

The Folk Medicinal Plants of the Mao Naga in Manipur, North East India

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Abstract- The present paper exclusively deals with the Mao Naga Folk medicinal plants which are used for treating various ailments and diseases in their day today life. They are settled agriculturist and have a very rich knowledge on plant based resources utilization for their survival since time immemorial. They practices folk medicines to take care of their health and related problems primarily from the plant resources available within and the vicinity of their environment. During the investigation it has recorded 61 species belonging to 39 families and 57 genera which are widely used as medicines by this ethnic community. The most common part of the plant utilized by the indigenous people as the source of medicine is the leaves with 32 species. Flower and inflorescence are the least part of the plant with only two species viz. *Crassocephalum crepidiodes* and *Hibiscus subdariffa* which used for treating cuts, wounds and appetizer during sickness. The most dominant family is Asteraceae with 10 species that are used for several diseases.

Index Terms- Mao Naga, Ethno-medicinal plants, Agriculturalist, Makhel.

I. INTRODUCTION

The Northeast India comprises of eight states viz., Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura and they are physiographically categorized into the Eastern Himalayas, Northeast hills (Patkai-Naga Hills and Lushai Hills) and Brahmaputra and the plains of Barak valley. There are approximately 225 tribes hailing from the Northeast region, out of the total 450 tribes that are found in the country (Chatterjee et al., 2006). Besides ethnic and cultural diversity, it is one of the mega biodiversity regions in the world which falls under the Himalaya and the Indo-Burma biodiversity hotspots forming a unique biogeographic province harbouring major biomes recognized in the world. It has the richest reservoir of plant diversity and supporting about 50% of India's biodiversity (Mao, Hyniewta & Sanjappa, 2009). Majority of the tribal communities resides in the hills and some parts of the plains and valleys in different parts of the region. Ethnic-cultural diversity and rich biodiversity in the region are one of the charms that attract the attention of the tourists and equally the academicians or researchers for various reasons. There is a huge potential to do ethnobotanical research in the region, primarily, because, half of the total Indian tribal communities lives and practices their cultures in its own unique way. Several works has been done on Ethnomedicinal plants used by the different tribal communities from Northeast India, the north Cachar hills

(Sanjem, Rout and Nath, 2008); Tai-Khamyangs of Assam (Sonowal and Barua, 2011); Mizoram (Rai & Lalramhnglova, 2010); Sikkim (Singh, Birkumar and Rai, 2007); Tinsukia, Assam (Buragoham, 2011); Apatani, Arunachal Pradesh (Kala, 2005); Khasi and Garos, Meghalaya (Neogi, Prasad and Rao, 1989); Reang, Tripura (Sil and Choudhury, 2009); Angami-a, Nagaland (Megoneitso and Rao, 1983); Lotha, Nagaland (Jamir, Takatemjen and Limasengla, 2008) etc. However this is the first report on the Mao Naga Folk medicinal plants.

The Naga tribes belong to the Mongolian stock and speak a Tibeto-Burmese language, and have socio-cultural affinities with the Southeast Asia (Ao Alemchiba, 1970). They have a very rich culture and traditional practices which is unique from one tribe to the other. The Nagas have a great heritage of oral traditions which involves beliefs and practices associated with nature, plants and animals. The diversity of the ethnic tribes among the Nagas presents a vast scope of ethnobotanical researches. There are 31 different tribes- Angami, Chakeshang, Ao, Sema, Rengma, Lotha, Chang, Konyak, Sangtam, Phom, Zeliang, Mao, Maram, Tangkhul, Maring, Anal, Mayan-Monsang, Lamkang, Nockte, Haimi, Htangun, Ranpan, Kolyo, Kenyu, Kacha, Yachimi, Kabui, Uchongpok, Makaoro, Jeru and Somra (Horam, 1975). However, only a few accounts on ethnobotany mainly emphasized on medicinal and wild edible plants used by the Angami-a (Megoneitso and Rao, 1983); Ao (Rao and Jamir, 1990); Nagaland (Rao and Jamir, 1982a, 1982b); Zeliang (Jamir and Rao, 1990); Zeme (Rout et al., 2010); Lotha (Jamir et al., 2008); Mao (Mao and Hyneiwt, 2009; Mao, 1993, 1998, 1999); Nagaland (Chankija, 1975), has been reported by few researchers. The Nagas people live and spread out in the state of Nagaland, Naga hills in Manipur, North Cachar and Mikir hills, Lakhimppur, Sibsagar and Nowgong in Assam, north-east of Arunachal Pradesh, Somrat tract and across the border into Burma.

