


ขนาดประชากร โครงสร้างประชากร และการใช้พื้นที่ของงูโคร่ง *Bufo asper* Gravenhorst, 1829
ในถ้ำธารลอดน้อย จังหวัดกาญจนบุรี



นางสาวทัศนีย์ เอี่ยมมกมล

ศูนย์วิทยทรัพยากร

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาวิทยาศาสตรมหาบัณฑิต
สาขาวิชาสัตววิทยา ภาควิชาชีววิทยา

คณะวิทยาศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย

ปีการศึกษา 2545


ISBN 974-17-2189-7

ลิขสิทธิ์ของจุฬาลงกรณ์มหาวิทยาลัย

I21048381

POPULATION SIZE, POPULATION STRUCTURE AND HABITAT UTILIZATION OF
Bufo asper Gravenhorst, 1829 IN TARN LORD NOI CAVE, KANCHANABURI PROVINCE

Miss Tassanee Eamkamon



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จุฬาลงกรณ์มหาวิทยาลัย

A Thesis Submitted in Partial Fulfillment of the Requirements
for the Degree of Master of Science in Zoology

Department of Biology
Faculty of Science
Chulalongkorn University
Academic Year 2002
ISBN 974-17-2189-7

Thesis Title Population Size, Population Structure and Habitat Utilization of
Bufo asper Gravenhorst, 1829 in Tarn Lord Noi Cave,
Kanchanaburi Province

By Miss Tassanee Eamkamon

Department Biology

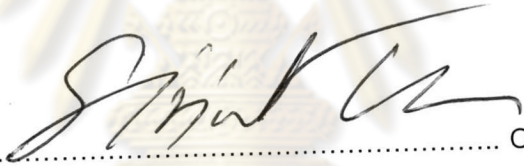
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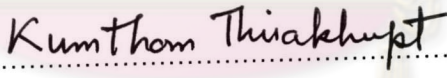
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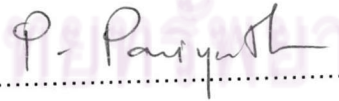
Accepted by the Faculty of Science, Chulalongkorn University in Partial
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ทัศน์ีย์ เอี่ยมมกมล: ขนาดประชากร โครงสร้างประชากร และการใช้พื้นที่ของจงโคร่ง *Bufo asper* Gravenhorst, 1829 ในถ้ำธารลอดน้อย จังหวัดกาญจนบุรี (POPULATION SIZE, POPULATION STRUCTURE AND HABITAT UTILIZATION OF *Bufo asper* Gravenhorst, 1829 IN TARN LORD NOI CAVE, KANCHANABURI PROVINCE) อาจารย์ที่ปรึกษา: ผศ. ดร. กำธร ชีรคุปต์, อาจารย์ที่ปรึกษาร่วม: ผศ. ผุสดี ปรียานนท์; 112 หน้า ISBN 974-17-2189-7

