



Research Article

J. Ayu. Herb. Med.
2016; 2(4): 146-153
July- August
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Indigenous Medicinal Plants Used by the Maring Tribe of Manipur, Northeast India

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ABSTRACT

The paper is an attempt to survey and understand the various ethnobotanical plants used by the Maring tribe of Manipur as medicines in the treatment of various ailments and diseases. The reason being no study have ever been made in this area on them. In the present study more than 39 indigenous medicinal plants are used by the Maring in the treatment of about 34 ailments and diseases. They uses both single plant and compound plants in the treatment. Besides, they used certain insects, animal's part, thunderbolt stone and even magical charms in certain cases in healing and curing certain ailments. The significant of the study is that certain plants are believed to have multi-chemical properties in healing and curing as it differs from other neighbouring communities. Common diseases are like diarrhoea, malaria, piles, fever, snake bite, tiger bite, and mumps. Leaves and fruits are most widely used. Some of them still depends on such indigenous medicine rather than pharmaceutical medicines.

Keywords: Indigenous, Medicines, Maring, Tribe, Manipur.

INTRODUCTION

Maring is an indigenous tribes of Manipur situated in the North-eastern part of India. They mainly inhabit in the Chandel district of Manipur. The objective of the study is to survey and understand the use of ethnobotanical plants used by the Maring community for medicinal purposes since no record is available with regard to them so far. The practice of ethno-medicine is declining very fast because of the modernization, westernization, proselytization to Christianity and deceased of knowledgeable people.

The North-eastern region of India comprises eight states; Assam, Arunachal Pradesh, Nagaland, Manipur, Meghalaya, Mizoram, Tripura and Sikkim. The region comes under the lower Himalayan hill ranges and is known for its remarkable biodiversity. The region is located in temperate tropical rain forests zone within 23°51' N and 25°41' N Latitudes, and 93°3' E and 94°4' E longitude bordering Myanmar to the east, China and Nepal on the north^[1]. The region is richly supported with diverse flora, fauna and several crop species. The region is ranked 8th amongst the 34 'Bio-diversity Hotspots' in the world^[2]. The region is not just rich in biodiversity but also very rich in cultural diversity because there are about 175 distinct languages spoken indicating of different cultural groups, but if sub-groups are included then, there are more than 200 tribes and communities inhabiting in the region that uses different ethnobotanical plants as medicines based on their belief and practices in curing and healing of various ailments and diseases^[3]. Despite the advancement in modern pharmaceutical medicines many rural and urban people still dependents upon traditional ethnobotanical plants as medicines.

Mao (2009) said that since 1970's different universities and research institutions began to study ethnobotany and traditional knowledge system and later by 1980's the *Ministry of Environment and Forests*, Govt. of India launched a project to document ethnobotanical uses of plants by indigenous people of India. Under the project *Botanical Survey of India*, Eastern Circle, Shillong undertook to study all the North-eastern states in phase manner^[4].

However, there has been exponential growth of interest in the treatment against different diseases using herbal drugs as they are generally non-toxic and *World Health Organization* (WHO) has recommended the evaluation of effectiveness of plants in condition where we lack modern safe drugs^[5]. Rajkumari *et al.* (2013) in study among the Chiru tribe said that due to poor transportation and non-available medical facilities they still depend on the traditional faith upon the local medicine men and wild herbal plants for survival^[6]. WHO estimates that over 80 per cent of people in developing countries depend on traditional herbal medicines for their primary health needs^[7]. There are as many as 1,200 plants identified and used

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as medicine in ancient Indian texts^[8].

Now, ethnobotany and ethno-medicinal plant studies are well recognized as the most viable method for identifying new medicinal plants and refocusing on those earlier reported for bioactive constituents^[9]. For example, getting direct health benefit from eating fresh ethnobotanical plants is encouraged by Yumnam and Tripathy (2012). They said that the Meitei (Manipuri) tradition of eating parts of raw plants mixed with other edible ingredients called *Singju*, is believed to have direct medicinal benefits on the person^[10]. The North-eastern region is an important part of the Indian Floristic Zone and has been identified as one of the twelve "Genetic Epicenters" for the evolution of world flora^[11]. Therefore, there are over 500 species of medicinal plants reported from Arunachal Pradesh and an estimate of around 8000 manufacturing units of traditional medicinal systems in India^[12].

However, with regards to the rareness and extinction of ethnobotanical plants with medicinal values Jamir *et al.* (2012) reveals that many of these valuable plants are 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^[13]. This applies not only to Nagaland state but to all states of North-eastern region especially, the unexplored small tribes located in the deep interior hilly regions like Maring, Chothe, Tarao, Aimol, Karam, Moyon, Monshang, Chiru, Koireng, etc. who are endangered tribes that need immediate action to document and assess the status of their wild edible and ethno-medicinal practices. The urgency is that the village elders who are the knowledge bank of technical know-how are decreasing every year.

In this context, Jamir suggested an urgent need for conservation and protection of biodiversity including the precious wealth of medicinal plants in the region with a view that 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^[14]. Further, NeliLokho Pfoze (2012) in his study found that there has been no report of cultivation of medicinal plants by the local people and the preparations are made by collecting the plants from the wild. He said this is a serious concern from the point of conservation and sustainability of the resources because such collection from the wild may lead to depletion of the population or even extinction of the resources particularly the rare and endangered species if it goes unabated^[15]. Similarly, AA. Mao asserted that most of the wild vegetables, fruits and medicinal plants uses are of

little known or not known at all to the outside world. Also, many of the known medicinal uses of plant have not been studied empirically in detailed for the active chemical compounds. Therefore, he laments that despite India being second to none in documentation in this field of ethno-botanical research publication, the country has so far not been able to translate the information into economic wealth^[16].

