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Documentation of Forest Medicinal Plants Used by the Tribal Community of Teshil

Thannamandi, District Rajouri (J&K), India

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Abstract: The present study aims for identification and documentation of wild traditional medicinal plants of Tehsil Thannamandi of district Rajouri Jammu and Kashmir during the year 2021-22. The study area is located in the north (Longitude: 74.38°E Latitude: 33.55°N) of the district headquarter Rajouri in the temperate zone ranging from 1100m asl to 2200m asl. For the study five different sites were selected and questionnaire was prepared for gathering the information about the uses of medicinal plants. In this study a total 46 plant species were found belonging to 31 families of which 21 are Herbs 17 are trees 7 are Shrubs and 1 climber. It was also observed that the traditional knowledge about medicinal plants of the local inhabitant and the tribal community of the area has been vanishing day by day due to non-transmission of traditional knowledge from generation to generation and modernization. The study also reveals that the tribal community of area is still preserving their knowledge to some extent and the knowledge about the medicinal uses of plants is more in women folk then men. So, it's necessary to preserve the traditional knowledge and forest wealth as both are vanishing due to lack of awareness and anthropogenic activities.

Key Words: Tribal Community, Traditional medical practices, forest plants.

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INTRODUCTION

Mankind depends on the forest wealth from the ancient times by providing goods and services like food, fodder, medicines, etc. Before the introduction of chemical medicines, man relied on the healing properties of medicinal plants from ancient time. The importance of these medicinal plants due to the ancient belief which says plants are created to supply man with food, medical treatment, and other effects. It is thought that about 80% world's population live in the rural areas and the World Health Organization estimates that about 80% of these people rely almost exclusively on traditional medicine for their primary healthcare needs. Medicinal plants are the "backbone" of traditional medicine, which means more than 3.3 billion people in the rural area utilize medicinal plants on a regular basis (Davidson-Hunt I 2000). There are nearly 2000 ethnic groups in the world, and almost every group has its own traditional medical Practices (LiuY *et.al.*, 2009 & Kebriaee-zadeh 2003). Indian traditional medicinal practices are also well-known form the ancient