The Mao Naga tribe inhabits the northern most part of the hills of Manipur, under Senapati district in the Northeast region of India. The termed 'Mao' has two connotations which refer the name of the place as well as the people living in the area. The vernacular name for the people is 'Ememie' and the place is 'Ememiechijii'. Historically, 'Makhel' a village from Mao is the place of origin for settlement for most of the Naga tribes and has a significant mark in the pages of Naga history and civilization. A symbolic 'wild Pear tree' which was protected and guarded for several hundred years by the Naga ancestors signified as the evidence and revered by everyone, stands tall in the midst of the Mao Naga till today. They are settled agriculturalist and practices both terrace and wet paddy field cultivation. Apart from the two major forms of cultivation (terrace & wet paddy) kitchen

gardening for vegetables and fruits for the family is a common practice amongst the tribe. In general the agricultural practices of the Mao tribe are considered to be the most advance form amongst the various Naga tribes in North-east India (Mao, 1993). The most common cash crops are Potato, Maize, Millet, Soya bean, Cabbage both leafy and ball, Tomato, Chilli, Paddy, Pumpkin, Brinjal, Beans, Peas, Raddish, Leafy mustard, Summer onion, Tamarillo, Squash, Ginger, Garlic etc. The common fruits that are grown are Peach, Plums of several varieties, Pears, Passion fruit, Banana, Lemon, Guava, Mango, Cucumber, Avocado, Kiwi fruit, Strawberry and Cherry etc. There are several works done on ethnobotany, medicinal plants and traditional techniques from the northeast region by various workers for different ethnic tribal communities. However, very few works has been done on the 'Mao' and ethnic Naga groups in general. Thus, the present work is an attempt to assess and study the folk medicinal plants of the Mao Naga in Manipur, India

II. METHODOLOGY

The information was gathered during the study period from 2009-2011 through interviewed conducted to the village elders and practitioners from the Mao area in Manipur, India. The details were recorded in the information sheets. The field survey was conducted in the respective localities and the plant materials are collected by following the standard method (Rao and Jain, 1977). All the informations presented in the paper are the actual version of the people interviewed during the study period. The specimens were identified with the help of adjacent floras, the Flora of Assam (Kanjilal), Forest Flora of Meghalaya (Haridasan) and consulted the Botanical Survey of India (BSI) museum, Shillong. The specimens were submitted to the North Eastern Biodiversity Research Cell (NEBRC), N.E.H.U. Shillong for future reference.

Ethnomedicinal Plants and Their Uses:

The vernacular name, botanical name, family and the parts used and its utilization were presented under its plant species.

Polygonum orientale Linn.

Vernacular name: Obuvii

Family: Polygonaceae

Part used: Leaves

Treatment: Diarrhoea and Dysentery

Mode of Utilization: Fresh leaves are boiled with or without rice and serve the patient suffering from serious diarrhea and dysentery for quick relief.

Maesa indica (Roxb) A. DC.

Vernacular name: Kohravii

Family: Myrsinaceae

Parts used: Leaves

Treatment: Throat/Vocal cord

Mode of utilization: Young leaves are boiled with water and taken for treating hoarse voice.

Paedaria foetida Linn.

Vernacular name: Oboripro

Family: Rubiaceae

Part used: Leaves

Treatment: Gastritis and Fungal/Bacteria infection

Mode of utilization: A bunch of fresh leaves are crush and the squeeze juice is mixed with water in a cup and drink for gastritis/acidity. The paste of fresh leaves apply for fungal/bacterial infections between the toes during rainy seasons.

Melia azaderach Linn.

Vernacular name: Siikhasii

Family: Meliaceae

Part used: Barks

Treatment: Blood pressure, Acidity and Ringworm infection

Mode of utilization: A handful of fresh peelings of the endoderm of the bark is crush or grounded and boiled with water and the decoction is taken for treating blood pressure and acidity. The paste of the bark is applied on the skin for ring worm.

Anthogonium gracile Wall.

Vernacular name: Oke

Family: Orchidaceae

Part used: Tuber/Rhizome

Treatment: Cracking heels

Mode of utilization: The tuber/rhizome is crush/grounded into a paste and applies on the cracking heels for quick relief from pain.

