

Preface

The Central Department of Zoology (CDZ) of Tribhuvan University is one of the leading and the oldest department in Nepal. The Department has offered Master's and Ph.D degrees in Zoology with specializations in Entomology since 1966, Fish & Fisheries since 1968, Ecology since 1978 and Parasitology since 1985. Thesis (a written record of the work that has been undertaken by a candidate) writing in Zoology started in 1970s. The first M.Sc. thesis was submitted in 1974. At present thesis has been made a compulsory requirement for the degree of Master. The students have to submit their thesis for evaluation. The thesis provides the students with an opportunity to demonstrate their ideas, research skills and creative abilities. The preparation of thesis is one of the most important aspects of Master's degree.

Although the thesis guidelines were developed a few years back but remained unpublished. It is realized that there is an urgent need to publish a standard updated format for the department to make students aware in improving thesis writing and maintain uniformity.

This 'Thesis Guidelines' is an effort to aim to provide help and guidance to students in thesis writing in the format developed by CDZ. It offers an adequate coverage with sufficient examples and illustrations of many conceptual and practical problems encountered while writing and printing the thesis. Reading and following these guidelines will help students to prepare a thesis that will be in conformance with university standards and thus acceptable for format and style.

I would like to thank all the faculty members for their inputs during the preparation of the guidelines.

Ranjana Gupta Ph.D.
Professor and Head
Central Department of Zoology,
Institute of Science & Technology,
Tribhuvan University, Kirtipur,
Kathmandu, Nepal

Contents

	Page
• Background	3
• General Guidelines	4
• Specific Guidelines	8
I. Preliminary pages	8
II. Main text	10
III. End matter	15
• Samples	16
• Special Papers & Faculty Members	23

Background

This thesis is to be submitted in partial fulfilment of the requirements for the award of Master's Degree of Science in Zoology. The guidelines have been prepared to help M.Sc, Zoology students of all four major specializations- Ecology, Entomology, Fish and Fisheries and Parasitology to prepare their thesis for acceptance by Central Department of Zoology, Tribhuvan University. The regulations contained within the guidelines have been updated and clarified for the benefit of students.

- It is the supervisor's responsibility to make certain that any thesis submitted in partial fulfilment of a Master's degree at Central Department of Zoology with special papers conform to the regulations outlined in this guidelines.
- Responsibility for the content of thesis remains with the student and the supervisor(s).
- After fulfilment of all the administrative and financial requirements, each student has to submit three unbound copies of draft theses to the Department administration after recommendation of the supervisor.
- The student will have to make presentation before a panel of experts both from department and outside after the Department Head approves his/her work for the examination.
- At the time of presentation, supporting materials (specimens, slides etc) need to be submitted in the Department.
- During presentation all the necessary comments on the work are made by the experts and the student's confidence over his/her work is gauged by the way he/she answers the questions put forward.
- All comments and corrections made by the experts need to be incorporated before submitting the final hard bound (black colour cover) theses. Thesis title and student's name

with year also should be printed on the side of the hard bound thesis.

- Altogether four hard copies and two electronic version (CDs) need to be submitted to the Department administration.

General Guidelines

Number of Copies:

Central Department of Zoology requires THREE copies of the unbound thesis at the time of submission.

Margins:

For binding purposes, every page of thesis must be kept within the following margin:

Top: 1”	Right: 1”
Bottom: 1”	Left 1.25”

All thesis materials must fit within these margin requirements (including tables, figures, graphs, photographs and page numbers).

Spacing and Pagination:

- (a) Line spacing of regular write up should be of 1.5 space (except indicated).
- (b) Line spacing between the heading and sub heading or text should be extra 1.5 space.
- (c) Thesis must be printed on one side of the A4 sized paper.
- (d) Each page of the entire thesis must be numbered.
 - i) Preliminary pages must be in Roman numerals (i.e., i, ii, iii.).
 - ii) Main text and end matter should be continued with Arabic numbers (i.e., 1, 2, 3, 4,).

