

# Members of Aroid family in Assam (India): Credibility of medicoethnobotanical

Sudesh Pal Singh<sup>1</sup>, Dr. Purnima Shrivastava<sup>2</sup>

<sup>1</sup> Research Scholar, Deptt. Of Botany, Bhagwant University, Ajmer, Rajasthan, India

<sup>2</sup> Associate Professors, Deptt. Of Botany, Bhagwant University, Ajmer, Rajasthan, India

**Abstract**— Individuals from this family are herbs, enduring, they are climbers, skimming aquatics, helophytes, and geophytes. Underground stems are missing and if exhibit, they are in the frame rhizome or tuber; with unmistakable hub and internode districts; ethereal stems are evergreen; leaves exchange or clearly basal, for the most part petiolate with sheathing bases. Spadix bears indiscriminate or unisexual blooms and here and there with a clean, terminal informative supplement. Natural product as a rule a head of 1-to a few seeded and regularly red, green, white, or yellow, once in a while blue. A sum of 55 ethnomedicinal plants having a place with 42 families and 49 genera have been archived having antifertility property. Apocynaceae, Caesalpiniaceae, Combretaceae, Fabaceae were observed to be the overwhelming groups of restorative plants utilized for ripeness direction. Preservation of the customary informations ought to be given most extreme significance in this area to keep the fast loss of ethnobotanical riches.

**Index Terms**— Fruit, Region, Present, Absent, Green, Blue.

## I. INTRODUCTION

The present investigation has brought into light 82 remedies of plant people medications covering in excess of 60 ailment conditions spoke to by 14 aroid species and 10 genera, which have been being used among the ethnic networks in Assam, for different illness conditions. A large portion of the medications (72%) are readied utilizing single plant species; in any case, plant species utilized as a part of blends are additionally represented 28% of the details. The vast majority of the arrangements are orally directed either as concentrate, juice and decoction or implantation. Among the aggregate plant species identified in this correspondence, positive connection between's old stories utilize and natural exercises has been recorded in primer survey for just 4 plant species. Further, writes about related organic exercises of other imperative and exceptionally utilized plant species are hardly accessible and their relationship with the people cases couldn't be learned in the present examination and thus, pharmacological assessment of these plant species might be organized.

Assam and reang networks of Assam are engaged with utilizing these restorative plants. Conventional convictions, ideas, learning and practices among from the averting, diminishing or relieving illness are open till know. Still they rely on such customary human services and the requirement for quick documentation of such learning and preservation

of these significant plants are underlined to anchor it for our future age. The ethno restorative investigation of plants in Assam state found that some less knows therapeutic plants has been utilized by the indigenous clans. The legitimate logical name, family, neighborhood names, propensity, measurements and conventional definition of 33 species having a place with genera and 25 families are listed in this paper. Ethnobotanical review was directed in the remote slopes, timberlands and provincial regions of Assam, a broadened ethnic individuals rich territory of North-Eastern India, for social occasion data about conventional technique for anti-conception medication. Utilization of therapeutic plants were archived utilizing a meeting datasheet saying point by point data of the sources and vernacular names, parts utilized, strategy for readiness and organization methods of botanicals.

## II. MEMBERS OF AROID FAMILY IN ASSAM (INDIA): CREDIBILITY OF MEDICOETHNOBOTANICAL

Aroids or the members of the Family Araceae are known for ornamental, edible as well as for medicinal uses which are distributed worldwide chiefly in tropical and subtropical regions; except at the polar regions and deserts, Aroids are found in various natural habitats such as swamps, ponds, lakes, canals, rivers to rice fields, climbers and as well as epiphytes. Some species thrive well in forest floors with good canopy coverage. This family is grouped into nine subfamilies, 117 genera and 3790 species. Members of this family are herbs, perennial, they are climbers, floating aquatics, helophytes, and geophytes. Underground stems are absent and if present, they are in the form rhizome or tuber; with definite node and internode regions; aerial stems are evergreen; leaves alternate or apparently basal, usually petiolate with sheathing bases. Spadix bears bisexual or unisexual flowers and sometimes with a sterile, terminal appendix. Fruit usually a head of 1-to several-seeded and commonly red, green, white, or yellow, rarely blue. They also possess crystals of calcium oxalate or raphides in the tissues. In India though various floristic works has been carried out but the total reported number of distributed species varies greatly and very few records of ethno botanical works can be found which are scattered in different region of reporting. According to the Flora of British India by Hooker there are 228 species and 31 genera of Indian aroids. Karthikeyan reported 25 genera and 138 species in India and Yadav has reported 29 genera and 150 species. In North east India and Assam, after Flora of

