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Research Article

MEDICO-HERBAL MEDICINE PRACTICED BY THE *NAGA* TRIBES IN THE STATE OF NAGALAND (INDIA)

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ABSTRACT
The state of Nagaland is endowed with one of the richest flora and fauna in the region including medicinal herbs for treatment of various diseases and ailments. In this article, lists of 52 species of medicinal herbs being used in a wide range by various *Naga* tribes have been recorded. The information regarding the utility of the plants were gathered from the folk healers, village elders, farmers, etc. during survey works at different localities and tribes of the *Naga* people in the state.

Key Words: *Herbal Medicine, Naga Tribes, Nagaland*

INTRODUCTION
The state of Nagaland is situated in the North Eastern region of India, and covers an area of 16,579 sq. Km. Nagaland is situated between 25º06' – 27º04' N latitude and 93º20'–95 º 15' E longitudes. It borders with the state of Arunachal Pradesh in the north, Assam in the west, Manipur in the south and Myanmar on the east. The altitude varies between 194 m and 3048 m from sea level with the highest peak in Saramati, located at Kiphire district bordering Myanmar. Nagaland harbours rich biodiversity hence can be termed as a state of true Mega bio-diversity.
The state is inhabited by 17 distinct aboriginal tribes (viz. *Angami, Ao, Lotha, Sumi, Sangtam, Chang, Khiamniungan, Konyak* are some major tribes) and some sub tribes. Every tribe have a distinct culture which has been inherited from the time of their forefathers and passed on from one generation to the other through oral tradition.
A good number of research works have been contributed on medicinal plants during the last two decades from the North-eastern region of India (Bhattacharjee *et al.*, 1980; Bora 1999; Borthakur 1981, 1997; Borthakur and Goswami 1995; Gogoi and Boissya 1984; Tiwari *et al.*, 1979). However, except a few valuable accounts contributed from the state of Nagaland, Nagaland (Jamir 1997, 2006; Jamir and Rao 1990; Rao and Jamir 1982a; Jamir and Upadhay 1998; Jamir *et al.*, 2008; Lanusunep and Jamir 2010), yet exhaustive studies on ethnomedicinal aspects covering a vast area of the state have hardly been conducted.

MATERIALS AND METHODS
The information, regarding the uses of herbal medicine for treatment of various diseases and ailments were collected from the local medicine men or folk healers, village elders, spiritual leaders, etc. during field trips to different places of the state. Besides, the plants were identified with the help of literature, flora works and taxonomists from Nagaland University. The plant specimen collected was processed and herbariums were deposited in the Department of Botany, Nagaland University, Lumami.

RESULTS
In the following outcome of the results, botanical names are arranged alphabetically along with Family and local names followed by the part/s used are given. Thereafter, the uses of the plants for treatment of various diseases are mentioned.

Table 1:

Botanical Name	Family	Local Name	Part/s Used	Uses/diseases Treated
Albizia chinensis (Osb.) Merr.	Mimosaceae	Mokoksüng	B	The bark is crushed into paste and is used as antidote for spider and snake-bite.
Alnus nepalensis D. Don	Betulaceae	Entsüngtong	R, S	The decoction of the root and stem is drank for treatment of chronic cholera, diarrhoea and dysentery.
Ananas comosus (L.) Merr.	Bromeliaceae	Alipiong	R	The decoction of the roots is taken orally for treatment of cholera, and stomach-ache.
Artemisia indica Willd.	Asteraceae	Antsükna	L, S	The leaves are used as a common haemostatic; the young shoots are popped inside the mouth to fasten child delivery during child-birth.
Artocarpus heterophyllus Lamk.	Moraceae	Anakpiong	Lat, Sd	The fresh latex is applied on skin diseases; the decoction of the seeds is taken for urinary disorder.
Asparagus racemosus Wilt.	Liliaceae	Ying rohre	R	The dried root powder is taken as tonic twice a day; the same is also taken for kidney problems.
Bidens tripartita Linn.	Asteraceae	Komenayi	L	The leaves of *B. tripartita*, along with *Eupatorium adenophorum* and *Citrus reticulata* are boiled and its decoction is given once daily to treat malaria and fever.
Bombax ceiba Linn.	Bombacaceae	Azupentong	R, S	The root and stem bark is crushed into paste and mixed with fats and bile duct of bat and applied on bone fracture.
Bougainvillea spectabilis Willd.	Nyctaginaceae	Gatenaro	L	The decoction of the fresh leaves is taken as laxative.
Callicarpa arborea Roxb.	Verbenaceae	Kachetong	Ys	Young shoots are eaten raw for treating gastric problem.
Cascabela thevetia (L.) Lippold.	Apocynaceae	Pernaro	B	The extract of the bark is used as antidote for snake, spider and scorpion bites.
Catharanthus roseus (L.) G. Don.	Apocynaceae	Tsüenlari naro	L	The decoction of the fresh leaves is taken for high blood pressure, asthma and diabetes.
Citrus maxima Merril.	Rutaceae	Narongsü	Fr	The fermented juice extract of the fruit and its outer skin is drank twice daily for diabetes.
Clerodendron colebrookianum Walp.	Verbenaceae	Oromatong	L	The decoction of the leaves is taken for high blood pressure and malaria.
Crassocephalum cepidioides (Benth.) S. Moore.	Asteraceae	Kumba yi	L	The paste of the crushed leaves is used as haemostatic for cuts and injuries.

