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The Most Destructive Pests of Silkworm (Uzi fly) and Their Management

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SUMMARY

The most devastating pest in the world is the uzi fly, *Exorista sorbillans*, which is a part of the family *Tachinidae* and the order *Diptera*. There have been reports of uzi flies in several silkworm commercial crops. The rainy season is when uzi flies are most prevalent. Black pepper-like patches that form on the body of the infected worms are the hallmark symptoms of uzi fly infection. A few chemical or biological pesticides are frequently used to control the uzi fly. This chapter briefly discusses the symptoms, lifecycle, and therapy of the Uzi fly, *Exorista sorbillans*.

INTRODUCTION

In the commercial world, there are five multiple types of natural silks produced. The most crucial of these, which accounts for 95% of global output, is mulberry silk. The four other non-mulberry types of silks—eri, tasar, muga, and oak tasar—are all highly valuable commercially. The silkworm, *B. mori*, was infected with a number of tachinid parasites, including *Compsilura concimata*, *Pales pavida*, *Exorista larvarum*, *Gaedia ignavas*, *Exorista bombycis*, and *Sturmia sericariae*. (Thompson, 1944). The tachinid flies that infest and breed on silkworms are known as uzi flies. The silkworm, *B. mori*, is severely endo-larval parasitized by the uzi fly, *E. bombycis*. The insect causes the sericulture business to suffer tremendously. The loss is commonly assumed to be between 10 and 20%. (Dandin *et al*, 2003). The above mentioned parasitized are discussed below:

Uzi fly:

Exorista sorbillans
Class: Insecta
Order: Diptera
Family: Tachinidae

Uzi flies are a major pest to silkworms, causing a loss of 10 to 15 percent in the production of cocoons. The uzifly, *Exorista sorbillans* a tachinid endoparasitoid of silkworm, *Bombyx mori* L., known to cause considerable damage to the silk industry. This fly is extremely common in the topical Sericultural zone, India, Mayanmar, China, Thailand and South Korea. The year-round prevalence of infestation is highest during the rainy season, followed by winter and summer.

Symptoms:

(a) The Uzi fly lays one or two pinhead-sized, cream-colored eggs on the silkworm larva.
(b) The majority of the time, late-age silkworms are preferred for egg laying, and the eggs hatch in 36 to 48 hours.
(c) In general, it prefers to lay eggs on mature larva (4th or 5th instars).
(d) The pest attack is shown by the black scar that develops when the maggot bores into the silkworm's body.
(e) Black pepper-like spots appear on the body of the infected worms.

Life cycle:

Egg: In her lifetime (18 to 22 days), a female moth lay 500–600 eggs, averaging 20–30 per day. Eggs hatched within 48 to 60 hours.

Maggot: The Maggot after hatching from the egg immediately pierces into silkworm body using the pro-thoracic hook attached to the mouth. A black scar forms where the maggot entered the body of the silkworm. The maggot goes through two moults while consuming silkworm tissues for 5-7 days.

Pupa: The maggot comes out the silkworm body through an opening in the integument, spends 12 to 20 hours as a post-feeding (post-parasitic) maggot, and then develops into a pupa in a dark spot like a crack, a crevice, a corner of the rearing house, loose dirt, etc.

Adult: The pupa of the uzi fly develops into the adult after ten to twelve days.

Factors responsible for outbreak of Uzi fly:

The availability of hosts is aided by favourable environmental circumstances, which include temperature ranges of 20 to 30 °C and relative humidity levels of 60 to 90%. Longer lifespan of adults (uzi flies). Higher egg production and egg hatchability.

Management:

Farmers have used a number of different management strategies to combat the uzi fly. Although these techniques aid in the reduction of uzi infestation, economic losses are not entirely averted. Here are the management techniques:

(a) The rearing house floor's flaws and fissures must be properly sealed.
(b) Upkeep of hygienic and sanitary circumstances while rearing.
(c) Uzi fly’s pupae and maggots are removed from the raising house and destroyed.
(d) Keep uzitrap solution in white trays near doors and windows (3 ft above ground level) both inside and outside the rearing house to trap adult uzi fly.
(e) To kill the eggs of the uzifly, commercial formulated uzicide is applied with 48 hr. of egg laying.
(f) Spray a 2% bleaching powder solution on the silkworm larvae's body to separate/destroy the uzi egg.

CONCLUSION

Uzi flies are regarded as a major pest in silkworm rearing. A suitable management approach against such tachinid insects should be taken into consideration in order to improve the profit from Sericulture. Using appropriate pesticides and other non-chemical treatments are among the control measures.

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