ISOLATION AND MORPHOLOGICAL IDENTIFICATION BY CHARACTERISTICS OF ENDOPHYTIC FUNGAL FROM *Melastoma malabathricum* AND *Clidemia hirta* AT UiTM NEGERI SEMBILAN FOREST

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This Final Year Project Report entitled **"Isolation and Morphological Identification of Endophytic Fungi from *Melastoma malabathricum* and *Clidemia hirta* at UiTM Negeri Sembilan Forest"** was submitted by Nor Athira Izza binti Paridul, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Biology, in the Faculty of Applied Sciences, and was approved by

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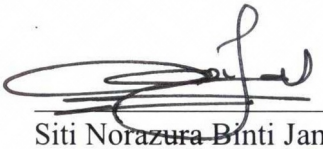

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ABSTRACT

ISOLATION AND MORPHOLOGICAL IDENTIFICATION OF ENDOPHYTIC FUNGAL FROM *Melastoma malabathriucm* AND *Clidemia hirta* AT UiTM NEGERI SEMBILAN FOREST

Endophytic fungi are universal fungi that enduring asymptomatically in internal tissues of a higher plant parts without causing apparent symptoms of infection and as promising sources of biologically active agents. The present of research was conducted to isolate the endophytic fungi from leaves, stems and roots of *Melastoma malabathricum* and *Clidemia hirta* at UiTM Negeri Sembilan Forest. Two isolates endophytic fungi (leaves/stem/roots) were successfully isolated and identified by morphological characteristics. Samples were surface sterilized and sub-cultures to obtain a pure culture. The characteristics of isolates such as types of septate, spore or conidia, and colony appearance were studied to explore their morphology. Microscopic analysis showed two isolates consist of non-septate hyphae and sporangiospore. The pigmentation result showed that colony in MMF5 root samples demonstrated a white color on potato dextrose agar (PDA) media, colony in MMF22 leaf determined a white texture with greenish to yellowish at the half of core on potato dextrose agar (PDA) media while powdery colonies of MMF13 stem samples showed a black-greyish to white color on potato dextrose PDA media. The colony in CHF5 root samples identified as black to greyish in the margin area, CHF22 leaf samples demonstrated a white in color and matured into cotton candy like texture. CHF13 stem samples also described black-greyish to a white color on potato dextrose agar (PDA) media. The morphology of endophytic fungi revealed that six isolate belonged to *Zygomycota* phylum such as MMF5, MMF22, MMF13 and CHF5, CHF22, CHF13. Overall, endophytic fungi have lots of potential and benefits that require more specific scientific research explorations.