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REVIEW ARTICLE

STUDY OF WILD EDIBLE PLANTS ASSOCIATED WITH THE PAITE TRIBE OF MANIPUR, INDIA

***Chinmuanthang Guite**

Center for Advanced Study in Life Sciences, Manipur University, Imphal, Manipur-795003, India

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ABSTRACT

An ethnobotanical survey of wild edible plants used by the Paite tribe residing in Churachandpur (Lamka) hill districts of Manipur was carried out. The information was collected from 70 informants of various ages from 16 Villages of Churachandpur district of Manipur. A total of 115 plant species belonging to 46 families are listed. Ethnographic data related to vernacular names, various parts used, recipes had also been recorded. Present ethnobotanical survey revealed that wild edible plants play an important role in the Paite tribe dietary system and further investigation on nutritional and commercial aspects, pharmacological prospects and conservational needs.

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INTRODUCTION

Manipur is a composite region of valley and hill ranges surrounding the valley in all sides as her natural fortress to the outside world. The total area of the region is 22,327 square kilometres out of which the hilly region occupies 91.85% with an area of 20,507 square kilometres. Many rare species of plant are found on hill tops of Manipur, it is very rich in orchids and consequently she has been aptly described as *"The Plant hunters paradise"* (B.Sm. Sharma *et al.,* 2010) The hilly region largely characterised by dense forest and inaccessible terrains. This region is rich in flora and fauna and falls in the Indo-Burma Global Biodiversity Hotspots and is a site for gene diversity of many domestic crops and a secondary site place for several economically important plants and animals species (Myers *et al*., 2000). The present communication deals with the wild edible plant resources of PAITE people. An Ethnobotanical survey of wild edible plants used by the Paite tribe of Manipur residing in the Churachandpur (Lamka) hill districts of Manipur. The Paite's are one of the most prominent Zomi (Zo people/ Hillman) tribes living in the trans-Indo-Myanmar border areas. They are Mongoloid by race and speak Paite, which belongs to Tibeto-Burman group of Languages. Originally like any other hill tribes of North- East India, they were animists, worshippers of ancestors and evil spirits.

****Corresponding author: Chinmuanthang Guite,***
Center for Advanced Study in Life Sciences, Manipur University, Imphal, Manipur-795003, India.

However, with the coming of Western Christian missionaries in 1910, they started embracing Christianity and majority (99%) of them are Christians (Th.Siamkhum, 2013). The Paites are a recognised scheduled tribe in Manipur as well as in Mizoram. The Paites are concentrated mostly in Manipur, a NorthEastern State of India. Most of them are located in Lamka town of Churachandpur District and a good number of Paites are also found in Jiribam Sub-Division, Imphal Municipality areas of Central District of Manipur with a population of about 55,542 (Census, 2011) which is about 2.20 % of the total population of Manipur state and state bordering Mizoram in the south, and Chin Hills of Myanmar, in the east and in Mizoram, the Paites are found living in a compact geographical area of SialkalTlang (Sialkal Range) of Champhai District bordering Manipur in the North and Chin State of Myanmar in the East with a population of about 23,183 (Census, 2011). Their main occupation is still cultivation though they have achieved much at the various offices of the Federal India. Emergency food is often termed as wild food, as apparently it implies the absence of human interference and management but in fact such food plants, results from the co- evolutionary relationship between human and environment (Jain and Tiwari, 2012). Wild food plants always overlooked when compared to domesticated food plant sources. Since, wild edible plants are feely accessible within natural habitats, indigenous people resources. About one billion people in the world use wild foods mostly form plant on daily basis (Aberoumand, 2009). Ethnobotanical investigation on Wild edible plants suggest that more than 7,000 species have been used for food in human history (Grivetti and Ogle,

2000). Wild edible plants can be considered to be useful resources in terms of food security and many wild edible plants are acknowledged for their medicinal, cultural, forage and economic values. Wild edible plants play an important role as a source of energy and micronutrients. The present study is an attempt to document and analyse the rich ethnobotanical data on the different wild edible species with a view to conserve them for the younger generation.The wild edible plants which are obtained form the forest are used for their own food and are transported to be sold in local markets like Damkam Bazaar, New bazaar etc for public consumption of Churachandpur (Lamka) district.The present study is the first of its kind among the Paites.

