

TSETSE FLY.

The Game Elimination Experiment on the lower Shangani River was continued during the dry season, the operations extending from June 15th to November 15th. The area was visited by myself in June and again in October and reports dated 4th August 1922 and 20th October 1922 respectively have been submitted, giving the results of my observations. This experiment is now considered as terminated, a very marked diminution of tsetse fly having undoubtedly occurred in the area of operations accompanied by continued increase and extension in the areas immediately adjacent. As far as a single experiment can prove anything the present one may be regarded as having demonstrated the dependence of the fly on the larger mammalian fauna in this locality. As a result we are encouraged to proceed with measures aimed at checking the continued advance of the fly, based on the principle of control of the prevalence and movements of game animals.

In this connection must be mentioned the adoption during the year of an experimental policy of granting concessions to individuals to hunt in certain defined areas in the form of a cordon round the limits of a portion of the Sebungwe Fly Area, with a view to checking the spread of the tsetse. Twelve areas were delineated in all, two of which were reserved for hunting by local natives and one for the official operations. Of the nine remaining areas six were taken up by Europeans. I was not able to pay any local attention to these areas during the year but hope to do so during the coming dry season. The B.S.A. Policy were asked to obtain returns of the game destroyed from the concession holders but so far have failed to forward any information. In any case such returns would probably be almost valueless.

A further important investigation was carried out by Asst. Entomologist J.K. Chorley who spent from June 23rd to October 15th on a visit to the Sebungwe (Mafungabusi) district, of which two and a half months were occupied in research into the bionomics of tsetse fly at one spot on the Umniati River. This research has produced some very interesting results, particularly in regard to the parasites of the puparia of the fly and should be continued. Mr. Chorley's report was much delayed on account of continued emergence of parasites at Salisbury from puparia brought back with him, but was transmitted to you on January 22nd, 1923.

In addition to bionomical research Mr. Chorley also gathered information during his excursion bearing on an outbreak of trypanosomiasis at the Inyoka Estate and on the extension of the limits of the Umniati fly area.

Since returning to Salisbury Mr. Chorley has commenced a study of the local parasites of Muscid flies breeding in dead meat, refuse, manure, etc. with a view to ascertaining if these have any parasites in common with the Tsetse Fly.

With regard to the position concerning tsetse fly generally in the territory it can only be said that the pest appears to be extending its range in most areas where conditions admit of fresh country being occupied.

The Sebungwe Fly Area has extended westward and southward of recent years and may have extended in other directions. I made notes on the westward extension during a journey to the Zambezi from the scene of the Game Elimination Experiment in June and July and these were embodied in my report dated 4/8/22.

Complaints have been received of the loss of native cattle

from trypanosomiasis in previously healthy localities in the Lomagundi and Darwin districts whilst the Umniati fly area has extended considerably north west, east and south, following a very marked increase of "big game" in these parts during the past few years. This increase of game appears to be due to the fact that, presumably owing to the enormous fall in the market value of biltong and hides, professional hunting has practically ceased even in the open area of the Hartley district. The present surplus of cattle in the territory, accompanied by the world-wide slump in prices, has thus apparently reacted in favouring spread of the tsetse fly in certain areas and it is feared that the same causes may react unfavourably on further plans for checking the spread of the pest based on voluntary hunting.