



Non-conventional Edible Hydrophytes of Udalguri District, BTR, Assam

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Abstract: Non-conventional food plants have always played an important role as supplement of major food plants in the food security system since time immemorial. There are established practices of using non-conventional food plants as stand by source of food at times of famine, natural calamity and at times when major crops fail due to local climatic aberrations. The hydrophytic vegetation of Udalguri district is quite rich due to presence of a large number of water bodies. The study reveals that various parts of 29 species belonging to 26 genera and 20 families of angiosperms are edible and consumed by the tribal and non-tribal communities inhabiting their in.

Key words: Non-conventional, Hydrophytes, BTR, Udalguri district

Introduction:

Non-conventional food plants are wild or semi domesticated consumed mainly as leafy vegetables. A large number of non-conventional food plants grow in different types of water bodies. Aquatic or hydrophytic vegetation is well observed in rivers, lakes, paddy fields, ponds, swamps, wetlands etc. Aquatic plants spend a part of their life cycle in water or their seeds germinate in water phase or in substrate of water body (Reid,1961).

Udalguri is one of the districts of BTR. The district is bounded by Bhutan and West Kameng district of Arunachal Pradesh in the North, Sonitpur district in the East, Darrang district in the South and Baksa district in the West. The geographic boundary of this district lies between 26°30'15''N to 27°12'5''N latitude and 91°45'13'' E to 92°15'10'' E longitude. Many perennial water reservoirs such as rivers, beels, jheels and swamps are observed here. Again, monsoonal rains make temporary marshy depressions in and around paddy fields and forest area. The rivers flowing over the district are Dipila, Dhansiri, Jiya Dhansiri, Kulsi and Barnadi. Some of the wetlands in this district are Garaimari, Khagramari etc. The communities inhabiting there in are Bodo, Assamese, Adivasi and Rabha. The region is inhabited predominantly by Bodo speaking ethnic group.

Metarials and Methods:

The specimens have been collected at their flowering and fruiting stages at regular intervals. Herbarium sheets of standard size have been prepared following the methodology of Jain and Rao (1977). The local uses specially its consumption value have been analyzed with local experienced people including both male and female as per the process suggested by Jain (1987), Cotton (1996) and verified with Brahma (1992). The plants have been identified by comparing voucher specimens with the herbarium sheet of Gauhati university, kanjilal Herbarium, Shillong and by using different floras and monographs of Bentham and Hooker (1862), Kanjilal(1934), Biswas and Calder(1936), Bor (1940), Pathak(1990), Malakar (1995). Families have been arranged following Bentham and Hooker (1862-1983) with slight modification.

Result and Discussion:

The hydrophytic vegetation of Udalguri district shows high species diversity due to presence of a large number of water bodies. The present study has documented that 29 aquatic herbs are consumed by the local people of the district (Table 1). Among them 10 species belong to monocot and 19 species belong to dicot. Regarding their occurrence 16 species are found in marshy places, 1 species as free floating, 3 species as rooted emergent, 8 species as rooted floating and 1 species as rooted submerged. Different plant parts like rhizome, petiole, tender shoot, leaf, flowers, thalamus, fruits and seeds are used to prepare different dishes. These non conventional plants provide not only food but also indirectly supply vitamins, minerals etc to the rural people. The edible part of *Ipomoea aquatica*, *Alternanthera sessilis*, *Rume dentatus*, are tender shoot, but that of *Ottelia alismoides*, *Euryale ferox*, *Trapa natans*, *Fragaria indica*, is fruit. The seeds of *Hygroryza aristata* can be cooked as rice. Again, the seeds of *Alpinia galanga* and leaf and rhizome of *Acorus calamas* have been utilized as spices.