MATERIALS AND METHODS

The ethnobotanical study was conducted in Churachandpur hills district villages of Manipur during November 2015–August 2016, the study is based on extensive field work. Secondary information was also collected from locally available Paite literatures and 70 informants were personal interviews with local practitioners in Churachandpur (Lamka) district. The relevant first hand data of the wild edible plants has been collected in different seasons.The key informants were mostly housewives and elders involved in agricultural practices between the age group of 30-80 and they were personally contacted with the consent of the village chief. Interview was conducted in local Paite dialect. Some of the study sitewere from the following villages viz: Tuithapi, Saikul, Mata, Lamzang, Tanglian, Singngat, Lungthul, Tuima, Mualnuam, Songtal, Khuanggin, Pearsonmun etc. The data gathered from each plant was ration and administered properly. During the field survey others with knowledge of plants were also consulted. Plants were identified with the help of experts, relevant published papers and books such as (Singh and Arora, 1978), (Sukla *et al*., 1982) and (Deb, 1961), and different floras and regional Herbarium of Manipur University, Imphal and Herbarium of Churachandpur College, Churachandpur etc. Plants were brought to laboratory and herbarium specimens were prepared following standard herbarium technique (Jain *et al*., 1997) The Specimens were deposited in the herbarium of Department of Life Sciences, Manipur University, Imphal, Manipur.

RESULTS AND DISCUSSION

The wild edible plants reported during the study period have been enumerated in Table 1 with their scientific name arranged in alphabetical order with their family names in parenthesis followed by their vernacular name, edible part and mode of preparation and uses. The present investigation includes 115 plant species belonging to 46 families. About 98 plant species are used as vegetables or food, 10 species as condiments and spices and remaining 6 species are eaten as raw or fruits. Majority of the plants parts consumed by the Paite tribe is leaves with 30 species (26.21%), fruits with 28 species (24.34%), shoots with 28 species (24.34%), corn and seeds with 9 species (7.82%), Rhizome, corn and tuber with 6 species (5.21%), Roots, stems, barks with 5 species (4.35%) pods with 4 species (3.48%), inflorescence with 3 species (2.6%), petioles with 2 species (1.73%) each. The study also found that maximum of the plant species belongs to Paoceae 12 species, Papilionaceae and Cucurbitaceae with 8 species each, Solanaceae with 6 species each, Araceae, Mimosaceae, Rutaceae with 5 species each, Anacardiaceae, Arecaceae, Asteraceae, Dioscoreaceae, Lamiaceae, Moraceae, Polypodiaceae, Euphorbiaceae, Zingiberaceae with 3 species each. Amarantheceae, Brassucaceae, Convolvulaceae, Elaegnaceae, Lauraceae, Liliaceae, Malvaceae, Musaceae, Myrtaceae, Thaeceae with 2 species each, The rest of the family Apiaceae, Bignoniaceae, Compositae, Cycadaceae, Limiaceae, Meliaceae, Olacaceae, Oxalidaceae, Passifloraceae, Pedaliaceae, Piperaceae, Plantaginaceae, Rubiaceae, Sapindaceae, Saururaceae, Simaroubaceae, Umbelliferae, Verbanaceae, Vitaceae are represented by 1 species each. Various ethnic groups having their own distinctive cultural affinity.Churachandpur district is endowed with a rich biodiversity of flora and fauna. But, due to ongoing deforestation, lumbering, Jhum cultivation, etc, this rich biodiversity is depleting rapidly. Since there is no account on the study of wild edible plants by Paites, huge emphasis was taken to the study of wild edible plants by the Paite tribe. According to the United States Department of Agriculture (USDA) Food database, the leaves of the cow pea (*Vigna unguiculata)* know as *belawi-teh* in Paite dialect, have the highest percentage of calories from protein among vegetarian foods. This support the rich food value in Paite dish as *belawi-teh*is used as boiled vegetable by the Paites. The plant species *Discorasativa, D.alata, D. glabra* are used as famine food by the Paites.

Traditionally the Paites used the wild edibles plants in various forms of delicacies viz; boiled, culinary, fried, roast, species, condiments, fermentedetc which are explained below:

Meh-pok: Leaves or fruits of vegetables are cooked with rice grain.

Sawchial: Sawchial is another common dish, made of rice and cooked with pork, chicken, beef.

Meh-al: Vegetables are cooked with chilli and salt. Sometimes ta-ngal (wood-ash) is added.

