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A Study on the Medicinal Plants Used by the *Sangtam* Naga Tribe in Kiphire District, Nagaland, India

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The present paper deals with the investigation of traditional knowledge of 53 species of medicinal plants used by the Sangtam – Naga tribes in Kiphire district of Nagaland, India for the treatment of various diseases and relief from pains that plagues the human beings are recorded.

Key words: Medicinal plants, Nagaland, *Sangtam* Naga tribe.

Introduction

The *Sangtams* are a Naga tribe living in Kiphire district, Nagaland, India, which lies between 25°54′45″ N latitude and 93°44′30″ E longitude. Kiphire district stands in the middle of the two lofty mountains of '*Saramati*' and '*Jingkhu*' at an elevation of 896.42 m above MSL. This district is located on the Eastern part of the State. It is bounded by Tuensang district on the North, Phek district on the South, Myanmar on the East and Zunheboto district in the West. The total area of Kiphire district is 1255 sq KMs. Kiphire district is bifurcated from Tuensang district and was inaugurated on January 24, 2004.

Weather of Kiphire district is characterized by a humid and cold climate. The lowest temperature recorded during recent years was 2.7°C and highest temperature recorded is 37°C. Monsoon period extends from June to October, with an annual average rainfall of 275 cm. *Saramati*, the highest peak in Nagaland and also the highest mountain of non-Himalayan Mountains of India, at an altitude of 3,841 m above MSL is situated in this district. It is snow clad throughout the winter and after February the snow melts into the '*Likimro*' river. Besides this, Kiphire also have the '*Fakim Wild life Sanctuary*' which is close to Myanmar border, covering an area of 643 hectares. Based on the classification of Champion and Seth (1968), the type of forest found in this region are Sub-Tropical Pine forest, Montane Wet Temperate forest and Sub-Alpine forest, where plant species like *Pinus* sp., *Taxus baccata, Rhododendron* sp., *Schima* sp., *Quercus* sp., *Acer* sp., *Juniperus* sp., etc are found.

As per 2011 Census, Government of India, total population of the district is 74,033 and has a sex ratio of 961 females for every 1000 males and a literacy rate of 71.10 per cent.

Sangtams are one of the culturally richest and most colorful tribes having 12 festivals of which '*Mongmong*' meaning '*Togetherness Forever*', is considered to be most important of all. Many of the villages are named after the flora and fauna of the area. It is believed that they originated from Sanghure village where an oldstone Monolith called '*Ningthsalong*' is built and it is in this village that the *Sangtams* first met to unite various village into a tribe.

Like other tribal groups, the *Sangtams* also practice '*Jhum*'/ '*Slash and Burn*' cultivation. They are self-dependant and hard working 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, art, festivals, hunting, weaving, indigenous games etc., including traditional knowledge of medicinal plants.

In North eastern region of India, ethnobotanical studies with a good scientific base have appeared in the last two decades leading to the publication of a good number of valuable regional medicinal plants (Baruah & Sharma, 1984; Bhattacharjee *et al*, 1980; Bora, 1999; Borthakur 1976, 1981; Borthakur & Goswami, 1995; Gurung, 2002; Jain and Rao, 1977; Jamir, 1997; Jamir & Rao, 1990; Jamir & Lal, 2005; Jamir *et al*, 2008; Kakati & Doulo, 2002; Imchen & Jamir, 2011; Lanusunep & Jamir, 2010; Megoneitso & Rao, 1983; Rao & Jamir, 1982a; Sinha, 1987). However, except a few valuable contributions of medicinal plants from the state of Nagaland, nothing has been studied so far from the *Sangtam* Naga tribes in Nagaland. It is perhaps the investigation on the medicinal plants used in the '***Indigenous System of Medicine'*** by the *Sangtam* tribes.

Materials and Methods

All information regarding the traditional knowledge of medicinal plants used by the *Sangtam* tribes have been gathered from the '*Local Medicine Men/Local Healers*', Goan-bora (Village Head Man), village elders etc., during field trips to different localities at *Sangtam* area in Kiphire District for the last two years. Plants collection has been followed according to the methods of Jain and Rao (1977). The plants were identified with the help of literature and herbarium from the Department of Botany, Nagaland University, Lumami, India.

