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Research Article

Ethnomedicinal Plants of Sumi Nagas in Zunheboto District, Nagaland, Northeast India

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Abstract

Ethnomedicine is a term that refers to a wide range of healthcare systems/structures, practices, beliefs and therapeutic techniques that arise from indigenous cultural development. The word Ethnomedicine is sometimes used as a synonym for traditional medicine. It is mostly preserved only by oral tradition. The study was conducted in the Sumi-inhabited villages of Zunheboto district- Askhomi, Khrimtomi, Rotomi and Philimi. The survey derived information on 50 medicinal plants used by the Sumi Nagas in Zunheboto district all catering to different diseases and ailments.

Keywords: Ethnomedicine; Sumi Naga; Zunheboto; Nagaland

Zunheboto, the land of Sumi Naga, is one of the eleven districts of Nagaland. It lies between 26° 01' N latitude and 94° 31' E longitude. Zunheboto is home to various edible plants and this particular study is undertaken to document the knowledge of ethnomedicine among Sumi Nagas of Nagaland. Zunheboto is gifted with rich repository of biodiversity, including medicinal plants. Most of these medicinal plants have become a part of the socio cultural heritage of the Sumis and they are well aware of its uses. A good number of valuable reports on medicinal plants in India have been identified and reported [1-7]. Few of which have been contributed from this region [8-10]. Except few work from Zeliang, Angami, Lotha and Ao Naga tribes, nothing is done about the medicinal plants used by the Sumi tribes of Nagaland [11-14].

Materials and Methods

The aim of the study was to document the plants used by Sumi Nagas of Nagaland as medicines. The study was conducted in 4 (four) villages under Zunheboto district- Askhomi, Khrimtomi, Rotomi and Philimi. A total of 40 (forty) informants each from the four villages were interviewed which included herbalists, traditional healers, bonesetters, mid-wives, village elders and farmers. The age of the informants was above 40 years. Collection of data was carried out with the aid of in-depth interviews and Focus Group Discussions (FGDs). The medicinal plants were identified and deposited in the herbarium of Dolphin (PG) Institute of Biomedical and natural Sciences, HNB Garhwal University, Dehradun, Uttarakhand.

The information provided by one person was cross checked with another so as to authenticate the information acquired. The purpose of the data collection was clearly disclosed to the respondents and their consents were taken for further research work and publications.

Results and Discussion

In the enumeration, all the plant species were arranged with their local name, family distribution, medicinal system, the plant parts used and the various applications for the treatment of health problems. Altogether, 50 ethnomedicinal uses were identified and documented.

Conclusion

The Sumi Nagas are well aware of the vitality of traditional knowledge through their vast knowledge of traditional medicinal practices. However, it is the ultimate truth that traditional knowledge is facing a serious threat due to modernisation, deforestation and lack of proper documentation. There is, therefore, the urgent need to preserve and document such paramount resources so as to sustainably maximise their use in the indigenous healthcare systems of the Nagas.

