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ISOLATION AND IDENTIFICATION OF FUNGAL ENDOPHYTES FROM COCONUT (*Cocos nucifera* L. cv. 'Tagnanan Tall')

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ABSTRACT – The coconut (*Cocos nucifera* L.) is cultivated for versatile natural products, industrial, nutritional and medicinal uses. Many factors affecting coconut propagation have been studied to sustain its high demand. Endophytes are microorganisms that live in symbiotic relationship with plants. In this study, fungal endophytes that grew out of the plumule explants of tissue cultured *C. nucifera* L. cv. 'Tagnanan Tall' were isolated, characterized and identified. Isolates were characterized and grouped based on colony morphology and microscopic features. Molecular identification was conducted based on sequences of rDNA internal transcribed spacers (ITS1 and ITS4). In total, five fungal isolates named as coconut fungal endophytes (CFE) and coded as CFE-A to CFE-E were obtained. Isolate CFE-B (GenBank Accession No. MT534041) was identified up to species level as *Trametes hirsuta* based on its rDNA ITS sequences. Isolates CFE-A, CFE-C and CFE-D were grouped into the same genus as *Penicillium* sp., whereas isolate CFE-E was identified as *Aspergillus* sp. based on their morphologies. The fungal endophytes identified in this study may have potential biological control activity. Future research on determination the bioactivities of endophytes reported in this study may enable the discovery of novel bio-products.

Keywords: coconut endophytes, endophyte, fungal characterization, fungal classification, internal transcribed sequence analysis

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