Article 135

A REPORT ON A VISIT TO THE MTOKO TSETSE FLY AREA - G. morsitans Westw. (12th - 24th April).

1. The purpose of the visit was to make a short study of the area with a view to possible experimental work in the control of Tsetse fly with insecticides.

The new Tsetse fly operations camp, situated a few hundred yards west of the P.E.A. - S. Rhodesian border and just off the main Salisbury - Tete road was used as a base and from here all places where fly had previously been reported from were visited.

2. Surveys were made both by Land Rover and on foot. In the case of Land Rover traverses, stops were made approximately every half mile and the car was searched thoroughly each time. This method is not particularly accurate as one is never certain at just what point the fly or flies came to the car, but it was permissible in this case as the fly density is so low and it enabled a large area to be covered. Foot traverses were made wherever the country looked particularly promising for fly and here stops were made every one hundred yards. This method of foot survey, where one hundred yard stops are made, is to be recommended as any flies coming to the catching party are always seen because careful searches are being made at short and regular intervals. Further one knows to within one hundred yards where the fly or flies came to the party and, if a record is kept of the vegetation at each stop, a great deal can be learnt about the vegetation requirements of the fly in the area being studied.

3. Three visits were made to the Mudsi river in S. Rhodesia using the track which leaves the main road a short distance west of the Landing Strip. The country along the river for about 3 miles east of where the track meets it and along the track itself between the river and the main road was studied. In all 2 male G. morsitans were caught - one a non- teneral and the other a teneral fly. The non-teneral was caught while walking along the river bank, the teneral off the car at a point just about half-way between the main road and the river and this was after several stops had been made. (A teneral fly is a young one which has not yet fed and the chitin still remains soft). The capture of this teneral fly is evidence in favour that breeding is probably taking place on the S.R. side of the border.

The vegetation of this area is very mixed and patchy - occurring are areas of more or less open, small tree wooded country (Troberlinia globiflora dominant on the ridges and upper slopes of the low hills gradually giving way to Terminalia and Combretum spp on the lower slopes and valleys and very suitable for fly), other areas of continuous dense thicket (this often covering both the hills and valleys and quite unsuitable for fly), and finally there is the vegetation along the Mudsi river (this is open in parts with occasional thickets and quite suitable for fly, whereas other parts consist of denser continuous thicket quite unsuitable for fly).

Game seems to be rather scarce in the area. The only animals seen were two duiker. The spoor of a small herd of cow elephants and calves, a solitary bull elephant, zebra, eland, kudu and one lion were recorded.

4. A trip was made to the Masoe river through the Mkota reserve. No flies were caught or seen. The vegetation seems to be quite unsuitable for fly. Large areas have been cut out for cultivation and that which remains is mainly continuous thicket. No game were seen or signs of game noticed.

5. A short survey was made along the Massanga road in P.E.A. as far as the Mudsi river. This road runs through the area from where fly is supposed to have spread northwards and westwards. Fifteen stops were made between the main road and the Mudsi river, a distance of 10 miles, and eleven non-teneral G. morsitans were caught, 5 males and 6 females. Two foot traverses were also made through supposedly ideal looking fly country, but no flies were seen or caught. It is quite obvious that even here, where the fly spread from, the density is extremely low.

The country here is more broken and numerous rocky, but well wooded, hills occur. The vegetation though is much the same as that between the Mudsi and the main road in S. Rhodesia, and is just as mixed and patchy.

No game was seen and only kudu spoor recorded.

6. Attention was paid to the fly catches at the two road barriers. For the last four months, January, February, March and April the following are the catches.

Gate 11 miles from border:

Border - Salisbury	11	(8 male, 3 female)
Salisbury-Border	-	

Border Gate:

P.E.A. - Salisbury	51)	86	(52 males
Salisbury - P.E.A.	35)		(34 females

From the above figures it is obvious that no flies exist west of the 11 mile gate, but flies do exist between the two gates in S.R. The difference in catch at the two gates off traffic travelling between the gates seems to indicate that either there is more fly towards the border gate becoming less towards the west, or that fly exists only a short way west of the border gate. If the latter is the case then traffic travelling east picks up fly just before the gate and does not lose it before stopping to be searched, and west-going traffic picks up fly just after leaving the gate, but soon loses it, only a few managing to remain to be caught at the 11 mile gate. Two foot traverses were made between the two gates, one 2 miles west of the border gate and no fly were caught, the other ½ a mile west and a non-teneral female was caught. The higher catch off traffic from P.E.A. is to be expected as there is slightly more fly east of the border.

7. The fly density throughout the area of the Mtoko district in which fly is known to occur is very low and across the border in P.E.A. from where the fly spread it is not very much higher. Why did the fly spread? There is no fly pressure in the original fly belt in P.E.A., the vegetation on the Rhodesian side of the border is not more suitable, in fact it is probably less suitable there being more thicket, and there is no large game population. It has been suggested that the fly

Elephant have been held partly responsible, but it seems that African migrants coming into S.R. on the various footpaths to seek work and traffic on the main road are the more important.

8. Experiments with insecticides in the area would be impracticable. The area is too large, the fly too sparse and scattered and as yet no concentrations or foci, which could be attacked, have been found. Further the area will continue to be fed by fly immigrants from P.E.A. across the border so that any insecticide work would be bound to end in failure.

9. Other methods of control that have been suggested are discriminative clearing, game destruction, a game fence and chemotherapeutic measures.

Discriminative clearing is out of the question as it would be first necessary to carry out intensive research into the vegetation requirements of the fly in the area, which would take a long time as fly is so sparse and results would be uncertain.

Game destruction might prove successful, but it would also be necessary to build a game fence to prevent further entry of game from P.E.A.

Chemotherapeutic measures provide the best method of control in a case like this and, if large scale innoculation of cattle could be carried out regularly, this would probably prove to be quite successful, especially if the fly does not spread much further west but remains localised along the border.

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