

## ABSTRACT

Maharashtra state has got many paper and pulp factories. These factories produce large quantities of industrial effluents which have polluted nearby areas to a considerable extent causing hazards to the population, flora and fauna. Effluent of paper industry largely consists of small cellulose fibres and other chemicals used in the various processes of paper making. The present work aims at studying the naturally occurring mycoflora from the water released from the paper and pulp mills and from the soils irrigated by such water.

During the course of study, water and soil samples from three different paper and pulp mills were collected and their physical and biological examination was done. Total 85 fungi belonging to 40 genera of Phycomycetes, Ascomycetes and Deuteromycetes were isolated. All the forms isolated were tested for their cellulolytic activity. Following five fungi were selected for further studies - Aspergillus niger, Humicola grisea Traaen, Myceliophthora lutea Cost. var. macrospora var. nov., Sporotrichum pruinosum Gil. & Abb. and Trichoderma viride Pers. ex Gray.

Physiological and nutritional requirements of these selected fungi were studied. Effect of various environmental and nutritional factors on cellulolytic activity of these

fungi in pure culture and their behaviour in mixed culture was also studied.

Out of the 85 fungi isolated 2 species viz., Auriobasidium indicum sp. nov. and Dendrostilbella indica sp. nov. and 1 variety Myceliophthora lutea var. macrospora var. nov. are described as new to science. Similarly, 18 species are described for the first time from Maharashtra and 5 species are new to India.