

**DIVERSITY OF STEM BORER EGG PARASITOIDS AND PATTERNS OF
PARASITISM IN MOROGORO AND COAST REGIONS IN TANZANIA**

BY

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ABSTRACT

Studies to determine the diversity of stem borer egg parasitoids and patterns of parasitism were carried out in Morogoro and Coast regions in Tanzania from January to December 2006. During the cropping season, sampling was done on maize/sorghum fields and during the off-season, the survey continued by sampling from alternative wild host plants. Farmers' fields were randomly chosen approximately 5 – 8 km intervals from each other and approximately 15 – 20 metres from the roadside. Plots measuring approximately 40 m x 40 m were demarcated and sampled at each study site. Each field was divided into four quadrats and an equal number of plants (20 from each quadrat) were randomly chosen and thoroughly checked for stem borer eggs. Sampling began 14 DAP and continued once every month. The eggs were incubated at ambient laboratory temperature and humidity (approximately 27 ± 1 °C and $70 \pm 5\%$ R.H) for two weeks after which all larvae or parasitoids had emerged. Egg batch parasitism was determined by taking the ratio of parasitized to unparasitized egg batches and parasitism within a parasitized egg batch was determined by taking the ratio of parasitized to unparasitized eggs. The egg parasitoids species recovered were *Trichogramma* nr. *mwanzai*, *Trichogrammatoidea* nr. *armigera*, *Trichogrammatoidea* nr. *lutea*, *Trichogramma* spp., *Telenomus nemesi*, *Telenomus* spp and *Trichogrammatoidea* species. The stem borer species were determined in the field based on the arrangement of eggs on the leaf/stem surface. *C. partellus* was found to be the most prevalent stem borer species, accounting for 85.65%, *S. calamistis* accounted for 11.54% and other unidentified species accounted for 2.81% of all egg batches. *B. fusca* and *C. orichalcocillielus* were of minor importance in this study. It is concluded that Coast region has significantly higher levels of parasitism of stem borer eggs and a wider range of parasitoid species when compared to Morogoro.

DECLARATION

I, NASSOR RASHID ABDULLA do hereby declare to the Senate of Sokoine University of Agriculture that this dissertation is a result of my own original work and that it has neither been submitted nor being concurrently submitted for a degree award in any other University.

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Nassor Rashid Abdulla
(MSc Candidate)

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Date

The above declaration is confirmed.

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Prof. R. H. Makundi
(Supervisor)

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Date

