

**ETHNOBOTANICAL SURVEY OF MEDICINAL PLANTS USED TRADITIONALLY AT
NICHLAUL RANGE OF SOHAGI BARWA WILDLIFE SANCTUARY OF MAHARAJANJ
DISTT. U.P.****Dr. Ambrish Singh^{1*}, Prof. Makhan Lal², Prof. Rajbahadur Yadav³ and Dr. Ramanand⁴**¹M.D. Scholar Post Graduate Department of Dravyaguna State Ayurvedic College and Hospital, Lucknow.²Principal & Superintendent, Post Graduate Department of Dravyaguna State Ayurvedic College and Hospital, Lucknow.³Prof. Rajbahadur Yadav, Post Graduate Department of Dravyaguna State Ayurvedic College and Hospital, Lucknow.⁴Lecturer, Post Graduate Department of Dravyaguna State Ayurvedic College and Hospital, Lucknow.***Corresponding Author: Dr. Ambrish Singh**

M.D. Scholar Post Graduate Department of Dravyaguna State Ayurvedic College and Hospital, Lucknow.

Article Received on 22/08/2024

Article Revised on 12/09/2024

Article Accepted on 02/10/2024

ABSTRACT

Ethnomedicinal studies are very important for finding new sources of information about medicinal plants nowadays. There are appropriate sources of information about beneficial medicinal plants that can be used to treat diseases as well as documentation of traditional medicinal plant knowledge. My study site **NICHLAUL RANGE OF SOHAGI BARWA WILDLIFE SANCTUARY** is one of the most significant representatives of highly rich, diverse, and fragile Tarai ecosystems. The Aim of this research work is to gather maximum information about the use of medicinal plants as mentioned in Ayurveda at Nichlaur Range. Nichlaur is a town and a nagar panchayat in Maharajganj district in the Indian state of Uttar Pradesh. It is situated 25 km from district headquarter Maharajganj and 80 km from Gorakhpur. It is situated near the Indo-Nepal border. Its geographical coordinates are 27° 19' 0" North, 83° 44' 0" East and its original name (with diacritics) is Nichlaur. Total 21 days survey tour per year. The study will be based on survey and interview with local dwellers living in region and entirely depend on the plants occurring around them. During the course of study 68 plant species were surveyed in 37 family. It is observed during the study that plant species (Maximum) are used to treat the ailments of Digestive system Leaves are the most widely used plant parts.

KEYWORDS: Ethnomedicinal, Traditional medicinal plant.**INTRODUCTION**

The study of traditional medicine practices is known as Ethnomedicine. It is a complex multi-disciplinary system. Ethnomedicinal studies are very important for finding new sources of information about medicinal plants nowadays. There are appropriate sources of information about beneficial medicinal plants that can be used to treat diseases as well as documentation of traditional medicinal plant knowledge.

WHO has estimated that 80% of the people in the world rely on traditional medicine including Ethno medicine for primary health care. Ayurveda is the science of life and is the oldest codified scientific system of medicine existing till date and regaining its lost heritage day by day.

Ayurveda remained in direct touch with plants and identity of plant was clear to them. They used to prepare their therapeutic formulations themselves and taught the

things to their peoples, thus making them well versed with the knowledge of plant identification and perhaps this was the only reason that various treatise on Ayurveda lack in the morphological description of plants.

Traditional knowledge suffered a setback in recent decades and is endangered with the extinction due to: -

- Increasing popularity of modern medicine.
- Lack of interest of young generation in plants and their uses.

Those plants which are new to the Ayurveda, if included in pharmacopeia will certainly enrich the system. There may be certain new indications of known medicinal plants in local health traditions, which after clinical trials, if found effective may prove wonderful.

It is, therefore important that before the folklore about plants and plant resources is lost forever, it must be preserved and properly documented.

Ethnobotany is the study of the relationship between plants and people (Balick and Cox, 1996). It includes study of the uses of plants by humans and the relationship between humans and vegetation. It examines our dependence on plants and our effects on them.

Need of Ethnobotanical Survey in Ayurveda

ओषधीर्नामरूपाभ्यां जानते ह्यजपा वने।

अविपाश्चैव गोपाश्च ये चान्ये वनवासिनः। (च०सू०-१/१२१)

Acharya Charaka (CS.Su.1/121) have stated that goatherds, shepherds, cowherds and other forest dwellers know the plants by name, form and their specific uses. It is, therefore of paramount importance to collect the scattered knowledge about the medicinal plants and their uses from forest dwelling ethnic groups.

