International Journal of Science and Research (IJSR)
ISSN: 2319-7064
ResearchGate Impact Factor (2018): 0.28 | SJIF (2018): 7.426

Taxonomy and Ethnobotanical Study of Medicinal Plants of Anantnag, Jammu and Kashmir, India

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Abstract: ***The study investigated the biodiversity distribution and the respective medicinal and economic uses of the plant species in Anantnag district. Eight sampling areas rich in biodiversity were selected namely Kapran, Verinag, Dooru, Lower Mundah, Achabal, Kokernag, Sinthan Top, Lidder valley area. A detailed questionnaire was also prepared to inquire about the ethno-medicinal uses of the plants from the local inhabitants. A total of 69 species were noted and recorded. These plants have been of immense value to the locals for hundreds of years. Some of their medicinal uses are: Skin Rashes and external ulcers, pain and cramps, rheumatism, frost bite, toothache, skin diseases, insect bites and warts, loss of appetite, joint and back pains, throat and chest infection, excessive menstrual bleeding, etc., kidney and gall Stones. Abdominal cramps, cholera and eruptions, dyspepsia, rheumatism, jaundice, antiseptic properties, stomach-ache and urinary infections.***

Keywords: Taxonomy, Ethnobotany, Biodiversity, Himalayan biodiversity, Kashmir biodiversity

1. Introduction

Ethnobotany deals with the study of relationship between the aboriginal or primitive people and their plant surrounding in the widest sense. Ethnobotany includes the study of the plant used by the aboriginal for their food, medicine, other material, culture, such as shelter, fuel and transport, for religious ceremonies and their spiritual and intellectual culture, such as in music, dance and fables, proverbs crops, festivals, sowings harvestings, etc. Ethnobotany has been defined as the study of relationship which exists between people of primitive society and their plant environment (Schultes 1962). India is one of the richest countries in ethnobotanical knowledge due to presence of multiethnic group of ancient lineage and very diverse vegetation.

There are over 50 million tribal belonging to about 550 tribal communities mostly living in the forest, hills and naturally isolated regions. They are termed "Adivasi" (Original Settlers, Aboriginal Indigenous, Vanvasi, forest inhabitant etc.). The tribal use wild plants in a variety of ways and usually in a raw state. The chief uses of the plants for the tribal are for food, native medicine and variety of domestic articles. They are also used for fuel, dye, tannin, fiber, timbers, oils, agricultural or hunting tools, weapons and for witchcraft and magic. Some are used in worship and other mythology. In India Ethnobotany, the organized study and research with emphasis on tribal system of medicine and culture is of recent origin initiated in the middle of this century. Earlier works like Materia Medica of Hindoostan (Ainslie, 1813), Indigenous Drugs of India (Chopra, 1933) and Indigenous dealt mainly with plants and drugs of established Indigenous system of Indian Medicine Since 1960. Indigenous people of different parts of the world have a vast knowledge of, and capacity for, developing innovative practices and products from their environment. Indigenous knowledge grows from close interdependence between knowledge, land, environment and other aspects of culture in indigenous societies.

2. Methodology

The Study was conducted during 2018-19 in district Anantnag and plants were collected from diverse habitats. The shepherds and the tribal people were interviewed. Since the ethnomedicinal knowledge is largely restricted to elderly people, so the informants in the upper age group of 40 to 75 years from various tribes and local people were exhaustively interviewed during the course of present study. Information on medicinal plants, their uses, dosage, etc. was collected from each informant using a questionnaire. The plants from serial number 1 to 69 are arranged in alphabetical order by their botanical names. Each entry shows in tabular form (Table 1) the common and vernacular name, disease for which the plant or plant part is used.

Study Area

The present Ethno botanical study was conducted in district Anantnag. Anantnag is the third largest city in the Union Territory of Jammu and Kashmir after Srinagar and Jammu, The latitude of Anantnag, Jammu and Kashmir, India are 33.729729, and the longitudes are 75.149780. Anantnag, Jammu and Kashmir, India is located at India country in the Cities place category with the gps coordinates of 33° 43' 47.0244" N and 75° 8' 59.2080" E. The areas surveyed: Kapran, Verinag, Dooru, Lower Mundah, Achabal, Kokernag, Sinthan Top.

Figure I: Map of India

Figure II: Map of Jammu and Kashmir

Figure III: Map of Anantnag

3. Objectives

1. To survey the area and collect ethnobotanically important plants.
2. Local names of the plants and their parts along with their important practices will be noted with their uses.
3. To visit villagers of these areas to collect information about how they use the plants for preparing artifacts and medicines.
4. Photography of different articles prepared by villagers with the help of various plants.
5. To analyze and interpret the information gained from the villagers with standard data.

