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Isolation , identification and growth of *Stachybotrys* sp. obtained from mangrove ecosystem of Bhitarkanika, Orissa

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SUMMARY

The rhizosphere soil of twenty five mangrove tree species grown in different salinity zones of Bhitarkanika mangrove of Orissa, were screened for the occurrence of *Stachbotryss altra.* Six isolates were obtained from *Caesalpinia crista* (S1), *Excoeria agallocha* (S2), *Aegiceras corniculatum* (S3), *Brugiera parviflora* (S4), *Kandelia candel* (S5) and *Avicennia marina* (S6). All these isolates were performed variously in different conctration of NaCl in laboratory conditions. Data recorded for their growth was discussed and analyzed in this paper.

Key words : Stachybotritis, Mangrove, Marine fungi , NaCl, Salinity.

Mangroves, a salt tolerant plant communities of tropical and subtropical inter-tidal coastlines, play an important role in contributing organic matter to its associate biota as a result of degradation of leaf-litter by a variety of microorganisms. The occurrence of fungi associated with mangroves in marine environment reported well (Patil and Borse ;1985; Chinaraj and Untawale , 1992; Tan and Pak , 1997, Schmit and Shearer, 2004). Marine fungi, in general, are well known for their important role in the decomposition of organic matter in the marine environment (Ananda and Shridhar; 2004).

Most studies on mangrove and marine fungi associated with mangroves have been restricted to north of Indian ocean, particularly the coasts of India , Maldives (Kumaran *et al*., 2004; Prasannaraj and Sridhar, 2001). Suryanarayan *et al.* (1998) isolated the endophytic fungi from leaves of *Rhizophora apiculata* and *R. mucronata* from the Pichavaram mangrove of Tamil Nadu. Purukaystha and Pal (1998) surveyed the foliar fungi from mangrove ecosystems. Chinnaraj and Untawale (1988) studied the manglicolous fungi from different mangrove ecosystems in India. These reports were based on the study of phyllosphere fungi. Rhizosphere-effect i.e. the influence of plant roots on soil microorganisms largely determine the occurrence and distribution of fungal association with higher plant root systems. Very few reports are, however, available on rhizosphere fungi associated with the mangrove trees (Sengupta and Choudhuri,1995).

The present study is based on the isolation and characterization of *Stachybotrys*, a cellulose degrader (Mehrotra ,1992). Whiitton *et al*. (2001) reported the three new species of *Stachybotrys* and several other reports are available on this fungi but unknowledgeable reports are available on such fungi found in mangrove area .However , nothing is known about the occurrence of fungi from Bhitarkanika mangrove of Orissa. The present study was carried out to know the occurrence of *Stachybotrys* associated with different rhizosphere of magrove plant species.

MATERIALS AND METHODS

Study sites :

Mangroves of Bhitarkanika (20° 4‘-20° 8‘N, 86° 45‘E), Orissa occupy a littoral habitat, characterised almost invariably by salt or brackish water and coastal silt exposed to daily tidal inundation with a continuously changing salinity and represented by tree mangroves like *Avicennia, Aegiceras, Bruguiera, Ceriops, Excoecaria, Heritiera, Kandelia, Rhizophora* and *Sonneratia* species. However, there is no available data on the status of marine fungi associated with tree mangrove rhizosphere of Bhitarkanika mangrove ecosystem

Collection of Plant samples :

Zone I :

The sampling zone was such a habitat where high spring tide inundate occasionally . The soil reaction changes from alkaline to moderately acidic condition and the zone is mainly colonized by *Caesalpinia crista, Excoecaria algallocha, Cynometra iripa, Heritiera*

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