

An Ethnobotanical Study of Medicinal Plants used by Local People of Neel Valley, Ramban, Jammu and Kashmir, India

¹Ammir Hassan, ²Shamiya Hassan, ³Mohd Abdul Nasir

¹Govt. Degree College (Boys) Anantnag, Jammu & Kashmir

²Govt. Degree College for women Anantnag, Jammu & Kashmir

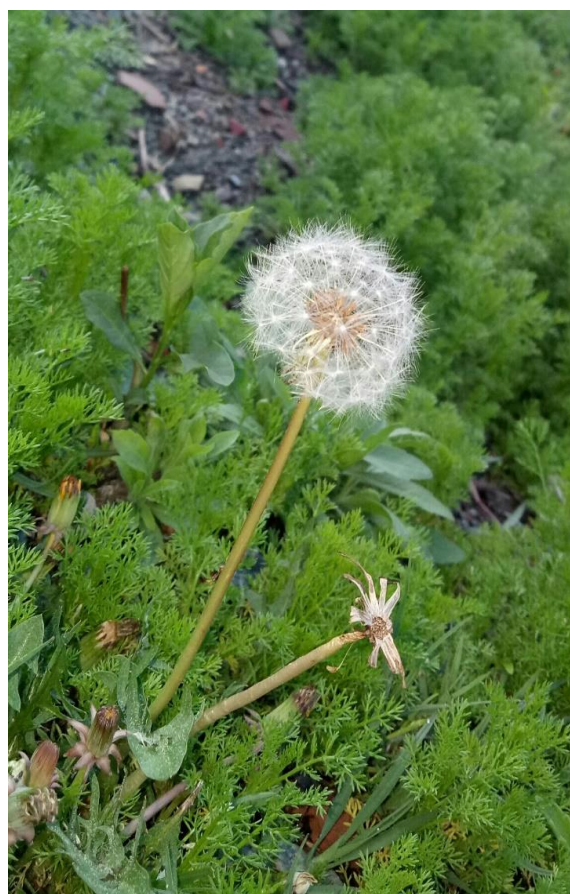
³Higher Secondary School, Khari, Jammu & Kashmir

Abstract: History has witnessed a close association between plants and mankind. Since prehistoric times Medicinal plants have been used by humans to treat various ailments and this Ethnomedicinal knowledge has been transmitted to generations through oral traditions. These Medicinal plants were also integral to traditional Indian system of medicine i.e. Ayurveda, Siddha and Unani. The first historical account of medicinal use of plants is found in ancient Indian treatise Rigveda, 1500-400 BC. The Objective of present communication was to investigate, identify and document the uses of medicinal plants in traditional medicines by local inhabitants of Neel valley, Ramban, Jammu and Kashmir, India.

Keywords: Medicinal plants, Ayurveda, Rigveda, Traditional medicine, Neel valley.

I. INTRODUCTION

Ethnobotanical studies are as old as human civilization itself. These studies are imperative to explore the locally known plants for emerging Indian pharmaceutical industry and to strengthen plant-people relationship in cultural and ecological context so as to achieve inter-generational equity. India is one of the mega-diverse countries of the world. It is home to 17500 species of higher plants and about 7500 plants have got medicinal values (Shiva MP, 1996) and many such plants have been evaluated for medicinally active principles. Due to genesis of pharmaceutical giants all over the world, Plants as a source of crude commercial drugs failed to get due attention. In spite of the fact, Even today 80% of the world's population depend on plant based crude drugs to meet their primary health care needs(Kala et al., 2006 , WHO-2002).



Digital photograph of *Taraxacum officinale*

II. MATERIALS AND METHODS

a. Study Area

Study was carried out in Neel valley, located in district Ramban of Jammu and Kashmir, India at an elevation of 2161m above the mean sea level (MSL). It is about 26 kms to the North-East of Banihal town. Neel valley precisely lies between geographical coordinates 33°14'24'' N to 33°14'24'' E. Geoclimatically Neel Valley is a moist temperate zone .It is essentially a part of Pir Panjal range of

North-Western Himalayas. Summers are pleasant while the winter is extremely harsh. The temperature during winter can be as low as -14 °C but during summer it ranges between 19 to 27 °C. The valley receives seasons first snow fall during the month of November and remains covered with snow sheets till late March.

b. Ethnobotanical survey

A survey of the region was carried out from June 2016 to August 2017 to compile the indigenous knowledge of medicinal plants used for treatment of various diseases by local communities. Ethnomedicinal information from local inhabitants of 7 villages was collected through semi-structured questionnaire and direct interviews. Information was gathered from 61 randomly selected informants of different age groups ranging between 21 to 69 years of age. Out of these 61 informants, 09 were females and 02 were male Hakims (traditional healers/herbalists in villages). One of the authors is native to the valley who has some practical knowledge about medicinal plants of the region. Informants were asked to provide information about plants used as medicines, plant part used and preparation of remedy (differed significantly from village to village) and mode of administration and dosage.

