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## Traditional flowers used by the meiteis as food and medicine

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### Abstract

The relationship of the plants and human beings was known since time immemorial. Nowadays, there is a scientific study of the relationship that exists between people and plants. Manipur was a small princely state in the North-East India, having a history of about 2000 years. Manipur is under Indo - Burma Biodiversity Hot Spot of Northeast region, and many endemic diverse, rich flora and fauna are available. Mites are the dominant community of this state which has its own traditional food, culture, spiritual (offered to God) and social (Religious purposes, as decoration in marriage ceremony and other events of life) value and the other 35 ethnic schedule tribes of Manipur also have traditional foods. Out of the total area of Manipur 22327 Km<sup>2</sup>, 82% is a hilly region and only 8% are plain area. So, the percentage of forest area is bigger than plain area and edible traditional flowers with medicinal value are available in nature. Flowers are the most beautiful creation of God and has an aesthetic value for decoration in wedding parties which keep our mind peaceful and in happy mood. In addition, the flowers have medicinal value as well as food like *Curcuma angustifolia*, *Hedychium flavum*, *Parkia roxburghi*, *Punica granatum*, *Curcuma longa*, *Wendlandia glabra*, *Phlogacanthus thyrsoiflorus*, *Musa paradisiaca*, *Leucus aspera*, *Nelumbo nucifera* etc.

**Keywords:** Traditional flowers, aesthetic value, medicinal value, food, indigenous people

### Introduction

Manipur was one of the oldest Monarchical Kingdom of the world, situated in the North-East India, having a written history of about 2000 years since Nongda Lairen Pakhangba, the first King of Manipur from the Ningthouja Dynasty. The majority indigenous people are the Meiteis and other 35 schedule tribes have many traditional foods and medicinal plants. The current study will present the traditional flowers used by the Meiteis as food and as medicinal value to treat different ailments. There is documentation by A. Nirmala Devi *et al.* [1] of 58 traditional food plants, 61 plant species which have medicinal value and 17 plants are used in religious rituals of Meiteis of Manipur. Manipur is included under the Indo - Burma Biodiversity Hot Spot of Northeast region out of the 36 selected Biodiversity Hot Spot of the World indicating high concentration of endemic species of plants (H. Tombi Singh, 2009) [20] and rich in biodiversity consisting of a large number of non-conventional food plants and medicinal plants. The total geographical area of Manipur is 22327 Km<sup>2</sup> located between 23<sup>o</sup> 51' North to 25<sup>o</sup> 41' N Latitude and 93<sup>o</sup> 3'E to 94<sup>o</sup> 6'E Longitude. Manipur in its distinctive geographical features and varied agro climatic condition inhabited by different people of multicultural society, has a very rich resource of plants with vast potential for uplifting the socioeconomic condition of the people by growing various economic plants, Singh S. Sukumar [7]. North American Botanist John William Harshburger [5] (1895) while he was teaching at the University of Pennsylvania to describe the studies of Ethnomedicinal plants which are also described by Ballic and Cox [2] (1996) as "Plants used by primitive and aboriginal people". Since time immemorial, there is knowledge of using plant parts like bark, leaves, roots, and flowers as medicine and food to get the nutrient supplement in their daily diet, Singh H. B., Singh R. S. and Sandhu J. S. (2003) [14]. The present studies highlight the useful botanical information about the use flowers by Meiteies as traditional food and plants which have medicinal value in treating different diseases. According to Rocky [10], T. Amita H, S. Zimisai T. Chanu Anel *et al.* this traditional system of health care and treatment of ailments through herbal medicine has been very popular and significant in the state, so

much that the herbal medicines have become essential ingredients in food items of the Meiteis. Meiteis of Manipur extensively used plants in the treatment of various ailments since time immemorial. Sporadic mention on the uses of plants as medicine could be found in the folklore of Manipur. The Royal Chronicle of Manipur (locally known as Cheitharol Kumbaba) do have records of uses of few plants as medicines of Meitei community, Sharma, H.M., A. Radhapyari & B. Manihar Sharma [13]. This knowledge of herbal medicine of flower as well as food is still continuing by urban people and rural people.

### Methodology

An extensive field work has been carried out at different seasons round the year. Related literateurs were also used for reference to this subject. From key informants collected the data through oral questioning and discussion. Vegetable sellers in the local marketplaces were also key informants. Other key informants are elderly locale people, experience herbal practitioners (Maibas), Panji (religious astrologers), Arangfam (attendants of rites and rituals), Brahman (Hindu priests) and authorized attendants (Amaiba and Amaibis) of the ancestral deities (Umanglai). The present study was conducted by adopting a mixed method approach of scientific observation, photography, plant species inventory and in-depth interview of key informants.

