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ANNUAL REPORT OF THE CHIEF ENTOMOLOGIST, 1920.

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TSETSE FLY.

I was absent from headquarters on tsetse fly investigations (1) August 4th to 22nd; (2) September 24th to October 27th. Detailed reports have been submitted concerning the results of these visits to the fly areas, but they may be summarized as follows :-

1. Mapping. This was largely incidental to the other objects of the trips. I found no extension of fly beyond last year's limits in the region of the Sessene river, up the Shangani or towards the Gwaai. Three journeys along the Gwaai from the region of Silame Farm to the Gwaai-Shangani junction failed to reveal any fly on the river. Owing to the faulty map, however, it was found that fly is actually nearer the Gwaai than was thought namely two to three miles to the west within one or two miles south of the Shangani. Mr. de Buys had, however, observed and reported fly in this locality last year. It may be noted, however, that extension of the fly limits in the region of the Zambezi and up the Sengwa river has been reported and in his December report Mr. de Buys states that fly has now reached eastward to Mbobo's kraal, north of the organized shooting area.

2. Sipene Vlei Experiment. The results of this experiment were unsatisfactory owing to several factors :-

(a) The fly was enormously reduced last year before the cutting operations commenced;

(b) The habit of the forest varies very considerably during cycles of light or heavy rainfall;

(c) Regrowth of creepers had rapidly covered the branches of fallen trees affording shelter for the fly;

(d) The felled trees themselves are growing up again although not sufficiently in one season to afford shade for fly;

(e) A considerable number of trees leafless in August 1919, were in full leaf in October 1920.

Sipene Vlei is obviously too remote for a properly controlled experiment of this nature and in any case the observations on which hopes of success were based were made during a cycle of light rainfall and conditions proved to have altered after three years of rainfall above the average.

3. Game Elimination Experiment. Observations were made in August and again in October and have been fully reported. The result of the operations which have now extended over two dry seasons is apparently a considerable reduction of fly, particularly in those parts whence the game has been most effectively removed. No increase or extension of the fly has taken place in this newly invaded area. The flies show what is believed to be an indication of hunger in that practically as many females are attracted to human beings as males, and on the whole the experiment appears very promising. Its continuance for at least one more year has been recommended, as results are not yet sufficiently marked for definite conclusions and the elimination of the larger mammals is still far from complete.
4. Malsetter Border. The situation in this region is acute but owing to absence of assistance it has not been possible for this office to carry out any investigations.
5. Other Localities. Lack of assistance is preventing the accumulation of notes on increase and decrease, extension and retrogression etc. that would otherwise go to form a valuable accumulation of observations likely to be invaluable in the future.