Specimen of reported medicinal plants were digitally photographed and collected during field trips and were identified by experts by using standard literature i.e. Flora of British India by Hooker(1872-97) and Forest flora of Srinagar by Singh and Kachroo (1976), and Flora of Pir Panjal range (North-West Himalaya) by Singh and Kachroo (1994).

III. RESULT AND DISCUSSION

This study was the first such attempt to document the medicinal plants of the region. During the field work, total 29 plant species belonging to 26 genera and 19 plant families were documented for medicinal use (**Table 1**). Out of 29 plant species, 05 species belong to family Asteraceae, 03 species belong to Solanaceae, 02 species belong to Fabaceae, Euphorbiaceae, Pinaceae and Apiaceae each, 01 species belongs to Juglandaceae, Poaceae, Vitaceae, Fumariaceae, Cannabinaceae, Araceae, Iridaceae, Oxalidaceae, Caprifoliaceae, Moraceae, Malvaceae, Lamiaceae and Urticaceae each. The highest number of plants belonged to family Asteraceae followed by Solanaceae. Gymnosperms were represented by two genera which belong to family pinaceae. Dicots were most dominant followed by gymnosperms and monocot (**Figure 1**). The commonly used plant parts in traditional medicines include roots, rhizome, stem, leaves, flowers, seeds, wood and whole plants. However leaves were most preferred plant part used in preparation of herbal remedies.

Table 1 .List of medicinal plant used in traditional medicines by inhabitants of Neel valley

S.No	Botanical name	Local name	Family	Part used	Ethnomedicinal use
1	Achillea millefolium	Pahal gaas	Asteraceae	Rhizome, leaves	Headache, Cough, Tooth ache
2	Euphorbia helioscopia	Gurisocho	Euphorbiaceae	Leaves, stem seeds, latex	Abdominal cramps, cholera and eruptions
3	Cynodon dactylon	Drub	Poaceae	Whole plant	Common cold
4	Artemisia absinthium	Tethwan	Asteraceae	Leaves	Obesity, Diabetes, liver infection, Anthelminthic
5	Hyoscyamus niger		Solanaceae	Seeds	Tooth ache
6	Trigonella foenum-graecum	Meth	Fabaceae	Leaves, Seeds	Back pain, stomach ache
7.	Mentha viridis	Pudhun	Lamiaceae	Leaves	Gastric troubles
8	Saussurea Lappa	Kuth	Asteraceae	Rhizome	Joint pain, back pain, sole ulcers, dysentery, fever, urinary problems
9	Vitis vinifera	Daesh	Vitaceae	Leaves	Skin rashes, sores, eruptions
10	Datura steomium	Datruh	Solanaceae	Seeds	Tooth ache, Used as pain killer
11	Oxalis corniculata	Chukamni	Oxalidaceae	Leaves	Gum bleeding, Toothache, Convulsions, Blood

					purification, Diarrhoea
12	Viburnum grandiflorum	Cherandwaar	Caprifoliaceae	Seeds	Typhoid, Cough, whooping cough
13	Juglans regia	Achur	Juglandaceae	Leaves, Bark	Tooth infection, scrofula, rickets, leucorrhoea and for tooth whitening
14	Urtica dioica	Soi	Urticaceae	Leaves and Roots	Rheumatism
15	Atropa acuminata		Solanaceae	Roots, leaves	Cough and antispasmodic
16	Pinus wallichiana	Kheir	Pinaceae	Resin	Cures chaffing of heels
17	Gnaphalium affine	Doodal	Asteraceae	Leaves	antiperiodic, antitussive, expectorant and febrifuge
18	Cedrus deodara	Deaar	Pinaceae	Stem, Bark	skin rashes, allergies and external ulcers
19	Coriandrum sativum	Danival	Apiaceae	Leaves, seeds	Digestive trouble, appetizer
20	Cichorium intybus	Zeranth	Asteraceae	Leaves	Sore throat, indigestion
21	Fumaria indica	Cuethhuar	Fumariaceae	Whole plant	Dyspepsia, Rheumatism
22	Viola odorata	Banafsha	Violaceae	Leaves, flowers and seeds	Respiratory troubles
23	Arisaema jacquemontiana	Shaput makei	Araceae	Rhizome	Muscular strength, Skin infection
24	Iris kashmiriana	Mazar kul	Iridiaceae	Whole plant	Joint pains
25	Cannabis sativa	Bhanj	Cannabinaceae	Leaves, flower	ear-ache, blood purifier, scabies and piles
26	Euphorbia wallichia	Ghuri dudh	Euphorbiaceae	Stem, Leaves, latex	Skin diseases
27	Glycyrrhiza glabra	Mulethi	Fabaceae	Root	Jaundice, respiratory troubles
28	Malva sylvestris	Sotsal	Malvaceae	seeds	Cough, fever
29	Foeniculum vulgare	Saunf	Apiaceae	Seeds	Constipation