4. Results and Discussion

Extensive studies have been carried out from time to time on the ethnobotanical uses of various plant species in India and in other parts of the World (Uddin et al., 2013; Deb et al., 2011). Ethnobotanical studies help mankind to search and develop new cures to ailments. As the traditional societies residing in micro ecosystem have developed specific knowledge which is usually limited to and scattered among the illiterate tribal people. It is not in the form of a written treatise but handed down to generations by word of mouth and varies from place to place. Our country is amongst the most important medicinal plant resource collection centers of the world. Over 500 million people receive the benefits of traditional knowledge of well documented and standardized systems of medicine including Siddha, Unani, Ayurvedic, etc. Global estimates indicate that over three fourth of worlds' population rely on traditional medicines (Kaul, 1997). The world trade figures are indicative of the fact that India exports 32, 600 tonnes of medicinal raw material worth US $ 46 billion annually.

This trend has resulted in over harvesting of many valuable medicinal plants (Siddique and Malik, 2004). Hence, a large number of these species have reached the brink of extinction. Further, indiscriminate harvesting by untrained and poorly motivated gatherers has also led to resource depletion. Such a practice is quite visible in the study area also, where a number of species like Aconitum heterophyllum, A. violaceum, Arnebiabenthamii, Atropa acuminate, Podophyllumhexandrum, Rheum australe and Sassureacostus are critically endangered. Angelica glauca, Bergenialigulata, Picrorhizakurroa, Valerianawallichii, etc. are approaching rarity. These species are being used by the local communities for curing their ailments in absence of adequate modern health care facilities available to them. During the present investigation, 69 species of plants have been reported to be used by the hill communities of district Anantnag under reference for curing ailments like cough, cold, fever, diarrhoea, toothache, urine infection, indigestion, general body weakness, worm infestation, jaundice, heart diseases, leucorrhoea, frost bite, nerve weakness, loss of memory power, semen thickness, loss of appetite, joint and back pains, throat and chest infection, excessive menstrual bleeding, etc.

Table 1: Ethnobotanicalplatns of Anantnag and their uses

S. No	Taxon Name	Local Name	Family	Altitude Range; Flowering Phenology	Part(s) Used	Ethnobotanical Uses
1	*Abies pindrow*	Badul	Pinaceae	2100-3600 m. Flowering: April-May.	Bark	Rheumatism
2	*Acorus calamus*	Via-gander	Acoraceae	1600-2800.Flowering: July-September	Rhizome	Stomachic, Diarrhoea, Cough, Swellings, Joint Pain
3	Arnebia benthamii	Kah Zaban	Boraginaceae	1300-4500 m Flowering: May-July.	Rhizome	Common Cold, Cough, Fever, Blood Purifier
4	*Achillea millefolium Berguer*	Pahal gassesh	Asteraceae	1050-3600 m. Flowering: Sept-Oct	Rhizome,	Leaves Headache, Cough, Tooth Ache
5	*Aconitum heterophyllum* [1-	Patris	Ranunculaceae	2, 400–4, 500 m Flowering: April-May	Root	Antidote For Snake Bites, To Treat Headache And Cough.
6	*Artemisia absinthium*	Tethwan	Asteraceae	1, 500-2, 100 m. Flowering: June onwards	Leaves	Obesity, Diabetes, Liver Infection
7	*Arisaema jacquemontiana*	Hapat makei	Araceae	582 m. - 3819 m Flowering: November -February	Rhizome	Muscular Strength And Skin Infections
8	*Atropa acuminata*	Meithi-kafal	Solanaceae	1800-3040 m. Flowering: June-July.	Roots and leaves	Cough and Antispasmodic
9	*Aconitum violaceum*	Mohand	Ranunculaceae	3600-4800 m. Flowering: July-September.	Root	Antidote for Snake Bites
10	*Androsace rotundifolia* ,	Uzmposh	Primulaceae	1500-3600 m. Flowering: June-July.	Rhizome	Cataract
11	\ *Anemone obtusiloba*	Srub	Ranunculaceae	2100-4300 m. Flowering: May-July.	Seeds	Rheumatism
12	*Aquilegia fragrans*	Daduejaid	Ranunculaceae	2400-3600 m. Flowering: June-August.	Flowers	Indigestion
13	*Arctium lappa*	Phughood	Asteraceae	2100-3700 m, Flowering: July-September.	Leaves, root	Skin Disease, Boils, Body Pain
14	*Asparagus officinalis* ,	Parglas	Liliaceae	1, 500–3, 200 m Flowering: April –July	whole plant, roots	Toothache, Rheumatism, Female Infertility
15	*Angelica glauca*	Choora	Apiaceae	1800-3700 m. Flowering: June-August	Root	Vomiting
16	*Ajuga bracteosa*	Jan-e-adam	Lamiaceae	1000-1500m. Flowering: March-December	Stem, leaves	Ulcer, Colic and Jaundice
17	*Berberis lycium*	Kawdach	Berberidaceae	900-2900 m Flowering: March-June	Roots .	Indigestion, Constipation
18	*Berginia ligulata*	Zakhmi hayat	Saxifragaceae	1800-4300m. Flowering: March-July.	Leaves and roots	Intestine Complaints and Stomach Ulcers
19	*Betula utilis*	Burzal	Betulaceae	4000-4, 500m Flowering: April-May.	bark	Antiseptic
20	*Coriandrum sativum*	Danival	Apiaceae	500-800 m Flowering: April-May.	Seeds	Hair Fall
21	*Cannabis sativa*	Bhang	Cannabaceae	2000-2500m Flowering: May-July	Leaves, seeds and stem	Ear-Ache, Blood Purifier, Scabies and Piles
22	*Cuscuta*	Kukliporte	Cuscutaceae	1400 m Flowering: Dec - Feb	Whole Plant	Joint Pains, Wound Healing and Falling Of Hairs
23	*Cynodon dactylon*	Daraunm	Poaceae	2600m Flowering: Aug -Oct.	Whole plant	Common Cold

