

Wild edible plants used by the Monsang Naga tribe of Manipur, India

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Abstract

Monsang tribe is one of the tribe among the 38 tribes of Manipur, India. Monsang Naga tribe is a larger group settled only on Chandel District of Manipur state. In the present study, 56 wild edible plants belonging to 35 families and 49 genera are reported. Out of these, 45 plant species are used as vegetable, 10 plant species as spices and 4 plants for fresh fruit. This study focused different plant parts of various plant species found in their surroundings and forest.

Key words: Monsang, Wild, edible plants, Chandel.

INTRODUCTION

Manipur, a state of North-East India lies between 23°59' – 25°47' N Latitudes and 92°59' – 94°46' E Longitudes. It covers an area of 23,327 km² and with a total population of 27, 21,756 (Anonymous 2011). It is bounded by Nagaland on the North, Chin Hills of Myanmar, Mizoram on the South, Myanmar on East and Cachhar District of Assam on the West. Of its nine districts, five are in hills i.e. Churachandpur, Chandel, Senapati, Tamenglong and Ukhrul. And, the four districts are located in the valleys which are Bishnupur, Imphal East, Imphal West and Thoubal. Valley districts are dominated by Meiteis, Meitei-pangal (Manipuri-Muslim) and others and hill districts are inhabited by tribal people given by Bhattacharyya (1963).

There are 38 recognized tribal groups settled in Manipur. Some of the dominating tribes are *Thadou*, *Tangkhul*, *Kabui*, *Paite*, *Hmar*, *Kacha Naga*, *Vaiphei*, *Anal*, *Zou*, *Kom*, *Simte*, *Maring*, *Monsang*, and *Moyon*. They are grouped into Kuki, Naga, Mizo and others. Generally tribal people depend on plants found in their neighboring forests and surrounding vegetation to meet up their needs for food, shelter, medicine, fiber, dye, spices, etc. as reported by Devi *et al.* (2013).

The present paper reports the wild edible plants used by the Monsang Naga Tribe of Manipur. Monsang is one of the smaller tribal groups and inhabit only in the 7 villages viz., Monsang Pantha, Japhou, Japhou Bazar, Liwa Sarei, Liwa Khullel, Heibunglok and Liwa Chaning of Chandel District (Devi 2012).

Some reports on wild edible plants of Manipur state have been published including Singh *et al.* (1998) recorded 46 wild edible plants found on sale in the markets of Manipur state; Mao (1993) reported 71 wild edible plants used by *Mao* Naga tribe in Manipur; Elangbam (2002) studied various aspects of wild edible plants of Manipur; Rajendra (2003) published a book entitled 'Edible wild plants of Manipur'; and Salam *et al.* (2010) recorded 61 wild edible plants used by the Tangkhul Naga tribe of Ukhrul district. Authors of this paper studied

edible plants used by the Monsang tribe of Manipur along with their edible parts, method of consumption, and market values.

METHODOLOGY

Traditional and indigenous knowledge on plant resources of many villages of Monsang Naga tribe is collected orally and as written documents. The plants used by this tribe are observed personally from the village chiefs, aged women and men and the people engaged in collecting such plants in the vegetation. Some local markets were also studied for this purpose following Singh *et al.* (1998). Local names of different edible plants found in vegetation and in markets are also noted. The overall ethnobotanical survey was conducted as practiced by Rao and Hajra (1994). Collection of plant specimens were recorded in the Field Note Book and then processed into mounted herbarium specimens following Jain and Rao (1977). The plant specimens were identified by comparing with the published literatures like Singh & Arora (1978), Deb (1961a, b) Sinha (1987), Kanjilal *et al.* (1934 – 1940), and Singh *et al.* (2004). For the correct nomenclature and family delimitation www.theplantlist.org has been consulted for all the recorded plants. Herbarium specimens were deposited in the herbarium of the department of Life Sciences, Manipur University, Manipur.

RESULTS

The present survey recorded 56 species of plants those are treated as edibles by the Monsang Tribes of Manipur. The recorded plants are enumerated in Table 1 along with their vernacular names, families, useful parts, mode of consumption, market values, etc.

