

**BIODIVERSITY AND ETHNOBOTANICAL STUDY OF VASCULAR PLANTS
IN MANKIAL VALLEY, HINDUKUSH RANGE, PAKISTAN**



**BY
ASAD ULLAH**

**DEPARTMENT OF BOTANY, UNIVERSITY OF PESHAWAR
PESHAWAR, PAKISTAN
2002**

**BIODIVERSITY AND ETHNOBOTANICAL STUDY OF VASCULAR PLANTS
IN MANKIAL VALLEY, HINDUKUSH RANGE, PAKISTAN**

A dissertation submitted to the Department of Botany, University of Peshawar in
partial satisfaction of the requirement for the degree of

DOCTOR OF PHILOSOPHY

IN

BOTANY

BY

ASAD ULLAH

RESEARCH SUPERVISOR: PROF. DR. ABDUR RASHID

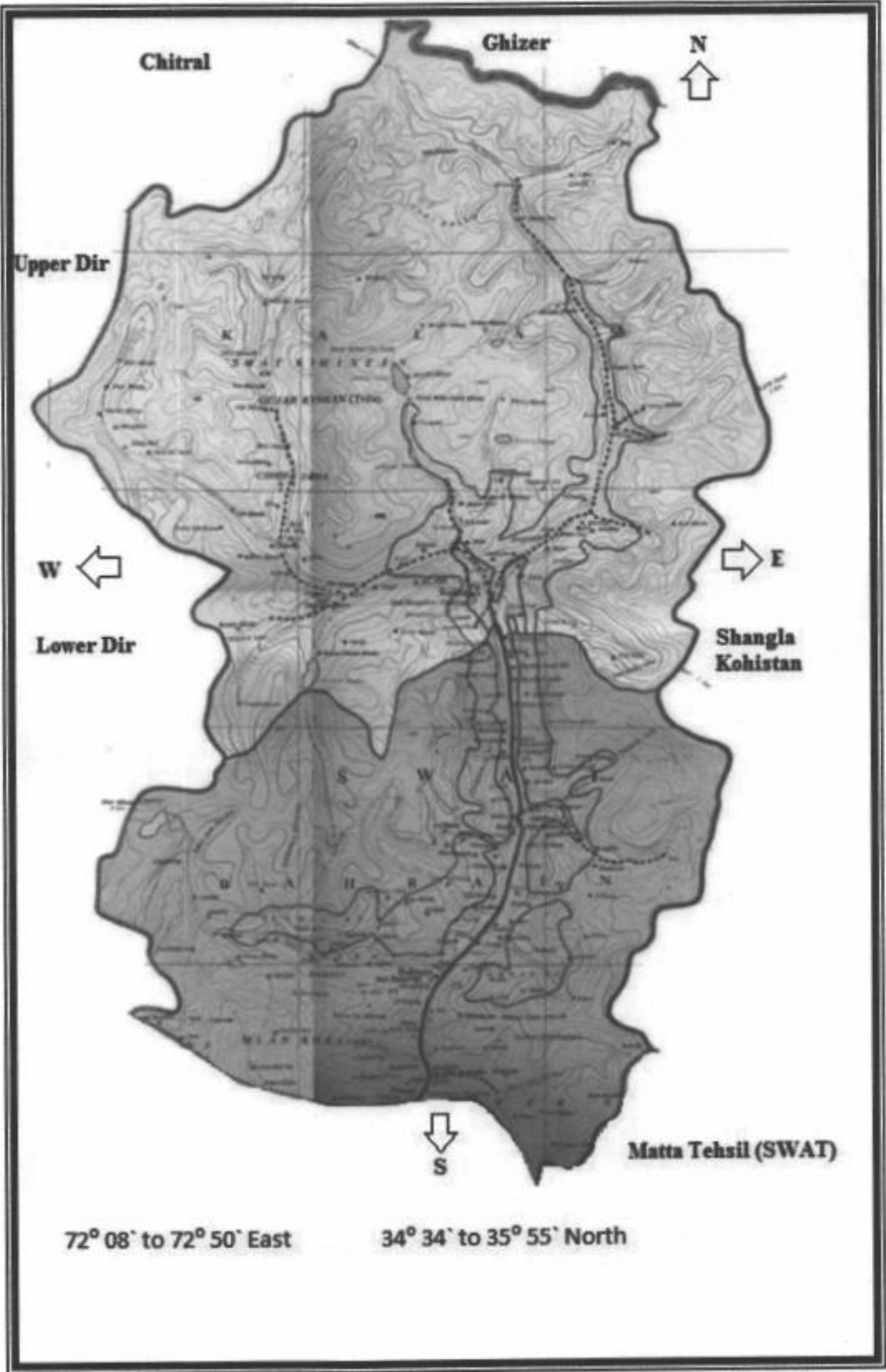
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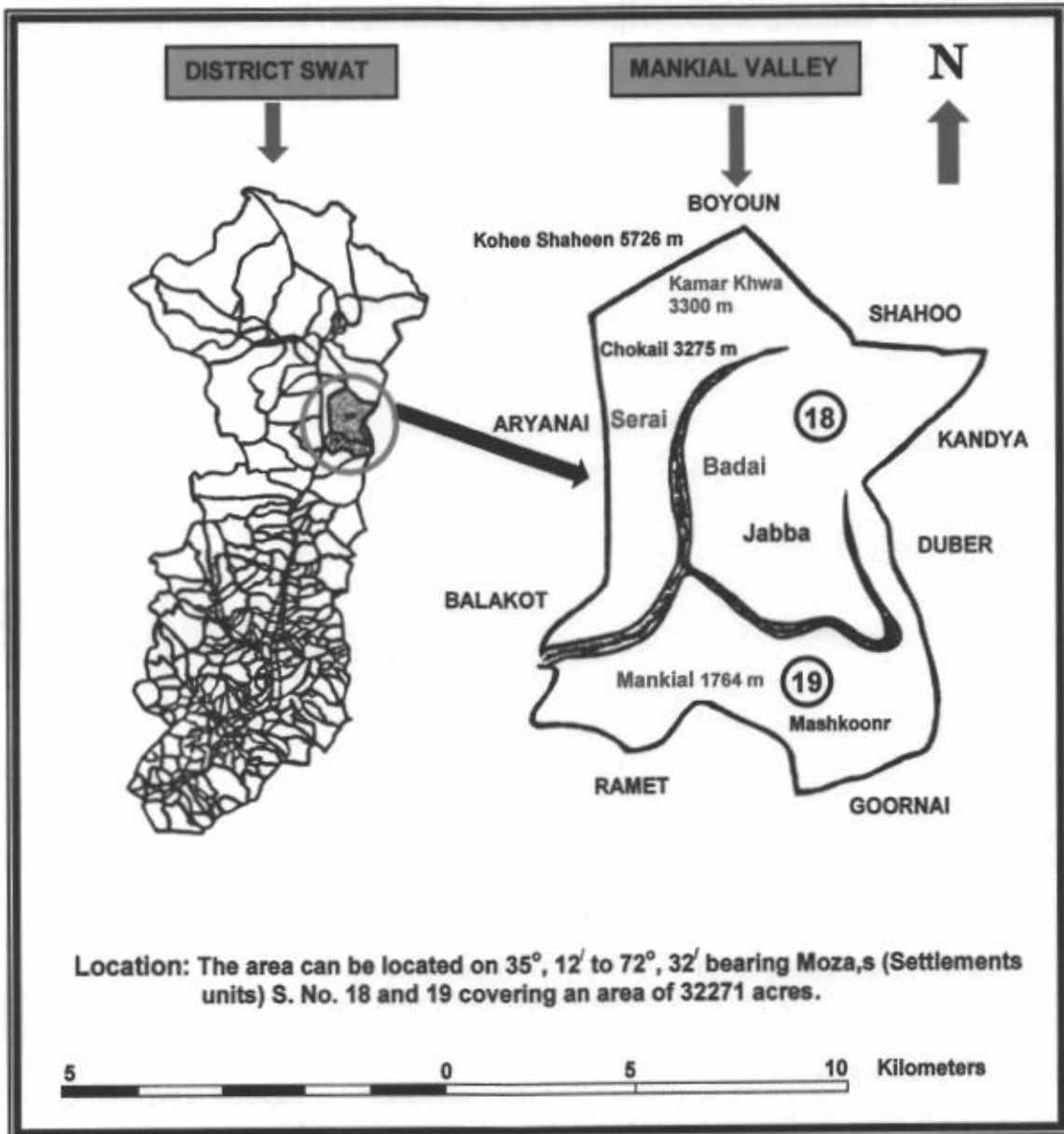
MAP OF RESEARCH AREA



