



**IDENTIFICATION OF HIGH CONSERVATION VALUE AREAS FOR
HERPETOFAUNA ON CEBU, PHILIPPINES**

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ABSTRACT

The Philippines is regarded as one of the mega-diverse countries with approximately 15,000 known plants species and 38,000 vertebrates and invertebrates animals. It is also one of the global conservation hotspots because despite its biological richness, it has lost ca.80% of its original forest cover. One of the most severely deforested islands is Cebu, yet little is known about its herpetofauna. The study aims to identify high conservation value areas, which contain viable populations and habitats of herpetofauna. The survey was conducted from November 08 to December 08, 2012 and February 25 to March 08, 2013 in five localities. Herpetofauna were censused using combination of strip transect sampling, point count, direct scanning and acoustic surveys. Habitat assessment were done in transect sampling station using the point-centered-quarter method. Analysis of species richness and diversity was performed across habitat types. Species-habitat relationship was determined using Canonical Correspondence Analysis. Species distribution models were produced using the maximum entropy algorithm (Maxent). A total of 25 species of amphibians (5 frogs) and reptiles (12 lizards, 8 snakes) were recorded from 42 transect lines and 462 observation points. Species richness and diversity were highest in early and advanced secondary forests of Mt. Lanaya, Palinpinon Mt. Range and Nug-as while lowest were in cultivated areas in Mt. Tabunan. Most amphibians and reptiles showed association to temperature, soil moisture, forest detritus and understorey vegetation. The species distribution of key species was influenced by land cover types, elevation, slope, soil, precipitation of driest month and quarter, and precipitation variability. High concentration of species based on distribution models are in areas near Carcar and Sibonga, and fragmented areas in southern part of the island. Secondary forests and microhabitats have critical role in supporting the species survival and should be prioritized for conservation. The tools used in the study did not cover all the complexities of species ecology (e.g. population estimates), but the tools could be powerful in providing site-specific and science-driven information useful for identification of priority areas and conservation management.



TABLE OF CONTENTS

ABSTRACT	2
APPROVAL SHEET	3
ACKNOWLEDGMENTS	4
TABLE OF CONTENTS	7
LIST OF TABLES	9
LIST OF FIGURES	10
CHAPTER 1: INTRODUCTION	12
Background of the Study	12
Objectives of the Study	19
Scope and Limitations	20
Significance of the Study	20
CHAPTER 2: METHODS	22
Study Site	22
Survey sites	22
Herpetofaunal Surveys	28
Habitat Surveys	29
Data Analysis	31
CHAPTER 3: RESULTS AND DISCUSSION	40
Species Accumulation, Richness and Diversity	40
Species-Habitat Association	50
Species Distribution Models (SDMs)	56



High Conservation Value Areas and Habitats	65
CHAPTER 4:	
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	67
Summary	67
Conclusions	69
Recommendations	70
CITED REFERENCES	72
APPENDICES	83
A. Sample Datasheet Used in Habitat Assessment	84
B. Sample Datasheet Used in Herpetofaunal Survey	85
C. Species Accounts	86
D. Means and Standard Deviations of Environmental Variables Used in CCA	93
E. Correlation Matrix of 23 Environmental Variables Used in SDM	99
F. Summary of Species-Habitat Association Analyzed Using CCA	101
G. Responses of 11 Key Species to Environmental Variables Used in SDM	102
H. Sample Response Curves of Key Species to Environmental Variables with High Contribution to SDM	103
I. List of Identified Localities with High Conservation Value	106
J. Curriculum Vitae	107



LIST OF TABLES

Table		Page
2.1	Summary of key species occurrence records obtained during the survey and supplementary records from Global Biodiversity Information Facility (GBIF)	34
2.2	Environmental variables used in species distribution modeling	36
3.1	Species of amphibians and reptiles recorded in five study sites	42
3.2	Species richness (Jackknife 1) and diversity (H') of herpetofauna across habitat types in the study sites	48
3.3	The lowest predicted value (LPV) of key species and the maximum prediction from Maxent model output	57



LIST OF FIGURES

Figure	Page
2.1 Map of Cebu Island	25
2.2 Study sites in Cebu	26
2.3 Location of transects	27
2.4 Map of species occurrence records	38
2.5 Flowchart of the process for identification of high conservation value areas and habitats	39
3.1 Species accumulation	41
3.2 Species of frogs	44
3.3 Species of lizards	45
3.4 Species of snakes	46
3.5 CCA biplot of five species of frogs and 15 environmental variables	51
3.6 CCA biplot of eight species of lizards and 18 environmental variables	53
3.7 CCA biplot of eight species of snakes and 18 environmental variables	54
3.8 AUC boxplot of key species used in distribution modeling	58
3.9 The contribution of 17 environmental variables used in predicting the potential geographic distribution 11 key	59



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|------|---|----|
| 3.10 | Map of predicted geographic distributions of 11 key species in Cebu based on Maxent logistic output | 61 |
| 3.11 | Reclassified map of the distribution of 11 key species in Cebu | 62 |
| 3.12 | Map of areas with high concentration of species based on the species distribution modelling output | 66 |

