

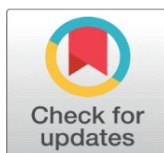
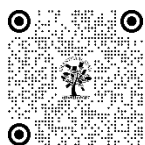
ETHNOMEDICINAL PLANTS USED BY THE WANGOO PEOPLE OF BISHNUPUR DISTRICT, MANIPUR, NORTHEAST INDIA

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ABSTRACT

The paper is an attempt to survey and understand the various ethnomedicinal plants used by the Wangoo people of Bishnupur District, Manipur as medicines in the treatment of various ailments and diseases. The current issue is that there has not been much systematic study on it, particularly among the Wangoo people of Manipur, which is one of the oldest communities in the state. In the present study more than 39 indigenous medicinal plants are used by the Wangoo people in the treatment of about 34 ailments and diseases. They use both single plant and compound plants in the treatment. The significant of the study is that certain plants are believed to have multi-chemical properties in healing and curing as it differs from other neighbouring communities. Common diseases are like diarrhoea, malaria, piles, fever, snake bite, and mumps. Leaves, stems, roots and fruits are most widely used. Some of them still depends on such indigenous medicine rather than pharmaceutical medicines

Keywords: Ethnomedicinal Plants, Medicines, Wangoo People, Manipur

1. INTRODUCTION

Wangoo is a village in the Bishnupur district of the Indian state of Manipur. It is situated approximately 64 km south of the state capital, Imphal. It has an area of 13.05 km² with a population of 6134. Wangoo is located at 24.38620N 93.86040E, thus is the biggest village by area in the district. The Imphal River passes through Wangoo. As of 2011 India census, Wangoo had a population of 6134, of which 3095 are males while 3039 are females. The literacy rate of Wangoo was 67.09%. In Wangoo, male literacy stands at 76.43% while female literacy rate is 57.53%. Agriculture is the main source of income for the majority of the population. Of the total population, 2862 were engaged in work activities. Of those, 1692 are cultivators (owner or co-owner) while 185 were agricultural labourers. The objective of the study is to survey and understand the use of ethnobotanical plants used by the Wangoo people for medicinal purposes since no

record is available with regard to them so far. The practice of ethno-medicine is declining very fast because of the modernization and deceased of knowledgeable people.

Despite the advancement in modern pharmaceutical medicines many rural and urban people still dependents upon traditional ethnomedicinal plants. Mao (2009) said that since 1970's different universities and research institutions began to study ethnobotany and traditional knowledge system and later by 1980's the Ministry of Environment and Forests, Govt. of India launched a project to document ethnobotanical uses of plants by indigenous people of India. Under the project Botanical Survey of India, Eastern Circle, Shillong undertook to study all the North-eastern states in phase manner. However, there has been exponential growth of interest in the treatment against different diseases using herbal drugs as they are generally non-toxic. World Health Organization (WHO) estimates that over 80 per cent of people in developing countries depend on traditional herbal medicines for their primary health needs (Sobita and Bhagirath, 2005). The WHO has recommended the evaluation of effectiveness of plants in condition where we lack modern safe drugs (Devi, et al., 2011). There are over 500 species of medicinal plants reported from Arunachal Pradesh and an estimate of around 8000 manufacturing units of traditional medicinal systems in India (Khongsai and Kayang, 2011). There are as many as 1,200 plants identified and used as medicine in ancient Indian texts (Yumnam and Tripathi, 2012). Now, ethnobotany and ethno-medicinal plant studies are well recognized as the most viable method for identifying new medicinal plants and refocusing on those earlier reported for bioactive constituents (Singh et al., 2012). For example, getting direct health benefit from eating fresh ethnobotanical plants is encouraged by Yumnam and Tripathy (2012). They said that the Meitei (Manipuri) tradition of eating parts of raw plants mixed with other edible ingredients called Singju, is believed to have direct medicinal benefits on the person. However, with regards to the rareness and extinction of ethnobotanical plants with medicinal