72° 08' to 72° 50' East

34° 34' to 35° 55' North

MAP OF MANKIAL VALLEY







DEDICATION


**This dissertation is
dedicated to my parents and teachers.**

APPROVAL SHEET

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Asad Ullah



*IN THE NAME OF ALMIGHTY ALLAH, THE MOST BENEFICENT,
THE MOST MERCIFUL*

*"And when you said: 'O Moses! We are tired of eating one kind of food every day,
so pray to your Lord to bring forth for us that which the earth grows, such as
vegetables and cucumbers and wheats and lentils and onions!"*

(Al - Baqarah, 2:61)

CONTENTS

S. No.	Particulars/Details	Page No.
1.	List of Tables	i
2.	List of Charts	ii
3.	List of Plates	iii
4.	Vitae	iv
5.	Acknowledgments	v
6.	Abstract	vi-x
7.	Introduction	1-3
8.	Objectives	3
9.	Review of Literature	4-13
10.	Materials and Methods	14-16
11.	Key to the Major Groups of Trachaeophytes	17
12.	Tree of major groups of Trachaeophytes	18
13.	Detail Checklist of various groups of Trachaeophytes	19-48
14.	Inventory to various groups of Trachaeophytes	49-55
15.	Species of Ethnobotanical Medicinal uses	59-139
16.	Biodiversity Conservation	140-169
17.	Results and Discussion	170-227
18.	Recommendations	228-229
19.	Plates (1 to 27)	230-256
20.	References	257-266
21.	Appendix-1 (Questionnaire-I)	267-270
22.	Appendix-2 (Annexure-I)	271
23.	Appendix-3 (Annexure-II)	272-273
24.	Publications	274

LIST OF TABLES

S. No.	Detail of Tables	Page No.
1.	Inventory of Trachaeophytes	49
2.	Percentage of genera and species of the Trachaeophytes	56
3.	Conservation status of various groups	149
4.	Families, scientific names and conservation status of species	151
5.	Threatened medicinal plants of Mankial valley	165
6.	Marketable Medicinal Plants of Mankial valley	166
7.	Families, scientific names, and ethnobotanical uses of species	197
8.	Ethnobotanical key of various utilitarian groups	213
9.	Families, scientific names, vernacular names, part used, conservation status and medicinal uses of plant species	214

LIST OF FIGURES

S. No.	Detail of Figures	Page No.
1.	Tree of major groups of Trachaeophytes	18
2.	Table of % age distribution of major families of Trachaeophytes	56
3.	Showing the integrated approach of Conservation biology and its relationship	142
4.	Conservation status of the species growing in the valley	150
5.	Marketable Medicinal Plants growing in Mankial valley	150
6.	Collection chain of high valued marketable medicinal plants showing various relationship	167
7.	Chain of high valued marketable medicinal plants showing national and international trade	168
8.	Pasture resource management, grazing and nomadism cycle in Mankial Valley	169
9.	Utiliterian detail of Monilophytes	211
10.	Utiliterian detail of Gymnosperms	211
11.	Utiliterian detail of Monocot	211
12.	Utiliterian detail of Dicot	212
13.	Over all utiliterian detail of all groups	212