“गोपालास्तापसा व्याधा ये चान्ये वनचारिणः।

मूलाहाराश्चये तेभ्यो भेषजव्यक्तिरिष्यते ॥१०॥”(सु०सू०-३६/१०)

Acharya Sushruta in the above verse quoted that “Medicinal herbs and plants should be recognized and identified with the help of cowherds, Goatherds, shepherd, hermits, huntsmen, forest-dwellers, and those who cull the fruits and edible roots of the forest.”

“किरतगोपालकतापसाद्या वनेचरास्तत्कुशलास्तथाऽन्ये।

विदन्ति नानाविधाभेषजानां प्रमाणवर्णाकृतिनामजातीः ॥६॥”(ध०नि०-१/६)

Dhanvantari Nighantu in Upkram-6 (introduction) has mentioned that various forest dwelling groups know the plants by size, color, shape, name and species. He expects that a physician should first learn about the drugs from those forest dwellers and then decide the nature of the drugs with textual references and verify them by clinical trials.

The World Health Organization has a keen interest in documenting the use of medicinal plants by native peoples from different parts of the world (Buragohain, 2011).

Department of AYUSH, ministry of Health and Family Welfare, Government of India has launched a nationwide programme for the revitalization of local health traditions, to be implemented by the Non - Government Organizations.

RATIONALE OF STUDY

Traditional knowledge of medicinal plants and their use by indigenous cultures are useful for:-

Conservation of cultural traditions.

Biodiversity

Community healthcare.

Drug development in the present and future.

With the emerging worldwide attention, in adopting and studying traditional system and exploring their potential

based on different healthcare systems, the appraisal of the rich heritage of traditional medicine is essential.

As Acharya Charka stated that “हिमवानौषधिभूमिनां श्रेष्ठः॥” (च०सू०- २५/४०) NICHLAUL RANGE OF SOHAGI BARWA WILDLIFE SANCTUARY is situated at the base of Great Himalaya Mountain.

NICHLAUL RANGE OF SOHAGI BARWA WILDLIFE SANCTUARY is one of the most significant representatives of highly rich, diverse, and fragile Tarai ecosystems. The rich soils of Tarai coupled with great diversity of vegetation in the Sanctuary which also gives rise to a mosaic of diverse habitats.

AIM AND OBJECTIVE

AIM:- The Aim of this research work is to gather maximum information about the use of medicinal plants as mentioned in Ayurveda at Nichlaur Range of Sohagi Barwa Wildlife Sanctuary of Maharajganj district, with the help of forested communities, both tribal and civilized, prior to this old knowledge is wiped out or lost, and a comparative study of Ethno-medicinal uses with the description of plant drugs available in the Ayurvedic literature and modern scientific studies.

OBJECTIVES

Survey of medicinal plants of Nichlaur Range.

Identification and collection of medicinal plants with the help of tribal.

Documentation of traditional knowledge about Ethnomedicinal.

Analysis and therapeutic uses of these Ethno medicinal plants on the basis of Ayurvedic Samhitas.

PROPOSED AREA OF STUDY

NICHLAUL RANGE OF SOHAGI BARWA WILDLIFE SANCTUARY OF MAHARAJGANJ DISTRICT (U.P.)

Sohagi Barwa Wildlife Sanctuary is in the Maharajganj district in Uttar Pradesh state of India. It covers 428.2 km², located on the west Bank of the Gandaki River near the border with Nepal. Sohagi Barwa is one of the tiger habitats in Uttar Pradesh SBWS is divided into seven forest ranges, namely; Pakdi, Madhwaliya, Laxmipur, North Chouk, South Chouk, Seopur and Nichlaur ranges with 21 grasslands. The sanctuary is home to diverse flora and fauna, including tigers.

The present work Nichlaur Range of Sohagi Barwa wildlife sanctuary of Maharajganj, District of U.P. has been selected for study site. The Nichlaur range covering an area of 6,823.10 ha is divided into six beats— Nichlaur, Doma-1, Doma-2, Baithwalia, Chargaha and Siswa. This range is blessed with six small and large wetlands—Gudgudiya Taal, Chandamani Taal, Jhawai Taal, Manjhariya Taal, Darginia Taal and Choti Gandak River.

GEOGRAPHICAL LOOK

Nichlaur is a town and a nagar panchayat in Maharajganj district in the Indian state of Uttar Pradesh. It is situated 25 km from district headquarter Maharajganj and 80 km from Gorakhpur. It is situated near the Indo-Nepal border.

Its geographical coordinates are 27° 19' 0" North, 83° 44' 0" East and its original name (with diacritics) is Nichlaur. The distance between Lucknow to Nichlaur is 323 km.

