

Study on the medicinal plants used by the Sangtam Naga tribe

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Abstract

This study on the traditional medicinal plants used by the Sangtam tribe living in the Longkhim-Chare region of Tuensang district of Nagaland, India. The study design include oral interview with village elders and medicine practitioner in the Sangtam land. A total of 49 species belonging to 33 families were recorded which were used as medicinal plants by the Sangtam tribe of Nagaland for the treatment of various diseases and relief from pains that plagues the human beings are recorded. According to the study, leaves, barks, seeds, flowers, shoots are some of the important plant parts which were dominantly used as medicine for various sickness and ailments.

Keywords: Medicinal plants; Nagaland; Sangtam Naga tribe; Traditional Medicine; Treatment uses

1. Introduction

The Sangtams are one of the important tribes in Nagaland, India. Northern Sangtam is under Tuensang District of Nagaland known for its ethnic and cultural diversity with vital historical importance. The current total population of Longkhim block and Chare block as per 2011 census is 28462. Sangtam land has a largely monsoon climate with high humidity levels. Annual rainfall averages around 70–100 inches (1,800–2,500 mm), concentrated in the months of May to September. Temperatures range from 70 °F (21 °C) to 104 °F (40 °C). In winter, temperatures do not generally drop below 39 °F (4 °C), but frost is common at high elevations. There are three well defined seasons in Nagaland.

The temperature during the summer season remains between the 16 to 31 degrees Celsius. Heavy rainfall occurs between the months of May and August. September and October months which records from 2000 mm-2500 mm. Winter makes an early arrival in the Sangtam Naga hill in which temperature drops as low as of 4 degree Celsius in winter.

The maximum average temperature recorded in the winter season is 24 degrees Celsius. The higher 3 altitudes are enveloped in snow. Strong North West winds blow across Sangtam Land during the months of February and March.

Before the dawn of Christianity and modern civilization, head hunting was a part of everyday life of the Sangtam. The religious practices and belief in the existence of supernatural beings, their power and the practice of propitiation through the forms of rituals and worship. and in olden days local traditional healing was a ways of medicines for centuries.

Sangtams are one of the culturally richest and most colourful tribes having 12 festivals of which 'Mungmung' meaning 'Pre-harvesting festival, predominates in worship of God of the house and three cooking stone, in the fire place(hearth), is considered to be most important of all. The land is very rich in floral diversity and many wild plants with medicinal

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properties are yet to be explored. There is an enormous wealth of knowledge of medicinal plants among the people which they have developed through their age long trial and error methods and orally passed information to their younger generations.

The aim of the present paper documentation is to highlight some of the important medicinal plants used by the Sangtam tribe for the treatment of their various diseases and ailments. Like other tribal groups, the Sangtams also practice 'Jhum'/'Slash and Burn' cultivation. They are self-dependant and hardworking people. The major crops of the Sangtams are rice, maize, kholarü (beans), potatoes, soyabean, ginger etc. They are also rich in their culture like all other Naga tribes which are inhibited by behavior and thoughts of their forefathers and passed on from generation to generation through oral tradition and day to day traditional practices, customs, arts, festivals, hunting, weaving, indigenous games and sports etc., including traditional knowledge of medicinal plants. Sangtam tribe have vast knowledge of their plant resources as medicine and have been using over the years. However, no proper studies were made available on the uses of medicinal plants from Sangtam land of Tuensang district, Nagaland India. In this regard, the present study is to document the information about the uses of medicinal plants by the Sangtam tribe in Tuensang district. Almost all the species are used in day to day life as food plants by the common people and the herbal practitioners use these species for their medicinal values and prescribed them for particular treatments. These species are used in the treatment of various common and important diseases like indigestion, dysentery, diarrhea, morning sickness, tonsils, cough, cold, nausea, kidney stones, paralysis, mosquito repellent, tonic, etc. These food plants comprise the vegetables, spices and condiments and fruit plants where majority are used as vegetables.

2. Methodology

The methods apply in this research paper is based on the qualitative survey type research. All information regarding the traditional knowledge of medicinal plants used by the Sangtam tribes have been gathered from the local medicine practitioners, village elders etc.

3. Results and Discussion

A study was carried out to explore indigenous traditional knowledge on utilization of available local plant biodiversity which have been utilized for treatment and cure of human ailment. Selected villages under Northern Sangtam Land were surveyed and interviewed by using the structured schedule (questionnaires) for medicinal plant resources, their uses and information about their relationships with indigenous people. Information about traditional practices adopted for the medicinal resources was also gathered from the 'Local Medicine Men/Local Healers', village elders etc.

