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Distribution and Population Size of *Glossina Fuscipes Fuscipes* (Tsetse Flies) Along the Lake Victoria, for Trypanosomiasis Management in Tanzania

Abstract

Glossina fuscipes fuscipes is among the important tsetse species of economic importance in Tanzania. The fly has a wide geographic distribution in sub-Saharan Africa. The information on distribution and population size of any fly specie is crucial when planning control strategies against tsetse as it helps to tell where to start traps deployment as well as estimate of the number of traps to be deployed on a particular area. Population size and distribution estimate studies were carried out along the shores of Lake Victoria in Tanzania. The study involved Kirongwe, Masonga, Rasi Nyabero and Tobwe River villages in Rorya district, Msozi village in Ukerewe district and Kemondo village in Bukoba district.

The results showed that the species is widely distributed along the shores of Lake Victoria. It extends from the north east of the Lake in Kirongwe village in Rorya district that borders Kenya to Kinase village that border Musoma district. It further extends to the north west of the Lake Victoria to Rubafu Ruina villages that border Uganda and also in Kemondo areas, just close to Bukoba town. Flies were also found in small visited Islands in Rorya district namely, Bugambwa and Ngonshe in Suba division. The biggest, Ukerewe Island was also infested with *G. f. fuscipes* in Msozi village and Namabugo village near Nansio town. Masonga had the highest fly abundance of 9.10 ± 0.501FTD (fly per trap per day) compared to other villages while Tobwe River had the least abundance of 0.94 ± 0.501 FTD during the dry season. A similar trend was also observed for the wet season, Masonga had the highest abundance of 6.40 ± 0.501FTD and Tobwe River had the least abundance of 1.63 ± 0.501. Based on the results of this study, if control activities are to be undertaken, more traps and targets are needed in Masonga and Rasi Nyabero vilages than in Kirongwe and Tobwe River. Age structure results elucidate that many flies caught were young flies aging 0 to 14 days and few flies were in wing category 4, 5 and 6. The control technology to be used will be dealing with young generation of flies which are mainly tenerals and looking for mating thus can easily succumb to baits (traps and targets) if effectively executed. There was significant variation of traps performance between different study sites. Further research is required to clarify the cause of this variation with locations.

Keywords: *age structure, fly abundance, tsetse control*