

INDIGENOUS TRADITIONAL KNOWLEDGE AND USAGE OF FOLK BIO-MEDICINES AMONG RONGMEI TRIBE OF TAMENGLONG DISTRICT OF MANIPUR, INDIA

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Abstract

Background: Rongmei tribe (Kooki), are inhabitant of the Charoi Chagotlong village, Tupul, Tamenglong district of Manipur have the traditional knowledge of folk bio-medicine based on diverse plant species for the prevention and cure of certain chronic diseases. The aim of this study was to document and preserve the indigenous knowledge of the Rongmei tribe on folk medicines.

Material and methods: The present work was based on methodical field survey conducted between 2010, to 2013. Local people of within 30-70 age groups of both sexes were interviewed and a group discussion (using a structured interview schedule), was held to know about the type of plant parts used in folk bio-medicines, and their mode of use. The interviewers were drawn from a wide array of disciplines (Vendors, Farmers club, NGO's, scientific societies, etc.), to obtain maximum information in relation to folk bio-medicine.

Results: A total of 60 species belonging to 36 different families (ranging from gymnosperm to angiosperm with medicinal benefits), were discussed briefly with significant emphasis on their local name, scientific name, family, parts used; they claimed to cure various ailments from these plants in this mode of folk bio-medicine. The different plant parts used were leaves, fruits, bulbs, bark, roots, seeds, tuber, trunk, flower, shoot, whole plant, rhizome, stem, wood and berries. Based on a life form of the reported plants comprise herbs, shrubs, trees, grasses, bulb, vine, climber, tuber and succulent.

Conclusion: Efforts should be made to promote the use of traditional biomedicines within rural communities to preserve the traditional knowledge.

Keywords: Biomedicinal plants, Manipur, Rongmei tribe

Introduction

Traditional knowledge will always be a valuable resource for future generations. Unfortunately, much of the traditional knowledge has not yet been properly documented and is likely to be lost when the generation that has it passes on without handing it over to the younger generation. Traditional medicine has been in use all over the globe and stems from the use of locally available plants. Tribal communities, mostly use it because of the availability of these plants and its cost effectiveness. Younger generations nowadays are moving to cities in search of education, employment, etc. The tribal communities have not remained unaffected by modernization and the youth do not have the time or interest to acquire knowledge on folk medicine and conserve their biodiversity. This attitudinal inference poses a threat to possible loss of the biodiversity of species used in folk medicine as well as of indigenous technical knowledge (Ong et al., 2012). The young acquire the knowledge for use of the plants from the older generation. These medicinal systems are heavily dependent on various plant species and plant based products. Some species are endemic and are becoming increasingly rare and at the verge of extinction. North-Eastern states are rich in biodiversity. There are plants which are used by tribes which cures a number of ailments. Ethno botany aims at the preservation of valuable traditional knowledge for generations unborn in other communities. Implementing in-situ conservation, promotion and usage of the plants in a sustainable manner helps to utilize the plants effectively. It helps not only in conservation of these traditional medicinally important plants, but also in the marketing of products made from them.

Material and methods

The study was based on the field survey conducted to collect information on traditional knowledge in village Charoi Chagotlong, Tupul area of Tamenglong district in Manipur with the aim of identifying the plants used in the general pharmacopoeia among the villagers. The study was undertaken at the project on the collection, documentation and validation of Indigenous Technical Knowledge of folk medicine/s used within Charoi Chagotlong, Tupul in Tamenglong district. The sampling method employed was random sampling. Manipur state lies between 92° 58' E, to 94°45' E longitude, and 23° 50' N, to 25° 42' N latitude. Altitude varies from 750 to 3114 m above mean sea level, draining from North to South. Out of total geographical area of 22, 327 sq km, 90% area is under hill tract and the rest is valley area. The study area (Charoi Chagotlong village) is located on 93° 29'0" E longitudes and 24° 59'0" N latitude with an altitude of 2000 meter above mean sea level. Initially the data were collected from individual farmers and further validated by triangulation method. The Rongmei tribe inhabits this village. During the study more than 15, visits were made to the study site for observation, and participation in group discussion and conversing with the villagers. Information from the villagers were obtained through general conversation, participation, group discussion and triangulation method, guided by a predetermined set of questioners during each visit. The final information was confirmed from key informants Mr. Mankao and N. Kamei of Rongmei tribe, who have good traditional knowledge about folk medicine and the usage of various plant species available in the area. During the study using the method of ethno-botanical enquiry, all necessary aspects of traditional knowledge about folk medicine and usage for every specimen were recorded. The sessions were recorded and transcribed later. Plant specimens were collected using the standard taxonomical procedure, taking specimens with leaves, flower, bark, etc. Photographs of every specimen were also taken and used together with the plant specimens for identification and record (Singh and Singh, 1985; Singh et al., 1989; Martin, 1995; Jain and Mudgal, 1999)

