

## Abstract

*Mussidia nigrivenella* Ragonot (Lepidoptera: Pyralidae), an important pest of maize ears in West Africa, has never been reported to attack crops in East and southern Africa (ESA), though it was found on various wild host plants in these regions. It was suggested that in ESA *M. nigrivenella* might be under natural control. In Kenya, exploration for natural enemies associated with *Mussidia* spp. yielded several parasitoids including a trichogrammatid egg parasitoid, *Trichogrammatoidea* sp. nr *lutea* Girault. The ability of *T.* sp. nr *lutea* to attack the eggs of several lepidopteran species found in Kenya was studied. The lepidopterans included the noctuids *Busseola fusca* (Fuller) and *Sesamia calamistis* (Hampson), the pyralids *Eldana saccharina* Walker, *Mussidia fiorii* Cecconi and de Joannis and *Mussidia* 'madagascariensis', and the crambid *Chilo partellus* (Swinhoe). The former three species also infest cereals in West Africa. *Trichogrammatoidea* sp. nr *lutea* successfully attacked and developed in eggs of all six species indicating its potential to exploit other lepidopteran pests of maize in West Africa. *Busseola fusca* and *S. calamistis* were the most suitable hosts and had the largest number of eggs parasitized and progeny per female wasp where *E. saccharina* and *C. partellus* were the poorest hosts. The host species used to rear the parasitoid and the age of egg also significantly affected the total number of host eggs parasitized by the parasitoid. It was concluded that the ability of *T.* sp. nr *lutea* to exploit lepidopterans that are also pests of maize in West Africa may enhance biological control of *M. nigrivenella* and it should be considered for translocation to that area from Kenya.