

TSETSE FLY : FEDERATION OF RHODESIA AND NYASALAND

A meeting of biologists concerned with tsetse fly control in the Federation of Rhodesia and Nyasaland was held at the Rekomitjie Research Station, Southern Rhodesia on 11th, 12th and 13th August, 1959. The following attended:-

Mr. W.C. Steel, Chief Entomologist, Northern Rhodesia.  
Mr. J. Gledhill, Entomologist, Northern Rhodesia.  
Mr. Clarke, Entomologist, Northern Rhodesia.  
Mr. P. Johnson, Entomologist, Northern Rhodesia.  
Dr. Bernard Steele, Tsetse Botanist, Nyasaland.  
Mr. Rickman, Field Officer, Nyasaland.  
Mr. J. Ford, Director, Tsetse Control, Southern Rhodesia.  
Dr. G.F. Cockbill, Senior Entomologist, Southern Rhodesia.  
Mr. D.F. Lovemore, Entomologist, Southern Rhodesia.  
Mr. R.D. Pilson, Survey Ecologist, Southern Rhodesia.  
Mr. R. Goodier, Entomologist, Southern Rhodesia.  
Miss B.M. Leggate, Entomologist, Southern Rhodesia.  
Mr. J.A. Farrell, Entomologist, Southern Rhodesia.  
Mr. C.A.R. Savory, Entomologist, Southern Rhodesia.

Also present were:-

Dr. E. Bursell, University College of Rhodesia and Nyasaland.  
Dr. R. Barrass, University College of Rhodesia and Nyasaland.  
Mr. I.J. Lewis, M.B.E. Tsetse Control Officer, Bechuanaland  
Protectorate,  
Mr. D. Arnold, Senior Field Officer, Southern Rhodesia.  
Mr. A.M. Simmonds, Field Officer, Southern Rhodesia.

The Agenda was as follows:-

August 11th

1. Reports on Methods of Reclamation and Defence in use in the Federation.
  - (a) Game Destruction.
  - (b) Bush clearing.
  - (c) Insecticides.
2. What are the chief problems of tsetse biology which require investigation if we are to obtain maximum efficiency in reclamation measures.

August 12th

3. Reports on techniques in use for observing changes in Tsetse Density.
  - (a) Fly Rounds.
  - (b) Bait Animals.
  - (c) Screens.
  - (d) Bicycle Patrols.
  - (e) Traps
  - (f) Deflying Chamber and Gates.
  - (g) Pupa searches.
4. Reports on opportunities available for field investigation

August 13th

6. Discussion on the entomological requirements of Anti-Trypanosomiasis Campaigns in which Drug Therapy and/or Prophylactics is a major factor.
7. Preparation of a Federal Tsetse Distribution Map.
8. Resolutions.

The Chair was taken on the 11th by Dr. G.F. Cockbill, on the 12th by Dr. Bernard Steele and on the 13th by Mr. W.S. Steel.

RESOLUTIONS

1. All the standard methods of reclamation and control are in use in the Federation. Reliance should not be placed on one method to the exclusion of others; indeed complete eradication of tsetse usually requires the use of two or more techniques. The methods used will vary according to local conditions.
2. Although much is known of the biology of Glossina much still remains to be explored. It was noted with approval that research on the physiology and behaviour of Glossina is being undertaken at the University College of Rhodesia and Nyasaland. It was hoped that such specialisation would become a permanent feature of the Department of Zoology at the University College.
3. The capacity of Government Departments engaged in practical control work to engage in research is limited. Nevertheless certain lines of investigation might be conveniently pursued, while the Departments concerned could assist workers at the University College to collect material and could also offer facilities for work at their field station.
4. A number of lines on which field workers could contribute to knowledge were suggested.
  - (i) Observations on game animal behaviour in the attempt to relate this to the habits and habitat of Glossina. (See Resolution C.1 of the 7th Meeting of I.S.C.T.R.)
  - (ii) Observations on the use of shade by Glossina, incorporating studies of resting sites.
  - (iii) More intensive efforts should be made to assess the effects of discriminative clearing on tsetse flies.
  - (iv) The methods of field sampling of tsetse populations are still unsatisfactory. One essential is accurate knowledge of the degree to which the whole population is being sampled. One approach, using laboratory techniques, would investigate differences in activity of various categories, (Hunger stage, age, sex, etc.,) of Glossina. The use of stationary catches, using bait animals, compared with normal fly rounds run synchronously, offered a subject for investigation by field entomologists.

(v) A study of Stage 4 flies was being undertaken by Dr. Bursell. Material for this study could be collected. A special effort should be made during the coming hot season and observations on hungry tsetse should be linked with observations on the seasonal concentrations of G. morsitans on riverine or pan vegetation when the mopane veld became leafless.

(vi) Routine fly rounds should be used to collect haematophagous diptera (but not mosquitoes) other than Glossina. Dr. Barrass would be glad to classify the material collected, on a geographical basis.

5. The problem of locating tsetse in areas of very low density was important to all practical field workers. Any advance in this direction should be communicated to all departments represented at the meeting.

6. It was agreed that a booklet for Field Workers on the lines of the out-of-print "Notes for Field Studies of Tsetse Flies in East Africa" would be of value. Mr. Ford, Mr. Steel and Dr. Steele would form an editorial committee to deal with this project.

7. It should be recognised that a considerable portion of the time of professional tsetse staff should be devoted to investigational work. In order to stimulate such work carbon copies of technical reports of a general nature should be circulated among all territorial departments, including the Tsetse Fly Control Officer, Bechuanaland Protectorate.

8. The fact that curative and prophylactic drugs now play a very important part in the control of cattle trypanosomiasis in no way diminishes the part the entomologist has to play in trypanosomiasis control. The reverse is the case and the entomologist now must enlarge his field of study to include not only methods of control and eradication of tsetse but also the role of the tsetse in transmission of the disease. Surveys should include not only information on the behaviour, density and locations of tsetse in relation to vegetation, game, land use etc., but also studies of the trypanosome challenge including data on infection rates in the tsetse and the relation of grazing habits and other aspects of cattle management to the wild game-vegetation-tsetse-trypanosome complex. The increasingly close co-operation between the entomologist and the veterinarian which was now, in some cases, resulting in the union of tsetse and veterinary departments, would facilitate this new approach to the problem.

9. It was agreed that the three territorial departments would co-operate in the production of a Federal Tsetse Distribution Map, using a scale of 1:3,000,000.

10. It was agreed to recommend to the Governments concerned that meetings similar to the present one should be held every two years, to alternate with meetings of I.S.C.T.R. and it was suggested that if this was approved the next meeting might be held in Northern Rhodesia in 1961.