

T/1/4/2
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FOOD HOSTS OF G.MORSITANS AND THE INCIDENCE
OF TRYPANOSOME INFECTIONS.

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An analysis of blood meal collections made by D.F. Lovemore in the Lubu valley, Sebungwe, and identified by B.Weitz of the Lister Institute of Preventive Medicine has given indications that the animals from which G.morsitans takes its blood meals may vary with the season according to availability of the hosts.

The identification of samples collected along the Lubu river during the period July 1951 - May 1952 have been re-analysed and are shown in Table I.

TABLE I.

Month	no. identified	% Suidae	% Bovidae	% eleph.& rhino
July 1951	6	.		
Aug. "	21)	11	59	30
Sept. "	13)			
Oct. "	10)	4	83	9
Nov. "	3)			
Dec. "	18)	76	19	5
Jan. 1952	7			
Feb. "	5)	58	8	25
Mar. "	24	67	12	21
Apr. "	13)	75	15	10
May "	7			

TABLE I: Proportions of animal groups in blood meal identifications from the Lubu fly round (total includes one avian and one human meal)

Changes in the proportion of feeds from Suidae which were all warthog or unidentified Suidae are compared with changes in the proportion of feeds from Bovids, the majority of which (76% of those positively identified) were kudu and/or bushbuck. 26% were unidentified Bovids, buffalo, waterbuck and possibly eland comprising the rest. The elephant and rhino feeds are shown separately.

It will be noted that in October, the end of the dry season when both G.morsitans and the larger Bovid animals tend to concentrate along drainage lines where water is available, only 10% of the feeds had been taken from warthogs and some 83% from Bovids. In November and December, however, this situation was reversed and 76% of the feeds were found to be warthog.

In Southern Rhodesia flushing of deciduous vegetation in areas away from the rivers starts in September and is well advanced by November when the rains commence. With this flushing and onset of the rains the larger Bovid animals tend to move away from their dry season haunts in search of food. It is therefore more than probable that the density of these animals on the Lubu river decreased at this time and they became less available to the tsetse fly as a host.

The proportion of elephant and rhino feeds did not appear to vary significantly. It is probable that these animals were resident along the river or passed through the area regularly. Data collected from the Rekomitjie river, situated in another part of the Zambezi valley, have shown that as much as 52% of blood meals were found to have been taken from elephant during the months of November and December. Elephant are certainly numerous at all times of year on this river and would appear to act as food hosts when available.

It is not unreasonable to suppose that changes in the type of host, or trypanosome reservoir, on which tsetse are most likely to feed, will be reflected in changes in the natural rate of infection with trypanosomes in the fly. The infection rate in G.morsitans on the Rekomitjie river has been determined each month for a year. When these infection rates are plotted with the variations in percentage of Bovid feeds taken by G.morsitans on the Lubu river, an area very similar to the Rekomitjie, the similarity between the curves is at once evident and the two factors would appear to be related. (See graph).

Relationship between blood meals ~~collected~~ from
G. morsitans collected at Lubu 1951/2
 and infection rate of *G. morsitans*
 in 1960/61. at Rekomitjie

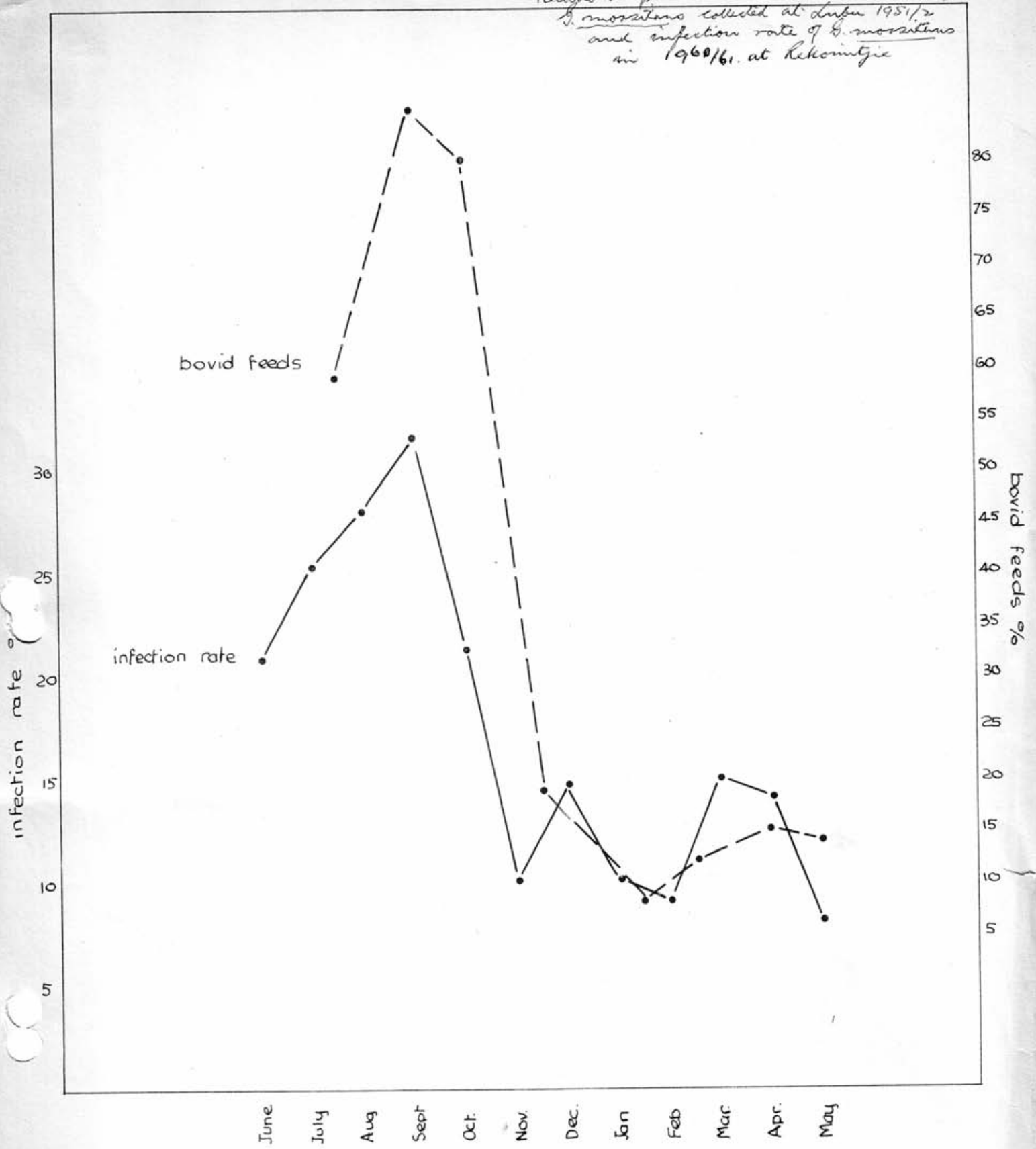


Fig. 5. *G. morsitans*. Percent infected in Rekomitjie riverine vegetation and the percentage of blood meals identified as bovid in similar vegetation on the Lubu river (Sebungwe)