- (e) Page number should be placed at the centre of the bottom of the pages.

Font Size

- (a) Standard font size for text should be set at 12 pt in Times New Roman.
- (b) Photographs and other illustrative material annotation text can be smaller (minimum 10 pt).
- (c) Headings and sub headings should be set bold in Ariel 14 pt and 12 pt respectively.
- (d) The thesis should be printed in letter quality with black characters that are clear and easy to read (except colour photographs and maps).

Photographs and Other Illustrative Materials

- (a) Photographs and other illustrative materials must be fitted within the specified margins.
- (b) Photographs and other illustrative materials (Table, graphs and figures) should be integrated with the text or in the separate page where ever related description appears.
- (c) Photograph number should be numbered in Arabic numerals followed by concise heading just below the photograph.
- (d) Graphs and figure should be numbered in Arabic numerals followed by concise heading just below the graphs and figures.
- (e) Tables should be numbered in Arabic numerals followed by concise heading just above the table.
- (f) Concise but enough description needs to be provided in figure legends to allow interpretation of the figure without reference back to the text.

System Unit

International system units should be used throughout the thesis

e.g.,

Meter	m
Kilogram	kg
Second	sec

Citation Style in the Text

Singh (2010)If sentence begins with citation.

(Singh 2010)If citation is in the middle or end of the sentence.

(Singh and Joshi 2009)If article is of two authors.

(Singh et al. 2008)If article is of more than two authors.

(Shrestha 2007, Singh 2007)If citation of two papers in chronological order.

(Puri 2005, Chhetri 2010, Thapa 2010)If citation of two papers in the same year, chronological and alphabetical within year.

(Sharma et al. 1988a, 1988b)If two papers are of same authors and same year.

Language

British conventions of spelling, punctuation and grammar should be used

e.g. “Behaviour” not “Behavior”
“Organization” not “Organisation”
“Programme” not “Program”

Taxonomic Name and Authority

Italics must be used for scientific names (Genera and species) of the organisms and plants.

- a) When scientific name of animal is written for the first time, authority should be written as the name (s) of the author (s).
e.g., *Seriola gracilis* Lowe, 1843.

- b) While in case of plants year of publication is not cited. e.g., *Abies beshanzenensis* M.H. Wu.
- c) When referring to a group of species with the same generic scientific name, the abbreviation “spp.” should be used. e.g., *Bensonies* spp. But for one unspecified species belonging to same genus only “sp” is used. e.g., *Bensonies* sp.
- d) Taxonomic level higher than genus (i.e. family, order, class etc) are not italicized but term should be capitalized.

Scientific and Common Names

- a) While writing common name and scientific name together, scientific name should be kept within bracket, e.g., Common Green Magpie (*Urocissa erythrorhyncha*)
Blue Bull (*Boselaphus tragocamelus*)
- b) All initials of the common name must be always written in capital letter, e.g., “Himalayan Pika” not Himalayan pika or himalayan pika. “Spiny Babbler” not Spiny babbler.

Numbers

- a) Numbers between one and nine should be written in words, e.g., “Regular surveys have been carried out in three sites in the forest and seven sites in human habitation”.
- b) Numbers above nine should be written numerically e.g., “After 105 sightings 450 bird species were recorded”.
- c) But if the sentence begins with numbers, the number should be written in words, e.g., “Fifteen grouse were spotted outside the reserve”.
- d) For numbers with four or more numerals, commas should be used to separate the hundreds, e.g., “Fish is found up to the depth of 2,000 m”.

Dates

- a) When writing a date in full, dd/mm/yr structure should be followed, e.g., “11 January 2005” not January 11, 2005 or 11th January 2005.

- b) When referring to a particular century, following structure should be followed e.g., “19th century” not nineteenth century, or 19th Century. “1980s”not 1980’s or 1980 s.