Table 1. Wild edible plants used by the people of Monsang Naga tribe of Manipur

Botanical name [Family]; Exsiccatae	Vernacular name	Part used	Mode of uses	Market values (Rs.)
<i>Aegle marmelos</i> (Linnaeus) Correa [Rutaceae]; Roma- 0794	Heikhakok	Fruit	Fresh fruit	Not marketed
<i>Alocasia macrorrhiza</i> Schott [Araceae]; Roma- 1423	Bethung	Fleshy petiole	Ingredients for <i>Hentak</i> (fermented dry fish)	Not marketed
<i>Alpinia allughas</i> (Retzius) Roscoe [Zingiberaceae]; Roma- 1342	Pulei	Rhizome	Cooked as vegetable	5-10/ bundle of 5-7 shoot
<i>Alpinia galanga</i> (Linnaeus) Willdenow [Zingiberaceae]; Roma-0791	Behbii	Flower, rhizome	Fresh flower eaten raw and rhizome cooked as vegetable	5-10/ inflorescence 20-50/Kg
<i>Alpinia officinarum</i> Hance [Zingiberaceae]; Roma-1255	Puleimanbi	Rhizome	Cooked as vegetables	20-50/ Kg
<i>Alstonia scholaris</i> (Linnaeus) R. Brown [Apocynaceae]; Roma- 1416	Laikhut	Leaf, bark	Cooked as vegetables	Not marketed
<i>Alternanthera sessilis</i> (Linnaeus) R. Brown ex DC. [Amaranthaceae]; Roma-1330	Phakchet	Tender shoot	Cooked as vegetables	Not marketed
<i>Amaranthus viridis</i> Linnaeus [Amaranthaceae]; Roma- 0774	Chengkrup	Leaf	Cooked as vegetables	5-10/ heap (200 gm)

Botanical name [Family]; Exsiccatae	Vernacular name	Part used	Mode of uses	Market values (Rs.)
<i>Andrographis paniculata</i> Nees [Acanthaceae]; Roma-1238	<i>Bhubati</i>	Leaf	Eaten raw	Not marketed
<i>Antidesma acidum</i> Retzius [Euphorbiaceae]; Roma-1202	<i>Ching-yensil</i>	Leaf	Cooked as vegetables	5-10/ heap (200 gm)
<i>Antidesma bunius</i> Spreng [Euphorbiaceae]; Roma-1300	<i>Heiyen</i>	Tender shoot, fruits	Tender shoot cooked as vegetables, fresh fruits eaten raw	Shoot not marketed, Fruit: 5-10/ heap (200 gm)
<i>Aponogeton natans</i> (Linnaeus) Engler & K.Krause [Aponogetonaceae]; Roma-1375	<i>Koudrangol</i>	Whole plant	Cooked as vegetables	10-30/ bundle (10-15 plants)
<i>Ardisia colorata</i> Roxburgh [Myrsinaceae]; Roma-1280	<i>Khuwhmuw</i>	Tender shoot	Cooked as vegetables	10/13/ heap (200 gm)
<i>Artemisia nilagirica</i> (C.B. Clarke) Pumpan [Asteraceae]; Roma-1280	<i>Laibakngou</i>	Leaf	Cooked as vegetables	5-10/ heap (200 gm)
<i>Artocarpus lakoocha</i> Roxburgh [Moraceae]; Roma- 1311	<i>Sheerpho</i>	Fruit	Eaten raw	5-10/ fruit
<i>Arundo donax</i> Linnaeus [Poaceae]; Roma- 1353	<i>Berier</i>	Tender shoot	Eaten raw with chilly chutney	Not marketed
<i>Averrhoa carambola</i> Linnaeus [Averrhoaceae]; Roma- 1353	<i>Henocho</i>	Fruit	Eaten raw	Not marketed
<i>Azadirachta indica</i> A. Jussieu [Meliaceae]; Roma- 1341	<i>Neem</i>	Leaf	Eaten as fried	Not marketed
<i>Bidens pilosa</i> Linnaeus [Asteraceae]; Roma- 0773	<i>Penchene</i>	Leafy twig	Eaten raw with fermented fish	Not marketed
<i>Bombax ceiba</i> Linnaeus [Bombacaceae]; Roma- 1242	<i>Tirah</i>	Flower	Cooked as vegetables	Not marketed
<i>Brassaiopsis polycantha</i> (Wallich) R.N. Banerjee [Araliaceae]; Roma- 1268	<i>Aamhuw</i>	Leaf	Cooked as vegetable	5-10/ bundle (10-15 shoots)
<i>Calamus floribundus</i> Griffith [Arecaceae]; Roma-1248	<i>Thethii</i>	Tender leaf, fruit	Tender leaves Cooked vegetable , Fruits Eaten raw	Fruit 10-50/ bunch (10-15)
<i>Callicarpa arborea</i> Roxburgh [Lamiaceae]; Roma- 1273	<i>Mandol</i>	Leaf	Cooked as vegetable	Not marketed
<i>Camellia sinensis</i> (Linnaeus) Kuntze [Theaceae]; Roma- 1282	<i>Chaa</i>	Tender shoot	Cooked as vegetable	Not marketed
<i>Canthium parviflorum</i> Lamarck [Rubiaceae]; Roma- 1262	<i>Rampa thepii</i>	Leaf, fruit	Eaten raw	Not marketed