British India and other different works in the region, 18 genera and 27 species are recorded from upper Assam area recently. Many Ethnobotanical works have been conducted in entire North east India and reported 7 species from Assam, 5 species from Arunachal Pradesh, 4 species from Assam, 3 species from Nagaland, 3 species from Meghalaya, 2 species from Manipur and only 1 species from Mizoram. Unfortunately much other information has also been scattered in various journals and periodicals, making the data mostly not easily accessible to researchers. Cross cultural ethno-botany is the comparative study of man plant relationship among different societies. The role of cross-cultural ethno-botanical study is prominent not only in authenticating and assessing the values of plant lore's but also in credibility testing of folklore claims and also finding out the new and less known use of plants. Traditional medicine is a powerful source of biologically active compounds. Ethno-Pharmacology has become a scientific backbone in the development of active therapeutics based upon traditional medicine of various ethnic groups. Screening program based on Ethno-Pharmacological information has more success rate than random screening. The anticestodal efficacy of nine plants that are used in indigenous system of medicine by Naga tribes in North East India to cure intestinal helminthes parasitic infections was tested employing *Raillietina echinobothrida*, a tape worm of poultry as a model test parasite. The study revealed that the stalks of *Lasia spinosa* (L.) Thw. possess a profound anticestodal efficacy as evident by the mean mortality time of *R. echinobothrida* which ranged from 1-3.66 hrs, following exposure to 40mg/ml concentration of plant extracts. *Acorus calamus* L., popularly known as Sweet flag, thought to be indigenous to India, has been valued for its rhizome and fragrant essence in perfumes & oils and for insecticidal properties. Current research investigates Sweet flag's value as an insecticidal, antibacterial and antifungal agent. There are many other reported species for medico-folklore use, but no attempt has been made so far to validate those claims. The present communication is a review based on the reported folklore medicinal claims involving members of the Aroid family used by different tribes in Assam for various disease conditions. Here an attempt has been made to test the credibility of the folklore claims by cross cultural studies among different tribes and to corroborate the claims with reported biological activities of the species in due course for scientific validation.

### III. MEDICINAL AND ETHNOBOTANICAL IMPORTANCE

Oceanic Botany is distributing crucial and connected investigations of sub-atomic, biochemical and physiological parts of perceptible amphibian plants and in addition the characterization, structure, capacity, flow and environmental associations in plant-overwhelmed sea-going networks and