MATERIALS AND METHODS

Ethnobotanical field survey was carried out among the select 7 Maring villages located in Chandel district, Manipur. Some of the villages like Kharou Khunou and Langol Khunjou are located deep in the interior bordering Myanmar which is about 120 Kms from Imphal, while like Langol Khunjou and Khunbi are situated on the top of the eastern hill ranges and others on the foothills. Initially, formal request was made to the respective village chiefs and leaders by introducing ourselves and explaining the purpose of our visit to them. Thereafter, interviews and interview scheduled was conducted individually and in groups of two-three among the 12 select respondents (7 males and 5 females). They are like village priests, village elders and senior citizens who are knowledgeable in ethno-medicine. The researchers also took photographs of the identified plants during the fieldworks.

Brief History of Maring

The Maring is one of the major indigenous tribal groups of Manipur. They are predominantly located on the North-eastern part of Chandel District of Manipur. The term 'Maring' (Murrings) is derived from the words of 'Mei' means fire, and 'ring' means to start or produce, or sometimes term as 'Meiringba' which means 'The people who keep the Fire unquenched'^[17]. Linguistically, Dr. Grierson in his book 'Linguistic Survey of India' has classify the Maring language/ dialect under the sub-group of Naga-Kuki languages under the category of *Tibeto-Burman* linguistic family^[18]. They Census of India (COI) 2011 gives their population as 26,408 with a literacy rate of 55.12%^[19]. With the advent of Christianity many have converted to Christians. Culturally, they are distinguishable from other cultural groups because of their peculiar tradition of blacken teeth, knotted-hairs (*Pagri/ Turban/ Coiffure*) tied with white and wrapping saffron cloth on the forehead side and wearing their traditional white and black attires with heavy big earrings^[20]. They are considered one of the closest relatives of Meitei (Manipuri) as they claimed to inhabit in and around the Imphal (Kangla) kingdom. They are known for their bravery, warrior attitudes and practice of deadly magical witchcrafts against their enemies in the past.

Table 1: Indigenous Medicinal Plants of Maring Tribe and Its Usage

S. No.	Botanical Name [Family] Common Name	Maring Name [H, Sh, T, C, Cl]	Manipuri Names [(S)/ (P)]	Parts of Plant Used [O / E]	Diseases – Treatment Methods and its Dosages -
1.	<i>Alpinia galangal</i> Linn. Willd. [Zingiberaceae] Greater galangal	<i>Ramrhou</i> (H)	<i>Kanghu</i> (S)	Rhizome [E]	Piles –Small amount of <i>Kanghu</i> is crushed along with some tobacco leaves and is then inserted inside one's anus. Do it twice a day till it is cured.
2.	<i>Melothria maderaspatana</i> (L.) Cogn. [Cucurbitaceae] Wild cucumber	<i>Ram machanghei/ Bemangjam</i> (C)	<i>Lamthabi (Kallen Thabi)</i> (S)	Whole plant [O]	Jaundice –Boil the whole fresh creeper plant or dry one in about one litre of water and serve as decoction a glass full before meal once a day.
3.	<i>Punica granalum</i> Linn. [Onagraceae] Pomegranate	<i>Kapo-hei</i> (S)	<i>Ka-phoi</i> (S)	Fruit/ leaf [O]	Dysentery/ Diarrhoea –Boil some leaves and have as decoction a glass full 2-3 times a day. It helps in suspension.
4.	<i>Musa paradisiaca</i> Linn. [Musaceae] Banana flower	<i>Laphu tharo</i> (S)	<i>Laphu tharo</i> (P)	Fruit [O]	Dysentery –Slightly roast the banana fruit in the hot fire or heat it in the hot fire ash and have it as food item for 2-3 days or anytime. It helps in suspension.
5.	<i>Mangifera indica</i> L. [Anacardiaceae] Mango	<i>Heinou-mana</i> (T)	<i>Heinou-mana</i> (S)	Leaf [O]	Diarrhoea/ Dysentery –Boil some mango leaves with some water and drink half a glass 2-3 times a day.

