



Fungal Decomposition of Tree Leaf Litters in Tropical and Sub-Tropical Forests of Mizoram, Northeast India: A Laboratory Microcosm Experiment

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Abstract: The decomposing ability of two fungal groups was studied on two dominant tree leaf litters from tropical and sub-tropical forests of Mizoram in relation to total fungi under laboratory condition. Litters were sterilized and inoculated with 5 major fungi isolated from forest litter in relation to a control on 4 litter types from two forests. Out of ten fungi isolated, eight belongs to ascomycota and two zygomycota. Decomposing ability of the major filamentous fungi was evaluated at early (35 day, 5 weeks) and later stage (70 days, 10 weeks) of litter inoculation. Percent mass lost were significantly higher at early stage (10-51% after 5 weeks) than late stage (16-85% after 10 weeks) of decomposition. Corresponding values of lignin mass lost were 73-90 and 76-96, respectively at two stages. Inoculation of total and major fungi in two forest litters induced mass loss differently with a greater mass loss occurred in tropical forest litter. This study indicates considerable role of 5 major fungi in litter decomposition which will have profound effect on soil fertility management in tropical forests.

Keywords: Decomposing ability, Major fungi, Ascomycota, Lignin, Zycomycota