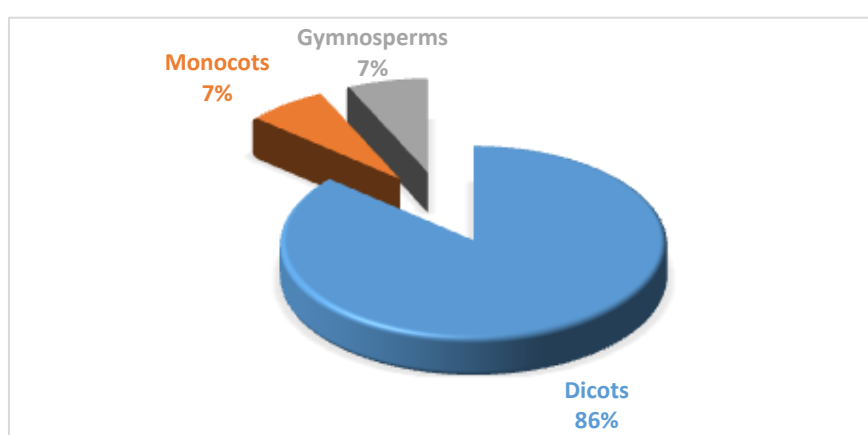


Figure 1. Percentage of different taxa of spermatophytes used in traditional medicines by inhabitants of Neel valley.

IV. CONCLUSION

Our study showed that many communities still have a strong faith in herbal remedies. These plant preparations continue to play an important role in the primary healthcare system for the local people living in the Valley Neel. Therefore the need was felt to document the medicinal plant diversity which can contribute to preserving knowledge on the use of medicinal plants in this region. These plant based crude drugs are cost effective, easily accessible and with almost no side effects. However due to increase in population, the rate of exploitation of plants for medicinal value has considerably increased thus posing serious threat to wild plant populations. Since plants are basic to universal existence, irrespective of their value, need sound conservation strategies to achieve intergenerational equity.

ACKNOWLEDGEMENTS

Authors are very much grateful to local inhabitants and Hakims (healers). Without their contribution, this study was not possible.

V. REFERENCES

- [1] Ali SI, Qaiser M: A Phytogeographical analysis of phanerogams of Pakistan and Kashmir .Proc. R Soc Edinb Biol 1986, 89B:89-101.
- [2] Chauhan, N.S. 1999. Medicinal and Aromatic Plants of Himachal Pradesh. Indus Publishing Company, New Delhi.
- [3] Dutt HC, Bhagat N and Pandita S. Oral traditional knowledge on medicinal plants in jeopardy among Gaddi shepherds in hills of northwestern Himalaya J&K India. Journal of ethnopharmacology. 2015; 168:337-48.
- [4] Kala, C.P., Dhyani, P.P. and Sajwan, B.S. 2006. Developing the medicinal plant sector in north India: challenges and opportunities J.ethnobiology and ethnomedicine.
- [5] Koul M K. Medicinal plants of Kashmir and Ladakh and cold Arid Himalaya Indus Publishing Company New Delhi. 1997.
- [6] Malik AH et al. Ethnomedicinal uses of some plants in the Kashmir Himalaya. Indian Journal of Traditional Knowledge. 2011; 10(2):362-6.
- [7] Nasir, E. and Ali, S.I. 1970. Flora of West Pakistan. Department of Botany University of Karachi.
- [8] Shah A et al. New ethnomedicinal claims from Gujjar and Bakerwals tribes of Rajouri and Poonch districts of Jammu and Kashmir India, journal of ethnopharmacology. 2015;166:119-28.
- [9] Shiva MP. Assessment of NTFP Resources of India: A report for Formulation of the National Forestry Action Programme, Vol. 1. Ministry of Environment and Forests, New Delhi, 1996;5(13):54-55.
- [10] Singh, J. B. and Kachroo, P. 1994. Flora of Pir Panjal range (Northwest Himalaya). Bishen Singh and Mahendra Pal Singh , Dehradun, India.
- [11] WHO World Health Organization. Traditional Medicine Strategy. 2002; PP: 11.