Conservation Status

It should be followed as per the national and international categories for example: IUCN CITES and NRDB

Specific Guidelines

A thesis should be written in a standard format. It should include three major components:

- I. Preliminary Pages
- II. Main Text
- III. End Matter

I. Preliminary Pages

i) Cover Page

- a) All the contents should be centered alignment.
- b) It contains – Title, name of candidate, name of department and year of submission.
- c) Title should be in Aerial, 14 pt font size, all caps and bold, while other matter like name of candidate, department should be in 12 pt font size.
- d) University logo should be just below the Title (see sample 1).

ii) Declaration by the Candidate

(content must be in justified alignment exactly same as shown in sample 2).

iii) Recommendation by the Supervisor(s)

Should be typed in the format of Departmental letter head (content must be in justified alignment same as shown in sample 3).

iv) Letter of Approval from Head of Department

Should be typed in the format of Departmental letter-head (see sample 4).

- v) **Certificate of Acceptance by the Evaluation Committee**
Should be typed in the format of Departmental letter-head (see sample 5).
- vi) **Acknowledgements**
Heading should be centered and body should be justified. (ethics required to be strictly followed, individual's and institution's significant contribution to the work should be acknowledged).
- vii) **Contents**
a) Heading should be centre aligned.
b) Component of the contents should be left aligned.
c) Page number should be right aligned (see sample 6).
- viii) **List of Tables**
a) Heading should be centre aligned.
b) Table number should be left aligned.
c) Description of the table should be one tab after table number.
d) Page number should be right aligned (see sample 7).
- ix) **List of Figures**
(same as List of Tables, see sample 8).
- x) **List of Photographs**
(same as List of Tables, see sample 9).
- xi) **List of Appendices** (if required)
(same as List of Tables).
- xii) **List of Abbreviations**
a) List symbol abbreviations first.
b) Followed by abbreviations in alphabetic order.
c) Full points (dots) should not be used in abbreviations such as "expt" for experiment.
(all the abbreviations used in throughout thesis must be listed, see sample 10).

xiii) Abstract

- a) Heading should be centered and body should be justified.
- b) Abstract should be a succinct description of the work.
- c) Should contain objective of the study, materials and method used, results and conclusion.
- d) Shouldn't contain literature citations.
- e) Shouldn't exceed more than one page.

(Note: All page numbers of the preliminary pages must be in Roman numerals (i.e., i, ii, iii...))

II. Main Text

The main text of the thesis should include given headings. Headings should be all in caps, bold, centered and of aerial 14 pt font size.

1. INTRODUCTION
2. LITERATURE REVIEW
3. MATERIALS AND METHODS
4. RESULTS
5. DISCUSSION
6. CONCLUSION AND RECOMMENDATIONS
(Recommendation not mandatory)
7. REFERENCES

1. INTRODUCTION

- (a) Can have sub headings.
- (b) Sub headings should be bold, aerial 12 pt font size and numbered (i.e., 1.1, 1.2, 1.3.....).
- (c) Can have figures, photographs and other illustrative materials.
- (d) Objectives of the study: objectives can be divided into General objective and Specific objectives.

- (e) Rational of the study
(Note: (i) Should include background of the field of study and study subject, statement of the problem, justification, limitation etc. (ii) Should give only strictly pertinent references. (iii) Shouldn't mention the data or conclusions from the study being reported)

2. LITERATURE REVIEW

- a) Literature review can be divided into two categories (not mandatory). If necessary : National to Global context.
- b) Should address relevant existing knowledge of the research issue.
- c) Should include published articles (books, journals, abstracts etc.).
- d) Unpublished articles (thesis, reports, records, communications etc) should also be included.
- e) Accurate, relevant, useful, reliable and latest information should be filtered from all available literature.
- f) Must not copy and paste complete sentences and paragraphs from the source.
- g) Citation style should follow as mentioned above in general guidelines.

3. MATERIALS AND METHODS

- a) Materials and Methods can be divided into sub headings with numbering, 3.1, 3.2,...
- b) Sub headings can be further divided if required with numbering, 3.1.1, 3.1.2,.....
- c) Sub- sub headings should be in italic.
- d) Observational or experimental methods employed should be clearly described.
- e) Established methods if employed must be correctly referenced.
- f) If new or substantially modified methods are utilized, must give reasons.

