

# Ethno-medicinal plants of upper Brahmaputra valley of Assam

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## SUMMARY

Ethno-medicinal plants play a significant role in the folk culture of different ethnics of the upper Brahmaputra Valley Agro-Climatic Region of Assam. The present study highlights information about the certain plant species, which were practiced traditionally by the local inhabitants of the area. During the study 49 species were recorded which belong to 44 genera and 34 families.

**Key words :** Ethno-medicinal plants, Upper Brahmaputra agro-climatic region

Assam is situated in the mega hotspots region of North-Eastern India and lies at an altitude of about 105-130 cm above sea level. between 24° 8' N to 27° 56' N Latitude and 89° 42' E to 96° E longitude. The upper Brahmaputra Valley Agro-Climatic Region consists of Tinsukia, Dibrugarh, Sivasagar and Jorhat district. The climate of this region is damp and cool with relative humidity above 86%, average maximum temperature in summer 25-32°C and minimum 08-10°C in winter, while the annual rainfall is more than 2600 mm. Soil is mostly alluvial except the areas bordering the hills and adjoining areas of the rivers. The region slopes down gradually from the hills of Arunachal Pradesh, Nagaland and Karbi Anglong. It is one of the important single compact tea growing areas of the world. Deciduous tree, evergreen, semi-evergreen forest is the significant character of this region. It is such a favorable region where the medicinal plant grows abundantly with the natural environment. Soil health of this area plays a vital role in the bio-chemical composition of the plants.

The region is a homeland of Tai-Ahom community followed by different indigenous ethnic groups and sub-groups. The indigenous communities use the plants according to their belief, healing properties for various ailments, roles in religious and social ceremonies which are reflected in their folk behaviour. Thus, they directly or indirectly help in the management and conservations of plant diversity.

## MATERIALS AND METHODS

The surveys were conducted in the Upper

Brahmaputra Valley Agro-Climatic Region of Assam consisting of four districts namely Tinsukia, Dibrugarh, Sivasagar and Jorhat during the year 2004 – 2007. The information was collected through personal interactions, discussions, during the field trip in the different season's viz., winter, spring, summer and autumn with knowledgeable and experience ethno-medicinal practitioners, aged men, house wives and local healers. The plant species were collected from the forest and rural areas during the field trips with locals and traditional practitioners for herbarium preparations. Plants were identified with the help of Flora, as Kanjilal *et al.* (1934-39), Barua *et al.* (1999), Dutta and Nath (1999), Jain (1991) and Gogoi (1997). Voucher specimens have been deposited in the herbarium of Department of Botany, Gargaon College.

## RESULTS AND DISCUSSION

Plants are arranged alphabetically along with their Botanical and Vernacular names in bold, family in parenthesis followed by their uses.

– *Acrostichum aureum* L. Dhekialoti, (Pteridaceae): Rhizomes are made into paste for application to remove boils.

– *Alpinia galanga* Willd. Tora, (Zingiberaceae): Used in rheumatism, diarrhoea and vomiting. Flowers and young bud used as vegetables.

– *Alstonia scholaris* R.Br. Sotiona, (Apocynaceae): Used as liquid in chronic diarrhea and asthma.

– *Andrographis paniculata* (Burm.f) Wall. ex Nees. Kalmegh (Acanthaceae): Used for diabetes, urinary trouble, dysentery cholera, liver trouble, itching and piles.

– *Angiopteris evecta* Hoffm. Hati Dhekia, (Angiopteridaceae): Roots used for gonorrhoea, asthma and phalangittis.(Endangered)

– *Axonopus compressus*(SW) Beauv Titaghah

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(Poaceae): Used in mensuration and post delivery problem.

– *Baccaurea ramiflora* Lour. (Euphorbiaceae): Fruits used in removing stone from kidney. Prickle control leaves and bark used for dysentery.

– *Biscoffia javonica* Blume. Urium (Euphorbiaceae): Fruits used in removing stone from gall bladder. Bark used for throat trouble.