Local name	Plant name	Family	Distribution	Medicinal systems	Uses
Atsuna	*Allium chinense G.Don*	Lilaceae	Found in entire northeastern parts of India; found upto 1800 m	Folk system	Bulb is grounded with mustard oil and rubbed on body to get relief from fever. The bulb is also used in treating stomach ache. The whole plant is used as a vegetable; also for flavoring curries.
Amwosu	*Albizia chinensis (Osb.) Merr*	Mimosaceae	Found mostly in old jhum fallows; found on elevation from 600m to 1500m	Folk system	Powder of bark is anthelmintic and used in fish poisoning. Leaf extract is applied on skin disease.
Azuyisu	*Albizia lebbeck (Linn.) Benth*	Mimosaceae	Well distributed in the lower altitude upto 700m in the tropical forests of Nagaland	Ayurveda, Unani, Sidha and Folk system	The decoction of bark and powdered seeds is administered in the morning and evening before meal to purify the blood and remove blood toxicity. It is used as a remedy for breathing problem. Paste of bark or seeds is applied to treat skin problems. The seeds are useful in inflammation. Leaves are used as remedy for night blindness.
Ahupi	*Artemisia indica Willd*	Asteraceae	Found at lower to higher altitude upto 2,300m	Ayurveda and Sidha system	It cures asthma, itching, onerexia, gastritis, rheumatism, bronchitis, fever, headache, haemorrhage and diarrhoea. It is also used in skin treatment and foul ulcers. Application of leaf paste on the head of young children prevents convulsion.
Achupi	*Artemisia nilagirica (Clarke) Pamp*	Asteraceae	Found at middle to higher altitude upto 2000m	Ayurveda and Folk system	The juice is applied on forehead to get relief from headache. Decoction of leaves is helpful in treating piles. It has antilithic and alexipharmic properties. Roots are used as tonic and antiseptic. Plants are also used to keep away flies and insects.
Awuti	*Bambusa tulda Roxb.*	Bambusoideae	Commonly distributed in the valley (600m)	Folk system	Tender bamboo shoot is boiled in water and soup is used in treating pox and other skin diseases. The paste of shoot is applied in poisonous bites and injuries.
Alphabo	*Bauhinia variegata Linn.*	Caesalpiniaceae	Distributed upto middle altitude (1,500m)	Ayurveda, Unani, Sidha and Folk system	The roots and bark are astringent, anthelmintic and anti-inflamatory used in diarrhea, dysentery, skin diseases, wounds, cough and diabetes. Fresh flowers are used in normalizing blood pressure.
Apunebo	*Bombax ceiba Linn.*	Bombacaceae	Distributed at lower altitude (800m)	Ayurveda, Unani, Sidha and Folk system	The flowers are used for treating dysentery and stomach ache. The resin powder is used in diarrhoea. Young fruits are useful in chronic inflammations and ulceration of bladder and kidney. Seeds are useful in treating gonorrhea.
Aqhebo	*Calamus erectus Roxb.*	Arecaceae	Well distributed from lower to middle altitude (upto 100m)	Folk system	Seeds are used in indigestion and stomach ache.
Awothabo	*Brugmansia suaveolens (Humb. & Bonpl. Ex Willd.)*	Solanaceae	Found upto an altitude of 1700m	Homeopathy system	Leaf paste is applied on forehead to treat dizziness and also applied on muscle sprain. Extract of plant is used as blood pressure depressant.
Ayithobo	*Caryota urens Linn.*	Arecaceae	Distributed uto middle altitude (1200m)	Ayurveda, Unani, Sidha and Folk system	The tender leaves are used in acidity. The pulp is useful in hyperdipsia and fatique. A paste made from the nut is used in hemicranias.

Akusa/Losani	*Cinnamomum zeylanicum Blume.*	Lauraceae	It is a cultivated crop	Ayurveda, Unani, Sidha and Folk system	The bark is bitter, aromatic, astringent, expectorant, diuretic and anthelmintic. It is used in diarrhea, nausea and fever.
Awukhunabo	*Debregeasia longifolia Wedd*	Urticaceae	Distributed from middle to higher altitudes (600-2000m). It is a cultivated crop.	Folk and Sidha system	Bark is used as shampoos by local tribes. Fruits are edible and improve digestion
Anashibo	*Curcuma angustifolia Roxb.*	Zingiberaceae	Well distributed from lower to middle altitude (upto 1400m)	Ayurveda, Unani,	Rhizome is sweetish, fragnant, cooling, oleaginous, aphrodisiac and useful in treating leprosy, dyspepsia, bronchitis, asthma, fever, jaundice, leucoderma, kidney stones, urinary discharges, ulcers. All parts of the plant is used for treating good poisoning. It purifies blood. Juice extracted by crushing rhizome is rubbed on body swells.
Achuchu	*Dioscorea alata Linn*	Dioscoreaceae	Distribute from lower to middle altitude (upto 1500m)	Ayurveda, Folk and Sidha system	The tubers are sweet, cooling, aphrodisiac, diuretic, anthelmintic. It is useful in treating diabetes, piles, leprosy, gonorrhea, and helminthiasis.
Achuwomusuye	*Equisetum ramosissimum Desf*	Equisetaceae	Found upto an altitude of 1500m	Folk system	The plant is used as medicinal coolant and its decoction is prescribed in treatment of gonorrhea. It stops coughing, effective in bleeding within the urinary tract. The herb is prescribed to treat rheumatism and arthritis problems, for chronic swelling of legs.
Alichesu	*Erythrina stricta Roxb*	Fabaceae	Found upto middle altitude (1400m)	Ayurveda, Unani, Sidha and Folk system	Flowers are pounded and used as tonic. Bark decoction is used to treat skin diseases.
Anapobo	*Leea compactiflora Kurz*	Leeaceae	Found in the foot hills (600 m)	Folk system	Leaves are crushed and rubbed in body pain, nervous disorder and also for insect bites
Amsanibo	*Livistona jenkinsiana Griff*	Arecaceae	Found between 800 m to 1200 m. It is also cultivated.	Folk system	Fruits are used to treat stomach ache.
Ayemhu/Aniza	*Ocimum tenuiflorum Linn*	Lamiaceae	Found at lower altitude upto 900 m	Ayurveda, Homeopathy, Tibetan, Sidha, Unani and Folk system	Decoction of roots is used to treat malarial fever and common cold. Seeds are used in genitor-urinary disorders. Leaves are used for digestive problems, bronchitis, skin diseases and ringworm. Basil oil has antibacterial and insecticidal properties. It is a mosquito repellent.
Aghauzhukuji	*Osbeckia crinita Benth*	Melastomataceae	Distributed from middle to higher altitudes (1500-2000m)	Folk system	Bark juice is administered in indigestion and stomachache.
Akhosuba	*Azadirachta indica A.juss*	Meliaceae	Widely cultivated in lower altitude (900m). It is native to Burma.	Ayurveda, Folk, Unani, Tibetan and Sidha system	Bark of the stem, roots and leaves have antibody properties. Green twigs are used to brush teeth and cure tooth ache, bad breathe and gum diseases. Decoction of leaves cure fever and removes phlegm from bronchial tubes. Smoke from burnt leaves repels mosquitoes. Tonic prepared from bark is bitter and is used in fever and skin diseases. Leaves are also hung outside the door to ward off viral diseases (measles, small pox).

