



**ETHNO-MEDICINAL PLANTS AND THEIR ROLE IN CURING THE INHABITANTS IN
KUMAUN HIMALAYA (INDIA)**

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ABSTRACT

The present investigation was carried out in five villages of Berinag block of Pithoragarh district, on the use of mild and native ethno-medicinal plants by locals, in their traditional health care system. The people residing in this area have inherited rich traditional, indigenous knowledge from their ancestors on ethno-medicinal plants and their use as household remedies, in treating various ailments. A total of 52 species belonging to 48 genera and 32 families are being used for curing 33 different diseases. These constitute of 42.62% of seeds/fruits/seed or inter-node oils, followed by 36.6% of leaves; 8.19% of twigs/bark/ stems and tubers/ roots while 4.91% of flowers, of these plants in crude form to treat various ailments like coughs and colds, fevers, stomach problems, cuts and wounds, eye problems, skin diseases, weakness, joint pains, diabetes, blood pressure, sun stroke, asthma, intestinal worms, gastric problems, dandruff, jaundice and anaemia, boils and pimples, piles, etc. The main purpose of this study was to document the indigenous knowledge of the Vaidyas and other knowledgeable persons of the area, about the use of local flora, as household remedies, for treating different ailments.

KEYWORDS: Indigenous knowledge, Ethno-medicinal plants, Ailments, Kumaun Himalaya.

INTRODUCTION

The entire Indian Himalayan region is a repository of enormous floral and faunal diversity. Floral diversity plays an important role in fulfilling the daily needs of the inhabitants of a particular region such as fuel, fodder, timber, agricultural implements, edible fruits and medicinal plants. The Indian Himalayan region alone supports about 18,440 species of plants (8000 species angiosperms, 44 gymnosperms, 600 species of pteridophytes, 1736 species of bryophytes, 1159 species of lichens and 6900 species of Fungi) of which about 45% have medicinal properties. According to^[1] out of the total species of vascular plants which grow in this region, 1748 species are medicinal. The local inhabitants of this area, living in the vicinity of the forests, possess vast practical knowledge about the ethno-medicinal and other uses of indigenous flora and depend on folk medicine and household remedies (Gharelu Upchar) to a great extent.^[2]

The available literature reveals that considerable work has been done on ethno-medicinal plants in the Himalayan region of Uttarakhand.^[3-9] However, there appears to be some gap in the documentation of the traditional knowledge of the locals of the area, vis-à-vis proper listing of traditional medicinal plants, their uses and the procedures of their use. Keeping this in mind, the present study was carried out to document the traditional

medicinal plants of this area, their parts used and the procedures of their use.

MATERIALS AND METHODS

Pithoragarh district is located between 29° 20' 00' & 29° 30' 00" N latitudes and 79° 23' 00" & 79° 42' 00" E longitudes respectively, with elevation ranges varying between 1300 to 2600 meters above sea level. The present study was conducted in 5 villages of Berinag block, of Pithoragarh district, on mild and native medicinal plants used by locals in their traditional health-care system. The information was gathered through questionnaire method in the year 2014 (Jan- April). Personal interviews were conducted with middle aged and older people, most of them, Vaidyas, (old medicinal practitioners of villages) to collect information from them about the medicinal plants of the area as they had vast indigenous knowledge about their uses as home remedies. The information was gathered by the second author, with the help of a questionnaire after long discussions about the plants (both wild and cultivated) vis-à-vis listing of plants, their localities, various ethno-medicinal uses and procedures of their use for treating different ailments.

RESULTS AND DISCUSSION

The present investigation was conducted on traditional medicinal plants in the Berinag region of Pithoragah district of Kumaun Himalaya. During the course of field

investigation it was found that the locals have depended on local flora for phyto-remedies and ethno-medicinal uses for hundreds of years. Local Vaidyas and other knowledgeable persons, have a good knowledge about ethno-medicinal plants and the procedures of their use for treating various ailments, as household remedies. A total of 52 major plant species (both wild and cultivated) belonging to 48 genera and 32 families out of which 21 were trees, 5 shrubs, 24 herbs and 2 climbers are being

used as ethno-medicine for treating different ailments. Many among these 53 plants are being used to cure coughs and colds, fevers, stomach problems, cuts and wounds, eye problems followed by skin diseases, weakness, joint pain, diabetes and blood pressure. A few species are also being used to cure sun stroke, asthma, intestinal worms, gastric problems, dandruff, jaundice, anemia, boils and pimples, piles, etc.

Table 1: Showing plant species used as ethno-medicine for different ailments as household remedies.

