

**STUDIES ON ETHNOMEDICINAL USES ALONG WITH CONFLICT ON
BENEFIT SHARING OF *Swertia chirayita* (roxb.ex.Fleming) H. Karst; A CASE
STUDY IN POKHARATHOK, ARGHAKHANCHI AND PHYTOCHEMICAL
SCREENING OF SOME SPECIES OF *Swertia***

**A Dissertation Submitted to the Central Department of Botany,
Tribhuvan University for the Partial Fulfillment of M.Sc. in Botany**

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LETTER OF APPROVAL

The M.Sc. dissertation work entitled "**Studies on Ethnomedicinal Uses Along with Conflict on Benefit Sharing of *Swertia chirayita* (Roxb. ex. Fleming) H. Karst; A Case Study in Pokharathok, Arghakhanchi and Phytochemical Screening of Some Species of *Swertia***" submitted by Mr. Dinesh Baral has been accepted for partial fulfilment of master's Degree in Botany.

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CERTIFICATE

This is to certify that the M.Sc. dissertation work entitled "**Studies on Ethnomedicinal Uses Along with Conflict on Benefit Sharing of *Swertia chirayita* (Roxb. ex. Fleming) H. Karst; A Case Study in Pokharathok, Arghakhanchi and Phytochemical Screening of Some Species of *Swertia***" has been carried out by **Mr. Dinesh Baral** under our supervision. To the best of our knowledge the research is based on both lab work and field work and the results have not yet been published or submitted for any other degree. We recommend this dissertation work to be accepted as a partial fulfillment for Master's Degree in Botany.

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ABSTRACT

The ethnomedicinal uses of *Swertia chirayita* and benefit sharing on trading were carried out. Most of the people of Pokharathok were using whole plant of *S. chirayita* for medicinal purpose while some were involved in using root and leaf. They used *Swertia chirayita* mainly in Typhoid, tonic and gastritis. It was found unequal benefit sharing i.e. 1:2: 4 among collectors, middleman and traders.

The phytochemical screening of *S. ciliata*, *S. nervosa*, *S. angustifolia* and *S. chirayita* (Family: Gentianaceae) was carried out. Two compounds Methyl swertianine and bellidifolin were isolated. Methyl swertianine was identified by comparing with authentic sample using Thin layer chromatogram and bellidifolin was also identified on the basis of NMR, COSY, HMBC, and HMQC spectra.

CONTENTS

ACKNOWLEDGEMENT

ACRONYMS AND ABBREVIATIONS

ABSTRACT

LIST OF PHOTOGRAPH

CHAPTER ONE : INTRODUCTION

1.1	Background of the Study	1
1.2	Taxonomic Description	3
1.3	Chemistry	5
1.4	Environmental Justice	6
1.5.	Benefit Sharing	6
1.6	Justification	6
1.7.	Objectives	7
1.8.	Limitations	7

CHAPTER TWO: LITERATURE REVIEW

2.1	Previous works on ethnobotany	8
2.2	Previous works on phytochemical screening	12

CHAPTER THREE: MATERIALS AND METHODS

3.1.	Ethnomedicinal study of <i>Swertia chirayita</i>	15
3.1.1	Location of the Study Area	15
3.1.2	Collection of Information	15
3.1.3	Field Visit and Household Survey	15
3.1.4	Method of Interview	16
3.1.5	Secondary Data Collection	16
3.2	Phytochemical screening	16
3.2.1	Plant Materials	16
3.2.2	Extraction	17
3.2.3	Phytochemcial screening	19
3.2.4	Separation of Compound by Chromatography	22

3.2.4.1	Thin layer chromatography	22
3.2.4.2	Column Chromatography	23
CHAPTER FOUR: RESULTS		
4.1.	Ethnomedicinal Study of <i>Swertia chirayita</i>	25
4.1.1	Ethnomedicinal uses of plant part(s) of <i>Swertia chirayita</i>	25
4.1.2	Commonly Used forms of Medication of <i>Swertia chirayita</i>	25
4.1.3	Uses of <i>Swertia chirayita</i> in Certain Disease(s)	25
4.1.4	Exploitation of <i>Swertia chirayita</i>	25
4.1.5	Involvement of Different Class in Collection of Plant Materials	26
4.1.6	Conflict on Benefit Sharing Among Stakeholders	26
4.1.7	Availability and Conservation Status of <i>Swertia chirayita</i>	26
4.2	Phytochemical screening	27
4.2.1	Estimation of Soluble Extracts Using Different Organic Solvent	27
4.2.2	Phytochemical Screening	28
4.2.3	Isolation and Characterization	30
4.2.3.1.	Compound No. DI	30
4.2.3.2	Compound No. D _{II}	30
4.2.4	Observation of Isolated Compound DI and D _{II} in other Samples	31
4.2.5	Observation of Amorogentin and Amoroswerin	32
CHAPTER FIVE: DISCUSSION AND CONCLUSION		
5.1	Ethnomedicinal Study	33
5.2	Phytochemical screening	34
5.2.1	Variation of Extracts in Different Solvent System	34
5.2.2	Phytochemical Screening of Different <i>Swertia</i>	35
5.2.3	Presence of Compound D _I and D _{II} in Other Samples	35
5.2.4	Compound D _I and D _{II}	35
RECOMMENDATIONS		36
REFERENCES		
PHOTOGRAPHS		
APPENDICES		

ACRONYMS AND ABBREVIATIONS

Approx.	Approximately
CDB	Central Department of Botany
CDC	Central Department of Chemistry
CHCl ₃	Chloroform
CITES	Convention on International Trade of Endangered Species of wild Flora and Fauna
¹³ C-NMR	Carbon-Nuclear Magnetic Resonance
COSY	Correlation of Spectroscopy
DCM	Dichloromethane
DPR	Department of Plant Resources
EJ	Environmental Justice
<i>et al</i>	and other people
EtOAc	Ethyl acetate
HMBC-spectrum	Heteronuclear Multiple Bond Correlation Spectrum
HMQC-Spectrum	Heteronuclear Multiple Quantum Coherence Spectrum
¹ H-NMR-Spectrum	Proton-Nuclear Magnetic resonance-Spectrum
IR-Spectrum	Infrared Spectrum
IUCN	The World Conservation Union
MAP	Medicinal Aromatic Plant
MeOH	Methyl Hydroxide (Methanol)
mp	Melting Point
Nep	Nepali
NPbh	Nepal Bhasa
NTFPs	Non-Timber Forest Products
Rf-Value	Relative Front-value
Sons	Sanskrit
TLC	Thin Layer Chromatography
TUCH	Tribhuvan University Central Herberium
UV-Spectrum	Ultraviolet Spectrum
WCE	West Center East
wt.	Weight