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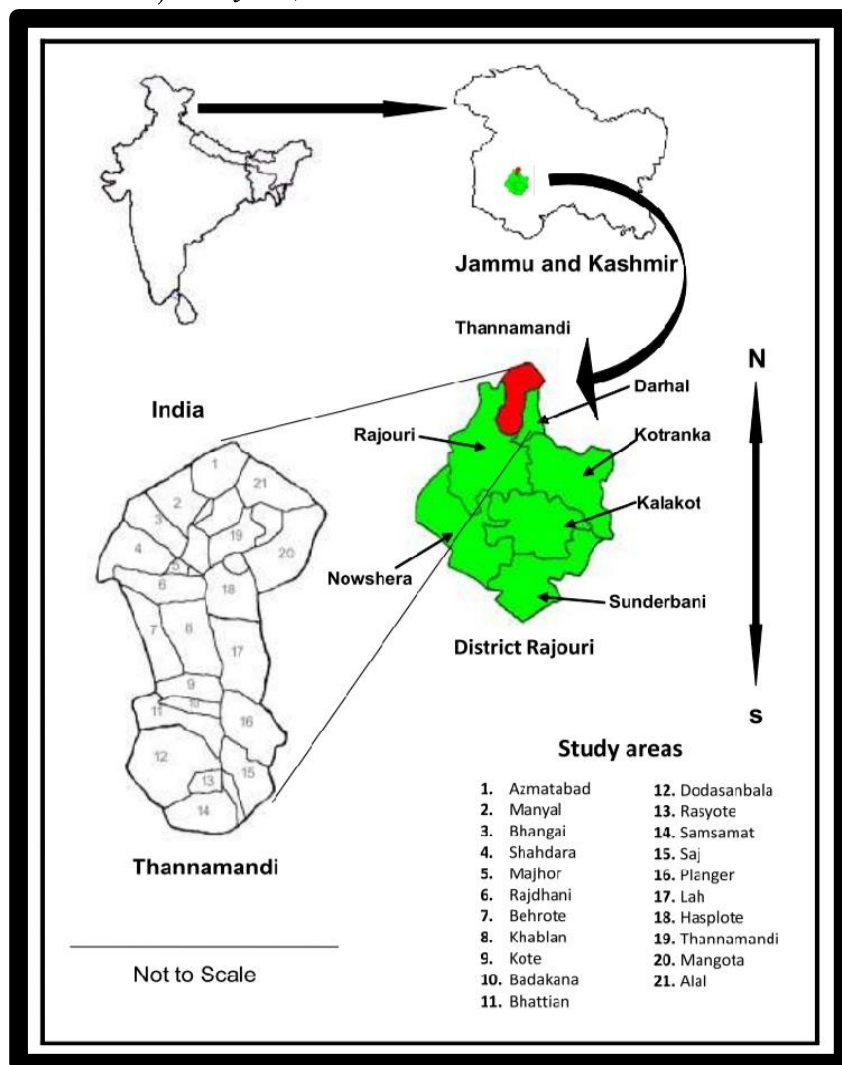
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period. This traditional knowledge of medicinal plants is preserved by the rural and the tribal communities of the areas. Because these people are not aware of modern hospitals and chemical medicines, they still depend upon the forest resources for their day-to-day needs. The tradition knowledge has been preserved from generation to generation and it is also observed that that traditional knowledge is more practices by women folk than men. The UT of Jammu and Kashmir is also known for its rich biodiversity due to varied climatic and geographical regions and due its rich diversity many tribal communities depend upon forest for their survival. Perusal of literature indicated that the ethno-medicinal system of tribes particularly from district Rajouri has not been properly investigated by earlier plant explorers. This work aims to study the traditional medicinal plants of Tehsil Thannamandi in district Rajouri of J&K India. Tehsil Thannamandi is known for rich biodiversity and different climatic conditions. Most of the inhabitants of the tehsil are nomads or lives in the villages so they lack modern facilities that's why they depend on the forest resources from where they generate their daily basis requirements which also includes these medicinal plants to get cured from diseases. This study helps to conserve and preserve the important medicinal plants of the tehsil. It also highlights the value of medicinal plants among the new researchers. It also attracts the attention of various tribal communities for the use of these traditional medicinal plants and it is also boosting the interest of students and researches for the phytochemical analysis of these plants for further investigation.

MATERIAL AND METHODS

Study Area

The study area is situated in the north of district Rajouri of J&K India, between Longitude: 74.38°E and Latitude: 33.55°N with an altitude ranging from 1100 to 2200 m asl. The region is located on the famous Mughal Road and is bounded to east by the famous Pir Panjal Mountains and toward north and west by the border district Poonch. Annually, it rains 1150 mm and the average temperature is 18-22°C. Topography is distinctly marked with several mountains, springs, rivulets, and rivers. This area is geographically located in the middle Himalaya's Pir Panjal region.



Methodology

We first prepared a map of region to identify the number of villages, roads, and vegetations. We visited the region and spoke to herbal practitioners and village seniors. A questionnaire was used to obtain information on the types of ailments treated using traditional medicinal plant species. Sometimes informants were asked to come to the field and introduce us to the plants. When this was not possible, plants were collected around the villages of the informants and were shown to them to confirm the plant names. This investigation took over 5 months and information were collected 1-2 days per week. Voucher samples were also collected for each plant and were identified and authenticated using floristic, taxonomic references Sharma and Kachroo (1983), Swami and Gupta (1998), RD Gaur (1999).

RESULT AND DISCUSSION

Such types of ethno-medico-botanical surveys have also been conducted in different agro-ecological regions by Kapoor and Sarin (1963); Kachroo *et al.* (1977); Chauhan (1997); Sharma (1998); Sharma and Rana (1999); Chaurasia *et al.* (1999); Vidarathi (1997; 2003); Singh and Chauhan (2005), and Gupta (2011) who have all documented the different plant species of ethno-

botanical importance in different regions. The work on ethno-medicinal aspects of Jammu & Kashmir has been undertaken earlier (Dar *et al.*, 1984; Kaphi *et al.*, 1993; Singh 1995., Khan *et al.*, 2004; Abdul Rashid *et al.*, 2008; Pant and Verma 2008; Iqbal *et al.*, Tantray *et al.*, Mukesh *et al.*, Malik *et al.*, 2011; Dangwal & Singh, 2013; Singh *et al.*, 2016). The findings also agreed with (S.A. Azad *et al.*, 2013; T. Riaz *et al.*, 2015; A. Shah *et al.*, 2015; Ab. Rashid *et al.*, 2015; Dangwal & Singh, 2013; Singh *et al.*, 2016)

