

Ethnomedicinal plants used by the Mara tribe in Saiha district of Mizoram, India

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Abstract: The study of ethnomedicinal plants was carried out with the Mara tribe in the Saiha district of Mizoram. In the present study 38 plant species belonging to 28 families were involved. The ethnomedicinal plants were used by the traditional users to treat different diseases. The importance of documenting ethnomedicinal plants in the region is important because of rapid loss of biodiversity due to anthropogenic activities and will help in conservation of the valuable used species.

Keywords: Mara, Tribe, Ethnomedicinal plants, Saiha, Mizoram.

I. INTRODUCTION

North East India comprises the state of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura and Sikkim fall under Indo Burma region which is one of biodiversity hotspot of the world. The state of Mizoram is a part of biodiversity hotspot with primary and secondary forest comprising tropical and subtropical forest types and situated in the extreme end of the Himalayan ranges in the North Eastern part of India it is located between 21° 58' N and 24° 35' N latitude and 92° 16' E and 93° 29' E longitudes and inhabited by 14 major tribes and 37 sub tribes [1]. The studied district Saiha having international boundaries with Myanmar in the east and south, on the west Lawngtlai district and on the north Lunglei district. The district covers an area of 2,258 sq.km, have predominantly mountaineous terrain; mountain ranges run in north to south direction, the soil in general young, immature, moderate to acidic. The district enjoys a pleasant, moderate climate warm in summer and cold in winter, under the influence of south west and north east monsoon with an average rainfall of 2500 mm per annum, the temperature varies from 11°C to 35°C, forest cover in the region is tropical wet evergreen type and the region is rich in biodiversity with endemic flora and fauna. Mara tribe are the native inhabitants in the Mara autonomous district council, Saiha district, came from the chin hills of Myanmar and settled in villages, speak Mara language related to Tibeto burman family live in hills and valleys of Kolodyne river [2], [3], [4]. Agriculture is the main occupation, practice shifting cultivation, also do hunting, gathering food, medicine, construction material from natural forests and rich ethnobioculturally on the use of biodiversity and folk knowledge. In recent years the interest in traditional medicine has increase significantly in different countries, India is one diverse country in the world rich in traditional system of herbal medicine to sustain health care in the life of tribal people [5], 2416 plants of ethno-medicinal purpose has been recorded in India among which 1963 plants are used by different tribal societies of North east India [6].

In the present context of study information on various traditional medicines used by the natives of Mizoram is available [7], [8], [9], [10], medico-botanical exploration of districts of Kolasib, Aizawl and Champhai had also been made [11], but there is no proper documentation on plants used by Mara tribe in Saiha district due to remoteness of the region, so the study aimed to enumerate, identify, different species in the region and to harness the traditional ethnomedicinal knowledge, used by the tribe in the treatment of different diseases. The study proposes in increasing the awareness among the local and to boost the importance of different ethnomedicinal species in the remote region for health care.

II. MATERIALS AND METHODS

Intensive field visits were conducted during the period from January 2013 - December 2014 covering different Mara villages in the region. During the visits to the village transect walks in natural reserve, secondary forest in around the

region covered to collect ethnomedicinal species. The local tribes have been taken to the collection site to locate the plant for the correct identification corresponding with the vernacular name and binomial nomenclature. A structured feedback form was used to collect information from the resource persons using standard method [12]. Interviews, discussion with knowledgeable resource villagers like local herbal practioners, elderly men, women about the ethnomedicinal information utilizing questionnaire on the following aspects of the species local name, parts used, form of use and method of administration for different diseases. The plant sample collected processed following the method of plant collection and herbarium technique [13]. The specimen collected identified with the help of relevant floras and standard literatures [14], [15], [16], [17].