Results

Table 1 represents the list of plants in alphabetical order of generic and species name used as folk medicine by Rongmei tribe (Kooki), in Charoi Chagotlong, in Manipur. Other information recorded includes the family name, local name, life form and the plant part used: whether used as cooked or eaten raw.

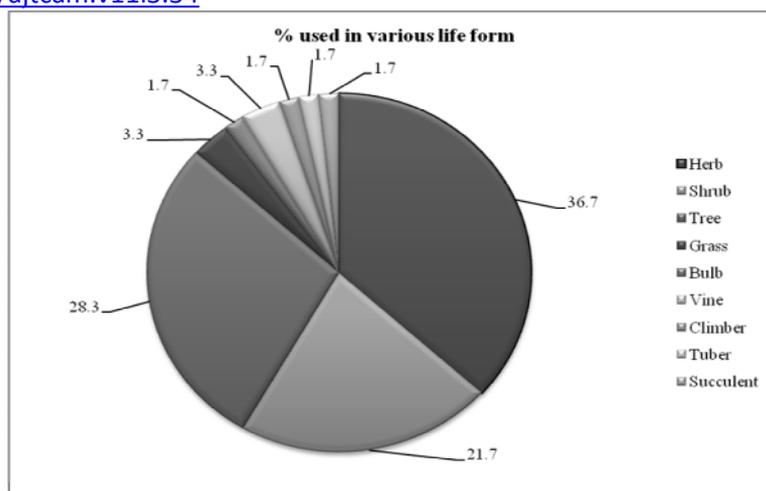


Figure 1: Percentage of life form (growth habit) of different plant species

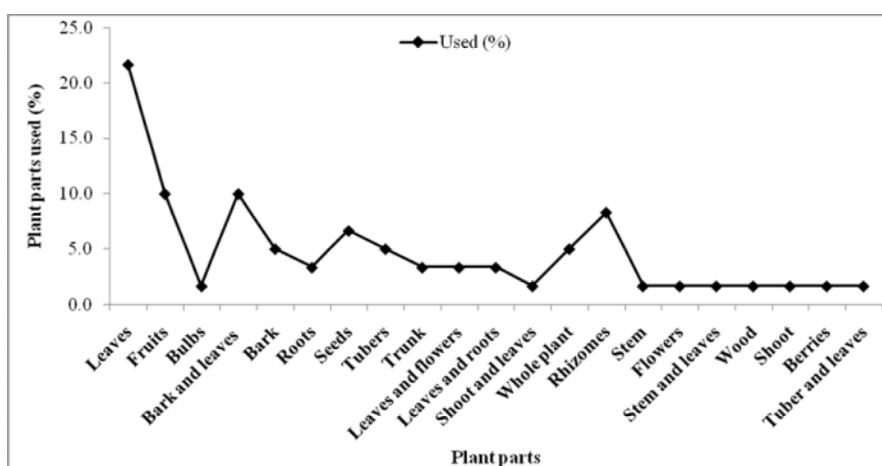


Figure 2: Percentage of various plant parts used as folk biomedicine

This study recorded a total of 60 plant species used by the Rongmei tribe. Figure 1 and 2 illustrates the percentage of bio-medicinal species recorded in this study and categorized based on plant life form and their uses. Based on life form (growth habit), the reported plants comprises 22 species (36.7%), herbs, 13 (21.7%), shrubs, 17 (28.3%), trees, 2 (3.3%), grasses, 1 (1.7%), bulb, 2 (3.3%), vine, 1 (1.7%), climber, 1 (1.7%), tuber and 1 (1.7%), succulent. On the basis of plant parts used, 13 species (21.7%), are used in the form of leaves, 6 (10%), fruits, 1 (1.7%), bulbs, 6 (10%), bark and leaves both, 3 (5%), bark, 2 (3.3%), roots, 4 (6.7%), seeds, 3 (5%), tuber, 2 (3.3%), trunk, 2 (3.3%), leaves and flower both, 2 (3.3%), leaves and root both, 1 (1.7%), leaves and root both, 1 (1.7%), shoot and leaves both, 3 (5%), whole plant, 5 (8.3%), rhizome, 1 (1.7%), stem, 1 (1.7%), flower, 1 (1.7%), stem and leaves both, 1 (1.7%), wood, 1 (1.7%), shoot, 1 (1.7%), berries and 1 (1.7%), trunk and leaves both (Figure 2). The 60 plant species belong to 36 families. Based on the family, Fabaceae (5), is the most widely used family followed by Zingiberaceae (4), Dioscoreaceae (3), Asteraceae (3), Anacardiaceae (3), Lauraceae (3), Oxalidaceae (3) and Moraceae, Magnoliaceae, Solanaceae, Poaceae, Euphorbiaceae, Acanthaceae, Lamiaceae are represented by 2 species each. However, 22 families were represented by one species each (Figure 3).