In this study a total 46 plant species were found belonging to 31 families of which 21 are Herbs 17 are trees 7 are Shrubs and 1 climber. The 31 families include in this study are Cannabinaceae (1), Meliaceae (3), Ulmaceae (3), Chenopodiaceae (1), Poaceae (2), Cyperaceae (1), Urticaceae (1), Dioscoraceae (1), Elaeagnaceae (1), Moraceae (2), Pinaceae(1), Rosaceae(5), Lythraceae(1), Polygonaceae(3), Salicaceae(1), Violaceae(1), Amaranthaceae(1), Malvaceae(1), Brasicaceae(3), Oxalidaceae(1), Araceae(1), Athyriaceae(1), Lamiaceae(1), Ascomycetes(1), Fabaceae(2), Solanaceae(1), Zingiberaceae(1), Rhamnaceae(1), Rutaceae(1), Asteraceae(1), Hippocastanaceae(1)

The detailed description of traditional medicinal plants is given in table mentioned below:

S. No	Botanical/Scientific Name	Family	Vernacular Name	Habitat	Part Used	Used Against	Method of Administration
1	<i>Cannabis sativa</i> Linn.	Cannabaceae	Bhang	Herb	Leaves	Loss of Appetite	Powder of fresh or dried leaves, sugar and a cup of water are mixed together. The mixture is then filtered with a piece of cloth and taken orally to prevent loss of appetite.
2	<i>Cedrella serrata</i> Royle	Meliaceae	Drava	Tree	Leaves & Bark	Skin Diseases	Paste is formed from the bark and is applied extremely on the skin to treat skin diseases.
3	<i>Celtis australis</i> (Decne)H.f.	Ulmaceae	Khirak	Tree	Leaves & Fruits	Amenorrhoea, Diarrhoea	A decoction of both

							leaves and fruits used in the treatment of amenorrhoea and diarrhoea.
4	<i>Chenopodium album</i> Linn.	Chenopodiaceae	Bathwo	Herb	Leaves	Stomach pain	Cooked leaves are given once in a day to cure stomach pain.
5	<i>Cynodon dactylon</i> Linn.	Poaceae	Khabbal	Herb	Roots	Wounds, Hyperglycaemia	Juice is taken in the morning to maintain the sugar level. Infusion of roots to stop bleeding
6	<i>Cyperus rotundus</i> Linn.	Cyperaceae	Deela	Herb	Rhizome	Malarial Fever	Decoction of rhizome, stem bits of <i>Tinospora cardifolia</i> (guduchi) and dried ginger is given to treat malarial fever.
7	<i>Debregeasia saeneb</i> Forssk	Urticaceae	Sunduri	Shrub	Fruits	Constipation & dysentery	Fruits are eaten raw for constipation and decoction of leaves given to patient suffering from dysentery.
8	<i>Dioscorea bulbifera</i> Linn.	Dioscoraceae	Kala Ganda	Climber	Tuber	Dysentery	Slices of tuber are fried or cooked &

							given with meal once in a day for one week.
9	<i>Elaeagnus umbellata</i> Thumd	Elaeagnaceae	Kankoli		Seeds	Cough	The extracted oil from seeds is used to cure pulmonary infections.
10	<i>Melia azedarach</i> Linn.	Meliaceae	Drek	Tree	Leaves	Stomach-ache	The juice of the leaves is taken to relieve from pain of stomach.
11	<i>Morus alba</i> Linn.	Moraceae	Toot	Tree	Roots	Tooth-ache	Stem is chewed and moved up and down gently on teeth to get relief from tooth-ache.
12	<i>Pinus roxburghii</i> Sarg	Pinaceae	Chir	Tree	Turpentine	Kidney disorder	The turpentine obtained from the resin is used for kidney and bladder related disorders.
13	<i>Pyrus pashia</i> Buch	Rosaceae	Batangi	Shrub	Fruits	Diarrhoea	The ripened fruit is used for treating diarrhoea.
14	<i>Punica granatum</i> Linn.	Lythraceae	Dhurana	Tree	Seeds	Backache, Heart disease	Sherbet obtained from seeds is used to get rid of backache. Frequent intake of juice can also help in maintaining

