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### Studies on biodiversity of phylloplane and endophytic fungi from different aged leaves of mangrove plant, *Avicennia officinalis*

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**Abstract :** Assortment of phylloplane and endophytic fungi is used to consider as one of the rich source of innovative compounds of biological activities and have a high level of structural diversity on the leaf surfaces. Bioactive composites produced by these phylloplane and endophytes have shown promising potentiality towards good health for human beings, for which, it is necessary to recognize and manipulate this important microbial resource and make it more beneficial for the welfare of mankind. In the present study, isolation and enumeration of ectophytic (phylloplane) and endophytic fungal species was carried out from one mangrove plant, *Avicennia officinalis* with the host relationship based on two methodologies, agar plate and moist chamber. Altogether, 27 phylloplane and endophytic fungal species of 18 genera were isolated from the mangrove plant. Among the phylloplane and endophytic fungal population, *Absidia spinosa*, *Aspergillus niger*, *A. flavus*, *Alternaria alternata*, *Curvularialunata*, *Drechslera*, *Chaetomium*, *Helminthosporium* sp., *Humicola* sp., *Phoma* sp., *Fusarium oxysporum*, *Neurospora* sp., *Penicillium* sp., *Penicillium digitatum*, *Penicillium oxalicum*, *Rhizopus stolonifer*, *Ulocladium* sp., white sterile mycelia were the most dominant fungal species in both agar plate and moist chamber methods. Fungi isolated from both the surface and sub-surface of the leaf samples was more or less similar to each other. The host relative favorite and tissue description indication was found between the phylloplane and endophytes based on the fungal community distribution and composition and thus the fungi isolated are dependent on the used methodologies.

**Key words :** Phylloplane and Endophytic fungi, Biodiversity, Mangrove plant, Ectophytic, *Avicennia officinalis*.

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