Botanical name	Local Name	LF	Uses and Using Procedure
Agavaceae			
<i>Agave Americana</i> L.	Rambans	SH	After pounding, leaves made into slurry are given to cure bacterial problems.
Anacardaceae			
<i>Mangifera indica</i> L.	Aam	TR	Slurry of leaves and fruit is given for curing sun stroke.
Apiaceae			
<i>Centella asiatica</i> L.	Brahmi	HR	Crushed leaves made into slurry given to cure brain fever and also for recovery from weakness.
Asteraceae			
<i>Parthenium hysterophorus</i> L.	Gajar Ghas	HR	Crushed leaves made into paste are applied on cuts and wounds.
<i>Senecio chrysanthemoides</i> DC.	Ratpattia	HR	Slurry of leaves is given to cure piles.
<i>Artemisia vulgaris</i> L.	Pati	HR	Leaf juice or extract is given for curing ear problems, intestinal pain and paste is also applied on skin to treat infection.
Berberidaceae			
<i>Podophyllum hexandrum</i> Syn.	Bankakadi	HR	Crushed leaves made into paste are applied on skin diseases; fruit is given during stomach problems and also to cure blood pressure.
Brassicaceae			
<i>Raphanus sativus</i> L.	Mooli	HR	Leaves cooked as vegetable or soup is administered to cure jaundice and anaemia.
Cannabaceae			
<i>Cannabis sativa</i> L.	Bhang	HR	Leaf paste is applied on cuts and wounds; fried seed is given for treating cough and cold.
Caricaceae			
<i>Carica papaya</i> L.	Papeeta	ST R	Fruit pulp is given for curing stomach problems and blood pressure.
Chenopodiaceae			
<i>Chenopodium album</i> L.	Bathuwa	HR	Vegetable is given for treating iron deficiency and to maintain body temperature.
Combretaceae			
<i>Terminalia chebula</i> Retz.	Harad	TR	Dried fruit powder is given in cough problems; powder boiled with cow-urine is applied locally to cure piles.
Cucurbitaceae			
<i>Momordica charantia</i> L.	Karela	CL	Karela juice is given to treat skin problems and diabetes.
<i>Lagenaria vulgaris</i> Ser.	Lauki	CL	Lauki juice is given to anaemic patients; also given for curing loss of appetite and weakness.
Ericaceae			
<i>Rhododendron arboretum</i> Smith.	Buransh	TR	Flower juice given for heart problems, and for curing blood pressure.
Euphorbiaceae			
<i>Ricinus communis</i> L.	Arandi	SH	Roasted leaves and seed oil applied on parts of body to treat joint pains and arthritis.
<i>Emblica officinalis</i> Gaertn.	Anwala	TR	Fruit juice is given during diabetes, weakness and also to improve eye sight.
Fagaceae			

<i>Quercus leucotrichophora</i> A. Camus.	Banj oak	TR	Seed extract is given for curing stomach problems and also for de-worming.
Fabaceae			
<i>Bauhinia variegata</i> L.	Kweral	TR	Flower rayta is given for curing stomach problems.
<i>Trigonella foenum</i> L.	Methi	HR	Leaves and seed powder given for curing cold and cough; stomach ailments, diabetes and gastric problems.
Juglandaceae			
<i>Juglans regia</i> L.	Akhrot	TR	Bark powder and leaf paste used for cleaning teeth; seed oil used as brain tonic to enhance the memory and improve eye sight.
Linaceae			
<i>Reinwardtia indica</i> Dum.	Pyonli	HR	Paste of leaves applied on cuts and wounds.
<i>Linum usitatissimum</i> L.	Alsi	HR	Paste of seeds applied on cuts and wounds.
Liliaceae			
<i>Allium sativum</i> L.	Lahsun	HR	Bulb paste fried with cow-milk butter is applied on joints for relief from joint pain.
<i>Allium cepa</i> L.	Pyaz	HR	Fried bulb eaten for curing gastric problems.
Lamiaceae			
<i>Mentha arvensis</i> L.	Pudina	HR	Juice of leaves given during stomach and gastric problems
<i>Mentha longifolia</i> L.	Jangali pudina	HR	Juice of leaves given during stomach and gastric problems
<i>Ocimum sanctum</i> L.	Tulsi	HR	Leaves and seeds boiled with water or made into tea like beverage given during fever, cold and cough.
<i>Thymus serpyllum</i> L.	Nirphooli	HR	Root extract or juice given during snake bite and stomach related problems.
Malvaceae			
<i>Hibiscus rosa-sinensis</i> L.	Gurhal	HR	Flower juice made into slurry is given to treat cold and cough, bronchitis, uro-genital and skin diseases.
Moraceae			
<i>Morus alba</i> L.	Kimu (Shatut)	TR	Root, bark and flower paste used for curing dental problems.
<i>Ficus religiosa</i> L.	Pipal	TR	Fried seed powder is given with cow milk for curing fever, cold and cough.
<i>Ficus roxburghii</i> Wall.	Gular/Timil	TR	Fruits made into slurry given to treat dysentery.
Musaceae			
<i>Musa paradisiaca</i> L.	Kela	HR	Fruits made into slurry are given to cure ulcers.
Myricaceae			
<i>Myrica esculenta</i> L.	Kaphal	TR	Fruit given for curing stomach problems, cuts and wounds.
Myrtaceae			
<i>Psidium guajava</i> L.	Amrood	TR	Fruit is given for treating stomach problems.
<i>Syzygium cumini</i> L.	Jamun	TR	Leaf extract or fruit juice is applied to remove dandruff and to cure other hair problems.
Pinaceae			
<i>Cedrus deodara</i> Lamb.	Dyar (Devdar)	TR	Oil extracted from internodes is applied to treat scabies and external ulcers; oil is also used for massage during headaches.
<i>Pinus roxburghii</i> Sarg.	Chir	TR	Oil extracted from internodes. is applied to treat swollen body parts as well as for blood clotting.
Polygonaceae			
<i>Rumex hastatus</i> D.Don.	Chalmori	HR	Crushed leaves made into paste applied on cuts and wounds; leaf slurry given during fever and urinal problems.
Punicaceae			
<i>Punica granatum</i> L.	Darim	TR	Dried fruit and bark powder (rind) mixed with boiled water is given for curing cough and cold.