Table 1: Non-conventional edible hydrophytes of Udalguri district

e	Family	Species	Local name (Assamese)	Edible part	Occurence
1	Sauraraceae	<i>Houttanyia cordata</i> Thumb	Mesendori	leaf	Marshy places
2	Nelumbonaceae	<i>Nelumbo nucifera</i> Gaertner	Podum	thallamus	Rooted floating in wetlands
3	Nymphaeaceae	<i>Nymphaea nouchali</i> Burm.f.	Vet phul	Fruits and seeds	Rooted floating in wetlands, paddy field
		<i>N.rubra</i> Roxb. Ex Andrews	Ranga vet	Fruits and seeds	Rooted floating in wetlands, paddy field
		<i>N.stellata</i> Willd.	Vet phul	Fruits and seeds	Rooted floating in wetlands, paddy field
		<i>Euryale ferox</i> Salisbury	Mokhona	fruit	Rooted floating in wetlands, paddy field
4	Caryophyllaceae	<i>Stellaria media</i> (L.)Vill.	Moroliya	Tender shoot	Marshy places
5	Amaranthaceae	<i>Alternanthera sessilis</i> (L.)R. Br.e DC	Mati aduri	Tender shoot	Marshy places
6	Polygonaceae	<i>Persicaria chinensis</i> (L.)H.Gross	Modhu soleng	Tender shoot	Marshy places
		<i>Rumex maritimus</i> L.	Tor Barua	Tender shoot	Marshy places
7	Rosaceae	<i>Fragaria indica</i> Andr.	Bon Komola	Ripe fruit	Marshy places
8	Oalidaceae	<i>Oxalis corniculata</i> L.	Tengesi	Tender shoot	Marshy places
9	Trapaceae	<i>Trapa natans</i> var. <i>incisa</i> Makino	Singori	fruit	Rooted floating in wetlands
10	Apiaceae	<i>Centella asiatica</i> (L.)Urban	Bor Manimuni	Whole plant	Marshy places
		<i>Hydrocotyle sibthorpioides</i>	Soru Manimuni	Whole plant	Marshy places

		Lamk.			
11	Convolvulaceae	<i>Ipomoea aquatica</i> Forsk	Kolmou	Tender shoot	Rooted floating in paddy field
12	Plantaginaceae	<i>Bacopa monnieri</i> (L.) Pennell	Brahmi	Tender shoot	Marshy places
13	Campanulaceae	<i>Spenoclea zeylanica</i> Gaertn.	Lehoti	Tender shoot	Rooted emergent
14	Asteraceae	<i>Enhydra fluctuans</i> Lour.	Heloshi	Tender shoot	Rooted floating
15	Hydrocharitaceae	<i>Ottelia alismoides</i> (L.) Perso	Sengun tepa	fruit	Rooted submerged
16	Pontederiaceae	<i>Monochoria hastata</i> (L.) Solms	Pani Koshu	flowers	Rooted emergent
		<i>M. vaginalis</i> (Burm.f.) presler ex Kunth	Vat Meteka	flowers	Rooted emergent
17	Acoraceae	<i>Acoras calamus</i> Linn.	Bos	Rhizome & leaf	Marshy places
18	Araceae	<i>Amorphophalus campanulatus</i> Blume	Ohl oshu	Dried tuber & petiole	Marshy places
		<i>Colocasia esculenta</i> (L.) Schott	Kola Koshu	Rhizome, petiole, tender leaf	Marshy places
		<i>Lasia spinosa</i> (L.) Thw.	Seng Mora	Tender shoot	Marshy places
		<i>Typhonium trilobatum</i> (L.) Schott	Sama Koshu	Tender leaf	Marshy places
19	Poaceae	<i>Hygroryza aristata</i> (Retz.) ex Nees	Bahpotiya	seed	Free floating
20	Zingiberaceae	<i>Alpinia galanga</i> (L.) Sw.	Tara gos	Seed	Marshy places

