

Article 108

TRYPANOSOMIASIS IN INYANGA NORTH RESERVE.

by

H. E. HORNBY.

Within the last four or five years a Glossina morsitans fly-belt of Portuguese East Africa has broken through the barrier of deciduous bushland that lay between it and Southern Rhodesia, and has crossed the Rhodesian border on a wide front north and south of the Tete-Mtoko road. Defeating all efforts to control it, this advancing belt has already wiped out the cattle of Mkota Reserve, decimated those of Chikwizo Reserve, and destroyed some of those of Inyanga North Reserve. A recent smear survey by the District Veterinary Officer, Umtali, showed the Fombi concentration of cattle in the north of this reserve to be fairly heavily infected, that of Chimsasa to be lightly infected, while everywhere south of these areas was apparently still free from infection. My own investigation corroborated this conclusion and supports the belief that these smear surveys are reliable and of much value.

I arrived at Ruangwe on September 23rd, and by the courtesy of the Native Commissioner, Inyanga, I was allowed to use the rest-house as my operational base. I started immediately to get a general impression of conditions throughout the reserve; travelling on the 25th to its extreme north-east corner, where I met Mr. Phelps.

It required only a brief inspection to confirm the existence of trypanosomiasis in the villages around Fombi. The first herd seen there numbered 44. Of these 6 were clinically fly-struck, though three of them had been treated and were recovering. Two others of this herd had been treated, but one had died soon afterwards and one had been killed by hyaenas. The remaining 38 were in good condition. The second herd of 13 included 2 clinical cases, of which one had been treated. Another treated animal had recovered and looked well; as did the remainder of the herd. All the members of third herd of 9, seen grazing, were in excellent condition.

Three miles south of Fombi was a village associated with the larger one of Mundenguma of the Chimsasa group. This herd had been on its present grazing grounds for three years. About 18 months ago trypanosomiasis became evident, and since then 6 animals have died. Of the 13 survivors, 3 had been treated but were still thin, and one other was clinically affected. All the others were in good condition. The only other herd of the Chimsasa group that I saw was at Mujeni store. Here, as at the time of the smear survey, the 14 animals showed no signs of infection. The remarkably good condition of most herds throughout the reserve made the recognition of clinically fly-struck cattle an easy matter.

The road to these northern villages was so rough that I hesitated to traverse it a second time in a car laden with camp equipment. It seemed unnecessary, too, as it was clear (1) that tsetse were to some extent established in the neighbourhood of Fombi, (2) that there was no vegetation barrier to stop them going further south, (3) that the scattered distribution of the villages made the cultivated lands "feeding grounds" for tsetse rather than a protection against the flies, (4) that there was no obvious practical measure of preventing further infection of these herds so long as the villages remained

see what could be done further south where settlement was much closer.

The natural vegetation of the stony hilly country around Fombi is a fairly open woodland of dry type. The climate is too hot and dry for Brachystegia - Julbernardia woodland, and so the trees were xerophilous species of many genera: Combretum, Terminalia, Lannea, Burkea, Diplorhynchus, Bauhinia, Strychnos and many others; mostly leafless. There were small patches of Mopane, while conspicuous in their fresh foliage were isolated Azelia (pod mahogany), Kigelia (sausage tree) and Lonchocarpus. Grass cover was good and unburnt.

As the country dipped still lower towards the Ruenya river the woodland became shorter, closer and drier. The genus Commiphora, characteristic of hot dry country, became more and more in evidence so that the last mile or two before the river was reached were through Commiphora - Combretum - baobab bushland, with some Mopane present, and, close to the river, a few green Tamarindus and tall handsome Pseudocadia zambesiaca.

It is important to realize that whereas the dry woodland around Fombi can evidently harbour G. morsitans at certain seasons, though it is far from being favourable to this tsetse, the deciduous bushland adjoining the steep banks of the Ruenya is entirely unfavourable. Therefore, any advance of G. morsitans along this river would be a slow progression through woodland parallel to but a few miles from the river; with the support of game living in the woodland but drinking at the river. It is possible that a succession of dry years would eliminate G. morsitans from the whole of the reserve, but our experience of Mkota must make us unhopeful, and it is safer to anticipate that without active Government intervention what is happening at Fombi to-day may happen several miles further south in a year or two's time.

