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## Research Article

### Isolation and Identification of Marine and Mangrove fungi from Muthupet Mangrove, Tamil Nadu, India

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#### Abstract

The present study total of 29 species of typical marine and mangrove fungi were isolated from wood substrates of *A. marina* by employing baiting technique. Among the 29 isolates, 12 fungal species such as *Lophiostoma mangrovei*, *Lulworthia grandispora*, *Camarosporium roumeguerii*, *Quintaria lignatilis*, *Trematosphaeria lineolatispora*, *Pleospora triglochinnicola*, *Clavatospora bulbosa*, *Torpedospora ambispinosa*, *Trimmatostroma* sp. *Leptosphaeria peruviana*, *Massarina armatispora* and *Aniptodera chesapeakeensis* were new isolates (New record) of this mangrove eco-system.

**Keywords** Marine and Mangrove fungi – Direct observation – Frequency of occurrence.

## Introduction

Mangroves are one of the richest and most productive habitats and litter from mangrove trees, forms the base of food chain in tropical estuarine environments. They are open systems with respect to energy and matter and thus can be considered “interface” ecosystem coupling upland terrestrial and coastal estuarine ecosystem (Lugo and Snedakar, 1974). Studies on marine and mangrove fungi of Indian ocean is quite recent and has been less well explored compared to the Atlantic and Pacific oceans (Borse, 1988; Hyde, 1988). Although Indian sandy beaches, mainland mangroves and some islands have been studied for marine and mangrove

fungi, there are few quantitative studies (Borse, 1988; Prasannaraj and Sridhar, 1997; Sarma and Vittal, 2000, 2001; Sarma et al., 2001; Maria and Sridhar, 2002). The present investigation was therefore initiated to study about the marine fungi in Muthupet mangroves along the East coast of Tamil Nadu, India.

## Materials and Methods

techniques. All the bait samples were kept in sterile polythene bags and aerosols were created inside the bags by spraying with sterile sea water. the bags

**Table 1.** Total Number of marine and mangrove fungi isolated by baiting technique

Name of the fungi	Number of collections	Frequency of occurrence (%)
<i>Aniptodera cheasepeakensis</i>	4	5.0
<i>Anthostromella</i> sp.	5	6.25
<i>Bicrouania maritima</i>	10	12.5
<i>Camarosporium roumeguerii</i>	3	3.75
<i>Cirrenalia tropicalis</i>	6	7.5
<i>Clavataspora bulbosa</i>	6	7.5
<i>Corollospora</i> sp.	3	3.75
<i>Dactylospora</i> sp.	5	6.25
<i>Didymella avicenniae</i>	15	18.75
<i>Didymosphaeria</i> sp.	10	12.5
<i>Leptosphaeria peruviana</i>	4	5.0
<i>Leptosphaeria</i> sp.1	5	6.25
<i>Leptosphaeria</i> sp.2	4	5.0
<i>Leptosphaeria</i> sp.3	7	8.75
<i>Leptosphaeria</i> sp.4	6	7.5
<i>Leptosphaeria</i> sp.5	5	6.25
<i>Lignincola tropica</i>	3	3.75
<i>Lophiostoma mangrovei</i>	5	6.25
<i>Lophiostoma</i> sp.	2	2.50
<i>Lulworthia grandispora</i>	8	10.0
<i>Massarina armatispora</i>	4	5.0
<i>Periconia prolifica</i>	3	3.75
<i>Periconia</i> sp.1	8	10.0
<i>Pleospora triglochynicola</i>	4	5.0
<i>Quintaria lignatilis</i>	3	3.75
<i>Torpedosphaeria ambispinosa</i>	3	3.75
<i>Trematosphaeria lineolatispora</i>	5	6.25
<i>Trimmatostromma</i> sp.	4	5.0
<i>Verruculina enalia</i>	10	12.5

were tightly covered and kept under incubation during the entire study period to observe the occurrence of fungi on these different natural substrates. The bait samples were regularly observed under aseptic conditions using stereoscopic microscope. The spores were transferred to microslide, mounted and sealed (Sarma and Vittal, 2004). Identification of these fungi were confirmed with the help of Kohlmeyer and Kohlmeyer (1979); Kohlmeyer and Volkamann – Kohlmeyer (1991) and other relevant literatures.

The number of collections of each species and the number of samples of mangrove wood which supported propagules or sporulating marine fungi were recorded. The percentage of occurrence was calculated as follows

$$F = \frac{\text{No. of collections of a particular species}}{\text{No. of samples supporting sporulating marine fungi}} \times 100$$

## Results and Discussion

The present investigations, totally 29 species of typical marine and mangrove fungi were isolated from wood substrates of *A. marina* by employing baiting technique. Samples of mangrove wood (80) yielded 29 species of fungi. Among them, *Leptosphaeria* sp. was the maximum isolates represented by 6 species. Among the 29 isolates, 12 fungal species such as *Lophiostoma mangrovei*, *Lulworthia grandispora*, *Camarosporium roumeguerii*, *Quintaria lingnatilis*, *Trematosphaeria lineolatispora*, *Pleospora triglochinicola*, *Clavatospora bulbosa*, *Torpedospora ambispinosa*, *Trimmatostroma* sp. *Leptosphaeria peruviana*, *Massarina armatispora* and *Aniptodera chesapeakeensis* were new isolates (New record) of this mangrove eco system.

The frequency of occurrence of fungi was studied based on number of isolates. Maximum frequency of occurrence of fungi was observed in *Didymella avicenniae* (15) with 18.15% followed by *Bicrouania maritima* (10), *Didymella* sp. (10), *Verruculina enalia* (10) with 12.5% and minimum of *Lophiostoma* sp. (2) with 2.50% (Table 1).

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