

TSETSE FLY.

1. Lomagundi.

(1) Operations. The fences, which were completed in December, 1925, have been carefully maintained throughout the year and efforts have been continuous with the object of removing the game. A European ranger, labourers and native hunters have been employed for the purpose. The brush barriers, supplementing the wire fences have given considerable trouble, although attempts to protect them by fire guards were commenced as early as possible. The barrier along the southern fence has been destroyed almost entirely by fire and several wide gaps have been made in the barrier along the northern fence. The latter have been refilled. The value of the brush barriers in reference to game control is unquestionable but they seem to be very difficult to protect from fire and are expensive both in construction and maintenance.

Reports as to the efficacy of the fences are on the whole favourable. Very few animals indeed have broken through the north fence but a certain section of the south fence has been broken more than once by herds of eland and sable. The section in reference crosses a big vlei and the fence is being steadily strengthened by additional posts and wire. Breakages have greatly decreased latterly.

Notwithstanding the general efficacy of the fences much more game has had to be destroyed in the area than was anticipated in view of the apparently successful game drive in November, 1925, and the bag of the larger species shows little sign of diminution up to the end of the year. The most hopeful aspect lies in the fact that the eastern half of the area, which is the more infested with tsetse fly and adjoins the greatest number of affected farms, has been reported almost clear of big game for several months. Immigration of game from the west across the Angwa river is suspected, but no definite indication of this has been obtained.

The following is the list of game reported destroyed in the area during the year. :-

Name	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Totals.
Eland	1	8	4	3	1	3	1	5	4	5	2	4	41
Kudu	5	7	5	1	9	6	5	9	13	9	18	8	95
Roan	1	-	-	3	-	2	5	-	2	5	1	3	22
Sable	20	23	13	19	19	20	14	26	19	33	15	28	249
Waterbuck	5	4	4	2	7	2	5	4	12	7	5	2	59
Tsessebe	2	1	1	-	-	-	4	-	1	3	2	-	14
Bushbuck	1	1	-	1	6	1	3	4	3	3	3	4	30
Reedbuck	3	1	-	-	-	1	2	3	3	2	14	13	42
Duiker	11	8	2	5	4	11	10	4	24	23	28	20	150
Grysbok	-	-	2	1	-	-	2	-	1	3	2	-	11
Oribi	3	1	-	-	1	-	3	1	13	4	8	12	46
Klipspringer	-	1	-	-	-	-	2	-	-	-	1	1	5
Rhinoceros	-	-	-	-	-	-	-	-	-	1	-	-	1
Hippopotamus	-	-	-	-	-	-	-	-	1	-	-	-	1
Warthog	2	1	1	1	2	1	3	1	4	12	9	9	46
Bushpig	6	2	3	1	1	1	4	-	9	13	13	11	64
Zebra	3	1	1	3	2	-	-	1	5	3	-	1	20

63 59 36 40 52 48 63 58 114 125 122 116

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In addition the following miscellaneous species were destroyed :-
Baboons 7, Otter 1, Wildcats 7, Leopard 1, Jackals 5, Hyenas 2,
Ostriches 2, Crocodiles 10.

Game is without doubt increasing greatly in the temporary sanctuary maintained north of the fenced area where, during a few days visit in September, I saw large herds of eland and many other antelope. The contrast between the intensively hunted country between the fences and the undisturbed area on the northern side of the fence was very abrupt and marked. Herds could be seen almost daily across the fence. These animals are fired at if they come within rifle shot of the fence but are not otherwise molested.

Operations against game have been continued in the Sipolilo sub-district under the direction of the Asst. Native Commissioner, Sipolilo. This area is not fenced. The Asst. Native Commissioner reports 527 animals destroyed as against 332 in 1925 and 600 in 1924.

This destruction of wild life is exceedingly regrettable but apparently unavoidable. If settlement advances the game will be destroyed or driven out in any case and there can be no logical objection to driving out the game with a view to maintaining and advancing settlement which is, of course, overwhelmingly the most important consideration. I had hoped, however, to have brought about removal of the game in the fenced area with much less destruction.

(2) Tsetse Fly Inspection. Four European inspectors have been employed in this district with a view to determining, as accurately as possible, the distribution and occurrence of Tsetse Fly. Only three have been employed at any one time. These inspectors have been provided with bait oxen and six natives apiece and have covered practically all the suspected country outside the definite fly area, including the fenced zone.

It appears unnecessary to give details of the results of this inspection in this report but it may be said that the discovery of tsetse flies in the indefinitely infested area, in spite of the intensive method employed, has not fully embraced localities in which Trypanosomiasis occurred in cattle last season. Our knowledge of the occurrence of the pest has, however, been considerably extended. It is clearly not feasible by direct observation accurately to define the limits of the country endangered by this pest.

Within the fenced zone the indefinite nature of the infestation, except close to the northern fence, has been very clearly demonstrated. The average catch per European with six natives over a period of twenty-two weeks was approximately one fly per week in the area indicated. Nowhere

except north of the Chumsenga river and close to the north fence, were double figures reached in any one week. On affected farms outside the fenced area only odd flies were taken. On the block of farms between the Msitkwe - Dora and Hunyani river, east of the latter, only one fly was taken altogether in approximately five months.

Trypanosomiasis. This disease was prevalent last wet season on the farms between the Msitkwe - Dora and Hunyani rivers, including Chiwe, Silater, Mafoota, Mafoota Extension, Chisange and Allangrange. On the last named farm, however, only three fresh cases were reported. Msitkwe River Ranch also suffered and Nyamsaka's cattle near the Mabsere river were reported to have been affected, but this has not been substantiated. West of the Hunyani, Mcheringe Farm suffered heavy losses, also Gudubu. The disease was also diagnosed on Robbsdale and Riversdale. Suspicious cases occurred on Mungamwa.

