

ETHNO-MEDICO - BOTANY OF SOME IMPORTANT AQUATIC PLANTS OF JAMMU PROVINCE (J&K) INDIA

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The result of ethno-medico-botanical surveys among the inhabitants of the Jammu province is presented. The ancient knowledge of aquatic herbal use, still put into practice by tribals, locals and rural people of Jammu province have been recorded. 20 plant species belonging to 15 families are listed here with their local/common names and ethno medicinal uses to cure different ailments like fever, stomachache, diarrhea, headache, cough, rheumatism etc.

Keywords : Aquatic plants; Ethno-Medico-Botany; Jammu province.

Introduction

Plants are being used for health care by 80 percent of the world population, while rest 20 percent also depend substantially on plant based medicines¹. Plant therapy in Jammu province is quite prevalent, particularly in villages and far flung areas where hospitals/medical facilities are not available. Being in use since ages, the traditional and ethnic knowledge of aquatic plants proves useful to the locals. Jammu, the winter capital of J&K state is situated at a longitude of 74° to 76°-15'E, latitude 30°-30' to 32°-15'N and altitude range from 304.8 to 3658.5 mts above mean sea level. Jammu province exhibits sub-tropical to alpine climatic conditions and divided into six districts – viz- Jammu, Udhampur, Kathua, Doda, Rajouri and Poonch, situated at different altitudes. Jammu province is the home of many tribals (Gujjars, Bakerwals, Gaddis and Paharis) and rural people; mostly living in remote areas. Tribals and rural people of the region inhabiting the remote areas, found it feasible to rely upon herbal medicines for the treatment of various ailments, rather than going to hospitals or health care centres. Even the people who are having easy access to medical facilities preferably shifted to herbal/plant based medicines because of the awareness of the side effects and toxicity associated with long-term use of synthetic drugs. There are a number of lentic and lotic water bodies at different location in district Jammu, harbouring luxuriant growth of aquatic plants. These plants are potentially rich in terms of medicinal resources, besides catering to the other needs of the inhabitants for food, fodder, fuel, shelter etc. Several earlier accounts regarding the medicinal utilities of aquatic plants of India were given by different works²⁻⁶. Notable contribution to the ethno-medicinal studies of J&K has been made by many ethno-botanists⁷⁻¹⁰. So far as province Jammu is

concerned, taxonomical, limnological and ecological work on aquatic plants has been done by different workers¹¹, but present is the first attempt to explore the ethno-medicinal uses of these plants. There is urgent need to document and protect this rich repository and valuable traditional knowledge.

Material and Methods

A total of 15 regular field expeditions were made from June 2006 to August 2007 to collect ethno-medicinal informations. In this context, planned visits were made to hakeems, eldermen, women, heads of tribes, vairs, local healers and other ethnic communities. An effort was also made to visit the same locality during different seasons. Information was gathered either by taking interviews of the informant or as witness of the uses during the period of studies. Once the information on a particular plant was recorded, it was repeatedly verified to record its local name and uses. Various manuscripts and standard texts regarding ethno-medicinal applications of aquatic plants were also consulted.

Results and Discussion

During the surveys, it has been observed that inhabitants of Jammu province still depend upon the aquatic plants around them for curing and healing different ailments like fever, cough, cold, stomachache, diarrhea, toothache, jaundice, vomiting, intestinal worms, wounds, constipation, piles etc. The botanical and local name, families, plant part used and mode of administration are given in the following Table 1. Of the total 20 plant species enlisted in table, maximum number of plant species are being used to check fever (9 species), followed by stomach ache (5 species), skin allergies (4 species), intestinal worms (4 species) and rheumatism (2 species). Further, it has been observed that leaves are the most frequently utilized plant

Table 1. Summary of information on the aquatic plants used by inhabitants of Jammu province.

S.No	Botanical name & Family	Local/Common name	Plant part used	Mode of administration
1	<i>Ranunculus trichophyllous aquaticus</i> chaix. (Ranunculaceae)	Water fennel	Leaf	<ul style="list-style-type: none"> - Decoction of leaves with ginger is used to check intermittent fever. - Paste of the leaves with castor oil is applied externally to treat rheumatism.
2	<i>Nymphaea lotus</i> Hooks. (Nymphaeaceae)	Kamal	Root, Rhizome, Seed	<ul style="list-style-type: none"> - Dried powdered roots with milk is taken for 15 days to check piles. - Decoction of rhizomes is taken to treat diarrhea. - Roasted seeds are used to cure stomach-ache and constipation.
3	<i>Nelumbium nuciferum</i> Gaertn. (Nelumbonaceae)	Indian lotus	Whole plant, Rhizome, leaf, flowers, seeds	<ul style="list-style-type: none"> - Decoction of whole plant is useful in fever, vomiting and diarrhea. - Rhizome paste is applied on scars of ringworm. - Decoction of leaves is used to treat jaundice. - Flowers are used as cardiogenic and to cure bleeding from womb during gestation. - Decoction of dried seeds is used as antidote to poisons.
4	<i>Nelumbium pentaplata</i> Watt. (Nelumbonaceae)	Kamal	Flowers	<ul style="list-style-type: none"> - Decoction of flowers with fennel is used to regularize menstruation. - Juice of flowers is used to check nose bleeding and fever.
5	<i>Nasturtium officinale</i> R.Br. (Cruciferae)	Chho/water cress	Leaf	<ul style="list-style-type: none"> - Decoction of leaves with black pepper is useful in cold, stomachache, indigestion, constipation and cough. - Powdered dried leaves with sugar are taken to kill intestinal worms.