Ta-ngalpok: Vegetables are cooked with rice grains and ta-ngal is added to it otherwise baking soda is added.

Meh-tam: Vegetables are boiled as plain (with water) without adding oil, chilli and salt. Boiled dish is a common item and spinach is the most common amongst the boiled dishes.

Malta-meh: Raw or boiled and make into paste with chilli (*Capsicum annum L*). and a little roasted or steamed,

Ngathugoi: Ngathu (Fermented fish) enhances the palatability of dish. Ngathu Malta-meh may also prepared mixing with ngathu and chilli, or with Sa hou (dry meat).

Ankamthugoi: Traditional fermented of mustard green *(Brassica juncea)* enhances the nutritive value and it is mixed with chill and used as chutney.

Gotuaithugoi: Traditional fermented young bamboo shoots, (*Dendrocalmus giganteus)* mixed with green chilli and used as chutney or mixed with pork.

Traditional food habits of Paites such as boiling, steaming, and eating raw vegetables are considered good for health as for example consumption of boiled *Clerodendrum colebrookianum* leaves known as *anphui-teh* in Paite dialect popular among them and it minimize high blood pressure therefore, incidence of high blood pressure is very low among Paites.*Shithu* is an indigenous traditional fermented foods prepared from seeds of *Sesamum indicum* (L).