Awsu	*Alpinia galanga (Linn.) Willd*	Zingiberaceae	Found from lower to middle altitude (upto 1200m)	Ayurveda, Folk, Unani and Sidha system	The rhizomes have antibacterial agent and digestive stimulant. It is used in rheumatic and catarrhal infections. It is also used in respiratory troubles in children. The paste of rhizomes are used to reduce fever. It is prescribed for cure of leucoderma and piles.
Akhoyi	*Saccharum officinarum Linn*	Poaceae	It is cultivated in valleys and at the lower hills uto 12,00 m	Ayurveda, Folk, Unani, Tibetan and Sidha system	The juice is used in treating jaundice and gall bladder disorders. The leaf ash is used to treat sore eyes and the stem juice is used to treat sore throats.
Ayexani	*Alocasia macrorrhiza (Linn.) G.Donn*	Araceae	It is cultivated upto middle altitude (1400m)	Ayurveda and Sidha system	Extract of leaves is used in snake bite. The rhizome is used in treating colic, vomiting and phlegmon. Its external use is as a plaster in effective furunculosis.
Beghuna	*Lycopersicon lycopercisum (Linn.)*	Solanaceae	It is widely cultivated.	Ayurveda and Folk system	The fruits are sweet, emollient, carminative, antiseptic, liver and kidney stimulant. Pulp of ripe fruits is applied on head against nausea and vertigo.
Bell Xhathi	*Passiflora edulis Sims*	Passifloraceae	It is cultivated at the middle and higher altitudes (800-1600m)	Folk system	The juice of the fruit is good tonic for dysentery. Leaves are used in diabetes and high blood pressure. The fruit juice is alos used as falovuring candy, ice posicle, cake-fillings, cordials etc.
Chighusu	*Michelia champaca Linn.*	Magnoliaceae	Found at lower altitude (200-1200m)	Ayurveda, Folk, Unani and Tibetan system	The bark is purgative, diuretic and febrifuge. The leaf juice is used to treat colic/ The flower oil is used in perfumes, gout, cephalgia, opthalmie and rheumatism. Flowers and fruits are antispasmodic. Seeds and fruits are applied on crack feet.
Ghakuthi	*Juglans regia Linn.*	Juglandaceae	Found at middle altitude of 1,500 m.	Ayurveda, Unani, Tibetan and Sidha system	The barks and unripe fruits are used to poison the fishes by the Naga Tribe. Leaves are astringent, anthelmintic, used in eczema, herpes and syphilis. The fruits are tonic, and carminative. Leaf is good remedy for scrofula. The expressed oil of fruits is considered useful against tapeworm and is also used to strengthen and lubricate the muscles. The kernels are said to possess aphrodisiac properties and are recommended in colic and dysentery.
Khamthi.	*Litsea cubeba (Lour.) Pers.*	Lauraceae.	It is distributed from middle to higher altitude (1,000-1,700 m).	Folk system.	Powdered root and bark are used to relieve pain. Fruits are used in combination with other medicines in allergies by Nagas.
Khosubo	*Melia composita Willd.*	Meliaceae.	It is distributed upto middle altitude (1,500 m).	Ayurveda and Folk systems	Bark is bitter and used as anthelmintic. Leaves and pulp of the fruit are also used as medicine. Leaf extract is astringent and stomachic. Wood extract is good in asthma. Flower paste is used in skin disease and in killing of lice. Gum is used in spleen enlargement.
Kithimi Ghuquabo	*Oroxylum indicum Linn.*	Bignoniaceae.	It is common at lower altitudes (upto 700 m).	Ayurveda, Folk, Tibetan, Unani and Sidha system	The bark decoction is used for cancer treatment. Tender fruits are refreshing and stomachic, seeds are purgative and leaves are used externally for enlargement of spleen.

