

Aquatic Plants : A few rare wild edible plants of Manipur

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Zizania caduciflora

Man through ages established his knowledge of plants whether edible, medicine, semantic, food adjuncts, etc. by trial and error method. Early peoples were primarily hunters, then seed-gatherers or foragers and for the most part, they ate a wide range of plants as food. As soon as the seed-gatherers started cultivating grain, man's range of food plants began to narrow and its knowledge of the old ways began to fade and began to specialize. Ultimately, a modern man usually eats a combination of vegetables, just as done throughout history. Whether or not, man has become too much narrow-minded in eating habits (Livingston and Livingston, 1996). Simply, in the modern society, a man has forgotten everything, acquired from the age-old wisdom i.e. the traditional knowledge system. The case is true in case of Manipuri communities of Manipur State, even though they are traditional communities, have forgotten the preserved mankind's knowledge, which are inherited from their forefathers. Thereby, eating habits of the Manipuri community has been changed drastically with little knowledge of food plants. In this context, it is hoped that this article will serve well as a handy piece of

If some necessary steps are not taken up in time, in near future we will be helpless to get these plants in the natural habitat and will be claimed that they are extinct in the wild. So awareness program, steps by the government, researchers, and plant lovers are necessary so as to conserve these plants in ex-situ as well as in-situ condition thereby multiplying these plants for future generations.

information on the subject, and will create more inquisitiveness to the people who are interested in edible aquatic plants.

The people of Manipur particularly the Meiteis who are



Infected culm selling in the market

also the indigenous community of this state and valley-dwellers have always lived in close vicinity of water-body, be it the domestic pond or Pukhri, the lakes or the rivers. It is partly from this association and partly out of necessity that the people started consuming certain aquatic plants. The Meiteis are community with rich cultural heritage and the culinary skills evolved through the ages through certain traditional dishes, have remained as regularly food items till today (Singh, et al., 2001). There is little comprehensive account dealing exclusively with the wild edible aquatic plants. Keeping with this view in the present article few rare wild edible aquatic plants are discussed for their multifaceted importance.



Trapa natans leaf stalk at market

Zizania caduciflora Hand.-Mazz. commonly known as wild rice and Locally known as Ishing-kambong belongs to the family Poaceae is a perennial aquatic plant naturally growing only in Manipur State of the Indian sub-continent. It has well developed stolons and rhizomes. Its natural home is at the Loktak lake and other lakes and swampy areas of the valley. The tender soot and the smut infected 3-5 apical internodes of the plant are eaten as vegetable. The culm is infected by *Ustilago esculenta* P.Henn., and the cells are hypertrophied to form small maize-like galls. The gall is filled up with innumerable spores, like coco powder. It has been reported that during infection proteins rose up from 2.32% to 18.62%, while the amino acids, the number and quantity raised up from 7 to 11 (Singh, 1995). The culms, rhizomes and grains are used against anaemia and fever and also as a diuretic. They are used for heart, kidney and liver troubles and also applied to burns in the form of paste. Leaves contain vitamin C (Sinha, 1996). The plant was commonly used for forage and in making paper in Europe. In Japan the mature spores is used in making



Nelumbo nucifera Gaerth.

ink and black dye and selling in the market to paint eyebrows and borders of the hair by ladies or actors and sometimes used as medicine. The young culm of the plant is used as a precious offer to the Deities on a specific day of the year, "Cheiraoba", i.e. the last day of the year (people observe as New Year), to bring prosperity for the coming year (Singh, 1995).

Trapa natans L. var. *bispinosa* (Roxb.) Makino commonly known as Water chestnut and locally known as Heikak belongs to the family Trapaceae, is an annual floating aquatic plant. It is one of the rare plants of Manipur. It grows naturally in Loktak and other lakes; however, its population is decreasing day by day and reached its status as the extinct in the wild. It is cultivated in some marshy areas. The tender shoots are eaten as vegetable and the fruits are taken as food to serve as supplementary staple food items at times of food scarcity. It is mainly the people who live in the vicinity of the various water logged areas that consume the aquatic plants, but, some have also found their way to the urban markets (Singh, et al., 2001). Plant is used for normal blood circulation and leucorrhoea. Fruits are cooling and useful in diarrhea and bilious affections (Sinha, 1996). Heikak now-a-days is not available in the market, if available, very costly; per 30 to 50 fruits cost Rs. Rs. 50 to Rs. 100.



Mature Fruit of Lotus at market

Euryale ferox Salisb. commonly known as Fox nut and locally called Thangjing belongs to the family Nymphaeaceae, is also a wild edible aquatic plant having multifarious importance. It is an annual very prickly aquatic herb, very common in the valley as cultivated one. Leaf stalk, fruits, flower, etc. are eaten as vegetable and selling in the market at high price. Seeds are spermatorrhoea, tonic, and astringent and deobstruent. Endosperm flour is used as substitute for arrowroot and easily digestible, recommended for invalids (Sinha, 1996). Because of the high demand of the public for vegetable, the plant is cultivated in large scale to uplift the economy of the wetland dwellers of the state



Seeds of Lotus at market

Nelumbo nucifera Gaertn., among the aquatic plants which is worth to be mentioned is *Nelumbo nucifera* Gaertn. commonly known as "sacred lotus" and locally known as "Thambal chama nipal" of the family Nymphaeaceae, is of semantic and abstract value, which is the national flower of our country. Not only that value it is also a rare plant in Manipur for socio-religious implications and per flower selling in the market varies from Rs. 50 to Rs. 1000 depending upon the availability and demand of the public. The rhizome, flowers, filaments and seeds are used variously as medicine for treatment of diarrhoea, cholera, liver and cardiac complaints, bleeding piles, dysentery, skin affection, leprocy and snake bites. Petioles, pedicels and embryo contain an alkaloid, nelumbine which acts as cardiac poison.

In Manipur due to the changing scenario of the environment, installation of Loktak hydro-electric project in Loktak lake, settlement and conversion of cultivable lands of other lakes and swampy waste lands, which are the natural home of these valuable wild edible aquatic plants, the status of the plants are in the category of rare ones. So awareness program, steps by the government, researchers, and plant lovers are necessary so as to conserve these plants in ex-situ as well as in- situ condition thereby multiplying these plants for future generations.

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