Chenopodium ambrosoides Linn.

Vernacular name: Nopuepro

Family: Chenopodiaceae

Part used: Leaves

Treatment: Headache, fever and blood pressure

Mode of utilization: One or two handfuls of leaves are boiled in water and the decoction is taken for treating headache, fever and blood pressure.

Morus nigra Linn.

Vernacular name: Khelosii

Family: Urticaceae

Part use: Leaves and Roots

Treatment: Jaundice

Mode of utilization: A hand of fresh young leaves or the covering of the roots are crush along with water and the decoction is taken for treating jaundice.

Urtica dioica Linn.

Vernacular name: Shiingho

Family: Urticaceae

Part used: Leaves

Treatment: Mumps

Mode of utilization: Five to ten numbers of fresh leaves are crush or grounded and the paste is apply on the affected part for treating mumps.

Cannabis sativa Linn.

Vernacular name: Kanjapro

Family: Cannabaceae

Part used: Leaves

Treatment: Bone fracture, Sprain and Muscle pain

Mode of utilization: Five to ten leaves are crush and the paste is apply on the affected part for cuts and wounds for blood clotting. Two to three handfuls of leaves are boiled in water and the mixer is use for treating muscle pain, sprain and fracture of the bones.

Ricinus communis Linn.

Vernacular name: Midziipro

Family: Euphorbiaceae

Part used: Leaves

Treatment: Sprain and Muscle pain

Mode of utilization: Five to ten numbers of leaves are heated or boiled in water and apply on the affected part of sprain, tearing of ligaments and muscle pain to reduce swollen and quick relief from pain.

Dichrocephala integrifolia (Linn.f.) Kuntze

Vernacular name: Orekoropro

Family: Asteraceae

Part used: Leaves

Treatment: Fungal infection

Mode of utilization: Three to five numbers of fresh leaves are crush and squeeze juice is apply on the affected part on the face from fungal infection.

Acorus calamus Linn.

Vernacular name: Donia

Family: Araceae

Part used: Root

Treatment: Stomache

Mode of utilization: Fresh roots extracts are taken for stomache.

Cucurma aromatic Salisb.

Vernacular name: Kodziipa

Family: Zingiberaceae

Part used: Rhizome

Treatment: Stomache

Mode of utilization: The fresh rhizome/roots extracts is taken for stomache.

Polytricum juniperinum Hewd.

Vernacular name: Shiipa

Family: Polytricaceae

Part used: Whole plant

Treatment: Cuts and Nose bleeding

Mode of utilization: The whole plant is crush or grounded and applies on the cuts and wounds for blood clotting and nose bleeding.

Bidens pilosa Linn.

Vernacular name: Shanghapiti-e

Family: Asteraceae

Part used: Leaves

Treatment: Cold and fever, Headache and Blood pressure

Mode of utilization: One or two handful of fresh leaves is boiled in water and the mixer is taken orally for cold, flu, fever, headache and blood pressure.

Centella asiatica Linn.

Vernacular name: Korivii

Family: Umbelliflorae

Part used: Whole plant

Treatment: Gastritis, Ulcer and Blood pressure

Mode of utilization: The whole plant is taken raw or boiled with water and taken for gastritis/acidity, ulcer pain and blood pressure.

Erythrina variegata Linn.

Vernacular name: Letosii

Family: Papilionaceae

Part used: Bark

Treatment: Poison

Mode of utilization: A handful of the fresh peelings of the bark, the endodermis layer is crush with water and the decoction is use as an antidote.

Acacia pruinescens Kurz.

Vernacular name: Motusii

Family: Mimosaceae

Part used: Bark

Treatment: Fish poisoning

Mode of utilization: The fresh peelings of the bark are grounded along with water and used for stupefying fish in the streams or river for fishing.

Elsholtzia ciliate Thunb.

Vernacular name: Shipriikholo

Family: Lamiaceae

Part used: Leaves

Treatment: Gas formation

Mode of utilization: A handful of fresh leaves extract is taken for stomached due to gas formation and quick relief from stomach upset.

Rhus semialata Linn.

Vernacular name: Omoshii

Family: Anacardiaceae

Part used: Fruits

Treatment: Dysentery and Diarrhoea

Mode of utilization: One or two handful of fresh or dried ripens fruits are boiled with water and the decoction is taken for treating dysentery and diarrhea. The decoction is also good for stomach upset and gas formation.

