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# Occurrence of *Fusarium pallidoroseum* (Cooke) Sacc. as a fungal pathogen of rice leaf-folder, *Cnaphalocrocis medinalis* (Guenée) in Karaikal region

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**ABSTRACT** : *Fusarium pallidoroseum* (Cooke) Sacc. is recorded as a pathogen of rice leaf-folder, *Cnaphalocrocis medinalis* (Guenée) from Karaikal region of Union Territory of Pondicherry for the first time. The infection varied from 40 - 60%.

**KEY WORDS** : Cadaver, *Cnaphalocrocis medinalis*, fungal pathogen, *Fusarium pallidoroseum*, rice leaf-folder

Insect pathogens may offer an alternative to chemical insecticides. Microbial insecticides are being widely used in agricultural system (Burges, 1981). Microbial control agents can be more easily manipulated and their mass production is also comparatively easy. Among the microbial pathogens, *Fusarium* species play an important role in the suppression of insect pests. *Fusarium oxysporum* Schlecht was reported on *Coccus viridis* (Green) to cause 90% mortality within 10 days after fungal spore suspension application on the plants (Kasiviswanathan, 1972). *Fusarium equiseti* (Corda) Sacc. infected *Melanagromyza hibisci* Spencer (Sridhar and Krishnaiah, 1975) and *Nephotettix virescens* Stål (Devanesan *et al.*, 1979).

*Fusarium moniliforme* var. *subglutinans* Walloenn and Reink. was reported to be pathogenic to *Henosepilachna vigintioctopunctata* Fabricius. (Jacob *et al.*, 1978). The pathogen was also reported infecting *Aulacophora* sp. and *Mylabris pustulata* (Thumberg) (Beevi and Jacob, 1982 a, b). Nayak and Srivastava (1978) reported *F. oxysporum* infecting the rice green horned caterpillar *Melanitis leda ismene* Cramer.

The rice leaf-folder, *Cnaphalocrocis medinalis* (Guenée) (Lepidoptera : Pyralidae) was observed infected by *Fusarium pallidoroseum* (Cooke) Sacc. in the Surakudy farm at Pandit Jawaharlal Nehru College of Agriculture, Karaikal, during November, 1995 when the temperature was 25°C and relative humidity 96 %. Mycosed insect body segments of rice leaf-folder larvae were surface sterilised in 0.1% mercuric chloride and incubated in potato dextrose media at 25 °C and 88% relative humidity to isolate and purify the fungus.

The pathogenicity tests were conducted by spraying spore suspension on the larvae at $10^3$ conidia/ml, prepared from a 5 day old culture and as well as allowing the third instar larvae to crawl for one hour over heavily sporulated 5 day old cultures and subsequently reared on rice plants enclosed in mylar cage.

The pathogen thus isolated from the dead larvae was maintained in pure culture on Richard's agar and potato dextrose agar media and was identified as *F. pallidoroseum* at the Indian Type Culture Collection, Division of Plant Pathology, IARI, New Delhi.

There was on an average 78.6% mortality in ten days in the spray and crawling treatments under laboratory condition. In the initial stages of infection, the disease was slow to develop and larvae showed sluggishness, loss of sensitivity and cessation of feeding in spray treatment as compared to crawling treatment. Mycelial growth appeared 2 to 3 days after inoculation (Fig. 1). From the dead larvae, the fungus was re-isolated. On comparison, it was found similar to that of original culture and thus the pathogenicity was confirmed.