Discussion

During the study, 60 species, including gymnosperm and angiosperm, belonging to different genera and 36 families were collected. The results showed that the Chagotlong villagers use a good number of plants as folk medicine. The people know that these are good for health, prevent and cure various chronic diseases. This could be attributed to the presence of phytochemicals, antioxidants and other forms of medicinal properties in these plants that enhance the immunity of the human body (Craig, 1999; Benny and Vanitha, 2004). Various plant parts used by tribes were considered to be rich in nutrition, antioxidants, and energy etc. These are also rich in vitamins [A (carotenoids), C, K, E], folate, magnesium, calcium, selenium, potassium, zinc, fiber, etc (Blois, 1958; Benzie and Strain, 1996; Obadoni and Ochuko, 2001). The villagers expressed concern at the possible loss of native plant species and indigenous traditional knowledge about the utility and usefulness of different plant species. They attributed it to strong dis-interest shown by the youths in the acquisition of traditional knowledge from the village elders. This decrease in usage of native species of edible plants is likely to continue in the future as more non native edible plants are made easily available to them in nearby shops. Traditional knowledge of medicinal plants can provide leads for further scientific studies on species and genetic diversification with certain desirable traits that can be used or transferred into the modern biomedicine for prevention and cure of certain chronic diseases. It is important not only to put such traditional knowledge on record and conduct further studies, but also to take steps to conserve the species and genetic diversity of folk biomedicine before they are lost to humans.

