

**BEHAVIORAL ECOLOGY OF THE GIANT NUTHATCH
(*Sitta magna*) IN CHIANG DAO WILDLIFE SANCTUARY**

KRIT CHAROENTHONG

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

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

Copyright© by Chiang Mai University

All rights reserved

**GRADUATE SCHOOL
CHIANG MAI UNIVERSITY**

JANUARY 2010

**BEHAVIORAL ECOLOGY OF THE GIANT NUTHATCH
(*Sitta magna*) IN CHIANG DAO WILDLIFE SANCTUARY**

KRIT CHAROENTHONG

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

EXAMINING COMMITTEE

Kamolchai A......CHAIRPERSON

Dr. Kamolchai Kotcha

Narit Sitasuwan.....MEMBER

Assoc.Prof. Dr. Narit Sitasuwan

A. Jatisienr.....MEMBER

Assoc.Prof. Dr. Araya Jatisienr

Prasit W......MEMBER

Asst.Prof.Dr. Prasit Wangpakapattanawong

Kanokporn Saenphet.....MEMBER

Asst.Prof.Dr. Kanokporn Saenphet

27 January 2010

© Copyright by Chiang Mai University

ACKNOWLEDGMENT

I wish to express my sincere appreciation to my supervisor Assoc. Prof. Dr. Narit Sitasuwan for his constant encouragement and support throughout my Ph. D. study. I would like to thank Assoc. Prof. Dr. Araya Jatisatienr, Asst. Prof. Dr. Prasit Wangpakapattanawong , Asst. Prof. Dr. Kanokporn Saenphet and Dr. Kamolchai Kotcha for their kind supervision, discussions and support to complete this thesis.

I truly thank Dr. Stephen Elliott, for his reviewing the manuscript and offering many helpful suggestions.

I am very grateful to Mr. Prapad Doungvirod for his help collecting data in field. Special thanks to Miss. Rung-Aron Liewviriyakit, Miss Chadrada Wongsatan and everybody else in Chiang Dao Wildlife Sanctuary.

I would like to express my gratitude to the Department of National Park Wildlife and Plants Protection for scholarship of Ph.D. Program.

Finally I thank to my parents for love and support, they have given me throughout my study at Chiang Mai University.

Krit Charoenthong