

Ethnomedicinal plants of Tehsil Nowshera, District Rajouri, J&K, India

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Abstract: A total of 32 ethnomedicinal plants from 24 families and 32 genera were collected from the Nowshera tehsil. The most dominant family was Liliaceae with 2 genera and 3 species. Other important families were Caesalpiniaceae, Euphorbiaceae, Lamiaceae, Myrtaceae, Rutaceae and Solanaceae.

Key words: Ethnomedicinal plants; Nowshera; Liliaceae; Rajouri.

1. Introduction

Traditional botanical knowledge of indigenous communities relating to the uses and management of wild plant resources is extensive (Cotton 1997). The field of ethnobotany has seen much advancement over the past decade. New methods and theories have been introduced, and more and more attention is being given to the study of cultures in underdeveloped lands. Furthermore, the subject matter has been broadened to include data not only from anthropology and botany, but also from pharmacology and phytochemistry (Cotton 1997).

Medicinal plants play an important role in the health care of people around the world, especially in developing countries. Until the advent of modern medicine, humans depended on plants for treating human and livestock diseases.

Human societies throughout the world have accumulated a vast indigenous knowledge over centuries of the medicinal uses of plants and related uses, including as poison for fish and hunting, for purifying water, and for controlling pests and diseases of crops and livestock. About 80% of the population of most developing countries still use traditional medicines derived from plants to treat human diseases (Ali *et al.*, 1998; Abbasi *et al.*, 2012). About 12.5% of the 422,000 plant species documented worldwide are reported to have medicinal value. The proportion of medicinal plants to the total documented species in different countries varies from 4.4% to 20% (Rehman *et al.*, 1986).

A number of ethnomedicinal studies (Kant and Sharma, 2001; Kumar *et al.*, 2009; Tantray *et al.*, 2009; Bhat *et al.*, 2012; Baig *et al.*, 2013; Jeelani *et al.*, 2013; Lone *et al.*, 2013; Hassan *et al.*, 2013; Bhatia *et al.*, 2014; Lone *et al.*, 2014; Bhatia *et al.*, 2015; Rao *et al.*, 2015) have listed the medicinal plants of various local areas of Jammu and Kashmir. Nowshera is one of the remotest tehsils of district Rajouri but ethnomedicinal studies are lacking in the region. Therefore, the present study was conducted in tehsil Nowshera with an aim to list the locally used medicinal plants.

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2. Material and Methods

2.1 Study site

The present study area is located situated at latitude of 33° 10' and longitude of 74° 41' at an elevation range of 470-1200 m. asl. The boundaries of tehsil Nowshera is bounded on the eastern side with Kalakote and Sunderbani blocks, on the northern side with Rajouri, its southern and western boundaries are bounded with Pakistan.

2.2 Methodology

An extensive ethno-botanical survey was carried out in different villages of the Kathua district during March 2014 to March 2015 for collection of information on ethnomedicinal plant species being used by the locals in the study area. Information was gathered by conducting interviews and group discussions on the indigenous uses of plant species as medicine. All the discussions were made with the informants in *Dogri* or *Punjabi* language for their ease. The information collected included common diseases curable by plants, local name of plant species, ethnomedicinal use and mode of administration. The final list of the plants was prepared following the International Plant Names Index (<http://www.ipni.org>).

3. Results and discussion

A total of 32 ethnomedicinal plants from 24 families and 32 genera were collected from the Nowshera tehsil. The most dominant family was Liliaceae with 2 genera and 3 species. Other important families were Caesalpiniaceae, Euphorbiaceae, Lamiaceae, Myrtaceae, Rutaceae and Solanaceae. Details of these species along with ethnomedicinal plants as follows:

***Achyranthes aspera* L.**, Sp. Pl. 204. 1753. (Local name: *Puthkanda*; Common name: Devil's horse, Prickly chaff, flowerwhip; Family: Amaranthaceae)

Uses: The plants are used for several diseases such as piles, colic and boils. Root is used for pyorrhea, and also treats cough and fevers.