Msitkwe River Ranch and Gudubu have been evacuated and only towards the end of the year was a decision to suspend farming operations on another farm postponed.

Abortive Grass Fire. Plans for an organised grass burn on the affected farms east of the Hunyani were frustrated by a premature fire which swept these farms in July. This fire occurred within a few days of my securing promise of cooperation on the part of the farmers concerned.

Results of Operations. It is clearly too early to anticipate definite results from the fenced zone, which is intended to relieve the situation on the affected farms. The disease has usually manifested itself in a decisive manner on these farms during the latter part of the wet season. In the Sipolilo area the report for the year suggests that the position in regard to native cattle is somewhat improved, but no definite conclusions can be drawn as yet.

II. Hartley (Gatooma).

The situation in this area has developed very unfavourably during the past year or more, the fly having advanced eastward to the Rhodesian Plantations, Carfax Estate and some neighbouring farms. It is judged that during the past three years the fly has overrun something like twenty miles of country on a twenty mile front.

The incidence of trypanosomiasis in cattle and the work of two European inspectors has defined the position with reasonable clearness, but here again direct observation of the occurrence of fly has not covered all the country in which cattle have contracted Trypanosomiasis.

Intensive inspection has indicated definite eastward advance of fly during the dry season, the insects being met with in some numbers further and further east as the season advanced, whilst the density has continued to increase westward from the eastern limit, as observed at any particular time. Large quantities of game, including warthog, have been reported by many observers in this area.

At the end of the year the western border of the Rhodesian Plantations and the northern part of Carfax Estate are definitely infested and flies have been taken as far south as Elgeyo Farm. Practically all the cattle on Carfax Estate have died, heavy losses have been sustained on the Rhodesian Plantation and odd cattle have died from the disease on Milverton, Delamere and Sunnybank. Some oxen working with a road party near the headwaters of the Yabongwe River on the Golden Valley - Turkois road were also infected. A considerable number of oxen belonging to a woodcontractor at the Turkois Mine contracted the disease, but this was apparently due to wood cutting activity on the Rhodesian Plantations.

As a preliminary measure a thirty-five mile game fence along

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recommended in August and authority secured for the necessary expenditure. It was hoped to get this erected during the dry season but circumstances have delayed the work. At the end of the year Mr. Chorley of this branch was in the area distributing the wire. Difficulty in securing labour is hindering the work considerably.

Grass Fire. An attempt was also made in this area to test the practicability and broad effect of an organised late grass fire. Although some measures were taken by the police to check grass burning these efforts were unsuccessful on the whole. In point of fact it is impossible to stop early grass burning in this district without close patrol of a vast area. In August it was clear that if anything was to be done it must be done at once, as the veld was burning in all directions. A three-day burn on a twenty mile front was therefore hurriedly organised with the aid of some four hundred natives, supplied by the Rhodesian Plantations and Carfax Estate. The natives were under the direction of nine Europeans.

The burn was not altogether successful, although much better on the first day than on the two succeeding days. This was largely due to lack of acquaintance with the country on part of the operators. The wind also was not strong enough for the best results. In any case, the inspectors reported taking tsetse flies immediately in the wake of the fire and the burn generally had no appreciable effect. In point of fact the position subsequently developed for the worse. Although this experiment cannot be regarded as disproving the possibility of adversely influencing the tsetse fly by means of organised grass fires, it illustrates the difficulties attendant upon putting the measure into practice, as also does the experience mentioned in regard to Iomagundi.

III. Darwin.

The Cattle Inspector reported in September that "this year J. Giles and the B.S.A. Police are the only people losing cattle from similar symptoms to those which died in such large numbers previously". It is to be noted that in the years 1923 and 1924 operations against game were conducted in this district, but the operations were not continued in 1925 or 1926. An "open area" has, however, been maintained. Losses on one large ranch totalled, according to the Cattle Inspector's report, about 800 head in 1924 and 1925. There still remain about 850 head of cattle on this property, I am informed, but losses from fly disease are stated entirely to have ceased.

IV. Sebungwe-Bubi-Wankie.

A special tour of inspection along the Gwasi River was carried out by the Cattle Inspector, Nyamandhlovu, at my request, during the year. His report indicates continued immunity of cattle in reference to Trypanosomiasis in this formerly affected area. This immunity has now lasted over five years.

Reports of hunters, however, indicate increase of both game and tsetse fly in the area of the former Game Elimination Experiment especially on the lower Kena River. Recrudescence of the disease along the Gwasi may, therefore, occur in the near future.

Reports from the Sebungwe district indicate continuation of the spread of "fly", which has apparently not ceased since 1897.

V. Transmission of Trypanosomiasis - Experiments.

These experiments were carried out last wet season in fly free areas in the Gatoome, Hartley and Sinoia districts respectively, two newly fly struck cattle being herded with four healthy animals in each case. In the Gatoome area one of the associated animals contracted the disease. The experiments at Hartley and Sinoia gave negative results.

Notes on prevalence of bloodsucking flies were made during the progress of the experiments. Stomoxys was the most prevalent genus and these flies were not very abundant. Culicoides was much less in evidence than during the preceding season. Only a few Tabanids were recorded. Owing to reasons beyond my control these experiments, like all previous efforts in the same direction, were not started until late February and the usual heavy outbreak of Blind Flies (Haemetonota) in January and early February was missed.

I wish to express my appreciation of the spirit of cooperation displayed by the Chief Veterinary Surgeon in connection with these experiments and in regard to the Tsetse Fly problem generally.