Table 1. Wild edible plants used by the Paites tribe of Manipur

S.No.	Scientific name & Family	Local Name	Parts used	Mode of use
1.	*Acacia pennata* (L.) Willd. [Mimosaceae]	Khangkhu	Tender shoots	Boiled with added indigents taken as *malta* meh
2.	*Acmella uliginosa (Sw.) Cass* [Compositae]	Ansateh	Shoot	Steamed or cooked as *tangalmehpok*
3.	*Allium hookerii* Thw. [Liliaceae]	Phulunzung	Leaves, Roots	Cooked or raw eaten
4.	*Amaranthus spinosus* Linn. [Amaranthaceae]	Bawngektehlian	Tender shoots, leaves	Cooked as vegetables
5.	*Amaranthus viridis* [Amaranthaceae]	Bawngektehneu	Tender shoots, leaves	Cooked as vegetables
6.	*Amomum dealbatum* Roxb. [Zingiberaceae]	Aigia	Inflorescences	Cooked or steamed
7.	*Amorphophallus campanulatus* Blume, Ex. Decne [Araccae]	Kolbot	Corn	Cooked as vegetable and food.
8.	*Anisomeles indica (L) Kuntze* [Limiaceae]	Sii	Seeds	Roasted seeds are make into paste and eaten as relish/ side dish, also fermented for future use.
9.	*Aporusa dioica* Muell. Arg. [Euphorbiaceae]	Suantual	Tender shoots, leaves	Cooked as Vegetable
10.	*Argyeria nervosa* (Burm. f.) Boj. [Convolvulaceae]	Uisul kung	Pods	Scrape the black pods. Boiled the pods and discard water. Used as vegetable or in chutneys.
11.	*Arisaema leschenaultia* [Araceae]	Telong	Tubers	Roasted, pounded and soaked in ash water for about 3 nights. Washed off the ash water. Add salt and chillies to consume.
12.	*Artocarpus lacucha* Buch. Ham. [Moraceae]	Tat thei	Fruits	Ripe fruits edible
13.	*Arundinaria callosa Munro* [Poaceae]	Zuanmuat	Young shoots	Young shoots are cooked as *tangalmehpok or makang*
14.	*Asculus hippocastanum L.* [Sapindaceae]	Segah	Seeds	Roasted seed are consumed
15.	*Asparagus racemosus* Wild. [Liliaceae]	Aipak	Inflorescence	Cooked as vegetable.
16.	*Averrgia caranbika L.* [Oxalidacea])	Thei-helh-hot	Whole ripe fruit	Raw fruit
17.	*Bambusa arundinaceae* (Retz.) Wild. [Poaceae]	Gokha	Tender shoots/ Young shoot	Boiled and discard the water. Then, cooked as vegetable. Fresh shoots fermented as food. Dried for future use.
18.	*Bambusa tulda* Roxb. [Poaceae]	Govatuai	Tender shoots/ Young shoot	Boiled and discard the water. Then, cooked as vegetable. Fresh shoots fermented as food. Dried for future use.
19.	*Benincasa hispida* Thunb Gogn. [Cucurbitaceae]	Maipuang	Fruit	Cooked as vegetable
20.	*Blumea lanceolaria* [Asteraceae]	Bualze	Leaves, roots	Leaves eaten boiled
21.	*Brassica campestris*Linn. [Brassicaceae]	Ankam	Leaves, tender shoots, Inflorescence	Boiled as vegetable, Tender shoots eaten raw. Leaves dried for future use.
22.	*Brassica juncea* [Brassicaceae]	Ankam	Leaves	Leaves are boiled as vegetables
23.	*Brucea javanica (L) Merr.* [Simaroubaceae]	Toilheng	Ripe mesocarp	Raw fruit
24.	*Cajanus cajan* Linn. [Papilionaceae]	Behiang	Pods, seeds	Cooked as vegetable
25.	*Calamus erectus* Roxb. [Arecaceae]	Chingpingek	Stem pith, Tender shoot ripe mesocarp	Cooked as vegetable
26.	*Calamus latifolia* Roxb. [Arecaceae]	Taichiing / Chiingmalngat	Stem pith	Cooked as vegetable
27.	*Capsicum frutescens* Linn. [Solanaceae]	Malta	Fruit	Used as spices/condiments.Fruits dried for future use.
28.	*Caryota urens* Linn. [Arecaceae]	Tuum	Stem pith	Cooked as vegetable
29.	*Centella asiatica* Linn. [Apiaceae]	Tangkuangteh	Whole plant except roots	Cooked or eaten raw as vegetable
30.	*Cinnamomum verum* Presl. [Lauraceae]	Singguithak	Bark	Used as spices and condiments
31.	*Cissus repanda* Vahl. [Vitaceae]	Khaupuang, Lenpuang kung	Tender shoots, Leaves	Cooked as vegetables
32.	*Citrus latipes* (Swingle). Tanaka. [Rutaceae]	Hatkorathei	Rind of the fruit.	Dried and used as spices/condiments.
33.	*Clerodendrum colebrookianum Walp.*[Verbanaceae]	Anphui	Leaves	Leaves are eaten boiled and cooked as vegetable.
34.	*Coix lacryma jobi L.* [Poaceae]	Miimtang	Fruit	Edible
35.	*Colocasia esculenta* (Linn.) Schott. [Araceae]	Baal	Corm, Petioles, leaves	Corm used as food and vegetables. Petioles and leaves dried and preserve for future use.
36.	*Colocasia laurentii* Schott. [Araceae]	Dolsialnek	Petiole	Cooked or eaten raw as vegetable
37.	*Conyza stricta* Wild. [Asteraceae]	Mualdap	Tender shoots, Leaves, rhizome	Cooked as vegetable
38.	*Cucurbita maxima* Duchesne. [Cucurbitaceae]	Maai	Leaves, fruits, Inflorescence, seeds	Cooked as vegetable
39.	*Curcuma longa* Linn. [Zingiberaceae]	Ai-eng	Rhizome	Used as species/condiments
40.	*Cycas pectinata* Griff. [Cycadaceae]	Tanglu	Tender buds, shoots	Cooked as vegetable
41.	*Dendrocalamus hamiltonii* Nees & Arn. Ex Munro [Poaceae]	Gova	Young shoots	Cook as vegetables or consumed as dried form/ fermented
42.	*Dendrocalamus manipureanus* Naithani & Bisht [Poaceae]	Gopi	Young shoots	Cooked as vegetables
43.	*Dendrocalmus latiflorus Munro* [Poaceae]	Gomi	Young shoots	Cooked as vegetables or fermented

