

Ethnopharmacological Uses of Plants among Tribal and Rural Folks of Shopian Forest Area of Kashmir

Raiees Ahmad Jan¹, Neelam Khare²

School of Forestry and Environmental Sciences, Sam Higginbottom Institute of Agriculture Technology and Sciences, Allahabad.

Abstract: Shopian has been an ancient town of Kashmir which among other factors in the past has historical importance, since it is situated in the ancient imperial road commonly known "Mughal Road" which connects Kashmir valley with Rajouri and Poonch districts. Indigenous knowledge system are culturally valued and scientifically important. The indigenous knowledge of plants resource has deep roots, in the life style of local in mountain population of Kashmir Himalaya. Preference is given to herbal remedies because of having no alternative choices, poverty and trust in the effectiveness of folklore herbal remedies. Field observation was carried out in district shopian Kashmir focusing on ethnobotany, ethnomedicine and diversity of medicinal plants. A total 32 species belong to 24 families was collected from study area. The present study revealed that 32 herb up to about 65% of the plants collected from the study as medicinal values Asteraceae, Pinaceae and Polygonaceae. Result revealed that most of the plants species had multiple uses in the treatment of disease. Strengthening the use and conservation of indigenous knowledge of useful plants may benefit and improve the public health and living standard of local people.

Keywords: Shopian Forest, Kashmir, Tribal, Ethnopharmacology, Medicinal values

1. Introduction

Shopian was accorded a district status in 2007, earlier being part of district Pulwama. The district is bounded by Pulwama in north, Budgam in west, Kulgam in east and districts of Rajouri and Poonch in south. It lies on the latitude of 33° 72' N and a longitude of 74° 53' E. It is situated in the lapsofs foot hills of Pir Panjal Range and most of its area is hilly terrain. It has an average elevation of 2057m above mean sea level. Shopian has been an ancient town of Kashmir which among other factors in the past has historical importance, since it is situated in the ancient imperial road commonly known "Mughal Road" which connects Kashmir valley with Rajouri and Poonch districts. The district enjoys a predominantly dry temperate climate. On the basis of temperature and precipitation, the district has four seasons in a year, winter (Dec.-Feb.), Spring (March-May), Summer (June-Aug.) and Autumn (Sept.-Nov). The temperature ranges from an average daily maximum of 32°C and minimum of 15°C in July to an average daily maximum of 4°C and minimum of -4°C in January. The district is populated by several ethnic groups such as Bakerwals, Gujjars and Shepherds. The Gujjars are cow/ buffalo herders and Bakerwals are goat/ sheep herders generally. The Bakerwals are nomadic tribe and high altitude goatherds/shepherds essentially. The work on ethno-medicinal aspects of Jammu & Kashmir has been undertaken earlier (Dar *et al.*, 1984; Kapahi *et al.*, 1993; Singh 1995; Khan *et al.*, 2004; Abdul Rashid *et al.*, 2008; Pant and Verma 2008; Iqbal *et al.*, 2009; Tantray *et al.*, 2009; Mukesh *et al.*, 2009; Malik *et al.*, 2011). However, the forest area of Shopian has not been explored by the researchers. Therefore, the present data has its importance recorded for the first time. It has been suggested that more and more areas which are inhabited by ethnic groups may be studied to record information on medicinal potential endemic to such primitive and rural communities. This may provide indicators for development of new drugs.

2. Materials and Methods

Ethnomedicinal surveys of the selected localities of Shopian district were undertaken during 2010-2011 on the guidelines as suggested by Schultes (1962). The method of field work followed is after Jain (1964 b). Plants were collected from different sites of the study area and data relating to different ethnomedicinal aspects were collected from local people of the area. This was primarily done by carrying the collected specimens to the old men and sometimes to old ladies. The informants were asked questions in Urdu and Kashmiri regarding traditional uses of plants, their vernacular names, distribution and growing period. The useful information of plants was recorded in the field book. The information collected from above people was further verified by cross checking from other knowledgeable persons of the area study and key informants (Hakims). Almost all the plants were collected during flowering and fruiting period with the help of tribals and experienced local people. Individual plants were photographed in their natural environment with digital camera having resolution of 10.1 mega pixels. For collecting the plants/plant parts various equipments such as scissor, knife, trowel, pruning shears and polythene bags were used. During the survey, the colour and shape of flowers were keenly observed.

3. Results and Discussion

The present study shows that area of Shopian, Kashmir Ethnomedicinal Plants data on 35 medicinal plants as recorded from the study area. It has been observed that different parts of the plants viz., root, shoot, leaves, flower, seed, resin and oil are used shows that table 1.

Table 1: List of Ethnomedicinal plants usage in Shopian, Kashmir Valley.