III. RESULTS AND DISCUSSION

The study reveals the diversity of ethnomedicinal plants used by Mara tribe a total of 38 species belonging to 28 families identified. The status on the habit of the ethnomedicinal species in the studied region show the dominant species herbs, followed by trees, shrubs and climbers. The popularity of herbs as dominant species in traditional medicine has been linked to their higher likelihood of containing pharmacologically active compound compared to woody plant form reported in other studies [18], [19]. The study on the parts used by the Mara tribe of the different species to cure different ailments the most widely used plant part leaves followed by root, bark whole plant, fruit, stem, rhizome and tuber each, shoot, bulb, corm, flower and seed. Leaves dominant plant part in traditional medicine and mostly used part for preparation of different ethno medicines might be due to easy availability, containing high amount of chemicals, easily extracted and use of leaves does not cause damaging effect on the plant life cycle as compared with other parts like root, flower [20], [21]. The information on the mode of preparation of different species by the ethnic group to cure different diseases show the most common form decoction followed by raw, juice, infusion, paste, boiled, inhalation, powdered and most of the medicines are administered orally. Few plants in the studied site have multiple uses and many diseases are treated *Carica papaya*, *Oroxylum indicum*, *Phyllanthus urinaria*, *Psidium guajava* and *Zingiber officinale*. The study reflects that seven ethno medicinal plants used by different tribes of North east India listed in the present work are *Centella asiatica* [6], [22], [23], *Curcuma longa* [6], [24], *Musa paradisiaca* [23], [25], *Oroxylum indicum* [26], [27], *Paedaria foetida* [22], [23], *Plantago major* [6], *Zingiber officinale* [22], [23]. *Curcuma caesia* and *Oroxylum indicum* are reported for the first time used by the Mara tribe and regarded as threatened and high valued medicinal plants in Northeast India [28].

IV. CONCLUSION

The tribe has a rich traditional knowledge and its affinity to nature of their dependence to the use of plant resources available around them for their health care need in the remote region since people are not access to modern medicine. The study reveals that the ethnomedicinal knowledge is confined to few people only, so it is feared that with the passing of time important information may be lost, so documentation of this knowledge is very much helpful in understanding the utilization of the resource for conservation at local level for the development of Indian system of medicine, pharmaceutical industry and scientific investigation for the welfare of mankind.

TABLE 1: ETHNOMEDICINAL PLANTS USED BY MARATRIIBE WITH FAMILY, LOCAL NAME, HABIT, PART(S) USED, MODE OF PREPARATION AND DISEASE(S)

Sl.no.	Botanical Name	Family	Local name	Habit	Part(s) used	Mode of Preparation	Disease(s)
1	<i>Allium cepa</i> L.	Amaryllidaceae	Purun sen	Herb	Bulb	Raw	Stomach problem
2	<i>Alstonia scholaris</i> (L.) R.Br.	Apocyanaceae	Thumriat	Tree	Bark	Decoction	Fever
3	<i>Amomum dealbatum</i> Roxb.	Zingiberaceae	Aitebawp	Herb	Tuber	Paste	Bee bite
4	<i>Ananas comosus</i> (L.) Merr.	Bromeliaceae	Lakhuhih	Herb	Leaves, Whole plant	Decoction	Post delivery problem. Diabetes.
5	<i>Blumea lanceolaria</i> (Roxb.) Druce	Compositae	Buar	Herb	Leaves	Juice	Stomach problem and Asthma,
6	<i>Carica papaya</i> L.	Caricaceae	Thingbanhla	Tree	Seed, Leaves, Fruit	Decoction	Diabetes, Typhoid and Dysentery
7	<i>Centella asiatica</i> (L.) Urb.	Apiaceae	Lambak	Herb	Whole plant	Decoction	Fever and Diabetes
8	<i>Clerodendrum grandulosum</i> Lindl.	Verbenaceae	Phuihnam	Shrub	Leaves	Decoction, Crushed	High blood pressure, Inhaled for convulsion.
9	<i>Clerodendrum</i>	Verbenaceae	Phuihnamchia	Shrub	Leaves	Juice	Skin diseases and Cleaning hairs