Botanical name [Family]; Exsiccatae	Vernacular name	Part used	Mode of uses	Market values (Rs.)
<i>Cardamine hirsuta</i> Linnaeus [Brassicaceae]; Roma- 0709	<i>Uchi-hangam</i>	Tender shoot	Cooked as vegetable	Not marketed
<i>Caryota urens</i> Linnaeus [Arecaceae]; Roma- 1406	<i>Nongkhal</i>	Leaf	Cooked as vegetable	Not marketed
<i>Senna alata</i> (Linnaeus) Roxburgh [Leguminosae]; Roma- 1406	<i>Daopata</i>	Leaf	Cooked as vegetable	Not marketed
<i>Senna septemtrionalis</i> (D.Viviani) H.S.Irwin & Barneby [Leguminosae]; Roma- 1250	<i>Thaonum</i>	Fruit	Cooked as vegetable	Not marketed
<i>Castanopsis armata</i> (Roxburgh) Spach [Fagaceae]; Roma- 1401	<i>Rohsii</i>	Fruit	Eaten raw	20-50/ Kg
<i>Celosia argentea</i> Linnaeus [Amaranthaceae]; Roma-1416	<i>Haorei</i>	Leaf/ young twigs	Cooked as vegetable	Not marketed
<i>Cissus adnata</i> Roxburgh [Vitaceae]; Roma-1273	<i>Jangkin</i>	Leaf	Cooked as vegetable	5-10/200 gm
<i>Cissus discolor</i> Roxburgh [Vitaceae]; Roma- 0729	<i>Jangkin- laba</i>	Leaf	Cooked as vegetable	5-10/200 gm
<i>Clerodendrum glandulosum</i> Lindley [Lamiaceae]; Roma- 1211	<i>Enphuw</i>	Tender leaf	Cooked as vegetable	Not marketed
<i>Rotheca serrata</i> (Linnaeus) Steane & Mabberley [Lamiaceae]; Roma- 0770	<i>Moirang- khanum</i>	Tender leaf, flower	Cooked as vegetable	5-10/Bundle of 5-7 shoots
<i>Crotalaria juncea</i> Linnaeus [Leguminosae]; Roma- 0704	<i>U- hawaimaton</i>	Tender leaf	Eaten raw or cooked with other vegetables	Not marketed
<i>Curcuma angustifolia</i> Roxburgh [Zingiberaceae]; Roma- 1278	<i>Yaipal</i>	Flower	Cooked as vegetable	10-20/200 gm
<i>Cycas pectinata</i> Griffith [Cycadaceae]; Roma-1233	<i>Yendung</i>	Young leaf	Cooked as vegetable	5-10/ Bundle (3-5 leaves)
<i>Ficus palmata</i> Forskal [Moraceae]; Roma- 1223	<i>Heiba</i>	Tender leaf	Eaten raw or Cooked as vegetable	5/Bundle (7-10 shoots)
<i>Ficus tsjakela</i> Burman f. [Moraceae]; Roma-1311	<i>Tarung</i>	Tender leaf	Cooked as vegetable	5-10/200 gm
<i>Leucaena leucocephala</i> (Lamarck) de Wit [Leguminosae]; Roma- 1287	<i>Chigonglei</i>	Tender fruit	Eaten raw	5-10/200 gm
<i>Leucas aspera</i> (Willdenow) Link [Lamiaceae]; Roma-1764	<i>Mayang- lembum</i>	Tender shoot	Cooked as vegetable	Not marketed