values. Jamir and Lanusunep (2012) reveals that many of these valuable plants are under threat and depleting very fast owing to rampant destruction of forests, practice of 'Jhum' or 'Shifting' cultivation, forest fire, over- exploitation of plant resources and other human socio-economic developmental activities. The urgency is that the village elders who are the knowledge bank of technical know-how are decreasing every year. In this context, Jamir suggested an urgent need for conservation and protection of biodiversity including the precious wealth of medicinal plants with a view that detailed investigation by modern scientific techniques, at least some of these plants might prove to be effective life-saving drugs plants for cure and relief of various ailments and diseases that plague to mankind (Neli et al., 2012). Further, in their study found that there has been no report of cultivation of medicinal plants by the local people and the preparations are made by collecting the plants from the wild. He said this is a serious concern from the point of conservation and sustainability of the resources because such collection from the wild may lead to depletion of the population or even extinction of the resources particularly the rare and endangered species if it goes unabated. Rajkumari et al. (2013) in observed that due to poor transportation and non-available medical facilities they still depend on the traditional faith upon the local medicine men and wild herbal plants for survival. The region is richly supported with diverse flora, fauna and several crop species. The region is ranked 8th amongst the 34 'Bio-diversity Hotspots' in the world (Ningombam et al., 2014). The region is not just rich in biodiversity but also very rich in cultural diversity with inhabiting in the region that uses different ethnobotanical plants as medicines based on their belief and practices in curing and healing of various ailments and diseases Yuhlung and Jangamlung (2015).

2. MATERIALS AND METHODS

Study site:

Ethnomedicinal field survey was carried out among the people of Wangoo villages located in Bishnupur district, Manipur. Initially, formal request was made to the respective village authorities and leaders by introducing ourselves and explaining the purpose of our visit to them. Thereafter, interviews and interview scheduled was conducted individually and in groups of two-three among the 45 select respondents (30 males and 15 females).

Ethnomedicinal data collection:

The field survey was conducted during four seasons from January 2022 to March 2024. In-depth interviews with 45 elders are conducted to understand more about the medicinal plant usage and preparation techniques (Jain, 1987 and Martin, 1995). The standard rules of the International Society of Ethnobiology of ethics (2006) are followed during data collection.

Plant identification:

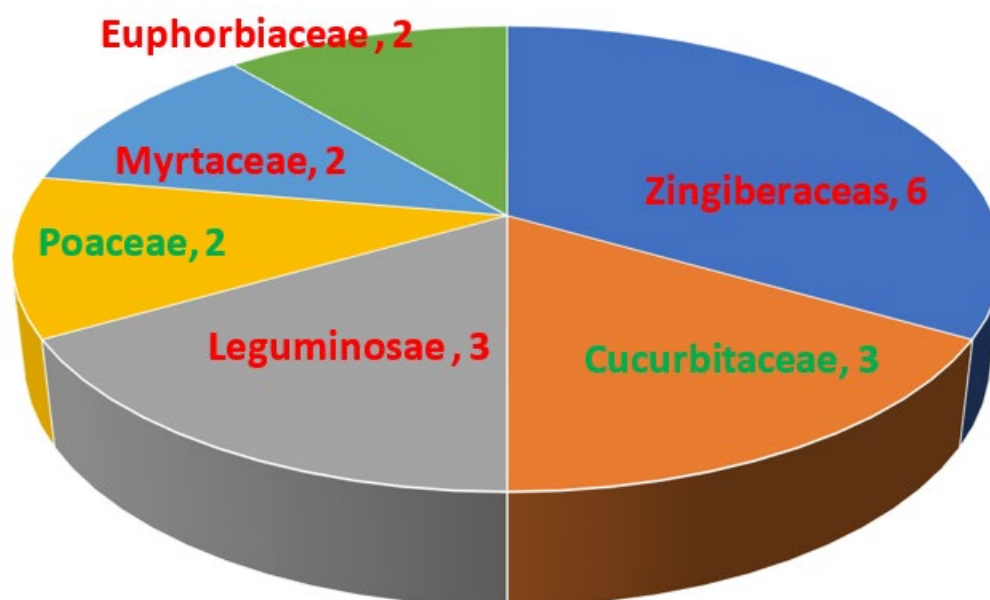
Plant samples are photographed and the obtained samples are then utilized to make herbariums according to a standard method developed by Jain and Rao (1977) and they are also recognized using relevant taxonomic literature (Sinha, 1996 and Singh et al., 2000).