Curculigo capitulata (Lour.) O. Kuntze.	Hypoxidaceae	Koritong	Rh	The fresh rhizome is soaked in water overnight and is used as an eye-dropper for treating eye infection; it is also taken orally for gastro-enteritis.
Curcuma caesia Roxb.	Zingiberaceae	Hega	Rh	The infusion of fresh rhizome is taken for jaundice, cough and vomiting.
Cymbopogan citratus Stapf.	Poaceae	Citronella-tong	L	The decoction of leaves is used for bathing during high fever and body-ache; the leaf extract is used as an insect-repellent.
Dicentra scandens (D. Don) Walp.	Papaveraceae	Jensüng Khaonying	L, Rh	The leaves are taken raw for asthma problems; the paste of the rhizome is applied during insects and snake-bite.
Drymaria cordata Willd.	Cryophyllaceae	Pipi-tong	Wp	The decoction of the whole plant is used as nasal dropper; the paste of the plant is applied on skin diseases (esp. for white patches on the skin).
Entada pursaetha DC.	Mimosaceae	Ati-tong	Sd	The paste of the pounded seeds is applied for skin diseases; the powdered seed is used as hair-wash.
Fagopyrum esculentum Moench.	Polygonaceae	Lipaku	L	The extract of the leaf juice along with *Mentha longifolia* is taken for cold and cough; the decoction of the leaves is drank for gastro-intestinal problems.
Gmelina arborea Linn.	Verbenaceae	Zukong	B	The stem or root's bark is boiled and its decoction is drank to treat malaria and fever.
Hodgsonia macrocarpa (Bl.) Cogn.	Cucurbitaceae	Asa-tong	R, S	Infusion of roots and seeds is used for malaria and typhoid.
Kaempferia rotunda Linn.	Zingiberaceae	Alusangben	Rh	The rhizome is crushed and made to paste and applied over burns on the skin for relief.
Kalanchoe pinnata (Lamk.) Pers.	Crassulaceae	Nokcha-moli	L	The dried powdered leaves are taken for kidney stones, gall bladder stones and urinary infection.
Lablab purpureus (L.) Sweet.	Fabaceae	Matsüklashi	L, Fr	The leaf is soaked in water and used as an antidote for snake-bite; the juice extract of fruit is used as antiseptic.
Lantana camara Linn.	Verbenaceae	Tuqhü xamunu	L, S, F	The infusion of the leaves and stem is applied in skin diseases; decoction of the flowers is drank for jaundice, fever and cough.
Lasia spinosa (L.) Thw.	Araceae	Thurang	Wp	The boiled plant is taken as food to expel worms and parasites from intestine.
Luffa aegyptiaca	Cucurbitaceae	Poaksü	L, S,	The decoction of the leaves

