

Diversity of Fungal Taxa Inhabiting on Ground Litter of *Pinus caribaea* Plantations and Adjacent Vegetation in Selected Locations of Belihuloya, Sri Lanka

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Pinus caribaea has a variety of negative effects on local ecosystems. One of the issues related to *P. caribaea* plantations is the low rate of leaf litter decomposition and suppression of undergrowth regeneration. There are studies carried out to discover the causes for this in many countries. However, the number of studies conducted in Sri Lanka is low. The leaf litter decomposition is governed by different factors including microclimate, litter quality, nutrient availability, soil conditions and decomposer community. This study was designed to identify fungal microbial community inhabiting ground litter in *P. caribaea* plantations and determine the effect on undergrowth by comparison with adjacent native vegetation at two locations in Belihuloya. The methodology followed was dilution series prepared by the collected soil samples. Each solution of different concentrations was cultured in Potato Dextrose Agar media and incubated at 28°C. The resulted fungal species were sub cultured under the same temperature. The diversity of fungal species was determined by macroscopic colony culture characteristics. Overall, 16 different fungal species were isolated and identified based on the macroscopic morphological characteristics. Three species were identified as the most abundant species in both vegetation types in both locations. Four species were common to both *Pinus* plantation and adjacent native vegetation. Three species were exclusively identified in the first *Pinus* plantation and two species in the second *Pinus* plantation. The first adjacent native vegetation recorded two species and five species were observed in the second adjacent vegetation. The measured pH values in two vegetation types were acidic which favor a fungal decomposer community. Similarly, soil temperature of both vegetation types ranged between 22°-25°C exerting a positive impact on fungal inhabitation on ground litter. Overall, a considerable diversity of fungal species was observed during the study.

Keywords: Belihuloya, Fungi, Litter Decomposition, Native Vegetation, *Pinus caribaea*