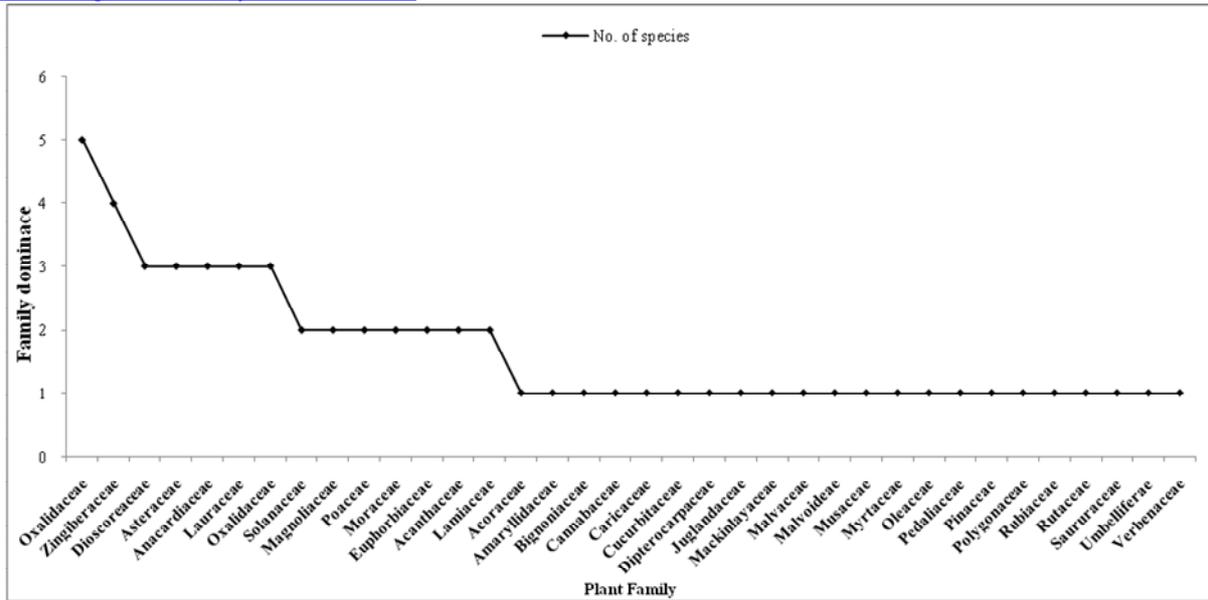


Figure 3: Family dominance curve of the plant species used as folk biomedicine



1. *Adhatoda vasica*



2. *Centella asiatica*



3. *Dioscorea bulbifera*



4. *Dioscorea pentaphylla*



5. *Eryngium foetidum*



6. *Euphorbia antiquorum*



7. *Ficus retusa*



8. *Michelia champaca*



9. *Oroxylum indicum*



10. *Rhus semialata*



11. *Zanthoxylum acanthopodium*



12. *Zingiber officinale*

Medicinal plants are part and parcel of human society in combating diseases from the dawn of civilization. There has been a widespread belief that the green medicines are healthier and safer (Shamsi et al., 2006). *Acorus calamus* has a long history of medicinal use in Chinese and Indian herbal traditions (Shamsi et al., 2006). *Acorus calamus* has been reported against snakebite (Shamsi et al., 2006). Hamayun et al., 2006 mentioned the use of rhizome against snakebite in district Buner, NWFP, Pakistan (Hamayun et al., 2006). *Adhatoda vasica* was also used in snakebite in the region of the Ayubia National Park, Pakistan (Ahmad and Javed, 2007). The chemo-preventive activity has been attributed to the presence of organosulfur compounds in garlic. In addition, some organosulfur compounds derived from garlic, including S-allylcysteine, have been found to retard the growth of chemically induced and transplantable tumors in several animal models. Therefore, the consumption of garlic may provide some kind of protection from cancer Development (Lau et al., 1990; Ejaz et al., 2003). *Artocarpus integrifolia* contains homopterocarpin and cycloheterophyllin that act as anti diabetic (Hemma et al., 2011). The Rongmei tribe of Tamenglong district of Manipur used *Artocarpus integrifolia* in diarrhoea. *Averrhoa carambola* contains Saponins, Flavonoids, Polyphenols, Tannins and Triterpenoids in various extracts. Its extracts possess significant anti-helmintic activity in a dose dependant manner when compared with the standard drug Albendazole (Azeem et al., 2013). *Bauhinia purpurea* stems was used for the treatment of sores (of smallpox) (Dey and De, 2010) and for Poisonous bites, female disorders (Khumbongmayum, 2005). *Benincasa hispida* extract has been used for the prevention of ulcer (Ghosh and Baghel, 2011). However, Rongmei tribe has been using this plant for the treatment of stomach ulcers and jaundice. *Bombax malabaricum* flower, root, bark was used for infertility, excessive bleeding, leucorrhoea and sexually transmitted diseases (Gupta and Solanki, 2013). *B. monosperma* exhibited antifungal activity (Sahu and Padhy, 2013), while, its leaves were also used as a tonic, and its bark used in snake bite. As a traditional Chinese medicine, the leaves of pigeonpea have been widely used to arrest blood pressure, relieve pain and kill worms (Tang et al., 1990). It contains substantial amounts of antioxidants, including tocopherols (vitamin E), carotenoids, ascorbic acid, flavonoids and tannins (Larson, 1988). *Cannabis sativa* has medicinal properties and was used for the alleviation of a variety of illnesses such as multiple sclerosis, Tourette's syndrome, chronic pain, wasting syndrome associated with AIDS/HIV and anorexia (Grotenhermen and Russo, 2002). The extracts of unripe *Carica papaya* contain terpenoids, alkaloids, flavonoids, carbohydrates, glycosides, saponins, and steroids (Aravind, 2013). *Centella asiatica* has been reported to have been used for various medicinal purposes such as for wound healing, treatment of asthma, ulcers, leprosy, lupus, vein diseases (Kartnig, 1988), memory improvement, as an antidepressant, antibacterial, antifungal, psoriasis and anti-cancer agent (Babu et al., 1995), even though its primary application has been in promoting wound healing. *Cinnamomum zeylanicum* contains glycosides phytosterols and stem bark used for anti-diabetic (Rao and Jamil, 2011). *Dioscorea bulbifera* contains flavonoids, alkaloids and saponins. Bulbs were used in anti-diabetic (Sougataghosh et al., 2012). *Mangifera indica* has been used as a protective measure against snakebite, inflorescence of the plant (local name: *Aam*) is massaged on the hands by the *Tharu* tribe of Devipatan division in the Terai belt of Uttar Pradesh (Kumar et al., 2006). *Desmodium gangeticum* has been demonstrated to possess antioxidant, anti-nociceptive, anti-inflammatory (Govindarajan et al., 2007), and antiemetic (Joshi and Parle, 2007), cardio- protective and anti-ulcer effects (Dharmani et al., 2005). *Dioscorea* is also used as medicines to prevent diarrhoea and diabetes (Lasztity et al., 1998). It is composed mainly of starch, with some proteins, lipids, vitamins and minerals (Mignouna et al., 2008). *Elaeocarpus ganitrus* is commonly known as Rudraksha tree in India. Rudraksha is used in Ayurveda for mental diseases, epilepsy, asthma, hypertension, arthritis and liver diseases (Dasgupta et al., 1984). The antioxidant capacity of *E. ganitrus* is due to the contribution of phenolics and flavonoid components (Kumar et al., 2008). *Eringium campestre* contains glycosides of kaempferol, isorhamnetin, luteolin and quercetin (Hohmann et al., 1997) and flavanolacyl glycosides (Nebija et al., 2006). Phytochemical investigations of some *Ficus* species revealed phenolic compounds as their major components (Abdel-Hameed, 2009). *Michelia champaca* contains linalool, 2-phenethyl alcohol and act as an anti-diabetic (Gupta Summet et al., 2011). *S. spontaneum* root extract exhibits potent free radical scavenging and antioxidant activity. This might be attributed to the presence of various phyto-constituents viz., alkaloids, flavonoids, tannins, steroids, terpenoids, glycosides and phenolic constituents (Sathya and Kokilavani, 2013). Marigold flower petals are significant source/s of the Xanthophyll and have a much higher concentration of this pigment compared to other plant materials (Verghese, 1998). The phototoxic properties of *Xanthium strumarium* has been shown to be stronger than those of psoralen (Srivastava, 2011). *Zingiber officinale* is used in breathing problem, coughs (Rahmatullah et al., 2010a); Rabies, pneumonia, stomach ache, chicken pox, dyspepsia (Rahmatullah et al., 2010b); Arthritis, gout (Rahmatullah et al., 2010c). The genus *Zanthoxylum* has a great importance due to its ethnic-botanics, phyto-chemistry and biological activity, and it remains a promising source of various secondary metabolites including benzophenanthridine alkaloids (Yang, 2008; Da Silva et al., 2006).

