A Taxonomic Approach to Traditionally utilized plants in the Jaag process of Assamese Cultural festival Bahag Bihu

Bidyut Bikash Deka
Assistant Professor
Department of Botany, Barama College, Barama, Baksa, Assam, India

ABSTRACT: The present study deals with the jaag (fumigation) process done specially in the afternoon of Goru Bihu of Assamese festival Bihu.9 plant species belonging to 9 genera and 8 families have been used traditionally in this process. These plants are collected and made a thupa which is burnt to produce a foggy environment. Amongst 9 species, 4 species belong to monocots and 5 species to dicots. Different plant parts of the species are used for fumigation.

KEY WORDS: Bihu, thupa, gorubihu, assamese, jaag, fumigation

I. INTRODUCTION :

Assam is inhabited mainly by Assamese speaking people. Among various festivals, Bihu is dominantly celebrated by Assamese community. Recent interpretations looking at the Tai origin of the word relate it to a form of cattle worship, construed from boi, "the rules of worship", and hu, "cow"(Sarmah,1996). Bihu is of 3 types namely Bohag Bihu or Rangali Bihu started from last day of month Chot (last month of Assamese calendar,last half of March and 1st half of April) and ended after seven days of Bohag (first month of Assamese calendar, including last half of April and 1st half of May), Kati Bihu or Kongali Bihu celebrated in the last day of Assamesecalendar 6th month Ahin(last half of October and 1st half of November) and Magh Bihu or Bhogali Bihu started from last day of Assamese calendar 9th month Puh(including 2nd half of December and 1st half of January) ending after 3 days of Assamese calendar 10th month of Magh(including last half of January and 1st half of February).Several rituals and customs that are followed at the time of Bihu are linked to the landscape and ecology of the origin (Barua, 2009).

In agriculture, fumigation is a common practice which removes different flies and insects from household and crop field. Otherwise, they maycause epidemics. In the evening of the Goru Bihu herbal recipe is prepared in every house (Begum and Gogoi, 2007). This is locally known as thupa in lower Assam. Due to burning of specific plant species present on thupa, fumigation occurs that control a large number of diseases of human and domestic animals, because plant product contains numerous phytochemicals including essential oil. Assamese people are traditionally utilizing these plants and acquiring knowledge in this practice.

Being the part of North East, Assam is rich in biodiversity. Some of these plants have been used in cultural life of Assamese people specially in the heart throb festival Bihu. Some of these plants are going to be endangered due to lack of proper conservation and awareness among people about the value of these plants. Future generation is gradually going to be unfamiliar to these plants and unable to identify them properly. The aim of the present study is to give an account of these plants and their use pattern.

II. METHODOLOGY:

Assam is one of the states of India with a heterogenous population and with an area 78,438 sq Km. The geographical boundary of the state is 24^0 2/N to $27^0$6/N latitude and $89^0$8/E to 96^0 E longitude. The state is bounded by Bhutan and Arunachal Pradesh in the North, Meghalaya,Tripura, Mizoram, Manipur and Nagaland in the South, Arunachal Pradesh in the East and West Bengal and Bangladesh in the West. The study was conducted during 2019-2020 in various villages of upper and lower Assam. The information regarding the uses of plants infumigation practice has been collected from old and experienced persons including both male and female of different localities of the state. The plants are also collected and processed for making herbarium. These are identified at regional herbaria and by using literature like Flora of Assam(1934), Axamar Gos-Gosoni (2004) and others available at the library of Gauhati University and BSI, Eastern circle,Shillong.

III. RESULT:

The plants are arranged alphabetically mentioning their taxonomic description, vernacular name, flowering and fruiting periods, regeneration, use pattern in Bihu and other uses if any.
Calamus tenuis Roxburgh; Family: Arecaceae; Assamese name: JatiBet
Wild climber, growing in clumps; petiole and nerves of leaflets armed with straight spines; leaf sheath armed with flat spines.
Use pattern: twig used in thupa and burnt to fumigate air.
Other uses: fruits edible as raw; stem used in making various tools and furniture.

