OCCURRENCE OF *ENDOGONACEOUS* SPORES IN SOIL SAMPLES FROM SELECTED VEGETATIONS IN TERENGGANU

TAI YI AI

DEPARTMENT OF BIOLOGICAL SCIENCE
FACULTY OF SCIENCE AND TECHNOLOGY
UNIVERSITI PUTRA MALAYSIA TERENGGANU
TERENGGANU

1999/2000

OCCURRENCE OF *ENDOGONACEOUS* SPORES IN SOIL SAMPLES FROM SELECTED VEGETATIONS IN TERENGGANU

BY

TAI YI AI

This project report is submitted in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Biology

DEPARTMENT OF BIOLOGICAL SCIENCE
FACULTY OF SCIENCE AND TECHNOLOGY
COLLEGE UNIVERSITY TERENGGANU
UNIVERSITY PUTRA MALAYSIA

2000

BIOLOGICAL SCIENCE UNIT
FACULTY OF SCIENCE AND TECHNOLOGY
UNIVERSITY PUTRA MALAYSIA TERENGGANU

PROJECT REPORT CERTIFICATION AND PASS

Name	:	**TAI YI AI**
Matric number	:	**UK 875**
Supervisor	:	**CIK JAMILAH MOHD. SALIM**
Project Title	:	**OCCURRENCE OF *ENDOGONACEOUS* SPORES IN SOIL SAMPLES FROM SELECTED VEGETATIONS IN TERENGGANU**

With this I verify that I have examined this project report and

i. **All corrections suggested by examiners have been done,**

ii. **This report follows the format given in BIO 4999 (Project) Biology Unit Guide, Faculty of Science and Technology, 1999/2000.**

(Cik Jamilah Mohd. Salim)
Project Supervisor,
Biology Unit, Faculty of Science and Technology
University Putra Malaysia Terengganu.

Date: 12/4/2000

Specially dedicated to my loved ones..... .....

.... *Dad, Mum and Sis*

.... *Godmum*

.... *my wonderful grandmother*

.... *and my best friend, Miss Wong Yee Ling*

ACKNOWLEDGEMENTS

First of all, I would like to extend my deepest appreciation and sincere gratitude to my supervisor, **Cik Jamilah Mohd. Salim**, for her patience, thoughts, guidance, care, knowledge, advice, help and precious time in helping me to complete my project. **Thank you, Cik Jamilah!** I would also like to take this opportunity to wish her all the best in pursuing her goals.

Special thanks to the respective officers from Forestry Department of Terengganu. I would also like to extend my heartiest gratitude to the respected lecturers who have helped me indirectly. And not forgetting the lab assistants who tried their best to fulfill my needs. Thanks a lot!

My deepest appreciation also reaches out to close friends who have encouraged me and helped me when I am in need. They are Chin Yee Wan, Ong Tan Choong, Teoh Miang Joo, Tan Ai Kim, Ooi Bee Khoon and of course my circle of friends and fellow workmates. All the best in achieving your goals in life!

Last but not least, I am glad to have a wonderful family. Thanks to mom, dad and sister for their ever support, advice and care throughout my period of studies here. I would also like to thank Yee Ling for her ever-supportive encouragement. Thank you all very much!

Finally, thank you once again! I would never forget the kindness and all the help given to me. ALL THE BEST TO YOU ALL!

ABSTRACT

To date, there are only a number of mycorrhizal researches done in the tropics. Furthermore, mycorrhizal fungi play important roles in natural ecosystems and agriculture. It was found that mycorrhizal fungi could enhance phosphorus and increase the mineral nutrient uptake of their host plant. A survey was done to determine the occurrence of *Endogonaceous* spores in selected soil samples in Terengganu. Results were positive. Spores of VAM fungi were found in the soil samples examined. There were four different types of spores found. Categorization of these spores was based on morphological characteristic, which is its shape and colour. All the spore types had a globose shape but were different in colour. Merang scored the highest total number of spores for all spore types. While, spore type C was found to occur infrequently. Spores obtained had sizes ranging from 106 to 212 μm.

ABSTRAK

Sehingga kini, hanya terdapat sebilangan kecil kajian yang dilakukan ke atas mikoriza di kawasan tropika. Lebih-lebih lagi, mikoriza dikatakan memainkan peranan yang penting di dalam ekosistem semulajadi and agrikultur. Didapati juga bahawa fungi mikoriza dapat merangsangkan penyerapan fosforus and meningkatkan pengambilan nutrien mineral tumbuhan perumah. Satu peninjauan telah dijalankan untuk memastikan kehadiran spora *Endogonaceae* di dalam sampel tanah yang dikutip di Terengganu. Keputusan kajian adalah positif. Spora MVA didapati di dalam sampel tanah yang dikaji. Terdapat empat jenis spora yang diperolehi. Pembahagian spora-spora tersebut berdasarkan ciri-ciri morfologi, iaitu rupabentuk dan warna. Kesemua jenis spora tersebut berbentuk globus tetapi mempunyai warna yang berbeza. Merang mencatat jumlah bilangan spora yang tertinggi bagi keempat-empat jenis spora tersebut. Manakala, spora jenis C hanya muncul sekali-sekala di dalam sampel tanah. Spora yang diperolehi mempunyai julat saiz di antara 106 dan 212 μm.