## BIODIVERSITY OF SAPROBIC AND PATHOGENIC FUNGI ON SELECTED PANDANUS AND DRACAENA LOURIERI

#### SUTHEERA THONGKANTHA

A THESIS SUBMITTED TO THE GRADUATE SCHOOL IN
PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY
IN BIOLOGY

THE GRADUATE SCHOOL

CHIANG MAI UNIVERSITY

OCTOBER 2006

ISBN 974-9895-72-X

### BIODIVERSITY OF SAPROBIC AND PATHOGENIC FUNGI ON SELECTED PANDANUS AND DRACAENA LOURIERI

#### SUTHEERA THONGKANTHA

# THIS THESIS HAS BEEN APPROVED TO BE A PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN BIOLOGY

EXAMINING COMMITTEE	
Saisamon Cumyong	CHAIRPERSON
Assoc. Prof. Dr. Saisamorn Lumyong	
Shoult our	.MEMBER
Prof. Dr. E.B. Gareth Jones	
Dell	.MEMBER
Prof. Dr. Kevin D. Hyde	
P. Chan tara mong tol	.MEMBER
Assoc. Prof. Dr. Porntip Chantaramongkol	
Coover a Ruh Wy	.MEMBER
Lect. Dr. Rungrach Wangspa	

4 October 2006

© Copyright by Chiang Mai University

#### **ACKNOWLEDGEMENTS**

I am extremely grateful to Assoc. Prof. Dr. Saisamorn Lumyong for her excellent supervision, invaluable discussion and concern. I would like to thank the following for their help in making this work possible: Prof. Dr. Kevin D. Hyde and Dr. Eric H.C. McKenzie for their encouragement, invaluable help and suggestions on this study, their expertise to provide taxonomic guidance and untiring co-supervision; Lecturer Pipob Lumyong for encouragement and his valuable comments. I also thank Prof. Dr. E.B. Gareth Jones, Dr. Porntip Chantaramongkol and Dr. Rungrach Wangspa for advice in some data analysis and critical comments.

I wish to acknowledge the partial financial support from the Graduate School of Chiang Mai University and the Conservation and Utilization of Biodiversity Resources Program of Faculty of Science. The Department of Ecology & Biodiversity, The University of Hong Kong (HKU), is thanked for providing facilities to enable the molecular work which was funded by Hong Kong Research Grants Council no. HKU 7230/02M. BIOTEC Culture Collection (BCC, Thailand), Centraalbureau voor Schimmelcutures (CBS, Netherlands), and Hong Kong Culture Collection (HKUCC, Hong Kong) are thanks for provided some fungal cultures. Laboratory of Plant Pathology, Faculty of Agriculture, Chiang Mai University is thanked for laboratory facilities. All colleagues in each laboratory are also thanked for their friendships, and making me has nice experiences.

My special thanks to the following people: Dr. Welcome Ho for his kindness on training of correspondence analysis using the JMP statistics and graphics program; Justin Bahl, Rajesh Jeewon and Vijaykrishna Dhanasekaran for their advice on molecular work at the University of Hong Kong SAR. Helen and co-worker for their culture service and special kindness help. J.F. Maxwell who kindly gave advice on *Pandanus* identification and provided some literature.

Boonsom Bussaban, Rampai Kodsueb, Weerapol Pilabrutra, Itthayakorn Promputtha, Khochakorn Lapmak, Nareeluk Nakaew, Calvin, Alvin, Sumalee Mensin, and other friends in Agriculture and Biology laboratories, Chiang Mai

University, are thanked for encouragement, kindness mind, special friendship and for all their help. Nittaya Boontim also thanked for her good advice.

Finally, much appreciation is specially expressed to my family and Sulichet Thongklam and his family who provided their love, encouragement, helps with collecting samples, and financial support throughout my study. This thesis I am dedicating to my whole family whom I love most.

Sutheera Thongkantha

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่ Copyright<sup>©</sup> by Chiang Mai University All rights reserved