การสำรวจและติดตามประชากรของจงโคร่ง *Bufo asper* ที่อาศัยอยู่ในถ้ำธารลอดน้อย จังหวัดกาญจนบุรีได้กระทำติดต่อกันทุกเดือน เดือนละ 15 ครั้ง ตั้งแต่เดือนกรกฎาคม 2544 ถึงเดือนมิถุนายน 2545 เพื่อศึกษาขนาดประชากร โครงสร้างประชากร และการใช้พื้นที่ โดยจงโคร่งทุกตัวที่พบถูกทำเครื่องหมายโดยการตัดนิ้ว ข้อมูลที่บันทึกประกอบด้วยเพศ วัย น้ำหนัก ความยาวจากปลายจมูกถึงช่องเปิดทวาร พฤติกรรมการสืบพันธุ์ และตำแหน่งของจงโคร่งแต่ละตัวที่พบ หลังจากนั้นปล่อยจงโคร่งยังบริเวณที่จับได้ การคำนวณขนาดประชากรด้วย Jolly-Seber model of population estimation พบว่า ขนาดประชากรแปรผันอยู่ในช่วง 71.9 ± 7.9 ถึง 91.9 ± 8.5 ตัว โดยตัวผู้มีจำนวนมากกว่าตัวเมียและตัวที่ยังไม่ถึงวัยสืบพันธุ์ในทุกครั้งของการสำรวจ ยกเว้นในช่วงฤดูสืบพันธุ์ในเดือนพฤษภาคม 2545 ซึ่งตัวเมียมีจำนวนมากกว่าตัวผู้ และสัดส่วนระหว่างเพศในเดือนนั้นเป็น 1:1.27 ส่วนในช่วงเดือนอื่นๆ สัดส่วนระหว่างเพศแปรผันอยู่ในช่วง 1: 0.22 ถึง 1: 0.75 ความยาวจากปลายจมูกถึงช่องเปิดทวารของจงโคร่งตัวผู้ ตัวเมีย และตัวที่ยังไม่ถึงวัยสืบพันธุ์ที่พบมากอยู่ระหว่าง 90 ถึง 110 มม., 110 ถึง 140 มม. และ 30 ถึง 90 มม. ตามลำดับ ขนาดประชากรของตัวผู้และตัวเมียสัมพันธ์กับอุณหภูมิ โดยการเปลี่ยนแปลงของขนาดประชากรของตัวเมียแปรผันตามการเปลี่ยนแปลงของอุณหภูมิ ส่วนการเปลี่ยนแปลงของขนาดประชากรเพศผู้แปรผันกับการเปลี่ยนแปลงของอุณหภูมิ จงโคร่งส่วนมากแสดงการเคลื่อนที่ระหว่างภายในและภายนอกถ้ำทั้งในช่วงเวลาและนอกช่วงเวลาของการสืบพันธุ์ นอกจากนี้จงโคร่งส่วนใหญ่แสดงพฤติกรรมการใช้ที่ประจำ (Chi-square: $P < 0.05$) โดยไม่พบความแตกต่างในการใช้พื้นที่ระหว่างจงโคร่งตัวผู้และตัวเมีย และระหว่างตัวผู้ที่มีขนาดแตกต่างกันทั้งในและนอกช่วงเวลาของการสืบพันธุ์ การสืบพันธุ์และการอยู่รอด คาดว่ามีบทบาทสำคัญต่อการเปลี่ยนแปลงของขนาดประชากรและการใช้พื้นที่ จากการศึกษาช่วงเวลาในการสืบพันธุ์ตั้งแต่เดือนมีนาคม 2544 ถึงกรกฎาคม 2545 ซึ่งให้เห็นว่าช่วงเวลาในการสืบพันธุ์ของจงโคร่งอยู่ในช่วงฤดูฝนและมีระยะเวลาประมาณ 5 เดือน ซึ่งช่วงเวลาในการสืบพันธุ์มีความใกล้เคียงกันทั้ง 2 ปี คือตั้งแต่เดือนเมษายนถึงเดือนสิงหาคม 2544 และตั้งแต่เดือนมีนาคมถึงเดือนกรกฎาคม 2545 ผลจากการศึกษาเรื่องประชากร การใช้พื้นที่ และช่วงเวลาในการสืบพันธุ์แสดงให้เห็นถึงความสำคัญของถ้ำธารลอดน้อยในการเป็นแหล่งสืบพันธุ์ของประชากรนี้

จุฬาลงกรณ์มหาวิทยาลัย

ภาควิชา.....ชีววิทยา.....
สาขาวิชา.....สัตววิทยา.....
ปีการศึกษา.....2545.....

ลายมือชื่อนิสิต.....ทัศน์ีย์ เอี่ยมมกมล.....
ลายมือชื่ออาจารย์ที่ปรึกษา.....กำธร ชีรคุปต์.....
ลายมือชื่ออาจารย์ที่ปรึกษาร่วม.....ผุสดี ปรียานนท์.....

4272288623: MAJOR ZOOLOGY

KEY WORD: POPULATION/ HABITAT USE/ BUFO ASPER

TASSANEE EAMKAMON: POPULATION SIZE, POPULATION STRUCTURE AND HABITAT UTILIZATION OF *Bufo asper* Gravenhorst, 1829 IN TARN LORD NOI CAVE, KANCHANABURI PROVINCE. THESIS ADVISOR: ASST PROF. KUMTHORN THIRAKHUPT, Ph.D., THESIS COADVISOR: ASST PROF. PUTSATEE PARIYANONTH, M.S. 112 pp. ISBN 974-17-2189-7