Enumeration of Medicinal Plants

In this paper, botanical names are arranged alphabetically along with the family and common/local names followed by the reference to the specimens. After that the uses of plants parts and treatment for various diseases and aliments are mentioned. Further, all the identified plant specimens have been deposited in the herbarium, Department of Botany, Nagaland University, Lumami (Table 1).

Table 1: Medicinal plants used by the *Sangtam* Naga tribes.

Botanical Name & Voucher specimen	Family	Common/ local name	Parts used	Diseases / ailments treated
Allium sativum L. [LIR-205]	Liliaceae	Garlic/ Lashing	Bulb	Bulb- paste is taken orally for cough, cold, high blood pressure, indigestion and promotes the flow of urine.
Allium hookeri Thw. [LIR- 115]	Liliaceae	Zhiva	Roots & leaves	Fresh leaf and root extract is taken for anthelmintic and also used for massaging
Alnus nepalensis D.Don. [LIR- 112]	Betulaceae	Indian Alder/ Hongtong sing	Roots & leaves	Roots and leaf paste is applied on cuts and wounds as haemostatic. Decoction of the root is taken for treatment of chronic diarrhea and stomach ache.
Aloe vera (L.) Burm.f. [LIR- 163]	Liliaceae	Indian aloe	Leaves	Fresh leaf extract is applied in case of burns, wounds and cuts; also taken orally for piles, liver complains, jaundice & gastric problems.
Ananas comosus	Bromeliaceae	Chiro	Fruits	Fruit juice is taken for

(L.) Merrill [LIR-101]				jaundice, abortifacient, anthelmintic, whooping cough & as blood purifier.
Artocarpus heterophyllus Lamk [LIR- 133]	Moraceae	Jack fruit/ Bülong	Root bark, leaf & seed	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.
Balanophora dioica Brown [LIR -140]	Balanophoraceae	Root parasite /Kümroh	Inflorescence	Extract paste of inflorescence is used as an aphrodisiac & as cough syrup.
Bambusa tulda Roxb [LIR- 177]	Poaceae	Huti	Young shoots	Tender bamboo shoot is boiled in water and applied on chicken pox and other skin diseases; the paste of shoot is used haemostatic & antidote.
Bidens pilosa L. [LIR- 201]	Asteraceae	Beggar's stick/ Mütsanu	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.
Callicarpa rubella Lindl [LIR- 105]	Verbenaceae	Beauty berry / Mütsing	Root & stem bark	Root and stem bark is chewed for rheumatism & diuretic.
Cannabis sativa L. [LIR- 107]	Cannabinaceae	Indian hemp/ Ganja	Leaves & flowers	Sedative, tonic, intoxicant, analgesic, antiseptic.
Capsicum frutescens L. [LIR-130]	Solanaceae	Chilli/Mürsi	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.
Carica papaya L. [LIR- 121]	Caricaceae	Papaya/ Mamatsang	Latex, fruit & seeds	Latex is applied for removing corns and warts; fruits help in digestion, flow of urine and constipation. Seeds act as anti-cancer.
Celosia cristatae L. [LIR- 102]	Amaranthaceae	Cock's comb / Lurüyongpi	Leaves & flowers	Flowers are astringent, used in diarrhea, urinary tract infection and excessive menstrual problem; leaf

				extract is used in cuts and injuries.
Centella asiatica L. [LIR- 142]	Apiaceae	Indian pennywort /Tsüngnünglah	Whole plant	Whole plant is crushed into paste, applied on skin disorder, rheumatism, epilepsy, nervous and immune system disorder.
Citrus grandis L. Osbeck. [LIR- 198]	Rutaceae	Pomelo/ Chemphem	Leaves & fruit	Decoction of the leaf is used against influenza & headache fruit rind is good for colic and cough.
Clerodendrum colebrokianum Walp. [LIR- 173]	Verbenaceae	Mükomüküp	Leaves	Leaf extract is taken as laxative, antiseptic, anti-inflammatory, antipyretic, bronchitis, malaria & as tonic.
Coix lacryma- jobi L. [LIR- 136]	Poaceae	Job's tear/ Mümtseh	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.
Colocasia esculenta L. Schott. [LIR- 160]	Araceae	Arum/Banu	Whole plant	Whole plant is crushed into paste and applied on insect stings, cuts, burns & internal hemorrhage.
Elettaria cardamomum Mat. [LIR- 109]	Zingerabaceae	Cardamom/ Elachi	Seeds	Seeds are aromatic, sweet, stimulant, carminative, diuretic and expectorant.
Elsholtzia blanda Benth. [LIR- 152]	Lamiaceae	Thongvi	Whole plant	Plant extract is taken for kidney and urinary bladder problems; cuts, wounds & rashes. It is also used as condiments.
Entada scandens L. Benth. [LIR- 148]	Leguminaceae	Nicker/ Khüling	bean/ Seeds	Seeds are pounded & used as soap, shampoo; also bark's powder is used in fever and headache.
Eupatorium adenophorum Spreng. [LIR- 202]	Asteraceae	Crofton weed / Doctor wash	Leaves	Leaf paste is used as haemostatic; also taken orally for malaria, stomach ache and as antiseptic properties.
Euphorbia pulcherrina Willd. ex. Klotzsch [LIR- 183]	Euphorbiaceae	Poinsettia/ Temtang yongpi	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.