	<i>infortunatum</i> L.						
10	<i>Colocasia esculenta</i> (L.) Schott	Araceae	Bal	Herb	Corm	Juice	Cuts and Wounds, Bee bite
11	<i>Cheilocostus speciosus</i> (J.Koenig) C.D. Specht	Costaceae	Sumbul	Herb	Tuber	Raw	Kidney stones
12	<i>Molineria capitulata</i> (Lour.) Herb.	Hypoxidaceae	Phaiphak	Herb	Root	Juice	Stomach problems
13	<i>Curcuma caesia</i> Roxb.	Zingiberaceae	Ailaidum	Herb	Rhizome	Infusion	Stomach problems
14	<i>Curcuma longa</i> L.	Zingiberaceae	Aieng	Herb	Rhizome	Decoction	Diabetes and Fever
15	<i>Entada phasealoides</i> (L.) Merr.	Leguminosae	Kawihruai	Climber	Seed	Paste	Cleaning hair
16	<i>Eryngium foetidum</i> L.	Apiaceae	Khamphe	Herb	Leaves	Juice	Convulsions and Stomach problems
17	<i>Erythrina stricta</i> Roxb.	Leguminosae	Fartuah	Tree	Bark	Juice	Cuts and Wounds
18	<i>Glinus oppositifolius</i> (L.) Aug.DC.	Molluginaceae	Bakhate	Herb	Whole plant	Juice	Rheumatic pain
19	<i>Ipomoea botatus</i> (L.) Lam.	Convolvulaceae	Kawlbahra	Climber	Leaves	Juice	Food allergy
20	<i>Lobelia angulata</i> G.Frost.	Campanulaceae	Choakthi	Herb	Leaves and Fruits	Juice	Stomach problems and Tonsillitis
21	<i>Mangifera indica</i> L.	Anacardiaceae	Hai	Tree	Leaves	Decoction	Urinary problems
22	<i>Mikania micrantha</i> Kunth	Compositae	Japan hlo	Climber	Leaves	Juice	Cuts and Wounds
23	<i>Mimosa pudica</i> L.	Leguminosae	Ramminzak	Herb	Whole plant	Decoction	Urinary problems
24	<i>Musa paradisiaca</i> L.	Musaceae	Balha	Herb	Fruit	Raw	Dysentery and Diarrhoea
25	<i>Oroxylum indicum</i> (L.) Kurz	Bignoniaceae	Archangkawm	Tree	Pods, Leaves, Root bark	Roasted Decoction	Goitre, Fever, Diarrhoea, Dysentery, Cough, asthma, Headache
26	<i>Osbeckia chinensis</i> L.	Melastomataceae	Builukham	Shrub	Root	Decoction	Diarrhoea and Dysentery
27	<i>Paederia foetida</i> L.	Rubiaceae	Vawihuikhruai	Climber	Leaves, Stem, Leaves	Juice, Chewing	Diarrhoea and Dysentery, Toothache
28	<i>Parkia timoriana</i> (DC.) Merr.	Leguminosae	Zawngtah	Tree	Root	Decoction	Fever
29	<i>Piper betle</i> L.	Piperaceae	Pannuang	Climber	Leaves	Raw	Fever
30	<i>Plantago major</i> L.	Plantaginaceae	Kelbaan	Herb	Whole plant	Decoction	Urinary problems and Fever
31	<i>Phyllanthus urinaria</i> L.	Phyllanthaceae	Sunhlu	Herb	Whole plant	Decoction	Stomach problems, Jaundice and Diabetes
32	<i>Psidium guajava</i> L.	Myrtaceae	Kawiam	Tree	Leaves	Decoction, Raw	Diabetes, Stomach problems and Dysentery
33	<i>Sida acuta</i> Burm.f.	Malvaceae	Khingkhiah	Shrub	Root	Decoction	Nervous and Urinary problems
34	<i>Smilax perfoliata</i> Lour.	Smilacaceae	Pellap	Climber	Root	Paste	Rheumatic pain
35	<i>Spilanthes acmella</i> (L.) L.	Compositae	Ankasa	Herb	Leaves and Fruit	Decoction	Expel worms.
36	<i>Thysanolaena latifolia</i> (Roxb.ex Hornem.) Honda	Poaceae	Hmunphiah	Herb	Shoot	Juice	Eye infection
37	<i>Trevesia palmata</i> (Roxb. ex Lindl.) Vis.	Araliaceae	Kawhtebel	Tree	Flower bud	Decoction	Urinary problems
38	<i>Zingiber officinale</i> Roscoe	Zingiberaceae	Aithing	Herb	Rhizome	Paste	Fever, Cough and Cold

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