Conclusion

Rongmei tribal community in Charoi Chagotlong village in Manipur has played an important role in preserving folk traditions. However, the advent of modern civilization has adversely affected the tradition and heritage of the tribal community and thus the younger generations are not exposed to traditional practices. There should be focused efforts to promote the use of traditional biomedicines within rural communities. Modern arena of medication can also provide an opportunity to promote and explore folk biomedicines for prevention and cure of various chronic diseases. In future, the biochemical aspects of folk biomedicine are needed to be analyzed.

Acknowledgement

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S. N.	Name of the Plant (local)	Life form	Name of the Plant (English)	Scientific Name	Family	Parts	Uses
1.	Okhidak	Herb	Sweet flag	<i>Acorus calamus</i>	<u>Acoraceae</u>	Rhizome	Rhizome extract used in severe cough and chest congestion.
2.	Nongmangkha angouba	Shrub	Malabar nut	<i>Adhatoda vasica</i>	<u>Acanthaceae</u>	Leaves, flowers	Leaves used in jaundice and muscular pains, flowers in asthma and bronchitis, leaf juice in diarrhoea and dysentery.
3.	Chanam	Bulb	Garlic	<i>Allium sativum</i>	Amaryllidaceae	Bulb	Extract of bulb mixed with mustard oil is applied to chest, throat in case of cough and other chest complaints, juice used for skin troubles.
4.	Theibong	Tree	Jack fruit	<i>Artocarpus integrifolia</i>	Moraceae	Roots	Used in diarrhoea.
5.	Heinoujom	Tree	Carambola	<i>Averrhoa carambola</i>	Oxalidaceae	Fruit	Fruit extract given in jaundice and unripe fruits in bleeding piles.
6.	Chingthrao angouba	Shrub	White bauhinia	<i>Bauhinia acuminata</i>	Fabaceae	Leaves, bark	Decoction of bark or leaves is useful in leprosy, asthma
7.	Chingthrao nganleinaba	Shrub	Pink bauhinia	<i>Bauhinia purpurea</i>	Fabaceae	Bark	Bark extract is used in insect bite, leprosy and irregular menstruation.
8.	Torbot	Climber	Ash gourd	<i>Benincasa hispida</i>	<u>Cucurbitaceae</u>	Fruit	Boiled extract of fruit given in stomach ulcers and jaundice.
9.	Tera	Tree	Silk cotton tree	<i>Bombax malabaricum</i>	<u>Malvaceae</u>	Flowers	Crushed flowers applied to snake bites.
10.	Pang gong	Tree	Flame of the forest	<i>Butea monosperma</i>	Leguminasae	Bark, leaves	Leaves are tonic, bark used in snake bite.
11.	Mairongbi	Shrub	Red gram	<i>Cajanus cajan</i>	Fabaceae	Seeds	Used in snake bite.
12.	Ganja	Herb	True hemp	<i>Cannabis sativa</i>	Cannabaceae	Leaves	Diarrhoea and dysentery
13.	Awathabi	Tree	Papaya	<i>Carica papaya</i>	Caricaceae	Fruit	Constipation, abdominal disorders and dysentery