3. RESULTS AND DISCUSSION

Table 1 shows that there are 39 indigenous medicinal plants used by Wangoo people of Manipur in the treatment of about 34 ailments and diseases. Common types of ailments and diseases prevalent among the Wangoo people are like: Dizziness, Epilepsy, Cough, vomiting, burning sensation in the head, Jaundice, Dysentery, Diarrhoea, nail infection, Piles, Fever, Asthma, Headache, Tooth-ache, Tonsillitis, Dog bites, Malaria, burning sensation in stomach, Arthritis, Rheumatism, Stomach-ache, Menstrual problem, indigestion, Snake bite, Gastritis/ Ulcer, Stone kidney problem, Bee sting, sprain, Mumps, Blood pressure, hair fall, hair growth and Cuts (wounds). The most commonly used ethnomedicinal plants for the treatment of these 34 diseases and ailments belongs to the families (Fig. 1) while the others like Cyperaceae, Onagraceae, Anacardiaceae, Labiateae, Solanaceae, Flacourtiaceae, Verbenaceae, Bignoniaceae and so on has a frequency of one each.

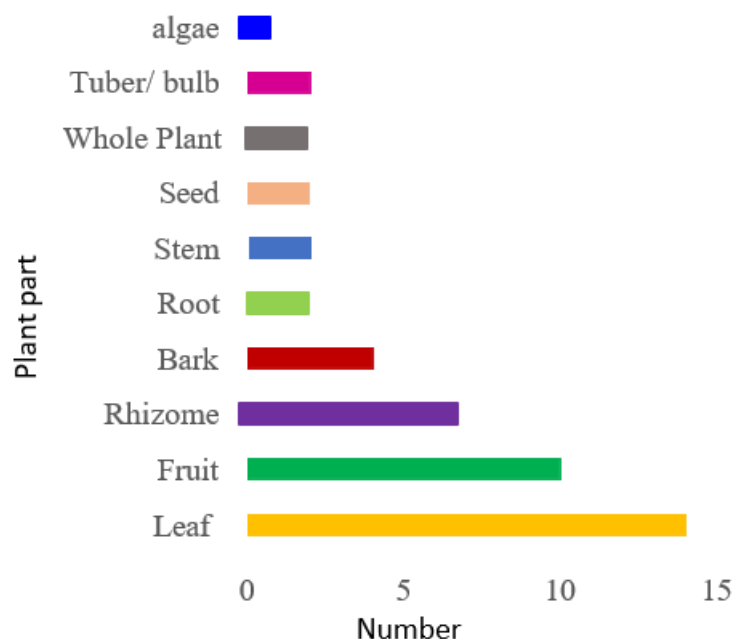
It is found that leaf and fruit are the most common parts of the plants used in the indigenous medicinal

Fig. 1: Most commonly used plants for the treatment of the diseases and ailments belong to the following families.



preparation. The frequency is listed herein Fig. 2. In the medication method, about 20 items are given in various oral (O) forms while 19 items are used

Fig. 2: Common parts of the plants used in the indigenous medicinal preparation

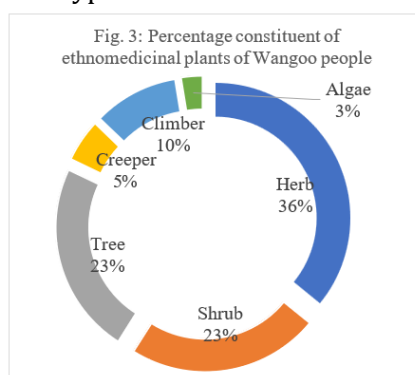


externally (E). Most of the oral dosage are given in the form of decoction like half a glass or a glass-full twice or thrice a day till it is cured. The medication for external are prepared in paste forms and often applied externally on the infected or injured parts, since some plants are considered poisonous. The various plants are categorized as Herb, Shrub, Tree, Creeper, Climber, Algae, respectively and their percentage (Fig. 3). These plants are mostly seasonal (S) with 36 plants and 3 are perennial (P) plants in nature. The Table 1 also indicates that the Wangoo people also uses certain compound items in the treatment of various ailments and sickness. Certain medicines are prepared using two or three plant parts besides mixing with other items like honey or sugar- free sugar (Sitamasi) according to them.

