

Short Communication

PREVALENCE OF FASCIOLA SPECIES AND DICROCOELIUM SPECIES IN SHEEP AND GOATS SLAUGHTERED AT ZARIA ABATTOIR

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SUMMARY

A total of 200 Gall bladders of sheep and goats were collected at slaughter from Zaria abattoir over a period of three months (April to July, 1998) and analyzed using the sedimentation method for the presence of eggs of *Fasciola* species and *Dicrocoelium* species. The prevalence of *Fasciola* species was 21% in sheep and 8% in goats while for *Dicrocoelium* species both parasites had a prevalence of 5% for each. The prevalence of *Fasciola* species was 12% in ewes while in does, it was 10%. The prevalence of *Dicrocoelium* species in ewes was 2% and 8% for does. In the males, 18% of the rams had *Fasciola* species while bucks had 6%. In the case of *Dicrocoelium* species in rams, 8% were positive while 2% was recorded in bucks. The inference that can be drawn from this study is that *Fasciola* species and *Dicrocoelium* species are posing a lot of danger to the Nigerian sheep and goat industry and there is the need to pay more attention to their control.

INTRODUCTION

Sheep and goats are of great social and economic importance in Nigeria due to their contribution in terms of meat, milk, skin, manure and festivities. The Morocco leather from Sokoto red goat has been rated to be of high grade and has contributed to the Nigerian foreign exchange over the years (Rim Report, 1991) Sheep and goat meat is the major source of meat in the rural areas (Saidu, 1978). The cost of cattle has increasingly put more demand on sheep and goats for meat. The livestock industry is hampered by diseases that are commonly aggravated by poor management and inadequate nutrition. In particular, parasitic diseases especially helminthosis tend to pose as the biggest problem in livestock development and that a large amount of sheep and goats are being lost annually due to helminthosis. It is therefore imperative to determine the prevalence of *Fasciola spp*

and *Dicrocoelium spp* in sheep and goats to support epidemiological and clinical reference on the disease and to compare with information available in the same environment over time.

A total of 200 samples of the gall bladder of both adult sheep (100) and goats (100) were collected following slaughter at the Zaria abattoir over a period of three months from April – July. Samples were collected into polythene bags that were appropriately labeled according to sexes and the species of animals with the identification **MS** used for male sheep, **FS** for female sheep, **MG** for male goat and **FG** for female goat respectively.

Analysis was done on the day of collection but on few occasions where this was not possible, the samples were preserved at 4°C in a refrigerator for 2 or 3 days before analysis.

The gallbladder was split open into a large beaker. Thereafter, the beaker was filled to the brim with tap water and allowed to sediment. The supernatant was then decanted and the process repeated several times until all the bile was completely washed away. The sediment was then examined at x10 magnification of the light microscope for fluke eggs by transferring a few drops of the sediment at a time onto a clean microscope glass slide using a Pasteur pipette. This process was repeated until all the samples were examined for the type of eggs.

**RESULTS AND DISCUSSION**

From the survey, it was found that the prevalence rate among sheep of *Fasciola spp* was 21%. Rams were found to have 18% prevalence rate while ewes had 24% prevalence rate for *Fasciola spp* (Table I). Similarly, sheep had 5% prevalence rate for *Dicrocoelium spp*. Even among sheep, rams had 8% prevalence rate while ewes had 2% prevalence rate for *Dicrocoelium spp* (Table I).

**TABLE I: Prevalence of Fasciola and Dicrocoelium spp in sheep**

Sex	No. sampled	No (%) Positive	
		<i>Fasciola spp</i>	<i>Dicrocoelium spp</i>
Male	50	9 (18)	4 (8)
Female	50	12 (24)	5 (10)
Total	100	21 (21)	9 (9)

**TABLE II: Prevalence of Fasciola and Dicrocoelium spp in goats**

Sex	No. sampled	No (%) Positive	
		<i>Fasciola spp</i>	<i>Dicrocoelium spp</i>
Male	50	3 (6)	1 (2)
Female	50	5 (10)	4 (8)
Total	100	8 (8)	5 (5)

Also goats had a prevalence rate of 8% and 5% for *Fasciola spp* and *Dicrocoelium spp* respectively (Table II). The bucks had 6% prevalence rate for *Fasciola spp* and 2% for *Dicrocoelium spp*. While female goats had prevalence rates for *Fasciola spp* and *Dicrocoelium spp* as 0% and 8% respectively.

From this survey, it can be inferred that the average prevalence rate of fluke infection during the period of the survey was 42% in sheep and 16% in goats. Sheep are generally more susceptible especially to the acute form of the diseases than goats (Ross, *et al.*, 1967). One of the reasons for this may be that sheep are social animals hence they graze along with cattle in the fadamas, and this increases the chance of infection. Some of the sheep and goats that are usually brought to the abattoir are those managed under the semi intensive system. This makes them to be prone to infection.

However, this result is slightly lower than the one reported by Schillhorn van veen (1980) in which prevalence rate of 40.8% were reported for sheep and 17.6% for goats at the Bauchi abattoir. In the study, the prevalence of *Fasciola spp* infection in both sheep and goats was comparatively higher than the prevalence of *Fasciola spp* infection. This can be attributed to the higher abundance of the intermediate hosts for *Fasciola spp* in the environment, unlike the *Dicrocoelium spp* which utilizes both the land snail and ants.

More female of both sheep and goats were infected compared to males. This may be attributed to the immunosuppressive effect of reproductive hormones of the female animals (Soulsby, 1982). With the adoption of the International development target of reducing poverty by 2015 (UNDP, 1990). Livestock production and

health constitute a major tool for achieving this target, hence adequate attention has to be paid to the health of these livestock populace especially with regards to parasitic infection. It is therefore recommended that relevant authorities concerned with livestock administration should put in place strategies to combat parasitic infection of animals.

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