44.	*Dendrocalmus giganteus* Munro. [Poaceae]	Mau gua	Young shoots	Cooked as vegetables or fermented
45.	*Derris wallichi* Prain [Papilionaceae]	Huiihu	Tender shoots	Tender shoots boiled and water discarded. Tender shoots then fried as vegetable or used in chutney.
46.	*Dioscora sativa* Hook [Dioscoreaceae]	Gam hakai	Tuberous root	Cooked and used as food during famine.
47.	*Dioscorea alata* Linn. [Dioscoreaceae]	Hakaisante	Tuber	Cooked as food stuff
48.	*Dioscorea glabra* Roxb. [Dioscoreaceae]	Hakaingoute	Tuber	Cooked as food stuff
49.	*Dolichos lablab* Linn. [Papilionaceae]	Bepi	Pods, Leaves	Cooked as vegetable
50.	*Dryopteris marginate* (Wall) Christ. [Polypodiaceae]	Bepi	Pods, Leaves	Cooked as vegetable
51.	*Dryopteris marginate* (Wall) Christ. [Polypodiaceae]	Takok	Leaves	Cooked as vegetable
52.	*Dysoxyllum gobara* Buch. [Meliaceae]	Singthupi	Tender shoots/ Young shoots	Boiled and the water is discarded. Used as vegetable.
53.	*Elaegnus caudate Schlecht. Ex* Momiyama [Eleagnaceae]	Sarzu kung	Fruits	Ripe fruits are edible
54.	*Ellaegnus pyriformis* Hook. f. [Elaegnaceae]	Srzu kung	Fruits	Ripe fruits are edible
55.	*Elsholtzia communis* (Collett&Hemsley) Diels [Lamiaceae]	Lengmasel	Leaves	Leaves are cooked with meat and fish for flavouring curry
56.	*Entada scadens* Benth. [Mimosaceae]	Ling	Tender shoot	Boiled and the water is discarded. Used as vegetable.
57.	*Eryngium toetidum* Lam. [Umbelliferae]	Pasikhawm	Leaves	Used as spices/condiments.
58.	*Eurya ylindric* DC. Fl. Br. [Theaceae]	Sihzou	Leaves, Tender shoots	Cooked as vegetable. Tender shoot eaten raw as salad. Leaves dried for future use.
59.	*Ficus roxburghii. Moraceae* [Moraceae]	Theipi	Tender shoots, leaves	Cooked as vegetable
60.	*Ficus rumphii* Linn. [Moraceae]	Mawnglok	Tender shoot, Inflorescence	Cooked as vegetable
61.	*Glycine max* Merr. [Papilionaceae]	Bekan	Seeds	Fermented and eaten
62.	*Hibiscus aculeatus* Roxb. [Malvaceae]	Mehnal	Fruits	Cooked or fried as vegetable
63.	*Hibiscus sabdariffa* Linn. [Malvaceae]	Vai-anthuk	Full matured, Leaves, seeds	Cooked as vegetable. Seeds fermented .Leaves dried and preserved
64.	*Hordeum vulgare* Linn. [Poaeceae]	Taangbuang	Grains	Cooked as food. Pounded into powder. Make paste with water. Wrap with banana leaves and cooked
65.	*Houttuynia cordata* Thunb. [Saururaceae]	Aithanglou	Leaves, roots	Cooked or eaten raw as spices/condiments
66.	*Ipomoea botatas* Linn. [Convlovulaceae]	Kawlkai	Tuber	Cooked as food
67.	*Lagenaria vulgaris* [Cucurbitaceae]	Uum	Fruits	Cooked as Vegetable
68.	*Lepionurus sulvestris* BL. [Olacaceae]	Anmang	Leaves	Cooked as vegetable
69.	*Leucaena leucocephala* (Lam.) De Wit. [Mimosaceae]	Zongtasialnek	Pods	Eaten raw in salads
70.	*Litsea cubeba* (Louv.) Pres [Lauraceae]	Seknam	Leaves, fruits	Used as spices/condiments
71.	*Luffa cylindrical* (Linn.) MJ. Roem. [Cucurbitaceae]	Umpawng	Fruits	Tender fruit cooked as vegetable
72.	*Lycianthes laevis* Bun. [Solanaceae]	Ansingteh	Leaves	Cooked as vegetable
73.	*Manihot esculenta Crantz.* [Euphorbiaceae] KVKEP	Singkawlkai	Tuber, leaves, fruits	Food stuff
74.	*Meriandra strobilifera* Benth [Lamiaceae]	Lengmasel	Leaves , Inflorescence	Cooked or eaten raw ,Leaves dried for future
75.	*Mimosa himalayansis* [Mimosasceae]	Khangkhuh, Linguih	Tender shoots	Cooked as vegetable
76.	*Momordica charanita* Linn. [Cucurbitaceae]	Tangkha	Fruits, leaves	Cooked or fried as vegetable
77.	*Momordica cochinchinesis* Lour. [Cucurbitaceae]	Tangkhapi	Fruits	Cooked as vegetable
78.	*Musa paradisiacal* [Musaceae]	Nahtang	Inflorescence, soft stems	Cooked as vegetable
79.	*Musa superb* Roxb. [Musaceae]	Saisuang	Soft stems	Cooked as vegetable
80.	*Oroxylum indicum* Linn. [Bignoniaceae]	Baklawng	Tender shoot, young pods	Cooked as vegetable.
81.	*Osimum americanum* Linn. [Lamiaceae]	Muii	Leaves	Cooked or eaten raw in salad, Leaves dried for future use.
82.	*Panicum miliaceum* Linn. [Poaceae]	Taang	Seeds	Cooked as food.
83.	*Parkia roxburghii* G. Don. [Mimosaceae]	Zongta	Pods	Cooked or eaten raw after scrapping off the epidermal layer
84.	*Passiflora edulis* Sims. [Passifloraceae]	Sapthei/Mangthei	Leaves	Cooked as vegetable
85.	*Pennisetum glaucum* (L) R, Br. [Poaceae]	Butun	Grains	Food stuff
86.	*Piper longum* Linn. [Piperaceae]	Singmalta	Fruits	Used as spices and condiments
87.	*Plantago depressa* Linn. [Plantaginaceae]	Vokpibilteh	Aerial parts	Cooked as vegetable or eat as boil
88.	*Randia dumetorum* Lamk. [Rubiaceae]	Sazukthei	Fruits	Ripe fruits are edible
89.	*Rhus succedanea* Murray [Anacardiaceae]	Khongma	Entire fruit	Fruits are dried in the sun, pounded and consumed with chili and salt
90.	*Rumex vesicarius* Linn. [Polygonaceae]	Anbongteh	Leaves	Cooked as vegetable
91.	*Schima wallichii* (DC.) Korth. [Thaeceae]	Khiang	Tender shoots	Eaten raw or boiled vegetable

