RESEARCH NOTE

PREVALENCE OF BOVINE TRYPANOSOME INFECTIONS IN DAMBOA LOCAL GOVERNMENT AREA BORNO STATE

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ABSTRACT

African animal trypanosomiasis is a disease complex caused by pathogenic trypanosomes which are cyclically transmitted by tsetse-fly or mechanically by other biting flies to domestic animals. The disease has for long been a limiting factor to livestock production in tsetse-fly infested regions of Africa (Anosa, 1983; Trail *et al.*, 1985; Dwinger *et al.*, 1986). It is now assuming significance in the tsetse-free vegetational zones (Nawathe *et al.*, 1988) probably due to transhumance and ecological upset in favour of increasing insect population and activity in the area. The study was undertaken to ascertain the prevalence of bovine trypansome infection in the area and hoped that it will provide information on the epidemiology of the disease. A total of 151 blood samples were collected from 11 sedentary herds of cattle in Damboa Local Government Area between February to April, 1992. About 3ml of blood was collected from each animal in bijou bottle containing anticoagulant (Ethylene diamine tetra-acetic acid). The sex, age and breed of each animal were noted during blood collection. The blood samples were transported to the Laboratory on ice and examined using wet-film, stained thin smears, haematocrit centrifuge technique (Woo, 1969) and dark ground buffy coat. The packed cell volume was also recorded for each animal using Hawksley's haematocrit reader[a].

BOVINE TRYPANOSOME INFECTION

The prevalence of bovine trypanosome infection was found to be 7.3% in the study area. The infection rate in males was 5 (7.7%) as against 6 (7.0%) in females. Animals in the age groups $x \leq 2$ years, $2 \leq X \leq 4$ years and $4 \leq X \leq 6$ years recorded 1 (7.1%), 5(7.4%) and 5(7.2%) infection rates respectively. The distribution of infection in the various breeds of cattle is shown in Table 1. *Trypanosoma vivax* was recorded in 9 (6.0%) of cattle while *Trypanosoma congolense* was recorded in 2 (1.3%) of cattle examined. The mean packed cell volume of the infected animals was significantly lower than that of the non-infected group ($P < 0.05$).

The variation in the infection rates between the sexes is not significant. Similarly, the disparity in the infection rates among the various breeds of cattle examined does not imply breed resistance since the sample populations were subjected to different husbandry systems. The predominance of *T.vivax* in the study area agrees with the findings of other workers in the sahel savannah (Nawathe *et al.*, 1988) and elsewhere in the sudan savannah (Maclie, 1913; Glover, 1961; Osiyemi and Agbonlahor, 1980; Ahmed and Agbede, 1991). This can be explained by the adaptation of *T. vivax* to mechanical transmission by biting flies other than the tsetse. The presence of *T. congolense* in the tsetse-free study area (Anon., 1990) would appear to depend on afforestation in the last two decades which possibly provides niches for tsetse-fly existence. Alternatively, mechanical trasmission by biting flies may have been responsible for the propagation of the parasite in the resident cattle as shown by the reports of other workers (Anon., 1989). A similar report on mechanic transmission of *T. congolense* by Tabanus and Stomoxys under experimental conditions was earlier on described by Hoare (1972). The

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significant drop in the mean packed cell volume of the infected animals is an indication of anaemia, a major clinical feature of bovine trypanosomiasis (Banks, 1979; Saror, 1979; Esievo *et al.*, 1984).

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Table 1 BREED DISTRIBUTION OF BOVINE TRYPANOSOME INFECTIONS IN DAMBOA LOCAL GOVERNMENT AREA (FEBRUARY - APRIL, 1992).

Breed	Number Examined	Number Positive	Frequency of Infection(%)
Wadara	74	7	9.5
White-Fulani	18	0	0
Mbala	27	2	7.4
Kuri	12	0	0
+Crosses	20	2	10.0
Total	151	11	7.3

+ Not specified.