

FIRST RECORD OF *BEAUVERIA BASSIANA* (BALSAMO) VUILLEMIN, AN ENTOMOGENOUS FUNGUS FROM THE SUGARCANE DEFOLIATOR *PHYTOSCAPHUS* SP. (COLEOPTERA : CURCULIONIDAE) FROM INDIA

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FOR integrating pathogenic fungi in the programme for managing insect pests of sugarcane agro-ecosystem, a survey of entomogenous fungi associated with it in U.P. was undertaken. In October 1980, an adult weevil was found anchored by rhizoids to the plant whorl of Co 1148 variety, the site of its feeding, in a field of the IISR farm. The specimen was brought to the laboratory, placed in a desiccator of high humidity, and maintained at 25°C in a BOD incubator. After four days of incubation, the fungoid insect sprouted a white muscardine growth at the leg joints and arthrodial membranes of neck and abdomen (figure 1). Preliminary identification revealed the fungus to be *Beauveria bassiana* (Balsamo) Vuillemin and the defoliator as *Phytoscaphus* sp.

Spores harvested from the fungoid insect were suspended in SDW, to which a drop of Triton X100 was added, and five healthy field collected *Phytoscaphus* sp. were dipped in the suspension and incubated at 25°C and 95% RH. On the seventh day of incubation, the laboratory inoculated defoliators sprouted white muscardine growth. It was precisely of the type observed in the original field collected fungoid and its morphological characteristics agreed with those described for *B. bassiana*¹.

In laboratory tests, this strain of *B. bassiana* proved to be pathogenic to other insect pests of sugarcane also. These are : (i) larval stages of borers *Chilo auricilius* Dudgeon, *C. infuscatellus* Snellen and *Sesamia inferens* (Walker), (ii) nymph and adult of the black bug *Cavelerius sweeti* Slater and Miyamoto, and (iii) adult of the defoliator *Astychus lateralis* Fabricius.

As far as the pests of sugarcane agro-ecosystem as hosts for *B. bassiana* are concerned, this entomogenous fungus has been recorded from the adult beetle *Lachnosterna* (= *Holotrichia*) *consanguinea* Blanchard from Bihar² and from the larva of the top borer *Scirpophaga excerptalis* Walker³. Its



Figure 1. Original, field-collected *Phytoscaphus* sp. specimen with *B. bassiana* growth.

isolation from *Phytoscaphus* sp. a defoliator, in U.P. therefore constitutes a new host record from India.

Field trials for exploiting *B. bassiana* as a microbial insecticide against selected insect pests of sugarcane are in progress.

The preliminary identification of the fungoid insect as *Phytoscaphus* sp. was confirmed by the Zoological Survey of India, Calcutta. The fungus was identified as *Beauveria bassiana* (Balsamo) Vuillemin (IMI, Herbarium No. 253390, 1981) by Dr A. H. S. Onions of the Commonwealth Mycological Institute, Kew, Surrey, England, to whom warm thanks are extended.

27 July 1987; Revised 12 September 1987

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2. Rao, G. N. and Vijayalakshmi, V., *Curr. Sci.*, 1959, 28, 295.
3. Steinhaus, E. A. and Marsh, G. A., *Hilgardia*, 1962, 33, 349.