Clerodendron colebrookianum Walp.

Vernacular name: Pijivii

Family: Verbanaceae

Part used: Leaves

Treatment: Blood pressure and Abdominal pain

Mode of utilization: A bundle of leaves consisting of 15 to 20 numbers are boiled with water as vegetables and taken for blood pressure and abdominal problems.

Gynura bicolor (Roxb. & Willd) DC.

Vernacular name: Tabovii

Family: Asteraceae

Part used: Leaves and young stems

Treatment: Ulcer, Chronic acidity

Mode of utilization: One or two handful of leaves along with the young stems is boiled with or without rice and is taken for treating gastritis/chronic acidity and blood pressure. The crush of the fresh leaves is squeeze and the juice is mixed with water and taken fresh for ulcer and abdominal cleansing.

Spilanthus paniculata Wall ex DC.

Vernacular name: Cheviivii

Family: Asteraceae

Part used: Whole plant

Treatment: Abdominal pain and Expulsion of worms

Mode of utilization: A handful bundle of whole plant is boiled with water and taken for treating stomached and abdominal problem. It is taken for expulsion of worms from the stomach.

Houttuynia cordata Thunb.

Vernacular name: Shakama

Family: Saururaceae

Part used: Whole plant

Treatment: Stomache, Gas formation and Expulsion of worms

Mode of utilization: Fresh whole is either taken raw or boiled with water or taken for stomached, gas formation and expulsion of worms from abdomen. The fresh roots are sliced into small pieces and taken as salad for the same purpose of treatment.

Artemisia vulgaris Buch. Linn.

Vernacular name: Shiipriiprini

Family: Asteraceae

Part used: Leaves

Treatment: Dandruff, Cuts and Wounds

Mode of utilization: Depending on the size of the cuts bruised and wounds few or a handful of fresh leaves are crush with a few drops of water or saliva and the juices is squeeze and apply on the affected part. The paste of the leaves is pasted on the wounds and cuts. The leaves crush is also use as shampoo for dandruff.

Artemisia nilgarica (CL.) Camp.

Vernacular name: Shupriipriso

Family: Asteraceae

Part used: Leaves

Treatment: Dandruff, Cuts and Wounds

Mode of utilization: Depending on the size of the cuts bruised and wounds few or a handful of fresh leaves are crush with a few drops of water or saliva and the juice is squeezed and applies on the affected part. The paste of the leaves is pasted on the wounds and cuts. The leaves crush is also use as shampoo for dandruff.

Eupatorium adenophorum Spreng

Vernacular name: Japanpro

Family: Asteraceae

Part used: Leaves

Treatment: Acidity, Cuts and Wounds

Mode of utilization: A handful of fresh leaves are crush with a few drops of water or saliva and the juice is squeezed and applies on the affected part. The paste of the leaves is pasted on the wounds and cuts. The young tender shoots are taken raw for chronic acidity for quick relief.

Eleutherococcus cissifolius Griff. ex C. B. Clarke

Vernacular name: Kosa Motsii

Family: Araliaceae Juss.

Part used: Leaves

Treatment: Stomache upset

Mode of utilization: One or two handful bundles of fresh leaves are boiled and taken for stomach disorder.

Berchemia floribunda Wall.

Vernacular name: Tovuni Rei

Family: Rhamnaceae

Part used: Whole plant

Treatment: Dandruff

Mode of utilization: The whole is crush with water and the extract is use as shampoo for washing hairs and dandruff.

Xanthosoma sagittifolium (Linn.) Schott

Vernacular name: Birovii

Family: Araceae

Part used: Stem

Treatment: Bees sting and Insects bites

Mode of utilization: Freshly cut stems juice is rubbed against on the skin to prevent swollen and suppress the pain from sting of bee wasps and insects.

Elsholtzia blanda Bentham

Vernacular name: Shiipriikholo

Family: Lamiaceae

Part used: Leaves

Treatment: Hypertension, Headache and Blistered lips

Mode of utilization: One or two handful of bundles of fresh leaves is boiled with water and the decoction is taken for treating hypertension and headache. Three to five leaves are warm/

heated gently and dabbed against the affected part of the sore/blistered lips.

Zanthophyllum armatum DC.

