

UNIVERSITI TEKNOLOGI MARA (UiTM)

**STUDY OF THE MORPHOLOGY AND PRESERVATION
OF FILAMENTOUS FUNGI**

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Dissertation submitted in partial fulfillment
of the requirements for the degree of

Bachelor of Pharmacy (Hons.)

Faculty of Pharmacy

2016

ACKNOWLEDGEMENT

Alhamdulillah, thank you Allah for all the help by giving me strength to complete my final year project along with this thesis that I had been working for this one year. I would like to express my sincere gratitude to Dr. Sadia Sultan for letting me a chance to conduct my final year project under her supervision and also for her guidance, knowledge, advice, comments, efforts and time for me.

My special thanks to postgraduate student, Fatimah Bebe Bt Mohamed Hussain for all the helps that have been given throughout this one year. Along with that, I would like to thank AuRIn's staffs, especially Mr. Azhar, Mdm. Juliana, and other postgraduate students for their cooperation during my research and my laboratory work.

Lastly, thank you very much to my beloved family and friends for helping, supporting, understanding and always motivate me directly or indirectly to survive all the stress while conducting my research project which somehow giving me some strength, ideas and knowledge to complete this research successfully.

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ABSTRACT

Twenty filamentous fungi which are TH1L34, TH1L44, TH1L52, TH1P35, TH1P38, TH1P47, TH1R43, TH1S41, TH1S49, TH2L2, TH2L5, TH2L19, TH2S8, TH2S11, TH2S13, TH2S17, TH2S20, TH3L31, TH3S21, TH3S24 were cultured into potato dextrose agar (PDA) as media. In this study, all the fungi have a culture in standardized condition and proceed the studies of the morphological examination and preservation of fungi in slant agar. The fungi growth rate, production of spore, color and other characteristic features were observed during morphological examination. The observation was done in the 1 week and 2 weeks after the culturing process. The morphological and ecological characteristics of fungi were observed and analyzed using a microscope. All the fungal taxonomy were studies based on natural relationships for the arbuscular mycorrhizal and related fungi. In terms of preservation, the fungi were preserved in a slant agar in order to maintain the physiological, morphological and genetic integrity of the fungi.

CHAPTER 1: INTRODUCTION

1.1 General Introduction

Most fungi are saprophytes, which it feeds on dead or decaying material. This characteristic of the fungi helps in removing leaf litter and other debris that would otherwise accumulate on the ground. Many fungi are parasitic, by which it feeds on living organisms without killing them. Ergot, Corn smut, Dutch elm disease, and ringworm are all diseases that may caused by the parasitic fungi. Fungi have a very large surface area compared to its volume, making the diffusion of nutrients in the surroundings to the hyphae easier. Related to that, it also made the fungi susceptible to dehydration and ion imbalance. Since fungi are growing within moist substrate, this is usually not a problem.

1.1.1 Introduction to Fungi

Fungi are more related to animals as compared to plants. Studies and research conducted by mycologists in the early days suggested that fungi are the members of the plant kingdom, new knowledge has been discovered that suggests fungi share the evolution linkage with animals. This new knowledge, which will be addressed in the text to follow includes structural cellular features, particularly the structure of cell walls and cytoplasmic organelles; the chemical structure of hyphal walls, mitochondrial and nuclear DNA and ribosomal RNA; and nutritional and metabolic features, particularly metabolic pathways (Burnett, 1987). (Melnikova, Nazzaruolo, & Xie, 1997).