



Research Note

Okra shoot and fruit borer, *Earias vittella* (F.), a new host record for the egg parasitoid, *Trichogramma chilostraeae* Nagaraja and Nagarkatti from India

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**ABSTRACT:** An *in situ* survey on native natural enemies of okra shoot and fruit borer, *Earias vittella* was conducted during September-October 2008, at IIVR research farm, Varanasi, Uttar Pradesh, India. The survey revealed that *Trichogramma chilostraeae* Nagaraja and Nagarkatti is a potential egg parasitoid which was occurring naturally in the okra ecosystem in spite of the pubescence of the okra plant. This is the first record of natural parasitism of *T. chilostraeae* on *E. vittella*.

**KEY WORDS:** *Earias vittella*, *Trichogramma chilostraeae*, okra, record

(Article chronicle: Received: 02.03.2011; Sent for revision: 04.03.2011; Accepted: 15.03.2011)

Okra shoot and fruit borer, *Earias vittella* (F.) is one of the serious pests of okra, cotton, safflower, hollyhock, Indian mallow, *Hibiscus* sp., *Corchorus* sp., and *Theobroma* sp. In India an estimated loss of 69% in marketable yield was due to attack of this insect on okra alone (Sharma *et al.*, 2010). A large number of parasitoids have been reported on *E. vittella* (Reed, 1994; Kashyap and Verma, 1987) from the Indian subcontinent. Among these, *Trichogramma achaeae* and *T. chilonis* have been recorded from eggs of *E. vittella* on cotton.

Eggs of *E. vittella* are light blue-green, roughly spherical and slightly less than 0.5 mm in diameter and are laid on the tender shoots and young fruits of okra. In our field observations, *T. chilostraeae* was recorded from the eggs of *E. vittella* on okra collected from the Research Farm of IIVR. The collections were made weekly once in batches and kept for parasitoid emergence during September-October 2008. During the course of observation, *T. chilostraeae* Nagaraja and Nagarkatti (1969) (3 males and a female) emerged from the eggs of *E. vittella*. These adults were exposed to *Corcyra* eggs for parasitisation and further multiplication. This is the first record of okra shoot and fruit borer as a natural host *T. chilostraeae*. *T. chilostraeae* has several lepidopteran hosts like *Chilo infuscatellus* (Nagaraja and Nagarkatti, 1969), *Helicoverpa armigera* (Buchori *et al.*, 2008), *Chilo partellus*, *C. suppressalis* on rice, *Ostrinia furnacalis* on

corn (Hayat and Viggiani, 1984), *Trichoplusia ni*, *Spodoptera litura* and *Deudorix isocrates* (Hassan, 1993). It has been used for the management of sugarcane borer, *Chilo infuscatellus* effectively in Thailand (Meenakanit *et al.*, 1988). Further studies are in progress to assess its efficacy in terms of its exploitation for the management of okra shoot and fruit borer.

#### ACKNOWLEDGEMENTS

We are thankful to Dr. H. Nagaraja (Consultant), National Bureau of Agriculturally Important Insects, Bangalore, for confirming the identity of *T. chilostraeae*.

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