In the survey it is observed that still many Wangoo peoples depend on their indigenous medicinal plants in the treatment of various ailments and diseases apart from pharmaceutical medicines. The significant is that certain plants are similarly used by other communities but the application in the treatment for the ailments are different. This implies that such plants like *Benincasa hispida* (Torbot), *Oroxylum indicum* (Shamba) have multi-properties in healing and curing. Certain indigenous medicinal plants' leaf, barks and seeds are used for the treatment of jaundice, hypertension and blood purification are seen sold in the nearby sub-towns like Kakching, Kumbi, Pallel and Sugnu as prescribed by their local medicine man. This indicates that these ethno-medicinal plants are being used in the region especially, among the Meitei and neighbouring communities considered helpful for the needy.

4. CONCLUSION

It is also found that the Wangoo peoples use more of single plant than compound plants in the treatment of various ailments. Besides, the above identified plants there are still many plants used as medicine for the treatment of different ailments, diseases and to heal and cure various types of common sickness or ancient or modern diseases.



According to one of the informants, although there are many Meitei villages in the state the number of well knowledgeable persons in the field of ethnomedicine have considerably decline in the recent years and is feared that the remaining few people would also die sooner or later. Besides, with the increased influence of modernization many younger generations use certain pharmaceutical medicines for headache, stomach-ache, etc. But this does not mean that the people have completely given up their traditional indigenous medicines.

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CONFLICT OF INTEREST

None.

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Table 1: Indigenous Medicinal Plants of Wangoo people and its usages.

S. No.	Botanical Name	Family	Common Name	Manipuri Names	Parts of Plant Used	Diseases – Treatment Methods and its Dosages

Ethnomedicinal Plants Used by the Wangoo People of Bishnupur District, Manipur, Northeast India

