

A Systematic Approach Towards Non Conventional Edible Arum of Kokrajhar District, BTC, Assam

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Abstract: The group of plants belonging to Angiospermic family Araceae is commonly known as Aroids or Arum. A large number of species of the taxon have been traditionally utilized as food. The edible part varies from species to species. The main edible part is the corm and rhizome which are rich in starch. Besides, leaves and petioles are also consumed as vegetables. The present paper highlights the diversity of edible aroids found in Korajhar district of BTR. The present study reports that various plant parts of 9 aroid species are consumed by the tribes Bodo, Rabha, Bengali and Assamese community inhabiting there in. The medicinal utilization of plants are also reported. A brief taxonomic description, the habitat, vernacular names specially Assamese and Bodo name of the species, flowering and fruiting period, process of cooking are discussed.

Key words: Arum, Aroids, Araceae, edible, Korajhar

I. Introduction :

Araceae is a monocot family which is cosmopolitan in distribution. The members of the family are collectively known as Aroids. Aroids are generally a tropical family and are distributed worldwide (Sulaiman & Mansor, 2005). The inflorescence is represented by a spadix covered by a spathe which is a modified leaf conducting pollination. The flowers are minute, unisexual or bisexual. They are large herbs, sometimes shrubby with rhizome, corms and tubers and often with milky or watery juice (Talukdar & Devi, 2015). Species of Araceae are often rhizomatous or tuberous and are often found to contain calcium oxalate crystals or raphides (Das *et al.* 2014).

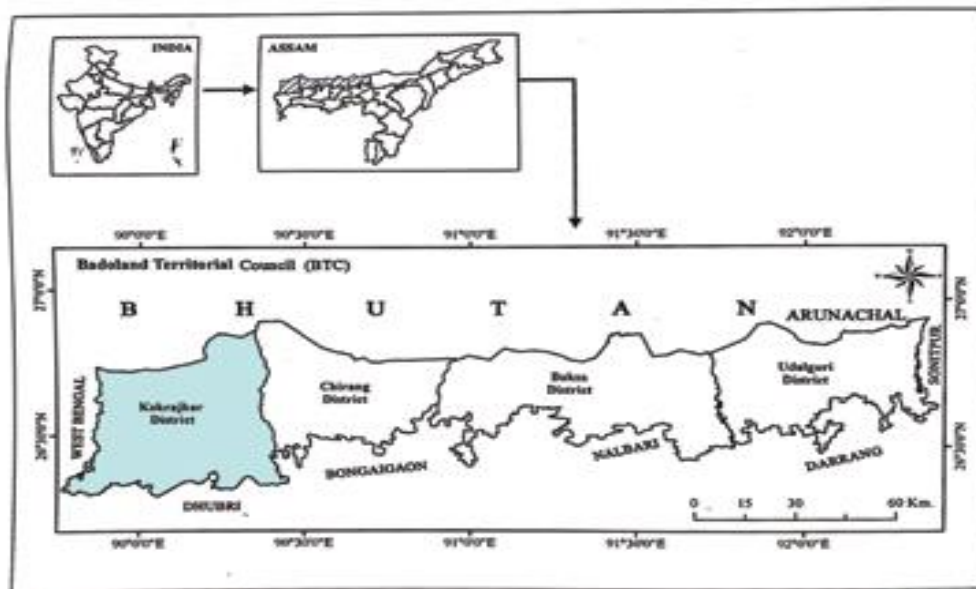
Kokrajhar is the largest district of the four districts of BTR. It is located in the North bank of river Brahmaputra in Assam. It lies between 26° 15' 10" N to 26° 45' 15" N latitude and 90° 15' 10" E to 90° 45' 7" E longitude. The district is bounded by Bongaigaon and Chirang in the East, Bhutan in the North, West Bengal and Dhubri in the West and Dhubri district in the South. The district is inhabited by the tribes Bodo and Rabha, Assamese, Bengali etc. The area is rich in biodiversity including a number of aroid species due to various edaphic, climatic and biotic factors. Aroids are found at various natural habitats such as swamps, ponds, lakes, canals, rivers to rice field, climbers and as well as epiphytes. Some species thrive well in forest floor with good canopy coverage (Bora *et al.*, 2016). Aroids constitute a significant components of diet among the people of the district since ancient times.