4. RESULTS

- a) Results can be divided into sub headings with numbering e.g., 4.1, 4.2, 4.3.....and should be bold.
- b) Sub headings can be further divided if required with numbering e.g. 4.1.1, 4.1.2, 4.1.3... and should be in italics.
- c) The results should contain an explanation and description of the data, and highlights of findings, patterns, trends and relationships observed using statistical tools (whenever required).
- d) The results should be presented in logical sequence in the text, tables or illustrations.
- e) Same results should not be interpreted with multiple illustrations.

(See general guidelines for photographs and other illustration style)

5. DISCUSSION

- a) Should include statement of primary findings of study.
- b) Orderly comparison of study findings to other relevant work.
- c) Considerations and implications of specific findings of study.

6. CONCLUSION AND RECOMMENDATIONS

- a) Specific conclusions permitted by the study.
- b) Should include researcher's suggestions or policy recommendations either for further research or for society development or for future action and implementation.
- c) Should be based on results of the study.

7. REFERENCES

Should be arranged in alphabetical order based on Author.

General format for the references:

(i) Journal article, single author

Chalise, M.K. 1999. Some behavioural and ecological aspects of Assamese Monkeys (*Macaca assamensis*) in Makalu-Barun area, Nepal. Nepal Journal of Science and Technology **1**: 85-90.

(ii) Journal article, two authors

Edwards, D.D. and Bush, A.O. 1989. Helminth communities in avocets: Importance of the compound community. Journal of Parasitology **75**: 225–238.

(iii) Journal article, more than two authors

Siliwal, M., Molur, S. and Raven, R. 2010. Transfer of two Indian *Idiops* spp. to the genus *Heligmomerus* Simon, 1892 (Araneas: Idopidae) with redescription of *H. barkudensis* (Gravely, 1921), Journal of Threatened Taxa **2**(1-2): 940-947.

(iv) Journal article, more than six authors

If there are more than six authors, then include names of the six, followed by et al.

(v) Conference abstracts

Shrestha, B.R., Sharma, V.D. and Shrestha, V. 2008. Community initiatives in conserving fresh water Dolphin (*Platanista gangetica*) in the Mohana river. (Abs) The fifth National Conference on Science and Technology. Nepal Academy of Science and Technology (NAST) Nov. 10 – 12: 157-158.

(vi) Proceedings Paper (Organizational Publications)

Thapa, R.B. 2006. Sericulture development in Nepal. Proceedings of fourth National Conference on Science and Technology, 23-26 March 2004. Nepal Academy of Science and Technology, Khumaltar, Lalitpur 1: 2009-2026.

(vii) Proceedings Paper (Edited)

Joshi, D.D., Maharjan, M. and Sharma, M. 2003. Status of laboratory animals welfare used for experimental research in Nepal. In: Joshi, D.D., Maharjan, M., Sharma, M. eds. Proceedings of National Seminar on wildlife in captive and status of wildlife conservation in Nepal, 16 March 2003, Kathmandu, Nepal. NZFHRC : 50–59.

(viii) Report

Sharma, A.P. 1993. Status of water pollution in Nepal. A report submitted to Man and Biosphere (MAB), Kathmandu, Nepal.

(ix) Organizational Report

WHO. 1998. Guidelines for drinking water quality, Vol. 1, World Health Organization, Geneva.

IUCN. 1991. A review of solid waste management in urban Nepal. NPC/IUCN/NCS Implementation Project.

(x) Book

Schuh, R.T. and Brower, A.V.Z. 2009. Biological systematic: Principles and application 2nd ed. Cornell University Press, Ithaca, 311 p.

(xi) Chapter in edited book

Nesheim, M.C. 1989. Ascariasis and human nutrition. *In* Ascariasis and its prevention and control, Crompton, D.W.T., Nesbemi, M.C. and Pawlowski, Z.S. (eds.). Taylor and Francis, London, U.K. p. 87–100.

