

## Studies on *Pestalotiopsis* obtained from mangroves of Bhitarkanika, Orissa , India

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### SUMMARY

The fungal isolates obtained from foliage and roots of mangrove plants grown in Bhitarkanika mangrove forests of Orissa, India were identified as *Pestalotiopsis* sp. on the basis of morphology of conidia. Their developmental morphology was traced out by culturing on potato dextrose agar media where it formed blackish – brown acervuli. *Pestalotiopsis* sporulated profusely in presence of light. Though it grew well in presence of NaCl, sporulation was delayed, even in the presence of light.

Key words : *Pestalotiopsis*, Mangroves.

*Pestalotiopsis* is very important fungi as far as the leaf spot disease is concerned. Several workers also reported the occurrence of *Pestalotiopsis* in mangrove ecosystems. Ito and Nagakiri (1997) collected this fungi form Okinawa, Japan and it was considered to be the main component of mangrove rhizoplane microflora. In India, however very few reports are available on the occurrence of *Pestalotiopsis* from mangrove ecosystems. Purukaystha and Pal (1996) reported the occurrence of *Pestalotiopsis* from Sunderban mangrove in India. Bera and Purukaystha (1992) studied the physiology of *Pestalotiopsis versicolor* obtained from mangrove plant.

### MATERIALS AND METHODS

Bhitarkanika located on the east coast of India (20° 4' and 20°8' N latitude 86°45' and 87°5' E longitude) and extend to the north-east of the Mahanadi delta in the Kendrapara district of Orissa. Three distinct seasons can be recognized while the temperature has an average minimum and maximum of 18°C and 33°C respectively; the maximum temperature recorded as 43°C. The average rainfall is received over 70 to 96 rainy days, with most of the rainy days occurring in the first three months of the south west monsoon, between July and September. The area is prone to severe cyclones. Tides are semi-diurnal in nature with an altitude of 2-3 m in upstream areas and 3.5-6 m near the river mouth. Due to the regular inundation through tidal action the soil is mostly clayey - loam and highly slushy. The surface soil is composed of silt loam and clayey- loam and is about

3-4 m in depth. The soil though well aerated, is saline. In the elevated areas away from the creeks and channels, the soil is more sandy and comparatively less moist and saline. The soil reaction varies from pH 6.3 to pH 7.1. The mangrove species, both tree and herbs were collected from muddy, clayey-loam soils with high salinity. The collections were made from tree species include *Aglaia cuculata*, *Excoecaria agallocha*, *Heritiera fomes*, *Heritiera littoralis*, *Kandelia candel*, *Phoenix paludosa*, *Sonneratia caseolaris* and *Tamarix troupii*. The herbaceous plants comprised of *Acanthus ilicifolius*, *Acrosticum aureum*, *Derris trifoliata* and *Myriostachya wightiana*. Isolation of microflora was done according to Chinnaraj (1993). Moist chamber was prepared by soaking filter paper into sterile distilled water and wrapped with in the screw cap and wide mouth glass bottle and sterilized for half an hr. Plant samples were washed several times with sterile water, swabbed with 70 % alcohol and kept into the sterile bottle. Another 5 ml of sterile water was added to it to maintain the moisture level of the chamber. Whole system was kept in dark for 6 days at 30°C. Fungi were isolated from washed and surface sterilized root bits placed on the potato dextrose agar media and incubated at 30°C in dark. The fungi grown on the root and leaf were isolated, purified and identified. Morphological features were studied and recorded using Leica photomicroscope (Gallen III, USA).

Salt, dark and light treatment Fresh culture of 1 cm disc of *Pestalotiopsis* obtained from *Kandelia candel* leaf was inoculated into the Czapeck media of 5.5. Broth medium supplemented with NaCl at 1%, 2% and 3%

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