6.	<i>Alpinia allughas</i> Roscoe [Zingiberaceae]	<i>Puleimanbi</i> (S)	<i>Puleimanbi</i> (S)	Rhizome/ Root [O]	Gas Formation (Flatulence) –Crush the roots (rhizome) and mix with gooseberry and little honey and take one tea spoonful as syrup after food whenever thirsty.
7.	<i>Cynodon dactylon</i> (L.) Pers. [Poaceae] Bermuda/ Durva grass	<i>Phaiphong</i> (H)	<i>Tingthou</i> (S)	Leaf [O]	Typhoid –Some amount of the tender leaves of <i>Cynodon dactylon</i> is crushed well along with some pomegranate. The liquid collected in half a glass is mix with a tea spoonful of honey and is given three times a day before food.
8.	<i>Syzygium fruticosum</i> DC. [Myrtaceae]	<i>Heinou-manbi</i> (T)	<i>Heinouman / Tomba-heina</i> (S)	Leaf [E]	Fever (especially for children) -Some leaves are boiled and is taken bath with it. (One should not drink the boiled leaves water. For external use only).
9.	<i>Phyllanthus emblica</i> (L.) [Labiataeae] Gooseberry	<i>Poklo-hei</i> (T)	<i>Heigr</i> (S)	Fruit [O]	Dry Cough/ Asthma –Crush some amount of goose berry and mix with little honey and have before and after food.
10.	<i>Solanum virginianum</i> Linn. [Solanaceae] Yellow berried nightshade (small variety)	<i>Samtrok-kha</i> (S)	<i>Leibungkhang</i> (S)	Fruit [O]	Headache/ Toothache –Crush some amount of the <i>Solanum</i> and mixed with two spoonful of honey and have it till the pain is gone.
11.	<i>Xylosma longifolia</i> Clos. [Flacourtiaceae]	<i>Nungshan-panbi</i> (T)	<i>Nungleishang</i> (S)	Leaf [O]	Piles –Boil some quantity of the leaves and have 3-4 tea spoonful twice a day till it is cured. (The tree has small spikes and the leaves are reddish and shiny when young).
12.	<i>Vitex negundo</i> Linn. [Verbenaceae] Chaste tree	<i>Warek-lou (Urik-shibi)</i> (H)	<i>Urik-shibi</i> (S)	Leaf [E]	Piles –Burn the dry leaves and collect the ashes and apply on one's anus 3-4 times a day. Or boil some fresh leaves and serve as decoction a glass full before each meal. (Do not eat red meat, chicken and egg during medication. Result is known within 3/4 days.
13	<i>Oroxylum indicum</i> (L.) Vent. [Bignoniaceae] Indian trumpet flower	<i>Shamba</i> (T)	<i>Shamba</i> (S)	Bark, leaf [E]	Tonsilitis/ Sore Throat/ Sinus -Mixed the bark with salt (Meitei salt) + <i>tekta (lomba)</i> and boil it and served as decoction half a glass twice a day for a week.
14.	<i>Benincasa hispida</i> Thunb. Cogn. [Cucurbitaceae] Ash-gourd/ Winter melon	<i>Anmahei-angou (Kulbi),</i> (C)	<i>Torbot</i> (S)	Fruit [E]	Bear/ Tiger Bites –Apply immediately the paste of <i>Benincasa hispida</i> in the infected area. Then sprinkled the powdered <i>Kursi</i> seeds upon the wounded area.
15.	<i>Colocasia esculenta</i> (L.) Schott [Araceae] Yam	<i>Bal</i> (H)	<i>Pan</i> (S)	Tuber/ bulb [E]	Spike on Heel –Cut the yam and paste on it or bandage around the heel for three- four days.
16.	<i>Azadiracta indica</i> A. Juss [Meliaceae] Neem plant	<i>Neem-rung</i> (T)	<i>Neem</i> (S)	Leaf [O]	Malaria -The crushed leaves is mix with little water and about 2-3 tea spoonful is taken twice a day before each meal. (Do not give to those who are weak/ unhealthy/ pregnant or those suffering from leukaemia since it is very bitter).
17.	<i>Zanthoxylum acanthopodium</i> [Rutaceae] -	<i>Singdi</i> (S)	<i>Mukthrubi</i> (S)	Seed [O]	Gas Formation -The seeds are crush into powdered form and is mix in half a glassful of warm water and taken for 2-3 days, or may take some along with food items too.
18.	<i>Blumea balsamifera</i> D.C. [Asteraceae] Elumea or Nagal Camphor	<i>Langthrei</i> (H)	<i>Langthrei</i> (S)	Leaf [O]	Burning Sensation of Stomach –Crush the leaves into paste form and mix with little water in a glass and drink it immediately anytime till it cures. Or one may eat few leaves and drink some water immediately.
19.	<i>Phyllantus emblica</i> Linn. [Euphorbiaceae] Gooseberry	<i>Pukluhei</i> (S)	<i>Heigr</i> (S)	Fruit [O]	Headache, Hypertension –Eat plenty of gooseberry if one gets headache or feels giddy and drink plenty of water.
20.	<i>Phyllantus emblica</i> Linn. [Euphorbiaceae] Gooseberry	<i>Pukluhei</i> (S)	<i>Heigr</i> (S)	Bark/ Root/ Fruit [O]	Sore Eyes –Boil the gooseberry bark or root and splash the liquid on the eyes repeatedly while washing the face in the early morning, afternoon and bed time till cured. Or apply few drops of extracted gooseberry juice directly on the sore eyes 2-3 times a day till cured. Believed to cure even cataract.
21.	<i>Centilla asiatica</i> Linn. [Apiaceae] Indian penny wort	<i>Alaiphon</i> (H)	<i>Peruk</i> (S)	Whole plant/ leaf [O]	Sore Throat/Hypertension –Boil certain amount of the whole plant in about 2 litres of water and have as decoction a glassful 3 times a day. Repeat it till is cures. One may have the fresh leaves regularly as culinary item to reduce hypertension or high blood pressure.
22.	<i>Curcuma caesia</i> Roxb. [Zingiberaceae]- Black turmeric/ Black zedoary (Ginseng type)	<i>Aidai</i> (H)	<i>Yaimu</i> (S)	Rhizome [O]	Vomiting of Blood -Mix the crushed black turmeric with little dew (water) drops and have a half a glassful before each food twice a day. The stool will be diffused immediately with blood. Repeat it till it helps cure.
23.	<i>Curcuma caesia</i> Roxb. [Zingiberaceae]-Black turmeric/ Black zedoary	<i>Aidai</i> (H)	<i>Yaimu</i> (S)	Rhizome [O]	Menstrual Cycle Problem –Crush certain amount of <i>Yaimu</i> and mix with little water and take 3-4 tea spoonful twice a day for a week before food.