Ficus hispida L. [LIR- 162]	Moraceae	Creeping fig/ Papasih	Fruits	Ripe fruit is eaten for urinary bladder complains also applied on skin diseases and leprosy.
Fragaria nilgerrensis Sch. [LIR- 143]	Rosaceae	Coiled strawberry/ Zingsi	Aerial parts	Extract of the plant is used as eye drops and as tonic; also for urinary and kidney stones.
Glycine max L. Merr. [LIR- 203]	Fabaceae	Soyabean/ Honyangsü	Seeds	Seed powder is used for treatment of allergies diabetes, skin, eye diseases and dandruff problems.
Gomphocarpus physocarpus E. Mey [LIR- 181]	Apocynaceae	Balloon plant/ Balloon yongpi	Leaves & seeds	Leaf and seed extract is taken for gastrointestinal problems; however, excess intake should be avoided as it is poisonous plant.
Hibiscus rosa-sinensis L. [LIR-149]	Malvaceae	China rose/ Tbükutong yongpi	Flowers, leaf & bark	Flowers, leaves & stem bark is pounded into paste and taken orally as antifertility, astringent, menstrual disorders and piles problems.
Houttuynia cordata Thunb. [LIR- 155]	Saururaceae	Stink grass/ Yimlongchola	Whole plant	Whole plant is chewed for stomach ache, cholera, dysentery and as diuretic; also applied on skin diseases.
Hippeastrum puniceum (Lam.) Kuntze [LIR- 111]	Amaryllidaceae	Barbados lily/ Lily /	Bulb	Bulb extract is used in anti-immune diseases therapy, allergy and rheumatism.
Ipomeae batata (L.) Lam. [LIR-127]	Convolvulacea e	Sweet potato/ Khethangthü	Leaves, tuber & aerial parts	Whole plant is crushed into paste and taken orally with water for diarrhea, constipation and a good source of vitamin A and C.
Juglans regia L. [LIR- 157]	Juglandaceae	Common walnut/ Thükha	Leaves, barks & fruits	Leaves, bark and young fruits are pounded into paste and used as anthelmintic, joint pains and as tonic; mature fruits are aphrodisiac.
Livistona jenkinsiana Griff. [LIR- 186]	Arecaceae	Fan palin/ Süratseh	Fruits	Fruit is eaten for stomach ailments.
Luffa cylindrica (L.) Roem. [LIR-195]	Cucurbitaceae	Sponge gourd/ Tithüsih	Fruits & seeds	Young fruits is eaten after cooking for liver diseases, anemia and as anthelmintic.
Mangifera indica L. [LIR- 138]	Anacardiaceae	Mango/ Nyüpongwüm si	Leaves & bark	Leaf and stem bark is crushed into paste and taken for cholera, diarrhea,