In this present study paper a total of about 49 plant species belong to 33 families were recorded for traditional medicine used by Sangtam Naga were documented alphabetically and further the scientific names, common names, local names, family, uses of plants parts and the treatment for various diseases and ailments are discussed and mentioned in (Table 1).

The result of the present study indicates that the food plants used by the Sangtam tribe have important curative properties.

Table 1 Medicinal plants used by the Sangtam Naga tribes

SN	Scientific name	Common name /Local/Family	Diseases / ailments treated
1	<i>Allium chinense</i> 	Common Name Japanese Scallion Local Name Morkhem Family Liliaceae Part Used Bulbs and leaves	Stomach ache, reduces cholesterol.

2	<i>Allium sativum</i> 	Common Name Garlic Local Name Lashing Family Liliaceae Part Used Bulb	Bulb- paste is taken orally for cough, cold, high blood pressure, indigestion and promotes the flow of urine.
3	<i>Allium hookeri</i> 	Common Name Hooker chives Local Name Zhiva Family Liliaceae Part Used Roots& leaves	Fresh leaf and root extract is taken for anthelmintic and also used for massaging.
4	<i>Alnus nepalensis</i> 	Common Name Indian Alder Local Name Hongtong sing Family Betulaceae Part Used Roots& leaves	Roots and leaf paste is applied on cuts and wounds as haemostatic. Decoction of the root is taken for treatment of chronic diarrhoea and stomach ache.
5	<i>Aloe vera</i> 	Common Name Indian aloe Local Name Aloe-vera Family Liliaceae Part Used Leaves	Fresh leaf extract is applied in case of burns, wounds and cuts; also taken orally for piles, liver complains, jaundice & gastric problems.
6	<i>Ananas comosus</i> 	Common Name Pineapple Local Name Chiro Family Bromeliaceae Part Used Fruits	Fruit juice is taken for jaundice, abortifacient, anthelmintic, whooping cough & as blood purifier
7	<i>Artocarpus heterophyllus</i>	Common Name Jack fruit Local Name Bulong Family	Root bark is used in the treatment of skin diseases and asthma. The decoction of leaf and seed are used for healing stomach ulcers & diuretic.

		Moraceae Part Used Root bark, leaf & seed	
8	<i>Balanophora dioica</i> 	Common Name Root parasite Local Name Kümroh Family Balanophoraceae Part Used Inflorescence	Extract paste of inflorescence is used as an aphrodisiac & as cough syrup.
9	<i>Bidens pilosa</i> 	Common Name Beggar's stick Local Name Mütsanu Family Asteraceae Part Used Whole plant	Plant is pounded into paste and applied for cure of leprosy, various skin diseases; seed powder is taken orally to expel intestinal parasites; also taken for diuretic and kidney problem.
10	<i>Cannabis sativa</i> 	Common Name Indian hemp Local Name Ganja Family Cannabinaceae Part Used Leaves& flowers	Sedative, tonic, intoxicant, analgesic, antiseptic.
11	<i>Capsicum frutescens</i> 	Common Name Chilli Local Name Mürsi Family Solanaceae Part Used Leaves & fruits	Leaf & fruit juice is applied on skin diseases, headache & night blindness; extract is taken for tuberculosis, stomach-ache, backache, cough and chest pain.
12	<i>Celosia cristatae</i> 	Common Name Cock's comb Local Name Luriyongpi Family Amaranthaceae Part Used Leaves& flowers	Flowers are astringent, used in diarrhoea, urinary tract infection and excessive menstrual problem; leaf extract is used in cuts and injuries.

13	<i>Centella asiatica</i> 	Common Name Indian pennywort Local Name Tsüngnünglah Family Apiaceae Part Used Whole plant Flowers	Whole plant is crushed into paste, applied on skin disorder, rheumatism, epilepsy, nervous and immune system disorder.
14	<i>Citrus grandis</i> 	Common Name Pomelo Local Name Chemphem Family Rutaceae Part Used Leaves & fruit	Decoction of the leaf is used against influenza & headache fruit rind is good for colic and cough
15	<i>Clerodendrum colebrookianum</i> 	Common Name East Indian Glory Bower Local Name Mükömüküp Family Verbenaceae Part Used Leaves	Leaf extract is taken as laxative, antiseptic, anti-inflammatory, antipyretic, bronchitis, malaria & as tonic.
16	<i>Coixlacryma- jobi</i> 	Common Name Job's tear Local Name Mümtseh Family Poaceae Part Used Leaves, seeds, roots	Leaf extract taken orally for stomach problems, fever, small pox, as tonic; roots are used in menstrual disorders; seeds are used as tonic, diuretic and as diet drink.
17	<i>Colocasia esculenta</i> 	Common Name Arum Local Name Banu Family Araceae Part Used Whole plant	Whole plant is crushed into paste and applied on insect stings, cuts, burns & internal haemorrhage.
18	<i>Elettaria cardamomum</i>	Common Name Cardamom Local Name Elachi Family Zingerabaceae	Seeds are aromatic, sweet, stimulant, carminative, diuretic and expectorant.