METHODOLOGY

Total 21 days survey tour per year (1st tour of 7 days in last week of March or in 1st week of April, 2nd tour of 7 days in last week of August or in 1st week of September and last 7days in last week of December or in 1st week of January) will be done during the course of exploration and collection from Nichlaur Range of Sohagi Barwa Wildlife Sanctuary.

The study will be based on survey and interview with local dwellers living in region and entirely depend on the plants occurring around them.

Ethnomedicinal survey of medicinal plants at study site and frequent field visit will be performed with the help of supervisor and co-supervisor.

Survey in forest:- for data collection in forest area we adopted Standard Survey Methodology for Survey of Medicinal Plants developed by CCRAS. That is- Belt Transacts Method:- One of the popular methods for survey of plants is Belt Transact Method. Because this is suitable in natural forest areas not in Plantation sites and man-made forests where there are different vegetation pattern is observed.

In this method, survey team walk straight in Van Vishram Bhawan Nichlaur main road from a randomly selected point in the forest up to 50 meter width from both side of road consider for study purpose.

RESULT AND DISCUSSION

S. No.	Botanical Name	Family	Folk Name	Habit	Ethnomedicinal Usage
1.	Acacia catechu (L. f.) Willd	Fabaceae (Mimosaceae)	Kaat, Katta	Tree	Wound, Indigestion, Fatigue, Skin Disease
2.	Aegle marmelos (L.) Correa ex Roxb	Rutaceae	Bel	Glabrous tree	Diarrhoea, Arash, Acidity, Arthritis
3.	Alangium Salvifolium (Linn.f.)	Alangiaceae	Dhera	Small tree	Swasa Rog, Grahni
4.	Albizia lebbeck (Linn.) Willd	Fabaceae (Mimosoideae)	Siras	Spreading Tree	Aphrodisiac, Dentition like pain & diarrhoea
5.	Aloe Vera	Liliaceae	Dhekuar	Herb	Ulcer, Injury, Lump, Abdominal Pain, Dysuria
6.	Anthocephalus cadamba (Roxb.)	Rubiaceae	Kadam	Tree	Wound, Mouth Ulcer, Cough, Weakness
7.	Artocarpus heterophyllus Lamk	Moraceae	Katahal	Tree	Snake Bite, Swelling Ulcer, Nose Bleeding
8.	Asparagus racemosus Willd	Asparagaceae	Satav	Undershrub	Increase Semen Count, Nocturnal Emission, Increase Lactation in Females
9.	Azadirachta indica A.Juss	Meliaceae	Neeb	Large Tree	Pimples, Itching, Dandruff, Constipation
10.	Baliospermum montanum Muell	Euphorbiaceae	Jamalgota	Shrub	Constipation, Jaundice
11.	Bauhinia purpurea Linn.	Caecalpinoideae	Riaal	Deciduous Tree	Goitre, Piles, Leucorrhoea
12.	Buchanania latifolia Roxb	Anacardaceae	Priyala	Tall Tree	Nourishment of body, Sexual Power, Pimples
13.	Butea monosperma (Lam.) Kuntz	Fabaceae	Dhaak	Deciduous Tree	Leprosy, Bleeding piles, Elephantiasis
14.	Cannabis sativa Linn.	Cannabinaceae	Bhangi	Annual Herb	Piles, Stomach Worm, Wound, Diarrhoea
15.	Cassia fistula Linn.	Caesalpiniaceae	Sunahali	Moderate Tree	Stomach Purification, Gout, Leprosy
16.	Cassia occidentalis Linn	Fabaceae	Kasaundha	medium Shrub	Ring worm, Bowl Clear, Cough, Dysentery
17.	Cissampelos pariera Linn.	Menispermaceae	Purayain	Climbing Shrub	Migraine, Wound, Leprosy

