

## Medicinal plants used by different tribes of Cachar district, Assam

Ajit Kumar Das\*, BK Dutta\*\* & GD Sharma\*\*\*

\*Department of Botany, SS College, Hailakandi 788151, Assam;

\*\*Department of Ecology & Environment Sciences, Assam University, Silchar 788011;

\*\*\*Department of Life Science, Assam University, Silchar 788011, Assam

Received 15 September 2006; revised 29 May 2007

A survey was carried out in different parts of Cachar district of Assam to gather information regarding the uses of medicinal plants by the different tribes/communities settled in the district. Out of 107 plant species, some are being used against jaundice, diarrhoea, dysentery, cough, malarial fever, skin diseases, sexual diseases, etc. Due to the impact of urbanisation and partial modernisation, the primitive communities in this region are losing their traditional culture and practice of medicinal plant use in their daily life. Certain anthropogenic activities (i.e. deforestation, shifting cultivation, construction of roads, etc.) are the main causes to affect this medicinal plant diversity. Therefore, appropriate measures should be taken to improve the habitat of these wild medicinal plants by controlling deforestation, soil erosion, etc. Sustainable harvesting of medicinal plants and the new found medicinal plant species are advised to be cultivated and *in vitro* conservation should be encouraged for the benefit of mankind at large.

**Keywords:** Ethnomedicine, Medicinal plants, Conservation, Cachar district, Assam, *Jaintia, Rieng, Chorai, Hrangkhoh, Mizo, Vaiphei Paite, Karbi, Naga, Kuki*

**IPC Int. Cl.<sup>8</sup>:** A61K36/00, A61P1/04, A61P1/08, A61P1/10, A61P1/16, A61P9/14, A61P15/00, A61P29/00, A61P31/12, A61P39/02

Cachar district is situated in the southern part of the Assam state. Its northern part is surrounded by North Cachar Hills and Meghalaya, South by Mizoram, East by Manipur and West by Bangladesh. The geographical area of Cachar district is 3,786 sq km, which constitutes 4.83% of the total area of Assam. The altitude of the district is 36.5 (MSL) and it lies between latitude 90.44E and longitude 20.04N. Physiographically, the district consists of small hillocks, plain; *bheels* and extreme low lying flood prone areas. The temperature is moderate ranging from 13<sup>0</sup>C-35<sup>0</sup>C. The rainy season starts from April to September, while the month of December and January exhibit very dry period in Cachar district. The relative humidity is 92 in the morning and 52 in the afternoon. The pH of the soil ranges from 4.5 to 6.0. The variation of ecological factors like high rainfall, warm temperature, humidity & the weather contributed to the growth of luxuriant forests. From the time immemorial human being have used the plant species for the treatment of different types of diseases. Scientists and research workers are now documenting

the ethnobotanical uses of plants in North east India and some of the sporadic works towards the knowledge of medicinal plants have also been reported<sup>1-12</sup>. The importance of ethnomedicinal studies in Southern Assam did not receive much attention; however, some reports are available<sup>13-17</sup>.

The population of Cachar district is composed of different communities, viz. *Bengali* (Hindu & Muslims), *Manipuri, Assamese, Tea garden community* and Hill tribes, i.e. H'mar (95% in Cachar district among the tribes), *Jaintia, Rieng, Chorai, Hrangkhoh, Mizo, Vaiphei Paite, Karbi, Naga and Kuki*, etc. Only one plain tribe *Dimasas (Barman)* are also settled here. Majority of the tribal communities are living in bordering areas of the Cachar district in with NC Hills, Mizoram and Manipur. But some of them are intermixed with other communities in certain parts of Cachar district. The *H'mar tribe* and *Mizo* people are also having their own dialect. But the different tribal communities are maintaining their own tradition and culture since long time back. In Cachar district, tribal and other communities use different plants, traditionally for curing the ailments in their day to day life. As the modern civilization has now

\*Corresponding author

spread to most regions of the world, it has made most of the primitive societies to break away from their cultural and traditional belief and practices. This slow divorcement from culture and tradition has brought about a disintegration of knowledge and practices of plants in their daily life. Therefore, before these people completely lose their knowledge of medicinal value of plants, there is an urgent need to record such information for the benefit of mankind at large. An attempt has been made to conserve and document this vanishing knowledge of the medicinal properties of the plants used by the different tribes/communities of Cachar district of Assam.