Budha, P.B., Arvind, N.A. and Daniel, B.A. 2010. The status and distribution of freshwater molluscs of the eastern Himalaya. *In* Allen, D.J., Molur, S., Daniel, B.A. (compilers). The status and distribution of freshwater biodiversity in the eastern Himalaya, Cambridge, UK and Gland, Switzerland: IUCN, and Coimbatore, India: Zoo Outreach Organization. p. 42-53.

(xii) Thesis

Bam, A.B. 2005. Screening of tomato germplasm to the *Meloidogyne*: a root-knot nematode. M.Sc. Thesis. Central Department of Zoology, Tribhuvan University, Kathmandu, Nepal.

(xiii) Website

USGS. 2010. Freshwater mussels of the upper Mississippi river system. http://www.fws.gov/midwest/mussel/current_threats.html. accessed on 12 December, 2010.

III. End Matter

APPENDICES

- a) Page break for each appendix
- b) Title for each appendix
- c) Generally the appendices include:
 - i) Paraphrase and Informed Consent Forms
 - ii) Other Forms used
 - iii) Ethical Committee Approval Letter
 - iv) Detailed aspects of a protocol, calibration data, etc. (depends upon nature of the study).

Sample 1
(in single page)

TITLE OF THE THESIS



Candidate's full Name
T.U. Registration No:
T.U. Examination Roll No:
Batch:

A thesis submitted in partial fulfilment of the requirements for the award of the degree of Master of Science in Zoology with special paper

Submitted to
Central Department of Zoology
Institute of Science and Technology
Tribhuvan University
Kirtipur, Kathmandu
Nepal
Month, Year

Sample 2
(in single page)

DECLARATION

I hereby declare that the work presented in this thesis has been done by myself, and has not been submitted elsewhere for the award of any degree. All sources of information have been specifically acknowledged by reference to the author(s) or institution(s).

Date.....

Signature
Candidate's name

Sample 3
(in single page)

RECOMMENDATIONS

This is to recommend that the thesis entitled “..... (Title of thesis)...” has been carried out by.....(Candidate’s name)..... for the partial fulfilment of Master’s Degree of Science in Zoology with special paper..... This is his/her 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.

Date.....

(Signature)
Full name of supervisor
Designation
Central Department of Zoology
Tribhuvan University
Kirtipur, Kathmandu, Nepal

Sample 4
(in single page)

LETTER OF APPROVAL

On the recommendation of supervisor “.....(full name of supervisor)...” this thesis submitted by(Candidate’s name)..... entitled “.....(Title of thesis).....” is approved for the examination and submitted to the Tribhuvan University in partial fulfilment of the requirements for Master’s Degree of Science in Zoology with special paper.....

Date.....

(Signature)
Full name of HOD
Head of Department
Central Department of Zoology
Tribhuvan University
Kirtipur, Kathmandu, Nepal

Sample 5
(in single page)

CERTIFICATE OF ACCEPTANCE

This thesis work submitted by(Candidate's name)..... entitled “.....(Title of thesis).....” has been accepted as a partial fulfilment for the requirements of Master's Degree of Science in Zoology with special paper.....

EVALUATION COMMITTEE

.....
Supervisor
Full name with designation

.....
Head of Department
Full name with designation

.....
External examiner

.....
Internal Examiner

Date of Examination: dd/mm/yr

Sample 6

CONTENTS

	Pages
Declaration	i
Recommendations	ii
Letter of Approval	iii
Certificate of Acceptance	
.....	
.....	
.....	
1. INTRODUCTION	
1.1.....	1
1.2.....	
2. LITERATURE REVIEW	
2.1.....	..
2.2.....	..

Sample 7

(in new page)

LIST OF TABLES

Table	Title of tables	Pages
1
2
3

Sample 8

LIST OF FIGURES

Figure	Title of figures	Pages
1
2
3

Sample 9

LIST OF PHOTOGRAPHS

Photograph	Title of photograph	Pages
1
2
3

Sample 10

LIST OF ABBREVIATIONS

Abbreviated form	Details of abbreviations
WHO	World Health Organization
MAB	Man and Biosphere
.....
.....