18.	<i>Citrus medica</i> Linn.	Rutaceae	Bijora	Shrub	Halitosis (Mukh Durgandh), Ear ache
19.	<i>Clerodendrum infortunatum</i> Linn	Verbenaceae	Van bhanta	Shrub	Swelling, Intestinal worm, Skin disease
20.	<i>Clerodendrum phlomidis</i> Linn.	Verbinaceae	Tekar	Shrub	Ear ache, Piles, Stomach Colic
21.	<i>Desmodium gangeticum</i> De. <i>gangeticum</i> Linn	Fabaceae	Sarivan	Under shrub	Diarrhoea & dysentery, Gout
22.	<i>Embllica officinalis</i> Gaertn	Euphorbiaceae	Amala	Deciduous Tree	Wound, Bleeding Piles, Jaundice
23.	<i>Ficus lacor</i> Buch Ham	Moraceae	Pakar	Tree	Visarpa Rog, Herpes, Mouth ulcer
24.	<i>Ficus religiosa</i> Linn.	Moraceae	Pipal	Huge Tree	Syphilis, Urinary incontinence, Aphrodisiac
25.	<i>Flemingia strobilifera</i>	Fabaceae	Kanphota plant	shrub	Inflammarotory disease Diarrhea Antitubular
26.	<i>Fumaria parviflora</i> Lam.	Fumariaceae	Dhammi	Annual Herb	Fever, Piles, Ucer
27.	<i>Gloriosa superba</i> Linn.	Liliaceae	Kalari	Herb	Indralupta, Happy delivery, Leprosy
28.	<i>Gmelina arborea</i> Linn.	Verbinaceae	Kumahar	Deciduous Tree	Constipation, Fever, Flatulence
29.	<i>Grewia hirsuta</i> Vahl.	Tiliaceae	Bariyaar	Shrub	Wound dressing
30.	<i>Holoptelea integrifolia</i> (Roxb.) Planch	Ulmaceae	Chilbil	Deciduous Tree	Elephantiasis, Dadru
31.	<i>Imperata cylindrica</i> Rausch.	Gramineae	Muij	Perennial Shrub	Burning maturation, Jaundice
32.	<i>Indigofera tinctoria</i> Linn.	Fabaceae	Gaulli	Shrub	Epilepsy, Hair fall, Lever disease
33.	<i>Lagenaria siceraria</i>	Cucurbitaceae	Ghiya	Climber	Dental caries, Insect bites, Intestinal worm
34.	<i>Lawsonia inermis</i> Linn.	Lythraceae	Mehadi	Deciduous Shrub	Leprosy, Agni dagdh, Hair color
35.	<i>Leucas cephalotus</i> Spreng	Lamiaceae	Morpati	Herbs	Headache, Indigestion, Cough
36.	<i>Lygodium flexuosum</i>	Lygodium	Bartant	Climber	Cough, Falariasis, Pain and numbness in feet.
37.	<i>Mallotus philippensis</i> (Lamk.)	Euphorbiaceae	Kabila	Tree	Stomach Burn, Wound
38.	<i>Miliusa tomentosa</i>	Annonaceae	Dumara	Tree	Weak & stmina, Wound
39.	<i>Mimosa pudica</i> Linn.	Fabaceae (Mimosaceae)	Chui-mui	Under Shrub	Ulcer inflammation, Piles
40.	<i>Moringa oleifera</i> Lam	Moringaceae	Sahijana	Moderate Tree	Headache, Enhance Male Potency
41.	<i>Mucuna prurita</i> Hook	Fabaceae	Kujani	Herb	Aphrodisiac, Ardit
42.	<i>Murraya koenigii</i>	Rutaceae	Kat-Neem	Small tree	Vomiting, Bad Breath, Fever
43.	<i>Nelumbo nucifera</i> Grertn.	Nelumbonaceae	Kamal	Perennial Aquatic Herb	Itching, Bleeding piles
44.	<i>Nymphaea alba</i> Linn.	Nymphaceae	Berra	Perennial Aquatic Herb	Fever
45.	<i>Operculina turpethum</i>	Convolvulaceae	Nisoth	Perrenial Herb	Constipation, Piles
46.	<i>Oroxylum indicum</i> (Linn.)	Bignonaceae	Karamkandu	Tall Tree	Mouth ulcer, Asthma, Diarrhoea
47.	<i>Oxalis corniculata</i> Linn.	Oxalidaceae	Tinpatia, Chariamilo	Creeping Herb	Piles, Dysentery
48.	<i>Phyllanthus niruri</i> Sensu Hook.	Euphorbiaceae	Bhuia	Annual Herb	Skin infection, Hyper acidity, Jaundice
49.	<i>Pongamia pinnata</i> (Linn.)	Fabaceae	Mradu-pattra	Deciduous Tree	Eczema, Fissure
50.	<i>Psoralea Corylifolia</i> Linn.	Fabaceae	Bavachi	Annual Herb	Leukoderma, Elephantiasis, Diarrhoea
51.	<i>Putranjiva rox-burghii</i> Wall.	Euphorbiaceae	Jiapoota	Evergreen Tree	Cold, Fever, Thirst
52.	<i>Randia dumetorum</i> Lam	Rubiaceae	Pior	Large Shrub or small tree	Wound, Ribs Pain, Spasmodic pain
53.	<i>Rauwalfia serpentina</i> Benth	Apocyanaceae	Harchaii	Under Shrub	Insomnia, Scorpion Poisoning
54.	<i>Salmalia malabarica</i> DC.	Bombocaceae	Raui ped	Decidous Tree	Menorrhagia, Aphrodisiac
55.	<i>Semicarpus anacardium</i> Linn.	Anacardaceae	Bhilava	Decidous Tree	Bleeding, Piles, Brain tonic & weakness
56.	<i>Shorea robusta</i> Gaertn.f.	Dipterocarpaceae	Sal	Large Tree	Goitre, Wound