S. No.	Name of Plants	S. No.	Name of Plants
1.	Abies Pindrow`	18	Rheum emodi
2.	Artemisia nilagirica	19	Rumex nepalensis
3.	Arisaemajacquemontii	20.	Saussurea lappa
4.	Angelica glauca	21.	Solanum nigrum
5.	Aconitum heterophyllum	22.	Taraxacum officinale
6.	Arnebia benthamii	23.	Urtica dioica
7.	Bergenia ciliata	24.	Juniperus cummunis
8.	Carum carvi	25.	Hyoscyamus niger
9.	Cannabis sativa	26.	Fagopyrum esculentum
10.	Cirsium wallichii	27.	Geranium wallichianum
11.	Dioscorea deltoidea	28	Ficus carica
12.	Juglans regia	29	Mentha arvensis
13.	Malva sylvestris	30	Berberis lycium
14.	Picrorhiza kurroa	31	Adiantum cappillus
15	Pinus wallichiana	32	Viola odorata
16	Podophyllum hexandrum		
17	Polygonum amplexicaule		

Most of the species documented prefer highly specialized ecological niche. For example, *Bergenia ciliata* prefers exposed wet rocks and chiffs, prefers rocks crevices, *Podophyllum heexandrum*, and *Arnebia benthamii* prefer ground under rocks *Saussurea lappa* prefers gravesl and boulder. This indicates that ecological diversity essential for sustenance of high taxonomic diversity.

Of the different ethnomedicinal plants documented, 32 plants were used for general disorders heart disease, liver disease, jaundice, skin disease, cut, fever, asthma, cough etc. wounds and other ailments (table 2) ten ethnomedicinal plants namely viz., *Artemisia nilagirica*, *Arisaemajacquemontii*, *Dioscorea deltoidea*, *Picrorhiza kurroa*, *Pinus wallichiana*, *Podophyllum hexandrum*, *Rumex nepalensis*, *Solanum nigrum* *Ficus carica* and *Berberis lyceum*, *Geranium wallichianum*, *Picrorhiza kurroa*, *Polygonum amplexicaule* were used as tonic and for potency. Two ethnomedicinal plants namely *Aconitum heterophyllum*, *Picrorhiza kurroa* were used as antidote for poison. These observation suggest that ethnomedicinal plants documented have wide range of application ranging from stimulating body immune system to function as antibiotics and to prevent tumerogenic/ cancerous growth. Besides four plants namely *Arnebia benthamii*, *Juglans*

regia, *Rehum emodi*, and *Rumex nephalensis* were used for dyeing clothes. These results suggest that some ethnomedicinal plants may have a great potential for developing remedies for a wise range of health disorders and product of economic importance.

Beside, the medicinal uses of plants many ethnomedicinal plants were used as food and other utilize for example *Arisaema Jacquilemontii*, *Podophyllum hexandrum*, *Taraxacum officinale* and *Rumex nephalensis* was used as food and *Hyoscyamus niger*, *Metha arvensis* was used as a spicies. Most of the plants used for different medicinal purposes are regarded as very important and are used extensively. Due to this extensive usage they are over – harvested. Most of the plants are already on the endangered list and to prevent the exintinction of these medicinal plants species, effort need to be made to protect the endangered plants species by creating the awareness of the local people and giving them incentives to help protect these plants. The above finding are similar by **Tantray et al. (2009)** .

4. Conclusion

The ethnobotanical studies of Shopian forest range revealed that over 32 species belonging to 24 families form the basis of livelihoods of shopian community. This indicates high taxonomic diversity is essential for sustaining the livelihood of community and the loss in the taxonomic diversity may endanger the unique plant culture of the region. The new information has been documented for 16% of the species. This implies that the economic potential of the plant resources of the region is very high and the probability of discovering a new drug or product of industrial values through biotechnological approach is extremely high. Therefore, rich plant diversity of shopian forest range not only forms the basis of livelihood of shopian community but it is also a treasure that can provide new remedies for diseases for which no drug is available.

5. Acknowledgement

We are grateful to the people of shopian (Kashmir) whom we consulted during the course of field observation and the conservator of Shopian Forest for providing necessary support.

Table 2: List of plant species documented to posses Ethnomedicinal plants usage in different diseases from District Shopian, Kashmir Valley

Scientific name	Family name	Local name	Locality and Source of information	Disease/Condition
Abies Pindrow	Pinaceae	Budhlu	Herpora-Gujjar	cough and cold
Artemisia nilagirica	Asteraceae	Tethwan	Pir ki galli-Bakarwal	Skin eruptions, as antiseptic
Arisaemajacquemontii	Araceae	Cobra plant	Dubjan-Bakarwal	Skin problems
Angelica glauca	Apiaceae	Chueer	Sadhiv-Gujjar	Acidity and gastric ailments
Aconitum heterophyllum	Ranunculaceae	Patis	Chutpora-Gujjar	Food poisoning
Arnebia benthamii	Boraginaceae	Kahzaban	Dubjan-Bakarwal	Increase lactation ,hair loss
Bergenia ciliata	Saxifragaceae	Zakhmahayat	Herpora-Gujjar	Kidney and gall bladder stones
Cannabis sativa	Cannabaceae	Baang/charis	Chatpora-Gujjar	Backache
Cirsium wallichii	Asteraeae	Chaeer kund	Yar-Bakarwal	Infusion and severe headache
Dioscorea deltoidea	Dioscoreaceae	Discoria	Sadhiv-Gujjar	Skin eruptions, as antiseptic
Jurinea dolomiaea	Asteraceae	Doop	Pir-ki-galli-Bakarwal	Roots are considered to be stimulant and given in fever after child birth

