

Documentation of Medicinal Plants based on Traditional Practices in the Indo-Burma Hotspots Region of Mizoram, North East India

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Abstract

Present research is based on the documentation of the medicinal plants used in indigenous systems in Indo-Burma Hotspots Region of Mizoram, North East India. A total of 207 ethno-medicinal plants, 36 ethno-veterinary plants and 29 other usage plants were recorded from different regions of Mizoram. A detailed list of recorded plants with their effective usage and mode of administration has been provided.

Keywords documentation, *ex-situ* conservation, ethno-medicinal, ethno-veterinary, *in-situ* conservation

Introduction

Plant diversity in North East India

Northeast India being at the confluence of the Indo-Malayan and Indo-Chinese biogeographic regions form a meeting place of the Himalayan Mountains

and Peninsular India that is recognized as one of the popular hotspots among the worlds' 34 biodiversity hotspots [1]. The region constitutes about 8% of the country, but has 25% of the total forest area supporting about 30% of the total growing stock of the forest of the country. Nearly, 64% of the total geographical area of Northeast India is having forest cover, of which 35% of the forest cover is under the control of the Government and rest 65% is under the control of District Councils, Village Communities and Private ownership. The region accounts for approximately 7500 species of angiosperms. Out of 315 families of angiosperms in India, more than 200 families are represented in Northeast India, and the region accounts for nearly 50% of the total number of plant species in India as a whole. It is interesting to note that one-third of the flora of Northeast India is endemic to this region [2]. The forest cover in Northeast India is shown in Table-1.

Table 1. Statistics of forest cover in North East India

State	Area	Forest Cover (2013 assessment)				Percent of Geog. Area	Change as compared to 2013 assessment	Scrub
Arunachal Pradesh	83,743	20,804	31,301	15,143	67,248	80.30	-73	264
Asam	78,438	1,4441	11,268	14,914	27,623	35.22	-48	384
Manipur	22,327	727	5,925	10,342	16,994	76.11	4	1184
Meghalaya	22,429	449	9,584	7,184	17,217	76.76	-71	348
Mizoram	21,081	138	5,584	7,184	17,217	76.76	-306	0
Nagaland	16,570	1,295	4,695	6,976	12,966	78.21	-78	622
Sikkim	7,096	500	4,609	697	3,357	47.31	-1	311
Tripura	10,486	113	4,609	3,089	7,811	74.49	-55	55
Total	2,62,170	25,468	75,400	71,096	171,964	65.859	-628	3166

Source: India State of Forest Reports, 2015

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Scenario of Mizoram

Mizoram lies in the extended Himalayan southern tip of North East India bordered by Myanmar in the East and South, Bangladesh in the West, and Cachar District of Assam in the North. It is located between latitudes 21°15' - 24°35' N and longitudes 92°15' - 93°29' E, and the total geographical area is 21,081 sq km. The terrain is mostly undulated mountainous blue-green variegated topography with the highest peak at 2,157 m in the Blue Mountain and lowest at 20 MASL in Tlabung and the average height is about 1000 MASL. The Tropic of Cancer passes through Aizawl city at 23.30' N latitude. The climatic condition ranges from moist tropical to the mid-moist sub-tropical and the higher temperate in the eastern fringes. Temperature varies from 10°C to 24°C during winter and 21°C to 30°C during summer with heavy rainfall from 2,000 mm to 3500 mm per annum. Administratively, the State is divided into eight districts, viz; Aizawl, Lunglei, Champhai, Kolasib, Mamit, Serchhip, Lawngtlai and Saiha with three autonomous districts in the southern part of Mizoram (Fig.1).



Fig.1 Location map of Mizoram

Demography and health status

Mizos are mongoloid racial stock and speak Mizo language that belongs to the Sino-Tibet-Burman group [3]. According to the Statistical Handbook of Mizoram [4], the population in Census 2011 was 1,097,206 with 52.12% rural population and 47.88% urban population [5]. Tribal population is highest (94.43%) and the literacy rate being 91.33%

is second highest in the country; and the exponential growth rate is 22.78% [4]. The major tribal groups are Mizo (Duhlian), Hmar, Paite, Pawi, Lai, Mara, Chakma, Bru, Bawm and Tlanglau. Status of health facility available in the State is given below (Table-2).

Table 2. Statistics of medical facilities/infrastructure available in Mizoram.

Districts	Population (HMIS) April 2015	No of Health Institutions						Inhabitat villages
		DH	SDH	CHC	PHC	SC	SC Clinics	
Aizawl East	253356	-	-	2	6	54	32	
Aizawl West	172869	1	1	-	5	37	35	
Champhai	140092	1	-	2	11	59	21	
Kolasib	85755	1	-	1	5	26	8	
Serchhip	65602	1	-	1	6	37	3	
Lawngtlai	135148	1	-	1	9	70	22	
Lunglei	155708	1	1	1	7	33	6	
Mamit	78525	1	-	1	4	24	11	
Saiha	61373	1	-	-	5	27	4	
Total	1148436	8	2	9	57	370	142	704

Sources: National Rural Health Mission: Medical Statistics, 2015. Directorate of Health Services, Mizoram, Aizawl.

Table 2 shows that a little more than half of the population of Mizoram (52%) is covered with the health Sub-Center facilities which, in some cases, remain without health worker; even if there are health workers, there's no medicine in some centers. The rural people, therefore, cannot solely depend on modern medicines but rely on traditional herbal medicines for their primary healthcare. The healthcare scheme recently introduced by the government is helpful for the people below poverty line. The major diseases causing death (in order of merit) in the State are cancer, asthma and bronchitis, heart diseases and heart attack, pneumonia, stomach and duodenum, meningitis, *Diabetes* mellitus, senility, cerebrovascular, jaundice, tuberculosis and typhoid [5].

Socio-economic status

Shifting agriculture is the mainstream agrarian economy in the state. There is no major wood-based industry so far. However, small scale industries under Khadi Village Industry, Agriculture, Forestry and Animal Husbandry have a significant contribution in the State economy. The farmers group forms the largest occupation with low income in the rural economy. The per capita income at the current prices during 2011-2012 was Rs. 54,689.00

[4]. The infrastructural facilities like road communication, hydropower generation and supply of drinking water, underground construction of big gauge railway line from Bairabi to Sairang at the outskirts of Aizawl City will pave the way for future economic development. Recent development of Information Technology, the Multi-Modal Transport System connecting to Swette seaport of Myanmar under National Look East Policy will probably promote the economic scenario in Mizoram and the North East India as a whole. North East India being recognized as the global hotspots area, the medicinal plants wealth of this region could be prosperous when agro.-forestry and/or pharmaceutical based industries flourished.

Forest resources

The recorded forest area in Mizoram is 16,717 km² (79.30%) of its geographical area (21,081 km²) and the actual forest cover is 76.76% as per 2013 assessment [6]. The forest cover statistics from 1995-2013 are as shown below (Table-3). The net gain in 2003, 2005 & 2007 were due to inclusion of assessment of private crop lands and tree cover, respectively. Protected Areas (PA) such as, Dampa Tiger Reserve (500 km²); Murlen National Park (100 km²); Phawngpui National Park (50 km²); Ngengpui Wildlife Sanctuary (110 km²); Khawnglung Wildlife Sanctuary (35 km²); Lengtung Wildlife Sanctuary (60 km²); Thorang Wildlife Sanctuary (50 km²); Tawi Wildlife Sanctuary (35.75 km²) and Pualreng Wildlife Sanctuary (50 km²) constitutes 4.5% of the geographical area. Apart from the PA, the micro centers of Lungkulh forest, Palak sanctuary, Saikhawthlir sanctuary etc. provide an invaluable habitat for medicinal plants.

Forest classification in Mizoram

The classifications of forests in Mizoram are as follows:

A. Champion and Seth, 1968 [7]

1. Tropical wet evergreen forests
2. Tropical semi-evergreen forests
3. Montane sub-tropical pine forests

B. National Remote Sensing Agency, Secunderabad, 1979 [8]

1. Sub-tropical evergreen forests
2. Tropical evergreen forests
3. Tropical moist deciduous forests
4. Bamboo forests
5. Quercus forests
6. Jhum land: I) Current, II) Old, III) Abandoned

C. Forest Survey of India, 1992 [9]

1. Eastern Himalayan wet temperate forests
2. Cachar tropical semi-evergreen forests
3. Assam sub-tropical fine forests
4. Secondary moist bamboo forests
5. Montane sub-tropical forests

D. Indian Institute of Remote Sensing, Dehradun, 2003 [10]

1. Tropical wet evergreen forest
2. Sub-tropical broadleaved hill forest
3. Tropical semi-evergreen forest
4. Temperate evergreen forest
5. Degraded forest
6. Bamboo

E. Indian State of Forest Report, 2011 [11]

1. Tropical wet evergreen forest
2. Tropical semi-evergreen forest
3. Tropical moist deciduous forest
4. Sub-tropical broadleaved hill forest

Materials and methods

Survey of medicinal plants diversity in Mizoram

Survey of taxonomical plants in Mizoram has certain feedback mechanism as evidenced by botanical collections conducted by different researchers [12-16]. However, lack of scientific investigation on botanical medicines affects the rich heritage of ethno-biodiversity of the State. Documentation of local health traditions published by Zoram Upa Pawl [17] (Mizo version) may be considered as a milestone and a secondary source of information in Mizoram. The author of the present paper has conducted extensive ethnobotanical investigations since 1995 to 1998 in the tropical wet evergreen and semi-evergreen forests of Mizoram.

Table 3: Forest cover statistics of Mizoram (in km²)

Year of Assessment	Dense forest	Open forest	Scrub forest	Non forest	Actual forest cover	% forest cover	Net change	
1995	4,281	14,295	1,090	1,435	18,577	88.1	-156	
1997	4,348	14,427	937	1,369	18,775	89.1	199	
1999	3,789	14,552	212	2,531	18,338	86.9	-437	
2001	8,936	8,558	467	1,559	15,935	82.9	-844	
	vdf*	mdf**						
2003	84	7404	10,942	274	2,377	18,430	87.4	936
2005	133	6173	10,942	0	2,397	18,684	88.63	101
2007	134	6173	12,378	1	1,840	19,240	91.27	640
2009	134	6251	12,557	1	1,897	19,117	90.68	-123
2011(f/cover)	138	5900	13,016	0	64	19,054	90.38	-63
2013	138	5858	12,752	0	2023	18,748	88.93	-306

*vdf=very dense forest; **mdf=moderately dense forest

In 2003, Lalramnghinglova [16] has reported a detailed account of ethno-medicinal plants. An extensive review on the uses of ethno-medicinal plants of Indo-Burma hotspots of Mizoram has been done by Rai and Lalramnghinglova [18].

The present research on the documentation of medicinal plants used in indigenous systems in Mizoram was performed during 2013 to 2015. The methodology employed included location of key informants and practitioners of herbal medicines from the holistic communities, such as Mizo, Hmar, Paite, Lai, Mara, Chakma, Bru, Bawm, Tlanglau and Mog. Hmar and Paite dominate the north-eastern part of Mizoram; Mog, Lai and Mara in the south and southeast; Chakma, Bru, Bawm and Tlanglau tribes scattered in the south and western part of Mizoram, and the Mizo tribe dominates the State. Field collection, herbarium techniques and processing of the plants were done following the standard methods of Jain and Rao [19] and Bridson and Forman [20]. The first-hand information was obtained from key informants, medicine men and herbal practitioners of different tribes through personal and group interviews and crossed checked by interrogation with knowledgeable men and women. Key informants were taken to the forests and the detailed accounts of collected plants were recorded and tagged with collection numbers, diseases, symptoms, preparation, uses, doses and administration. Sometimes children were involved in plant collection. Plant materials were taken to the laboratory for necessary processing which includes drying, poisoning and freezing, mounting and labeling, and prepared for identification. Identification of plant specimens was done in the Assam Herbarium, Shillong; Central National Herbarium Howrah, Kolkata; and, the voucher

specimens were deposited in the Herbarium of Mizoram University, Aizawl. The species of *Scenecio scandens*, *Jusminum vilossum*, *Gelsemium elegans*, *Helicia robusta* and *Blumea lanceolaria* were segregated for biotechnological investigations in the laboratory of the Department of Biotechnology, Mizoram University, Aizawl.