A total of 15 surveys were carried out monthly from July 2001 to June 2002 to investigate population size, population structure, and habitat utilization of Asian giant toad, *Bufo asper*, inhabiting Tarn Lord Noi Cave, Kanchanaburi Province. The toads that were found in any survey were captured and individually marked using toe-clipping method. Sex, age, weight, snout to vent length, breeding behavior, and location were recorded for all toads. After the toads had been examined, they were released at the point of capture. Using the Jolly-Seber model of population estimation, the estimated population size varied from 71.9 ± 7.9 to 91.9 ± 8.5 individuals. The male was dominant in number relative to the female and the young almost throughout the sampling period. However, the population size of the male was smaller than the population size of the female during the breeding time in May 2002 in which the sex ratio was 1:1.27. For the other sampling time, the sex ratio varied from 1: 0.22 to 1: 0.75. The size that was frequently found for the male, the female, and the young were between 90 to 110 mm, 110 to 140 mm, and 30 to 90 mm, respectively. Population sizes of the male and the female correlated with the temperature but the correlation was on the opposite way. The change of female population size coincided with the temperature but conversely related for the male. A large number of the toads showed movement between inside and outside of the cave for both breeding and non-breeding time. Most of the toads exhibited highly area fidelity behavior for both breeding and non-breeding time (Chi-square: $P < 0.05$). There was no significant difference in habitat utilization between sexes and between the male of different sizes for both breeding and non-breeding time. Reproduction and survival seemed to play the important role for the population change and habitat utilization of them. The obtained data during March 2001 to July 2002 suggested that the toad inhabiting Tarn Lord Noi Cave was not explosive breeder. They took about 5 months in rainy season for each breeding time. The breeding times were quite similar for 2 successive years that were during April to August 2001 and March to July 2002. The result from the study of population, habitat utilization and breeding time revealed that Tarn Lord Noi Cave was important as a breeding site for this population.

Department.....BIOLOGY.....

Field of study.....ZOOLOGY.....

Academic year.....2002.....

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Co-Advisor's signature.....*P. Puyath*.....

Acknowledgements

I wish to express my honest gratitude to my thesis advisor, Assistant Professor Dr. Kumthorn Thirakhupt, for his invaluable suggestions, vigorous encouragement, patience, care, and many useful things throughout my study. I am also grateful to my thesis co-advisor, Assistant Professor Putsatee Pariyanonth, for her invaluable guidance and suggestions.

I am grateful to Professor Dr. Siriwat Wongsiri, chairman of thesis committee for his costly advice. I would like to express my sincere grateful to Ajarn Dr. Art-ong Pradatsundarasar for his precious guidance and suggestions and I also would like to express my gratitude to Mr. Suthep Boonprakong for his attention as well as his advice as the member of thesis committee.

I am specially grateful to Associate Professor Dr. Somsak Panha and Dr. Robert F. Inger for his invaluable suggestion and encouragement. I would like to thank Professor Dr. Richard D. Howard, Professor Dr. Ross A. Alford, Mr. Olivier S. G. Pauwel, Mr. David S. Mcleod, and Mr. Lieong Tzi Ming for their precious advice and costly articles.

I am indebted to Ajarn Dr. Wichase Khonsue, Ajarn Noppadon Kitana, Ajarn Thongchai Ngarmprasertwong, Mr. Wachira Kitimasak, Mr. Komsorn Lauprasert, Ms Sansareeya Wangulangul, Ms Watcharaporn Kaewdee for their precious advices and encouragement in many ways.

I would like to express my sincere thanks to my guides, Mr. Samrong Sangkannok, my assistants, Ms Busba Khunniam, Ms Nittaya Khunniam, Ms Sirirat Chamsodsai, and everyone in Chaloe Rattana Kosin National Park for their conviviality, care, and helps during my study.

I would like to thank my friends and colleagues, who assist in the data collection in my study including Ms Anchalee Aowphol, Mr. Chirasak Sucharit, Ms Pongpun Prasankok, Mr. Prasobchoke Eamkamon, Mr. Chana Noituan. Special thanks for all members of the Thai Turtle Laboratory at Chulalongkorn University for their useful suggestions and assistance in many ways.

I would like to express my special thanks to my family for their love, understanding, and supports throughout my life.

I would like to thank Department of Biology, Faculty of Science, Chulalongkorn University.

This work was supported by the TRF/BIOTEC Special Program for Biodiversity Research and Training grant BRT T_344011.

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