14.	Perook	Herb	Indian penny wort	<i>Centella asiatica</i>	<u>Mackinlayaceae</u>	Whole plant	Fresh plant juice with honey given in ulcer and urinary troubles
15.	Tejpat	Tree	Indian cassia	<i>Cinnamomum tamala</i>	<u>Lauraceae</u>	Bark, leaves	Used in diarrhoea and snake bite
16.	Ushingsha	Tree	Cinnamon	<i>Cinnamomum zeylanicum</i>	<u>Lauraceae</u>	Leaves, bark	Boiled leaf extract given in cough, bark given in cold and vomiting.
17.	Yaingang	Herb	Turmeric	<i>Cucurma domestica</i>	<u>Zingiberaceae</u>	Rhizome	Applied to wounds and skin infections
18.	Noongai yensil	Herb		<i>Desmodium microphyllum</i>	Leguminasae	Whole plant	Plant decoction used for urinary troubles due to stones
19.	Haa angouba	Tuber	Asiatic yam / Purple yam	<i>Dioscorea alata</i>	Dioscoreaceae	Tubers	Leprosy and piles
20.	Lam haa	Vine	Potato yam	<i>Dioscorea bulbifera</i>	Dioscoreaceae	Tubers	Dried tubers are ponded and applied to ulcers.
21.	Haa angangba	Vine	Red potato yam	<i>Dioscorea pentaphylla</i>	Dioscoreaceae	Tubers	Tubers can cooked in Swellings
22.	khanggra	Tree	English gurjun tree	<i>Dipterocarpus tuberculatus</i>	Dipterocarpaceae	Trunk	Oleoresin from trunk is an antiseptic and applied to ulcers
23.	Chorphon	Shrub	Olive	<i>Elaeocarpus floribundus</i>	Oleaceae	Bark, leaves	Infusion of bark and leaves is used as mouth wash in inflamed gums
24.	Awa phadigom	Herb	False coriander	<i>Eryngium foetidum</i>	Umbelliferae	Leaf, Roots	Leaf used in high blood pressure Roots used in stomach trouble
25.	Jaam	Tree	Java plum	<i>Eugenia jambolana</i>	Myrtaceae	Bark	Decoction of bark used in diarrhoea and dysentery
26.	Tengnou	Succulent	Antique Euphorbia	<i>Euphorbia antiquarum</i>	<u>Euphorbiaceae</u>	Stem	Stem decoction used in gout
27.	Khongnang	Shrub		<i>Ficus retusa</i>	Moraceae	Leaves	Powdered dry leaves applied in headache
28.	Tera paibi	Herb	Hill Gynura	<i>Gynura cusimba</i>	Asteraceae	Stem, leaf	Stem and leaf juice applied to fresh wounds for stopping blood
29.	Takhellei angouba	Herb	Common ginger lily	<i>Hedychium coronarium Koenigex</i>	<u>Zingiberaceae</u>	Leaves	Leaf decoction used as gargle in throat complaints
30.	Takhellei angangba	Herb	Ginger Lily	<i>Hedychium marginatum</i>	<u>Zingiberaceae</u>	Rhizome	Decoction of rhizome given in stomach complaints
31.	Tokningkhok	Herb	lizard tail, chameleon plant, heartleaf, fishwort and bishop's weed	<i>Houttuynia cordata</i>	<u>Saururaceae</u>	Leaves	Used for dysentery and eye troubles
32.	heijuga	Tree	walnut	<i>Juglans regia</i>	Juglandaceae	Seed	Seed kernel after removing brown skin used in improving memory