*Fusarium pallidoroseum* has been observed for the first time as a pathogen of rice leaf-folder. Earlier it has been recorded to infect red wax coccids, *Ceroplastes rubens* Maskell and tortoise wax scale,

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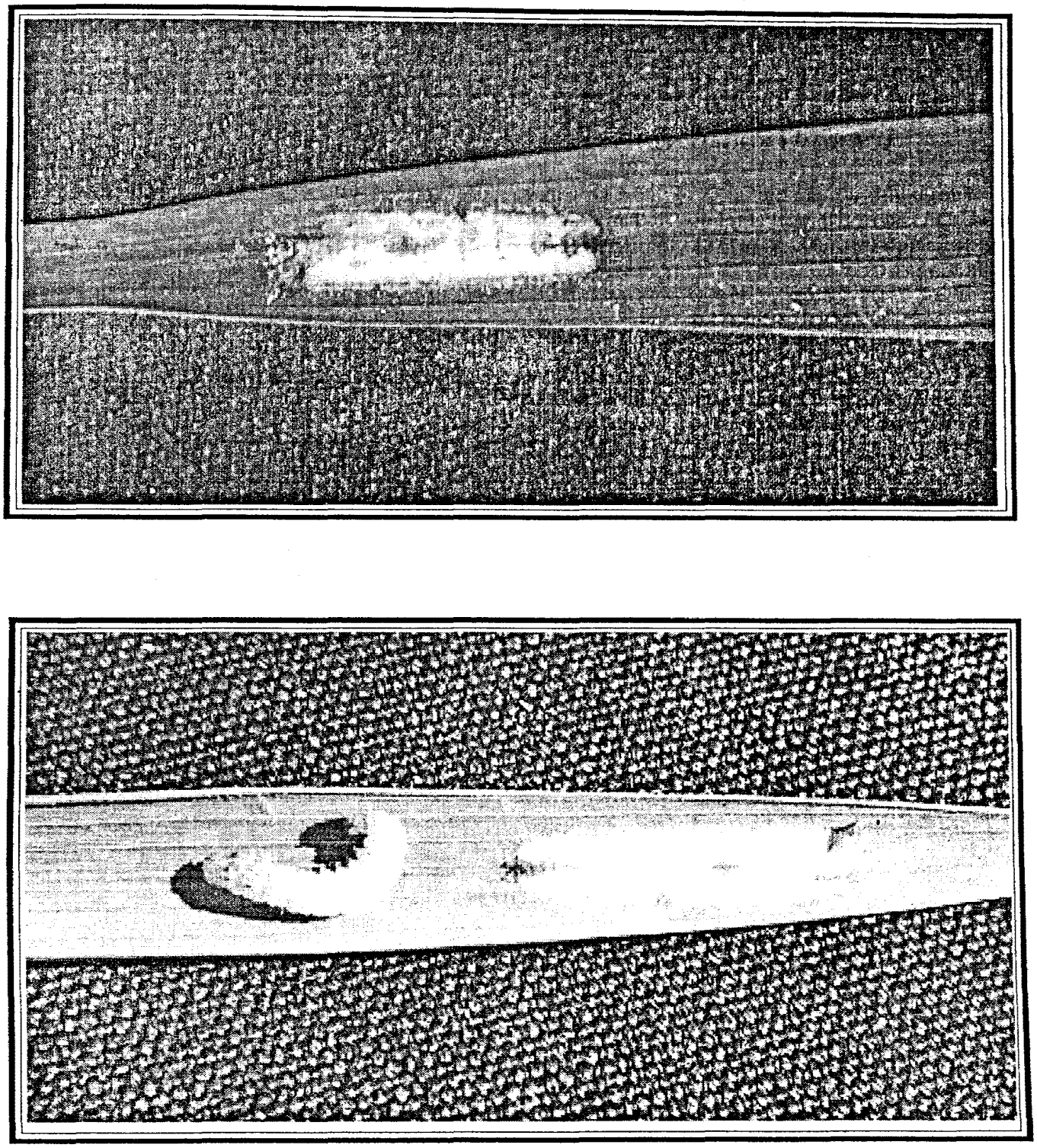

Fig.1. Rice leaf- folder larvae infected by *Fusarium pallidoroseum*

*Ceroplastes rubens* Maskell and tortoise wax scale *Ceroplastes japonicus* Green (Zheng *et al.*, 1990). *F. (semitectum* var. *majuus) pallidoroseum* (Cooke) Sacc. has also been found effective against green aphid, *Myzus persicae* (Sulzer) on cauliflower (Nagalingam, 1983).

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