Results and Discussion

Many species belonging to *Asteraceae*, *Menispermaceae*, *Apiaceae*, *Lamiaceae*, etc. exhibit open habitats as well as secondary successions. The species like *Lasia spinosa*, *Lasianthus wallichii*, *Anacolossa cressipes*, *Homalomena aromatic*, etc. grow under dense forests; *Bergenia ciliata*, *Trapa natans*, *Pseudodrynaria coronans*, *Rhodendron arboretum*, etc. are habitat-specific or grow under restricted distributions, whereas the species like *Picrasma javanica*, *Dillenia pentagyna*, *Callicarpa arborea* etc. are distributed in different eco-climatic conditions. Herbaceous plants like *Scoparia dulcis*, *Centella asiatica*, *Achyranthus aspera*, *Chromolaena odorata*, *Cassia tora*, *Eupatorium glandulosum* etc. grow near human settlements and in damp places. Some valuable medicinal plants survive in cultivation only, e.g., *Curcumorpha longiflora*, *Kaempferi tarotunda*, *Catharanthus roseus*, *Aloe bardadensis* etc. Majority of individual plants are used as herbal medicines for various purposes (Table 4); certain species are used in combination with others (Table 5); and other plants are used as ethno-veterinary medicine (Table 6). National Medicinal Plants Board has recommended 31 medicinal plants for cultivation and the National Mission on Medicinal Plants prioritized 93 medicinal and aromatic plants for commercial cultivation [21-22] in which a number of tropical and sub-tropical medicinal

plants can grow in Mizoram, *e.g.*, *Aloe vera*, *Stevia rebaudiana*, *Cinnamom zeylanicum*, *Saraca asoca*, *Embllica officinalis*, *Rauwolfia serpentina*, *Garcinia indica* etc

absolutely essential to balance the co-existence of utilization and conservation of medicinal plants.

Threat status of rare and new ethno-medicinal plants

Factors leading to rate of rarity of species are estimated to be $1/\text{yr}^{12}$. The factors effecting rarity are *man-made* activities, such as deforestation, habitat destruction, road construction, fire, commercial exploitation etc. and *stochastic* or *chance events*, such as natural catastrophes (flood, storm, landslides, earthquakes etc.), demographic variation in individual births and deaths, loss of genetic diversity and heterosis [23]. Shifting cultivation is the single largest factor affecting bio-environmental degradation in the Northeast India. De-forestation due to shifting cultivation from 1987-2010 can be sum up as 40,000 ha/year in Mizoram. Excessive collection of timber, fuel-wood, food plants and commercial exploitation of medicinal plants accelerate a great deal of vulnerability to individual species and sub-populations. By nature, forest serves as best biodiversity habitats and best custodians of medicinal plants as they harbor 90% medicinal plants and 10% to non-forest areas.

Protection, utilization and conservation

The *in-situ* conservation of medicinal plants within the protected areas, sanctuaries, parks, field genebanks, nature reserves etc. provide safe custody and protection in nature. Existing National Parks and Sanctuaries alone are not enough to conserve valuable species. Protection of highly valuable conservation sites, endemics, rare and endangered species need to be conserved in small matrix conservation systems on top priority. The *ex-situ* conservation through the establishment of ethnobotanic gardens, homestead gardens, drug farms and their incorporation in the hill farming systems and agro-ecosystems to modern agroforestry technology needs to be promoted. Application of micro-propagation techniques through tissue culture and biotechnological tools with proper hardening technology are required to facilitate large-scale cultivation for commercial production and judicious utilization. Pre-and post-harvesting techniques are

Table 4: List of plants used as traditional ethno-medicine in Mizoram

Sl. No	Scientific name & family	Local name	Habit	Part(s) used	Mode of preparation	Ailments/ diseases	Ecological distribution & location
1.	<i>Abelmoschus moschatus</i> Medic (<i>Malvaceae</i>)	Uichhuhlo, Bawrhaisiab e suak (Lalram)	H	seeds	Powdered seeds mixed with water taken orally.	Headache, carminative & stomachic	Frequent in semi-open areas and jhumlands : Durtlang road
2.	<i>Acalypha indica</i> L. (<i>Euphorbiaceae</i>)	Chhawntan	H	Leaves	Juice of leaves applied externally; paste of leaves applied externally.	Scabies, itches, rash, syphilis, snake-bite & centipede bites.	Scare; secondary forest, Tanhril
3.	<i>Achyranthes aspera</i> L. (<i>Amaranthaceae</i>)	Buchhawl	H	w.p., leaves	Crushed juice taken orally	Dysentery, piles & skin eruptions, wounds, ulcer, soreworms.	Common in waste places, Bethlehem, Aizawl.
4.	<i>Acorus calamus</i> L. (<i>Araceae</i>)	Hnim- rimtui (Lalram)	H	Root	Infusion of root taken orally	Bronchitis, cough, asthma, diarrhea, dysentery, snake-bites.	Rare; waste marshy places near Teirei river.
5.	<i>Actephila excels</i> (Dalz.) Muell. Arg. (<i>Euphorbiaceae</i>)	Moiteleng	Sh	Leave	Juice of bruised leaves applied externally.	Tonsillitis, throat-pain.	Rare; in dense forest, Perhsang.
6	<i>Ageratum conyzoides</i> L. (<i>Asteraceae</i>)	Vailenhlo	H	Leaves, roots	Crushed juice applied externally	Cuts, haemostatics, antilithic.	Very common in waste places throughout Mizoram.
7.	<i>Aginata indica</i> L. (<i>Orobanchaceae</i>)	Sangharvai bel	Eph.	rh	Crushed juice applied externally.	Mumps, inflammatory.	rare; seasonal; dense forest of Dampa, Chhingchhip.
8.	<i>Aegle marmelos</i> (L.) Corr.ex Roxb. (<i>Rutaceae</i>)	Belthei	T	fruit	Seeds eaten; pulp mixed with water taken orally.	Dysentery, scorbutic, cooling, alleya, antigonorrhoea, stomachic.	Introduced; Zawlnuam.
9.	<i>Albizia chinensis</i> (Osb.) Merr. (<i>Mimosaceae</i>)	Vang	T	stb.	Juice applied externally	as lotion for cuts, scabies, skin diseases.	Common throughout Mizoram
10.	<i>Albizia procera</i> (Roxb.) Benth. (<i>Mimosaceae</i>)	Kangteknu	T	Leaves	Poultice applied externally.	Ulcers.	very frequent in dry sandy secondary forests, West Phaileng.
11.	<i>Albizia odoratissima</i> (L.f.) Benth. (<i>Mimosaceae</i>)	Kangtekpa	T	stb.	juice applied externally.	Ulcers, leprosy.	Less frequent; Rawpuichhip
12.	<i>Alpina galanga</i> Willd. (<i>Zingiberaceae</i>)	Aichal	H	rh	Infusion taken orally	Stomachic, febrifuge, diuretic, bronchitis.	Rare; mixed forest of Tlabung.

Table 4: List of plants used as traditional ethno-medicine in Mizoram (continued)

Sl. No	Scientific name & family	Local name	Habit	Part(s) used	Mode of preparation	Ailments/ diseases	Ecological distribution & location
13.	<i>Alstonia scholaris</i> R.Br. (Apocyanaceae)	Thuamriat	T	Stb & rtb	decoction taken internally	Hypertension, stomach ulcer, fever.	Very frequent, scattered; tropical forest, Tlabung.
14.	<i>Amorphophallus poenifolius</i> (Bennst) Nichol. (Araceae)	Telhawng	H	tu./rh.	Powder rhizomes mixed with water taken orally crushed fresh tuber applied externally.	Piles, dysentery, rheumatism.	Frequent in moist shady places; Kolasib, Kawnpui
15	<i>Andrographis paniculata</i> (Burm.f) Wall. Ex. Nees (Acanthaceae)	Hlochavawm	H	w.p.	Decoction taken internally	anti-spasmodic, diarrhoe, fever, dyspepsia, jaundice.	Frequent in waste places and jhumlands Seling
16	<i>Anogeisus acumunata</i> (Roxb.) Wall. (Combretaceae)	Zairum	T	stb	decoction taken internally	Burns, sprains, cuts & wounds, hoemostatics.	Common; Zoo Aizawl
17	<i>Aporusa octandra</i> (Buch.Ham.ex Don) Vick. (Euphorbiaceae)	Chhawntual	T	stb	decoction taken internally	Gout & rheumatism.	Very common in sandy to loam soil in secondary forests; FTS complex, Bethlehem, Saiphai.
18	<i>Arenga saccharifera</i> Labill. (Aracaceae)	Thangtung	Palm	rt. fl. fr.	decoction taken internally fibresting crushed juice	Bronchitis, Stomachic; fiddle strings & trap, fish-poison.	less frequent sparse; on cliff rocks, Lungdai.
19	<i>Anthocephalus chinensis</i> (Lamk.) A. Rich.ex. Walp. (Rubiaceae)	Banphar	T	stb	decoction taken internally	Febrifuge, uterine complaints.	Common scattered; Kawrthah.
20	<i>Artocarpus lakiicha</i> Roxb. (Moraceae)	Theitat	T	stb	Juice of crushed bark applied externally.	Pimples, pustules on face, acne, crack skin, draw, draw out purulent matter.	Frequent; Tawipui
21	<i>Arisaema tortuosum</i> (Wall.) Schott. (Araceae)	Mitthi vaimim	H	tu.	Pounded poultice applied externally	Inflammation, skin eruptions.	Frequent in damp humus soil, Tanhril
22	<i>Artemissia indica</i> Willd. (Asteraceae)	Sai	H	leaves	Crushed juice applied externally, infusion taken orally	Stop bleeding from the nose, haemorrhage, skin diseases; internal bleeding.	Very frequent in semi-open areas; Mualpheng, Sihphir.

Table 4: List of plants used as traditional ethno-medicine in Mizoram (continued)

Sl. No	Scientific name & family	Local name	Habit	Part(s) used	Mode of preparation	Ailments/ diseases	Ecological distribution & location
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23	<i>Averrhoa carambola</i> L. (<i>Rutaceae</i>)	Theiherawt	ST (Cult.)	fr. leaves	Eaten raw decoction taken daily	Bleeding piles, fever ailments	Cultivated in private gardens, Bilkhawthlir.
24	<i>Baccaurea ramniflora</i> Lour. (<i>Euphorbiaceae</i>)	Pangkai	ST	stb	Juice/infusion taken orally	Stomachache, purgative, food allergy.	Common in tropical forests; Ngengpui
25	<i>Bauhinia variegata</i> L. (<i>Caesalpinaceae</i>)	Vaube	ST	stb.	Decoction taken orally	Diarrhea.	Common indry locations; Mamit, Dampui
26.	<i>Bergenia ciliata</i> (Haw.) Sternb. (<i>Saxifragaceae</i>)	Khamdamdawi	H	rt.	Crushed juice applied externally. Decoction taken orally	Boils, diarrhea, dysentery, colic.	Sparse; specific-habitat on rocky crevices, Tawi, Maite
27	<i>Bidens biternata</i> (Lour.) Merr. & Sheriff (<i>Asteraceae</i>)	Vawkpuithal	H	leaves	Juice of leaves applied externally	Swollen glands & as eye-drop.	Forests road side clearance, Zamuang
28	<i>Bischofia javanica</i> Bl.. (<i>Bischofiaceae</i>)	Khuangthli	T	Leaves	Juice of young leaves taken orally. Decoction taken orally	Tonsillitis, cholera.	Frequent in tropical forests; Thingfal
29	<i>Boehmeria malabarica</i> Wedd. (<i>Urticaceae</i>)	Khupnal	sh	st.	Peeled off stem contains juice applied externally	Swellings, pain, sciatica.	Scattered in waste places; Aizawl
30	<i>Bombax ceiba</i> L. (<i>Bombacaceae</i>)	Phunchawng	T	stb.	Bark chewed and juice swallowed internally	Tonsillitis.	Infrequent, Lengpui
31	<i>Buddleja asiatica</i> Lour. (<i>Buddlejaceae</i>)	Serial	sh	Fl	Powdered flower made into paste applied externally	Skin diseases.	Luangmual roadside, Aizawl
32	<i>Butea superb</i> Roxb. (<i>Fabaceae</i>)	Hruichun	C	rt	Juice of root & in combination with <i>Sonchus arvensis</i> , <i>Vitis</i> bifurcate applied externally	Snake-bites, verruose.	Common on roadsides; Tlabung – Marpara.

