oozing out of a reddish brown fluid from the cracks generally at the lower portion of the trunk.

During isolations for fungi associated with the disease-affected coconut palms, it was noticed that pieces of stem tissues from the diseased palms around Kandalloor and Kayangulam (Alleppey district) yielded a fungus which produced pycnidia in abundance in the culture medium (PDA and 3% stem extract agar). The identity of the fungus as *Phomopsis cocoae* (Cooke) Punith. (Syn: *Phomopsis cocoae* Petch) was established at the Commonwealth Mycological Institute, Kew, England. The culture has been deposited at the CMI Herb: (CMI Nos. 279408 to 279410).

*C. cocoae* Petch was once reported to be associated with leaf spot disease of coconut. Apparently there is no information on the occurrence of this organism in coconut trunk. *Phomopsis* spp. are known to cause bark diseases in plantation crops like tea and coffee.

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**SEREOLOGY OF RICE NECROSIS MOSAIC VIRUS**

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Rice necrosis mosaic virus (RNMV), a sap and soil transmissible virus has recently been reported from India. Morphologically, the virus is rod-shaped having two modal lengths at 275 and 550 nm. In order to ascertain the serological relationship, antigenic relationship between the present Indian isolate and the Japanese isolate of RNMV was studied.

Thirty-day-old healthy rice plants (cv. TN-1) grown in soil infected with RNMV were maintained inside insect proof cages. After the appearance of distinct symptoms, leaves from infected plants were collected and utilized for serological determination. A similar number of plants grown on healthy soil under identical conditions served as controls.

Antigenic relationship was studied following slide agglutination test in sterile glass slides using antisera to RNMV (Japanese isolate) and the clarified original inoculum from leaves of TN-1 rice plant, infected with RNMV (Indian isolate), used as antigen. For this purpose, 2 g leaf tissues of rice plant (cv. TN-1), infected with RNMV were homogenized in 6 ml of 0.05 M borax and the sap was clarified by centrifugation at 3000 g for 10 min (Prof. T. Inouye, personal communication). The antisera was diluted (1:4) with normal saline. To each sterile slide 1 drop of both antigen and antisera were added and mixed well. Sap (clarified extract) from leaves of non-infected (control) rice plants, similarly treated, served as control. The experiment was repeated twice.

Aggregation of chloroplasts and clumping of host components occurred in slides within 10 min, of mixing (antigen and antisera, 1:1 ratio). No such agglutination was observed when sap from control rice plants reacted with antisera. Thus, the present investigation indicated a distinct serological relationship between Indian and Japanese isolate of RNMV and hence confirmed the occurrence of RNMV in India.

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WILT OF PATCHOULI—A NEW DISEASE CAUSED BY RHIZOCTONIA SOLANI

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Patchouli (Pogostemon patchouli Pellet.) a member of mint family is the source of commercial patchouli oil which finds extensive use in perfumery and cosmetic industries. According to Sarwar and Khan\(^1\), nematode infestation poses a serious problem in establishing the crop on a commercial basis. Other diseases on this crop are relatively less important. Benneviste\(^2\) has reported a disease of unknown etiology affecting the roots of patchouli plants resulting in the drying of leaves and ultimate withering of plants. Similarly Sarwar and Khan\(^1\) have reported a leaf blight, the causal organism of which has not been identified. Two virus diseases, one by Roland\(^3\) and the other a yellow mosaic by Sastry and Vasantha Kumar\(^4\), have also been reported affecting patchouli plants. During 1980–81 the patchouli plants grown at the Hessaraghatta farm of the I.I.H.R., Bangalore showed a serious collar rot and wilt disease. The percentage of disease incidence ranged from 15 to 20. The basal portion of the young plants was infected first followed by wilting of the plants and death in about a fortnight. In older plants the leaves showed yellowing while the central shoot and young leaves wilted. The disease was found to advance from the initial infection site of the collar region both upwards to the shoot and downwards to the root causing extensive rotting, the rotten portions becoming almost black in colour.

The pathogen was isolated from infected collar and root regions by single sclerotial and mycelial transfers to PDA and was later purified by hyphal tip culture. On PDA, the young hyphae were hyaline to pale brown about 6–12 \(\mu\) in diameter and showed characteristic right angled branching with constriction of septa. The hyphae darkened with age and formed dark brown aggregated sclerotia in about 8–10 days and were morphologically similar to those observed in the field. Morphology, development and cultural characters of the pathogen indicated its identity to Rhizoctonia solani Kühn to which it has been referred (CMI 271152).

Pathogenicity trials were conducted with the fungus grown on 2% sugar-coated sterilized sorghum grains and inoculating the pathogen into sterilized soil in pots. One-month old patchouli plants were transplanted into inoculated pots. Uninoculated controls were also provided. Symptoms of collar rotting and wilting were seen in plants in the inoculated pots one month after transplantation while the plants in the control pots remained healthy (figure 1). The fungus was reisolated from the roots and found to be Rhizoctonia solani Kühn. This is the first report of R. solani causing collar rot and wilt of patchouli.

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3. Roland, G., Phytoparasitica, 1956, 6, 8.