– *Bryophyllum pinnatum* (Lam.) Kurz (Crassulaceae): Used in removing kidney stone, urinary problem and diabetes. Leaves are also used in boils and bites from poisonous insect.

– *Caesalpinia bonduc* (L.) Roxb. Letaguti (Caesalpinaceae): Seeds extract is used in fever, malaria, dyspepsia, pneumonia, asthmatic, bronchial and colic problems, antipyretic.

– *Cassia alata* L. (Caesalpinaceae): Used in ringworm control and other skin troubles.

– *Cassia fistula* L. Sonaru (Caesalpinaceae): Used in constipation, antibiotics and painkillers.

– *Cassia tora* L. Medelua (Caesalpinaceae): Used in ringworm and other skin troubles.

– *Catunarengum uliginosa* Retz. Bakhor Bengena (Rubiaceae): Latex used for removing boil. (Endangered)

– *Chrysophyllum lanceolatum* (Bl) DC. Bonpitha (Sapotaceae): A tree, wild fruits are edible, latex used in scabies.

– *Cissampelos pareira* L. Tubukilota (Menispermaceae): Urinary trouble and diuretic.

– *Clerodendron infortunatum* L. Verbenaceae): Leaves used as tonic.

– *Commelina benghalensis* L. (Commelinaceae): Used as demulcent and emollient, eye problem and bone fracture.

– *Croton joufra* L. Houra (Euphorbiaceae): Roots are used for stomach problem; leaves are used for preparing rice beer.

– *Cyathea gigantia* Wall. ex Hook. Holtt Bordhekia (Cyathaceae): Small trees like pteridophytic plant, edible and used as food, leaves are used medicinally for muscular pain. (Endangered)

– *Dioscorea deltoidea* Wall. (Dioscoreaceae): A climber, wild, important plant used in leprosy and piles.

– *Drymaria cordata* Willd. (Caryophyllaceae): Juice used as antifebrile and white discharge.

– *Elaeocarps ganitrus* Roxb. Rudrakhya (Elaeocarpaceae): A wild medicinal plant used in epilepsy and heart diseases while seeds are used making chain in religious aspect.

– *Entada scandens* Benth. Makuri-ghilla

(Papilionaceae) Seeds are used to increase fertility, bark used in fish poisoning.

– *Garcinia pedunculata* Roxb. Bor-the-kara (Clusiaceae): Used for allaying cough. Seeds used in diarrhoea and dysentery. Antipyretic.

– *G. cowa* Roxb. Kuji-the-kara (Clusiaceae): Used in dysentery stomachic, high blood pressure and constipations.

– *Glycyrrhiza glabra* L. Jaisthamadhu (Fabaceae): Rhizomes and roots used as tonic, expectorant, demulcent and laxative used for allaying cough, flavouring and sweetening agents.

– *Holarrhena antidysenterica* (L.) Wall. (Apocynaceae): Bark used as astringent, stomachic, antipyretic, tonic, antidysenteric, amoebic dysentery and diarrhoea.

– *Lasia spinosa* Thw. Sangmora (Araceae): Plant used in intestinal diseases, colic and rheumatism.

– *Lecuas plukentti* Benth. Durun-bon (Lamiaceae): Juice of leaves used in sinus, tonsillitis and phalangittis, apical leaves are used for liver problem, flowers mixed with honey for coughs and colds, roots used for neuro problem as well as in dental bacterial infection with other medicinal plants.

– *Leonarus sibiricus* L. Ranga-durun (Lamiaceae): Used as tonic, roots used in fever, analgesic.

– *Litsea cubeba* Pers. Mejankori (Lauraceae): Fruit, bark and young shoots are used in hypertension, dizziness, intramuscular injury, hysteria, hepatitis and cancer.

– *L. glutinosa* Hook. f. Kathalua (Lauraceae): Bark used in diarrhoea, contain tannin, leaves used for muga silk worm. Oil used as pain killer.