Table 4: List of plants used as traditional ethno-medicine in Mizoram (continued)

Sl. No	Scientific name & family	Local name	Habit	Part(s) used	Mode of preparation	Ailments/ diseases	Ecological distribution & location
33	<i>Byttneria aspera</i> Colebr. (Sterculiaceae)	Zuangnuang	C	sap	sap of cut-stem retained in the mouth	Stomatitis. (children)	Very common in forests throughout Mizoram
34	<i>Cassia alata</i> L. (Caesalpiniaceae)	Tuihlo	ST	leaves	Crushed juice applied externally	Ringworm.	Sparse; Chamdur, S. Kawnpui
35	<i>Calotropis gigantea</i> R.Br. (Asclepiadaceae)	Vung-damdawi (Lalram)	sh.	leaves	Crushed juice applied externally	Swellings, pain.	Rare, introduced; Fangfar, New Kaisi
36	<i>Camelli kissi</i>	Lallai	ST	Bark	Decoction taken orally	Kidney trouble, sciatica.	very rare, temperate forests, Phawngpui, Kawnpui
37	<i>Caryota urens</i> L. (Arecaceae)	Tum	tall palm	Nut	Paste of crushed nuts applied externally	Headache, hemicranias.	Rare; evergreen forests, Dampui.
38	<i>Cassia fistula</i> Ham. (Caesalpiniaceae)	Ngaingaw (Lalram)	T	stb.	Decoction mixed with yolk taken orally	Hepatomegaly, hepatitis.	Cultivated as ornamental plant
39	<i>Cassia hirsuta</i> L. (Caesalpiniaceae)	Rulchuk damdawi (Lalram)	sh	rt	Infusion of root taken internally	Snake-bite.	Rare; Lalmom – II village
40	<i>Cassia tora</i> L. (Caesalpiniaceae)	Kelbe-on	Sh	Leaves & seed	Decoction applied externally	Cutaneous diseases, ringworms, itches.	Sparse in waste places, roadsides; kolasib
41	<i>Chenopodium ambrosioides</i> (Chenopodiaceae)	Buarchhimitir (Rz.)	H	Leaves	Bruished leaf applied externally; infusion of leaves taken internally	Itches, skin diseases; intestinal worms	Scattered among weeds in waste places, Aizawl
42	<i>Cinnamomum glaucascens</i> (Nees) Hand-Mezz. (Lauraceae)	Khiangzo	T	stb	Juice of bark taken orally.	Bronchitis, pneumonia, cough.	Frequent in sub-tropical forests; Bethlehem Aizawl, Sairep

Table 4: List of plants used as traditional ethno-medicine in Mizoram (continued)

Sl. No	Scientific name & family	Local name	Habit	Part(s) used	Mode of preparation	Ailments/ diseases	Ecological distribution & location
43	<i>Cinnamomum tamala</i> (Buch. Ham) Nees & Ebern. (Lauraceae)	Hnahrimtui	T	stb.	Decoction taken orally	Gonorrhea.	Less frequent in sub-tropical areas; Luangmual
44	<i>Cinnamomum verum</i> Presl. (Lauraceae)	Thakthing	T	stb.	Powdered bark mixed with water taken orally	Carminative, spasmodic, astringent	frequent in semi-evergreen forests; Lungrang forests

45	<i>Catharanthus roseus</i> (L.) D. Don (<i>Apocynaceae</i>)	<i>Kumtluang</i>	Sh	Leaves & fl.	Decoction taken orally	Hypertension, cancer.	Cultivated and naturalized
46	<i>Centella asiatica</i> (L.) Urban (<i>Apiaceae</i>)	<i>Hnahbial, lambak</i>	Twn	w.p.	Infusion taken orally	Gastro-enteritis, hypertension, fever, stomachache, eye-ache, skin diseases	Scattered in moist waste places; Zemabawk
47	<i>Chukrassia tabularis</i> (A. Juss) W. & A (<i>Meliaceae</i>)	<i>Zawngtei</i>	T	Seed coat (Sc.)	Eaten raw or crushed sc. Boiled in water taken internally	Diarrhea, dysentery.	Common in tropical evergreen forests; Ngengpui
48	<i>Chromolaena adorata</i> (L.) King (<i>Asteraceae</i>)	<i>Tlangsam</i>	S sh.	Leaves	Crushed juice applied externally	Cuts and wounds, haemostatics.	Common near villages and in fallow lands, throughout Mizoram.
49	<i>Cordia dichotoma</i> Forst. (<i>Boraginaceae</i>)	<i>Muk</i>	T	stb	Decoction taken internally	Removal of retained placenta in the womb, cholera.	Common in semi-evergreen forests; Tuipang
50	<i>Clerodendrum colebrookianum</i> Walp. (<i>Verbenaceae</i>)	<i>Phuihnam</i>	ST	leaves	Decoction taken internally	Hypertension and as vegetable.	Wild & cultivated throughout the state.
51	<i>Clerodendrum viscosum</i> Vent. (<i>Verbenaceae</i>)	<i>Phuihnamchhia</i>	Sh	rt. & leaves	infusion taken orally. Juice of leaves applied externally	Febrifuge. Skin diseases/ verbifuse	Very common in waste places, throughout the state

Table 4: List of plants used as traditional ethno-medicine in Mizoram (continued)

Sl. No	Scientific name & family	Local name	Habit	Part(s) used	Mode of preparation	Ailments/ diseases	Ecological distribution & location
52	<i>Costus speciosus</i> (Koeing) Sm. (Costaceae)	<i>Sumbul</i>	H	Rh.	Decoction taken internally	Removal of stone kidney.	Very frequent in damp places throughout Mizoram.
53	<i>Crotalaria juncea</i> L. (Papilionaceae)	<i>Tumthang</i>	Sh	Leaves	Leaves boiled in water taken orally	Purgative, emumengogue; as vegetable	Cultivated
54	<i>Curcuma amada</i> Roxb. (Zingiberaceae)	<i>Aiengpui (Lalram)</i>	H	Tu./rh.	Poultice applied externally	Chronic ulcer, inflammation.	Cultivated by <i>Bawm</i> medicine man
55	<i>Curcuma cassia</i> Roxb. (Zingiberaceae)	<i>Aihang</i>	H	Rh.	Cold infusion taken internally	Cough, cold & diarrhea.	Cultivated for domestic use
56	<i>Curcuma zedoaria</i> (Christ.) Rosc. (Zingiberaceae)	<i>Aidizing (Lalram)</i>	H	rh.	Cold infusion taken internally	Piles, bronchitis, epileptic.	Cultivated for domestic consumption
57	<i>Curcumorpha longifera</i> (Wall.) Rao & Verma (Zingiberaceae)	<i>Ailur</i>	H	rh.	Cold infusion taken internally, or fresh rhizome eaten raw.	Effective remedy against diarrhea and dysentery.	Very rare; cultivated in kitchen garden
58	<i>Dalbergia pinnata</i> var. <i>acaceaefolia</i> (Dalz.) Baker (Fabaceae)	<i>Hruitengtere (Lalram)</i>	S.sh	rtb.	Scraped rootbark boiled in water for a few seconds taken orally	Mouthache, teethache, as stomatitis.	Rare; secondary forest in compact soil; Tlabung
59	<i>Datura metel</i> L. (Solanaceae)	<i>Tawtawrawtpar</i>	sh	Leaves	Dried leaves smoked. Crushed leaves applied externally	Asthma, headache.	Sparsed. Open habitation near villages/towns Lunglei

Table 4: List of plants used as traditional ethno-medicine in Mizoram (continued)

Sl. No	Scientific name & family	Local name	Habit	Part(s) used	Mode of preparation	Ailments/ diseases	Ecological distribution & location
60	<i>Dendrobium chrysanthum</i> Lindl. (<i>Orchidaceae</i>)	Nauban chhungdum	E	st.	Stem juice or sap applied externally	Cuts & wounds.	Common in eastern forests above 1200. Biате, Champhai
61	<i>Desmos chinensis</i> Lour. (<i>Annonaceae</i>)	Zun-in-damdawi	S sh.	rtb.	Decoction taken orally	Strangury.	Frequent in evergreen forests of Dampa.
62	<i>Dillenia indica</i> L. (<i>Dilleniaceae</i>)	Kawrthindeng	T	stb	Decoction taken internally powdered bark applied externally	Diarrhea, ulcers.	Common on river banks of Ngengpui, Teirei
63	<i>Dillenia pentagyna</i> Roxb. (<i>Dilleniaceae</i>)	Kaihzawl/ Kawrthing-dengte	T	stb.	Decoction of dried bark taken internally	Stomach-ulcer, stomachic.	Scattered throughout the State, Saitual
	<i>Diospyros persgrina</i> (Gaertn.) Gurke (<i>Ebenaceae</i>)	Raisentur	C	rtb. fr.	Decoction of root bark taken internally	Dysentery and diarrhea.	Darlawn, Phullen, N. Vanlaiphai
64	<i>Draceana elliptica</i> Thunb. (<i>Draceanaceae</i>)	Phunhring Chamring	H	rt.	Root chewed and juice swallowed.	Stomachache.	Very common n tropical forests; Chikh, Dampa, Lungkulh
65	<i>Dyophyllaceae)ymeria cordata</i> Wild. (<i>Car</i>	Changkalrit	Pro.	w.p.	Crushed plant applied externally	Wounds & boils.	Sparse in waste places; Aizawl
66	<i>Dysoxylum gobara</i> (Duch. Ham). Merr. (<i>Meliaceae</i>)	Thingthupui	T	Young leaves	Decoction taken internally	Diarrhea and as vegetable.	Wild and cultivated throughout Mizoram
67	<i>Elaeagnus cordata</i> Schum ex Mom. (<i>Elaceagnaceae</i>)	Sarzukpui	S sh	rt.	Infusion taken internally	Removal of retained placenta in the womb.	Usually cultivated in house garden
68	<i>Elsholtzia blanda</i> Benth. (<i>Lamiaceae</i>)	Nauhri	H	Leaves	Juice of aromatic leaves applied externally	Inflammation and eruption of skin in children.	Gregarious in Zawngling temperate forest.
69	<i>Elsholtzia crista</i> Wild. (<i>Lamiaceae</i>)	Ramlengser (Lalram)	H	ft.	Powdered flower mixed with water taken internally	Antipyretic.	Post-harvest jhum lands, Tuisih.
70	<i>Embelia nutans</i> Wall (<i>Myrsinaceae</i>)	Nisarihthing	S sh	Leaves	Crushed leaves applied externally for 7 days	Cuts & wounds.	Common in the forest of Mampuri
71	<i>Embelia ribes</i> Burm. F. (<i>Myrsinaceae</i>)	Tlingte	S sh	fr.	Cooked fruit taken internally	Anthelmintic, stomachic.	Very rare; found in Maite forests.

Table 4: List of plants used as traditional ethno-medicine in Mizoram (continued)

Sl. No	Scientific name & family	Local name	Habit	Part(s) used	Mode of preparation	Ailments/ diseases	Ecological distribution & location
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72	<i>Embelia suh-coriacea</i> Mez. (<i>Myrsinaceae</i>)	Tling	S sh	Leaves	Leaves, boiled in water used for bathing woman on child birth	Remedy for injury on child birth.	Frequent in tropical forests; Vathuampui
73	<i>Embllica officinalis</i> Gaertn. (<i>Euphorbiaceae</i>)	Sunhlu	ST	stb. & fr.	Decoction of stem bark dried fruit taken internally	Diarrhea, nausea, vomiting.	Common in tropical secondary forests; Kawnpui
74	<i>Engelhardtia spicata</i> Bl. (<i>Euphorbiaceae</i>)	Hnum	T	rt.	Decoction taken internally	Diarrhea and dysentery.	Common in temperate forests; Phawngpui
75	<i>Entada pursaetha</i> DC. (<i>Mimosaceae</i>)	Kawihruai	C	seed	Powdered seeds applied externally	Inflammation, ulcers.	Scattered throughout Mizoram
76	<i>Eryngium foetidum</i> L. (<i>Apiceae</i>)	Bahkhawr	H	w.p.	Crushed plant taken orally	As stomachic and condiment.	Common in private garden
77	<i>Erythrina stricta</i> Roxb. (<i>Fabaceae</i>)	Fartuahpui	T	bark	Decoction of stem bark taken internally	Stomach-ulcer.	Common in tropical dry sandy forests throughout Mizoram
78	<i>Eupatorium nudiflorum</i> DC. (<i>Asteraceae</i>)	Vailenhlo	H	Leaves	Juice of leaves applied externally	Haemostatics.	Common in waste place; Aizawl
79	<i>Ficus semicordata</i> Buch.Ham. ex Sm. (<i>Moraceae</i>)	Theitil	ST	Young leaves rtb.	Boiled in water taken internally; decoction taken internally	Purgative, venereal diseases. snake-bites.	Frequent in shady forests near riverlets; Mini Zoo Aizawl
80	<i>Ficus semicordata</i> var. <i>conglomerate</i> (Roxb.) Kurz. (<i>Moraceae</i>)	Theipui	T	Leaves	Decoction taken internally	Jaundice and hepatitis.	Common in dry sandy places throughout Mizoram
81	<i>Garcinia cowa</i> Roxb.ex. DC. (<i>Gluciaceae</i>)	Chengkek	T	Leaves	Leaves boiled in water taken internally	Diarrhea and dysentery.	Wild out cultivated in tropical areas; Tlungvel, Kawnpui
82	<i>Garcinia sopsopia</i> (Buch.Ham.) Mabb (<i>Gluciaceae</i>)	Vawmvapui Theipumlian Chengkekpui	T	ft. pericarp	Pericarp mixed with water and sugar taken orally	Dysentery and diarrhea, allay.	Frequent in tropical forests; Vairengte
83	<i>Girardinia diversifolia</i> (L.) Fries. (<i>Urticaceae</i>)	Kangthai	sh.	Leaves	Decoction taken internally	Anaemia, arthritis, internal bleeding.	Scattered in damp/ waste places, Tuipang
84	<i>Gmelina arborea</i> Roxb. (<i>Verbenaceae</i>)	Thlanvawng	T	fr.	Roasted pulp of fruit applied externally	Itches-sore, rash.	Wild & planted in tropical areas; Lungsen