				jaundice, kidney problem, diabetes, tooth ache and also applied on scabies.
Manihot esculenta Crantz. [LIR- 125]	Euphorbiaceae	Tapioca/ Singxho	Leaves & roots	Tuber and leaf is crushed into paste and taken for constipation, indigestion, and diarrhea, also applied on skin diseases.
Mimosa pudica L. [LIR- 179]	Mimosaceae	Touch-me-not/ Ashahwa	Roots & leaves	Root and leaf extract is used in treatment of pile problems, diarrhea, liver disorders and urinary problems, also applied on skin diseases.
Morus alba L. [LIR- 131]	Moraceae	Black mulberry /Malbari	Fruits	Fruits are taken as mild laxative, antibacterial, diabetes, cold & jaundice problems.
Mucuna pruriens (L.) D.C. [LIR-122]	Papilionaceae	Cowhage/ Suhthreh	Roots & pods	Root and pod decoction induces flow of urine, acts as body tonic and paralysis.
Musa paradisiacal L. [LIR- 137]	Musaceae	Lalümsi	Fruits & stem	Fruit and stem extract is used for cholera, diarrhea and dysentery; also for cardiac and hypertension problems.
Ocimum basilicum L. [LIR- 103]	Lamiaceae	Sweet basil/ Ningperang	Leaves & inflorescence	Leaf and inflorescence is pounded into powder and taken for cough, cold, fever, earache and as antidote.
Passiflora edulis Sim. [LIR- 104]	Passifloraceae	Passion fruit/ Entsülashe	Fruits & leaves	Fresh leaf is crushed into paste and taken along with water for diarrhea, dysentery, insomnia, diabetes and high blood pressure; fruit juice is also used as tonic.
Parkia roxburghii G. Don. [LIR-151]	Mimosaceae	Roanjak	Pods & seeds	Seeds are cooked and eaten as vegetable; also used for chronic dysentery, piles and as laxative.
Phyllanthus emblica L. [LIR-169]	Euphorbiaceae	Gooseberry/ Kiyongsi	Fruits	Fruit is taken orally for indigestion, dysentery and kidney problems; source of vitamin C and as astringent, also for treatment of human scurvy.

Pratia begonifolia (Wall.) Lindl. [LIR- 166]	Campanulaceae	Round leaf star creeper/ Tsüngnünglah	Whole plant	Extract of the whole plant is taken along with water for urinary diseases, helps in dissolving kidney and gall bladder stones.
Prunus cerasoides [LIR- 185]	Rosaceae	Wild Himalayan cherry/ Yangpi	Bark & fruits	Stem bark is used for treating body ache and fruit as astringent.
Psidium guajava L. [LIR- 124]	Myrtaceae	Guava/ Motaram	Bark & leaves	Stem bark and leaf paste is used as germicide; also used for healing wounds, tooth-ache and ulcers.
Rhus semialata Murr. [LIR- 171]	Anacardiaceae	Nutgall tree/ Sami tong	Fruits & seeds	Seed powder is taken orally with water and common salt for high fever, indigestion, vomiting, allergy and food poisoning.
Ricinus communis L. [LIR- 193]	Euphorbiaceae	Caster bean/ Aeritong	Leaves & seed oil	Seed is used as anthelmintic, purgative and laxative; leaves are warmed in fire and used for massaging body ache and rheumatism.
Saccharum officinarum L. [LIR- 159]	Poaceae	Sugar cane/ Nunu	Culms	Culm is chewed for jaundice, gall bladder, arthritis, bed sores, boils and eye problems.
Zea mays L. [LIR- 126]	Poaceae	Maize/ Tsehsuh	Corn silk & corn meal	Corn is taken orally for diuretic, heart disease, hypertension, and kidney stone and for lowering blood pressure.
Zingiber officinales Rosc. [LIR- 144]	Zingiberaceae	Ginger/ Shing	Rhizomes	Rhizome is crushed into paste and kept overnight in a cup of water and drink for tuberculosis, cough, stomachache and chest problems.

Discussion and Conclusion

In the present study, 53 species of medicinal plants belonging to 52 genera and 36 families used by the *Sangtam* Naga tribe has been recorded. Definitely more plants will be available by intensive and through survey of the

region. The role of medicinal plants in the primary health care has been realized since the dawn of human civilization. It is worth mentioning that the tribal people have in-depth knowledge regarding the curative properties of plants against different diseases which has not been fully known. Due to repeated reclamation of the forest land for cultivation, human habitation and to cater various needs for sustenance of life, the plants in general and medicinal plants in particular have been dwindling day by day. So, it is time to conserve the medicinal plants in their natural habitats. In case of those medicinal plants which are on the verge of extinction, their germplasm should be conserved through *ex situ* and *in situ* methods.

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