24	*Corydalis govaniana*	Sangi-harb	Fumariaceae	2400-4800m. Flowering: May-August.	leaves	Respiratory Disorders, Chest Infections, Asthma
25	*Cardamine impatiens*	Pahal-laish	Brassicaceae	1500-4000 m. Flowering: May-July.	Whole plant	Asthma, Hay Fever
26	*Cichorium intybus*	Kazal-Handh	Asteraceae	4000-5000 metres. Flowering: June- Sept.	Root	Rheumatism Sore Throat, Jaundice,
27	*Cedrus deodara*	Divdar	Pinaceae	1, 500–3, 200 m Flowering: May-July.	Stem, Bark	Skin Rashes and External Ulcers
28	*Dioscorea deltoidea*	Kraeth	Discoreaceae	450-3100 m. Flowering: May-July.	Leaf	ophthalmic
29	*Datura stramonium*	Datur	Solanaceae	50-2200m Flowering: July-Sept.	Seeds	Rheumatism, Frost Bite, Toothache, Tonic
30	*Dryopteris sp*	Gautheer	Pteridaceae	1600-2000	Aerial portion	Cure Kidney and Gall Stones.
31	*Euphorbia helioscopia*	Gurisochol, Gandi booti	Euphorbiaceae	300-1800 m. Flowering: April-June.	Seeds, roots and latex	Abdominal Cramps, Cholera And Eruptions
32	*Euphorbia wallichii*	Guri-dud/ Harbi	Euphorbiaceae ,	2200-4100 m. Flowering: May-August.	Stem, lea ves , late x	Skin Diseases
33	*Ficus carica*	Anjeer	Moraceae	. 5, 420 m Flowering: May-August.	Stem, milky	Insect Bite and Warts. Birth Rate Control, Latex, Fruit Pulp
34	*Fumaria indica*	Pugsley, Shahtaur	Fumariaceae	2400 m. Flowering: April-May.	Whole plan	Dyspepsia, Rheumatism
35	*Gentiana kurroo*	Nilkanth	Gentianaceae	1800-2700 m. Flowering: August-October	Root	Stomach-ache and Urinary Infections
36	*Caltha alba*		Ranunculaceae	2400-4000 m. Flowering: May-August.	Leaves	Pain And Cramps, For Menstrual Disorders
37	*Galium aparine*	Loothar	Rubiaceae	3500 m. Flowering: March- July.	Leaves	Jaundice, Antiseptic
38	*Geum elatum*	Shoonkar	Rosaceae	3500--5400 m. Flowering: June-August.	Root	Astringent, Dysentery And Diarrhoea
39	*Gnaphalium affine*	Jangli dodal	Asteraceae	1200-3000 m. Flowering : Feb-Oct.	Leaves	Antiperiodic, Antitussive, Expectorant and Febrifuge
40	*Hyoscyamus niger*	Bazarbang	Solanaceae	2100-3300 m. Flowering: May-September	Seed	Tooth Ache
41	*Hackelia uncinatum* ,	Neelaan	Boraginaceae	2700-4200 m. Flowering: June-August.	Flowers	Expectorant, Healing Wounds, Treating Tumours
42	*Iris kashmiriana*	Mazarmund	Iridaceae	1500-1800 m. Flowering: April-June	Whole plant	Joint Pains
43	*Impatiens glandulifera*	Trul	Balsaminaceae	July to August 1800–3200 meters	Leaves	Skin Burn, Joint Pain
44	*Indigofera heterantha*	Jandi	Leguminosae	1500-3000 m. Flowering: May-June.	Leaves	Internal Body Disorders
45	*Juniperus communis*	Bithur	Curpessaceae	1800-3600 m. Flowering: April-May.	Leaves	Rheumatism
46	*Juniperus recurva*		Curpessaceae	3, 000-4, 000 m Flowering: May-June.	Leaves	Rheumatism Insecticide
47	*Juglans regia*	Doan kul	Juglandaceae	3, 000-4, 000 m Flowering: March -April	Leaf, Bark	Tooth Infection, Scrofula, Rickets And Leucorrhoea
48		Poshkar	Lamiaceae	1500-3700 m Flowering:	Whole	