### Methodology

Intensive field work has been carried out during 2002-2005 covering almost all the seasons of the year, and herbariums were prepared<sup>18</sup>. While collecting information on ethno-medico-botanical aspects, standard approaches and methodologies have been followed<sup>19-22</sup>. Information was mainly gathered from the village chiefs (*Gaon Burahs*), medicine men, *Ojha*, local old women, school teachers, forest dwellers, who have the knowledge of the utilization of plants as herbal medicine (Figs 1-4). As difficulty was faced in communicating as most of the tribal people could not speak other than their own dialects, selective interpreters were employed. Information regarding vernacular name, plant parts used, process of the preparation of medicine for treatment of particular disease was collected from the selective communities, viz. *Barman*, *Riang*, *H'mar*, *Kuki*, *Vaiphei* among the tribes, *Bengali* (scheduled caste), and tea garden community. For authentic identification, different flora and monograph have been consulted<sup>24-30</sup>. Identified herbarium sheets were deposited to the herbaria of Assam University, Silchar. The medicinal plants have been arranged disease wise and providing correct nomenclature followed by the vernacular names, and the abbreviation used by the different communities, viz. *Barman* (B), *Kuki* (K), *Vaiphei* (V), *H'mar* (H), *Riang* (R), *Reangmei* (RN), Tea garden community TG C) and *Bengali* (Beng), and their ethnomedicinal uses (Table 1).

### Results and discussion

A number of tribal villages, viz. Pislakhal, Bandarkhal, Joynagar, Dolakhal, Madinacherra, Kukipunjee, Hatkarakhal, Dhanipur, Kalain, Bhaicherra, Nagadumpunjee, Howaithung, Kalabel,

Koombar, Kalarhawar, Cachar Mizoram border, Silcoorie Tea Estate, Dewan Tea Estate, Phakicherra, Damcherra, Udarbandh, Salganga, Kanchanpur, Bhubanhill, Amraghat, Dhanipur, Kulicherra, Kabuganj, Jurkhal, & Naksatila, etc. have been visited. Relevant data on herbal medicine were collected from the different communities, their utilization of plants in medicine passed through oral communication, traditionally from one generation to next. An interesting observation has been made regarding the treatment of the disease by the *Barman*, *Riang*, and *H'mar* communities. The aborigines not only utilize plants but also practiced shamanistic means for remedies of ailments. They even sacrifice fowls, hens, pigs to appease the evil spirits as they believed that the diseases are caused by the evil spirits. It was observed that the *Barman* tribe offered puja for changing the place of tumour growth in throat. The study revealed that different communities of Cachar district use different plants for cuts & wounds, digestive disorders, diarrhoea, dysentery, appetite, skin diseases & anthelmintic, etc. 19 species are used for cuts & wounds; 13 species for dysentery; 11 species for skin diseases; 10 species for stomach trouble; 9 species each for constipation and headache; 8 species for rheumatism; 7 species for jaundice; 6 species each for menstrual trouble, gastric trouble, ulcers, diarrhoea and worms; 5 species each for liver trouble, toothache, diabetes and common fever; 4 species each for bone fracture, cough, and as tonic; 3 species each for piles and small pox, 2 species each for bodyache, hair growth, swelling, leucorrhoea, impotency and as blood purifier & promoter; 1 species each for lactagogue, colic, cough & fever and urinary trouble. *Clerodendrum colebrookianum* Walp. is commonly used for high blood pressure by *H'mar* & *Barman* community of Cachar district. Besides, 6 plant species are used as anthelmintic; 4 species in eye trouble; 2 species for snakebite; 1 species each in ophthalmia, scorpion sting and in ear trouble. Though many of the plant species were utilized as a single drug in the treatment of the specific disease, few plant species were given in combination with other plants. There is a belief that the effect of the plant is enhanced by chanting *mantras* and incantation. Such type of rituals does increase the faith and power of positive thinking both in the patient and the *kabiraj*. One of the endangered species *Angiopteris evecta* (Forst.) Hoffm. (Fig. 5) has been reported from a number of places of the study area. This species is