							good flow of blood in the body.
15	<i>Rubus ellipticus</i> Smith	Rosaceae	Aakhrey	Shrub	Aerial parts	Wound healings	Extract obtained from the aerial parts of shrub is applied on wounds for healing.
16	<i>Rumex hastatus</i> D. Don	Polygonaceae	Khatimal	Herb	Roots	Cough, Asthma and Fever	Fresh roots with 250 g bark of <i>Quercus incana</i> (cinnamon oak) are boiled together in water and the filtrate obtained is taken orally to treat cough, asthma and fever.
17	<i>Salix alba</i> Linn.	Salicaceae	Beesa	Tree	Bark	Headache	Bark powder and liquid extract are taken orally in small doses.
18	<i>Viola odorata</i> Linn.	Violaceae	Banksha	Shrub	Whole plant	Digestive disorders	Tea made from whole plant is used to cure digestive disorders.
19	<i>Achyranthes aspera</i> L.	Amaranthaceae	Puthkan da	Herb	Leaf, Root and Seed	Cough, Diarrhoea, Snake bite	Powder of roasted seeds is mixed with honey is taken during cough.

							Root powder is used for snake bite.
20	<i>Malva sylvestris</i> L.	Malvaceae	Sochal	Herb	Aerial portion	Weak eyesight	The aerial parts of the herb are cooked like other vegetables and is taken by the patients having weak eyesight.
21	<i>Nasturtium officinale</i> R. Br.	Brassicaceae	Chho	Large herb	Leaves	Cold, Cough and Blood purifier	Leaves are edible and used as vegetables to cure cold and cough and also to purify blood.
22	<i>Oxalis corniculata</i> L.	Oxalidaceae	Khatiem li	Herb	Whole plant	Eye vision and headache	Extract of the plant in the form of drops is given for the improvement of eye vision and paste is applied on forehead to treat headache.
23	<i>Rumex dentatus</i> L.	Polygonaceae	Arfali	Herb	Leaves, roots and fruits	Toothache, eczema, diarrhoea and constipation	Roots are used as folk medicine for Toothache, eczema, diarrhoea and constipation
24	<i>Arisaema tortulosum</i> (Wall)Schott.	Araceae	Saamp ki makki	Herb	Corn, seeds	Antidote snake poison	Decoction of corn and leaves is used

							for snake bite and scorpion sting.
25	<i>Deparia allantodioides</i> (Bedd.)M.K.	Athyriaceae	Kandore	Herb	Young leaves	Serve constipation	50-100g of young leaves are cooked with 200ml of milk and eaten once a day for 2-3 days to treat constipation .
26	<i>Lamium album</i> L.	Lamiaceae	Doodhi Buti	Herb	Flower	Cough	Extract obtained from the flower is orally taken with Luke warm water to treat cough.
27	<i>Lepidium sativum</i>	Brassicaceae	Haleon	Herb	Seeds	Eye cleaner	Extract obtained from seeds is filtered and 2-3 drops are put into eyes for cleaning of eyes.
28	<i>Mentha longifolia</i> (L.)Huds.	Lamiaceae	Pudhina	Herb	Leaves and twigs	Fever and headache	A tea made from the leaves has traditionally been used in the treatment of fevers, headaches, digestive disorders and various minor ailments.

