

PRELIMINARY STUDY OF FLOWERING PLANT DIVERSITY OF NIMAR REGION

Jeetendra sainkhediya and Sudip Ray

Department of Botany, P.M.B.Gujarati Science College Indore M.P.
jeetusainkhediya@gmail.com

ABSTRACT

An extensive and intensive plant survey of Khandwa and Khargone district of Nimar region was carried out. Preliminary study of Nimar region shows rich plant diversity in respect to 72 families and 222 genera. Present study observes 17 threatened plants of which *Oroxylum indicum* L., *Gloriosa superba* L., *Ceropegia hirsuta* wt & Arm., *Viscum articulatum* Auct., *Oryza rufipogon* Griff., are depleting at alarming rate.

Key words: Biodiversity, Threatened Plant, Nimar region.

INTRODUCTION

Topographically Nimar region is situated centrally in Northern part covered with Vindhyan Scabs and in Southern part with Satpura hill ranges. It is lying between 21°35' N latitude and 74°25'-76°14' Longitude. The Satpura in East Nimar bifurcated into two parallel ridges on either side of Tapti valley. The northern part of Satpura extends up to eastern part of Harsud and more or less along the boundary between Khandawa and Burhanpur. The hill ranges of Asirgarh hill extends up to Western Ghats in the west Kalibith hill ranges cover extremely in eastern part of Nimar region. Satpura plateau covers two third part of the south-Western part of Nimar. Narmada, Tapti, Kunda, Chhota-Tawa, Machak, is the major rivers flowing in the area. Topographically the area is Junction of Vindhyan and Satpura hill ranges and great River Narmada provides a favorable ground for the varied ecological habitats with overlapping vegetation pattern and different floral elements. Kalibith, Pipaljopha, and Asirgarh have a rich pocket of vegetation and dense forests.

MATERIALS AND METHODS

Plant survey was carried out by well planned schedule. All habitats of the study area surveyed carefully. Plant collection carried out by standard method (Jain and Rao, 1977). A field diary with details of visit was maintained. Plant specimens were preserved by dipping the whole specimens in saturated solution of Mercuric chloride and alcohol. Dry and preserved plants mounted on herbarium sheets by adhesive glue and fevicol. Identification of plants done with the help of flora (Sinha and Sukla) and other taxonomic literature.

Some plant specimens were identified and confirmed from center circle B.S.I., Allahabad.

RESULTS AND DISCUSSION

Regular field survey was carried out from May 2010 to September 2010 and visited Balwada, Barwah, Kalibith, Asirgarh, Pandhana, Pipaljopha, Mandleshawar, Bistan, Segaoon, Maheshawar, Omkareshawar. During field plant survey more than 400 plants were collected from Nimar region. Among them 262 plants have been identified. These 262 Plants consists of 249 flowering plants and 11 cryptogamic plants. Out of 249 angiospermic plants, 182 species 163, genera, 53 families are belonging to dicotyledonous While 67 Species, 60 genera and 19 families belonging to monocotyledons (Table-1). Gramineae tops in the list of 10 dominant families (Table-2). Ipomeaea with five species stands the first rank in ten dominant genera (table-3). Present study reveals that there are some wild relatives of cultivated plants found in the area. These wild gene pools should be conserved as a wild gene stock. These plants are *Abelmochus*, *Momardica diocea*, *Sorghum halepans*, *Oryza rufipogon*, *Saccharum spontaneum*, *Catharanthus pusilla*, *Vigna trilobatus*, and *Pennesetum pedicellatum*. Present study reports 17 threatened plants which may be disappeared from the area if continuous causal factors of depletion will go on, and need conservation for their survival. Ten dominant families are shown in Table-2; ten dominant genera are shown in Table-3. Present study report 17 threatened plants (Table-4). Which are depleting from the area in alarming rate?

Table 1: Distribution of Species, Genera and Families in Nimar region

Angiosperm		species	Genera	Families
	Polypetalae	77	64	25
Dicot	Gamopetalae	78	74	21
	Monochlaydeae	27	25	7
	total	182	163	53
Monocot		67	60	19
	Grand total	249	223	72

Table 2: Ten dominant families in Nimar region

Name of Family	No.of Genera
Gramineae	46
Fabaceae	27
Asteraceae	17
Malvaceae	11
Euphorbiaceae	10
Amaranthaceae	09
Cyperaceae	09
Acanthaceae	08
Cucurbitaceae	08
Tiliaceae	08