Table 4: List of plants used as traditional ethno-medicine in Mizoram (continued)

Sl. No	Scientific name & family	Local name	Habit	Part(s) used	Mode of preparation	Ailments/ diseases	Ecological distribution & location
85	<i>Goniothalamus sesquipedialis</i> Hk.f. (Annonaceae)	Kham	sh.	Leaves	Burnt smoke inhaled	Asthma.	Very frequent; Rescue centre, Sihphir
86	<i>Gynocardia odorata</i> R.Br. (Flocourtiaceae)	Saithei	T	fr.	Seed-oil applied externally	Leprosy.	Very rare; Ngengpui sanctuary
87	<i>Haldia cordifolia</i> (Roxb.) Rids. (Rubiaceae)	Lungkhup	T	stb.	Decoction of stem bark with that of <i>Vitex peduncularis</i> taken internally	Fever, as befrifuge.	Less frequent in tropical secondary forests; Marpara
88	<i>Hydychium spicata</i> Ham.ex Sm (Zingiberaceae)	Aithur	H	rh.	Crushed juice taken internally	Liver complaints and bodyache.	Rare; sub-tropical forests; Hmuifang
89	<i>Hedyotes scandens</i> D.Don, (Rubiaceae)	Kelhnamtur, Laikingtuibur	S sh.	Leaves & rt.	Decoction taken internally	Fever, jaundice, kidney trouble	Sparse in semi-open areas, damp places; Pangzawl, Zobawk roadside.
90	<i>Helicia erratica</i> Hk.f. (Proteaceae)	Sialhma	T	stb.	Decoction taken internally	Stomachache, stomach ulcer	Frequent in sub-tropical forests, Tuipang, Reiek
91	<i>Helicia robusta</i> (Roxb.) Bl. (Proteaceae)	Pasaltakaza	T	stb.	Decoction taken internally	Stomachache, flatulence.	Less frequent in sub-temperate forest; Hnahlan
92	<i>Hibiscus rosachinensi</i> L. (Malvaceae)	Midumpangpar, China pangpar	sh.	fl.	Flower dipped in water taken internally	Fever, febrifuge in children.	Cultivated as ornamental plants
93	<i>Hodgsonia macrophylla</i> (Bl.) Cogn. (Cucurbitaceae)	Kha-um	C	Leaves	Crushed juice applied externally. Powdered leaves applied externally	Cuts and wounds, sores, ulcer.	Frequent in mixed bamboo forest; Vathuampui
94	<i>Holarrhena antidysenterica</i> (L.) Wall. (Apocynaceae)	Thlengpa	T	stb. & seeds	Decoction taken internally	Dysentery, diarrhea, intestinal worms.	Scarce, sparsed; Hnahlan
95	<i>Homalomena aromatic</i> Schott. (Araceae)	Anchiri	H	rh.	Powdered rhizome dried/ rhizome.	Snuff and tobacco preparation and gun powder, mosquito repellent.	Very frequent in damp places near rivers under forests; Kolasib, Bairabi

Table 4: List of plants used as traditional ethno-medicine in Mizoram (continued)

Sl. No.	Scientific name & family	Local name	Habit	Part(s) used	Mode of preparation	Ailments/ diseases	Ecological distribution & location
96	<i>Hydrocotyle javanica</i> Thunb. (<i>Apiaceae</i>)	Hlovoidawr	H	w.p.	Crushed juice used externally.	Tonic, eye-drops.	Sparse in waste places and on roadsides; Mampuo
97	<i>Inula cappa</i> DC. (<i>Asteraceae</i>)	Buarthau	H	Leaves	Juice of leaves in combination with others taken orally	Jaundice.	Very common, successor of landslides, Ngengpui.
98	<i>Jatropha curcus</i> L. (<i>Euphorbiaceae</i>)	Thingthau	T	stb.	Juice of bark applied externally	Skin diseases, exzema, ringworms.	Introduced and planted as hedge
99	<i>Juglans regia</i> L. (<i>Juglandaceae</i>)	Khawkherh	T	stb.	Infusion taken internally	Anthelmintic.	Infrequent; sub-tropical forests; Sihphir.
100	<i>Jusminum anastomosum</i> Bl. (<i>Oleoceae</i>)	Hruikhadamdawi/ Maufim hlo	C	Leaves	Leaves boiled in water taken internally	Stomachache, diarrhea, throat pain, tonsillitis and inflammation.	Common in Mampui forest.
101	<i>Justicia adhatoda</i> L. (<i>Acanthaceae</i>)	Kawldai	sh.	Leaves rt. & leaves	Crushed juice applied externally. Decoction taken orally	Cuts and wounds, cough, bronchitis & asthma.	Scattered, both wild and cultivated as hedge.
102	<i>Kalanchoe pinnata</i> (Lam.) Pers. (<i>Grassulaceae</i>)	Zihor (Bru)	H	Leaves	Scorched leaf applied externally.	On fare-head against headache.	Cultivated in homestead gardens
103	<i>Kaempferia rotunda</i> L. (<i>Zingiberaceae</i>)	Tuktinpar	H	rh./tu.	Crushed juice applied externally.	Wounds & swellings.	Cultivated in homestead gardens
104	<i>Lagerstroemia speciosa</i> (L.) Pers. (<i>Lythraceae</i>)	Thlado	T	rt. & stb.	Decoction of root and stem bark taken internally	Jaundice, diarrhea and dysentery	Frequent in tropical forests; Phura
105	<i>Lannea coromandelica</i> L. (Houtt.) Merr (<i>Anacardiaceae</i>)	Tawitawsuak	H	stb.	Juice applied externally and taken internally.	Bodyache, spasmodic and against fish allergy.	Fairly common in semi-evergreen forests; Bungmun
106	<i>Lantana camara</i> var. <i>aculeate</i> (L.) Mold. (<i>Verbenaceae</i>)	Hlingpangpar	sh	w.p.	Decoction taken internally.	Tetanus, rheumatism and skin diseases.	Common near villages, throughout Mizoram

Table 4: List of plants used as traditional ethno-medicine in Mizoram (continued)

Sl. No.	Scientific name & family	Local name	Habit	Part(s) used	Mode of preparation	Ailments/ diseases	Ecological distribution & location
107	<i>Lasia spinosa</i> (L.) Thaw. (Araceae)	Zawngzang	H	rt. & leaves	Decoction of root and leaves taken internally.	Diphtheria and piles.	Rare; Ngengpui sanctuary in damp clay soil
108	<i>Lasianthus hirsudus</i> (Roxb.) Merr. (Rubiaceae)	Thingchangnei (Lalram)	H	Leaves	Crushed juice applied externally.	Cuts and wounds.	Infrequent; Ngengpui sanctuary
109	<i>Lepidagathis incurve</i> D. Don. (Acanthaceae)	Vangvattur	H.pro	Leaves	Crushed juice applied externally.	Leech-bite.	Occur in shady places; Lungkulh
110	<i>Lepionurus sylvestris</i> Bl. (Oleaceae)	Anpangthuam	sh	Leaves	Leaves boiled in water taken internally.	Diphtheria, as vegetable.	Frequent in tropical forests; Lungkulh, Zamuang
111	<i>Litchi chinensis</i> Sonner (Sapindaceae)	Lachu	T	Leaves	Bruished leaves applied externally.	Bite of animals.	Introduced, cultivated
112	<i>Litsea cubeba</i> (Lour.) Pers (Lauraceae)	Sernam	T	fr.	Fruits are eaten raw.	Hysteria, headache.	Frequent in sub-tropical forest; Serkawn, Thingfal
113	<i>Lobelia angulata</i> Forst. (Lobeliaceae)	Choakathi	H	w.p.	Cooked plant taken internally.	Kidney trouble, calculi.	Scattered in waste places and damp soils; Sihphir
114	<i>Lobelia nicotianaefolia</i> Roth ex. Schultes (Lobeliaceae)	Berawchal	H	Latex	Latex applied externally warts pricked before treatment..	Boils, wort & verrucose.	Occur on walls of road, in waste places; Muthi
115	<i>Lonicera moorantha</i> DC. (Caprifoliaceae)	Leihruisen	S sh	Leaves & rt.	Infusion/ decoction taken internally	Diarrhoea/ early cancer.	Infrequent; tropical forests; Chamdur
116	<i>Lygodium flexuosum</i> (L.) Sw (Lygodiaceae)	Dawnzempui	Twn.	rt.	Juice of root applied externally.	Sprains, cuts and wounds, eczema.	Sparse on roadsides under shade; Diblibagh, Tlabung.
117	<i>Mallotus philippensis</i> (Lam.) Muell. Arg. (Euphorbiaceae)	Thingkhei	ST	fr.	Paste of fruit applied externally.	Scabies and herps.	Scarcely occur in montane sub-tropical areas; Tuipang, their
118	<i>Measa ramentosa</i> Wall. (Myrsinaceae)	Arngengpui	Sh./ST	Leaves	Pounded leaves applied externally.	Itches and skin diseases.	Common in secondary forest; Khawhai
119	<i>Mallotus roxburgiana</i> Muell. Arg. (Euphorbiaceae)	Zawngtenawh-lung	ST	Leaves	Cooked leaves taken internally.	Liver ailment and hepatitis.	Very frequent in mixed secondary forests; Dinthar, Tlabung

Table 4: List of plants used as traditional ethno-medicine in Mizoram (continued)

Sl. No.	Scientific name & family	Local name	Habit	Part(s) used	Mode of preparation	Ailments/ diseases	Ecological distribution & location
120	<i>Marsilia minuta</i> L. (<i>Marsiliaceae</i>)	Siakthur	H	w.p.	Juice as eye drop.	Eye-sore.	Occur in open area with grasses
121	<i>Martynia annua</i> L. (<i>Padaliaceae</i>)	Vatelu	sh	Seeds	Powdered seeds applied externally	Skin eruption, navel pain (<i>Bawm</i>).	Introduced; Vathuampui
122	<i>Melastoma malabathricum</i> L. (<i>Melastomataceae</i>)	Builukham	sh	Leaves	Leaves boiled in water taken internally.	Diarrhea and dysentery.	Common in fallow lands; Khawruhlian
123	<i>Melia azaridatch</i> L. (<i>Meliaceae</i>)	Nim-suck (Lalram)	T	Leaves	Leaves boiled in water taken internally	Fever, hypertension.	Introduced as roadside plantation since 1970s
124	<i>Melocalamus compactiflorus</i> (Benth.) Hk.f. (<i>Poaceae</i>)	Sairil	B	sap.	Watery sap coming out of cut-stem taken internally.	Children's cough & influenza.	Frequent in primary forest; Reiek, Phuldungsei
125	<i>Mesua ferrea</i> L. (<i>Clusiaceae</i>)	Herhse	T	fl.	Infusion of flowers taken internally.	Bleeding piles, cough and dysentery.	Frequent in sub-tropical forests, throughout Mizoram
126	<i>Michelia champaca</i> L. (<i>Magnoliaceae</i>)	Ngiau	T	fr.	Paste of fruits applied externally.	On cracked feet.	Common in primary forests; Dampa, Kanhmun
127	<i>Merremia umbellata</i> sub.sp. <i>Orientalis</i> (Hallier f.) Ooststr. (<i>Convolvulaceae</i>)	Vawktesentil	ST	Leaves	Paste of leaves applied externally.	Burns, scalds and sores.	Infrequent in primary forest; S. Bunglang
128	<i>Micromelum minutum</i> (Forst.f.) Wt. & Arn. (<i>Rutaceae</i>)	Nauterimnam	ST	stb.	Decoction taken internally	Dysentery.	Less frequent due to habitat disruption; Bunglang
129	<i>Mikania micrantha</i> Kunth. (<i>Asteraceae</i>)	Japanhlo	C	Leaves	Crushed juice applied externally.	Cuts and wounds, haemostatics.	Very common throughout Mizoram in fallow/ waste lands
130	<i>Millettia piscidia</i> Wt. (<i>Fabaceae</i>)	Ruteng	T	fr., rt	Decoction of fruits taken orally; juice of crushed root applied externally.	as abortifacient, itches, scabies.	Rare; Sairep
131	<i>Mimosa pudica</i> L. (<i>Mimosaceae</i>)	Hlonuar	H	rt. leaves	Decoction of roots taken internally; bruised leaves applied externally.	Removal of stones in kidney; on boils to suck out pulents.	Scattered on Sairang road sides.

