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RHIZOCTONIA *SALVINIA MOLESTA* MITCHELL

The water fern *Salvinia molesta* Mitchell is the most serious aquatic weed in Kerala. During Decembei-January 1 979 80, the *Salvinia* mat occcuring in Paddy fields and drainage canals in the Instructional Farm. College of Agriculture, Vellayani was found to be severely affected by a leaf-rot disesae. Initially white mycelial growth was found on the floating leaves and in two three day's time the whole plant lost its green colour and showed symptoms of wet rotting. Small brownish sclerotia of the organism was found in large numbers on tde infected leaves.

Repeated isolations from the affected parts of Salvinia yielded a fungus which was maintained on Potato dextrose agar medium. The hyphae was initially creamy–white but turned to light-brown at maturity. Mycelium was branched and septate with width range of 6.2 to 8.1 μm. The scterotia which were produced mostly on the periphery of the petri dishes were smooth, measuring 1.02 to 1.78m m x 1.61 to 1.82mm in size. Based on the morphological characters, the organism was identified as *Rhizoctonia salani* Kuhn as enumerated by Parmeter and Whitney. No perfect stage of the organism was observed. This is the first record of *R. solani* Kuhn on *Salvinia melesta* Mitchell. *Rhizoctonia solani* has been recorded already on water hyacinth *Eichhornia crassipes* by Bennet.

The pathogenicity of the organism was established by artificial inoculation on S. *molesta* using the sclerotia of the organism. On inoculated plants, symptoms of attack was evident as brown discolouration of the leaves in four days after inoculation. The discolouration rapidly spraaded and within 6 to 8 days, there was complete rotting of the plants (Fig-1).

The organism was grown on shallow layer of Potato dextrose broth for 10 days. The culture was filtered through Whatman No. 1 filter paper and the filtrate centrifuged at 1500 rpm for 15 minutes and made free of any mycelial fragments of the organism. The culture filtrate was sprayed on the *S, molesta* growth established in concrete apuaria. In three days after spraying the culture filtrate, symptoms of rotting was visible and the plants completely rotted in seven days (Fig. 2).

Nag Raj and Ponnappa has reported that fl. *solani* have little use for biological control of water hyacinth due to its broad host range.

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വെള്ളായണി കാർഷിക aകാളേജിന ചുറ്റുമുള്ള വെള്ളായണി കായലിലും, നെൽ വയലുകളിലുമുള്ള ആഫ്രിക്കൻ പായൽ പെട്ടെന്ന് ഒരു തരം അഴുകലിന വിധേയമാകുന്നതായി കാണുകയുണ്ടായി. നെല്ലിൻ പോള രോഗത്തിനു കാരണമായ കുമിളം *റൈസക്ടോണിയ സൊളാനി* (*Rhizoctonia solani*) മൂലമാണ് ഇപ്രകാരം അഴകലുണ്ടാകുന്നതെന്ന് കണ്ടു.

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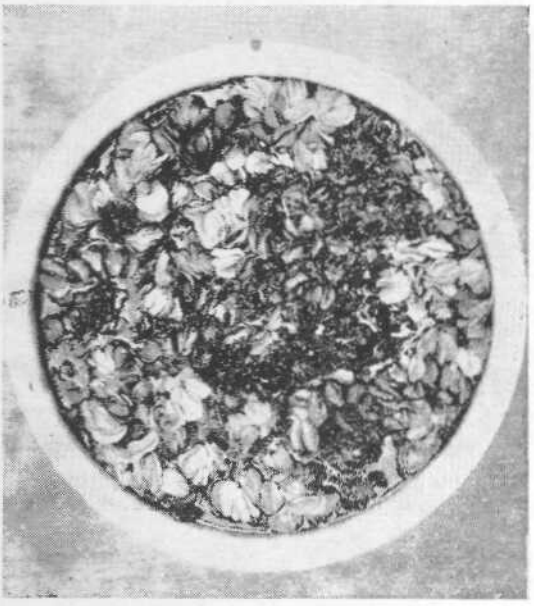

Fig. 1 Progressive stages in rotting of Salvinia due to infection by *Rhizoctonia solani*

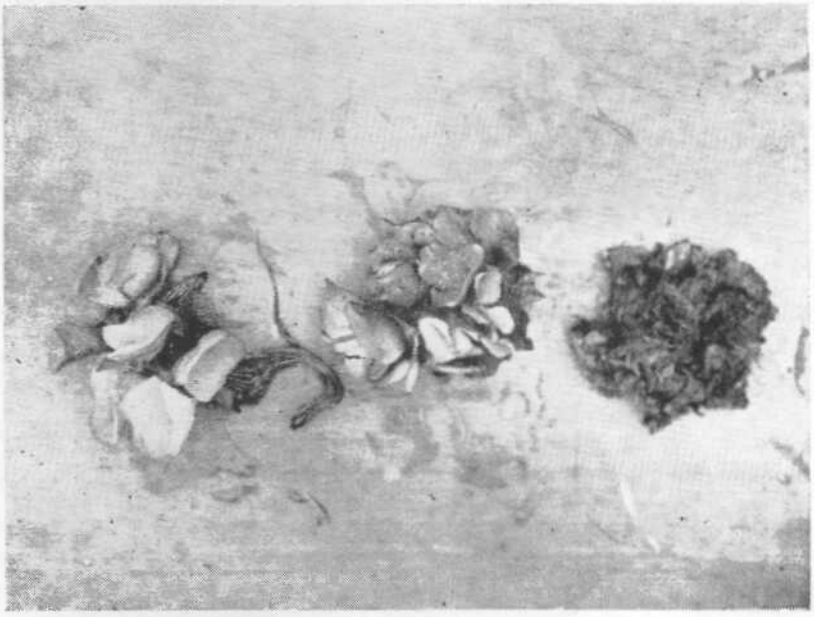

Fig. 2 Effect of culture filtrate of *Rhizoctonia solani* on Salvinia