LIST OF PLATES

S. No.	Detail of Plates	Page No.
1.	Plate 01-Pictures 01-06	230
2.	Plate 02-Pictures 07-12	231
3.	Plate 03-Pictures 13-18	232
4.	Plate 04-Pictures 19-24	233
5.	Plate 05-Pictures 25-30	234
6.	Plate 06-Pictures 31-36	235
7.	Plate 07-Pictures 37-42	236
8.	Plate 08-Pictures 43-48	237
9.	Plate 09-Pictures 49-54	238
10.	Plate 10-Pictures 55-60	239
11.	Plate 11-Pictures 61-66	240
12.	Plate 12-Pictures 67-72	241
13.	Plate 13-Pictures 73-78	242
14.	Plate 14-Pictures 79-84	243
15.	Plate 15-Pictures 85-90	244
16.	Plate 16-Pictures 91-96	245
17.	Plate 17 -Pictures 97-102	246
18.	Plate 18-Pictures 103-108	247
19.	Plate 19-Pictures 109-114	248
20.	Plate 20-Pictures 115-120	249
21.	Plate 21-Pictures 121-126	250
22.	Plate 22-Pictures 127-132	251
23.	Plate 23-Pictures 132-138	252
24.	Plate 24-Pictures 139-144	253
25.	Plate 25-Pictures 145-150	254
26.	Plate 26-Pictures 151-156	255
27.	Plate 27-Pictures 157-162	256

VITAE

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FIELD OF STUDY

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Asad Ullah

ABSTRACT
BIODIVERSITY AND ETHNOBOTANICAL STUDY OF VASCULAR PLANTS
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Taxonomy

A total of 262 species representing 84 families, 190 genera belonging to Lychophytes, Monilophytes and Lignophytes have been reported during this research. Only one family, one genus and one species has been recorded from the "Lycophytes". A total of 20 species belonging to 12 genera and 9 families have been collected from "Monilophytes" or the fern families and 241 species from 170 genera and 74 families from "Lignophytes".

In Monilophytes, Aspleniaceae (1 genus and four species) was leading family, followed by Woodsiaceae (2 genera and 4 species), Dryopterideaceae and Polypodiaceae with 2 genera and 3 species each, Pteridaceae with (1 genus and 2 species), Equisetaceae, Marsileaceae, Dennstaedtiaceae and Thylpteridaceae (1 geuns and 1 species each). Equisetaceae was the most primitive and Polypodiaceae was the most advanced family.

The Lignophytes were further divided in to 3 groups viz., Gymnosperms, Monocots and Dicots. The Gymnosperms were represented by 4 families, 7 genera and 7 species. Among Gymnosperms Pinaceae was the leading one (with 4 genera and 4 species) followed by Cupressaceae, Taxaceae and Ephedraceae (with 1 genus and 1 species each). Pinaceae was the most primitive and Ephedraceae was the most advanced family.

The Monocots were represented by 12 families, 23 genera and 24 species. Among Monocots Poaceae was the leading one (with 9 genera and 9 species) followed by Cyperaceae (with 3 genera and 3 species), Orchidaceae (with 2 genera and 2 species) and Juncaceae (with 1 genus and 2 species). Araceae, Liliaceae, Convallariaceae, Colchicaceae, Trilliaceae, Alliaceae, Iridaceae, and Dioscoreaceae (with 1 genus and 1 species). It is concluded that family Araceae was the primitive one and Poaceae was the advanced family. The Dicots were represented by 58 families, 147 genera and 211 species.

Among the Dicots Asteraceae was the leading one (with 15 genera and 24 species), followed by Apiaceae (with 13 genera and 16 species), Lamiaceae (with 12