Table 1—Medicinal plants and their uses by different tribes

Plant name and family	Local name	Uses
<i>Acanthus leucostachys</i> Wallich (Acanthaceae)	<i>Mishisala (B); Mussali (R)</i>	Leaf paste is applied externally in fresh cuts and wounds.
<i>Achyranthes aspera</i> L. (Amaranthaceae)	<i>Apang (B)</i>	Stem and leaf juice is useful in jaundice. Leaf juice is also used in menstruation trouble.
<i>Adhatoda vasica</i> Nees (Acanthaceae)		Leaf juice is used in cough.
<i>Andrographis paniculata</i> (Burm.f.) Wallich (Acanthaceae)	<i>Lokha(V); Kirta (R)</i>	Stem and leaf is useful in dysentery. Leaf juice is taken orally against fever. Stem juice is taken orally in empty stomach once in a day for 7-10 days to eradicate worms. Leaf juice is useful in stomach trouble.
<i>Angiopteris evecta</i> (Forst) Hoffm. (Angiopteridaceae)	<i>Gokur (B)</i>	Rhizome is useful in piles.
<i>Aegle marmelos</i> (L.) Correa ex Roxb. (Rutaceae)	<i>Bel (Beng)</i>	Leaf juice mixed with black pepper is taken orally once daily for 5 days to get relief from piles.
<i>Ageratum conyzoides</i> L. (Asteraceae)	<i>Shyamnama (R), Phuldip (V)</i>	Leaf juice is applied externally in fresh cuts and wounds and in eye trouble. Plant juice is taken orally once daily in jaundice.
<i>Allium sativum</i> L. (Liliaceae)	<i>Rasun (Beng)</i>	Bulb paste mixed with gently hot mustard oil is applied externally to reduce bodyache.
<i>Alstonia scholaris</i> R.Br. (Apocynaceae)	<i>Chatim, Chaituang (R)</i>	Leaf is used against headache; latex is applied in allergy and abscesses; bark used against stomach trouble.
<i>Alternanthera sessilis</i> (L.) Br.ex. DC.	<i>Akllencha( Beng )</i>	Stem and leaf paste is applied against snakebite.
<i>Amaranthus spinosus</i> L. (Amaranthaceae)	<i>Khentyimyra (R); Katailichauli (TGC)</i>	Stem and leaf is useful in dysentery.
<i>Amaranthus virides</i> L. (Amaranthaceae)	<i>Tanduliva (H)</i>	Stem and leaf is useful against small pox.
<i>Apama tomentosa</i> (Bl.) Engl Aristolochiaceae)	<i>Akpati (B)</i>	Stem juice is used as tonic.
<i>Argemone mexicana</i> L. (Papaveraceae)	<i>Siyalkata (B)</i>	Root juice is useful in fresh cuts and wounds.
<i>Averrhoa carambola</i> L. (Averrhoaceae)	<i>Theiher-awt (H)</i>	Fruits are useful in jaundice.
<i>Azadirachta indica</i> A.Juss. (Meliaceae)	<i>Nim (V)</i>	Leaf is used against skin diseases; leaf juice is taken orally to control diabetes; bark juice is useful against worms; seed oil is useful for abortion.
<i>Bauhinia purpurea</i> L. (Caesalpinaceae)	<i>Sitakaia (R), Kanchan (Beng)</i>	Bark juice with honey is taken orally against leucorrhoea; bark juice is also useful in menstruation trouble.
<i>Begonia roxburghii</i> (Miq.) DC. (Begoniaceae)	<i>Almikri (B); Cheecharap (J)</i>	Root, petiole and leaf are used against cough and fever.
<i>Blechnum orientale</i> L. (Blechnaceae)	<i>Vobnam (H); Chekokliampa (V)</i>	Rhizome and fronds are used in fresh cuts and wounds.
<i>Bombax ceiba</i> L. (Bombacaceae)	<i>Simul (Beng); Pongpat (V)</i>	Seed used in liver and stomach troubles.
<i>Bryophyllum pinnatum</i> (Lam.) Kruz (Crassulaceae)	<i>Pathar kuci, Pathar chura(Beng)</i>	Fresh leaf juice is taken orally against dysentery; leaf paste is applied externally in cuts and wounds and on forehead to reduce headache.