57.	<i>Solanum indicum</i> Linn	Solanaceae	Vanbhata	Herb	Abdominal Pain, Urinary Calculi, Dysuria
58.	<i>Swertia chirata</i> Buch Ham	Gentianaceae	Napali neem	Herb	Fever, Grahdhi rog
59.	<i>Syzygium cumini</i> (Linn.)	Myrtaceae	Jamun	Glaborous Tree	Diabetes, Diarrhoea, Dysentery
60.	<i>Tecoma undulata</i> G.Don	Bignoniaceae	Aruaar	Shrub	Syphilis, Metrorrgia
61.	<i>Tephrosia purpurea</i> (Linn.)	Fabaceae	Sirphoka	Herb	Cough, Skin disease
62.	<i>Terminalia arjuna</i>	Combretaceae	Aujun	Large Tree	Acne, Asthma
63.	<i>Terminalia bellerica</i> Roxb.	Combretaceae	Bahera	Large Tree	Chronic constipation, Dry cough, Digestive power
64.	<i>Terminalia Chebula</i> Retz	Combretaceae	Heeree	Large Tree	Wound wash, Eye disease
65.	<i>Tinospora cordifolia</i> Willd.	Menispermaceae	Guduch	Climber Herb	Gout arthritis, Elephantiasis, Leprosy, Chronic fever
66.	<i>Trewia nudiflora</i>	Euphorbiaceae	Pindar,Gori	Tree	Acidity & Flatulence
67.	<i>Typhonium trilobatum</i>	Araceae	Baskand	Herb	Bleeding & Non bleeding Piles.
68.	<i>Vitex negundo</i> Linn.	Verbinaceae	Sinuar	shrub or small tree	Headache, Lumber pain

SUMMARY AND CONCLUSION

The traditional healers were interviewed about medicinal plants, their uses and folklore in the study area with the help of a prepared questionnaire. All the collected plant species were identified by Supervisor and Co-supervisor and confirmed with the help of various available authentic literatures and also with online Flora Databases. The identified medicinal plant species and families were arranged alphabetical order according to Bentham and Hooker classification.

- ❖ During the course of study 68 plant species were surveyed.
- ❖ A total 20 Traditional Healers from 19 villages were interviewed to get the information.
- ❖ During present study 68 plant species were reported 37 families.

It is observed during the study that plant species (Maximum) are used to treat the ailments of Digestive system and followed by, Integumentary system, Urinary system / Excretory system Reproductive system, the Infectious diseases, Respiratory system, General debility Nervous system, Skeleton Ent, oral-dental, lymphatic.

- ❖ Leaves are the most widely used plant parts, followed by Root & root bark, Fruit, Seed, Stem, Whole plant, Bark, Flower, Root bulb.

Mustard oil is the base for the oil preparations in all the therapeutic oil preparations reported. The claims emanating from present survey need to be studied pharmacologically and clinically. The purpose of this work is not to prescribe any remedies for above mentioned conditions but to document the uses and draw the attention of research scholars and pharmacologists for further scientific research in this field.

REFERENCES

1. Agnivesh Maharishi, Charak Samhita with elaborated Vidhyotini Hindi.
2. Commentary by Pt. Kashinath Shastri and Gorakhnath Chaturvedi charak Vol.1 chap.30, Chowkhamba Bharti Academy, Varanasi, Reprint edition Yr.2009.

3. Kaviraj Dr.Ambika Dutt Shastri. Hindi commentary on Ayurveda tattva.
4. Sandeepika, Susrut Samhita by Acharya Susrut Sutra sthan vol.1.
5. Sharma P.V. Introduction of Dravyaguna (Indian Pharmacology).
6. Acharya Priyavrat Sharma & Dr. Guruprasad Sharma Dhanvantari.
7. Nighantu Upkarma Chaukhambha sanskrit Sansthan, Varanasi, India, Edi & reprint -2016.
8. AVIFAUNAL STUDIES AT SOHAGI BARWA WILDLIFE SANCTUARY;
9. Website: www.bnhs.org
10. <https://maharajganj.nic.in/>
11. Maplandia.com