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APPLICATION OF ENTOMOPATHOGENIC FUNGUS *BEAUVERIA BRONGNIARTII* FOR MANAGEMENT OF CHAFER BEETLE OF THE WHITE GRUB *HOLOTRICHIA SERRATA* INFESTING RUBBER SEEDLINGS

C. R. Nehru, K. Jayarathnam and G. K. Karnavar

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The infectivity of the entomopathogenic fungus *Beauveria brongniartii* to adult beetles, which are responsible for the abundance and distribution of white grubs (*H. serrata*) in rubber nurseries, is reported. Longevity of the adult beetles of both sexes infected with *B. brongniartii* was significantly less than that of the uninfected ones. The results indicated that *B. brongniartii* spreads from contaminated adults to healthy ones through mating contact. Release of the contaminated adults in the nursery was effective for biological suppression of *H. serrata*.

Key words: Rubber nurseries, *Holotrichia serrata*, *Beauveria brongniartii*.

C. R. Nehru (for correspondence), K. Jayarathnam, Rubber Research Institute of India, Kottayam 686 009, India and G. K. Karnavar, Department of Zoology, University of Kerala, Kariavattam Campus, Trivandrum, India.

INTRODUCTION

White grub is a serious pest of rubber seedlings in India, the most predominant and serious one being *Holotrichia serrata* F. The pest causes severe damage to seedlings in nurseries rendering them unfit for transplanting (Jayarathnam and Nehru, 1984; Nehru and Jayarathnam, 1988). The biological control of white grubs by the entomogenous fungus *Beauveria brongniartii* (Sacc.) Petch, has been tested by several workers (Ranganathaiah *et al*, 1973; Veeresh, 1977; Jayaramaiah and Veeresh, 1983).

MATERIALS AND METHODS

B. brongniartii was isolated from the cadaver of *H. serrata* beetle in the laboratory and was employed in the study. The pathogen isolated was cultured in a liquid medium containing hot water extract of silkworm pupae and 2 per cent glucose, on a rotary shaker (100 rpm), for three to four days at 30°C. About 20 ml (1×10^9 spores/ml) of the culture broth was spread, on the surface of a polyurethane foam sheet, 600 mm long, 100 mm wide and 20 mm thick and incubated at 25°C for 8 to 15 days, for sporulation.

In the first test, newly emerged male and female beetles, 60 each, obtained from light trap collections during March and April, 1988 were used. The adult beetles were allowed to freely walk for 5 min on the surface of the opolyurethane foam sheet kept in a plastic container 30 cm in diameter and 30 cm in depth. The adult chafers contaminated with the fungus were transferred to another cage and reared individually. An untreated check was also maintained. Survival counts were recorded daily, for one month.