24.	<i>Curcuma caesia</i> Roxb. [Zingiberaceae]- Black turmeric/ zedoary	<i>Aidai</i> (H)	<i>Yaimu</i> (S)	Rhizome [O]	Child Indigestion –Crush some amount of Yaimu, collect the liquid with cotton and mix with little water. Give half tea spoon for child below 3 years and 1 tea spoonful above 3 years old. One may also apply the crush paste on the child’s body. The child faeces will be very smelly.
25.	<i>Curcuma longa</i> Linn. [Zingiberaceae] Wild Red Turmeric	<i>Aitonsan angouba</i> (H)	<i>Yai-ngang angouba</i> (S)	Rhizome [E]	Pigmentation/ Black/ Dark Spot/ Pimples –Crush the wild red turmeric and mix with little mustard oil and apply the paste regularly on the area before bedtime.
26.	<i>Carica papaya</i> L. [Caricaceae]- Papaya	<i>Awathabi</i> (S)	<i>Awathabi</i> (P)	Fruit [E]	Ulcer –Boil the unripe papaya and have regularly as culinary or anytime. One may also have the ripe papaya regularly anytime till it cures.
27.	<i>Albizia myriophylla</i> Benth. [Leguminosae] Little-leaf sensitive-briars	<i>Thre-lou</i> (Cl)	<i>Yanglee</i> (S)	Leaf [O]	Stone Case/ Kidney–Boil some leaves of <i>Yanglee</i> with <i>sitamsi</i> (white sugar free sugar) and have ¾ spoonful and take ¾ times a day. The urine is black in colour when taken.
28.	<i>Albizia myriophylla</i> Benth. [Leguminosae] Little-leaf sensitive-briars	<i>Thre-lou</i> (Cl)	<i>Yanglee</i> (S)	Bark [E]	Dog Bite –Chew the <i>Yanglee</i> bark with little raw rice and apply the paste immediately at the bitten part.
29.	<i>Agaricus campestris</i> (Meadow/Ground mushroom)	<i>Leibak-marum</i> (Algae)	<i>Leibak-marum</i> (S)	Stem [E]	Burn –Apply the extracted liquid of the ground mushroom or the powder obtained on the burned part.
30.	<i>Cymbopogon citratus</i> (DC.) Stapf [Poaceae] Lemon grass	Lemon grass (S)	Lemon grass (S)	Leaf [O]	Sinusitis –Smash the leaves and apply the juice. It is also use for ringworm problem. Boil some fresh or dry leaf and may serve directly as green tea. Good for cardiac and diabetic patients. (Smells like <i>lomba</i> (Meitei) used in culinary).
31.	<i>Tamarindus indicus</i> (L.) [Caesalpiniaceae] Tamarind	<i>Mangge</i> (T)	<i>Mangge</i> (S)	Seed [E]	Bee Sting –Cut the tamarind seed into half and apply the white part on the bee stung area and bandage it.
32.	<i>Elsholtzia blanda</i> Benth. [Lamiaceae]	<i>Tumpina</i> (H)	(S)	Leaf [E]	Boil –Heat up the fresh leaves and apply on the boil part with little opening at the boil mouth. Repeat till it is cured.
33.	<i>Saccharum officinarum</i> L. [Poaceae] Red sugarcane	<i>Chu-ngang</i> (S)	<i>Chu-ngang</i> (P)	Stem/ fruit [O]	Jaundice (<i>Thongngak</i>)–Take fresh (red) sugarcane juice daily anytime of the day till it is cured. For children- Apply the mustard oil on the child’s body and exposed to heat and light. Give sugarcane juice daily. (Do not give <i>ngari</i> the local fermented dry fish, meat, and chilly, but simple boiled papaya curry).
34.	<i>Ficus glomerata</i> Roxb. [Moraceae]	<i>Channahei</i> (Big leaf variety), (T)	<i>Heibung- asinba</i> (S)	Leaf [E]	Body Swelling –Heat certain amount of leaves or fruits and use it as balm on the swelling area. It soothe and helps reduce swelling.
35.	<i>Benincasa hispida</i> (Thunb). Cogn [Cucurbitaceae] Ash-gourd	<i>Kulbi</i> (Cl)	<i>Torbot</i> (S)	Fruit [E]	Tiger Bite -Peel off the green covering and sliced the <i>Benincasa hispida</i> fruits and apply the paste at the bitten part by wrapping it with a cloth.
36.	<i>Curcuma longa</i> Linn. [Zingiberaceae] Turmeric	<i>Aitonsan</i> (H)	<i>Yai-ngang</i> (S)	Rhizome [E]	Cuts/ Wounds –Crush the turmeric and apply immediately on the cuts. It helps in blood coagulation and heals fast.
37.	<i>Albizia myriophylla</i> Benth. [Leguminosae] Little-leaf sensitive-briars	<i>Thre-lou</i> (Cl)	<i>Yanglee</i> (S)	Root [E]	Dog Bite –The roots is chewed with little rice and apply the paste immediately at the bitten part.
38.	<i>Psidium guajava</i> Linn. [Myrtaceae]- Guava	<i>Pongatol</i> (T)	<i>Pongtol</i> (S)	Fruit [O]	Dysentery –Eat the tender leaf and fruits a lot with little salt till relief.
39.	<i>Oxalis corniculata</i> [Oxalidaceae] Indian sorrel	<i>Ram Ansur</i> (S)	<i>Ching-yensil</i> [Tuitrit] (S)	Leaf (O)	Arthritis/ Rheumatism (Joints pain) –Boil the leaves and served as decoction a glass full 2/3 a day till cure. It may also be served as culinary item.(Fruit is black in colour when ripen).

Abbreviation: Herb – H, Shrub – S, Tree – T, Creeper – C, Climber – Cl; Seasonal - (S), Perennial - (P); Orally - (O), Externally - (E).

Notes: *Ginseng (Ramhui)* are two types: male - female plants. The male species grows with only one stalk while the female plant species has two or more stalks or branches. The male species is considered much more valuable for medicinal purposes.