1	<i>Alpinia galangal</i> Linn.	Zingiberaceae	Greater galangal	Kanghu	Rhizome	Piles –Small amount of Kanghu is crushed along with some tobacco leaves and is then inserted inside one's anus. Do it twice a day till it is cured.
2	<i>Melothria maderaspatana</i> (L.) Cogn.	Cucurbitaceae	Wild cucumber	Lamthabi	Whole plant	Jaundice –Boil the whole fresh creeper plant or dry one in about one litre of water and serve as decoction a glass full before meal once a day.
3	<i>Punica granatum</i> Linn.	Onagraceae	Pomegranate	Kaphoei	Fruit/ leaf	Dysentery/ Diarrhoea –Boil some leaves and have as decoction a glass full 2-3 times a day. It helps in suspension.
4	<i>Musa paradisiaca</i> Linn.	Musaceae	Banana	Laphu	Fruit	Dysentery –Slightly roast the banana fruit in the hot fire or heat it in the hot fire ash and have it as food item for 2-3 days or anytime. It helps in suspension.
5	<i>Mangifera indica</i> L.	Anacardiaceae	Mango	Heinou	Leaf	Diarrhoea/ Dysentery –Boil some mango leaves with some water and drink half a glass 2-3 times a day.
6	<i>Alpinia allughas</i> Roscoe	Zingiberaceae	Lesser galangal	Puleimanbi	Rhizome/ Root	Gas Formation (Flatulence) –Crush the roots (rhizome) and mix with gooseberry and little honey and take one tea spoonful as syrup after food whenever thirsty.
7	<i>Cynodon dactylon</i> (L.) Pers.	Poaceae	Durva grass	Tingthou	Leaf	Typhoid –Some amount of the tender leaves of <i>Cynodon dactylon</i> is crushed well along with some pomegranate. The liquid collected in half a glass is mix with a tea spoonful of honey and is given three times a day before food.
8	<i>Syzigium fruticosum</i> DC.	Myrtaceae		Heinouman	Leaf	Fever -Some leaves are boiled and is taken bath with it.
9	<i>Phyllanthus emblica</i> (L.)	Labiatae	Gooseberry	Heigru	Fruit	Dry Cough/ Asthma –Crush some amount of goose berry and mix with little honey and have before and after food.
10	<i>Solanum virginianum</i> Linn.	Solanaceae	Yellow berried nightshade	Leibung-khang	Fruit	Headache/ Toothache –Crush some amount of the <i>Solanum</i> and mixed with two spoonful of honey and have it till the pain is gone.
11	<i>Xylosma longifolium</i> Clos.	Flacourtiaceae	Dandal	Nunglei-shang	Leaf	Piles –Boil some quantity of the leaves and have 3-4 tea spoonful twice a day till it is cured. (The tree has small spikes and the leaves are reddish and shiny when young).
12	<i>Vitex negundo</i> Linn.	Verbenaceae	Chaste tree	Urikshibi	Leaf	Piles –Burn the dry leaves and collect the ashes and apply on one's anus 3-4 times a day. Or boil some fresh leaves and serve as decoction a glass full before each meal. (Do not eat red meat, chicken and egg during medication. Result is known within 3/4 days.
13	<i>Oroxylum indicum</i> (L.) Vent.	Bignoniaceae	Indian trumpet flower	Shamba	Bark, leaf	Tonsilitis/ Sore Throat/ Sinus -Mixed the bark with salt (Meitei salt) + tekta (lomba) and boil it and served as decoction half a glass twice a day for a week.
14	<i>Benincasa hispida</i> Thunb. Cogn.	Cucurbitaceae	Ash-gourd/ Winter melon	Torbot	Fruit	Bear/ Tiger Bites –Apply immediately the paste of <i>Benincasa hispida</i> in the infected area. Then sprinkled the powdered Kursi seeds upon the wounded area.
15	<i>Colocasia esculenta</i> (L.) Schott	Araceae	Arum	Pan	Tuber/ bulb [E]	Spike on Heel –Cut the yam and paste on it or bandage around the heel for three- four days.
16	<i>Azadiracta indica</i> A. Juss	Meliaceae	Neem plant	Neem	Leaf (O)	Malaria -The crushed leaves is mix with little water and about 2-3 tea spoonful is taken twice a day before each meal. (Do not give to those who are weak/ unhealthy/ pregnant or