Vernacular name: Momo mochu

Family: Rutaceae

Part used: Fruits

Treatment: Gas formation and Stomache

Mode of utilization: The whole fruit is crush and apply on the abdomen or stomach or three to five seeds fleshy covers are chewed and taken for stomached, stomach disorder and expulsion of gas from the stomach.

Butea buteiformis (Voigt) Grierson & D. G. Long

Vernacular name: Chiikhovii

Family: Fabaceae

Part used: Seed

Treatment: Expulsion of worms

Mode of utilization: The seed pop containing a single seed is roasted and taken for expulsion of tape worms and worm from the stomach and intestine.

Bombax ceiba Linn.

Vernacular name: Pikriisii

Family: Malvaceae (Bombacaceae)

Part use: Bark

Treatment: Snake bites

Mode of utilization: The fresh peeling of the bark is crush in the form a paste and stuck on the affected portion of the snake bites to prevent swellings and quick healing. It is also use on the cattle for the same purposes.

Viburnum foetidum Wallich.

Vernacular name: Shiikriisii

Family: Adoxaceae

Part used: Leaves

Treatment: Ear pain

Mode of utilization: A handful of fresh leaves are boiled with little water and the concentrated mixture/ decoction or few fresh leaves are crush and the squeeze juice is used as an ear drops.

Brugmansia sauveolens (Humb. & Bonpl. ex Willd.) Bercht. & J. Presl.

Vernacular name: Mikrii Tabopro

Family: Solanaceae

Part used: Leaves and barks

Treatment: Sprain, Muscle pain and Snake bites

Mode of utilization: Several fresh leaves are warm/heat up gently till the colour changes to dark green and dabbed/ rubbed on the affected part for reducing the pain and swelling for sprain, tearing of muscles and ligaments and dislocation of the joints. Fresh peelings of the bark are crush into a paste and bandage with a soft cloth on the affected portion for snake bites.

Drymeria cordata (Linn.) Willd. ex Schultes

Vernacular name: Pfiipfiipro

Family: Caryophyllaceae

Part used: Whole plant

Treatment: Sinitis and Sprain of body parts

Mode of utilization: The plant is crush into a paste and stick on the affected part of the sprain on the body. For sinusitis, a handful of plant is gently warm or heat up and rolled with a soft cloth/handkerchief and sniff through the nostril for quick relief.

Thalictrum foliosum D. C.

Vernacular name: Okhrvii

Family: Ranunculaceae

Part used: Whole plant

Treatment: Diarrhoea and Dysentery

Mode of utilization: The whole plant is boiled or taken raw for chronic acidity, diarrhea and dysentery,

Oroxylon indicum (Linn.) Benth. ex Kurz.

Vernacular name: Kakidzihe

Family: Bignonaceae

Part used: Bark and Root

Treatment: Cancer, Diarrhoea, Diabetes and Hypertension

Mode of utilization: Decoction of the freshly peelings of the bark and outer covering of the root is taken for treating cancer, diabetes and hypertension. Dried peels of the bark grounded and mixed with water and drink for diabetes.

Achyranthes aspera Hook. F. /Justicia adhota Linn.

Vernacular name: Tohuopa

Family: Acanthaceae

Part used: Leaves and Roots

Treatment: Malarial fever, Abdominal pain, Indigestion and Urine disorder

Mode of utilization: Decoction of fresh leaves, seeds and fruits is taken for acidity, abdominal pain, indigestion, appetizers and preventing reoccurring of malarial fever and promote urine flow.

Hibiscus subdariffa Linn.

Vernacular name: Okhrivii

Family: Malvaceae

Part used: Leaves and Calyx

Treatment: Tonic and Skin allergy

Mode of utilization: Fresh as well as dried leaves and sepals is boiled and taken as a tonic to improve blood count in the body. Fresh sepals are crush and apply on the skin for allergy.

Crassocephalum crepidiodes Benth.

Vernacular name: Tabo Khephapha Pro

Family: Asteraceae

Part used: Leaves and inflorescence

Treatment: Cuts and Wounds

Mode of utilization: Fresh leaves and inflorescence are crushed into a paste and apply on the cuts and wounds to stop blood oozing.

Physalis perviana Linn.

Vernacular name: Tsiibobopro

Family: Solanaceae

Part used: Leaves and Fruit

Treatment: Dysentery, Diarrhoea, Jaundice and Tonic

Mode of utilization: The leaves are taken raw or boiled and the decoction is taken for diarrhea and dysentery. Leaves are crushed along with water in proportion with amount of leaves and taken for jaundice. The fruit is taken as a tonic and purifier of blood.