Table 2: Indigenous Medicinal Plants of Maring Tribe (Without Botanical Names)

S. No.	Local Names (Types of Plants)	Manipuri name - [(S)/ (P)]	Parts of Plant Used- Forms [O/ E]	Diseases, Ailments – Usages
1.	<i>Benacha</i> (C)	(S)	Whole plant [O]	Blood Purifier/ Menstrual/ Urinal Problems – Boil the leaves (fresh or dry) till the water is reddish in colour and served half a glass full twice daily as decoction before food to enhance blood purification esp. for woman who gave birth to a child recently.
2.	<i>Thrunlou</i> (H)	<i>Lin-napi</i> (P)	Tuber/ Bulb [E]	Snake Bite /Dog Bite (useful for any poisonous bite) - The bulb/tuber (onion type) is smash well and is apply on the bitten spot. The tuber should be crush without adding water and one should not eat at all (poisonous). No fruit should be taken during medication. For external use only. (It is an evergreen herb the flower is white, small in size and blooms for a short period.).
2.	<i>Kwana manbi</i> (Cl)	<i>Kwana manbi</i> (S)	Leaf [O]	Kidney Stone Problem – Boil the <i>kwana manbi</i> leaf with <i>sitamsi</i> sugar and serve as decoction a glassful before each meal. The body is swell up and drains out in the form of urine. (One should not take pumpkin and yam during the medication).
4.	<i>Kulbirui</i> (S)	<i>Wangbarel-mana</i> (S)	Bark [E]	Heart and Kidney Failure Problems – Boil ½ Kg of the bark in about 5 litres of water till it turns red colour. Bath with the extracted boiled water or apply regularly on the chest and abdomen pain areas any time. Do not drink the extract liquid. (This climber grows in circle esp. around sacred groves. The plant is locally known as <i>Wangbarel</i> wife's medicine found near Chakpikarong area).
5.	<i>Lungpar</i> (Cl)	<i>Nungthambal</i> (S)	Stem/ flower [E]	Cancer – Smear the stem/ flower on a clean hard stone mixed with little water and collect the liquid with cotton and apply it on the cancer part and bandage it well. Repeat this formulae after two days for 3-4 months. It should be done before chemotherapy treatment. (Rare species grown only above the rock like mushroom plant. The flower is white in colour and hard. Grows in Laibi Maring village near Tengnoupal area).
6.	<i>Leihou-khongsang</i> <i>Anganba.</i> (S)	<i>Kege-leihou</i> <i>Anganba</i> (S)	Fruit / seed [O]	Tonsil/ Malaria – Dry the fruit in the sun and when turn black, cut into small pieces and eat any time of the day. (It is a very rare fruit/ seed therefore, one should cut the fruit on Saturday or odd days of a week only).
7.	<i>Tangkha</i> (C)	<i>Yanungkha</i> (S)	Leaf [O]	Tonsil/ Sore Throat Problem – Boil the leaves in 2 litres of water and have as decoction or one may have it raw till it helps cure. (It's not advisable to give to girls who are weak or suffering from leukaemia).
8.	<i>Leihou khongsang</i> (T)	<i>Kege-leihou</i> (S)	Bark [O]	Malaria/ Fever – Crush the dry bark is into powder and half teaspoon is mix in half glass of water and take twice a day before meal. The result is that the stool/ faeces will become black.
9.	<i>Manna-houbi</i> (H)	(P)	Leaf [E]	High Fever - Smash the leaves and apply the paste on the forehead. One should not eat. (It belongs to cactus family. The flower is white and pinkish in colour and blooms in bundles).
10.	<i>Thingphungcho</i> (T)	(S)	Leaf/ Bark (O)	Kidney and Bile Stone Cases – Boil the leaves in about 5 litres of water and served as decoction a glassful thrice a day before food till it is cures.
11.	<i>Thingkhangphu</i> (T)	(S)	Leaf (O)	Liver Problem (alcoholic), Gastritis and Stomach ache – Boil the leaves in about 3 litres of water and served as decoction half a glassful twice a day before food till it is cures.(Do not eat spicy things like chilly, ginger, etc. during medication).