The southern third of Inyanga North Reserve presents a picture different from the one of scattered villages in the rather wild country of the northern third. This southern area is a rough plain, about 2,500 ft. above sea level, partially bounded by the Inyanga highlands to the south, by ranges of high hills near the Portuguese border to the east, and by the block of hills that is Lawley's Concession to the north-west. Everywhere on the plain itself are lower hills of various sizes; some carrying woodland of Brachystegia boehmii, B. tamariginoides and Julbernardia globiflora (but little or no B. spiciformis, the colourful "msasa" of the Inyanga plateau), and still bearing stonework of prehistoric terraces, while other hills are great whale-backs of stone from which the run-off of rain water must be very great. The seepage areas and drainage channels of these water sources carry a mat of Digitaria and other sweet grasses excellent for adult cattle, but probably hot-beds of strongylosis, as no sheep are present. Near the Ruenya, Brachystegia sp. near B. longifolia is locally dominant on the hills, but on the whole the natural vegetation below the Brachystegia - Julbernardia level is the same dry woodland that occurs all the way up to Fombi; but here in the south it is fragmented by past and present human exploitation, and much of it is secondary growth. At the time of my visit many of the trees were in flower; among the more striking being Acacia nigrescens, Cassia abbreviata, Bauhinia punctata and the "pink jacaranda" (Stereospermum kunthianum). The whole southern area within reach of the Ruenya and Matisi rivers is a patchwork of cultivated land, exploited grazing and woodland relics. Erosion is active, being particularly

marked near the Ruenya; nevertheless such soil as remains is intrinsically fertile and can support a good grass cover. Cattle were in very good condition for the time of year. I have said there were no sheep, but goats, pigs, dogs and fowls were abundant and looked well, and this year there was a surplus of munga for export. Oxen are used for ploughing and, in places, for hauling manure to the lands on sleighs.

I inspected very large numbers of cattle; at the two dipping tanks; in the villages and on the grazing grounds. To do this I walked about 60 miles, in addition to motoring many more. On dipping days I took a microscope to the tank, but had no occasion to use it at the Chifembi tank, and at Ruwangwe I saw only half-a-dozen animals whose blood I thought I ought to examine, and these were all negative for trypanosomes.

I paid particular attention to herds on the north fringe of this "cultivation steppe". Of Chifembe district the grazing lands are bounded on the north by the great group of bare hills that lie on both sides of the Ruenya and fill Lawley's Concession. I think these barren, rugged and seasonally very hot hills are quite unsuited to G. morsitans. A similar protection against outflanking on the eastern side is given by high hills on both sides of the Gairizi, a river that, like the Ruenya, is for the most part steep-banked and without a riverine fringe favourable to direct passage of tsetse. But between these two buttresses the southern area lies open to the advance of flies from the north.

Of the herds of the northernmost villages of the southern area I paid closest attention to those of Manwere (No. 27 on the veterinary map), Takurawawa (32), Mukunza (33) and Pfumayikaramba (30). Enjoying unlimited grazing owing to the widespread disposition of their kraals the animals were all in good condition, and I saw none that looked infected by trypanosomes. On the other hand this disposition is just the same as that of some infected Chimsasa villages only five or six miles further north; therefore their own liability to infection in the near future is serious. This thinning out of population as one goes north is due partly to absence of streams after the Matisi has been left behind, and partly to the increased irregularity of the terrain, so that most of the land is on slopes too steep for ordinary cultivation. Of the two the former is the more important, and provision of more watering points by boring or dam construction might allow all the infected villages of the north to be accommodated below what may be called the present line of safety; one connecting the uninfected villages of Pfumayikaramba (3), Saduwa (31) and the Chifembi village of Gohota (14).

I think it almost essential that the stock of all the Chimsasa villages be moved to the southern area, to create a cattle-free belt several miles wide just north of this well-populated and as yet uninfected district. Very few hunters would be necessary to make the belt game-free as well, though permission might have to be obtained for them to operate just over the Gairizi river, as far as the first range of hills in Portuguese East Africa.

There appears to be practically no game in the southern part of the reserve, only hyaena, baboon and klipspringer. Hyaenas are a great pest and kill much stock, but for superstitious reasons they are not destroyed. I do not know how the klipspringers escape, for almost everything is snared or netted; even small birds are uncommon. In the uninhabited central and northern areas there must be more game, particularly

SUMMING UP : The northern part of the reserve has a scattered population in a woodland already lightly infested by tsetse. The southern and wider portion has a much larger population, most of whom live so close together that they have created conditions altogether unfavourable to tsetse, but some of whom are scattered throughout woodland that though still fly-free is liable to infestation. Between the northern and southern communities is an almost uninhabited belt of country many miles wide on the west side but only three or four miles wide on the east boundary.

It is considered almost essential that in the interest of the south, the cattle of at least some of the northern villages should be moved to make a broad cattle-free belt nowhere less than ten miles wide right across the reserve, and that this belt be then made game-free also by controlled shooting.

The interests of all the northern villages might best be served if these people agreed to move to the south side of the cattle-free belt. Failing this, if they closed their ranks so that their cultivated lands were all joined together, then as the surrounding woodland is not favourable to G. morsitans (though permitting their survival), and as these people appear to be great hunters (or poachers!) it is possible that losses from trypanosomiasis could be kept low, especially if periodic treatment of clinically infected animals were available.

I left the reserve on October 1st, and I wish to thank Mr. Phelps for preparing a camp site that, unfortunately, I was unable to use as I should have liked to spend some days in his company. I am also grateful to the Native Commissioner, Inyanga, for helpfulness, and to one of his African employees, Barnabas, for much assistance.

Poole Farm,  
Hartley.  
6/10/53.

Sgd. H.E. HORNBY.