II. Materials and Methods :

Extensive field survey has been carried out with a view to bring an account of edible aroids of Korajhar district during May, 2018 to April, 2019.

Specimens were collected in their flowering and fruiting stages at regular intervals covering all the seasons of the year. Mounted herbarium sheets (42cm x28 cm) were prepared from collected specimens following standard methodology (Jain & Rao 1977).

Voucher specimens were identified by comparing previously identified herbarium specimens of GUBH, ASSAM and CAL. Regional and National Floras including Bown (1988), Bennett(1979) has been consulted for identification. The use pattern of aroids especially its edibility was discussed with aged local people including both rural women and men. The following literature were consulted in this context- Jain(1987), Martin(1995) and Cotton(1996) .



Map : Location Map of the study area, Kokrajhar under Bodoland Territorial Council (BTC)

III. Enumeration of species:

1. *Alocasia macrorrhizos*(L.)G.Don

Vernacular name :Man Kochu (Assamese); Man Thaso (Bodo)

Taxonomic description: Tall, stout, succulent, suberect herb, up to 4 m tall. Stock large, elongated; Leaves arrow shaped with shallow, rounded lobes. Blade 150-160x100-110 cm. Spathe glaucous yellowish green.

Flowering and fruiting: July-September

Habitat: terrestrial

Process of cooking: Rhizome sun dried for at least 3-4 days. Thick portion of skin removed and cooked after boiling. Dried flour of rhizome also cooked.

2. *Amorphophallus paeonifolius* (Dennstedt) Nicolson

Vernacular name : Ohl Kochu (Assamese); Ool Thaso (Bodo)

Taxonomic description: Plants perennial, 40-150 cm tall. Tubers dark brown, globose, up to 30 cm in diameter. Leaf 1; petiole with large and small pale blotches and dark dots; leaf blade highly dissected. Spadix giving a rotting meat smell

Flowering and fruiting: April-May

Habitat: Shady moist places

Process of cooking: Tuber well dried and boiled. Aerial stems are also cooked

3. *Colocasia antiquorum* Schott

Vernacular name : Nohl Kochu (Assamese); Dai Thaso (Bodo)

Taxonomic description: Perennial herb with stolons. Rhizome erect, 120-130 x 12-18 cm; leaf blade sometimes with a purple margin, peltate, ovate cordate to sagittate cordate, 30-60 x 20-70 cm. Spathe constricted between tube and blade.

Flowering and fruiting: May-September

Habitat: Aquatic in swamps

Process of cooking: Rhizome cooked as vegetable

4. *Colocasia esculenta*(L.) Schoot

Vernacular name : Kola Kochu (Assamese); Thaso Guphur (Bodo)

Taxonomic description: Plants 60-150 cm tall. Rhizome vertical to horizontal, tuberous, 3-5 cm in diameter. Stolons long or absent. Leaves 2-5; leaf blade oblong-ovate, 13-45 10-35 cm, base shallowly cordate.

Flowering and fruiting: May-July

Habitat: Moist places of Paddy field, margin of road

Process of cooking: Tender leaf, petioles and tuber edible as vegetable

5. *Colocasia gigantea* (Blume ex Hassk) Hook, f.

Vernacular name : Dohi Kochu (Assamese); Dut Thaso (Bodo)

Taxonomic description: Large perennial herb 1-2 m tall, with massive stout epigeal stem. Leaves very large; petiole, leaf blade pale green; margin undulate, spadix white coloured, 10-20 cm long; spathe green, oblong- boat shaped.

Flowering and fruiting: April-June

Habitat: Moist Shady places

Process of cooking: Petiole cooked with fish and also used raw to prepare chutney.