Table 3: Compound Ethnobotanical Plants of Maring used in Treatment of Ailments

S. No.	Diseases –	Maring Name	Manipuri Name	Botanical Name	Parts [Forms - (O)/ (E)]	Treatment Methods and its dosages
1.	Typhoid –	<i>Phaiphong</i> + <i>Kapo-hei</i> + <i>Khoihi</i> (Honey)	<i>Tingthou</i> + <i>Kaphoi</i> + Honey	<i>Cynodon dactylon</i> + <i>Punica granalum</i> + Honey	Leaf [O]	Some amount of the tender leaves of <i>Cynodon dactylon</i> is crush well along with some pomegranate. The liquid collected in half a glass is mix with a tea spoonful of honey and given three times a day before food.
2.	Dry Cough/ Throat Congestion –	<i>Ramsinrim</i> + <i>Triptung-ngou</i> + <i>Singdi</i> + <i>Hui</i> + <i>Sitamasi</i> (white Sugar cube)	<i>Nongmangkha-anganba</i> + <i>Nongmangkha-angouba</i> + <i>Mukthruibi</i> + <i>Sing</i> + <i>Sitamasi</i>	<i>Phlogacanthus thyriformis</i> Nees + <i>Zanthoxylum acanthopodium</i> + Ginger + white sugar cube	Tender leaf + tender leaf + seed + rhizome + sugar	Some amount of the leaves, seeds and tuber along with white sugar cube are boil together till the colour turns blackish and half a glass full is serve as decoction before food. (During medication one should not take red meat or <i>ngari</i> (fermented dry fish).
3.	Ringworm –	<i>Heirik mana</i> + <i>Souhing-khor</i>	<i>Heirik mana</i> + <i>U-soi</i>	<i>Ficus cunia</i> (<i>Moraceae</i>) + <i>Schima wallichii</i> Choisy	Leaf + stem knot	Scratch the ringworm area with the fig leaf then, apply the hairy stem knot on it.
4.	Muscle Swelling	<i>Pankhok-moinum</i> + <i>Shamlolubal</i> + <i>Umkhabal</i> + <i>Thunder bolt stone</i>	<i>Pankhok moinum</i> + ___ + ___ + <i>Tinkhang nung</i>	A type of yam + ___ + ___ + thunder bolt stone	Leaf + root + root + liquid	Crush the leaves and roots together and mixed the thunder bolt stone liquid collected from rubbing against a hard stone and apply the paste on the spot time to time till cures.
5.	Fever (Malaria Type)	<i>Kylnum</i> + <i>Sanarei</i> + <i>Chilly</i> + <i>Taa-na taret</i> bamboo straps	___ + <i>Sanarei</i> + <i>Marok</i> + <i>Taa-na taret</i>	___ + <i>Marigold</i> + <i>Chilly</i> + Seven straps of bamboo	Root + leaf + fruit + stem	Mix well all items and wrap it in a cloth and tie around the ankle with seven small bamboo straps.
6.	Worm/ (Ascaris)	<i>Puleimanbi</i> + <i>Kani</i> / orkerosene	<i>Pullei</i> + <i>Kanii</i> or kerosene	<i>Alpinia allughas</i> + product of tobacco or kerosene	Root + solid or liquid	The mixture is apply on the neck, throat and chest esp. for babies.
7.	Measles (<i>Leikup</i> in Manipuri)	Python's bile + bear's bile + black monkey's bile + crow's bile	<i>Leiren</i> + <i>sawom</i> + <i>Jong</i> + <i>Kuwak mashingkha</i>	<i>Leiren</i> + <i>Sawom</i> + <i>Jong</i> + <i>Kuwak mashingkha</i>	Python's + Bear's + Monkey's + Crow's bile juices	Mixture of all these bile juice is given in small dosage half a tea spoonful to children and a tea spoonful for an adult after food twice a day.

Table 4: Other Forms of Indigenous Medicines Used by Maring Tribe

S. No.	Common Term	Maring	Meitei	Parts Use	Diseases
1.	<i>Vespula germanica</i> F. [Arthropoda] House wasp	<i>Leibak Khoi</i>	<i>Leibak Khoi</i>	Mud	Mumps (Type) – Mixed the mud collected from house wasp with saliva or with little water and apply it on the mumps area. Apply 3-4 times a day. (It cures but reason unknown).
2.	Fermented local rice beer	<i>Khaji</i> (<i>chakthamwa</i>)	<i>Zupang</i>	Fermented rice beer	Urinal/ Kidney Stone Problem – Have 3-4 mugs of sticky fermented rice beer in a day for 2-3 months.
3.	<i>Lethocerus americanus</i> [Belostomatidae] Giant Water Bug	<i>Nausek</i> (Lake's species)	<i>Nausek</i>	Head	Snake Bite/ Bitten by any Poisonous Reptiles - Get the head of the lake's <i>nausek</i> insect species and stuck its head at the bitten part. It stuck and sucks out all the venoms automatically till it is clear. The <i>nausek</i> head will drop once it finishes sucking it.
4.	<i>Planorbella trivolvis</i> [Planorbella] Gastropod mollusk (Freshwater snail)	<i>Tharoi</i>	<i>Tharoi</i>	Membrane	Snake Bite – Get a fresh snail and put the head around the bitten part without disturbing it for a while. It is believe to suck the venoms out.
5.	<i>Areca catechu</i> L. [Palmaeaceae] (palms) Areca nut/ Betel nut	<i>Kong-kwai</i>	<i>Kom-kwa</i> / <i>Komkwai</i>	Fruit	Menstrual Problem – Spelt upon the beetle nut and break into half. (This involves use of magical charm while breaking).

RESULTS AND DISCUSSION

Table 1 shows that there are 39 indigenous medicinal plants used by Maring tribe of Manipur in the treatment of about 34 ailments and diseases. Common types of ailments and diseases prevalent among the Maring tribe were like: Typhoid, jaundice, Dysentery, Diarrhea, Gas formation (Flatulence), Piles, Fever, Cough (Dry cough), Asthma, Headache, Toothache, Tonsillitis, Sinusitis, Sore Throat, Tiger/ Bear bites, Malaria, Burning sensation in stomach, hypertension, Arthritis, Rheumatism, Stomach-ache, Sore-eyes, Vomiting of blood, Menstrual Problem, Child indigestion, Pigmentation, Snake bite, Gastritis/ Ulcer, Stone kidney problem, Urinal problem, Burn, Bee sting, Body swelling, and Cuts (wounds).

The most commonly used ethnobotanical plants for the treatment of these 34 diseases and ailments belongs to the families of: *Zingiberaceae* - (6), *Cucurbitaceae* - (3), *Leguminosae* - (3), *Poaceae* - (2), *Myrtaceae* - (2), *Euphorbiaceae* - (2) while the others like *Cyperaceae*, *Onagraceae*, *Anacardiaceae*, *Labiatae*, *Solanaceae*, *Flacourtiaceae*, *Verbenaceae*, *Bignoniaceae* and so on has a frequency of one each.

It is found that leaf and fruit are the most common parts of the plants used in the indigenous medicinal preparation. The frequency are listed herein as: Leaf - 14, Fruit -10, Rhizome - 7, Bark - 4, Root - 2, Stem - 2, Seed - 2, whole plant - 2, Tuber/ bulb - 2, and Algae - 1.

