

Record of *Hirsutella nodulosa* Petch from *Chilo sacchariphagus indicus* (Kapur), sugarcane internode borer in India

S. EASWARAMOORTHY, D. B. STRONGMAN* and G. SANTHALAKSHMI
Division of Crop Protection
Sugarcane Breeding Institute
Coimbatore 641 007, Tamil Nadu, India

ABSTRACT: *Hirsutella nodulosa* Petch is recorded as a fungal pathogen of the sugarcane internode borer, *Chilo sacchariphagus indicus* (Kapur) from Coimbatore area of Tamil Nadu. The infection level during different months varied from 0.3 to 11.4 per cent.

KEY WORDS: *Chilo sacchariphagus indicus*, fungal pathogen, *Hirsutella nodulosa*, sugarcane internode borer

The internode borer, *Chilo sacchariphagus indicus* (Kapur) (Lepidoptera: Crambidae) is an important pest of sugarcane in Peninsular India. The larvae after hatching feed on the leaf spindle or leaf sheath for 48 to 72 h (Agarwal, 1959) or for even longer period (4 to 6 days) (David, 1979). Second or third instar larvae bore into the tender cane top where damage from larval tunnelling can result in serious loss of cane weight (8-19 t/ha) and significant deterioration in juice quality.

As part of a study to identify natural control agents of the sugarcane internode borer, monthly collections of larvae were

made for one year (September, 1990 to August, 1991) from infested sugarcane in fields near Coimbatore. A total of 20221 larvae were examined and 832 were found to be colonised by a fungus. The mean fungal infection was 4.1 per cent with a range of 0.3 to 11.4 per cent.

The fungus was identified as the entomopathogen, *Hirsutella nodulosa* Petch by its distinctive warty phialides, each with a helically-twisted tip typical for the species (Minter and Brady, 1980). The fungus was isolated on Sabourad's - dextrose agar medium and maintained at a temperature of $27 \pm 2^\circ\text{C}$. This is the first

* Biology Department, Saint Mary's University, Halifax, Nova Scotia, Canada B3H 3C3

record of *H. nodulosa* from sugarcane internode borer in India. A specimen colonised by *H. nodulosa* has been deposited at the Centre for Land and Biological Resources Research, Ottawa, Ontario, Canada (DACM 215157). *Hirsutella nodulosa* in these sugarcane borer larvae formed a dense mycelial mat covering the cadaver, completely, obscuring its features (Fig. 1). This gross



Fig. 1 Progressive colonization of *H. nodulosa* on internode borer

morphology contrasts with the sparse external hyphae described for *H. nodulosa* on other hosts (Strongman *et al.*, 1990; Strongman and Rand, 1991). The dense external growth of the fungus on borer larvae could be due to the availability of a rich nutrient supply outside the host rather than a response to host characteristics.

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