

**IDENTIFICATION AND CHARACTERIZATION OF MACRO
FUNGI IN EASTERN UNIVERSITY PREMISES**



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ABSTRACT

An investigation examined the macro fungi population diversity together with their morphology and ecological function distributed in the Eastern University grounds of Sri Lanka. The metabolic processes of ecosystems depend heavily on macro fungi due to their fruiting bodies which function as decomposers and symbionts and bio-indicating agents. The fungal diversity throughout Sri Lanka shows minimal understanding which is especially true for the Eastern Province region. Researchers collected 43 macro fungal specimens throughout different natural areas that encompassed forests together with grasslands as well as dead organic materials. Photographic records of the fungi included top, side and ventral perspectives while morphological assessments concentrated on cap, stipe, veil & stalk morphology. Technology used for identification included the observation of fungal spores under the microscope to analyze their morphology and hyphal traits. The collected wet specimens underwent preservation in 10% formalin for future reference while the dried samples were sent for DNA barcoding to identify their taxonomic classification through ITS region sequencing. Regular surveys recorded 41 fungal species that belonged to 28 genera and 17 families throughout the university premises. The research revealed three major fungal groups, *Pycnoporus sanguineus* and *Schizophyllum commune* as saprotrophs and *Laccaria laccata* as a mycorrhizal species as well as *Marasmius spp* decomposers. Additionally *Galerina marginata* was recorded as toxic requiring proper identification. Researchers highlighted the environmental functions of these fungi as they participate in nutrient processes and biological decomposition and also form beneficial relationships with other organisms. This study adds value to the Sri Lankan fungal biodiversity project by demonstrating why protection of these organisms should be a priority particularly during ecological degradation. The prepared specimen collection functions as an important educational resource that enables future research on macro fungal ecology and economic potential.

Keywords: Biodiversity, DNA sequencing, Ecological roles, Macro fungi, Morphological features.

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