Table 4: List of plants used as traditional ethno-medicine in Mizoram (continued)

Sl. No.	Scientific name & family	Local name	Habit	Part(s) used	Mode of preparation	Ailments/ diseases	Ecological distribution & location
132	<i>Morinda angustifolia</i> Roxb. (<i>Rubiaceae</i>)	Thingaieng (Lalram)	sh.	rt.	Powdered root (in combination with others) mixed with water taken internally.	Liver ailment and hepatitis.	Frequent in both dry and shady areas; Serkawn, Damparengpui
133	<i>Mucuna prurita</i> Hook. (L.) DC. (<i>Papilionaceae</i>)	Uiteme	C	Seeds	powdered seeds pounded with an yolk taken orally. Decoction taken internally.	Aphrodisiac, spermatorhoea and nervine tonic. Fever, dropsy.	Sparsed in old jhumlands throughout Mizoram
134	<i>Murraya koenigii</i> Spreng (<i>Rutaceae</i>)	Arpatil	sh.	rt	Scraped root bark with others dipped in water drunk internally	Hepatitis, diarrhea and vomiting.	Frequent in Tlabung
135	<i>Murraya paniculata</i> (L.) Jack (<i>Rutaceae</i>)	Mungthi	sh	Leaves	Decoction of leaves taken orally.	Dropsy.	Sihphir
136	<i>Musa</i> spp. (<i>Musaceae</i>)	Changel	th	sap	Watery sop oozes out of cut stem drink internally.	Dysentery, diarrhea and cholera.	Very common in valleys and moist places throughout Mizoram
137	<i>Mussaenda roxburghii</i> Hk.f. (<i>Rubiaceae</i>)	Vokep	sh	b	Crushed juice of stem/ root-bark applied externally.	Snake-bite.	Common in open/ shrubby forests throughout Mizoram
138	<i>Myrica esculenta</i> Buch.Ham.ex D.Don (<i>Myricaceae</i>)	Keifang	T	stb	Decoction of stem bark taken internally	Colic, flatulence, piles, syphyllis and as tonic.	Rare; occur in temperate forests; Phawngpui, Biате
139	<i>Oroxylum indicum</i> (L.) Vent. (<i>Bignoniaceae</i>)	Archangkawm	T	b.	Decoction of stem/root-bark taken internally	Dysentery, diarrhoea, diphtheria, piles, rheumatism.	Common in tropical areas; Zawlnuam
140	<i>Osbeckia nepalensis</i> Hk. (<i>Melastomataceae</i>)	Builukhampa	sh.	rt.	Decoction of root taken internally	Kidney problems	Less frequent in sub-tropical open forests; Darlawn
141	<i>Osbeckia sikkimensis</i> Craib. (<i>Melastomataceae</i>)	Builukhampa	sh	rt.	Sliced cooked roots taken/ eaten orally.	Kidney/urinary problems.	Very frequent in grassy areas on rocky plates; Maite
142	<i>Ostodes paniculata</i> Bl. (<i>Euphorbiaceae</i>)	Beltur	ST	Seeds	Fried seeds eaten.	As purgative.	Frequent in secondary forests; New Latawh.

Table 4: List of plants used as traditional ethno-medicine in Mizoram (continued)

Sl. No.	Scientific name & family	Local name	Habit	Part(s) used	Mode of preparation	Ailments/ diseases	Ecological distribution & location
143	<i>Oxalis corniculata</i> L. (<i>Oxalidaceae</i>)	Siakthur	w.p.	Leaves	Leaves eaten raw.	As stomachic, scorbutic and refrigerant.	Occur in waste places amongst grasses in open areas.
144	<i>Paederia scandens</i> (Lour.) Merr. (<i>Rubiaceae</i>)	Vawihuihru	C	Leaves	Leaves chewed and juice retained in mouth.	Tooth-ache, gum boil.	Very frequent in primary and secondary forest throughout Mizoram
145	<i>Pajanela longifolia</i> Wild. (<i>Bignoniaceae</i>)	Ram-archangkawm	T	Leaves	Paste of leaves and young shoots applied externally.	Fracture of bone.	Infrequent. Found in Chamdur project area in south west Mizoram.
146	<i>Parkia roxburghii</i> D. Don. (<i>Mimosaceae</i>)	Zawngtah	T	Pod	Paste of scalped skin of pod applied externally	Itches and scabies.	Wild and cultivated throughout Mizoram
147	<i>Phyllanthus acidus</i> (L.) Skeels. (<i>Euphorbiaceae</i>)	Kawlsunhlu	ST	fr.	Crushed fruit eaten.	Astringent, cooling.	Cultivated in homestead gardens
148	<i>Phyllanthus debelis</i> (Willd.) (<i>Euphorbiaceae</i>)	Mawsai (Lalram)	sh.	Leaves	Juice of crushed leaves applied externally.	Measles, skin eruptions in children.	Less frequent, sub-tropical, dry rocky areas; Serkawn
149	<i>Phyllanthus fraternus</i> Webs (<i>Euphorbiaceae</i>)	Mitthisunhlu	H		Decoction of whole plant taken internally.	Jaundice, hepatitis, diabetes.	Scattered, very frequent in damp semi-open areas and jhumlands throughout Mizoram
150	<i>Phlograkanthus lutea</i> (<i>Acanthaceae</i>)	Tualdai	sh	Leaves	Crushed leaves applied.	Toothache, toothdecay.	Planted as livehedge.
151	<i>Picrasma javanica</i> Bl. (<i>Simaroubaceae</i>)	Thingdamdawi	T	stb.	Decoction of stem bark taken internally.	Fever, hypertension, diabetes.	Scattered in semi-evergreen forests; Tlabung, Khawruhlian
152	<i>Pithecelobium monadelphum</i> (Roxb.) Korst. (<i>Mimosaceae</i>)	Ardahte	ST	Leaves	Crushed leaves retained in mouth.	Toothache, gum-boil.	Less frequent in secondary forests; Tanhril
153	<i>Pittosporum floribunda</i> W. & A. (<i>Pittosporaceae</i>)	Kakphak	ST	stb.	Decoction of stem bark taken internally.	Fever bronchitis, throat-swelling.	Frequent in Dampui forests; Mamit

Table 4: List of plants used as traditional ethno-medicine in Mizoram (continued)

Sl. No.	Scientific name & family	Local name	Habit	Part(s) used	Mode of preparation	Ailments/ diseases	Ecological distribution & location
154	<i>Podocarpus neriifolius</i> D. Don. (<i>Podocarpaceae</i>)	Thlangfar, Sarthing	T	stb.	Crushed juice of stem bark applied externally after bath with boiled water of leaves.	Herpes.	Less frequent; Ngengpui sanctuary, Reiek tlang
155	<i>Polygonum barbetum</i> L. (<i>Polygonaceae</i>)	Anbawng	H	Seeds	Cooked seeds eaten	As purgative, tonic and emetic.	Less common, occur in valleys, damp places; Tlawng
156	<i>Polygonum chinensis</i> L. (<i>Polygonaceae</i>)	Taham	H	st.	Juice of stem taken orally.	Febrifuge, vulnerary.	Occur in damp/ wet places near ponds/ water; Rengdil
157	<i>Pratia nummularia</i> Kurz. (<i>Lobeliaceae</i>)	Choakathi	Tr.	w.p.	Infusion of whole plant taken internally.	Dysentery, diaphoretic as haemostatics.	Sparse, on walls of road in waste/open places; Tawitlang
158	<i>Prunus cerasoides</i> D. Don. (<i>Rosaceae</i>)	Tlaizawng	T	stb.	Decoction of stem bark taken internally.	Fever.	Less frequent, in dry secondary forests; Zabawk, Sialsuk
159	<i>Pseudodryneria coronans</i> (Wall. ex Mett.) Ching (<i>Polypodiaceae</i>)	Awmvel	E	rh.	Crushed juice of rhizome applied externally.	Chest herpes.	Frequent, on tree trunks; Diltlang forests.
160	<i>Pterospermum acerifolium</i> Willd. (<i>Sterculiaceae</i>)	Siksil	T	stb.	Crushed juice mixed with powdery substances on fruits of <i>Mallotus philippensis</i> applied externally.	Small-pox eruption.	Frequent; mini zoo, Aizawl; Zamuang
161	<i>Randia dumetorum</i> (Retz.) Lam. (<i>Rubiaceae</i>)	Sazukthei	ST	stb.	Juice of stem bark applied externally.	Bodyache during fever, rheumatism.	Scattered in secondary forests, Tuisih
162	<i>Rhaphidophora hookeri</i> Schott. (<i>Araceae</i>)	Thiallawn	C	Stem	Infusion of stem taken internally.	Easy-labour	Common in tropical wet forest.
163	<i>Rhus semialata</i> Murr. (<i>Anacardiaceae</i>)	Khawmhma	ST	fr.	Pounded fruits mixed with water drunk. Internally	Diarrhea, colic.	Fairly frequent in secondary forest throughout Mizoram
164	<i>Rhus succedanea</i> L. (<i>Anacardiaceae</i>)	Chhimhruk	T	fr.	Powdered seeds mixed with water taken orally.	Pulmonary tuberculosis.	Less frequent; semi-evergreen forests; Mamit

Table 4: List of plants used as traditional ethno-medicine in Mizoram (continued)

Sl. No.	Scientific name & family	Local name	Habit	Part(s) used	Mode of preparation	Ailments/ diseases	Ecological distribution & location
165	<i>Sapindus mukorossi</i> Gaertn. (<i>Sapindaceae</i>)	Hlingsi	T	nut	Soapnut used as local soap and as biocides.	Leech-bite.	Scarce; Darlawn
166	<i>Saraca asoca</i> (Roxb.) de Wilde. (<i>Coesalpinaceae</i>)	Mualhawih	ST	stb.	Decoction of stem bark taken internally.	Diuretic, uteritic, easy labour.	Not common; in tropical forests; Lungkulh
167	<i>Sarcococca saligna</i> (Roxb.) Baillon (<i>Euphorbiaceae</i>)	Pawhrual	sh	Leaves	Boiled leaves or crushed juice applied externally.	Sprains, swellings, sciatica, paralysis, rheumatism.	Less frequent; under dense forest; Lohre, Sialsuk
168	<i>Schima wallichii</i> 9DC) Korth. (<i>Theaceae</i>)	Khiang	T	sap, stb. & leaves	Sap of stem bark applied externally, decoction of stem bark and leaves taken Internally.	Cuts and wounds, snake-bite; intestinal tapeworms, as rubefacient, carminative.	Common in tropical secondary forests throughout Mizoram
169	<i>Securinega virosa</i> (Roxb.) Baillon (<i>Euphorbiaceae</i>)	Saisiak	sh	leaves	Leaves boiled in water used for bathing.	Skin diseases, measles.	Frequent; near human settlement, Aizawl
170	<i>Solanum nigrum</i> L. (<i>Solanaaceae</i>)	Anhling	H	fr.	Fruits boiled in water taken internally.	Liver ailment and piles.	Occur in jhumlands and in waste places; W. Phaileng
171	<i>Scoparia dulcis</i> L. (<i>Srophulariaceae</i>)	Perhpawng chaw	H	w.p.	Whole plant boiled in water taken internally.	Diarrhoea, stomachache, kidney-stones, kidney problems, fever	Occur near human settlements throughout Mizoram
172	<i>Smilax glabra</i> Roxb. (<i>Smilacaceae</i>)	Tluangngil	C	rh./tu.	Decoction of rhizome taken internally.	Gynaecological problems, rheumatism, as stomachic.	Scarce or sparce; in secondary forests; Lungmuat, Meidum.
173	<i>Solanum indicum</i> L. (<i>Solanaceae</i>)	Samtawkte, Maihrem	sh	fr	Cooked berries taken internally.	Hypertension.	Cultivated in homestead gardfen/ jhums
174	<i>Solanum torvum</i> Sw. (<i>Solanaceae</i>)	Tawkpui	sh	seeds	Crushed seeds applied on teeth.	Toothache and toothdecay.	Occur in valleys, waste places; Muthi.
175	<i>Solanum khasianum</i> Cl. (<i>Solanaceae</i>)	Rulpuk, Athlo	sh	seeds	Smokes of burnt fruit inhaled.	Expel tooth worms..	Occur in waste places; Zawngling
176	<i>Solena heterophylla</i> Lour. (<i>Cucurbitaceae</i>)	Nauawimu	C	leaves	Juice of leaves applied externally.	Inflammation.	Occur in waste places; jhumlands; sericulture farm, Rangvamaul