In the medication method, about 20 items are given in various oral (O) forms while 19 items are used externally (E). Most of the oral dosage are given in the form of decoction like half a glass or a glass-full twice or thrice a day till it is cured. The medication for external are prepared in paste forms and often applied externally on the infected or injured parts, since some plants are considered poisonous.

The various ethnobotanical plants are categorized as: i) Herb - 14, ii) Shrub - 9, iii) Tree - 9, iv) Creeper - 2, v) Climber - 4 and, vi) Algae -1 (a total of 39 ethnobotanical plants). These plants are mostly seasonal (S) with 36 plants and 3 are perennial (P) plants in nature.

Table 2 indicates that there are certain ethnobotanical plants used as indigenous medicines by local medicine man or Maring priest in the treatment of certain deadly diseases and sickness like as blood purifier for young mothers who recently gave birth to a child also used by women who have irregular menstrual problems, snake bites, cancer, stone kidney or urinal problems, tonsillitis or sore throat, malaria, high fever and liver dysfunctional problems. These ethnobotanical plants are very rare to find and is not easily available since it is found in remote interior places and seasonal. Most of these plants are not grown at home but grows in specific environment. For example, *Nungthambal* literally in Manipuri means 'Stone Lotus' it looks like mushroom or lotus shaped and grows above the stone around sacred groves where human does not simply tread. The Table 2 shows that out of 11 different plants 3 are trees and 2 each are herbs, shrubs, creepers and climbers. These plants need deeper scientific investigation. All these plants are seasonal except one i.e. *Thruna (Linnapi)* which is perennial. The medication method is that 8 (eight) plants are taken orally (O) and 3 (three) externally. The parts of the plants used are mostly leaf - 5, bark - 3, and the rest like seed, flower, whole plant, fruit, stem and bulb/ tuber has a frequency of one each.

The Table 3 indicates that the Maring also uses certain compound items in the treatment of various ailments and sickness. Certain medicines are prepared using two or three plant parts besides mixing with other items like honey or sugar-free sugar (*Sitamasi*), tiger's bile, bear's bile or dog's bile and even the thunderbolt stone according to them.

However, the Table 4 shows that the Maring tribe uses certain parts of insects, animals, and amphibians in the treatment of various ailments. Some of it involves magical spell and charm in the treatment. For example, the mud used by the wasp to build its home is mixed with little water and is apply on the mumps developed on the cheek especially, on children. On the other hand, one is advice to have plenty of local indigenous rice-beer for person suffering from urinary problems or stone kidney. When the head of the giant water bug (*nausek*) death or alive is put on the bitten part of a snake is considered a magic since the venom is suck out.

In the survey it is observed that still many Marings depends on their indigenous medicinal plants in the treatment of various ailments and diseases apart from pharmaceutical medicines. Since most ethnobotanical plants are very useful and season based some preserves in dry forms like *Bemanjam (Mukia maderaspatana)*, *Benacha*, *Thingphungcho*, while like *Oroxylum indicum (Shamba)*, *Zanthoxylum acanthopodium (Singdi)*, *Solanum virginuamum (Samtrok-kha)*, *Benincasa hispida (Anmahei-angou)*, *Eupatorium birmanicum (Langthrei)*, etc. are planted around their houses^[21].

The significant is that certain plants are similarly used by other communities but the application in the treatment for the ailments are different. This implies that such plants like *Benincasa hispida (Khulbi/Torbot)*, *Oroxylum indicum (Shamba)* have multi-properties in healing and curing. Certain indigenous medicinal plants' leaf, barks and seeds used for the treatment of jaundice, cancer, hypertension, and blood purification are seen sold in the nearby sub-towns like Kakching Lamkhai and Pallel bazar as prescribed by their local medicine man. This indicates that these ethno-medicinal plants are being used in the region especially, among the Maring and neighbouring communities considered helpful for the needy.

CONCLUSION

It is also found that the Maring uses more of single plants than compound plants in the treatment of various ailments. They highly valued various animals' bile in preparation of certain indigenous medicines. This extremely bitter animal's bile are often used after drying in small dosage. Besides, the above identified plants there are still many other ethnobotanical plants used as medicine for the treatment of different ailments, diseases and to heal and cure various types of common sickness or ancient or modern diseases. According to one of the informant, although there are many Maring villages in the region the number of well knowledgeable persons in the field of ethno-medicine have considerably decline in the recent years and is feared that the remaining few people would also die sooner or later.

Besides, with the increased influence of modernization, westernization, globalization and Christianity many younger generation uses certain pharmaceutical medicines like for headache, stomach-ache. But this does not mean that the people have completely given up their traditional indigenous medicines. Depending upon the degree and types of illness, in certain cases magico-religious ceremonies are also employed along with the ethno-botanical plants by the village priest or local medicine-man in the healing and curing the dreaded diseases^[22].

Acknowledgement

The corresponding author sincerely thank the *University Grant Commission (UGC)*, New Delhi for awarding him the Post-Doctorial Fellowship under the scheme of Rajiv Gandhi Fellowship for the Scheduled Caste and Tribe (SC/ST), awarded in 2012.

The authors are very thankful to the respondents of Maring village chiefs, elders and leaders for providing their invaluable information to us without which this paper would not have been made possible. They are like TL. Monal (67/M) S/o Kodang of Tuinem village, Tangtanga

Moshilpha (68/M) of Langol Khunjou, Warok Menai (56/M) of Langol Khunjou, Yunglama Thankang Muba (67/M) of Langol Khunou, Ch. Medun (82/M) of Kharou Khunou, Meirung Mejouba (78/M) of Khudei Khunou. SK. Andun (68/M) of Khudei Khunou. The females are K. Tomui (78/F) of Kharou Khunou, Saka Hoinu (65/F) of Kakching Lamkhai, Saka Ringnga (33/F) daughter of S. Hoinu, K. Tonmui (46/F) of Tuishimi, Kansam Tungmui (W/o K. Medar) of Karamkhu village.

