

## Diversity of Plants used in the treatment of stomach ulcers by the *Tangkhul* tribe in Ukhrul district of Manipur, India

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### Abstract

Ukhrul district of Manipur is the main homeland for *Tangkhul* Naga tribe. *Tangkhul* Naga tribe has inherited rich indigenous knowledge on several wild plants which are used in the treatment for various common diseases and ailments. Survey on medicinal plant species those are used by the *Tangkhul* people to cure stomach ulcer was conducted during the period 2011 – 2012. The study was done through structured questionnaires in consultations with the *Tangkhul* practitioners. A total of 21 plant species belonging to 15 families and 20 genera were found to use for the treatment of stomach ulcer. The use of decoction from plant leaves and rhizome was the commonest method of drug preparation. Most commonly used plant species are *Benincasa hispida*, *Cajanus cajan*, *Centella asiatica*, *Paris polyphylla*, and *Swertia chirayita*. A brief account of the genera, author citations, enumeration of species, vernacular names, plant part utilized, dosage and administration are presented in this paper.

**Key words:** *Tangkhul*, Stomach ulcers, Ukhrul, Manipur.

### INTRODUCTION

Ukhrul, the homeland of *Tangkhul* Naga tribe lies between 23°13'N and 25°68'N Latitudes and 94°20' E and 94°25' E Longitudes, with an area of 4,544 km<sup>2</sup> of which 2,600 km<sup>2</sup> is forest covered. It is a hilly region, surrounded by Myanmar in the east, Nagaland state in the north, Chandel and Senapati districts of Manipur in the south and west respectively. The region enjoys tropical, sub-tropical and temperate climate. The temperate climate of the district is health promoting with a minimum and maximum temperature of 3 to 33° C. As per 2011 census, total population of Ukhrul district is 1,83,115 (Anonymous 2011).

Agriculture is the main occupation of the *Tangkhul* people of Ukhrul district, Manipur. Ukhrul is rich in floral diversity and many of those possess medicinal properties. The naturally occurring medicinal herbs provide the major share of medicines for the treatment of their various ailments. The traditional healing system, which is preferred by tribal people, is passed on orally from one generation to the other. This paper is the outcome of an attempt to collect and document information about ethnomedicinal plants used for the treatment of stomach ulcers by the people of *Tangkhul* community.

Though a good number of valuable research works on traditional medicinal practices in the North-East India have been published (Bora 1999; Borthakur & Goswami 1995; Chaturvedi & Jamir 2007; Dwivedi *et al* 2013; Jamir & Rao 1990; Rao & Jamir 1982 a, b; Singh & Singh 1996; Sinha 1987; Salam *et al* 2009; Srinivas *et al* 2013), no one has studied the treatment of stomach ulcer by *Tangkhul* Naga tribe.

## METHODOLOGY

Extensive ethnobotanical survey was conducted during 2011 – 2012 among the *Tangkhul*-Naga tribe for gathering information about the medicinal plants those are traditionally used by their healers for the treatment of stomach ulcers. Information was obtained through oral interviews guided through structured questionnaire to local herbalists, elderly household heads and women. Information regarding vernacular name, mode of use, plant part used, were also collected. Specimens were processed following Jain & Rao (1977) and were identified using different literatures including Deb (1961a, b), Kanjilal *et al.* (1934 – 1940), and Parabia & Reddy (2002). Identity of specimens was confirmed by matching at Nagaland University and Manipur University Herbaria. For the correct nomenclature and family delimitation [www.theplantlist.org](http://www.theplantlist.org) has been consulted for all the recorded plants. Voucher specimens were deposited in the herbaria of the Department of Botany, Nagaland University, Lumami and in the Life Sciences Department of Manipur University, Imphal.

## RESULTS

As much as 21 species of medicinal plants were recorded during the present survey. These are enumerated below alphabetically in Table 1 along with their scientific names, family, references to voucher specimens, vernacular names, plant parts used and the mode of administration by *Tangkhul* Nagas.

**Table 1.** Plant species used for the treatment of stomach ulcers by the people of *Tangkhul* tribe in Ukhrul district of Manipur