Khollethi	*Phyllanthus emblica Linn.*	Euphorbiaceae.	Found in lower to middle altitude upto 1,200 m.	Ayurveda, Folk, Tibetan, Unani and Sidha system.	Fruit is a natural source of vitamin C and is used in treatment of scurvy. It is cooling, refrigerant, diuretic and laxative. Dry fruit is used in haemorrhage, diarrhoea and dysentery. It is also used in cardiac disorders, headache, constipation, piles, enlarged liver and greyness of hairs. The seed is used in treatment of asthma, bronchitis and biliousness.
Khakhuthi	*Solanum indicum Linn.*	Solanaceae.	Lower to middle altitude (upto 1,200 m).	Ayurveda and Sidha system	Roots are bitter, astringent, digestive, carminative and diuretic, paste is used in skin diseases, leprosy, also relieves labour pain, useful in toothache, cough, asthma, bronchitis, fever, worm complaints and cardiac disorders. Fruits are used by local tribes for stomach ailments. Juice of leaves with fresh juice of ginger is taken to stop vomiting, fruits rubbed up with sugar used as external applications for itch. Powder is sometimes used in preparation of local drink.
Lavatsuna	*Allium tuberosum Rottl. ex. Spreng*	Liliaceae	It is found between 1,500-2,000m.	Folk system	Decoction of herb is used in urinary trouble and considered to be good diuretic.
Lutusu	*Alnus nepalensis D. Don*	Betulaceae.	Middle to higher altitude of 800-2,600m. Nagaland, Manipur, Meghalaya, Arunachal Pradesh, Central and Eastern Himalayas.	Folk system	Bark paste is used to cure stomach-ache and dysentery. Decoction of the root is taken orally for the treatment of diarrhoea and the leaf paste is applied on cuts and wounds.
Loshun	*Allium sativum Linn.*	Liliaceae	It is cultivated throughout the district.	Ayurveda, Homeopathy, Folk, Tibetan, Unani, Sidha and Modern systems.	Garlic is a useful herbal medicine and is used in a number of health problems. It reduces high blood pressure, protects against blood clots, reduces blood cholesterol, blood sugar, and has antibiotic properties. It is an excellent treatment for dressing wounds, for colds, flu, ear infections and digestion and expels worms.
Mughuniye	*Fagopyrum esculentum Moench.*	Polygonaceae.	It is distributed from the middle to higher altitudes (500-2,000 m).	Folk system	Plant is used in arthritis. The grains are used for colic, choleric diarrhea, abdominal obstructions. It is used particularly to treat fragile capillaries; also helps strengthen varicose veins and heal chilblains. Often combined with lime flowers it has a specific treatment for haemorrhage into retina. Also commonly taken in combination with other herbs for treatment of high blood pressure.
Nebathi	*Ficus benjamina Linn*	Moraceae.	It is distributed in the lower altitude (200 m).	Folk system.	Leaf decoction is used in ulcer. The tender shoots are good in cough and dysentery.
Qopupu	*Bauhinia glauca (Wall. ex Benth.)*	Caesalpiniaceae	It is well distributed at the middle altitude (1,000-1,600 m).	Folk system	Decoction of bark is used in leprosy and dysentery and its infusion is used in poisonous bites.
Sapotusu	*Albizia procera Benth*	Mimosaceae	It is found at the lower altitudes upto 1000 m.	Ayurveda, Folk and Sidha systems	Bark decoction is used in rheumatism and haemorrhage. Plant parts show anticancer activity. Plant is used in intestinal diseases. Stem bark's paste is applied in backache.

