

**PRESENT STATUS OF UZI FLY, *EXORISTA BOMBYCIS*
(LOUIS) (DIPTERA: TACHINIDAE) INCIDENCE ON MUGA
SILKWORM, *ANTHRAEA ASSAMENSIS* HELFER
(LEPIDOPTERA: SATURNIIDAE) IN UPPER ASSAM**

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ABSTRACT: Field survey was conducted in muga culture (rearings) from different locations of Upper Assam during peak period of infestation i.e. *Jarua* (Dec.09-Jan.2010) and *Chotua* (Feb.-Mar. 2010) to record the present status of uzi fly incidence in muga culture during fifth instar larval stage and at harvesting of cocoons. The results show that, maximum incidence of uzi fly on 5th instar larvae was more during *Chotua* crop (43.0%) followed by *Jarua* crop (19.0%). Similarly, the uzi fly incidence at harvesting (cocoon stage) was more during *Chotua* crop (35.0%) followed by *Jarua* (27.50%).

KEY WORDS: *Antheraea assamensis*, *Exorista bombycis*, seasonal incidence, Assam.

Muga silkworm, *Antheraea assamensis* Helfer (Lepidoptera: Saturniidae), yields golden yellow silk, is unique to Brahmaputra river valley of Assam. It is polyphagous, multivoltine, producing 117 million tonnes of raw silk, accounting to 0.65% of raw silk produced in the country, while rest of the production contributed by other North-Eastern states (Anon, 2009). The silkworm has 5-6 generations in a year viz., *Jethua* (spring: April-May), *Aherua* (summer: June-July), *Bhodra* (late summer: Aug-Sept.), *Kotia* (autumn: Oct.-Nov.), *Jarua* (winter: Dec.-Jan.) and *Chatua* (early spring: Feb-March). The *Jethua* and *Kotia* rearings are considered as commercial crops, *Chotua* and *Bhodra* as seed and *Jarua* and *Aherua* are pre-seed crops. Over years, importance is being given to increase the muga silk production by adopting new technologies (Chakravorty, 2004).

Among different pests reported on muga silkworm, silkworm uzi fly, *Exorista bombycis* is one of the serious endo-parasitoid particularly during Nov.-April causing 20-90% loss in seed growing areas during winter and post winter (Dec.-Mar.) seasons (Anon, 2007). Nearly 50-70% cocoon rejection has been reported in spite of good harvest during winter (Feb.-Mar.) crop (Anon, 1996). To know the present status of uzi fly in muga silkworm, the field survey was conducted during peak season (Dec-Mar.2010). This bench mark information on uzi fly incidence will be more useful to take up management practices for next seasons.

MATERIAL AND METHODS

Field survey was conducted in muga culture (rearings) from 32 farmers in different locations of Upper Assam during peak period of infestation i.e. *Jarua* (Dec.09-Jan.2010) and *Chotua* (Feb.-Mar.2010) to record the incidence of uzi fly during fifth instar larval stage and at harvesting of cocoons. To record the observations at larval stage, 200 larvae was randomly selected in the farmers' field and observed the number of larvae infected with uzi fly then per cent

incidence was calculated. Similarly, during harvesting stage, the number of healthy and uzi pierced cocoons were counted on 100 randomly selected cocoons then per cent incidence was calculated.

RESULTS

Based the survey results during *Jarua* (Dec.2009-Jan.2010) and *Chotua* (Feb.-Mar. 2010) crop seasons in Upper Assam, the uzi fly incidence at 5th instar larvae of muga silkworm was found between 1.80 to 19.0% (average 5.46%) and 6.50 to 43.0% (average 23.16%) during *Jarua* and *Chotua* crop seasons, respectively. Similarly, the uzi fly incidence at harvesting stage was found between 2.50 to 27.50% (average 10.04%) and 12.14 to 35.0% (average 25.59%) during *Jarua* and *Chotua* crop seasons, respectively (Table 1).

DISCUSSION

In the present study, the uzi fly incidence in 5th instar larvae of muga silkworm was more during *Chotua* crop (43.0%) followed by *Jarua* crop (19.0%) in Upper Assam. Present results are supported by the findings of Das *et al.*, (2009) who reported peak incidence of uzi fly on 5th instar larvae was more during *Chotua* crop (39.0%) followed by *Jarua* crop (31.3%). Other workers also reported the uzi fly incidence in upper Assam (2.28-17.20%) and lower Assam (1.0 to 26.0%) during Dec.-Feb. (Anon, 2003). Similarly, the uzi fly incidence at harvesting (cocoon stage) in the present study was more during *Chotua* crop (35.0%) followed by *Jarua* (27.50%). The present results are agreement with earlier workers (Anon, 2006) those who reported 50-70% cocoons are infested with uzi fly in East Garo Hills, West Khasi Hills of Meghalaya and parts of lower Assam during late *Jarua* crop (Table 1).

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Table 1: Incidence of uzi fly, *Exorista bombycis* (Louis) on muga culture in Upper Assam (India).

Crop/Season	Percent incidence at 5 th instar larvae			
	Min	Max	Average	Range
<i>Jarua</i> (Dec. 2009-Jan 2010)	1.80	19.0	5.46	1.80-19.0
<i>Chotua</i> (Feb.2010-Mar. 2010)	6.50	43.0	23.16	6.50-43.0
Crop/Season	Percent incidence at harvesting of cocoons			
	Min	Max	Average	Range
<i>Jarua</i> (Dec. 2009-Jan. 2010)	2.50	27.50	10.04	2.5-27.50
<i>Chotua</i> (Feb.2010-Mar. 2010)	12.14	35.00	25.59	12.14-35.0