



Research Note

Epizootics of *Entomophthora* sp. on mango inflorescence hopper, *Idioscopus nitidulus* (Walker)

P. N. GANGA VISALAKSHY*, M. MANI, A. KRISHNAMOORTHY and K. GOPALAKRISHNA PILLAI

Division of Entomology and Nematology, Indian Institute of Horticultural Research, Hessaraghatta Lake Post, Bangalore 560 089, Karnataka, India.

*Corresponding author E-mail: gangesv@ihr.ernet.in

ABSTRACT: The inflorescence hopper, *Idioscopus nitidulus* (Walker), is an economically important pest during flowering period of mango. An outbreak of entomopathogenic fungal infection of *Entomophthora* sp. causing about 87.88 per cent mortality of *I. nitidulus* adults was recorded during the off-season. This is the first report of *Entomophthora* species infecting *I. nitidulus*.

KEY WORDS: *Idioscopus nitidulus*, epizootic, *Entomophthora* sp.

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INTRODUCTION

The mango hoppers, *Amritodus atkinsoni* (Lethierry), *Idioscopus clypealis* (Lethierry) *I. niveosparsus* (Lethierry) and *I. nitidulus* (Walker), are serious pests of mango at flowering and fruiting stages and could cause yield loss up to 100% (Rahman and Kuldeep, 2007). The insects are active during flowering period and in the remaining period, they remain confined to the under surface of leaves, situated in dark and moist areas of the tree.

During a field survey on the incidence of hoppers in off-season (October, 2009) on mango var. *Dasheri* (5-6 years old) at IIHR farm, dead hoppers of *Idioscopus* sp. were observed on the leaf. The terminal shoots of 10 cm length were selected from 10 randomly selected trees. Without any disturbance, observations on the number of

live and dead hoppers on the selected shoots and leaves were recorded and later converted to per cent dead. The dead insects thus collected were kept for observation in the laboratory to determine the mortality causing agent.

Only one species of hoppers, *I. nitidulus* (identified based on external characters), was recorded during the study period. Adults were found to be inactive and firmly attached to the leaf surface. On keeping these dead insects in the laboratory under observation, white colored mycelia growth started radiating from the insect body from the 3-4th day, which changed from light to dark brown color with sporulation. The fungus was identified as *Entomophthora* sp. (Plate 1) based on examination of spore structure. A mean of 87.88 per cent mortality (ranging from 68 to 95 percent) was recorded due to the infection of *Entomophthora* sp. under field conditions during

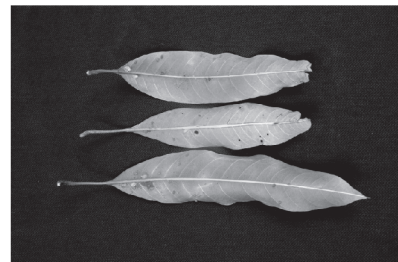


Plate 1. *Idioscopus nitidulus* on mango (1. Infestation of hoppers on mango (uninfected hopper); 2 & 3. hopper infected with *Entomophthora* sp.)

October, 2009. No other biological control agent could be recorded from these dead insects kept under observation.

A number of natural enemies were recorded from mango hoppers world wide such as parasitoids, predators and pathogens (Pena *et al.*, 1998). Entomopathogens such as *Beauveria bassiana* (Bals.), *Verticillium lecanii* (Zimm.) (Srivastava and Tandon, 1986) from India, *Hirsutella* sp. from Malaysia and *H. versicolor* from Thailand (Jones, 1997; Lim and Chung, 1995) were recorded from *I. clypealis* and *I. nitidulus*. *Metarrhizium anisopliae* is also reported as a potential biological control agent of *I. nitidulus* under field conditions (Ganga Visalakshy *et al.*, 2009).

This is the first report of *Entomophthora* sp. infecting *I. nitidulus*. Further studies on seasonal occurrence of this pathogen would help to understand its impact in natural regulation of *I. nitidulus*.

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