Table 4: List of plants used as traditional ethno-medicine in Mizoram (continued)

Sl. No.	Scientific name & family	Local name	Habit	Part(s) used	Mode of preparation	Ailments/ diseases	Ecological distribution & location
177	<i>Spondias pinnata</i> (L.f.) Kurz. (<i>Anacardiaceae</i>)	Tawitaw	T	stb. leaves	Decoction of stem bark and leaves taken internally	Dysentery, fish allergy	Very frequent in tropical forest; Dampa, Sesawng
178	<i>Stemona tuberosa</i> Lour. (<i>Stemonaceae</i>)	Kaimam	C	tu.	Decoction of bitter root taken internally.	Fever, tuberculosis.	Frequent in secondary forest; Perhsang.
179	<i>Stereopermum colois</i> (Dellw.) Mabb. (<i>Bignoniaceae</i>)	Zinghal	T	leaves rt.	Decoction of leaves taken internally, juice of leaves applied externally. Decoction of root taken internally.	Febrifuge. itches. anthelmintic.	Frequent in tropical forest; Perhsang
180	<i>Stereopermum neuranthum</i> Kurz. (<i>Bignoniaceae</i>)	Zi-how	T	Wood	Wood vinegar obtained from furnace applied internally.	Chronic ulcer, sore, skin diseases.	Less frequent; tropical forests; Chamdur
181	<i>Sterculia urens</i> Roxb. (<i>Sterculiaceae</i>)	Pangkhaus	T	Gum	Gum extracted from stem applied externally.	Throat effection.	Scarce, sparse; Dampa forest
182	<i>Sterculia villosa</i> Roxb. (<i>Sterculiaceae</i>)	Khaupui	T	rb./stb.	Juice of crushed root/stem-bark taken orally.	Tonsillitis, diarrhea, dysentery, cholera.	Scattered in tropical forests; Tawngkawlawng
183	<i>Swertia pulchella</i> Ham. (<i>Gentianaceae</i>)	Champhai damdawi	H	w.p.	Whole plant boiled in water taken internally.	Malaria fever.	Rare; in waste places in Champhai area
184	<i>Sygygium cumini</i> (L.) Skeels. (<i>Myrtaceae</i>)	Hmuipui	T	Fr. stb. & seeds	Infusion of fruit taken internally decoction stem bark and seeds taken. Internally	Diuretic, curminative, stomachic, diabetes, diarrhoea.	Frequent in semi-evergreen forests; Phullen, Bungmun
185	<i>Tabernaemontana divaricata</i> (L.) R.Br. (<i>Apacuanaceae</i>)	Pararsi/ Keltebeng	sh	rt	Roots chewed and juice swallowed	Tooth-pain, anodyne.	Scattered in secondary forests; Mampui, Hmuntha: planted as hedge/ ornamental.
186	<i>Taraktogenos kurzii</i> King. (<i>Flacourtiaceae</i>)	Khawitur	St	Seed-oil	Seed-oil applied. Externally	Leprosy.	Rare; Ngengpui forests
187	<i>Tarena odorata</i> (Roxb) Rob. (<i>Rubiaceae</i>)	Khalagorsong	ST	Root	Paste of root applied externally	Snake bite.	Frequent in Chakma District of Mizoram
188	<i>Terminalia arjuna</i> (Roxb.) W. & A. (<i>Combretaceae</i>)	Charbuang	T	stb.	Decoction of stem bark used for cleaning purpose	Ulcerated sores.	Introduced; N. Bualpui, Thingdawl

Table 4: List of plants used as traditional ethno-medicine in Mizoram (continued)

Sl. No.	Scientific name & family	Local name	Habit	Part(s) used	Mode of preparation	Ailments/ diseases	Ecological distribution & location
189	<i>Terminalia bellirica</i> (Gaertn.) Roxb. (Combretaceae)	Thingvanda wt/ Tuikuk-reraw/ char-vantai	T	fr.	Decoction of plum of fruit taken internally	Headache, dropsy, piles.	very frequent in tropical forest; Pukzing
190	<i>Terminalia chebula</i> Retz. (Combretaceae)	Reraw	T	fr.	Infusion of fruit applied externally; infusion as gargle.	Burns, ulcers, wounds. Stomatitis, teeth bleeding, ulcerated gum.	Very frequent in tropical forest; Ngengpui sanctuary.
191	<i>Thunbergia coccinea</i> Wall. (Acanthaceae)		C	Stem	Ring of stem put on patients head, paste of stem applied externally.	Increase headache, tumor-pair animal's ailments, sores.	Scarce; Tawi forests
192	<i>Thunbergia grandiflora</i> Roxb. (Acanthaceae)	Vakohrui	C	sap. rt./leaves	Sap of cut stem drop on eyes, juice of crushed root/ leaves applied externally.	Eye-ache wounds, sprains, burns, fracture, emollient.	Very frequent in open/ secondary forest; Tuipuibari
193	<i>Tinospora cordifolia</i> (Willd.) Merr. ex. Hk. f. & Th. (Menispermaceae)	Theisawntlung	C	Leaves & st.	Decoction of leaves and stem taken internally.	Rheumatism, gout, fever, dyspepsia.	Rare; occur in secondary forest; Bukpui
194	<i>Tinospora sinensis</i> (Lour.) Merr. (Menispermaceae)	Vankaihni	T	stb.	Infusion of stem taken internally.	Urinary tract, infraction, fever.	Frequent in primary forests Sihphir, Dinthar 34
195	<i>Toona ciliata</i> Roem. (Meliaceae)	Teipui	T	stb.	Decoction of stem bark taken internally.	Dysentery, ulcers, tonic.	Common in tropical forests; Phuldungsei
196	<i>Trema orientalis</i> (L.) Bl. (Ulmaceae)	Belphuar	T	rb. & leaves	Infusion of root bark and leaves taken internally	Epileptic, diarrhoea, muscular pain.	Common in dry tropical semi-evergreen forests throughout Mizoram
197	<i>Uncaria sessilifructus</i> Roxb. (Rubiceae)	Ralsamkuai	C	Leaves	Leaves boiled in water taken internally.	Diphtheria, tonsillitis.	Frequent in primary forests; Ngengpui, Zobawk
198	<i>Vitex negundo</i> L. (Verbenaceae)	Thingkhawilupa	sh	Leaves	Decoction of leaves taken internally and poultice of leaves applied externally.	Fever, bronchitis and rheumatism, toothache, eye-diseases.	Uncommon; Durtlang roadside, Reiek
199	<i>Vitex peduncularis</i> Wall ex. Schauer. (Verbenaceae)	Thingkhawilupa	T	stb.	Stem bark boiled in water used for bathing patient and inhaled steam vapour.	Malarial fever.	Frequent in primary forest; Pukzing

Table 4: List of plants used as traditional ethno-medicine in Mizoram (continued)

Sl. No.	Scientific name & family	Local name	Habit	Part(s) used	Mode of preparation	Ailments/ diseases	Ecological distribution & location
200	<i>Vitis bifurcate</i> Wall. (Vitaceae)	Hruiveikual	C	rt.	Juice of crushed root applied externally.	Sciatica, spasm, constipation.	Fairly frequent in forest, W. Phulpui, Teirei
201	<i>Woodfordia fruticosa</i> Kurz (Lythraceae)	Ainawn	Sh.	ft.	Dried flowers boiled in water taken internally	Dysentery, menorrhoea, haemorrhoids	Sparse; occur in dry localities, kawlwchaw-NewSaiha road. Cultivated as ornamentals
202	<i>Zononia indica</i> L. (Cucurbitaceae)	Lalruangadawibur	C	fr. & seeds	Water poured into the fruit cavity drunk internally, and powdered seeds mixed with water taken orally.	Stomachache.	Rare; primary forest of old Chikha
203	<i>Zanthoxylum alatum</i> Roxb. (Rutaceae)	Arhrikreh	sh/ST	Leaves	Leaves act as expellant. Infusion of seeds and bark taken internally.	Rid of foul's lice. Dyspepsia, cholera.	Rare: Dampa forest and Sihphir
204	<i>Zanthoxylum rhetsa</i> (Roxb.) DC. (Rutaceae)	Chingit	ST	fr.	Paste of fruits mixed with honey taken orally.	Dyspepsia, rheumatism.	Usually and commonly found in current jhumlands.
205	<i>Zingiber officinale</i> L. (Zingiberaceae)	Sawhthing	H	rh.	Crushed roasted rhizome mixed with water and salt as gargle/ taken orally.	Diphtheria, cough/flatulence.	Widely cultivated in the state as cash crop
206	<i>Zingiber purpurum</i> Rosc. (Zingiberaceae)	Pale (Bru)	H	rh.	Powdered rhizome mixed with water taken orally.	Dyspepsia, flatulence, bronchitis and as stomachache.	Cultivated by Bru & Chakma tribes, Lalmon village.
207	<i>Zinginer gracile</i> Jack (Zingiberaceae)	Aithing	H	Leaves	Aromatic oil extracted from leaves taken orally.	Cough, bronchitis.	Cultivated in house garden by Brus, W. Phulpui.

Notes : H= Herbs; Sh=Shrubs; Eph=Ephimeral; T=Tree; ST=Small Tree; S sh= Scandent shrub; E=Epiphyte; C=Climber; Twn.=Twiner; Pro.-Procumbent; w.p.=Whole plant; rh.=rhizome; stb.=stembark; rtb.=root bark;tu.=tuber; Lalram= Lalramnghinglova(author); Rz.=Rozika

Table 5: Plants used in combination

Sl. No	Botanical name	Local name	Habit	Part(s) used	Mode of preparation	Ailments/diseases	User (tribe)
1	1. <i>Abelmoschus moschatus</i> Medic 2. <i>Byttneria pillosa</i> Roxb.	Uichhuhlo	H	rt.	Paste of ground roots applied externally.	Chronic ulcer.	Rakhai, Mizo
2	1. <i>Abelmoschus moschatus</i> Medic 2. <i>Desmodium triflorum</i> (L.) DC 3. <i>D. triquetrum</i> (L.) DC 4. <i>Plumeria acuminata</i> Ait. 5. <i>Allium sativa</i> L.	1. Uichhuhlo 2. Bawngekhlo 3. Arhrikreh 4. Vaingai 5. Purunvar	H H S ST H	rt. rt. rt. rt. 1 clone	The mixture is crushed and pounded to paste and made into pills. 1-2 pills taken 3 times per day.	Cough and inflammation.	Bru
3	1. <i>Aeschynanthes sikkimensis</i> Stapf. 2. <i>Bombax insigne</i> Wall 3. <i>Ilex cembellulata</i> Loes. 4. <i>Mirabilis jalapa</i> L. 5. <i>Rhus semialata</i> Murr.	1. Bawltehlantia 2. Pang 3. Thinguihahn 4. Aratukkhuan 5. Khawmhma	C T T H ST	rt. stb. stb. rt. wpd.	The parts are ground to powder; powder mixed with water taken internally and also applied externally.	Inflammatory glands.	Mizo
4	1. <i>Aginata indica</i> L. 2. <i>Areca catechu</i> L. 3. <i>Cissis rependa</i> Vahl. 4. <i>Piper betle</i> L.	1. Sangharvaibel 2. Kuva 3. Vawmdawng 4. Panhnah	H ST C C	bulb nut rt. lvs.	The combination is ground to powder. The powder is made into a paste and then to pills. 1-2 pills taken at menstrual period for 3 months	Infertility.	Bru
5	1. <i>Amaranthus caudatus</i> L. 2. <i>Ardisia polycephala</i> Wall.	1. Zoeng 2. Sialtuai	H ST	rtb. rtb.	Scrapped root bark (equal portion) mixed with water drunk orally	Stop bleeding on childbirth. Warm water is used for excess bleeding.	Chakma

Table 5: Plants used in combination (continued)