						those suffering from leukaemia since it is very bitter).
1 7	<i>Zanthoxylum acanthopodium DC</i>	Rutaceae	Winged leaf prickly ash	Mukthruhi	Seed (O)	Gas Formation -The seeds are crush into powdered form and is mix in half a glassful of warm water and taken for 2-3 days, or may take some along with food items too.
1 8	<i>Blumea balsamifera D.C.</i>	Asteraceae	Hemp eupatorium	Langthrei	Leaf (O)	Burning Sensation of Stomach –Crush the leaves into paste form and mix with little water in a glass and drink it immediately anytime till it cures. Or one may eat few leaves and drink some water immediately.
1 9	<i>Phyllanthus emblica Linn.</i>	Euphorbiaceae	Gooseberry	Heigru	Fruit (O)	Headache, Hypertension –Eat plenty of gooseberry drink plenty of water.
2 0	<i>Phyllanthus emblica Linn.</i>	Euphorbiaceae	Gooseberry	Heigru	Bark/ Root / Fruit (O)	Sore Eyes –Boil the gooseberry bark or root and splash the liquid on the eyes repeatedly in the early morning, afternoon and bed time.
2 1	<i>Centilla asiatica Linn.</i>	Apiaceae	Indian penn y wort	Peruk	Whole plant / leaf (O)	Sore Throat/Hypertension –Boil certain amount of the whole plant in about 2 litres of water and have as decoction.
2 2	<i>Curcuma caesia Roxb.</i>	Zingiberaceae	Black turmeric	Yaimu	Rhizome (O)	Vomiting of Blood -Mix the crushed black turmeric with little dew drops.
2 3	<i>Curcuma caesia Roxb.</i>	Zingiberaceae	Black turmeric	Yaimu	Rhizome (O)	Menstrual Cycle Problem –Crush certain amount and mix with little water and take.
2 4	<i>Curcuma caesia Roxb.</i>	Zingiberaceae	Black turmeric	Yaimu	Rhizome (O)	Child indigestion –Crush some amount, collect the liquid with cotton and mix with little water.
2 5	<i>Curcuma longa Linn.</i>	Zingiberaceae	Wild Red Turmeric	Yai-ngang angouba	Rhizome (O)	Pigmentation/ Black/ Dark Spot/ Pimples – Crush the wild red turmeric and mix with little mustard oil and apply the paste regularly on the area.
2 6	<i>Carica papaya L.</i>	Caricaceae	Papaya	Awathabi	Fruit (E)	Ulcer -Boil the unripe papaya and have regularly as culinary or anytime.
2 7	<i>Albizia myriophylla Benth.</i>	Leguminosae	Little-leaf sensitive- briars	Yanglee	Leaf (O)	Stone Case/ Kidney-Boil some leaves with sitamasi (white sugar free sugar).
2 8	<i>Albizia myriophylla Benth.</i>	Leguminosae	Little-leaf sensitive- briars	Yanglee	Bark (E)	Dog Bite –Chew the bark with little raw rice and apply the paste immediately at the bitten part.
2 9	<i>Agaricus campestris L.</i>	Algae	Ground mushroom	Leibak- marum	Stem (E)	Burn –Apply the extracted liquid of the ground mushroom or the powder obtained on the burned part.
3 0	<i>Cymbopogon citratrus (DC.) Stapf</i>	Poaceae	Lemon grass	Lemon grass (O)	Leaf	Sinusitis/ ringworm/ cardiac and diabetic – Smash the leaves and apply the juice.
3 1	<i>Tamarindus indicus (L.)</i>	Caesalpiniaceae	Tamarind	Mangge	Seed (E)	Bee Sting –Cut the tamarind seed into half and apply the white part on the bee stung area.
3 2	<i>Elsholtzia blanda Benth.</i>	Lamiaceae	Comb mint	(S)	Leaf (E)	Boil –Heat up the fresh leaves and apply on the boil part with little opening at the boil mouth.
3 3	<i>Saccharum officinatum L.</i>	Poaceae	Red sugarcane	Chu-ngang (P)	Stem (O)	Jaundice (Thongngak)–Take fresh sugarcane juice daily anytime of the day till it is cured.
3 4	<i>Garcinia xanthochymus Hook</i>	Moraceae	Dampel	Heibung (T)	Leaf (E)	Body Swelling –Heat certain number of leaves or fruits and use it as balm on the swelling area.
3 5	<i>Benincasa hispida (Thunb). Cogn</i>	Cucurbitaceae	Ash-gourd	Torbot (C)	Fruit (E)	Dog Bite -Peel off the green covering and sliced the Benincasa hispida fruits and apply the paste at the bitten part.
3 6	<i>Curcuma longa Linn.</i>	Zingiberaceae	Turmeric	Yaingang (S)	Rhizome (E)	Cuts/ Wounds –Crush the turmeric and apply immediately on the cuts.

Ethnomedicinal Plants Used by the Wangoo People of Bishnupur District, Manipur, Northeast India

3 7	<i>Albizia myriophylla</i> Benth.	Leguminosae	Indian siris (Cl)	Yanglee (S)	Root (E)	Dog Bite –Roots is chewed with little rice and apply the paste immediately at the bitten part.
3 8	<i>Psidium guajava</i> Linn.	Myrtaceae	Guava (T)	Pongtol (T)	Fruit (O)	Dysentery –Eat the tender leaf and fruits.
3 9	<i>Oxalis corniculata</i> L.	Oxalidaceae	Indian sorrel	Ching-yensil (S)	Leaf (O)	Arthritis/ Rheumatism –Boil the leaves and served as decoction.

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