The authors are also very grateful to Mr. Chan Dawansha of Tuishimi and Mr. Sailung Mopham (Aboi) Maring of Khudei Khunou for assisting and guiding us to the villages.

REFERENCES

1. Singh BH, PK Singh, SS Singh, Elangbam B. Indigenous bio-folklores and practices: Its role in biodiversity conservation in Manipur. *Journal of Hill Research*. 1996; 9(2):359-362.
2. Ningombam DS, Deshworjit Singh, Potsangbam Kumar Singh. Ethnobotanical study of *Pholaga-canthus thyriformis* Nees: A conserved medicinal plant of Manipur, Northeast India. *International Journal of Herbal Medicine*. 2014; 1(5): 10-14.
3. Yuhlung, Cheithou Charles, Jangamlung Richard PG. Northeast India tribal studies: An insider's view. New Delhi: Regency Publication and Astral Publication; 2015, ix.
4. Mao AA, TM Hynniewta, Sanjappa M. Plant wealth in Northeast India with reference to ethnobotany. *Indian Journal of Traditional Knowledge*. 2009; 8(1): 96-103.
5. Wangkhem Indira Devi¹, Guruaribam Shantibala Devi, Chingakhm Brajakisor Singh. Traditional herbal medicine used for the treatment of diabetes in Manipur, India. *Research Journal of Pharmaceutical, Biological and Chemical Sciences*. 2011; 2(4):709-715.
6. Ranjana Rajkumari, PK Singh, Ajit Kumar Das, Dutta BK. Ethnobotanical investigation of wild edible and medicinal plants used by the *Chiru* Tribe of Manipur, India. *Pleione*. 2013; 7(1):167-174.
7. Sobita K, TH Bhagirath. Effects of some medicinal plant extracts on *Vicia faba* root tip chromosomes. *Caryologia*. 2005; 58(3):255-261.
8. Yumnam JY, Tripathi OP. Traditional knowledge of eating raw plants by the Meitei of Manipur as medicine/nutrient supplement in their diet. *Indian Journal of Traditional Knowledge*. 2012; 11(1):45-50.
9. Rajesh Singh Yumnam, CH Onita Devi, Santosh Kumar Singh Abujam, Chetia D. Study on the ethno-medicinal system of Manipur. *International Journal of Pharmaceutical & Biological Archives*. 2012; 3(3):587-591.
10. Yumnam JY, Tripathi OP. Traditional knowledge of eating raw plants by the Meitei of Manipur as medicine/nutrient supplement in their diet. *Indian Journal of Traditional Knowledge*. 2012; 11(1):45-50.
11. Ridip Hazarika, Santosh Kumar Singh Abujam, Bijoy Neog, Ethno-medicinal studies of common plants of Assam and Manipur. *International Journal of Pharmaceutical & Biological Archives*. 2012; 3(4):809-815.
12. Khongsai M, Saikia SP, Kayang. Ethno-medicinal plants used by different tribes of Arunachal Pradesh. *Indian Journal of Traditional Knowledge*. 2011; 10(3):541-546.
13. Jamir NS, Lanusunep, Narola Pongener. Medico-herbal medicine practiced by the *Naga* tribes in the state of Nagaland (India). *Indian Journal of Fundamental and Applied Life Sciences*. 2012; 2(2):328-333.
14. Jamir NS, Lanusunep, Narola Pongener. Medico-herbal medicine practiced by the *Naga* tribes in the state of Nagaland (India). *Indian Journal of Fundamental and Applied Life Sciences*. 2012; 2(2):328-333.
15. NeliLokho Pfoze, Yogendra Kumar, Bekington Myrbob. Survey and assessment of ethno-medicinal plants used in Senapati District of Manipur State, Northeast India. *Phytopharmacology*. 2012; 2(2):285-311.
16. Mao AA, TM Hynniewta, Sanjappa M. Plant wealth in Northeast India with reference to Ethnobotany. *Indian Journal of Traditional Knowledge*. 2009; 8(1):96-103.
17. Maring Naga. http://en.wikipedia.org/wiki/Maring_Naga, accessed on 31/12/12.
18. Grierson, George Abraham, *Linguistic Survey of India: Tibetan- Burman Family, (Specimens of the Kuki-Chin and Burma groups)*. Calcutta: Superintendent of Government Printing; 1967 (reprinted, Delhi: Motilal Banarsidass), Vol. III, Part-III.
19. Census of India, 2011.
20. Brown R. Statistical account of native states of Manipur and the hill territory under its rule, Delhi: Sanskaran Prakashak; 1873.
21. Ningombam DS, Devi SP, Singh PK. A Pinokiyi & Bisheswori Thongam, Documentation and assessment on knowledge of ethno-medicinal

- practitioners: A case study on local Meetei healers of Manipur. *Journal of Pharmacy and Biological Sciences (IOSR-JPBS)*. 2014; 9(1):53-70.
22. Yuhlung, Cheithou Charles & Mini Bhattacharyya, Ethno-medicine practice among the Chothe tribe of Manipur, North-east India. *Tribal Health Bulletin*. 2015; 22(1&2):40-58.

HOW TO CITE THIS ARTICLE

Yuhlung CC, Bhattacharyya M. Indigenous Medicinal Plants Used by the Maring Tribe of Manipur, Northeast India. *J Ayu Herb Med* 2016; 2(4):146-153.