Solanum torvum Sw.

Vernacular name: Modoro Shiikhokha

Family: Solanaceae

Part used: Fruits

Treatment: Blood pressure, Headache and fever

Mode of utilization: Both fresh and dried ripe and unripe fruits is crushed and boiled with water and taken for blood pressure, headache, cold and fever.

Solanum nigrum Linn.

Vernacular name: Ohomira Kosopro

Family: Solanaceae

Part used: Fruits and leaves

Treatment: Malarial fever and Jaundice

Mode of utilization: The decoction of fresh leaves or with fruits is taken for jaundice and malarial fever.

Solanum khasianum C. B. Clarke

Vernacular name: Sokheriibvii

Family: Solanaceae

Part used: Seedpod

Treatment: Toothache

Mode of utilization: The dried seedpod as well as the placenta of the seed are rolled up in a paper and fumigate the affected teeth for toothache.

Viscum articulatum Burm.

Vernacular name: Otsiibu

Family: Viscaceae

Part used: Root

Treatment: Bone fracture and Sprained

Mode of utilization: The peelings of the epidermal layer of the root are crushed into a paste and apply to the affected part of the body from sprain and bone fracture.

Zingiber officinale Rosc.

Vernacular name: Ravo

Family: Zingiberaceae

Part use: Rhizome

Treatment: Cough, Cold and fever, Throat and Witch spelled

Mode of utilization: A thumb size of the rhizome is crush and boils with water and the decoction is drunk for treating cold and cough. The decoction is used for clearing the throat so as to produce a clear voice for singing. Also the rhizome is used for protection against the spell of evils by the witch or from the evil spirit.

Momordica charantia Linn.

Vernacular name: Khenavii

Family: Cucurbitaceae

Part used: Leaves

Treatment: Fever, Headache, Blood pressure and Cold

Mode of utilization: A bundle of fresh leaves or preferably a pinch or two of dry leaves is boiled and the whole preparation is taken to treat any type of fever, headache and cold.

Cucurbita maxima Linn.

Vernacular name: Omo

Family: Cucurbitaceae

Part used: Seed

Treatment: Expulsion of Worms

Mode of utilization: The roasted seeds numbering 10-15 are taken for the expulsion of worms from the stomach of the young ones.

Passiflora edulis Lindl.

Vernacular name: Kheboshii

Family: Passifloraceae

Part used: Fruit and leaves

Treatment: Dysentery and Diarrhoea

Mode of utilization: A handful or two bunches of fresh leaves are boiled with water and the decoction as well as the leaves is taken for treating dysentery, diarrhea and stomach upset. The fruit is also taken alone or in the form of chutney for the same treatment.

Colocassia esculenta (Linn.) Schott

Vernacular name: Obi

Family: Araceae

Part used: Rhizome/Tuber

Treatment: Labour pain

Mode of utilization: The rhizome/tubers are cooked in significant amount and given to the pregnant mother during labour pain for easy and quick delivery.

Musa paradisiaca Linn.

Vernacular name: Ovii

Family: Musaceae

Part used: Fruit

Treatment: Diarrhoea

Mode of utilization: One to three ripe bananas is taken at a time to subdued or stopped loose motion/ diarrhoea. Unripe banana is roasted and taken for serious condition for the same ailment.

Musa velutina Wendl. & Drude

Vernacular name: Ovii Viichu

Family: Musaceae

Part used: Leaves

Treatment: Sore Lips

Mode of utilization: One or two fresh leaves are taken and warm up gently near the fire and dabbed on the affected part of the sore lips before going to bed for three to four times daily.

Psidium guajava (Linn.) Kuntze

Vernacular name: Pondal

Family: Myrtaceae

Part used: Fruit and young tender Leaves

Treatment: Dysentery and Diarrhoea

Mode of utilization: One or two handful bunches of young tender leaves are boiled and the decoction is taken for treating diarrhoea and serious dysentery. Also the young leaves are also taken raw for the same treatment. The fruit is also taken raw for subduing the effect of loose motion or diarrhoea.

Glochidion oblatum J. D. Hooker

Vernacular name: Lokhro todū

Family: Euphorbiaceae

Part used: Stem and Root

Treatment: Dysentery

Mode of utilization: Fresh stem and roots extracts are taken for dysentery.