biological communities. It is an outlet for papers managing research on the results of unsettling influence and stressors (e.g., ecological variances and environmental change, contamination, touching and pathogens), utilize and administration of sea-going plants (plant generation and deterioration, business reap, plant control) and the protection of sea-going plant networks (rearing, transplantation and rebuilding). Indeed, even today, numerous ancestral networks and provincial populace is needy intensely upon the characteristic assets acquired from the encompassing backwoods areas for treatment of different illnesses. The Indian customary prescription in view of various frameworks, for example, Ayurveda, Siddha and Unani is being used by these innate networks. However, bunches of studies center around the restorative properties of plants, particularly angiosperms, has been occurred, tragically constrained measure of studies have been done to investigate the therapeutic possibilities of the pteridophytes. The pteridophytes constitute a noteworthy piece of the earth's plant decent variety and being the second biggest gathering of vascular plants, they frame a predominant part of numerous plant networks. The therapeutic characteristics of plants, genuine or nonexistent, are said as ahead of schedule as 300 B.C. by the Greek scholar Theophrastus and by his Indian peers Sushrut and Charak. In their investigation they evaluated the therapeutic employments of 33 pteridophyte species having a place with 21 families based on field overviews and ordered recognizable proof of plants. So also examined one pteridophyte concerning ethnobotanical utilizes by Assam and Reang clans of Assam. The Reang medication men utilize some normal pteridophytes in their standard social insurance framework to treat ailments like bones break, hack and chilly, carbuncle, heart issue, pyorrhoea, cerebral pain, blood thickening, throat agony, cut or wound and so on. Plants having such properties may have part in quick release of the prepared ova from the fallopian tube, hindrance of implantation because of an intrusion in estrogen-progesterone adjust, fetal fetus removal because of need supply of supplements to the uterus and the incipient organism, and furthermore on the male by influencing sperm tally, motility, and suitability. Lately, numerous laborers have announced a great deal of customary plants utilized for antifertility reason. The vast majority of the ancestral economies have been occupied with subsistence horticulture, Jhum, piggery, fishery and chasing. With the progression of time, inborn networks have been created a lot of information on the utilization of plants and plant items in restoring different sicknesses, infirmities. In the present examination, an endeavor has been taken to explore and record the home grown practices for antifertility reason by the ethnic people groups of Assam state.

#### IV. NEED OF WORK

The learning and usage of nearby plants shifts between the ethnic gatherings, their area and furthermore on their remoteness from the cutting edge world. The writing on ethnomedicinal plants of Assam and their conventional uses broadly looked. In any case, it was watched that exceptionally restricted ethnobotanical overviews had completed in Assam notwithstanding its immense potential. The need of proposed work has brought into light 82 remedies of plant society solutions covering in excess of 60 sickness conditions spoke to by 14 aroid species and 10 genera, which have been being used among the ethnic networks in Assam, for different infection conditions. The vast majority of the medications (72%) are readied utilizing single plant species; be that as it may, plant species utilized as a part of mixes are likewise represented 28% of the definitions. A large portion of the arrangements are orally controlled either as concentrate, juice and decoction or imbue. Among the aggregate plant species counted in this correspondence, positive relationship between's fables utilize and natural exercises has been recorded in primer audit for just 4 plant species. Further, writes about related organic exercises of other essential and very utilized plant species are barely accessible and their connection with the people cases couldn't be found out in the present examination and henceforth, pharmacological assessment of these plant species might be organized.

#### V. RESULT AND DISCUSSION

Schultes (1962) and Jain (1967) stressed for field work amongst the tribals and their surroundings, scrutiny of literatures, Herbaria and Musea and study of archaeological remains. Raghavaiah (1956) provides guidance for approaching tribals. An Introduction to Ethnobotany by Faulks (1958) is the first book on ethnobotany but most of the topics deal with economic botany thus, giving more scope to economic botany than ethnobotany. The knowledge of plants that has come orally through generations and which normally forms the core component under ethnobotany was not discussed in this book except a few instances in historical perspective. The Nature and Status of Ethnobotany (Ford, 1978) dedicated to Volney H. Jones contain seventeen papers on various issues of ethnobotany. The concept of ethnobotany has been elaborately dealt with in some papers; other papers are mostly of anthropological origin. Aroids or the individuals from the Family Araceae are known for fancy, palatable and also for therapeutic uses which are dispersed overall predominantly in tropical and subtropical areas; but at the polar districts and deserts, Aroids are found in different regular environments, for example, swamps, lakes, waterways, streams to rice fields, climbers and in addition epiphytes. A few species flourish well in timberland floors with great shade scope. This family is assembled into nine subfamilies, 117 genera and 3790 species. Individuals from this family are herbs,

perpetual, they are climbers, coasting aquatics, helophytes, and geophytes. Underground stems are missing what's more, if exhibit, they are in the shape rhizome or tuber; with clear hub and internode areas;

ethereal stems are evergreen; leaves interchange or clearly basal, generally petiolate with sheathing bases. Spadix bears indiscriminate or unisexual blossoms and here and there with a sterile, terminal informative supplement. Natural product more often than not a head of 1-to a few seeded and ordinarily red, green, white, or yellow, once in a while blue. They additionally have precious stones of calcium oxalate or raphides in the tissues.

