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PROBLEMS ENCOUNTERED IN LABORATORY COLONISATION OF GLOSSINA MORSITANS
IN TANZANIA

IN RAA-571

BY
S. R. MBISE

My remarks will encompass the fifteen months of assignment with this project and will reflect the accomplishments we have made in resolving the problems encountered in our rearing program. There were three main areas where we concentrated our efforts: (1) Need for reorganisation and assessment of personnel to perform the various jobs relating to our rearing effort; (2) Completion of facilities to allow our rearing efforts to proceed without interruption; and (3) Procurement of sufficient equipment and host animals to meet present and future needs.

One of the obvious tasks facing us was to determine if in fact we could successfully colonise G. morsitans. The degree of previous success was not consistent and in late 1973 due to unavoidable interruptions our rearing effort had reached its lowest point. For example, our main nucleus for future sterile releases, the Internal Colony, had only 270 fertilised females in November 1973. Consultants had even suggested we destroy these weaker flies and begin afresh. Suffice to say we isolated that colony in December and it has been self-supporting since, now containing almost 3,000 fertilized females. This indicated that we were coming to grips with our problems.

An essential ingredient to this effort was to isolate the difficulties previously experienced. We realised that a trained specialised staff was needed in the laboratory. Previously men were rotated between the field and laboratory, and thus no continuity of the rearing routine could be accomplished. A select group of men was picked and assigned to the laboratory continuously. The rest were assigned to fieldwork. At the same time we further organised the supporting groups into departments concerned with livestock, stores, construction, office and workshop by placing a responsible Field Assistant in charge. Thus, to accomplish a successful research program many men have had to assume responsibilities above their level of training.

A basic problem still facing us is the need for qualified counterparts to serve with the expatriate specialists here to assist us. This problem dates back to June 1972 when the project moved to Tanga with one Tsetse Officer, one Field Officer and three Assistant Field Officers working with two expatriates and 28 Operational Service staff. By then the project was sixteen Tanzanian Officers understrength. Today we have one Field Officer, three Assistant Field Officers (Tsetse) and two Assistant Field Officers (Veterinary); still we are fourteen Tanzanian Officers understrength working with five expatriates and 61 Operational Service staff (also 46 understrength).

Perhaps it is convenient at this juncture to relate the strength of our staff with that of our AID counterparts. We have one Entomologist, one Veterinarian/Entomologist, a Field Entomologist, a Laboratory Technician and an Administrative Assistant. The Entomologist, who is also the Project Manager, serves with the Field Officer as his acting Co-Manager. The Field Entomologist serves with one A.F.O. (Tsetse) as his field research counterpart. The Veterinarian/Entomologist serves with two A.F.O.'s (Veterinary). The Laboratory Technician serves with two A.F.O.'s (Tsetse). We are therefore short of counterpart trainees. The key to our successful laboratory colonisation of the tsetse flies and the project as a whole is proper direction and management, so the need for qualified Tanzanian counterparts cannot be over-emphasized. Since efforts to get graduate counterparts to this project have not been rewarded for a long time now, it is but compelling to have the present counterparts go for further academic training, so that in the future when the project is handed back to Tanzania only, they can run the project smoothly and confidently. The problem of staff extends further to inavailability of the junior cadre (Operational Service) staff. Currently we are 46 O.S. staff understrength. For this matter, we have always been dependent on seasonal labourers paid from our local funds. At the beginning of the project we got our field assistants from each region. These were not necessarily the best Field Assistants from the regions. We had to transfer some because they could not identify themselves with our laboratory or field research. This problem could be solved if we are given priorities to select our staff either from the regions or from our temporary employees. We have not succeeded in obtaining our staff from the regions, owing to long procedures in "Decentralisation" of the regions from the Dar headquarters. While we are thankful to the Tan-Government for the personnel assistance so far rendered, we still need help to get a few more staff serving from the regions to serve in this national project.

While developing our organizational scheme, we were also concerned with the need for expanding our facilities to keep abreast of our rearing. Procurement of sufficient equipment and host animals is essential to facilitate our fly colonisation. The problem has been availability of specialised equipment on time from overseas; and additional animals for fly feeding. We got our humidifiers "Golden egg" type from U.S. Consultants recommended a more efficient type of humidifier, the "Defenser" type, obtainable from Switzerland. It took us many months to get this equipment. Power failure was one of the striking factors affecting our fly mortality. We got our standby generator from Morogoro 18 months after the project had moved to Tanga. The generator was in parts and no spares were available in the country. It took us another six months to get a new generator from Kenya. During these two years of absence of continuous electric power, the high mortalities of flies in our laboratory were partially attributable to the result of power failures. Many of

our rearing improvements have originated from our consultants. The main problem now facing us could be the handling of an increasing number of flies. Our consultants had recommended a chiller to be used in handling these large numbers of flies. Such equipment is not available, but one has now been completed right at the premises of this project. We also could not get the type of host animals required for fly feeding. We got our goats from within the country and recently some more from Mombasa. Our lop-eared rabbits came from overseas and we are cross-breeding them with rabbits from Kenya, so that we can rear a breed of our choice, without delays in formalities and transportation from overseas. Details of this are contained in subsequent reports.

The main feature is that construction of the laboratory has been accomplished while actually trying to perform the work of rearing the flies. Thus our efforts and time have been diluted. Ideally the construction of the lab should likely have come first. However, we have made good progress in recent months. Building operations began here in June 1972 and the first tsetse flies were introduced in September 1972. Completion of facilities to rear these flies and addition of more flies have been our other major task. One lab, 42 x 10 metres, containing staff changing rooms, preparation rooms, fly handling rooms, insectary, fly feeding room and a well-ventilated goat house has been operational since then. The second modular laboratory is being completed and we have to build a third one so that the required quantity of flies can be reared. Completion of our main office building which includes offices, finishing off ceiling, air conditioning, conference/library room, interior painting, etc., has low priority to completion of the labs. It can be observed that we have been building our labs and rearing the flies at the same time. The building work may appear slow because of absence of commodities such as building material, pipes, etc., and inavailability of enough funds from both TanGov and AID to run the operations continuously. Other facilities to be completed include housing for host animals. A rabbit house has just been completed. A round house and uniport were constructed for external goats. A standby generator room has been completed and the generator is operable.

To continue the smooth operation of our laboratory we must be prepared financially and have adequate sources and prompt delivery of supplies and commodities. A program of this nature is completely dependent on constant operation. Our flies are fed on goats seven days per week. An interruption of several hours would be sufficient to jeopardise our chances for success.

In summary our efforts have been to strengthen our program by organising our staff, trying as promptly as possible to erect a functional laboratory, and to recognise well in advance our needs to

implement our rearing program. These things in conjunction with simply learning how to rear tsetse flies in Tanzania will continue to challenge us in the days ahead. At this stage the people involved in what we feel is a very important contribution to our country, I believe, would join with me in the feeling that we can and will continue to be successful.