ABUNDANCE AND DISTRIBUTION OF SMALL MAMMALS IN CHITWAN NATIONAL PARK, NEPAL

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Recommendations

This is to recommend that the thesis entitled **"Abundance and distribution of Small Mammals in Chitwan National Park, Nepal" has** been carried out by Mr. Dipendra Adhikari for the partial fulfillment of the requirements for the Degree of Master of Science in Zoology with special paper 'Ecology and Environment'. This is his original work and has been carried out under my supervision. To the best of my knowledge, this thesis work has not been submitted for any other degree in any institutions. I recommend that the thesis be accepted for the Degree of Master of Science in Zoology (Ecology and Environment), Tribhuvan University, Kirtipur, Kathmandu, Nepal.

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I hereby declare that the work presented in this thesis entitled **"Abundance and distribution of small mammals in Chitwan National Park, Nepal"** has been done by myself, and has not been submitted elsewhere for the award of any other degree. All the sources of the information have been specifically acknowledged by references to the author(s) or institution(s).

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ABSTRACT

It has been realized that the role of small mammals in maintaining ecological phenomenon is relatively higher though not much attention has been paid for the study of small mammals. Abundance and distribution pattern of small mammals (excluding bat) in riverine and sal forest of Chitwan National Park (CNP) during December 2011 and May of 2012 was studied. The main objective of this study was to assess the abundance and distribution of small mammals in CNP. Three different trapping methods (Elliot, Pitfall and Camera) as well as direct observation methods were used in 3 plots of riverine and sal forest habitat type. From a total survey effort of 1080 trap nights, 14 species of small mammals belonging to 3 orders and 6 families were recorded. The abundance of small mammals was found higher in riverine forest than in sal forest. Similarly, the distribution pattern was clumped in studied areas of CNP. The Shannon Weiner diversity index suggested high small mammal diversity i.e. 0.70. Kruskal Wallis test and Paired Sample Wilcox test was used to find the significant difference in trapping efficiency of different traps and occurrence of small mammals between two habitats respectively. There was no significant difference in the trapping efficiency of different three types of traps ($\chi 2=3.258$, df =2, $P>0.05$, $\alpha=0.05$). All the traps trapped more or less same number of species in total. There was no significant difference in occurrence of small mammals between two habitats ($\chi 2=0.18$, df=1, $P>0.05$, $\alpha=0.05$).

CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ANNEXES

ABBREVIATIONS AND ACRONYMS

Abbreviated form	Details of abbreviations
CDB	Central Department of Botany
CDZ	Central Department of Zoology
CNP	Chitwan National Park
DNPWC	Department of National Parks and Wildlife Conservation
GIS	Geographic Information System
KMTNC	King Mahendra Trust for Nature Conservation
KU	Kathmandu University
NTNC-BCC	National Trust for Nature Conservation, Biodiversity Conservation Centre
PPBio	Programme for Planned Biodiversity and Ecological Research
SMCRF	Small Mammals Conservation and Research Foundation
UNESCO	United Nations Educational Scientific and Cultural Organization
ZSL	Zoological Society of London
ReSoN	Reseach Solution Nepal
TU	Tribhuvan University
LTER	Long Term Ecological Research
CNP	Chitwan National Park
df.	Degree of freedom