Sl. No	Botanical name	Local name	Habit	Part(s) used	Mode of preparation	Ailments/ diseases	User (tribe)
6	1. <i>Angiopteris evecta</i> (Forst.) Hoffm. 2. <i>Colysis hemionitida</i> (Wall.ex Mett.) Presl. 3. <i>Callicarpa macrophylla</i> Vahl. 4. <i>Diplazium maximum</i> (D.Don) C. Chatt. 5. <i>Rhaphidophora glauca</i> Schott. 6. <i>R. decursiva</i> (Roxb.) Schott	1. Arthladawnpui 2. Kawkchaket 3. Huahkhar 4. Chakawkhelei 5. Tubal 6. Tubal	Fern Fern ST Fern C C	rts. rt. lvs. rts. st&lvs. st&lvs.	The parts are ground to powder and the powder mixed with water taken internally as well as applied externally.	Inflammatory glands.	Mizo
7	1. <i>Ardisia paniculata</i> Roxb. 2. <i>Claoxylon khasianum</i> Hk.f. 3. <i>Clerodendrum wallichii</i> Mers. 4. <i>Musaenda macrophylla</i> Wall. 5. <i>Phlogacanthus thyriformis</i> (hardw.) Mabb. 6. <i>Thevesia palmate</i> Vis.	1. Muikhtui (Bru) 2. Nagabang (Bru) 3. Tratuba (Bru) 4. Khuymmurmu (Bru) 5. humriangkohha (Bru) 6. Chapau (Bru)	ST ST S S ST	rt. rt. rt. rt. rt. rt.	Combination of the roots rubbed on grindstone made into a mild paste applied externally on tumour swellings. The paste is applied gently from below upwards for 7 days.	Abdominal tumour. Eggshaped size bulging out from inside the abdomen.	Bru young girl (6) Tlabung got relieved with this medicine.
8	1. <i>Ardisia polycephala</i> Wall.ex.A.DC 2. <i>Murrua koienigi</i> (L.) Spreng. 3. <i>Vitis rependa</i> W. & A.	1. Sialtuai 2. Arpatil 3. Vawmdawng	ST S C	rtb. rtb. rt.	Root barks rubbed on grindstone is mixed with water. A hot iron dipped into the water is drunk.	Heart-pain, Heart trouble.	Chakma
9	1. <i>Baccaura ramniflora</i> Lour. 2. <i>Elaeagnus caudate</i> Schum.ex.Mom 3. <i>Emblica officinalis</i> Gaertn. 4. <i>Lapinonurus silvestris</i> Bl. 5. <i>Helicia robusta</i> (Roxb.) Bl. 6. <i>Saraca asoca</i> (Roxb.) de Wilde.	1. Pangkai 2. Sarzuk 3. Sunhlu 4. Anpangthuam 5. Pasaltakaza 6. Mualhawih	ST ST ST S T ST	rb. rt. fr. lvs. rtb. Stb.	Equal proportion of the combination is boiled and the water taken as tea. Decoction of root of <i>Baccaura ramniflora</i> mixed with local liquor is also prescribed for uteritis.	Strengthening the function of uterus, uteritis.	Bru

Table 5: Plants used in combination (continued)

Sl. No	Botanical name	Local name	Habit	Part(s) used	Mode of preparation	Ailments/diseases	User (tribe)
10	1. <i>Bombax ceiba</i> L. 2. <i>Draceana elliptica</i> Thunb. 3. <i>Sterculia villosa</i>	1. Pang 2. Chamthing 3. Khaupui	T S T	rt. rt. rt.	Roots made into a paste mixed with water taken internally twice daily.	Difficult urination.	Bru
11.	1. <i>Butea superb</i> Roxb. 2. <i>Cissus rependa</i> Vahl. 3. <i>Sonchus arvensis</i> DC. 4. <i>Vitis bifurcate</i> Wall.	1. Hruidum 2. Vawmdawng 3. Gangmula (Chakma) 4. Dudebra (Bru)	C C H C	rt. rt. rt. rt.	Crushed juice of roots applied on effected part and the juice taken internally.	Snake-bite & verrucosa.	Mizo
12	1. <i>Byttneria pilosa</i> Roxb. 2. <i>Callicarpa arborea</i> Roxb. 3. <i>Fiscus semicordata</i> var. <i>conglomerate</i> (Roxb.) Kurz 4. <i>Phyllanthus fraternus</i> Webs.	1. Sazuknghawng p 2. Hnahkiah 3. Theipui 4. Mitthisunhlu	C ST ST H	lvs. lvs. stb. plant.	Decoction of the mixture taken internally.	Jaundice and hepatitis.	
13.	1. <i>Callicarpa nudiflora</i> W. & A. 2. <i>Pothos scandens</i> L. 3. <i>P.kunstteri</i> Hk.f. 4. <i>Rapjodp[jpra decirsova</i> (Roxb.) Schott. 5. <i>R. glauca</i> var. <i> khasiana</i> Schott	1. Hnahkiah (Mizo) 2. Lehpong (Bru) 3. Lehpong (Bru) 4. Makhat (Bru) 5. Dulairu (Bru)	ST C C C C	lvs. st.&lvs. st.&lvs. st.&lvs. st.&lvs.	The paste of crushed parts wrapped with the leaves of <i>Phryganium capitatum</i> is put into hot ashes. The warmth paste is applied externally on fracture.	Fracture, bone-setting.	
14	1. <i>Phyllanthus fraternus</i> Webs. 2. <i>Terminalia chebula</i> Retz.	Mitthisunhlu (Mizo) Reraw (Mizo)	H T	w.p. fr.	The parts are ground to powder and becomes greenish-yellow. The powder is taken a tea spoonful twice daily for two months as contraceptive.	Contraceptive, birth-control.	Bawm

Table 5: Plants used in combination (continued)

Sl. No	Botanical name	Local name	Habit	Part(s) used	Mode of preparation	Ailments/diseases	User (tribe)
15	1. <i>Cinnamomum bejolghota</i> (Buch. Ham) Sw. 2. <i>Curcuma longa</i> L. 3. <i>Curcuma caesia</i> Roxb. 4. <i>Morinda angustifolia</i> Roxb. 5. <i>Piper nigrum</i> L. 6. <i>Syzygium aromaticum</i> (L.) Merr. & Perr.	1. Thakthingsuak 2. Aieng 3. Ailaihang 4. Thingaieng 5. Thingmarcha 6. Lawngpar	T H H S H T	rt. rh. rh. rt. Clones (2-3) Cloves (4-5)	The mixture is ground to powder. The powder (teaspoonful) mixed with water (6 table spoonful) is taken internally 2 times for 7 days.	Liver-ailment, hepatitis.	Bru
16	1. <i>Hlodia cordifolia</i> (Roxb.) Rids. 2. <i>Vitex peduncularis</i> Wall.ex.Schauer	Lungkhup Thingkawilu	ST T	stb. stb.	Decoction of stem bark taken internally.	Febrifuge, fever.	Mizo
17	1. <i>Ilex umbellulata</i> Loes. 2. <i>Kaempferia rotunda</i> 3. <i>Rhus semialata</i> Murr.	1. Thinguihahni 2. Tuktinpar 3. Khawmhma	T H ST	stb. rh. sht.	Equal parts of 1 & 3 are crushed and mixed with soup of 2 cooked with chicken taken internally ½ cup daily.	Pregnant woman with inflammation.	Mizo
18	1. <i>Inula cappa</i> DC. 2. <i>Lobelia angulata</i> Forst. 3. <i>Plantago major</i> L.	1. Buarthau 2. Choakathi 3. Kelbean	H H H	lvs. lvs. lvs.	Juice of crushed leaves taken orally.	Jaundice.	Mizo
19	1. <i>Phyllanthus fraternus</i> Webs. 2. <i>Terminalia chebula</i> Retz.	1. Mitthisunhlu 2. Reraw	H T	w.p. fr.	Equal portion parts grounded to powder and 2 teaspoonful is taken with water twice daily for 2 months as contraceptive.	Contraceptive, birth-control.	Bawm
20	1. <i>Smilax macrophylla</i> Roxb. 2. <i>Bridelia tomentosa</i> Bl.	1. Kaihapui 2. Phaktel	C ST	rt. rt.	Clean roots boiled in water is used for taking bath and drunk.	Jaundice.	Chakma

Table 5: Plants used in combination (continued)

Sl. No	Botanical name	Local name	Habit	Part(s) used	Mode of preparation	Ailments/diseases	User (tribe)
21	1. <i>Scoparia dulcis</i> 2. <i>Cuscuta reflexa</i> 3. <i>Bergenia ciliata</i> 4. <i>Helicia robusta</i> 5. <i>Mimosa pudica</i> 6. <i>Phyllanthus niruri</i>	1. Perhpawngchaw 2. Japanhlo ral 3. Khamdamdawi 4. Pasaltakaza 5. Hlonuar 6. Mitthi sunhlu	H H H T H H	w.p. w.p. st. stb. w.p. w.p.	Equal proportion of all parts @ 35g each are boiled with 3 lit of cold water up to 15 minutes. The solution is taken internally twice a day after food @ 125ml for 24 days.	Stomach ulcer	Mizo
22	1. <i>Helicia robusta</i> 2. <i>Myrica esculenta</i> 3. <i>Dillenia indica</i>	1. Pasaltakaza 2. Keifang 3. Kaihzawl	T T T	stb. stb. stb.	Barks are grinded to powder and 35gm each of the powder form are boil with 3 lit of cold water for 15 minutes after boiling till it forms a paste. The solution is taken internally twice a day after food @ 125ml for 24 days .	Stomach ulcer	Mizo
23	1. <i>Homalomena aromatica</i> 2. <i>Cinnamomum verum</i> 3. <i>Myria esculenta</i> 4. <i>Emblica officinalis</i>	1. Anchiri 2. Thakthing 3. Keifang 4. Sunhlu	H T T T	rt. stb . stb. Fr. without seed	The part(s) used were grinded to powder individually. The powder form all the four different plants @250g each are mixed together and packed in polythene bag. The mixed powder is inhaled through the nose as and when required	Sinusitis	Mizo
24	1. <i>Blumea lanceolaria</i> 2. <i>Phyllanthus dirurinaria</i> 3. <i>Scoparia dulcis</i> 4. <i>Curcuma longa</i> 5. <i>Clerodendron infortunatum</i>	1. Buarze 2. Mitthisunhlu 3. Perhpawngchaw 4. Aieng 5. Phuihnam chhia	H H H S	lvs. w.p. w.p. rh. lvs.	250 gm each of the 5 different plant are boil with one and half litter of cold water upto 15 mins after boiling . The solution is taken orally twice a day after food @ 15ml for 40 day	Kidney problems	Mizo
25	1. <i>Hedyotis scandens</i> 2. <i>Mimosa pudica</i> 3. <i>Oroxylum indicum</i> 4. <i>Callicarpa arborea</i>	1. Kelhnamtur 2. Hlonuar 3. Archangkawm 4. Hnahkiah	C H T T	st. rt. stb. stb.	500 gm each of these four different plant are boil with 2 L of cold water till 15 mins after boiling . The solution is taken orally twice a day after food @ 125ml for seven days .	Kidney problem	Mizo

Table 5: Plants used in combination (continued)

Sl. No	Botanical name	Local name	Habit	Part(s) used	Mode of preparation	Ailments/ diseases	User (tribe)
26	1. <i>Cuscuta reflexa</i> 2. <i>Embllica officinalis</i>	1.Japanhloral 2.Sunhlu	C T	stm. Seed	Fresh juice 750ml of dodder plant is mix with 125 ml of gooseberry seed oil. The solution is taken internally thrice a day after food @ 125ml for two weeks.	Stomach-ache	Mizo
27	1. <i>Alstonia scholaris</i> 2. <i>Justicia adhatoda</i>	1.Thuamriat 2.Kawldai	T S	stb. lvs.	The parts used were grinded to powder individually and 120g each are boil with 1lit of cold water for 15 minutes after boiling. The solution is used for bathing. The solution is taken internally @ 125ml before taking bath .	Fever	Mizo
28	1. <i>Homalomena aromaticata</i> 2. <i>Terospernum tetragonum</i>	1.Anchiri 2.Zihngal	H T	rts. stb.	250ml of fresh juice of <i>Homalomena aromaticata</i> is mixed with 2-3 drops of yellow snake tree vinegar.Externally applied on the infected portion.	Measles, rash	Mizo
29	1. <i>Querrcus serrata</i> 2. <i>Melastoma malabathricum</i> 3. <i>Dillenia indica</i>	1.Sasua 2.Builukham 3.Kaihazawl	T S T	stb. rt. stb.	5 kg of Red oak bark and 1kg of <i>Melastoma</i> sp. and <i>Dillenia</i> sp. are boil with 15 lit of water for 14 hrs. Taken orally twice a day at early morning and before bed @ 10ml for 2 month.	Stomach problems	Mizo

H= Herbs; S=Shrubs; ST=Small Tree; C=Climber; SC= Scandent; rt=root; stm. = stem ; stb.=stembark; rtb.=root bark; rts+root stock; wpd=wood powder; wp=Whole plant; lvs=leaves; sht=shoot; fr=fruit; rh=rhizome.

Table 6: Ethno-veterinary plants including snake-bites, insect-bites etc.