### Results and Discussion

About forty-seven (47) plants documented in this study, nineteen (19) plants are found edible as food and about eighteen (18) plants are found to have medicinal values which are used to treat many ailments of human being. Ten (10) plants are both edible as food and have medicinal value. Altogether, there are a documentation of forty-seven (47) plant species belonging to twenty-six (26) different families. Maximum number of plants six (6) is found in the family Lamiaceae. Second maximum four (4) is found in the family Nymphaeaceae. Third maximum three (3 each) is found in the families Zingiberaceae and Asteraceae. The flowers are consumed as raw or cooked wholly or partly according to species. The flowers may be cooked with other conventional vegetables and with meat or fish. Meiteis are more inclined to eat with fish. In the local vegetable market different wild vegetable flowers are sold in different season. This will also solve the problem of scarcity of food due to population explosion. The wild flowers are mostly collected from the forest. They are low cost and have great socioeconomic significance for most of the indigenous people as they are food for survival, to add nutrition and some are used as medicine to treat a different ailment. The Plants and flowers are tabulated with their local names, botanical names, families, habitat, plant part used and their uses in table 1. In table 2 pictures of edible flowers and prepared food.

**Table 1:** Pictures of edible flowers and prepared food.

Sl. No	Locale Name	Botanical Name	Family	Type	Mode of Consumption
1	Awathabi	<i>Carica papaya</i>	Caricaceae	Shrub	Flowers are eaten after frying in oil
2	Chingthrao angangba	<i>Bauhinia purpuria</i>	Caesalpinaceae	Tree	Flowers are eaten as a cooked vegetable
3	Chingthrao angouba	<i>Bauhinia variegata</i>	Caesalpinaceae	Tree	Flower extracts are used to treat diabetes
4	Feija	<i>Wendlandia glabrata</i>	Rubiaceae	Tree	Tender inflorescence is eaten raw in salads (Singju) & in Iromba (chutney)
5	Feija ammom	<i>Wendlandia tinctoria</i>	Rubiaceae	Tree	Inflorescence is eaten raw to cure gastrointestinal problem
6	Funil	<i>Gnephalium indicum</i>	Asteraceae	Herb	Inflorescence with tender leaves used as vegetable
7	Gulab	<i>Rosa alba</i>	Rosaceae	Shrub	Flowers used as cooling medicine in fever and heart palpitation
8	Hangam	<i>Brassica campestris</i>	Brassicaceae	Herb	Whole inflorescence is cooked stir fry in oil
9	Hangam	<i>Brassica campestris</i>	Brassicaceae	Herb	Whole inflorescence is cooked stir fry in oil
10	Heibong	<i>Ficus glomerata</i>	Moraceae	Tree	The inflorescence inside the young fruit is effective against diabetes
11	Heiyai	<i>Elaeagnus umbellata</i>	Elaeagnaceae	Shrub	Flowers are used as a cardiac stimulant and an astringent
12	Kafoi	<i>Punica granatum</i>	Punicaceae	Shrub	Flowers paste is applied in bleeding gum and toothache
13	Kanghuman	<i>Meriandra strobilifera</i>	Lamiaceae	Herb	Inflorescence is used as a condiment in Meitei Iromba, Singju (Meitei veg salad) & chilli chutney
14	Kanghu	<i>Alpinia galanga</i>	Lamiaceae	Herb	Inflorescence is used as steam cooked food in Meitei chutney & chilli chutney
15	Lafu changbi	<i>Musa balbiciana</i>	Musaceae	Stoloniferous herb	Inflorescence is used in Meitei cake (Besan paknam), Chutney
16	Lafu Hei	<i>Musa paradisiaca</i>	Musaceae	Stoloniferous herb	Inflorescence is used in Meitei cake (Besan paknam), Chutney (Iromba)
17	Lam nongmangkha	<i>Phlogacanthus curviflorus</i>	Acanthaceae	Shrub	Flowers are boiled and eaten as cooked food
18	Lam numitlei	<i>Tithonia diversifolia</i>	Asteraceae	Shrub	Inflorescence is used to cure wounds & bruises
19	Lam Ketuki	<i>Pandanus furcatus</i>	Pandanaceae	Shrub	Young inflorescence is used as medicine to treat female disease
20	Leibak kundo	<i>Portulaca oleracea</i>	Portulacaceae	Herb	Tender shoot with flowers eaten as cooked food with dried fish.
21	Lomba	<i>Elsholtzia blanda</i>	Lamiaceae	Herb	Inflorescence is used as a condiment in Meitei Iromba & chilli chutney, also used to sit in toothache
22	Loungpan	<i>Eugenia caryophyllata</i>	Myrtaceae	Tree	Crushed powder of floral bud is applied to sooth toothache and clove oil extracted from mature flower bud is also used to treat the same
23	Manja lei	<i>Spilentes</i>	Asteraceae	Herb	Chewing of fresh inflorescence is effective in toothache,