Botanical name [Family]; Exsiccatae	Vernacular name	Part used	Mode of uses	Market values (Rs.)
<i>Litsea cubeba</i> (Loureiro) Persoon [Lauraceae]; <i>Roma-0701</i>	<i>Ngairong</i>	Fruit	Eaten raw	5-10/ Bundle (100 gm)
<i>Oroxylum indicum</i> (Linnaeus) Kurz [Bignoniaceae]; <i>Roma-0758</i>	<i>Wachamber</i>	Young fruit	Eaten raw or Cooked as vegetable	10-20/Fruit
<i>Phlogacanthus thyrsoiflorus</i> Nees [Acanthaceae]; <i>Roma-0717</i>	<i>Chiipar</i>	Young leaf, flower	Eaten raw or Cooked as vegetable	Flower 5-10/200 gm
<i>Plantago asiatica</i> subsp. <i>erosa</i> (Wallich) Z. Yu Li [Plantaginaceae]; <i>Roma - 1265</i>	<i>Yempat</i>	Leaf	Cooked as vegetable	Not marketed
<i>Rhus chinensis</i> Miller [Rubiaceae]; <i>Roma - 1300</i>	<i>Khomha</i>	Fruit	Eaten raw	Fruit 20-50/ Kg
<i>Rhynchosyche ellipticum</i> (Wallich ex D. Dietrich) A.DC. [Gesneriaceae]; <i>Roma - 0727</i>	<i>Yembum</i>	Shoot	Cooked as vegetable	5-10/ bundle (5-7 shoot)
<i>Rumex nepalensis</i> Sprengel [Polygonaceae]; <i>Roma- 1229</i>	<i>Torongkhong chak</i>	Young leaf	Cooked as vegetable	Not marketed
<i>Sagittaria sagittifolia</i> Linnaeus [Alismataceae]; <i>Roma-1376</i>	<i>Koukha</i>	Rhizome	Cooked as vegetable	50-100/ kg
<i>Schima wallichii</i> (DC.) Korthals [Theaceae]; <i>Roma- 1299</i>	<i>Usoi</i>	Tender leaf	Eaten raw	Not marketed
<i>Solanum torvum</i> Swartz [Solanaceae]; <i>Roma- 0763</i>	<i>Khanga</i>	Young fruit	Cooked as vegetable	Not marketed
<i>Sonchus wightianus</i> DC. [Asteraceae]; <i>Roma- 1248</i>	<i>Khomthopi</i>	Young leaf	Cooked as vegetable	Not marketed
<i>Zingiber montanum</i> (J.Koenig) Link ex A.Dietrich [Zingiberaceae]; <i>Roma- 0707</i>	<i>Ching-sing</i>	Rhizome	Eaten raw or Cooked as vegetable	20-60/Kg
<i>Zizania latifolia</i> (Grisebach) N.S. Turczaninow ex Staphani [Poaceae]; <i>Roma- 1294</i>	<i>Kambong</i>	Infected fruit	Eaten raw or cooked as vegetable	10/5-8 Fruits
<i>Ziziphus jujuba</i> Miller [Rhamnaceae]; <i>Roma-1295</i>	<i>Boroi</i>	Ripe fruit	Eaten raw	20-30/Kg

DISCUSSION

During the current survey 56 species of wild edible plants have been recorded which are used by the Monsang tribe of Manipur. Majority of the plant species are eaten boiled or raw and only few are taken fried by this community. Among these plants 45 species are consumed as vegetable in various item of dishes like simple boiled, simple curry (without oil), chutney, *singju* (made by mixed fresh vegetables), *ironba* (boiled chutney) etc. Some of the plant species like *Antidesma acidum*, *Antidesma bunius*, *Cissus adnata*, *Clerodendrum*

serratum, *Leucaena glauca*, *Litsea cubeba*, *Rhus semilata*, *Rhynchoetechum ellipticum* etc. are sold in local markets which are in high demand by all the communities of Manipur and fetches good price even today. Plants provide us almost everything required for our survival. Indigenous traditional communities developed, practiced and conserved such knowledge from the time immemorial. Even today, people living in remote areas depends more on the locally available wild plants. This is also true for the seven villages where the people of Monsang tribal community inhabited in remote area depend on their favorable. Various plant species found in their surroundings are source of economy to maintain their livelihood. However, now-a-days wild edible plants become rare or even endangered because of ruthless excess harvest. They don't have any knowledge regarding the conservation of biodiversity. It is right time to conserve natural resources like wild plants and animals. It is required to give awareness programmers for preserving biodiversity of their surroundings.

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