Special Papers & Faculty Members of CDZ

I. PARASITOLOGY

- Ranjana Gupta, PhD, Professor, Head
Specialization: Medical Parasitology
Area of interest: Communicable diseases and Community Health
Email: dr Gupta.ohm@gmail.com
- Mahendra Maharjan, PhD, Lecturer
Specialization: Molecular Parasitology
Area of interest: Epidemiology, Drug Resistance & Wildlife Diseases
Email: maharjan.m@gmail.com
- Janak R. Subedi, Teaching Asst.
Specialization: Parasitology
Area of interest: Parasitic Nematodes
Email: subedijanak@hotmail.com
- Ashok Bam, Teaching Asst.
Specialization: Plant Nematodes
Area of interest: Medical Parasitology, Wildlife Parasites
Email: ashokbam@gmail.com
- Pitamber Dhakal, Teaching Asst.
Area of interest: Parasitology
Area of interest: Molecular Parasitology
Email: dhakal_pitu@yahoo.com

II. ENTOMOLOGY

- Daya R. Bhusal, Lecturer
Specialization: Bioindicator
Area of interest: Bioindicator & climate change
Email: dayarambhusal@yahoo.com
- Prem B. Budha, Lecturer
Specialization: Mollusk Ecology and Taxonomy
Area of interest: Animal Taxonomy, Biogeography, Freshwater Invertebrates
Email: pb.budha@gmail.com
- Urmila Dyola, Lecturer
Specialization: Entomology
Area of interest: Medical Entomology
Email: dyolaurmila@gmail.com
- Tej B. Basnet, Teaching Asst.
Specialization: Biodiversity and Environmental Management
Area of Interest: Faunal Diversity, Gradient Distribution & Insect Ecology
Email: tejbasnet@gmail.com

III. ECOLOGY

- Khadga Basnet, PhD, Professor
Specialization: Ecology
Area of interest: Ecosystem dynamics (disturbance), biodiversity, climate change & EIA
Email: kbasnet@ntc.net.np
- Ramesh Shrestha, PhD, Reader
Specialization: Wildlife Ecology & Ecotourism
Area of interests: Ecological parameters & their functions; and Climatology
Email: r_shrestha@dr.com
- Tej B. Thapa, Reader
Specialization: Wildlife Ecology
Area of Interest: Big Cat Ecology, Predator-Prey Relationship
Email: tej.thapa@gmail.com
- Mukesh K. Chalise, PhD, Reader
Specialization: Mammal Ecology & Behaviour
Area of Interest: Animal Ecology and Behaviour
Email: mukesh57@hotmail.com
- Nanda B. Singh, PhD, Reader
Specialization: Ethno Genomics, Molecular Ethnobiology
Area of Interest: Ethno Genomics, Ethnobiology, Molecular Anthropology, and Population Genetics
Email: nanda_nepal@yahoo.com
- Hari P. Sharma, Lecturer
Specialization: Wildlife Ecology
Area of interest: Natural Resource Management
Email: himalayanhari@gmail.com

IV. FISH & FISHERIES

- Surya R. Gubhaju, PhD, Professor
Specialization: Aquaculture & Management
Area of interest: Fish breeding, impact of dam in fishries
Email: surya_gubhaju@yahoo.com
- Usha Lohani, PhD, Reader
Specialization: Ethnozoology
Area of Interest: Ethnozoology
Email: ushalohani@hotmail.com
- Kumar Sapkota, PhD, Reader
Specialization: Molecular Biology
Area of interest: Neuro Degenerative Diseases, Fibrinolytic System, Freshwater Ecology
Email: sapkotak@hotmail.com
- Archana Prasad, PhD, Lecturer
Specialization: Histochemical, Endocrinology & Reproductive Biology
Area of Interest: Scanning Electron Microscopy, Biodiversity and environmental issues
Email: archanaprasad001@gmail.com