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Predation Efficiency of *Eocanthecona furcellata* on *Helicoverpa armigera* Larvae Reared on Different Host Plants

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Abstract

The predatory pentatomid bug *Eocanthecona furcellata* (Wolff) (EO) is regarded a potential biological control agent against lepidopteran pests in Southeast Asia. We investigated the predation efficiency of EO with regard to the noctuid *Helicoverpa armigera* (Hübner) (ABW), which is a highly polyphagous agricultural pest, especially in cotton, chickpea and tomato in Myanmar. Specifically, we tested the influence of larval feeding reared on different host plants (cotton, cabbage, chickpea and tomato plants) or artificial diet on bug predation.

In each experiment ten males and females EO adults were used, which were starved for 24 hours before the experiment. ABW larvae were fixed with tape and placed randomly in small plastic boxes before transferring ten EO adults to the centre of the arena. In a second series ABW larvae and their faeces were wrapped with Para film and also tested the same way. Movement of EO was recorded at room temperature.

EO adults preferred to prey on ABW larvae reared on cotton plants (42 %); ABW larvae from cabbage, chickpea and tomato plants were accepted less as prey. ABW larvae fed on artificial diet were not accepted as prey (1 %). 13 % of EO were not actively searching for hosts; however in the experiment with wrapped ABW larvae 38 % were not active, and predation on ABW larvae from cotton was reduced to 25 %. Adding faeces to the larvae did not result in higher predation rates by EO.

Based on these data we recommend to release the predatory bug *Eocanthecona furcellata* in cotton fields as a biocontrol agent for controlling *Helicoverpa armigera* in Myanmar.

Keywords: Cabbage, chickpea, cotton, *Eocanthecona furcellata*, *Helicoverpa armigera*, biological control agent, Myanmar, predatory bug

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