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Short Communication

INCIDENCE OF HARD TICKS (IXODIDAE) ON HORSES AROUND ZARIA, NIGERIA

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SUMMARY

A study to identify the tick types that infest horses in and around Zaria city Northern Nigeria, was conducted over a three months period, March to May 1989. Ten horses were sampled in five different locations and a total of 243 ticks belonging to three species were identified. *Rhipicephalus evertsi evertsi* was the most prevalent and accounted for (67.08%) followed by *Amblyomma variegatum* (28.39% and *Boophilus decoloratus* (4.53%).

KEY WORDS: Incidence, Ticks, Horses, Zaria.

INTRODUCTION

Ticks are ectoparasites of domestic and wild animals that have deleterious effects on livestock production. They suck blood, causing anaemia and act as vectors of a wide range of diseases caused by bacteria, protozoa rickettsia and viruses (Hoogstraa, 1956; Soulsby, 1986). Ticks also cause damage to hides and skin of animals through their bites (Bourdeau, 1982) with attendant economic losses (Perry *et al.*, 1998).

In Nigeria, the suitable environmental conditions favour tick development and growth (Mohammed, 1974; George *et al.*, 1990). Much of the studies conducted on tick infestation in Nigeria have been largely on cattle (Mohammed, 1974; Dipeolu, 1975; Mohammed, 1976; Mohammed and Agbede, 1980) and on sheep (George *et al.*, 1990). The paucity of information on the prevalence of hard ticks on horses in Nigeria prompted this study to be conducted.

MATERIALS AND METHODS

Ten experimental horses were identified and sampled in this study. Three were from Zaria city, two from Kudan village, one in Bomo village and four from Samaru village. The horses in Bomo and Kudan villages were kept on the farms of the owners in isolation from other

animals. Those in Samaru were kept in the houses of the owners. During each sampling period, the horses were physically inspected and completely deticked using a pair of hand forceps. Care was taken to remove the ticks intact without destroying their mouthparts.

Ticks thus collected were preserved in 70% alcohol and 5% glycerol. Identification of all tick stages were done according to keys as in Hoogstrall (1956) in the Entomology Laboratory of the Faculty of Veterinary Medicine, Ahmadu Bello University, Zaria.

RESUTS

Seven out of the ten horses examined in five different locations within and outside Zaria were infested with ticks. A total of 243 were obtained, giving an infestation rate of 70% and a mean density of 24.3 ticks per horse (Table I).

Three tick species were identified with *R. evertsi evertsi* being the most common and accounted for 69.08% of all tics collected. The others were *A. variegatum* representing 28.39% and *B. decolaratus*, which was the least, 4.53%. Majority of the ticks collected were adults, constituting 67.48% with males predominating over females and nymphs in *R. evertsi evertsi*, Nymphs of *A. variegatum* predominated over males and females while females were more in number in *B. decoloratus* (Table II)

DISCUSSION

Of the three tick species identified in this study, *R. evertsi* was the most predominant (67.08%). This result is in agreement with that of Unsworth (1952) who reported that it formed 60% of the Rhipicephalid ticks collected from horses in Mubi in the former Adamawa province. In Botswana, Mushi *et al.* (1996) obtained similar result in their study on ticks collected from indigenous goats. Strickland (1961), reported that it occurred throughout the year in the guinea Savannah zone in which Zaria is located. However, this finding is not consistent with that of Mohammed (1974) who collected very few of this tick species from cattle. The high incidence of *Rhipicephalus evertsi evertsi* has been attributed to its perennial breeding habit and ability to survive in open lands (Isa *et al,* 1995; Mushi *et al.,* 1996).

Although, five species of Rhipicephalus ticks have been reported in Nigeria (Mohammed, 1974). *R. evertsi evertsi* was the only specie observed in the present study. This may suggest that other Rhipicephalus species are not specific ectoparasites of horses. This is significant since the transmission of equine babesiosis caused by Babesia equi is associated with this tick.

A variegatum constituted 28.39% of the total ticks collected. Although this may be comparatively lower than the population of *R. evertsi evertsi*, it is still significant as *A. variegatum* in not only the vector of the causative agent of heartwater in Nigeria (Ilemobade, 1977), but has also been implicated as a possible vector of the agent causing pulmonary nocardiosis in horses (Onyekweodiri, 1997).

Only very few *B. decoloratus* were picked

(4.53%), making it the least abundant tick. This observation differs markedly from studies carried out by Strickland (1961), Mohammed, (1974) and George, (1987) on cattle and sheep. Horses may therefore not be preferential hosts for this tick species. Alternatively, the low infestation with *B. decoloratus* may be because cattle, which are the preferential host for this tick specie, are available and as such may not infest horses readily.

The preponderance of female *B. decolaratus* over males is consistent with that reported by George (1987). This may be as a result of the male being very small in size and therefore difficult to collect. The apparently low number of ticks collected from the horses in this study may be attributed to the fact that the owners often groom their horses regularly, thus removing attached ticks. Further in-depth work is suggested for a detailed investigation of the effect of ticks on horses as has been done in cattle and sheep.

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TABLE I: Incidence of hard tick on horses in Zaria

Tick species	Samaru	Campus	Kudan	Bomo	Zaria	Total (%)
R. evertsi evertsi	44	39	25	45	10	163 (67.68)
A. variegatum	34	35	-	-	-	69 (28.39)
B. decoloratus	1	7	3	-	-	11(4.53)
Total	**79**	**81**	**28**	**45**	**10**	**243 (100)**

TABLE II: Distribution of different tick stages

Tick species	Males (%)	Females (%)	Nymphs (%)
R. evertsi evertsi	81 (49.7)	71 (43.6)	11(6.7)
A. variegatum	1 (1.4)	- (0.0)	68 (98.6)
B. decoloratus	3 (27.3)	8 (72.70)	- (0.0)
Total	**85**	**79**	**79**