***Aegle marmelos* Correa ex Roxb.**, in Trans. Linn. Soc. 223. 1800. (Local name: *Bil*; Common name: *Stone apple*, *Bengal quince*; Family: Rutaceae)

Uses: The ripe fruit is eaten as astringent, coolant and laxative. The unripe or half-ripe fruit is astringent, stomachic, antiscorbutic and digestive. It is best given in chronic cases of diarrhea and dysentery and in irritation of the elementary canal. A *shurbat* (drink prepared from the pulp) is given for constipation and dyspepsia. The *shurbat* is also taken as coolant in summers as it helpful against sun-stroke.

***Allium cepa* L.**, Sp. Pl. 300. 1753. (Local name: *Ganda*, *Pyaz*; Common name: Onion, shallot, scallion; Family: Liliaceae)

Uses: The bulb of onion is stimulant, diuretic and expectorant. Its juice is given to treat piles. Decoction of onion is given in cough. Raw bulb taken with salt is a common remedy for colic and scurvy. It is also used to treat obstruction of the intestine. The bulb is cooked in wood charcoal and given against fever.

***Allium sativum* L.**, Sp. Pl. 296. 1753. (Local name: *Lahsun*, *Lassan*; Common name: Garlic; Family: Liliaceae)

Uses: Garlic is given in fevers, cough, whooping cough and dilated bronchitis. It is diuretic. A decoction of garlic made in milk and water is given in small doses in hystoria, flatulence, and sciatica. The pickle prepared from the bulb or inflorescence bud is used against rheumatism and also reduces weight. Its juice is used in earache. Garlic bulb is fried in oil and this oil is applied on joint pains.

***Aloe vera* L.** Sp. Pl. 1: 320. 1753. (Local name: *Ghee kanwar*; Common name: Medicinal aloe, Burn plant; Family: Liliaceae)

Uses: Extract of the plant is useful in the treatment of wound and burn healing, minor skin infections and diabetes.

***Bauhinia variegata* L.**, Sp. Pl. 375. 1753. (Local name: *Karar*, *Kachnar*; Common name: *Mountain ebony*, *Purple orchid tree*; Family: Caesalpiniaceae)

Uses: The flower of *B. variegata* are edible and considered laxative, tonic astringent to the bowels and used to treat biliousness, ulcers and tuberculosis glands. Bark of the tree is used in dysentery, piles, diarrhea, worms and skin diseases. The root juice is given for snake bite.

***Bryophyllum pinnatum* (Lam.) Kurz** -- J. Asiat. Soc. Bengal, Pt. 2. Nat. Hist. 40 1871 (Local name: *Pathar choor*; Common name:

Life plant, Cathedral bells; Family: Crassulaceae)

Uses: The leaf juice is given in diarrhea, dysentery and cholera. The leaves are styptic, astringent and antiseptic. They are toasted slightly before applying on wounds, bruises, boils, cuts, ulcers, and bites of venomous insects. By applying this toasted leaves the swelling is prevented and incised wound heal rapidly and irritation is allayed.

***Calotropis procera* (Willd.) R. Br.**, in Ait. f. Mort. Kew. 2: 78. 1811. (Local name: *Desi ak*; Common name: Swallow wort; Family: Asclepiadaceae)

Uses: Leaves and roots have multiple uses. Latex provides relief against inflammation. Roots are used as antidote against snake bite and scorpion poisoning.

***Cannabis sativa* L.**, Sp. Pl. 1027. 1753. (Local name: *Bhang, Sukha*; Common name: Hemp, Marijuana Family: Cannabinaceae)

Uses: It is been used to treat a variety of ailments including pain, glaucoma, nausea, asthma, depression and neuralgia.

***Cassia fistula* L.**, Sp. Pl. 377. 1753. (Local name: *Amaltas*; Common name: Golden shower tree, Indian laburnum; Family: Caesalpinaceae).

Uses: The pulp of the pods is used as purgative for children and pregnant mother. Its confections are given in diabetes. The leaf juice is used against ringworm.

***Catharanthus rosea* G. Don.**, Syst. 4: 95. 1837. (Syn. *Vinca rosea*). (Local name: *Sadabahar*; Common name: Madagascar periwinkle, Pink periwinkle; Family: Apocynaceae)

Uses: Leaves are taken raw against diabetes. It is also used against wasp sting.

