

larva at each birth, and this immediately crawls away and pupates, having been nourished by special glands associated with the female reproductive organs. The deadly nature of these diseases is now well known, and, as the author asserts in the opening paragraph, these insects are of vital importance to the prosperity and future development of tropical Africa.

Eight years ago the author published his "Monograph of the Tse-tse Flies." At that time the relation of *Glossina palpalis* to Sleeping Sickness had not been determined, and little was known with regard to the habits of that species. Seven species of Tse-tse flies were described and illustrated. That volume is now out of print, and the present volume is an attempt to bring the subject up to date. Fifteen species are described, including two described for the first time. The author has made excellent use of the valuable material, probably unique in its extent, which he has at his disposal in the collections of the British Museum, and the present account of the group will be of very great value to workers, especially to those engaged in the field. The brevity of the accounts of the bionomics of the species, with the exception of *G. morsitans*, indicates how much there is to be learnt, in what is, from the point of view of prophylactic measures, the most important section of the subject.

We note with regret that the author does not regard *G. submorsitans* Newst. as specifically distinct from *G. morsitans* Westw., but considers it as a form of *G. morsitans*. While agreeing with the author, that the wide distribution of *G. morsitans* might account for the variability in colouration, we do not think that he can ignore, as he appears to do, the differences in the male genitalia. Newstead's species was created after the examination of 93 examples, and the illustrations in his account of the male genitalia of Tse-tse flies clearly indicate that the male genitalia of *G. submorsitans* Newst. are morphologically distinct from those of *G. morsitans* Westw. in the character of the superior claspers. Newstead's excellent paper is further evidence of the fact that in so highly organized a group as the Muscidæ, and, one might say, in the Diptera generally, we shall have to take into consideration such important specific characters as are indicated by the male genitalia. This fact is also shown in the study of the Tachinidæ. Specific distinctions cannot always be based on external form, but are often dependent on other morphological characters, which the systematist must necessarily take into consideration, and of these the genitalia are important, not only in Diptera, but also in Lepidoptera and Coleoptera.

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