Botanical name [Family]; Exsiccatae	Vernacular name	Mode of uses
<i>Allium hookeri</i> Thwaites [Amaryllidaceae]; <i>Salam- 1814</i>	<i>Namrei</i>	One cup juice of fresh leaves mixed with a pinch of salt is prescribed twice a day for 2 or 3 days
<i>Artemisia nilagirica</i> (C.B. Clarke) Pampan [Asteraceae]; <i>Salam- 1854</i>	<i>Harana</i>	Root extract is given 2 tea-spoonful thrice a day for one week
<i>Bidens pilosa</i> Linnaeus [Asteraceae]; <i>Salam-973</i>	<i>Phanang kahakpasi</i>	100 g of fresh leaves is boiled with 1 litre of water; ½ cup this decoction is given twice daily in the morning and at bedtime for 1 or 2 weeks
<i>Benincasa hispida</i> (Thunberg) Cognius [Cucurbitaceae]; <i>Salam-916</i>	<i>Katsenghei</i>	One glass of freshly prepared fruit juice is taken in the morning in empty stomach for 1 month
<i>Cajanus cajan</i> (Linnaeus) Millspaugh [Fabaceae]; <i>Salam-580</i>	<i>Khaithei</i>	100 g of immature pods are boiled with ½ litre of water along with sugar candy is taken 3 teaspoon twice daily for one week
<i>Centella asiatica</i> (Linnaeus) Urban [Apiaceae]; <i>Salam-924</i>	<i>Kongrihan</i>	Freshly collected whole plants are eaten raw as vegetables
<i>Crassocephalum crepidioides</i> (Bentham) S. Moore [Asteraceae]; <i>Salam-186</i>	<i>Revival</i>	A handful of fresh leaves are boiled with 1 litre of water for 20 minutes; ½ cup of extract is taken once in a day
<i>Curcuma angustifolia</i> Roxburgh [Zingiberaceae]; <i>Salam- 1810</i>	<i>Koktuiwon</i>	Rhizome is boiled with <i>Schizophyllum commune</i> and a pinch of salt; ½ glass of decoction is given twice daily for 2 or 3 days

Botanical name [Family]; Exsiccatae	Vernacular name	Mode of uses
<i>Curcuma caesia</i> Roxburgh [Zingiberaceae]; <i>Salam-507</i>	<i>Yaimu</i>	About 3 teaspoonful of fresh rhizome extract is mixed with two cups of filtered water and a pinch of sugar (10 – 15 ml) is given twice daily for 2 or 3 days
<i>Dendrobium denudans</i> D. Don [Orchidaceae]; <i>Salam-334</i>	<i>Shailengwon</i>	Decoction of whole plant is taken orally for one week
<i>Hydrocotyle sibthorpioides</i> Lambert [Araliaceae]; <i>Salam-3598</i>	<i>Lai Kongrihan</i>	40 g of fresh leaves and 20 g of sugar candy are crushed and mixed with a cup of water and 5-10 ml of it is given twice daily for one week
<i>Hyptis suaveolens</i> Poiteau [Lamiaceae]; <i>Salam-55</i>	<i>Tukma</i>	A glassful of root decoction is given once daily for one week
<i>Mikania cordata</i> B.L. Robinson [Asteraceae]; <i>Salam-1860</i>	<i>Naga -ra</i>	A handful of tender twigs are boiled and a glass of decoction is given thrice daily
<i>Oroxylum indicum</i> Ventenat [Bignoniaceae]; <i>Salam-913</i>	<i>Phong</i>	About 250 g bark is boiled in 2 liters of water; 250 ml of honey and 2 g of bear heart is added to the decoction; 300 ml of it given thrice daily for one week
<i>Paris polyphylla</i> Smith [Melanthiaceae]; <i>Salam-509</i>	<i>Kazeapai</i>	Fresh rhizome is eaten raw
<i>Plantago erosa</i> Wallich [Plantaginaceae]; <i>Salam-523</i>	<i>Havathan</i>	A handful of fresh whole plant boiled in 2 liters of water for 30 minutes; about 100 ml of decoction is taken twice daily for 3 days
<i>Pouzolzia viminea</i> Weddell [Urticaceae]; <i>Salam-329</i>	<i>Ari-arong</i>	Stem after removing the skin is boiled in water and half glass of decoction is given in the morning for one week
<i>Ranunculus sceleratus</i> Linnaeus [Ranunculaceae]; <i>Salam-564</i>	<i>Kakyel khujil</i>	Half cup of leaf-decoction is given twice daily for 6-7 days
<i>Rhus semialata</i> Murray [Anacardiaceae]; <i>Salam-3559</i>	<i>Khamkhuithei</i>	Seeds are soaked in water and the liquid half cup is given twice daily for 7 days
<i>Swertia chirayita</i> (Roxburgh ex Fleming) H. Karsten [Gentianaceae]; <i>Salam-3563</i>	<i>Langchung</i>	Decoction of whole plant 150ml is given twice daily for 7 days
<i>Tamarindus indica</i> Linnaeus [Leguminosae, Caesalpinioideae]; <i>Salam-3568</i>	<i>Mange</i>	A glassful of leaf decoction is given twice daily for 7 days

## DISCUSSION

From the present study, 21 species of plants belonging to 17 families and 20 genera were collected and recorded for their use to treat stomach ulcer. Asteraceae represented the maximum of 4 species followed by Zingiberaceae with 2 species, and the rest 15 families represented by single species. Among the plant parts, leaves are predominantly used followed by whole plant, rhizome, root, stem, bark, fruit and seed. The plant parts are commonly used in the form of decoction and juice. The collected data shows that majority of the medicines are taken orally. For preparation of medicine they generally use single plant. Also, it is clearly evident from the study that the knowledge of plants and their usage is limited to elderly *Khanongs* (local healers). Since the younger generation is not interested in learning the state of art and secrets of traditional technology, as well as their tendency to migrate to cities to discard their traditional life style, so, there is a high risk of losing this wealth of knowledge as the traditional culture is disappearing quite fast. Hence, the authors stress upon the urgent need of survey, conservation and protection of the medicinal plants from the region.

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