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The Role of Natural Enemies in *Chilo partellus* (Swinhoe) (Lepidoptera: Crambidae) Population Suppression in Cereal Culture in Ethiopia

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Abstract

Chilo partellus (Swinhoe) (Lepidoptera: Crambidae) is an exotic stemborer introduced to Africa from Asia some eighty years ago which results in 30–50 % grain losses by attacking all stages (seedling, vegetative, flowering and maturity) of the crop in the field. As the case in all exotic pest, the control of *C. partellus* was attempted through classical biological control by introducing an endo-larval parasitoid, *Cotesia flavipes* (Cameron) (Hymenoptera: Barconidae) form India and Pakistan. The field release of *C. flavipes* was done in most of the eastern and southern African countries where *C. partellus* is a very important pest. However, in Ethiopia the parasitoid established with out release. The population established in Ethiopia might be from the Somalia release of 1997 along the Shebele river. *Cotesia flavipes* was for the first time recorded in Ethiopia and the 2007 survey showed that the average parasitism rate was 72.5 %. The rate growth in parasitism since its establishment is tremendous indicating the success of biological control in suppressing the density of *C. partellus*. More over, there are a number of pupal and egg parasitoids of *C. partellus* recorded in Ethiopia. A number of entomopathogens belonging to fungi and nematodes were also isolated from *C. partellus* in Ethiopia. In summery natural enemies can give sufficient control of *C. partellus*. However, the naturally occurring bio-agents should be complemented with other control options such us habitat management (push-pull) and Varietal resistance among others. Augmentative release of *C. flavipes* and application of conservation mechanisms should also be done.

Keywords: Ethiopia, stemborer, natural control, integrated pest management

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