Mill.			Sd	and stem taken for liver problem; infusion of the seeds is taken for expelling worms from the intestine.
Manihot esculenta Cranz.	Euphorbiaceae	Alicha	T	The crushed paste of the tuber is applied on skin diseases like sores and rashes.
Mentha longifolia (L.) Hud.	Lamiaceae	Viks-tong	L	The fresh leaves are taken for stomach-ache and constipation.
Mimosa pudica Linn.	Mimosaceae	Mayak-naro	Wp	The decoction of the plant is taken twice a day for dissolving stones in kidney and gall bladder; the root's powder in dry form is taken as contraceptive.
Myrica esculenta D. Don.	Myricaceae	Achensü	Fr	The fresh fruit is taken for indigestion and flatulence.
Nerium indicum Mill.	Apocynaceae	Tetsü temeim naro	B	The paste of the bark is applied for snake and spider bite.
Oroxylum indicum Vent.	Begnoniaceae	Tsüngrem Noklangnok	B, L, P	The mixture of bark, leaves and pods are boiled and its decoction is drank for high blood pressure, diabetes and malaria.
Panax pseudo-ginseng Wall.	Araliaceae	Ginseng	R	The dried root tubers is taken in trace amount thrice a week for high blood pressure and impotency.
Paris polyphylla Sims.	Liliaceae	Ekkai chipen	Rh	The powdered rhizome is applied for scabies, rashes, or itching problems; the rhizome is eaten in less quantity in case of intestinal wounds in the body.
Perilla frutescens (L) Britton	Lamiaceae	Azü	Sd	The decoction of the powdered seeds is used for body massaging, esp. for swelling of body.
Phlogacanthus pubinervius T. Anders.	Acanthaceae	Metecüse	L	The paste of the leaves mixed with that of *Papaver somniferum* is taken for piles and sinusitis.
Phyllanthus fraternus Web.	Euphorbiaceae	Lolozü-tasola	L, Fr	The decoction of the leaves and fruits is taken for diabetes and jaundice; its hot infusion is also taken for gastro-intestinal problem.
Prunella vulgaris Linn.	Lamiaceae	Sungwuku	L, F	The extract of the leaf is taken for diabetes and stomach disorder; the paste of the flower is applied on skin problems.
Psidium guajava Linn.	Myrtaceae	Motiram	L	Infusion of the young leaves with leaves of *Stachytarpheta jamaicensis* is taken for cholera, dysentery and diarrhoea.

Punica granatum Linn.	Punicaceae	Taliim-tong	L, Fr	The fresh leaves along with the skin of the fruit are taken for stomach-ache and cholera.
Rhus semialata Murr.	Anacardiaceae	Tangma-tong	Sd	The powdered seeds mixed with common salt is a common remedy for cholera, dysentery and diarrhoea; also used as an anti-allergy.
Ricinus communis Linn.	Euphorbiaceae	Pakha-tong	L, Sd	The leaf, after warming in fire for sometime, is used for body massage; infusion of the paste of seeds is taken as a cleaning agent for stomach.
Sapindus mukorossi Gaertn.	Sapindaceae	Rhujang-tong	Fr	The fruits are used as expectorant and in epilepsy; the crushed fruits is also used for shampooing of hair.
Stachytarpheta jamaicensis (L.) Vahl.	Verbenaceae	Longri-tong	L	The decoction of the leaves is used as laxative and for stomach problems.
Sonchus wightianus Linn.	Asteraceae	Pensung yi	Wp	The plant is soaked in hot water overnight and its infusion is drank twice a day for gastro-intestinal problems.
Syzygium cumini (L.) Skeels.	Myrtaceae	Along-tong	L,B, Fr	The leaves, bark and fruits are crushed and made to paste and taken for diabetes and stomach-ache.
Thysanoleana maxima (Roxb.) O. Ktze.	Poaceae	Kiparo-tong	S, R	The freshly-extracted juice from the stem is used for eye-infection; root decoction is taken during fever.
Urtica dioica Linn.	Urticaceae	Zaklo-tong	L	The paste of the crushed leaves with that of *colocosia esculenta* is applied for dog-bite; Leaf decoction is taken for stomach disorder.

*(**Abbrv. Parts used:** B= Bark, R= Roots, S= Stem, L= Leaves, Fr= Fruits, Sd= Seeds, Ys= Young seeds, Lat= Latex, Rh= Rhizome, Wp= Whole plant, T= Tubers, P= Pods)*

DISCUSSION

An attempt has been made to collect information regarding traditional knowledge of herbal medicine which is being used by the Naga tribes. A total of 52 plant species with 32 families have been discussed in this article. In spite of the influx of modern civilization and other activities, most of them are still holding on their traditional practices. In fact, traditional knowledge is confined chiefly to the folk-healers and old-folks residing in villages. The folk healers believe that the knowledge of the medicinal efficacy of plants are lost to posterity as they do not divulge the secret in fear that their professional supremacy will be at stake and the uses of medicinal potency of the plants would be weakened or nullified. However, some secrets of medicinal virtues can be collected from the local healers through close association and interaction.

The state has perhaps one of the richest floras in the region. However, recent survey of collection trip have revealed that many of these valuable plants is under threat and depleting very fast owing to rampant destruction of forests, practice of 'Jhum' or 'Shifting' cultivation, forest fire, over-exploitation of plant resources and other human socio-economic developmental activities in the region. Therefore, the authors stress upon the urgent need for conservation and protection of

biodiversity including the precious wealth of medicinal plants in the region. Perhaps after detailed investigation by modern scientific techniques, at least some of these plants might prove to be effective life-saving drugs plants for cure and relief of various ailments and diseases that plague to mankind.

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