala Local Government.

2. Materials and Methods.

2.1. Study Area

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The study area was Uli a rural setting in ihiala L.G.A of Anambra state. It is located between latitude 5⁰58'-5⁰60'N and longitude 6⁰47'-6⁰57'E. The major occupation of the people is farming,in addition to other occupational groups such as civil and public servants, traders,fishermen,rearing of goats,pigs and artisans. Water sources for domestic and agricultural uses are streams,rivers,bore-holes and open wells. The vegetation is of two distinct seasons, the wet season lasting from April to September and the dry season going through October to March. The annual rainfall ranges from 2250 to 2500mm with mean temperature ranges from 27 to 33⁰C and relatve humidity of 70-80%.

2.2. Sampling Methods and Collection

This was carried out from June to November, 2011. Ninty-two goats were sampled randomly from four villages in Uli namely Umuoma,Eziama,Umuaku and Ihite. All age and both genders were sampled.

Collection of ectoparasites was done in the early mornings and evenings from the animal body. The animals were examined for ectoparasites by brushing their body. All ectoparasites found at the time of sampling were collected into specimen bottles containing 70% Alcohol,labelled with date and place of collection. Data recovered included the predilection site of the ectoparasites,age and sex of the animals is also ascertained. Each parasites was identified using a head lens, the morphological features of each ectoparasites was a useful aid to the identification.

2.3. Statistical Analysis

The prevalence of infection was calculated using simple percentiles. Chi-square analysis were used to test for prevalence of ectoparasite,sex and age. It was also used to determine magnitude of differences in different variables among different groups.

3. Results

Four communities in Uli town were studied for ectoparasites. Of the 92 goats examined,544 ectoparasites were recorded (Table 1). Among the animals infested in the study area, Fleas(39.1%) had the highest prevalence followed by lice(38.0%) while ticks with (19.6%) had the least prevalence. A chi square analysis showed significant different between the degrees of ectoparasites infestations of goats.

Table 1: Prevalence of ectoparasites of goats in the study Area

No of animal Examined	parasites collected	No of the parasites	No of animal infested	% Prevalence of infested animals
92	Mites	84	24	26.1
	Ticks	69	18	19.6
	Lice	155	35	38.0
	Fleas	236	36	39.1
92		544	65	70.7

Sex and age related prevalence data are summarized in Table 2 and 3 respectively. Of the 92 goats examined (27 males and 65 females),19(70%) males and 46(70.7%) females were infested. Of the four communities, Eziama had the highest prevalence on female goats with 11(78.6%) while Umuaku community had the least prevalence with 14(66.7%)respectively. While in male, Ihite community had the highest prevalence with 4(80%) while Eziama community had the least prevalence rate with 3(60%) respectively. There was however no significant difference in the ectoparasites in relation to sex(P>0.05).

Results on table 3,indicates that infection prevalence was highest in the age group of 1-5 years(77.7%) with 294 observed number of parasites while those aged above 5years had the least prevalence with observed number of 54 parasites respectively. Table 4,showed the ectoparasites and their predilection sites in goats. Results obtained showed that highest number of ectoparasites are found in the ears and necks of the goat.

Table 2: Sex related prevalence of ectoparasites in the four communities

S/no	Communities	Male no sampled	No infested (%)	Female No sampled	No infested (%)
1.	Umuoma	9	6(66.7)	14	10(71)
2.	Ihite	5	4(80.0)	16	11(68.8)
3.	Umuaku	8	6(75.0)	21	14(66.7)
4.	Eziama	5	3(60.0)	14	11(78.6)
	Total	27	19(70.0)	65	46(70.7)

Table 3: Age - related prevalence of ectoparasites of goats in uli community

Age of Animals	Total no of Animals sampled	No of animals infested	% Prevalence infestation	Observed no of parasite	Mean no of parasite
0-6month	19	10	52.6	114	11.4
7-11month	16	11	68	82	7.3
1-5years	45	35	77.7	294	8.4
Above 5years	12	9	75	54	6
Total	92	65	70.7	544	8.4

Grazing observation, the goats showed a high degree of forage selectivity throughout the survey period. They identify pasture once arrived by smelling it with their nose and quickly begin to graze but this intensive grazing does not last for long. Both sexes have a marked ability to identify pasture species of high palatability as they went straight to some more relished forage. When not grazing they preferred nearby shelter as much as the rope tethering them could afford.

The average grazing period of West Africa goats without resting was between 0800hours and 1200hours, after which they voluntarily stopped grazing and rested.

In the afternoon, between 1200 and 1400hours the goats were observed to be resting and ruminating while some are standing/lying or playing around. In the evening they exhibited light grazing and resting. Grazing time was observed to usually be disturbed during excessively sunny days or excessively wet days/heavy rain.

Table 4: Ectoparasites and predilection sites in goats in the study area

Parasit	head	eyelids	mouth/nose	ears	neck	back	abdomen	limbs	chest	udder	testis	tail	vulva	total
Mites	4	6	10	24	14	1	2	4	5	-	2	12	-	84
Ticks	4	2	1	21	8	10	12	5	2	-	3	1	-	69
Lic	21	11	-	-	7	19	21	18	21	17	7	-	-	155
Fleas	25	14	31	35	37	24	31	28	-	-	-	11	-	236
Total	54	33	11	83	76	69	56	61	52	7	5	13	24	544

4. Discussion

Results showed ectoparasites affect goats in Uli, this finding was in line with that reported by [6][7][4] in Nigeria. Higher prevalence of fleas observed could be as a result of grazing and flocking since housing plays an important role in the development of fleas. Overcrowding and a warm humid environment also favour the build up of fleas.

The observation in this study showed that males were generally less parasitized than female. This could be attributed to extra nutritional requirements needed by female for reproduction and production of milk for the offsprings. Males have no such responsibility, and most of the time they are malnourished, the females are affected more especially during pregnancy.

There is a noticeable disparity in infection prevalence among the various communities studied. This disparity can be attributed to varying degrees of exposure to the infections, ecological conditions availability of water and so on.

The occurrence of ectoparasites in this study vary with age as similarly described elsewhere. As noted variation in exposure to ectoparasites infection of animals influence distribution and prevalence.

On the determination of the predilection sites for the ectoparasites, it is evident that they were mostly found on the ear and neck because of their short hypostome, they attach on the ear where capillary blood can easily be reached [8].

On grazing observation they showed high degree of forage selectivity, this was observed by smelling with the nose. This agrees with the work of [2], [9] that goats are very careful in selecting plant species. Foraging behaviour was affected by heavy rains and excessively sunny days. Close observation were found to disturb the grazing habit of the animals with males more easily frightened than the females forage species not more than 45cm tall were mostly preferred by goats [10].

This study has shown that ectoparasitiasis is endemic in Uli Area, though of a low prevalence. This observed prevalence is of public health significance and could be a threat to our Agriculture and economic losses in the area if not quickly checked. There is urgent need therefore, for the Local Government authority as well as that of State Government to formalize and establish feasible control measures in the area, in addition to routine prophylactic treatment and isolation of newly acquired goats.

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