		Part Used Seeds	
19	<i>Elsholtzia blanda</i> 	Common Name Pleasant Himalayan Tulsi Local Name Thongvi Family Lamiaceae Part Used Whole plant	Plant extract is taken for kidney and urinary bladder problems; cuts, wounds & rashes. It is also used as condiments.
20	<i>Entada scandens</i> 	Common Name Nicker Local Name Khüling Family Leguminaceae Part Used bean/ Seeds	Seeds are pounded & used as soap, shampoo; also bark's powder is used in fever and headache.
21	<i>Eupatorium adenophorum</i> 	Common Name Crofton weed Local Name Doctor wah Family Asteraceae Part Used Leaves	Leaf paste is used as haemostatic; also taken orally for malaria, stomach ache and as antiseptic properties.
22	<i>Euphorbia pulcherrima</i> 	Common Name Poinsettia Local Name Penjungyongpi Family Euphorbiaceae Part Used Flowers& leaves	Flowers and leaf is crushed into paste and taken as laxative and helps in increasing secretion of nursing mother; also applied on skin diseases.
23	<i>Ficus hispida</i> 	Common Name Creeping fig Local Name Papasih Family Moraceae Part Used Fruits	Ripe fruit is eaten for urinary bladder complains also applied on skin diseases and leprosy.
24	<i>Fragaria nilgerrensis</i>	Common Name	Extract of the plant is used as eye drops and as tonic; also for urinary and kidney stones.

		Coiled strawberry Local Name Zingsi Family Rosaceae Part Used Aerial parts	
25	<i>Glycine max</i> 	Common Name Soyabean Local Name Honyangsü Family Fabaceae Part Used Seeds	Seed powder is used for treatment of allergies diabetes, skin, eye diseases and dandruff problems.
26	<i>Gomphocarpus physocarpus</i> 	Common Name Balloon plant Local Name Balloon yongpi Family Apocynaceae Part Used Leaves & seeds	Leaf and seed extract is taken for gastrointestinal problems; however, excess intake should be avoided as it is poisonous plant.
27	<i>Hibiscus rosa-sinensis</i> 	Common Name China rose Local Name Tbükutongyongpi Family Malvaceae Part Used Flowers, leaf & bark	Flowers, leaves & stem bark is pounded into paste and taken orally as ant fertility, astringent, menstrual disorders and piles problems.
28	<i>Houttuynia cordata</i> 	Common Name Stink grass Local Name Yimlongchola Family Saururaceae Part Used Whole plant	Whole plant is chewed for stomach ache, cholera, dysentery and as diuretic; also applied on skin diseases.
29	<i>Hippeastrum puniceum</i> 	Common Name Barbados lily Local Name Lily Family Amaryllidaceae Part Used Bulb	Bulb extract is used in anti-immune diseases therapy, allergy and rheumatism.

30	<i>Ipomeae batata</i> 	Common Name Sweet potato Local Name Khethangthü Family Convolvulaceae Part Used Leaves, tuber & aerial parts	Whole plant is crushed into paste and taken orally with water for diarrhoea, constipation and a good source of vitamin A and C.
31	<i>Livistona jenkinsiana</i> 	Common Name Fan palin Local Name Süratseh Family Arecaceae Part Used Fruits	Fruit is eaten for stomach ailments.
32	<i>Luffa cylindrica</i> 	Common Name Sponge gourd Local Name Tithüsih Family Cucurbitaceae Part Used Fruits & seeds	Young fruits is eaten after cooking for liver diseases, anemia and as anthelmintic.
33	<i>Mangifera indica</i> 	Common Name Mango Local Name Nyüpongwümsi (dete) Family Anacardiaceae Part Used Leaves & bark	Leaf and stem bark is crushed into paste and taken for cholera, diarrhoea, jaundice, kidney problem, diabetes, tooth ache and also applied on scabies
34	<i>Manihot esculenta</i> 	Common Name Tapioca Local Name Sing xho(Yangdhongpi) Family Euphorbiaceae Part Used Leaves & roots	Tuber and leaf is crushed into paste and taken for constipation, indigestion, and diarrhoea, also applied on skin diseases.
35	<i>Mimosa pudica</i>	Common Name Touch-me-not Local Name Longriwah Family	Root and leaf extract is used in treatment of pile problems, diarrhoea, liver disorders and urinary problems, also applied on skin diseases.