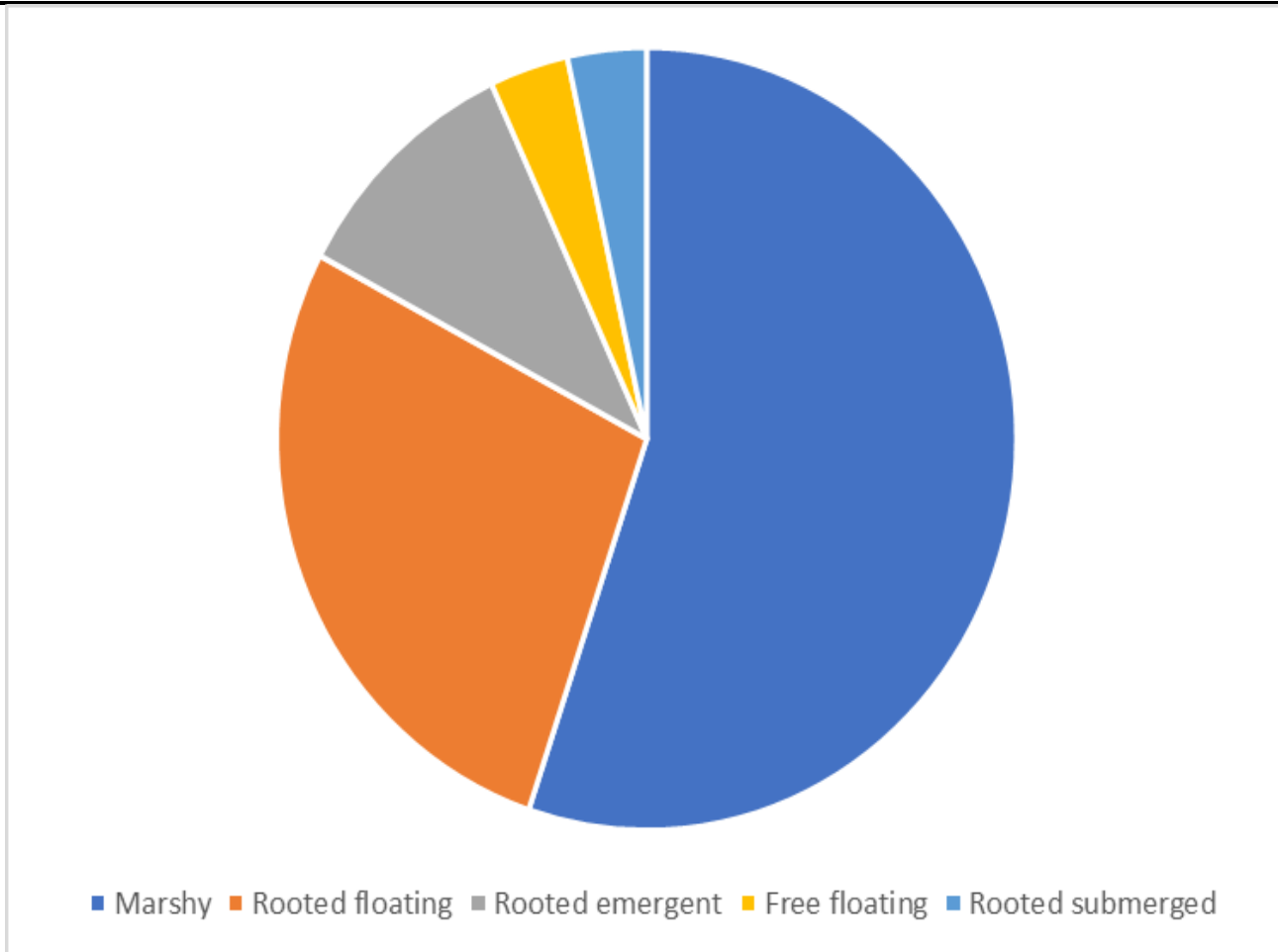


Fig-1 : Habitat categorization.