Flowering & fruiting period: May-August; Regeneration: By seed.
Flemingiastrobilifera (Linnaeus) R.Brown; Family: Fabaceae; Assamese name: Makhiati.
Evergreen, shrubby plant, 1.5-2 m tall. Leaves alternate, leaf blade 7.5-15 cmx3-7 cm, ovate or ovate-lanceolate, upper surface glabrous, lower surface slightly pubescent; lateral veins 7-10; petiole 6-8 mm long; stipules 4-8 mm long. Inflorescence terminal or axillary raceme, 10-15 cm long. Bracts 2-3, rounded; calyx 5, linear; corolla papilionaceous.
Use pattern: twig used in thupa; again cattle are washed and gently beaten with twigs of the plant in Goru Bihu day of Bohag Bihu. It is supposed to be for better progeny.
Other uses: fiber obtained from bark.
Flowering & fruiting period: April-November;Regeneration: By seed.
Heliotropism indicum Linnaeus; Family: Boraginaceae; Assamese name: Hatisuria.
Annual herbs, 20-50 cm tall. Stems erect, stout, strigose. Leaves alternate or subopposite; petiole 2-5 cm long; leaf blade 3-9x2-4 cm, margin undulate, lateral veins 5-7 pairs. Flowers sessile, crowded, blue-purple, salver form, 3-4mm long. Fruit ribbed.
Use pattern: Twig used in thupa and burnt to make fumigation.
Other uses: leaf paste mixed with lime and applied to treat ring worm diseases.
Flowering & fruiting period: April-October; Regeneration: By seed.
Imperata cylindrica (Linnaeus) P. Beauvois; Family: Poaceae; Assamese name: Ulu Kher.
Annual herb; roots perennial, erect, thin, glabrous. Leaves linear, 60-180 cm long, Inflorescence 10-30 cm long, white; rachis 6-9cm long; flowers bisexual, stamens 3, 2.5-3 cm long; style 2, purple in colour.
Use pattern: Leaves used in thupa to make fumigation.
Other uses: plant except root used to make roof;also as fodder.
Flowering & fruiting period: August-October;Regeneration: By root and seed.
Oryza sativa Linnaeus; Family: Poaceae; Assamese name: Dhan.
Annual semi aquatic herb; culms erect or ascending. Leaves broadly linear,ligule membranous, Inflorescence panicle, 10-30 cm long, white; flowers bisexual, stamens 3, 2.5-3 cm long; style 2, purple in colour.
Use pattern: Seedless fruit used in thupa to make fumigation.
Other uses:seed consumed as main food byassamese people; straw used as fodder.
Flowering & fruiting period: August-October; Regeneration: By seed.
Pandanus foetidus.; Family: Pandanaceae; Assamese name: Keya Kathal.
Evergreen, perennial, dwarf, shrubby,wild plant, 4-6 m tall. Leaves cyclic, 1-2 m, margin sharply spiny,
Use pattern: used in thupa and burnt to make fumigation.
Other uses: planted as hedge plant.
Flowering & fruiting period: rare; Regeneration: By rhizome.
Persicaria hydropiper (Linnaeus) Spach.; Family: Polygonaceae; Assamese name: Behu
Annual wild herbs with erect stem; leaves lanceolate, 4-10x 0.4-2.5 cm; ocrea brown, cylindric, 10-15 mm long, ciliate with bristles. Flowers pinkish. Fruits achenes, brownish black, biconvex or 3-gonous.
Use pattern: whole plant used in thupa to make fumigation.
Other uses: Roots chewed for toothache.
Flowering & fruiting period: March-May; Regeneration: By seed.
Rubus moluccanus Linnaeus; Family: Rosaceae; Assamese name: JutuliPaka.
Branched shrubby wild plant; stem, leaves, pedicel spiny; Flowers white with numerous stamens.
Use pattern: twig used in thupa and burnt to make fumigation.
Other uses: fruitsconsumed raw.
Flowering & fruiting period: June-December;Regeneration: By seed.
Ziziphus jujuba Miller; Family: Rhamnaceae; Assamese name: Bagari.
Small deciduous, semi cultivated tree, 5-12 m tall; branches throny. Leaves shiny green, ovate-acute, 2-7x1-3 cm with 3 veins at the base, margin toothed. Flowers small, yellowishgreen. Fruits drupe, 1.5-3 cm long.
Use pattern: twig used in thupa and burnt to make fumigation.
Other uses: Fruits eaten raw.
Flowering & fruiting period: October-April;Regeneration: By seed.

IV. DISCUSSION:

Different plant parts of some specific plant species are used traditionally in all the three types of Bihu. In Bohag Bihu, most of the plants are utilized. After bathing cow, in the morning of Goru Bihu, pieces of fruit of Lagenaria siceraria and Solanum melongena are arranged in a smooth bamboo strip and given to cow to eat. It is thought that it will make the cows healthy. In the evening of Goru Bihu, some specific plants are collected, placed in front of house and burnt to make fumigation. It is locally called 'Thupa'. The fumigation is allowed to enter the home by using bamboo made hand fan. Probably it is of scientific basis. It controls some diseases transmitted by flies and insects.Nine plant species have been reported to be used in Thupa.Again in Bohag Bihu, some plants are traditionally eaten as vegetable which is collectively called as axaabidh (101) sak .Some of them frequently used as leafy vegetable in the specific day are Boerhaaviadiffusa, Stellaria media (L.) Vill., Centella asiatica (L.) Urban, Alternanthera sessilis (L.) R.Br., A. pungensKunth, Oxalis corniculata Linn., Mollugooppositifolia Linn., Rumex maritimus Linn., Persicariachinense Linn., Colocasia esculenta (L.) Schott, Portulaca oleracea, Bacopa monnieri (L.) Pennel, etc. In Magh Bihu, a tall,cone shaped structure locally called Meji is made with the help of bamboo and straw of rice plant. Beside the Meji, a temporary home is made by using bamboo and leaves of banana plant. It is locally called Bhelaghar where local people specially youth spendthe whole night of Uruka. In Kongali Bihu only two plants namely Ocimum sanctum andOryza sativa are significantly used.

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Flemingia strobilifera

Calamus tenuis

Persicaria hydropiper

Heliotropium indicum

Thupa

Pandanus foetidus

PLATE-I. Different plants use in thupa and a complete "thupa"