Juglans regia	Juglandaceae	Doon	Dubjan-Bakarwal	headache, giddiness, feeble and falling pulse, extreme coldness, diarrhea and severe biliousness
Malva sylvestris	Malvaceae	Suchal	Dubjan-Bakarwal	Severe headache, as cooling agent
Picrorhiza kurroa	Scrophulariaceae	Kood	ladigassan-Bakarwal	Cut , wound and antiseptic
Pinus wallichiana	Pinaceae	Kayod	Padapayan -Gujjar	Cuts, wounds, fractures
Podophyllum hexandrum	Berberidaceae	Wanwangan	shahkut-Gujjar and Bakarwal	Fever, stomach ailments
Polygonum amplexicaule	Polygonaceae	Gangli chai	Cooler- Bakarwal	Constipation
Rheum emodi	Polygonaceae	Pambchalan	Padapayan -Gujjar	Fractures and wounds
Rumex nepalensis	Polygonaceae	Abuj	shahkut-Gujjar and Bakarwal	Skin irritation
Saussurea lappa	Asteraceae	Kuth	Pir-ki-galli-Bakarwal	Sickness to women after childbirth
Solanum nigrum	Solanaceae	Kambal kul	Pir-ki-galli-Bakarwal	Stomach ache, convulsion
Taraxacum officinale	Compositae	Bal hand	Dubjan-Bakarwal	Jaundice, liver ailment
Urtica dioica	urticaceae	Soi	ladigassan-Bakarwal	Haemorrhages and to excite activity in paralysed limbs
Juniperus cummunis	Cupressaceae	Wateur/abhal	shahkut-Gujjar and Bakarwal	pancreas, prostate, kidney, and gallstones, leukorrhoea, dropsy, lumbago, hypoglycemia, hemorrhoids, scurvy
Hyoscyamus niger	Solanaceae	Ajwaan	Padapayan -Gujjar	Tooth ache
Fagopyrum esculentum	Polygonaceae	Trumb	Sadhiv-Gujjar	Dysentery
Geranium wallichianum	Geraniaceae	Ratanjot	Herpora-Gujjar	Sore throat
Ficus carica	Moraceae	Anjeer	Chutpora-Gujjar	Heart diseases, liver and skin problems
Mentha arvensis	Lamiaceae	Pudina	ladigassan-Bakarwal	Cure gastroenteritis
Berberis lycium	Berberidaceae	Barkund	Cooler- Bakarwal	Asthma, cough.
Adiantum cappillus	Adiantaceae	Gevther	Padapayan -Gujjar	Body pain
Salix caprea	Salicaceae		ladigassan-Bakarwal	cancer, cuts, wounds, diarrhea, fever, gastric ulcers, hepatic diseases, skin diseases
Viola odorata	Violaceae	Bunafsha	Yar-Bakarwal	Tonsillitis, gastric problems

References

- [1] **Das, A. K., Shome, J. and Ghosh, A. K. (1986).** Disease and medicinal plants in some tribal areas. *Human Science*. **35**: 279-285.
- [2] **Host, G. E. and Pregitzer, K. S. (1992).** Geomorphc influences on ground- Flora and over story composition in upland for plant diversity in boreal forest of North-Western Lower Michigan. *Canadian Journal of Forest Resource*. **22**: 1547-1555.
- [3] **Joshi, P. N. and Soni, H. B. (2013).** Ethnobotanical, medicinal and economic importance of plants: a case study of Kachchh Desert Island, Gujarat State, India. *Lifesciences Leaflets*. **1(1)**: 56-63.
- [4] **Malik, A. R., Siddique, M. A. A., Sofi, P. A. and Butola, J. S. (2011).** Ethnomedicinal Practices and Conservation Status of Medicinal Plants of North Kashmir Himalayas. *Research Journal of Medicinal Plant*. **76**: 1-15.
- [5] **Rannie, W. F. (1986).** Summer air temperature and number of vascular species in arctic
- [6] **Tantray M. A. Tariq K. A. Mir, M. M. Bhat, M. A. Shawl A. S. (2009)** Ethnomedicinal survey of shopian, Kashmir (J& K) , India. Ethnomedicinal survey of Shopian, Kashmir (J& K), India Asian Journal of Traditional Medicine, 2009, 4(1).
- [7] **Whittaker, R. H. and Niering, W. A. (1975).**Vegetation of the Santa Catalina Mountains, Arizona. V. Biomass, Production, and diversity along the elevation gradient. *Ecology*. **56**: 771-790.