		Mimosaceae Part Used Roots & leaves	
36	<i>Morus alba</i> 	Common Name Black mulberry Local Name Malbari Family Moraceae Part Used Fruits	Fruits are taken as mild laxative, antibacterial, diabetes, cold & jaundice problems.
37	<i>Mucuna pruriens</i> 	Common Name Cowhage Local Name Suhtreh (Matsarasih) Family Papilionaceae Part Used Roots & pods	Root and pod decoction induces flow of urine, acts as body tonic and paralysis.
38	<i>Musa paradisiacal</i> 	Common Name Banana Local Name Lalümsi Family Musaceae Part Used Fruits & stem	Fruit and stem extract is used for cholera, diarrhoea and dysentery; also for cardiac and hypertension problems.
39	<i>Ocimum basilicum</i> 	Common Name Sweet basil/ Local Name Ningperang Family Musaceae Part Used Leaves & inflorescence	Leaf and inflorescence is pounded into powder and taken for cough, cold, fever, earache and as antidote.
40	<i>Passiflora edulis</i> 	Common Name Passion fruit Local Name Entsülashe Family Passifloraceae Part Used Fruits & leaves	Fresh leaf is crushed into paste and taken along with water for diarrhoea, dysentery, insomnia, diabetes and high blood pressure; fruit juice is also used as tonic.

41	<i>Parkia roxburghii</i> 	Common Name Stinkybeans Local Name Roanjak Family Mimosaceae Part Used Pods & seeds	Seeds are cooked and eaten as vegetable; also used for chronic dysentery, piles and as laxative.
42	<i>Phyllanthus emblica</i> 	Common Name Gooseberry Local Name Kiyongsi Family Euphorbiaceae Part Used Fruits	Fruit is taken orally for indigestion, dysentery and kidney problems; source of vitamin C and as astringent, also for treatment of human scurvy.
43	<i>Pratia begonifolia</i> 	Common Name Round leaf star creeper Local Name Tsüngnünglah Family Campanulaceae Part Used Whole plant	Extract of the whole plant is taken along with water for urinary diseases, helps in dissolving kidney and gall bladder stones.
44	<i>Psidium guajava</i> 	Common Name Guava Local Name Motaram Family Myrtaceae Part Used Bark & leaves	Stem bark and leaf paste is used as germicide; also used for healing wounds, tooth-ache and ulcers.
45	<i>Rhus semialata</i> 	Common Name Nutgall tree Local Name Sami tong Family Anacardiaceae Part Used Fruits & seeds	Seed powder is taken orally with water and common salt for high fever, indigestion, vomiting, allergy and food poisoning.
46	<i>Ricinus communis</i>	Common Name Caster bean Local Name Aeritong Family	Seed is used as anthelmintic, purgative and laxative; leaves are warmed in fire and used for massaging body ache and rheumatism

		Euphorbiaceae Part Used Leaves & seed oil	
47	<i>Saccharum officinarum</i> 	Common Name Sugar cane Local Name Nunu Family Poaceae Part Used Culms oil	Culm is chewed for jaundice, gall bladder, arthritis, bed sores, boils and eye problems.
48	<i>Zea mays</i> 	Common Name Maize Local Name Tsehsuh Family Poaceae Part Used Corn silk & corn meal	Corn is taken orally for diuretic, heart disease, hypertension, and kidney stone and for lowering blood pressure.
49	<i>Zingiber officinales</i> 	Common Name Ginger Local Name Shing Family Zingiberaceae Part Used Rhizomes	Rhizome is crushed into paste and kept overnight in a cup of water and drink for tuberculosis, cough, stomach-ache and chest problems.

4. Conclusion

Due to the advancement of medical science and technology along with the development and modernization taking place at a fast pace, the old traditional knowledge and wisdom that have been so valuable, guarded and practiced once are now losing its place to the more reliable and trusted scientific approach associated with modern medicine. The younger generations do not favor the value placed by their ancestor's traditional knowledge about the herbal use in lesser common diseases like fever, stomach ache, sprains, minor injuries, menstrual cycle disorders etc.

The rich traditional medicinal knowledge of Sangtam Naga tribe should be documented and preserved for better utilization of the plant resources. However, it is the ultimate truth that traditional knowledge is facing a serious threat due to modernization, deforestation, lack of awareness and lack of proper documentation. There is, therefore, an urgent need to preserve and document such paramount resources so as to sustainably maximize their use in the indigenous healthcare systems of the Sangtams in particular and Nagas in general.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare that they have no conflict of interesting.

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