A STUDY OF FUNGI ASSOCIATED WITH *SALVINIA MOLESTA* D.S. MITCHELL (*SALVINIA AURICULATA*)

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Abstract

Fungi associated with leaves of Salvinia molesta D.S. Mitchell, in different morphological stages have been studied with a view to determine its natural enemies that could be used in the biocontrol of this pestiferous weed. The main colonizers of the floating leaves were Curvularia pallescens , Penicillium oxalicum , Myrothecium roridum , Aspergillus niger, Fusarium equiseti, Trichoderma sp., Glomerella cingulata and Cunninghamella sp. The submerged dissected leaves had P. oxalicum, M. roridum and an unidentified sterile fungus as the main colonizers. These could be regarded as the primary saprophytes of Salvinia molesta. A seasonal fluctuation of the common species of fungi was not observed. The number and the percentage frequency of species of fungi recorded on the senescent and primary leaves were higher than on mature tertiary leaves. Therefore it is possible, that the primary stage plants though appearing as young are really mature.

The common pathogenic fungi isolated from the leaves of Salvinia were tested for their pathogenicity to the plant, both under laboratory and field conditions. Of the fungi tested only Rhizoctonia solani state of Thanatephorus cucumeris(Frank) Donk. was found to affect the plants to a considerable extent, showing that R. solani is a primary pathogen of Salvinia molesta . However the severity of the disease was less under field conditions and with the primary stage

plants. It was not possible to demonstrate that phytotoxic metabolites are involved in the pathogenicity. This fungus was found to be pathogenic to aquatic plants belonging to eight families. Azolla was found to be severely affected while Eichhornia, Pistia , Oryza sativa, Monochoria and Lasia were moderately affected. Like the other isolates of R.solani this too was found to be non-pathogenic to submerged aquatic plants like Hydrilla. This is the first record of a primary pathogen of Salvinia molesta but it could not be recommended as a satisfactory biocontrol agent against the weed due to its wide host range and weak parasitism to Salvinia under field conditions.