– *L. salicifolia* Hook. f. Dighloti (Lauraceae): It has an anti bacterial property. Leaves are used for rearing muga silkworm

– *Mimosa pudica* L. Lajukilata (Mimosaceae): Decoction of root used in urinary problems, Rheumatism, piles and anal fissures. Leaves used for boils.

– *Myrica esculentum* L. Naga-tenga (Myriaceae): bark used in tonsillitis, fruits edible used as preservatives.

– *Mucuna puriens* DC. Bandorkakua (Papilionaceae): A climber wild plant used as stimulant and diuretic.

– *Nerium indicum* Mill. Karobi (Apocynaceae): Root-bark used in skin diseases

– *Nyctanthes arbotristis* L. Sewali (Oleaceae): leaves used in rheumatism and fever, juice used as diuretic.

– *Oroxylum indicum* Vent. Bhat-ghilla (Bigoniaceae): Root-bark tonic and astringent, used

diarrhoea and dysentery, liver cancer and stomachic.

– *Rauwolfia serpentina* Sarpagandha (Apocynaceae): Roots are used for high blood pressure, cardio-vascular problems and tranquilizers. (Endangered)

– *Rhyncostylis retusa* Blume Kopow Phool (Orchidaceae): Roots are used in internal injury. Leaves are boiled and extract are used for removing wax dust from ear. (Endangered)

– *Streblus asper* Lour. Horua (Moraceae): Poultice of roots applied to ulcers, sinuses, swellings and boils. Roots are used in dysentery, decoction of barks used in fevers, diarrhoea and dysentery. Latex used as antiseptic and applied externally in leucoderma. Bark and leaves used for diabetes.

– *Sapindus mukorosii* Gaertn. Monisaal (Sapindaceae): Fruits emetic and expectorant, used in excessive salivation, epilepsy and chlorosis.

– *Terminalia arjuna* Roxb. Arjun (Papilionaceae): Bark used as heart tonic.

– *Tinospora cordifolia* (Willd) Miers ex Hk.,f. and Th. Hagunilata (Menispermaceae): Used in debility, dyspepsia, fevers, urinary diseases, antispasmodic, antipyretic, anti-inflammatory and analgesic. It is used for cancer.

– *Vanguria spinosa* Hook.f. Katkura tenga (Rubiaceae): Dry fruits used as narcotic, in dysentery and boils and diphtheria.

– *Zanthoxylum hamiltonium* Wall. ex H.f. Tajmoi (Rutaceae): Roots used in stomachic, toothache and for boils.

– *Zingiber zerumbeta* Rose.ex Sm. Kolahalodhi

(Zingiberaceae): Rhizomes used in cough, stomachic, asthma, vermifuge, leprosy and other skin diseases. It increases sexual potentiality. It is a traditional mouth freshener.

The interviews provided some interesting information regarding ethno-medicinal practice of various ethnics of the four districts of upper Assam namely Tinsukia, Dibrugarh, Sivasagar and Jorhat district. In the present studies recorded 49 species 41 genera and 32 families and out of these 39 dicotyledons 7 monocotyledons and 3 pteridophytes are used for the curing of various ailments traditionally. Most of common diseases as diarrhea, dysentery, ringworm, intermuscular pain and fever are cured by the application of these plants. During the survey recorded 23 endangered and 14 endemic species which are used frequently for the treatment of different common disease e.g. *Angiopteris evecta*, *Entada scandens*, *Garcinia pedunculata*, *Litsea cubeba* and *Myrica esculentum*. Moreover, some species are used for treatment of domestic animal's disease e.g. *Lasia spinosa*, *Vanguria spinosa* etc. It is also known that many educated people from high classes from towns and cities visit these practitioners for getting cured of some diseases, which has not very less possibility of curing by modern medicine, even after a long expensive treatment and has shown a promising result.

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