33.	Namthibi	Shrub	Lantana	<i>Lantana camara</i>	Verbenaceae	Leaves	Leaf extract applied to injuries to stop bleeding, mixed with honey given in fever
34.	Heinou	Tree	Mango	<i>Mangifera indica</i>	Anacardiaceae	Fruits	Unripe fruit is given in constipation.
35.	U- mangra	Shrub	Tapioca	<i>Manihot esculenta</i>	<u>Euphorbiaceae</u>	Tuber, leaves	Tuber flour given in fever and stomach complaints, leaves used for sores and scabies
36.	Khe -U	Tree	Burmese lacquer tree	<i>Melanorrhoea usitata</i>	Anacardiaceae	Trunk	Oleoresin obtained from the plant is used in leprosy's
37.	Noogshi hidak	Herb	Field mint	<i>Mentha arvensis</i>	<u>Lamiaceae</u>	Shoot, leaves	Fresh shoot juice mixed with salt or honey given in diarrhoea, leaf powder used in gum complaints
38.	Heibi	Shrub		<i>Meyna laxiflora</i>	Rubiaceae	Leaves	Fresh leaves used as blood purifier
39.	Leihao	Shrub	Champac	<i>Michelia champaca</i>	Magnoliaceae	Leaves, roots	Extract of leaves applied to head for eradicating lice, roots are used in stomach troubles.
40.	Leihao angouba	Shrub	White champa	<i>Michelia montana</i>	Magnoliaceae	Bark	Used in fevers
41.	Laphu	Herb	Banana	<i>Musa paradisiaca</i>	Musaceae	Fruit	Unripe fruit used in dysentery and diarrhoea
42.	Hidak mana	Herb	Tobacco	<i>Nicotiana tabacum</i>	Solanaceae	Leaves	Leaves applied to insect bites
43.	Shamba	Tree	midnight horror or Indian trumpet flower	<i>Oroxylum indicum</i>	<u>Bignoniaceae</u>	Leaves, barks	Leaves in epilepsy, bark both in fresh and dried used in mouth ulcer
44.	Fou	Grass	paddy	<i>Oryza sativa</i>	Poaceae	Seeds	Rice water in inflammatory states of intestines
45.	Yensil	Herb	Indian sorrel	<i>Oxalis corniculata</i>	<u>Oxalidaceae</u>	Whole plant	Plant extract given in stomach complaints
46.	Nongmangkha	Herb	Vasaka	<i>Phlogacanthus thyriflorus</i>	<u>Acanthaceae</u>	Flowers, leaves	Used in fever and cold
47.	Uningthou	Tree	Bonsum, Angaria	<i>Phoebe hainesiana</i>	Lauraceae	Berries	Ash of berries applied to sores
48.	Uchaan	Tree	Khasi pine	<i>Pinus insularis</i>	<u>Pinaceae</u>	Wood	Wood paste applied to forehead as a remedy for headaches
49.	Yellang	Herb		<i>Polygonum barbatum</i>	Polygonaceae	Shoot	Shoot extract as a wash for ulcers
50.	heimaang	Tree		<i>Rhus semialata</i>	Anacardiaceae	Fruits	Dysentery and indigestion
51.	Ee	Grass	Thatch grass	<i>Saccharum spontaneum</i>	Poaceae	Roots	Low blood pressure.
52.	Thoiding	Herb	sesame	<i>Sesamum indicum</i>	<u>Pedaliaceae</u>	Seed	Seed paste used as plaster to be applied to burns
53.	Alu	Herb	potato	<i>Solanum tuberosum</i>	Solanaceae	Leaf	Leaf extract used in cough, potato paste applied to burns
54.	Sanarei	Herb	African marigold	<i>Tagetes erecta</i>	<u>Asteraceae</u>	Leaves	Crushed leaves applied to fresh wounds for stopping bleeding.
55.	Sampakpi	Shrub	Aramina	<i>Ureta lobata</i>	<u>Malvoideae</u>	Leaves	Leaf juice with honey given in cough and fever
56.	Urikshibi	Shrub	Chinese chaste tree	<i>Vitex negundo</i>	<u>Lamiaceae</u>	Leaves	Crushed leaves applied to painful swellings
57.	Hameng sampakpi	Herb	Cockle bur	<i>Xanthium strumarium</i>	Asteraceae	Leaf	Leaf extract with honey is given in fever and cough.
58.	Mukthubi tingkhang panbi	Tree		<i>Zanthoxylum acanthopodium</i>	Rutaceae	leaves	Used in indigestion, cough and bronchitis
59.	Shing	Herb	Ginger	<i>Zingiber officinale</i>	<u>Zingiberaceae</u>	Rhizome	Rhizome extract mixed with honey given in asthma and cough.
60.	Yensil	Herb	Indian sorrel	<i>Zingiber zerumbet</i>	<u>Oxalidaceae</u>	Whole plant	Plant extract given in stomach complaints.

Table 1: List of plants used as folk biomedicine by the Rongmei tribe of Charoi Chagotlong, Tupul, Tamenglong district of Manipur

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