

Short Communication

AN OUTBREAK OF TRYPANOSOMOSIS ON THE JOS PLATEAU, NIGERIA

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The Jos and Mambila plateaux of Nigeria have been generally accepted as tsetse-free (Esuruoso, 1973). There have been occasional reports of trypanosomosis among migratory (nomadic) bovine herds and animals arriving from more northern localities for slaughter, but no evidence of the presence of tsetse fly (*Glossina* spp.) nor trypanosomosis among sedentary stock. This communication describes an investigation of an outbreak of tsetse transmitted trypanosomosis in Bassa Local Government Area (LGA) of Jos Plateau.

Bassa LGA lies within 9°45' to 10°20' North and 8°35' to 8°58' East, has an annual rainfall of 1,200 to 1,500 mm over six months (April to September) and is 1,000 to 1,200 m above sea level. The outbreak was reported in September 1987 by the resident Fulani community. Tsetse flies had first been noticed 10 months previously and although they were not found peridomestically, they had consistently attacked livestock and herdsmen along grazing routes. Among cattle herds, milk yield had halved and the mortality rate had increased during the two months prior to the report of the outbreak and had forced more than 10% of the families to move out of the LGA.

Surveys commenced in the three most affected communities two days after the outbreak was reported and continued at weekly intervals. Blood samples were collected randomly from Zebu cattle and Yankassa sheep aged six months and above and packed cell volume (PCV) estimated. The sex, age and clinical signs (if any) were recorded. Each sample was examined for trypanosomes by wet and thin film, haematocrit centrifugation (HCT) and buffy coat techniques (Kalu, Edeghere and Lawani, 1986). Two mice were inoculated with each sample which was trypanosome-positive or had PCV values of 21% or less. Trypanosome-positive animals were treated with diminazene aceturate (Berenil, Hoechst, Germany) at 3.5 mg/kg body weight. Prophylactic doses of isometamidium chloride (Samorin, May and Baker, UK) were administered to the rest of the animals. The sex, age, physiological (nutritional) state and infection rate of the fly population was studied from catches made by use of hand nets (FAO, 1975).

The results of the total of 629 bovine samples are summarised in Table I. Two hundred and forty three (38.6%) were infected with trypanosomes out of which 165 (67.9%) were *Trypanosoma vivax*. The remaining infections were unidentified; they were positive in wet films and/or HCT, but negative in both stained thin films and mouse inoculations. Sex did not greatly affect infection rates but calves and cattle over seven years old had a higher percentage of subclinical infections (Table I). Of 165 ovine samples, 34 (20.6%) were infected, 21 (61.8%) with *T. vivax*, three (8.8%) with *T. congolense*, and 10 (29.4%) were unidentified.

Twenty eight tsetse flies caught were all *G. tachinoides*, made up of 12 males and 16 females (3:4 ratio) and aged 18 to 32 days. Only three were infected (labrum and hypopharynx). Chemotherapy and chemoprophylaxis with Berenil

TABLE I

Effect of sex and age on the prevalence of trypanosome infections in cattle during an outbreak on the Jos plateau, Nigeria

Parameter	No. of samples	No. positive	% positive	Trypanosome species	
				<i>T. vivax</i>	Unidentified ¹
Sex					
Male	161	58	36.0	41(70.7) ²	17(29.3)
Female	468	185	39.6	124(67.0)	61(32.9)
Age (yr.)					
0-1	85	26	30.5	9(34.6)	17(65.4)
2-3	164	64	39.0	52(81.2)	12(18.8)
4-5	143	60	41.9	47(78.3)	13(21.7)
6-7	131	57	43.5	42(73.7)	15(26.3)
Over 7	106	36	34.0	15(41.7)	21(58.3)
Total	629	243	38.6	165(67.9)	78(32.1)

¹ Diagnosed only by the concentration methods; morphological identification on thin film or following mouse inoculation was not possible.

² Bracketed figures indicate percentage of all positive cases in the group.

and Samorin respectively, controlled the outbreak and there was no spread of infection to other areas within five months of active surveillance.

The outbreak occurred early in the dry season when more cases of trypanosome infection are usually recorded (Esuruoso, 1973). It was not possible however to trace with certainty the source(s) of the vector nor the factors which precipitated the outbreak. Tsetse flies sometimes advance or retreat with changing fauna or adverse environmental conditions (Esuruoso, 1973). However, the age of the flies and the history of their prevalence in the area suggest that they had been breeding. Bassa LGA is contiguous to a known *G. tachinoides* belt in Kaduna State (Saminaka LGA).

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