6	<i>Nymphoides indicum</i> L. (Gentianaceae)	Jal phool	Rhizome, Leaf	-Decoction of rhizome is useful in fever. - Paste of the leaves mixed with cow's milk is applied for one month to remove ringworm scars
7	<i>Nymphoides cristatum</i> Roxb. (Gentianaceae)	Jal phool	Leaf, Seed	-Decoction of leaves is used to check jaundice. -Paste of seeds is used to kill intestinal worms.
8	<i>Polygonum hydropiper</i> Linn. (Polygonaceae)	Jal mirchi / Water pepper	Root, Leaf, Seed	-Paste of the roots with mustard oil is used to check skin allergies and tooth ache. - Extract of leaves with sugar or honey is taken to kill intestinal worms. - Dried seeds with castor oil are used for suppuration of boils.
9	<i>Ceratophyllum demersum</i> L. (Ceratophyllaceae)	Coontail	Leaf	- Leaves pounded with ginger are useful in fever. - Decoction of leaves is used to check diarrhea.
10	<i>Vallisneria spiralis</i> Linn. (Hydrocharitaceae)	Sawala/ Eel grass	Leaf	- Paste of the leaves with fennel is given to the children passing green stools, and to check stomachache.
11	<i>Eichhornia crassipes</i> Mart. (Pontederiaceae)	Water hyacinth	Root, flower	- Paste of the roots with cloves is used to check toothache. - Paste of the flowers is applied to treat gout and rheumatism.
12	<i>Juncus articulatus</i> Linn. (Jucaceae)	Water grass	Leaf	-Paste of leaves is taken to cure urinary infections.
13	<i>Acorus calamus</i> Linn. (Araceae)	Bachh/Sweet flag.	Whole plant,	-Decoction of the whole plant is used to cure stomach pain, cough, cold, fever, headache and to kill intestinal worms.
14	<i>Spirodella polyrhiza</i> Schleid. (Lemnaceae)	Water mat	Leaf	-Dried powdered leaves with hot milk are used to check fever and measles.
15	<i>Alisma plantago aquatica</i> Linn. (Alismataceae)	Mad dog weed	Root, Leaf fruit	-Root powder with sesame oil is applied on forehead to check headache. - Powdered leaves with curd are used to treat skin itching.

16	<i>Scirpus validus</i> Valh. (Cyperaceae)	Kesrur	Roots	- Fruit pulp of unripened fruit in the form of poultice is used to treat wounds and sores. -Decoction of roots is taken to cure constipation and fever.
17	<i>Hygrorhiza aristata</i> Retz. (Poaceae)	Jungli dal/ Awned water rice	Root	- Paste of the roots with mustard oil is used to check skin-allergies. - Decoction of the roots is useful in diarrhea.
18	<i>Arundo donax</i> . Linn. (Poaceae)	Giant bamboo reed	Leaf	-Decoction of leaves with cardamom is used to cure fever, cold and stomach ache.
19	<i>Potamogeton crispus</i> Linn. (Potamogetonaceae)	-	Leaf	- Decoction of leaves is taken to check diabetes.
20	<i>Sagittaria sagittifolia</i> Linn. (Alismataceae)	Arrow head. plant	Whole plant	Juice of the whole plants is applied to treat skin allergies and rashes.

part against various ailments. The ranking of the parts of plant species being used against different diseases is as follows.

Leaf > Root > Seed > Whole Plant > Flower > Fruit.

The present study is based on herbal interaction and personal interviews with authentic local informants like hakeems, vaides, eldermen, women, heads of tribes, shepherds, etc. Identical uses of the plants for various ailments from sub-tropical to alpine regions in distantly located places of the study area, is not mere a co-incidence, but a positive indication of some useful properties in these plants. The study revealed that aquatic vegetation is highly diverse and possessed enormous ethno-medicinal resource potential. The medicinal plant sector can be improved if the agricultural support agencies would come forward to help and strengthen the medicinal plant growers financially. Research institutions should be opened at such places to help the plant growers to provide the improved and basic knowledge about the cultivation practices. The data on ethno-medicinal studies of aquatic plants will serve as a useful tool to improve socio-economic status of the people of the area and also offers scope for further research.

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