Sl. No.	Scientific name & family	Local name	Habit	Part(s) used	Mode of preparation	Ailments/ diseases	Ecological distribution & location
1	<i>Achyranthus aspera</i> L. (<i>Acanthaceae</i>)	Buchhawl	H	lvs.	Juice of leaves applied on sore-worms	Animal's sore-worms, pigs & goats.	Common in waste places; Samtlang.
2	<i>Ageratum conyzoides</i> L. (<i>Asteraceae</i>)	Vailenhlo	H	w.p.	Juice of crushed leaves mixed with 'lungthi'-a ferrogenous mineral of river-rocky cliff applied on toes.	Domestic animal's sore-leg/toes.	Plants very common in waste places/ damp soil, and mineral very rare & difficult locations; Maicham project.
3	<i>Alstonia scholaris</i> (L.) R.Br. (<i>Apocyanaceae</i>)	Thuamriat	T	stb. & lvs	The stem bark/ leaves boiled in water used for bathing pigs and juice of leaves applied on sores. Crushed juice of leaves applied on animal's sore.	Pig's mange, wounds & sores.	Frequent & scattered in tropical forests; Saitual, Tlabung
4.	<i>Artemisia vulgaris</i>	Sai	H	lvs	Leaf juice applied on cuts & wounds of animals. The extract is given orally to domesticated animals to Stop internal bleeding.	Domestic animals like cow, dog, goat, pig etc.	Common in fallow lands, roadsides in sub-tropical climates. Mualpheng, Durtlang etc.
5	<i>Blumea lanceolaria</i> (Roxb.) Druce (<i>Asteraceae</i>)	Buarze	H	lvs.	Juice of crushed leaves applied/ dropped on sores of animals.	Sore-worms of dogs/goats are instantly killed or expelled.	Scattered in tropical & sub-tropical forests, Mampui, Mamit.
6	<i>Butea superba</i> Roxb. (<i>Fabaceae</i>)	Hruichun	C	rt.	Juice of root in combination with that of <i>Sonchus arvensis</i> and <i>Vitis bifurcata</i> applied externally.	Snake-bites on animals.	Common in tropical secondary forests; Mualcheng, Meidum
7	<i>Cannabis sativa</i> L. (<i>Cannabaceae</i>)	Kanja	H	lvs.	Fresh leaves given to domestic animals and chicken.	Strengthen thin animals and expel intestinal worms in chicken.	Sparsely found in few locations of private gardens.

Table 6: Ethno-veterinary plants including snake-bites, insect-bites etc (continued)

Sl. No.	Scientific name & family	Local name	Habit	Part(s) used	Mode of preparation	Ailments/ diseases	Ecological distribution & location
8	<i>Callotropis procera</i> (Ait.) R.Br. (Asclepiaceae)		S	Latex, lvs.	Latex of leaf is dropped over the injured sore or portion. Bruise leaves applied on sores.	Skin infection of goat, pig cow.	Chakma tribe used the plant and found in few locations at Sakeilui&Tokolo.
9	<i>Cassia hirsuta</i> L. (Caesalpinaceae)	Rulchuk damdawi	S	lvs.&rt.	Leaves and roots are boiled in water and given internally. The leaf juice is also applied on the affected part.	Snake-bites on animals & man.	Scarce; found in Lalmon village, South west Mizoram
10	<i>Clorodendrum infortunatum</i> L. (Verbenaceae)	Phuihnamchia	S	lvs.	Crushed leaves mixed with little water is used for washing wounds and applied the pounded leaves on the affected part.	Healing pig's wounds.	Very common in tropical open waste lands or among shrubberies; Zamuang,Lunglulh.
11	<i>Congea tomentosa</i> Roxb. (Verbenaceae)	Huaibawkhru	C	Stem	The stem is made into a ring and put on the neck of animals (cattle, pigs, goats, buffaloes) to expel sore-worms.	Sore-worms get rid of from wounds/ ulcers/ sores of domesticated animals.	Infrequent, tropical climber; Bymari,Mampui.
12	<i>Curculigo crassifolia</i> (Amaryllidaceae)	Phaiphek	H	rts.	Juice of crushed rootstock or immature stem applied externally and bandaged.	Animal's wounds/cuts including man and snake-bites.	Common, near rivers or under wood forests; Zamuang
13	<i>Curcuma longa</i> L. (Zingiberaceae)	Aieng	H	H	Juice of fresh rhizome applied externally...	Wounds, ulcers & sores of domesticated animals like dogs and goats.	Cultivated in large- scales in jhumlands throughout Mizoram

Table 6: Ethno-veterinary plants including snake-bites, insect-bites etc (continued)

Sl. No.	Scientific name & family	Local name	Habit	Part(s) used	Mode of preparation	Ailments/ diseases	Ecological distribution & location
14	<i>Curcuma minor</i> King (Zingiberaceae)	Ailaihang	H	rh.	Juice of fresh rhizome applied on the affected part of snake-bites	Snake-bites on animals and man.	Cultivated in home gardens as domestic medico-plant.
15	<i>Dillenia indica</i> L. (Dilleniaceae)	Kawrthindeng	T	stb.	Cold infusion of stem bark given orally to dogs.	Diarrhoea of dogs.	Common, on river banks in tropical forests; Teirei, Kau.
16	<i>D.pentagyna</i> Roxb. (Dilleniaceae)	Kaihzawl	T	stb. & lvs	Dried bark ground to powder mixed with pigs food is used pigfed.	Cure pig's mange, cough & sickness.	Scattered in tropical forests of Keifang, Vervek, Tlabung.
17	<i>Elsholtzia communis</i> L. (Lamiaceae)	Lengmaser	H	lvs.	Juice of leaves applied on snake-bites.	Snakes-bites on animals	Cultivated as mint in private gardens /jhumlands
18	<i>Erythrina stricta</i> Roxb. (Fabaceae)	Fartuah, Tuahpui	T	br./ wood	Branches or wood cut into pieces (5cm long) and made into necklace and put on the ring of cattle.	To get rid off sore-works of cows, pigs & goats	Common in tropical dry forest throughout Mizoram; Hnahthial, Dampui etc.
19	<i>Fiscus auriculata</i> Lour. (Moraceae)	Theibal	ST	Latex	Milky juice or latex applied on animal-sores.	Domestic animal's sore/ulcers.	Less frequent; sub-tropical forest mixed with bamboos; Saikah, Ngengpui.
20	<i>Fiscus semicordata</i> Buch. Ham.ex Sm. (Moraceae)	Theitit	ST	rt.	Juice of root or infusion of root given internally.	Snake-bites on animals.	Frequent, near rivers/ brooks in sub-tropical forests, Zoo, Aizawl, Chite river.
21	<i>Garcinia coromaria</i> (Rubiaceae)	Rulhlauh (Lalram.)	T	rt.	Root is extracted on Thursday holding in front of snake repelled snakes.	Chakma medicineman used it as snake-repellant against the attack of snakes .	Collected from Lalmon village, South west Mizoram.
22	<i>Garcinia sopsopia</i> (Buch.Ham) Mabb. (Rubiaceae)	Theisakei	T	twig, stb	Stem bark/ twigs crushed into powder applied on snake-bite & tiger-bite	Bawm practioner used to healing wounds of snake-bite/tiger-bite	Frequent in tropical forests; Vathuampui

Table 6: Ethno-veterinary plants including snake-bites, insect-bites etc (continued)

Sl. No.	Scientific name & family	Local name	Habit	Part(s) used	Mode of preparation	Ailments/ diseases	Ecological distribution & location
23	<i>Gelsemium elegans</i> Benth. (<i>Longaniaceae</i>)	Hnamtur	SS	rtb.	Root-bark is crushed to coarse powder and mixed with pig's feed.	Effective for pig's mange, diarrhoea, sickness and cough. Highly poisonous to human beings.	Occur in temperate sub-tropical & forests; Vantlang, Pawlang etc.
24	<i>Gynocardia odorata</i> R. Br. (<i>Flacourtiaceae</i>)	Saithei	T	fr., lvs. & stb.	Crushed fruits, leaves and stem-bark dipped in to the water is poisonous.	Poisonous to domestic animals and used as fish-poison.	Very rare; tropical forests of Ngengpui & Phura
25	<i>Ilex umbrellulata</i> (Wall.) Loes. (<i>Aquifoliaceae</i>)	Thinguihahni	T	stb.	Crushed stem-bark mixed with pigs' food used as medicine.	Used to cure pigs sickness and mange.	Very frequent in sub-tropical and tropical forests. Tawipui-Thingfal.
26	<i>Juglans regia</i> L. (<i>Juglandaceae</i>)	Khawkherh	T	lvs. & fr.	Crushed leaves and fruits dipped into the water for stupifying fishes.	Fish-poison, prawns and crabs.	Scarce; sub-tropical forests; Sihphir, Lengteng.
27	<i>Lepidagathis incurve</i> F. Ham.ex.D.Don. (<i>Acanthaceae</i>)	Vangvattur	H	lvs.	Crushed juice of leaves applied on leech-bite.	Leech-bites on animals and man.	Common in tropical forests as undergrowth, Tlabung, Tuipuibari.
28	<i>Lindernia ruelloides</i> (Colms.) Penn. (<i>Scrophulariaceae</i>)	Thasuih	H	w.p.	Paste of crushed plant applied on bone-fracture of animals.	Chicken bone-setting and contraction of nerves.	Frequent, usually occur in waste moist places; Samthang.
29	<i>Litchi chinensis</i> Sonner (<i>Sapindaceae</i>)	Lachu	T	lvs.	Juice of crushed leaves applied on bite of animals.	Animal-bites like dog-bite.	Cultivated in home/private gardens.
30	<i>Mikania micrantha</i> Kunth (<i>Asteraceae</i>)	Ruteng	C	Whole plant	Juice of crushed leaves applied on cuts & wounds. Plants cooked with husk of rice used as pig-fed.	Healing cuts & wounds for domestic animals and plants used as pig-fed.	Rather rare; usually occur in secondary forests; Sairep etc.
31	<i>Milletia piscidia</i> Wt. (<i>Fabaceae</i>)	Ruteng	ST	rt. & fr.	Juice of crushed roots and fruits applied on sore-worms.	To get rid off animal sore-worms.	

Table 6: Ethno-veterinary plants including snake-bites, insect-bites etc (continued)

Sl. No.	Scientific name & family	Local name	Habit	Part(s) used	Mode of preparation	Ailments/ diseases	Ecological distribution & location
32	<i>Musa</i> spp. (<i>Musaceae</i>)	Changel	H	Sap	Watery sap coming out of cut- stem applied on snake-bites and the sap given orally.	Snake-bites and insect-bites on animals and man.	Very common in river valleys and moist shady places throughout Mizoram
33	<i>Musaenda roxburghii</i> Hk.f. (<i>Rubiaceae</i>)	Vakep	S	rtb. & stb.	Juice of crushed root/ stem bark applied on snake-bites. The affected part washed with root juice of <i>Imperata cylindrica</i> easily locates the affected part.	Snake-bites on squerrels and domesticated animals.	Common in open forests throughout Mizoram
34	<i>Podocarpus neriifolius</i> D.Don. (<i>Podocarpaceae</i>)	Thiangfar, Sarthi	T	stb.	Juice of crushed bark applied on bite of centipedes.	Centipede-bites on animals and man.	Occur in tropical (Ngengpui forest) 7 subtropical(Reiek forest) etc.
35	<i>Picrasma javanica</i>	Thingkha	T	Bark, Lvs.	Leaves are given raw to animals.	As fodder to increase cow milk and indigestion and sores.	Frequently distributed in tropical & subtropical Forests; Tlabung, Tawi etc.
36	<i>Sapindus mukorossi</i> Geartn, (<i>Sapindaceae</i>)	Hlingsi	T	Nut	Juice of soap-nut used in leech-bite and as vermifuge.	Leech-bite on animals and as vermifuge/ biocide.	Uncommon; tropical deciduous forests, Khawruhlian, Kaw rth-ah etc.

H=Herb; C=Climber; S=Shrub; T=tree; SS=Scandent Shrub; ST=small tree; lvs=leaves; w.p. whole plant; stb=stem-bark; rt=root; rts= root stock; br=branch; fr=fruit; rtb=root bark; fl=flower.

Conclusion

North East India, being part of the Indo-Burma hotspots, is the region rich in the bioculture and ethno-medicinal plants diversity. Though a number of research papers and books have been published, still there is a vast scope of tribe-wise inventory research and documentation of the indigenous knowledge of herbal medicines in each State of the North East Region. It is reported that at least 25% of modern drugs are discovered on ethnobotanical leads [24]. Since most of the valuable medicinal plants are under severe threat mainly due to anthropogenic activities, large scale tissue culture multiplication and large scale *ex-situ* cultivation cannot be over-emphasized. Detailed scientific research and development of potential pharmaceutical medicinal plants of the North East India is prospective.

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