Embilica officinalis Gaertn.

Vernacular name: Shiihoshii

Family: Euphorbiaceae

Part used: Fruit

Treatment: Cold and Cough

Mode of utilization: 3-5 numbers of fruits are eaten after every meal along with warm water for treating cold and cough.

Mentha arvensis Linn.

Vernacular name: Opfokoso pro

Family: Lamiaceae

Part used: Young shoot and Leaves

Treatment: Stomache, Stomach upset and Constipation

Mode of utilization: A bunch of young shoots and the leaves are either taken raw or boiled with water and the whole content is consumed for stomache, stomach upset and constipation.

Chrysanthemum morifolium (L) Desmond

Vernacular name: Shiipriipa

Family: Asteraceae

Part used: Leaves

Treatment: Cough, diarrhoea and dysentery

Mode of utilization: Five to ten young leaves are raw chewed and taken for cough, diarrhoea and dysentery.

Juglans regia Linn.

Vernacular name: Okhoshii

Family: Juglandaceae

Part used: Bark

Treatment: Tooth plague and bleeding gums

Mode of utilization: The peelings of the bark especially the inner layer are used for tooth plague as well as for gum bleeding by brushing against the teeth gently.

Prunus persica (Linn.) Batsch.

Vernacular name: Mikrihoshii

Family: Rosaceae

Part used: Leaves

Treatment: Ring worm

Mode of utilization: Five to ten fresh leaves are crushed by hands and the juice is rubbed on the affected portion for treating ring worm.

III. RESULTS AND DISCUSSION

The present study is the first of its kind with reference to Folk medicinal plants of the Mao Naga in northeast, India, which has reveals the use of diverse plants consisting of 39 families, 57 genera and 61 species for treating various ailments and diseases in a traditional method. It is observed that many of the plant species that are used by them have a broad spectrum for treating for various diseases with the same plant. The thirty common diseases that are prevailing amongst the community are treated with 61 species which are available in their surroundings. The most common part of the plant utilized by the indigenous people is leaves with 32 species recorded for various ailments and treatments. Flower and inflorescence are the least part of the plant with only two species viz. *Crassocephalum crepidiodes* and *Hibiscus subdariffa* used for treating cuts and wounds and tonic as an appetizer in the present study. The whole plant, stem, bark, seeds and fruits are moderately used by the Mao's as medicinal purposes. The most common plant used for fever and headache is the leaves of *Mormodica charantia*. The indigenous people considered this plant as a panacea and heavily depended on the plant for all purposes for treating the sick persons. The fruit of *Rhus semialata* is considered a potent for treating diarrhoea, dysentery and stomach related problems and the dry fruit is preserved and kept throughout the year in every home. The fruit and the seeds of *Solanum torvum* are dried and preserved and kept at home throughout the year for any eventuality among the family for treating several diseases such as cold, fever, headache, stomache and blood pressure. These are some of the important medicinal plants for the indigenous people as a home remedy since time immemorial. The leaves of *Maesa indica* used by the Mao Naga from northeast India, as an agent for clearing the throat/vocal cord for producing a melodious sound is unique and interesting. The most dominant family of the present study is Asteraceae with 10 species which is in conformity with study of Saklani & Jain (1994) in which they have reported the same family as the most dominant family of medicinal plants across the North Eastern States of India. The second most important family with a record of 5 species as medicinal plants during the present survey is Solanaceae. Despite of the richness of plant

wealth in the area the numbers are dwindling every passing day due to deforestation for agricultural practices and various developmental activities. Therefore there is a dearth need for conservation of these precious medicinal plants for further scientific study to harvest its constituents to cater the needs of vibrant healthcare products in future.

IV. CONCLUSION

The Mao Nagas are settled agriculturalist and heavily depended upon the cultivated and wild plants for their survival as they live at the proximity of the hill forest. They practiced organic farming since time immemorial and consumed the products which are free from hazardous elements that keep them healthy. Thorough scientific study is required so as to tap the plant rich resources with special reference to the Mao folk medicinal plants, which, there is a probability of discovering new compounds for developing into a modern medicine. Despite of the richness of plant wealth in the area the numbers are dwindling every passing day due to deforestation for agricultural practices and various developmental activities. Therefore there is an urgent need for conservation and management of these precious medicinal plants for sustainable use and scientific study so as to harvest its constituents to cater the needs of vibrant healthcare products in future.

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