Biology of *Macrolophus caliginosus* (Heteroptera: Miridae) predator of *Trialeurodes vaporium* (Homoptera: Aleyrodidae)

**Abstract**

*Macrolophus caliginosus* Wagner (Heteroptera: Miridae) is a highly polyphagous predatory bug, which has proven to be effective in controlling many insect pests of greenhouse vegetables (eggplant, tomato, and cucumber) especially whiteflies, aphids, and thrip. It is mainly used as a biological control auxiliary against *T. vaporariorum* Westwood (Homoptera: Aleyrodidae). The greenhouse whitefly, *Trialeurodes vaporariorum* is particularly harmful to tomato plants grown under the greenhouse. It has become prevalent whenever crops are frequently sprayed with insecticides. Biological control is becoming important for controlling this insect pest. A mirid bug management programme has been developed for an Integrated Pest Management (IPM) in tomato. The objective of the programme was to keep the predator population densities high enough in order to maintain *T. vaporariorum* and other insect pest populations below the economic threshold. In this study, it was very important to determine the biology of predator in terms of its life cycle, behaviour at different stages, fecundity, longevity and searching abilities, in order to provide detail data for formulating the means of control against whitefly. Results of this study indicated that *Macrolophus caliginosus* adults fed on whitefly larvae of all stages from the first larval stage to the pupal stage. The predator consumed the preys at almost similar daily rates (average of 5.94 per day). The study implies that *M. caliginosus*, with its life cycle, predation, longevity and fecundity and host preference, is a beneficial insect to combat against whitefly.

**Keyword:** *Macrolophus caliginosus; Predator; Life cycle; Fecundity; Longevity*