#### REFERENCES

- [1] Sulaiman B, Mansor M. Diversity of Aroids (Araceae) in Perlis State Park, Perlis In: Biodiversity and Management of State Park, Physical, Biological and Social Environments of Wang Mu 2005, 287-292.
- [2] Boyce PC, Croat TB. The Uberlist of Araceae, totals for published and estimated number of species in aroid genera, 2011 [onwards]. [WWW document] URL <http://www.aroid.org/genera/111109uberlist.pdf> [accessed 16 August 2015].
- [3] Beasley V. Plants of the Araceae Family (Plants Containing Oxalate Crystals and Histamine Releasers). In: Veterinary Toxicology, V. Beasley (Ed.), International Veterinary Information Service ([www.ivis.org](http://www.ivis.org); Document No. A2639.0899), Ithaca, New York, USA, 1999.
- [4] Hooker JD. The Flora of British India., L Reeve & Co. Ltd, Kent 1894; VI:490-556.
- [5] Karthikeyan S, Jain SK, Nayar MP. Florae Indicae
- [6] Enumeration Monocotyledonae. Flora of India Series 4. Botanical Survey of India 1989, 5-15.
- [7] Yadav SR, Patil KS, Bogner J. Kritische Bemerkungen uber die identital von *Cryptocoryne cognatoides* Blatter et. Mc. McCann (Araceae). *Aqua – Planta* 1993; 18:62-67.
- [8] Das D, Das K, Neog B. Diversity of Aroids (Araceae) in Nazira Sub-Division, Sivasagar (Assam). *Indian Journal of Plant Sciences*. 2014; 3(2):35-41.
- [9] Das NJ, Saikia SP, Sarkar S, Devi K. Medicinal plants of North Kamrup district of Assam used in primary health care system. *Indian Journal of Traditional Knowledge*. 2006; 5(4):489-493.
- [10] Sikdar M, Dutta U. Traditional phytotherapy among Nath people of Assam. *Ethno. Med* 2008; 2(1):39-45.
- [11] Purkayastha J, Nath SC, Islam M. Ethnobotany of
- [12] medicinal plants from Dibru- Saikhowa Biosphere Reserve of NE India. *Fitoterapia* 2005; 76(1):121-127.
- [13] Kala CP. Ethnomedicinal botany of the Apatani in the Eastern Himalayan region of India. *Journal of*
- [14] *Ethnobiology and Ethnomedicine*. 2005; 1:11. doi:10.1186/1746-4269-1-11.
- [15] 18. Doley B, Gajurelm PR, Rethy P, Singh B, Buragohain R, Pitsangbam S. Lesser known ethnomedicinal plants used by the Nyshi community of Papumpare district Arunachal Pradesh. *Journal of Biosciences Research*. 2010; 1(1):34-36.

- [16] Hussain S, Hore DK. Collection & conservation of major medicinal plants of Arunachal Pradesh. Indian Forester 2008, 1663-1680.
- [17] Das S, Dutta CM, Mandal SC, Talukdar AD. Traditional knowledge of ethnomedicinal hepatoprotective plants used by certain ethnic communities of Tripura state. Indian Journal of Fundamental and Applied Life Sciences. 2012; 2(1):84-97.
- [18] Deb D, Darlong L, Sarkar A, Roy M, Datta BK. Traditional Ethno-Medicinal Plants Use By The Darlong Tribes In Tripura, Northeast India. International Journal of Ayurvedic and Herbal Medicine. 2012; 2(6):954-966.
- [19] Das HB, Majumdar K, Datta BK, Ray D. Ethnobotanical uses of some plants by Tripuri and Reang tribes of Tripura. Natural Product Radiance 2009; 8(2):172-180.
- [20] Jamir TT, Sharma HK, Dolui AK. Folk medicinal plants of Nagaland. Fitoterapia 1999; 70(4):395-401.

