ISOLATION AND IDENTIFICATION OF EPIPHYTIC FUNGI FROM FRUIT SURFACE OF SELECTED MAJOR AGRICULTURAL CROPS IN SRI LANKA

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Epiphytic fungi colonize the external surfaces of fruits and vegetables without penetrating internal tissues and play significant roles in agricultural systems. Despite the economic importance of crops such as mango, coffee and brinjal in Sri Lanka, their epiphytic fungi remain undocumented under local agro-climatic conditions. This study aimed to isolate and identify epiphytic fungi from the fruit surfaces of mango (*Mangifera indica* 'Dampara'), coffee (*Coffea arabica* 'Catimor' and *Coffea canephora* 'Robusta') and brinjal (*Solanum melongena* 'HORDI Lenairi'). Samples (triplicate per variety) were collected between January and April 2026 from 3 cultivation locations at Horticultural Crop Research and Development Institute (HORDI), Gannoruwa, Sri Lanka. Isolation was carried out using surface washing and serial dilution plating on potato dextrose agar (PDA) and identification was based on macroscopic and microscopic morphology. A total of 64 isolates were recovered: 40 from coffee, 15 from mango and 9 from brinjal. Morphological characterization enabled the identification of 40 isolates (62.5%) to the genus level, representing 12 fungal genera: *Fusarium, Neocosmospora, Talaromyces, Cladosporium, Aspergillus, Mucor, Rhizoctonia, Alternaria, Curvularia, Penicillium, Sclerotinia* and *Pythium.* Coffee berries exhibited the highest overall fungal diversity, with 8 fungal genera identified, while coffee 'Catimor' and mango fruits recorded the highest numbers of isolates (n = 13 each). *Neocosmospora* (14.1%), *Fusarium* (12.5%) and *Talaromyces* (10.9%) were the most frequent fruit epiphytic genera recorded during the study. *Fusarium* predominated on mango (40.0% of isolates), whereas *Neocosmospora* was dominant on brinjal (44.4%). The detection of the genera *Aspergillus* and *Sclerotinia* members, carries food safety and disease management relevance. This study provides the first documented foundation of epiphytic fungi from selected crops in Sri Lanka, contributing valuable baseline information to an underexplored area of research. Further studies employing molecular identification and functional analyses are required to achieve species-level resolution and clarify the ecological roles of these fungi.

Keywords: brinjal, carposphere, coffee, fructoplane, mango, morphological characterization.