	Lamium album			April-July.	plant, leaves, flowers	Cough, Metrorrhagia
49	*Lavatera kashmiriana*	Sozposh	Malvaceae	1500-3200m Flowering: July – Sept.	Flower	Mumps, Skin Irritation In Pregnant Women
50	*Malva sylvestris*	Sotal	Malvaceae	2500-3500 m Flowering: April-June	seeds	Cough, Fever, Eye Sight
51	*Morina longifolia*	Kim	Dipsacaceae	3000-4000 m. Flowering: June-September	Roots	Insecticide
52	*Nasturtium officinale*	Kulhak	Brassicaceae	1500-4000m. Flowering: April-June.	Leaf	Stomachic
53	*Nepeta raphanorhiza*	Vangogil	Lamiaceae	1300-1500m Flowering: Jun-Sept.	Whole plant, leaves	Dysentery, Toothache
54	*Oxalis corniculata*	Tsok-tsen	Oxalidaceae ion, Diarrhoea	500-800m Flowering: April-June.	Whole plant, leaves.	Toothache, Convulsions, Blood Purification
55	*Papaver somniferum*	Kashkhas	Papaveraceae	585- 2056m Flowering: April-June	Fruit Dry	Cough, Diarrhoea
56	*Phytolacca acinosa*	Brand	Phytolaccaceae	1500-3000m. Flowering: June-Sept.	Root	Narcotic Effect, Sedative
57	*Picrorhiza kurrooa*	Kour	Scrophulariaceae	3300-4300 m. Flowering: June-August	Roots, Rhizome	Fever, Appetizer
58	*Pinus roxburghii*	Chad	Pinaceae	600-2300 m Flowering: March-June	Seeds and gums	General Weakness After Child Birth
59	*Prunella vulgaris*	kulwauth	Lamiaceae	1600-1900m Flowering:June-July	flower	Headache, Fever, Muscular Pain
60	*Podophyllum hexandrum*	Banwangun	Berberidaceae	2400-4500 m. Flowering: May-August.	leaves and roots	Skin Diseases, Gastric Problem
61	*Portulaca oleracea*	Nuner	Portulacaceae	2000-2800 m. Flowering: March-June	leaves	For Liver Inflammation, Cough, Extract Of Whole Plant Is Taken. For Burns Crushed plant is taken
62	*Taraxacum officinale*	Hand	Asteraceae	1600-2400;	Roots	Back Pain, Common Cold, Chest Infection
63	*Rosa webbiana*	Gulab	Rosaceae	1500 m - 4000 m. Flowering: May-July	Flowers	Cough and Colds.
64	*Rheum emodi*	Pambechalan	Polygonaceae	2500-3500; June-August	Leaves	Rheumatic Pain, Wounds, Dislocated Joints, Boils
65	*Rubia cordifolia*	Rubes	Rubiaceae	300-2800 m.. Flowering: June-August.	Roots	Stomach-ache, Jaundice
66	*Rumex acetosa*	Obej	Fabaceae	2100-4100 m Flowering: April-June	Plant	For Stomach Problems, Whole Plant Is Eaten As Vegetable. For sting of nettles, leaves are rubbed on affected part to get relief.
67	*Salix wallichiana*	Danthiveer	Salicaceae	1900-2400; Flowering: April-June	Leaves	Fever, Head Ache, General Body Pain
68	*Saussurea costus*	kuth	Asteraceae	2000-3300 m. Flowering: July-August.	Rhizome	Joint Pain, Back Pain, Sole Ulcers, Dysentery, Fever, Urinary Problems
69	*Sambaucus wightiana*	Hapatfal	Caprifoliaceae	1500-3600m. Flowering: June-July.	Root	Leaves Chest Congestion, Boils

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