Table 3: Ten Dominant Genera

Sr. No.	DOMINANT GENUS	NO.OF SP.
1	Ipomoea(5)	Ipomoea carnea , I. aquatica , I.hederifolia , I.pestigridis, I.eriocarpa
2	Grewia(4)	Greawia tenax, G. flavescens, G. sapida, G. tilifolia
3	Alysicarpus(4)	Alysicarpus longifolius, A. pubescence, A. rugosus, A.monilifer
4	Crotolaria(4)	Crotolaria albida,C.medicagoinea,C.junceae,C.orixensis
5	Cyperus(4)	Cyperus rotandus,C.flavidus,C.nutans,C.triceps
6	Indigofera(3)	Indigofera glandulosa,I.linifolia,I.hirsuta
7	Ficus(3)	Ficus benghalensis,F.riligiosa,F.racemosa
8	Dioscorea(3)	Dioscorea hispida, D.bulbifera, D.pentaphylla
9	Hibiscus (2)	Hibiscus ovalifolius,H.canabinush
10	Amaranthus (2)	Amaranthus tricolor,A.spinusus

Table 4: Threatened plants of Nimar region

S.N.	BOTANICAL NAME	STATUS	REASON
1	<i>Oroxylum indicum</i>	Rare	Climate
2	<i>Gloriosa superba</i>	Endangered	Over exploitation
3	<i>Acampe praemorsa</i>	Rare	Habitat change
4	<i>Aeredes multiflorum</i>	Rare	Human interference
5	<i>Ophioglossum nudam</i>	Endangered	Climatic
6	<i>Pucraria tuberosa</i>	Valnerable	Loss of habitat
7	<i>Acacia coingi</i>	Valnerable	Loss of habitat
8	<i>Cerpogia hirsuta</i>	Rare	Loss of habitat
9	<i>Sarcostemma acidum</i>	Endangered	Human interference
10	<i>Viscum articulatum</i>	Rare	Over exploitation
11	<i>Acorus calamus</i>	Valnerable	Over exploitation
12	<i>Oryza rufipogon</i>	Rare	Harvesting
13	<i>Ceratopteris thalictroides</i>	Valnerable	Over exploitation
14	<i>Selaginella bryopteris</i>	Rare	Loss of habitat
15	<i>Hedychium coronarium</i>	Valnerable	Over exploitation
16	<i>Soymida fabrifuga</i>	Valnerable	Climatic
17	<i>Milletia excelsa</i>	Rare	Over exploitation

ACKNOWLEDGEMENT

Our sincere thanks are due to Dr. K. K. Khanna, (B.S.I. Allahabad), Dr. B. K. Shukla, (B.S.I. Allahabad), Dr. V. B. Diwanji, Dr. V. S. Arya, Dr. C. M. Solanki for giving suggestions and identification of plants. We are thankful to Dr. P. C. Dubey, CCF Indore forest division, Indore, and other forest officers for their help during field survey. we are

also grateful to Dr. Rakesh Trivedi , Principal P.M.B. Gujarati Science College , and Prof. Santosh Nagar , Head ,Dept .of Botany, P.M.B. Gujarati Science College for providing research and library facilities. We extend our thanks to Dr. O.P. Joshi Ex principle P.M.B. Gujarati Science College for help and suggestions. We are thankful to M .P. State Biodiversity Board, Bhopal for financial help.

LITERATURE CITED

- Sinha BK and Shukla BK, 2007. Synoptic flora of Khargone district Madhya Pradesh. *J. Econ. Taxon. Bot.*, **31** (3):642-695.
- Jain SK and Rao RR, 1976, *A Handbook of Herbarium methods*. Today and tomorrow publ. New Dehli.
- Mudgal V, Khanna KK, Hajra PK, 1997. *Flora of M.P.*, Botanical Survey of India Calcutta. Vol. 2.
- Roy GP, 1984. *Grasses of M.P.* Botanical Survey of India Allahabad.
- Sinha BK and Shukla BK. 2007. Synoptic flora of Khargone district Madhya Pradesh-1. *J. Econ. Taxon. Bot.* **31**(2):487-642.
- Sinha BK and Shukla BK, 2009. Synoptic flora of Khargone district Madhya Pradesh-3 Hydrocaritaceae to Poaceae. *J. Econ. Taxon. Bot.* **31**(1):120-147.
- Patunkar BW, 1980. *Grasses of M.P.* Scientific publishers Jodhpur.
- Singh NP, Khanna KK, Mudgal V, Dixit RD, 2001. *Flora of M.P.* BSI Calcutta. Vol.-3
- Verma DM, Balakrishan NP, Dixit RD, 1994. *Flora of M.P.* BSI Calcutta. Vol.-3