***Coriandrum sativum* L.**, Sp. Pl. 256. 1753. (Local name: *Been, Dhania*; Common name: Coriander; Family: Apiaceae)

Uses: The fruit is aromatic, stimulant, carminative, antispasmodic, corrective, diuretic, aphrodisiac and refrigerant. A decoction of dried fruits is given in flatulent colic, rheumatism and neuralgia. The decoction of fresh leaves is taken against diabetes. The

watery paste of the seeds is used as gargle for the cure of ulcers of the mouth and throat.

***Curcuma longa* L.**, Sp. Pl. 2. 1753. (Local name: *Haldi*; Common name: Turmeric; Family: Zingiberaceae)

Uses: The rhizome is given in diarrhea, intermittent fevers, dropsy, jaundice, liver disorders and urinary troubles. The fresh juice of rhizome is used as an antihelminth. It is commonly used for curing foul ulcers. The powder of *C. longa* is applied directly on bleeding site to stop the flow of blood. The powder mixed in milk treats internal injuries and also relieves psoriasis.

***Datura metel* L.**, Sp. Pl. 179. 1753. (Local name: *Kala tatoora*; Common name: Devil's trumpet, metel; Family: Solanaceae)

Uses: The dried leaves and twigs are smoked against asthma, whooping cough, bronchitis and other respiratory disorders. Juice of the fruits is applied on the scalp for reducing dandruff.

***Eucalyptus citriodora* Hook.** -- J. Exped. Trop. Australia [Mitchell] 235. 1848. (Local name: *Safeda*; Common name: Eucalyptus; Family: Myrtaceae)

Uses: The essential oil extracted from the leaves of the plant is used as antiseptic and antifungal (candida, ringworm). It is also used to cure respiratory disorders like cold and cough, and viral infections.

***Euphorbia helioscopia* L.**, Sp. Pl. 1: 459. 1753. (Local name: *Dudhi*; Common name: Madwoman's Milk; Family: Euphorbiaceae)

Uses: Oral intake of root extract useful in the expulsion of intestinal worms. Latex is applied on warts and fungal infections like ring worms.

***Ficus palmata* Forssk.**, Fl. Aeg.- Arab. 179. 1775. (Local name: *Phagara*; Common name: Punjab fig; Family: Moraceae)

Uses: Fruits are eaten as aperients. Ripe fruits are taken in a glass of water, kept overnight and consumed as '*sharbat*' against fever, cold, cough, leucoderma and leprosy.

***Fumaria indica* (Haussk.) Pugsley**, in Journ. Linn. Soc. Bot. 44: 313. 1919. (Local name: *Pitpapra*; Common name: Indian Fumitory; Family: Fumariaceae)

Uses: Decoction of aerial parts is filtered and filtrate used for bathing to cure rheumatic pain. Juice of the plant is given in jaundice, nausea and vomiting.

***Justicia adhatoda* L.,** Sp. Pl. 15. 1753. (Local name: *Brainkar, basuti*; Common name: Malabar Nut; Family: Acanthaceae)

Uses: The decoction prepared from the tender leaves is used against cough and bronchitis. The leaf extract is also used to cure chronic whooping cough. The twigs are chewed and used as *datum* to cure bleeding gums and prevents tooth decay.

***Mentha arvensis* L.,** Sp. Pl. 577. 1753. (Local name: *Pudina*; Common name: Mint; Family: Lamiaceae)

Uses: It is stimulant and carminative, used for allaying nausea and flatulence, and externally applied in rheumatism, neuralgia, congestive headache and toothache. The *chutney* prepared from the leaves of the plant improves digestion and relieves stomach inflammation.

***Momordica dioica* Roxb. ex Willd.,** Sp. Pl. 4:605. 1805. (Local name: *Karela*; Common name: Bitter gourd; Family: Cucurbitaceae)

Uses: It is use for the treatment of tumours, wounds, rheumatism and vaginal disorders. It is also used against diabetes and as a blood purifier.

***Ocimum sanctum* L.,** Mant. Pl. 1: 85. 1767. (Local name: *Tulsi*; Common name: Holy basil, sacred basil; Family: Lamiaceae)

Uses: The decoction prepared using leaves is stimulant, diaphoretic, antiperiodic, diuretic, antiseptic and expectorant. It is also one of the most common treatments against cough, cold, headache, asthma, leucorrhoea and fever. Seeds are used in genitor-urinary disorders. Oil obtained from leaves is used as antibacterial and insecticidal.