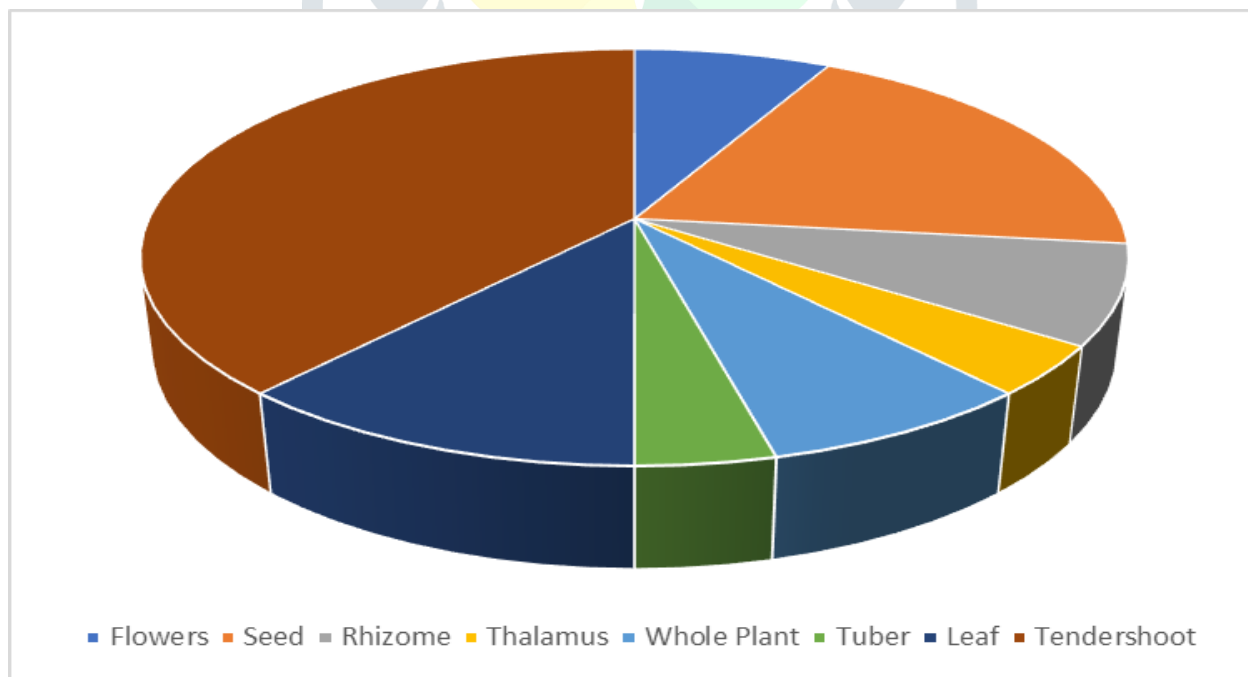


Fig-2 : No. of species with plant parts consumed.

Conclusion:

The present study reports that due to occurrence of many different types of water bodies like paddy fields, wetlands, ditches, ponds, swamps, the district is rich in aquatic plant diversity. The Bodo, Rabha, Adivasi, Assamese and other communities of this region have been utilizing these plants as food in their diet since time immemorial. Their vast traditional knowledge on food and medicinal value of these hydrophytes is of great significance for scientific research. Systematic studies and consumption values of aquatic herbs will bring a new scope on ethno food hub in near future. Moreover, these non-conventional plants contribute huge economic boost to the livelihood of people living in below poverty lines of the Societies.

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Enhydra fluctuans



Alternanthera sessilis



Houttaynia cordata



Hydrocotyle sibthorpioides



Hygroryza aristata



Sphenoclea zeylanica

PLATE-I. Different Non-conventional hydrophytic food plants.





Nymphaea rubra



Rumex maritimus



Monochoria hastata



Typhonium trilobatum



Acorus calamus



Monochoria vaginalis

PLATE-II. Different Non-conventional hydrophytic food plants.