6. *Homalomena aromatica* (Spreng) Schott

Vernacular name : Gondh Kochu/ Gondhsana (Assamese); Mwdwmnai Thaso (Bodo)

Taxonomic description: A small perennial herb 30-60 cm tall, aromatic. Leaf blade cordate, 30-40 x 15-20 cm; Petiole stiff, sheathing up to half way, usually longer than leaf blade;

Flowering and fruiting: April-July

Habitat: Moist Shady places

Process of cooking: Only petioles are edible. Used in chutney or cooked with fish.

7. *Lasia spinosa*(L.) Thwaites

Vernacular name : Seng Mora (Assamese); Chibru (Bodo)

Taxonomic description: 50-120 cm tall perennial herb. Stem stoloniferous. Internodes with stout prickles. Leaf blade sagittate-hastate. Spadix 3-5 cm long.

Flowering and fruiting: July-September

Habitat: Moist Shady places

Process of cooking: Tender shoot cooked with fish. The dish is specially given to breast feeding mother.

8. *Typhonium trilobatum*(L.) Schott

Vernacular name : Samah Kochu/ Ghee Kochu (Assamese);Sama Thaso (Bodo)

Taxonomic description: 30-40 cm tall perennial herb. Rhizome tuberous, subglobose. Petiole reddish. Leaf blade cordate- ovate, deeply 3 lobed. Spadix 3-5 cm long, red in colour.

Flowering and fruiting: May-August

Habitat: Moist places

Process of cooking: Only tender leaves are mixed with other leafy vegetables and cooked.

9. *Xanthosoma sagittifolium* (L.) Schott

Vernacular name : Nil Kochu (Assamese); Swmkhwr Thaso (Bodo)

Taxonomic description: A perennial large herb up to 2 m tall. Rhizome corm, short, flask shaped, 15-25 cm long; leaf blade 50-75 x 35-50 cm, triangular lobes at the bottom. Spadix 15-20 cm long

Flowering and fruiting: April-August

Habitat: Terrestrial

Process of cooking: Petioles are cooked with other vegetables.

IV. Result and Discussion :

9 aroid species belonging to 7 genera have been found to be consumed by the tribes and communities inhabiting in the district. Among them 6 species grow abundant in shady moist places, 1 species aquatic growing in swamps, 2 species terrestrial. The edible part varies from species to species for which correct taxonomic identification is of utmost significance. The edible parts include corm, rhizome, stolons, leaves and petioles. The people utilize all parts of *Colocasia esculenta* in their dishes, though the process of cooking is different. The utilization of the tender shoot of *Lasia spinosa* and *Amorphophallus paeonifolius* is very common among Bodo people. The corm of *Alocasia macrorrhizos* and *Colocasia antiquorum* is of great market value. The petiole of *Homalomena aromatica* and *Colocasia gigantea* are used to prepare a special Assamese chutney *Jalabota* that is distributed among relatives on 13th or 30th day of a new borne baby. It is a traditional ritual practice among Assamese people. Again Some people cook tender shoot of *Lasia spinosa* with black pepper and coriander for post natal care of mother. It is considered as an energetic dish. The ripe spathe of *Alocasia macrorrhizos* is roasted and the water is mixed with honey. It is of great medicinal value to treat cough. Again the watery juice of *Colocasia esculenta* is applied to treat ear disease and skin disease. The rural people have traditionally acquired the knowledge on these plants. But research in this field, especially in this area is not satisfactory. It will open a new door on ethno pharmacology and ethno food and glorify the economy of the region.

V. Conclusion :

The present study reports that there are good numbers of wild edible arum available in the forest, roadside, paddy fields, wetlands, swamps etc of Korajhar district. They are part and parcel in kitchen of every family of the region. But correct identification and biochemical research regarding their nutritional values are not satisfactory. Extensive studies in the field will create a new market to unemployment and develop the agricultural sector and economy of the region.

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