					paste of inflorescence helps in blood clotting
24	Maroi napakpi	<i>Allium hookeri</i>	Amaryllidaceae	Herb	Whole inflorescence is cooked stir fry in oil
25	Maroi nakuppi	<i>Aiilum odorum</i>	Amaryllidaceae	Herb	Whole inflorescence is cooked stir fry in oil
26	Moirang khanum	<i>Clerodendrum serratum</i>	Lamiaceae	Shrub	Whole inflorescence is steamed cooked and made chutney with fermented fish, have antioxidant & antibacterial activity
27	Mairen	<i>Cucurbita maxima</i>	Cucurbitaceae	Climber	Flower is used as a cooked vegetable in making Bora
28	Mayangton	<i>Oscimum canum</i>	Lamiaceae	Herb	Whole inflorescence with tender leaves is used as a condiment for chilli chutney & salad (Singju), inflorescence with tender leaves is used against stomach pain & use as an expectorant
29	Mayanglembum	<i>Leucas aspera</i>	Lamiaceae	Herb	Whole inflorescence with young shoot is eaten raw with chilli chutney, helpful in treating stomach pain
30	Mukthruhi	<i>Zanthoxylon acanthopodium</i>	Rutaceae	Tree	Inflorescence is eaten raw with chilli chutney as condiment
31	Nageshor	<i>Mesua ferrea</i>	Clusiaceae	Tree	To treat asthma decoction of flower is taken orally
32	Nongmangkha sanamanbi	<i>Phlogacanthus thyrsoiflorus</i>	Acantheaceae	Shrub	Flowers fried in oil with peanut are a delicacy item, prevents skin disease like scabies
33	Nungarei	<i>Asparagus racemosus</i>	Liliaceae	Climber	Inflorescence is used as a cooked vegetable
34	Pakhangba leiton	<i>Euphorbia hirta</i>	Euphorbiaceae	Herb	Tender shoots and Inflorescence is used to cure diarrhea, dysentery & colitis
35	Phakpai	<i>Polygonum posumba</i>	Polygonaceae	Herb	Inflorescence is used in treating insect bites
36	Shing mapal	<i>Zingiber officinale</i>	Zingiberaceae	Herb	Inflorescence is used as a condiment
37	Silot sougri	<i>Hibiscus sabdarifa</i>	Malvaceae	Herb	Matured epicalyx & calyx are used in making jam & jellies, dried powder is used to cure stomach diseases and dyspepsia
38	Sougri	<i>Hibiscus cannabinous</i>	Malvaceae	Herb	Flower extract mixed with sugar & black paper to treat biliousness with acidity
39	Thambal	<i>Nelumbo nucifera</i>	Nymphaeaceae	Aquatic herb	Dried flower petals Are used as lotus tea, medications used to treat dizziness, cholera and dysentery
40	Thariktha macha	<i>Nymphoides indica</i>	Nymphaeaceae	Aquatic herb	Flowers with tender stem are used as an aphrodisiac and excess menstrual discharge
41	Thariktha	<i>Nymphaea nouchali</i>	Nymphaeaceae	Aquatic herb	Flowers with tender stem are used as an aphrodisiac and excess menstrual discharge
42	Tharo	<i>Nymphaea pubescence</i>	Nymphaeaceae	Aquatic herb	Same as above
43	Tera paibi	<i>Crassocephalum crepidioides</i>	Asrteraceae	Herb	Young inflorescence with young shoots are used to treat stomach ulcers
44	U-hawaimaton	<i>Crotolaria juncea</i>	Fabaceae	Shrub	Inflorescence is used for blood purification
45	Yaingang mapal	<i>Curcuma longa</i>	Zingiberaceae	Herb	Whole inflorescence is used as cook vegetable
46	Yaipan	<i>Curcuma angustifolia</i>	Zingiberaceae	Herb	Whole inflorescence is used in making besan bora (fried in oil)
47	Yongchak mapal	<i>Parkia roxburghii</i>	Fabaceae	Tree	Whole inflorescence is used in making Singju & carminative to treat piles

**Table 2:** Pictures of some edible flower and inflorescence with Botanical Name, locale name & name of prepared food





3. *Gnephalium indicum* (Funil)



4. *Meriandra bengalensis* (Lomba)



5. *Wendlandia glabrata* (Feija)



6. *Hibiscus subdarifa* (Silot sougri)



7. *Musa paradisiaca* (Lafu)



8. *Meriandra strobilifera* (Kanghuman)



9. *Parkia roxburghii* (Yongchak)



10. *Meriandra sp.* (Lomba)

### Conclusion

From the above studies and discussion, it can be concluded that the flowers of many plants mainly wild plants are found edible in many forms of preparation by the indigenous people Meiteis. The knowledge of availability of wild plants and with the nutritious values will help to solve the scarcity of food which is one of the major problems throughout the globe due to population explosion. Some plants are also found to have medicinal value to treat different ailments. Nowadays, herbal medicines are regarded as safer for health than the allopathic medicines. With these knowledges about the edible and medicinal flowers need to be disseminated among more people around the world. Collecting and selling of the above documented plants there will be upgrade of socioeconomic condition among folk.

Further investigation about the phytochemical analysis of the edible flowers will throw more light in the consumption and use as medicine to many people.

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