

Record of *Rattus rattus wroughtoni* as a pest of oil palm seedlings

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The oil palm, *Elaeis guineensis* Jacq., is a newly introduced commercial crop in India. Rodents are reported to be a major vertebrate pest of this crop in several oil palm growing countries (Wood, 1976). Subiah (1983) reported rodent damage to oil palm from Andaman islands of India. However, the precise identification of the rodent species responsible for such damage was not made. In this note we are describing for the first time an instance where the oil palm seedlings were heavily damaged by *Rattus rattus wroughtoni* Hinton.

During May 1988, severe mortality of the two-year old seedlings of oil palm raised in the nursery at the Central Plantation Crop Research Institute, Kasaragod (12° 30'N; 75°E) was noticed. On closer examination it was found that some rodents have gnawed off the petiole bases and fed on the growing bud of the seedlings. Out of 425 seedlings

raised 193 were found totally destroyed. To identify the pest, rodents visiting or inhabiting the nursery were collected alive by setting three 'live' traps each of three different sizes (23 × 7 × 8.5 cm; 30 × 9 × 10 cm; 37 × 11 × 12 cm) for one week. Although six rats *R. r. wroughtoni* and two field mice, *Mus booduga booduga* were collected. The trapped animals were housed individually in circular open enclosures (125 cm diameter × 90 cm height) and provided with fresh two-year old seedlings of oil palm along with enough rice and water in separate containers.

Observations revealed that only the *R. r. wroughtoni* collected from the nursery was able to gnaw the base of the seedlings and feed the succulent portion of the collar in a similar manner to that recorded under field conditions. Poison baiting with anticoagulant rodenticides such as

bromadiolone or warfarin is suggested for the control of this pest in oil palm.

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Three new pathogenic fungi of waterhyacinth from India

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Waterhyacinth (*Eichhornia crassipes* (Mart.) Solms) belonging to the family Pontederiaceae, is a free floating aquatic plant that is believed to have been introduced into the US from Southern America, in 1884. McLean (1982) suggests 1888 or 1889 as the possible years of its entry into India. Waterhyacinth completely covers slow-moving canals, streams and lakes, it disturbs fishing and water transportation, causes excessive water loss through evapotranspiration (Rosenthal *et al.*, 1984). Biological control of weeds has been suggested as the most efficient method, as it is longer lasting and is less costly, consequently most efforts have been devoted to control of the weed by this method (Bennett and Zwolfer, 1968; Bates and Hentges, 1976; Charudattan, 1986, 1987; Jayanth, 1988).

In order to find naturally occurring fungal plant pathogens of waterhyacinth surveys were conducted in different parts of Haryana (India) during 1988–89. The waterhyacinth population in different ponds was found to be heavily infected by leaf spot diseases. Isolations from the infected leaves were carried out. Plants showing small punctate leaf spots with an ash coloured centre becoming elliptical to irregular shaped structures yielded *Fusarium chlamyosporum* Wollenw and Reinking (IMI No. 333323); plants showing leaf spots leading to compact zonations, starting from tip of the leaf and spreading backwards, yielded *Epicoccum nigrum* Link (IMI No. 333324); and plants showing small, brown coloured leaf spots, forming lesions of irregular shapes on the leaves and petioles, yielded *Phoma sorghina* (Sacc.) Boerema, Dorenbosch and van Kesteren (IMI No. 333325).

Sporulation of *F. chlamyosporum* was found to be better on PSA (Potato Sucrose Agar) than PDA (Potato Dextrose Agar) and PDA+Y. Thus confirming the findings of Gordon (1952) who also reported PSA as a better medium for the production of fructifications for identification purposes. *E. nigrum* grows and sporulate better on PDA+Y than PDA or PSA and for *P. sorghina* PDA is the best medium. Pathogenicity of the isolated three fungal pathogens was determined *in vitro*. Typical disease symptoms were observed on both injured and uninjured leaves, the pathogens were reisolated and compared with the original. Thus confirming the pathogenicity of the fungal isolates to waterhyacinth and usual Kock's postulates.

A survey of literature shows that *F. chlamyosporum* on waterhyacinth is a new record for the world (Gopal, 1987). *E. nigrum* and *P. sorghina* on waterhyacinth are new records for India (Bilgrami *et al.*, 1979, 1981; Mukerji and Bhasin, 1986; Sorbhoy *et al.*, 1986; Gopal, 1987).

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