29	<i>Morchella vulgaris</i> (Pers.) Gray	Ascomycetes	Guchhi	Herb	Whole plant	Fever and headache	Decoction obtained from it by boiling 20-40g of fresh or dried plants is used to treat fever and headache.
30	<i>Persicaria amplexicaulis</i> (D.Don) Ronse Decr.	Polygonaceae	Masloon	Herb	Rhizome	Headache, joint pains	Rhizome and tea are boiled and given to patients at bed times.
31	<i>Quercus oblongata</i> D.Dom	Fabaceae	Ree	Tree	Bark	Internal injury	A teaspoon of fine powder is mixed with a cup of milk and is taken orally to treat internal injuries.
32	<i>Rosa macrophylla</i> Lindl.	Rosaceae	Jungli Gulab	Shrub	Flowers	Internal fever	Juice obtained from fresh flowers is taken orally.
33	<i>Rosa moschata</i> Herrm.	Rosaceae	Phalwari	Shrub	Flowers	Internal fever	Juice obtained from fresh flowers is taken orally.
34	<i>Solanum pseudocapsicum</i> L.	Solanaceae	Kachmach	Shrub	Leaves	Intermittent Fever, Weakness	Leaves are crushed and mixed in a glass of water having little sugar in it is used before breakfast.
35	<i>Zingiber chrysanthum</i> Roswe	Zingiberaceae	Jungliadrak	Herb	Rhizome	Blood pressure	Powder of rhizome is mixed with cup of tea

							and taken once a day for 3-4 days for treating blood pressure.
36	<i>Zizyphus nummularia</i> (Burm.f) Wight & Arn.	Rhamnaceae	Bruhi	Tree	Fruits	Blood purifier, Digestion	The dried fruits are eaten directly which help in digestion and blood purification.
37	<i>Robinia pseudoacacia</i> L.	Fabaceae	Kikar	Tree	Flower	Eye ailments	The flowers are cooked and eaten for the treatment of eye ailments.
38	<i>Ficus palmata</i> L.	Moraceae	Fagawara	Tree	Fruit, leaf	Gastrointestinal disorder, hypoglycemia	The fruits are eaten directly
39	<i>Pyrus pashia</i> Buchham Ed.D. Don	Rosaceae	Kaintha	Tree	Fruit, Leaves	Eye complaints, digestive disorders	The bark of tree possess astringent, laxative. Anthelmintics and febrifuge properties and is used traditionally to manage Digestive disorders.
40	<i>Zanthoxylum armatum</i> DC.	Rutaceae	Timber	Tree	Fruit	Toothache and Asthma	It is used in indigenous medicine preparation against various diseases like asthma, Bronchitis, indigestion etc.

41	<i>Ulmus wallichiana</i> Planch.	Ulmaceae	Manu	Tree	Bark	Digestive problems, healing	Used in the treatment of digestive tract disease, bark of these tree is commonly used for bone fracture and healing of animal as well as human beings as a folk medicine.
42	<i>Saccharum spontaneum</i> L.	Poaceae	Munja	Herb	Small leaves	Burning urination, renal calculi.	Decoction (50-80 ml) obtained from small leaves is used.
43	<i>Bidens Pilosa</i> L.	Asteraceae	Saryla	Herb	Usually leaves	Headaches, ear infections, kidney problems.	<i>Bidens Pilosa</i> is an important traditional medicine. Leaf decoction is used to treat headaches ear infections, kidney problems etc.
44	<i>Lepidium sativum</i> L.	Brassicaceae	Hand	Herb	Flower and Fruits	Cough, bronchitis, asthma.	It is used for treatment of hyperactive airways disorders such as asthma, bronchitis and cough.

45	<i>Aesculus indica</i> Wall. Ex Cambess	Hippocastana ceae	Bankhor i	Tree	Flower and seeds	Leg swelling, cramps	Taking 300mg of standardized horse chestnut seed extract by mouth can reduce poor blood circulation, pain, tiredness, swelling in legs itching and water retention.
46	<i>Ficus auriculata</i> Lour	Moraceae	Toosa	Tree	Roots	Diarrhoea and Dysentery	Roasted figs are taken for diarrhoea and dysentery.

CONCLUSIONS

The present study reported that the indigenous medicines are still common practice among the local communities and precise knowledge of the medicinal plants and their medicinal possessions were held by only a few persons in the local communities. Hence a need for thorough exploration of ethno-medicinal knowledge held by each local community is needed before such valued knowledge disappears. Thus, our work would be valuable in averting the loss of ethno medicinal traditions of Tehsil Thannamandi District Rajouri, Jammu province, J&K, India. In the Tehsil Thannamandi (J&K) the Gujjar, Bakerwal and Paharis tribes are totally depends on forests and forest products for their own indigenous herbal practices and cattle health care. It has been observed that female community of the Gujjar tribes has richer knowledge about herbal medicine as compared to males so that ethno medicinal plants have to be given prime importance for future investigations.

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