92.	*Schium edule* (Jacq.) Sw. [Cucurbitaceae]	Iskut	Shoots	Tender shoots are eaten boiled
93.	*Sesamum indicum* (L). [Pedaliaceae]	Sii	Seeds	Seeds are dry and used as flavouring, or fermented.
94.	*Securinega virosa Roxb. Ex* Wild [Euphorbiaceae]	Sai-sek	Fruits	Ripe fruits are edible
95.	*Semecarpus suspendiriformis* [Anacardiaceae]	Uilusiin	Fruits	Cooked as vegetable
96.	*Sesbania sesban* Merr. [Papilionaceae]	Leiphagah, Leihoihsing	Tender fruits	Cooked or eaten raw in chutneys and salads
97.	*Solanum indicum* Linn. [Solanaceae]	Samphok	Berry (fruit)	Cooked or eaten raw
98.	*Solanum melongena* Linn. [Solanaceae]	Manta	Fruits	Cooked as vegetable
99.	*Solanum nigrum* Linn. [Solanaceae]	Anzou	Leaves/ shoots	Cooked as vegetable
100.	*Solanum torvum* Swartz. [Solavaceae]	Anzangkha	Berry (fruit)	Cooked as vegetable
101.	*Spilenthes acmella* Linn. [Asteraceae]	Ansateh	Leaves, stem	Cooked as vegetable
102.	*Spondias pinnata (L.f) Kurtz* [Anacardiaceae]	Tuaiteng	Ripe mesocarp	Raw fruit
103.	*Syzygium cumini* (L) Skeels [Myrtaceae]	Len mui	Fruits	Ripe fruits are edible
104.	*Syzygium cumini* L. Skeels [Myrtaceae]	Mui	Ripe fruit	Raw fruit
105.	*Tamarindus indica* L. [Papilionaceae]	Tengtere	Leaves, fruits	Leaves eaten in chutney. Raw fruits are edible
106.	*Trichosanthe sanguira* Linn. [Cucurbitaceae]	Begul	Fruits	Cooked as vegetable
107.	*Vigna sinensis* savi ex Hassk. [Papilionaceae]	Belawi	Leaves, pod	Cooked as vegetable. Leaves dried for future use.
108.	*Vigna unguculata* (L) Walp [Papilionaceae]	Belawi	Leaves	Leaves are eaten boiled
109.	*Xanthosoma sagithifolia* Schott. [Araceae]	Dolsialnek	Petiole	Cooked or eaten raw in chutney
110.	*Zanthaoxyllum rhetsa (Roxb.)* [Rutaceae]	Singzual	Leaf, stem	Aromatic meat curries
111.	*Zanthoxylum armatum* DC. [Rutaceae]	Akhiklou, Lingnamsia	Leaves	Cooked or eaten raw as spices/condiments
112.	*Zanthoxylum budranga* [Rutaceae]	Singzual	Tender stem, leaves	Cooked as vegetable
113.	*Zanthxyllum acanthopodium* Dc. [Rutaceae]	Lingnamsia	Leaf, stems	Aromatic meat curries
114.	*Zea mays* Linn. [Poaceae]	Vaimiim	Corn	Cooked as food
115.	*Zingiber officinals* Rose. [Zingiberaceae]	Siing	Rhizome, Inflorescence	Used as spices and condiments