***Phyllanthus emblica* L.,** Sp. Pl. 982. 1753. (Local name: *Amla, Aula, Amlika*; Common name: Indian gooseberry tree; Family: Euphorbiaceae)

Uses: The fruit is used as one of the richest source of vitamin C. Fresh fruit is eaten as refrigerant, tonic, antiscorbutic, diuretic and laxative. It is used in fevers, vomiting indigestion, habitual constipation and other

digestion troubles. The dried fruit is a good astringent and blood purifier. The dried fruit powder of *P. emblica* along with *Terminalia bellirica* and *Terminalia chebula* is used against constipation. The dried fruits are also used for hair wash as they prevent the hair loss and dandruff. The infusion of seeds is used for washing eyes in ophthalmic diseases.

***Pinus roxburghii* Sargent,** Silva N. Amer. 2: 9. 1897. (Local name: *Chir*; Common name: *Chir-Pine*; Family: Pinaceae)

Uses: The oleo-resin popularly known as *ganth-biroza*, is stimulant, stomachic and diuretic. It is given in gonorrhoea and other disorders of the genitor-urinary organs. This is also used for dressing of foul ulcers.

***Psidium guajava* L.,** Sp. Pl. 470. 1753. (Local name: *Amrood*; Common name: Guava; Family: Myrtaceae)

Uses: The guava fruit is used against cold, work problem, constipation, mouth boils, toothache, headache, diarrhea, gum pain, teeth bleeding and diabetes, and is also a good blood purifier. The twigs are chewed to relieve toothache and bleeding gums. Leaves are also taken against diabetes.

***Prunus persica* (L.) Batsch.,** Beytr. Entw. Pragm. Gesch. Nat. Reich. 1: 30. 1801. (Local name: *Aru*; Common name: Peach; Family: Rosaceae)

Uses: Leaves are crushed and the paste so formed is applied on cuts, wounds, burns and boils to smooth inflammation and also used for quick healing.

***Solanum nigrum* L.,** Sp. Pl. 186. 1753. (Local name: *Kayan-kothi*; Common name: Black nightshade; Family: Solanaceae)

Uses: Juice of the herb is used to treat fever & relieve pain.

***Terminalia bellirica* Roxb.,** Pl. Cor. 2: 54. t. 198. 1798. (Local name: *Bhara, Bahera*; Common name: Belliric Myrobalan, Bastard myrobalan, Beach almond, Bedda nut tree; Family: Combretaceae)

Uses: The ripe dry fruit is given in piles, dropsy, diarrhea, leprosy, dyspepsia and headache. The dried fruit powder of *T. bellirica* along with *P. emblica* and *Terminalia chebula* is used against constipation.

***Tribulus terrestris* L.**, Sp. Pl. 387. 1753. (Local name: *Gokhru, Ponkhrha, Bhakhra*; Common name: Puncture vine, Goat head caltrop; Family: Zygophyllaceae)

Uses: Decoction of the fruit is used for the treatment of urinary disorders and male impotency.

***Verbascum thapsus* L.**, Sp. Pl. 177. 1753. (Local name: *Giddar Tamakoo*; Common name: Great Mullein, Adam's Flannel, Beggar's Blanket, Candlewick Plant; Family: Scrophulariaceae)

Uses: Flowers are kept in water overnight and this infusion is taken to cure cough, asthma, bronchitis and pneumonia. Leaf extract is used as eardrop. Leaf paste in mustard oil is applied on abscess.

***Viola odorata* L.**, Sp. Pl. 934. 1753. (Local name: *Banaksha*; Common name: Sweet Violet; Family: Violaceae)

Uses: The flowers are demulcent, astringent, diuretic, emollient, diaphoretic and laxative. Decoction of the plant is given in biliousness and lung troubles. The decoction of flower is also used for the treatment of cough, sore throat, kidney diseases, liver disorders and infantile affections.

***Zanthoxylum armatum* DC.**, Prodr. 1: 727. 1824. (Local name: *Timru, Timar*; Common name: Winged Prickly Ash, Prickly ash, Tumburu, Toothache Tree, Tejbal, Yellow wood; Family: Rutaceae)

Uses: Fruits are used for the treatment of indigestion in humans as well as cattle. Juice obtained from bark of branches is used for the treatment of various gum diseases and as mouth freshener. *Datun* of the *timar* is good against teeth decay.

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