Rosaceae			
<i>Pyrus pashia</i> Buch-Ham.	Mehal	TR	Fruit is given to cure stomach disorders. Extract of unripe fruit is used as eye drops in eye problems.
<i>Rosa indica</i> L.	Gulab	SH	Ground leaves and fruit juice are given for fever and headache problems.
<i>Prunus persica</i> L.	Aru	TR	Leaf paste is applied to skin for skin related problems such as boils and pimples; seed oil is given to enhance eye sight and memory power.
<i>Rubus ellipticus</i> Sm.	Hinshalu	SH	Slurry of roots and buds is given for stomach pain and other stomach related problems.
Rutaceae			
<i>Zanthoxylum armatum</i> DC.	Timur	STR	Bark and seed powder made into paste is applied for tooth ache and also used as tooth paste.
Solanaceae			
<i>Lycopersicon esculentum</i> Mill.	Tamatar	HR	Sliced fruit is applied to cure skin problems; burns and sunburns.
<i>Solanum xanthocarpum</i> Schrad & Wendl.	Katteri	SH	Extracted fruit juice is used in eye problems as eye drops.
<i>Solanum nigrum</i> L.	Makoi	HR	Fruit juice is given to treat ulcers and tuberculosis.
Tiliaceae			
<i>Grewia oppositifolia</i> Buch-Ham.	Bhimal	TR	Leaf extract used as eye drop to cure eye infections.
Urticaceae			
<i>Urtica dioica</i> L.	Bichhu gas	HR	Leaf soup is given for recovery from weakness; maintaining body temperature during winter season; as iron tonic; highly effective in arthritis.
<i>Parietaria debilis</i> G.Forst.	Attania	HR	Leaf powder or paste applied on hair as dandruff cure.

Abbreviations used- TR= Tree; STR= small tree; SH= shrub; HR= herb; GR= grass; CL= climber

Fig:-Pie Chart -Life form of plants used in ethno-medicine (in %)

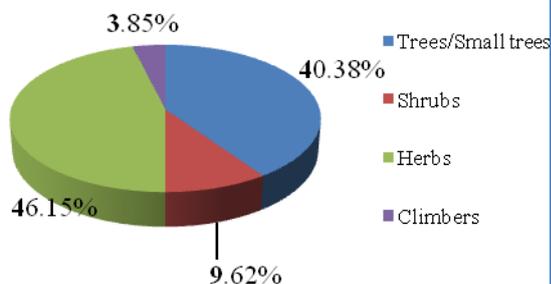
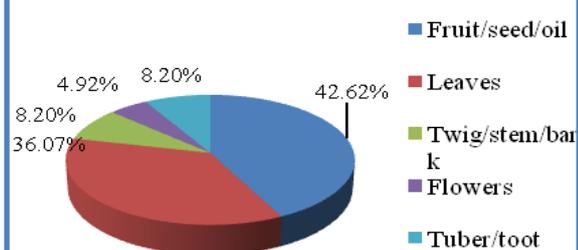


Fig:-Pie chart- Plant parts used in ethno-medicine (in %)



CONCLUSION

Berinag block is a reservoir of enormous natural floral and faunal wealth. The local inhabitants including Vaidyas and other knowledgeable persons of this area living in the vicinity of the forests possess vast practical knowledge on indigenous flora about its ethno-medicinal uses in different ailments as household remedies to a great extent. They use the local flora as ethno-medicine for treating various ailments or as supplementary options or in lieu of modern medicine due to their lack of availability. This study is expected to be helpful in conserving local phyto-diversity in view of their long term sustainable availability and the use of plants for medicinal purposes for the benefit of the local people.

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