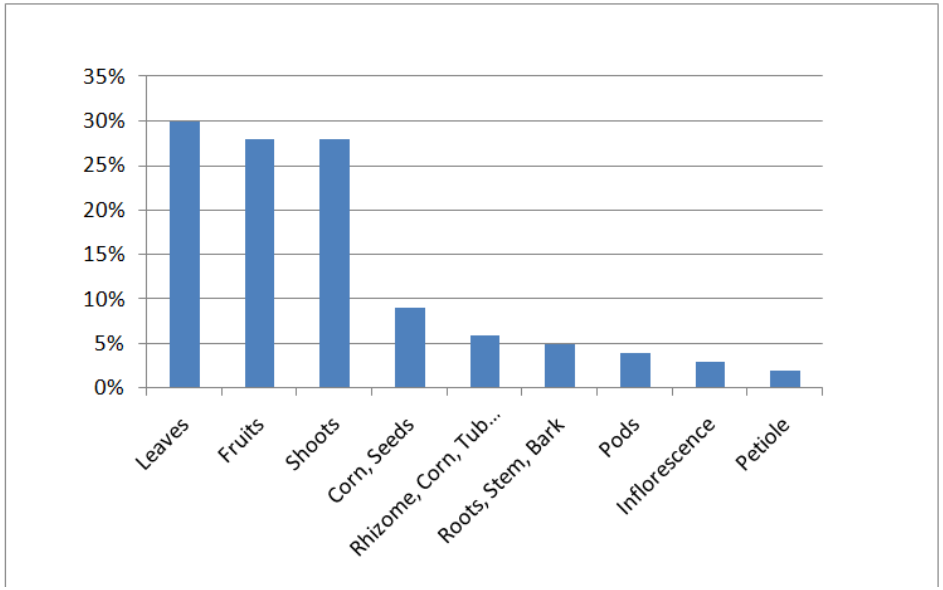

Figure 1. Percentage of Plants parts used by the Paite tribe of Churachandpur, Manipur

Based on experimentation, it appears that *Shithu* is highly nutritious and which is rich in protein, amino acids, phenols, flavonoid and minerals such as calcium Iron, magnesium and Zinc deficits prevalent in the diets particularly among the low income families as *Shithu* can be prepared and consumed throughout the year (Hoikhokim, 2015). The plant *Blumea lanceolaria* leaves known as *Bualzeteh* in Paite dilect are eaten boiled or raw to cure piles, stomach complaints, tuberculosis among the Paites. These are traditional practice which are passed down from generation to generation in words of mouth and no written record is found so far. The knowledge and mode of utilization of wild edible plants varies from place to place in Manipur. Forest of Manipur are exposed to various anthropogenic disturbances like shifting cultivation, timber extraction, fuel wood, making charcoal etc.

Conclusion

The Paites are tribal group who live mostly in far flung areas of hill forests depending mostly on wild plants for their livelihood because of their easy accessibility and availability. It has been noticed that the tribes who still live in their undisturbed forest areas and having the traditional food habit like consumption of large variety of seasonal food are found healthy and free from most of the diseases. Some of these plants are found in their surrounding forest and under cultivation in road sides, Jhum fields, and home gardens. With the spread of high yielding varieties and due to many factors these valuable plant genetic resources and traditional knowledge has been depleting at an alarming rate. It is therefore necessary to re advocate the domestication of wild edible plant and to take up proper conservative measures to preserve these local gene pools before they are lost forever from the face of earth. The findings suggest further investigation on nutritional aspects, cultivation techniques, conservational strategies and needs and medicinal properties of the reported wild edible plant species. These may bring to light one or other new food plants from wild sources. I would like to conclude with a hopeful note and say that if we explore and carefully exploit our locally available plants, we will be able to self-sustain our foods, health requirements within our economic standards.

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