PTERIDOPHYTES AS BIOINDICATORS OF FOREST CONDITIONS AT MAE KAMPONG VILLAGE MAE ON BRANCH DISTRICT CHIANG MAI PROVINCE

LITA MINGUITO BAÑOC

A THESIS SUBMITTED TO THE GRADUATE SCHOOL
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF MASTER OF SCIENCE
IN ENVIRONMENTAL RISK ASSESSMENT
FOR TROPICAL ECOSYSTEMS

MARCH 1997

GRADUATE SCHOOL
CHIANG MAI UNIVERSITY

PTERIDOPHYTES AS BIOINDICATORS OF FOREST CONDITIONS AT MAE KAMPONG VILLAGE MAE ON BRANCH DISTRICT CHIANG MAI PROVINCE

LITA MINGUITO BAÑOC

THIS THESIS HAS BEEN APPROVED TO BE A PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN ENVIRONMENTAL RISK ASSESSMENT FOR TROPICAL ECOSYSTEMS

EXAMINING COMMITTEE:
H- Marell
MR. JAMES E, MAXWELL
J. Hall
DR. STEPHEN D. ELLIOTT
Con Viair Anubulane Mai Univer
ASSOC. PROF. DR. VILAIWAN ANUSARNSUNTHORN

27 MARCH 1997 COPYRIGHT OF THE GRADUATE SCHOOL, CHIANG MAI UNIVERSITY

ACKNOWLEDGMENTS

"If you have the will, you have the way", is the motto that I followed when doing this research. Regardless of my inexperience in taxonomic and ecological skills, I put myself forward, believing that everything is possible. However, this work would not be what it is now without the many people who unselfishly shared their knowledge and effort until I was able to complete this thesis.

First and foremost, I want to express my heartfelt gratitude to Mr. James F. Maxwell, my supervisor, who is a well known plant taxonomist, for his brilliant supervision since from the very start and until the completion of this thesis and for sharing with me his unsurpassed taxonomic knowledge as well as for directing my young mind into the realm of Pteridophytes. Likewise, I am equally indebted to Dr. Steve Elliott, my Ecology class lecturer and member of my advisory committee for his very interesting, informative, and useful lectures which greatly helped me in the interpretation of my results. His suggestions and comments especially in the ecological part of this research were also valuable. I am also very grateful to Assoc. Prof. Dr. Vilaiwan Anusamsunthorn, the head of the CMU Herbarium at the Department of Biology, the other member of my advisory committee, for her valuable suggestions in the improvement of this work, as well as for her strong administrative support, without which it was impossible for me to resolve the many, often trivial administrative problems that I encountered since I started this research.

I am also grateful for the constructive comments as well as for the encouragement given by Prof. Alois Schaefer and Assoc. Prof. Dr. Arayar Jatisatienr.

Likewise, I am indebted to the Department of Technical and Economic Cooperation (DTEC) in Thailand through Chiang Mai University for giving the financial support throughout my studies in the ERA Program at CMU.

Also, Many Thanks To The Following People:

Monyrak (Kampuchea), Kafle (Nepal), Kuya Nilo and Nannette (Philippines), and Manasa (Thailand), my active and jolly classmates, for their help in the setting up of my transect lines as well as in my field work activities. Manu, my Thai friend, who is also taking his M. Sc. in Plant Taxonomy, for his photographic expertise and for his eveready transport facility. Also to Mr. Bao, a Vietnamese first year ERA student for his company on some of my sampling trips.

The drivers at the Faculty of Science, especially Khun Anupap and Khun Manop for their safe transport and for being patient with me even if I sometimes stole their time.

Mr. Nuan Puangyoygayo, former headman of Mae Kampong Village, and his wife for their hospitality during our stays in the village.

The Herbarium staff namely: Pranee, Gruek, Siriporn (resigned), Simon, Pinda, and Potipong for their help, friendship, encouragement, and cooperation throughout my stay in the Herbarium.

The Parasitology Laboratory staff, especially Phi Tano, for letting me use the photomicrograph. Also the technicians at the Biology Department, especially Khun Suthat, for their sweet smiles and encouragement. Phi Sakorn is likewise thanked for his help and friendship.

My life in Thailand would be very lonely without the company of my funloving, on-the-go classmates namely: Kuya Nilo and Nannette (Philippines), Monyrak (Kampuchea), Kafle (Nepal), Ahn (Vietnam), Manasa and Siriporn (Thailand), Gurugi (Sri Lanka), and Lou and Mrs. Wang (China) who shared with me their different cultures and attitudes, thus broadening my perspectives in life. Likewise, Kitiya, my Thai friend is thanked for her company and for trusting me as her "confidente" even at the early stage of our friendship.

To the 5th batch (1996) ERA students namely: Boying (Philippines), Susanti and Mulyono (Indonesia), Quynh (Vietnam) and the rests for their friendship and encouragement.

Phi Sai Jai, the wife of my supervisor, Steve Paglia and William Galloway for their friendship and care, thus making my life in Chiang Mai colorful and memorable.

To the Filipino families in Chiang Mai: Marina and family, Ate Vicky and family, Ate Lucy and family, Ate Linda and family, Ate Diana and family and many more for their hospitality, friendship, and for providing me a home away from home and also for unconsciously showing the real Filipino attitudes, thus always adding a salt to my life in Chiang Mai.

To Glenn, my best and special friend, for his constant love, trust, help, patience, understanding, and encouragement in which without these all, I would not be able to carry on until the last day of my M. Sc. work in Thailand.

To my loving parents, Tatay Marting and Nanay Aiding, sisters, brothers, nephews, niece, brothers in law and relatives for their love, prayers, moral support, encouragement, and for molding me into what I am now.

The last, but not the least, to the Father Almighty, for His unending love, light, guidance, for being my refuge in times of weariness and uncertainties and for being so generous with me all the times in my life. Father, to You I offer my life and my academic career.

LITA M. BAÑOC ERA Batch 1995 March 1997

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่ Copyright[©] by Chiang Mai University All rights reserved