Sumugha	*Allium ascalonicum Linn*	Liliaceae	It is cultivated in the fields and gardens	Ayurveda, Unani and Modern systems	Decoction of bulbs used with milk, butter and Ferula asafetida and paste is applied to treat paralysis. Milder than garlic
Shefuxasu	*Duabanga grandiflora (Roxb. ex DC.) Walp*	Sonneratiaceae	It is found upto middle altitude (1,200 m)	Folk system	Stem bark is used in skin diseases
Sulithi	*Morus alba Linn.*	Moraceae	Found in wild upto altitude of 1,000 m and also cultivated	Folk, Ayurveda, Unani and Sidha system	It is used in cough, dropsy and injury
Shenhanibo	*Ricinus communis Linn.*	Euphorbiaceae	Found from lower to higher altitudes upto 1,200 m	Ayurveda, Folk, Unani, Tibetan, Homeopathy and Modern systems	Leaves are anthelmintic. Warmed leaves are tied on swellings, boils and rheumatic joints. Oil is purgative, used in skin inflammation and leprosy. A drink of juice in water is taken to treat breast tumors.
Tughami subo	*Alstonia scholaris (Linn.) R. Br*	Apocynaceae	At lower altitude upto 300 m, common in North East India	Ayurveda, Folk, Homeopathy, Tibetan, Unani and Sidha systems	Bark with bitter taste with an alkaloid called diamine. The bark is used in heart disease, asthma, chronic diarrhea and to stop bleeding of wounds, deafness, leprosy and dyspepsia. Stem bark of Croton roxburghii are pounded together and boiled in water, extract is taken orally to cure gastric trouble. The drug is used in cancer in Ayurvedic system. Decoction of leaves is used in beriberi, congestion to ulcers, sores, rheumatic pain, toothache and earache
Tachisu	*Callicarpa arborea Roxb*	Verbenaceae	It is distributed from lower to middle altitude (300-1,500 m). On jhum lands of hilly slopes.	Folk and Unani systems	Used in fever, gastritis, headache. Bark is used in skin diseases and scorpion sting. It is carminative and used in cutaneous diseases.
Thsughusu	*Gmelina arborea Roxb*	Verbenaceae	It is found in the lower altitude (upto 900 m)	Ayurveda, Folk, Tibetan, Unani and Sidha systems	Roots and bark are laxative. The roots make one of the gradient of Dasamula,an Ayurvedic preparation. The bark powder alongwith bark powder of Rubia manjith and seeds of Satavari is given with milk to avoid abortion at early stage of pregnancy. Leaves are demulcent and are rubbed on forehead to get relief from headache. It promotes digestive power, improves memory, overcomes giddiness and is useful in fever, rheumatism, epilepsy, convulsions (with bark of Bauhinia purpurea), piles, syphilis (with shoots ofLagerstroemia parviflora, roots of Solanum violaceum and Achyranthes and leaves of Sida cordata).
Tughaloji shedu	*Melastoma malabathricum Linn*	Melastomataceae	It is found upto middle altitude (1,500 m)	Folk, Ayurveda and Sidha system	Leaves are applied on cuts to stop bleeding. Fruits are eaten. Flowers are used to treat piles.
Tghakutsuye	*Plantago erosa Wal*	Plantaginaceae	It is common in moist and waste land upto middle altitudes (1,500 m)	Ayurveda, Homeopathy, Unani and Sidha system	Plant paste is haemostatic and applied on boils, burns and inflammation. Leaves are cooling, diuretic, astringent and vulnerary infusion of leaves is useful in diarrhoea. Decoction of roots is used in cough. Seeds are used in dysentery and toothache. Traditionally used for bee sting, incised wounds and bleeding piles.
Xapho kini xamunu	*Mussaenda frondosa Linn*	Rubiaceae	Found in middle altitude (1,200 m) and also planted.	Ayurveda, Folk, Unani and Sidha systems	Decoction of dried shoots is used in cough, bronchitis, fever, inflammation, wounds, leucoderma, jaundice. Root paste is applied to cure leprosy and its juice is used in eye troubles. Flowers are used on ulcers

Yevuithi	*Rubus foliolosus D. Don*	Rosaceae	Fond at middle altitude (1,100 to 1,600 m)	Folk system	Root decoction is used in fever and malaria
Yephaniye	*Molineria capatulata (Lour.)*	Hypoxidaceae	Found from lower to middle altitude (upto 1,500 m)	Folk system	The tribes use it in veneral diseases and in any injury. It is also used in piles, jaundice, asthma and diarrhoea. It is considered as tonic for skin diseases. Outer skin of the rhizomes peeled and soaked in water. Used for eye diseases
Zunhebo	*Leucosceptrum canum Sm*	Lamiaceae	It is found upto middle altitude (1,500 m)	Folk system	The white tomentum is scraped from the leaves and applied as hemostatic. Inflorescence is soaked in water and taken as astringent, stimulant and tonic by Nagas.

Table 1: *Medicinal plants used by Sumi Naga tribes in Nagaland.*

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