(Contd)

Table 1—Medicinal plants and their uses by different tribes—*Contd*

Plant name and family	Local name	Uses
<i>Cajanus cajan</i> (L.) Mill. (Fabaceae)	<i>Aral</i> (B)	Young leaf juice is useful in jaundice.
<i>Callicarpa arborea</i> Roxb. Verbenaceae)	<i>Hnahkiah</i> (H); <i>Phul gamir</i> (Beng)	Bark is useful in diarrhea.
<i>Calotropis iarrhea</i> Br. (Asclepiadaceae)	<i>Opegamgoi</i> (V)	Warm leaves are applied externally against rheumatism; flowers are applied in piles.
<i>Carica papaya</i> L. (Caricaceae)	<i>Mongcol</i> (K); <i>Koingkoia</i> (R)	Fruits used in dysentery; flower used in ear trouble. The pseudo fruit mixed thoroughly with the fruits of <i>Melastoma malabathricum</i> L. is taken orally against impotency. Leaf is used against toothache; seeds are used for deworming.
<i>Cassia alata</i> L. (Caesalpiniaceae)	<i>Khasbui</i> ®; <i>Duidubi</i> (H)	Paste made by pounding fresh leaves and <i>Allium sativum</i> L. is applied allergy and abscesses.
<i>Cassia occidentalis</i> L. (Caesalpiniaceae)	<i>Meitarbi</i> (H)	Seed and leaf paste is applied externally on skin diseases.
<i>Cassia tora</i> L. (Caesalpiniaceae)	<i>Thounam</i> (M.); <i>Chakunda</i> (TGC)	Leaves and seeds are applied on skin diseases.
<i>Catharanthus roseus</i> (L.) G. Don. (Apocynaceae)	<i>Nayantara</i> (Beng)	Leaf paste is applied on forehead to reduce headache.
<i>Chromolaena odorata</i> (L.) King & Robinson (Asteraceae)	<i>Lothok</i> (V); <i>Pholony</i> (H)	Leaf juice is useful in fresh cuts and wounds; young leaf paste is useful against headache.
<i>Cinnamomum tamala</i> Nees & Eberm. (Lauraceae)	<i>Tejpata</i> (Beng); <i>Tejpat</i> (B)	Bark and leaves are useful in iarrhea.
<i>Clerodendrum colebrookianum</i> Walp. (Verbenaceae)	<i>Anphui</i> (H); <i>Mishimou</i> (B)	Boiled leaves are taken to get relief from high blood pressure.
<i>Clerodendrum viscosum</i> Vent. (Verbenaceae)	<i>Bati</i> (Beng)	Young leaf juice is taken against diabetes; young leaves mixed with rice flour is taken for deworming; young leaf juice is taken early morning to check blood sugar in diabetes. Leaves are also used for dysentery.
<i>Clitoria ternatea</i> L. (Fabaceae)	<i>Aparajita</i> (Beng)	Root juice mixed with milk is taken orally against impotency; seed used in stomach trouble.
<i>Combretum pilosum</i> Roxb. (Combretaceae)	<i>Juniloth</i> (Beng)	Young leaves are taken for deworming.
<i>Croton bonplandianum</i> Bail. (Euphorbiaceae)	<i>Photka</i> (Beng)	Stem latex is useful for fresh cuts and wounds to stop bleeding.
<i>Curculigo orchioides</i> Gaertn.(Amaryllidaceae)	<i>Lairudamsla</i> (R); <i>Bengthang</i> (H)	Rhizome is useful in iarrhea and jaundice.
<i>Curcuma aromatica</i> Salisb (Zingiberaceae)	<i>Banhalud</i> (Beng)	Rhizome is used in constipation.
<i>Curcuma domestica</i> Valetou (Zingiberaceae)	<i>Halud, Haldi</i> (B, & Beng)	Rhizome paste is rubbed on the injured body parts to reduce pain.
<i>Cynodon dactylon</i> (L.) Pers. (Poaceae)	<i>Dube</i> (B); <i>Dinedurba</i> (R)	Plant juice is taken orally against dysentery; paste of the grass is used in fresh cuts and injuries to stop bleeding. Juice of the plant mixed with juice of <i>Hibiscus rosa sinensis</i> L. flowers and sugar is taken once daily for 7 days as the remedy of menstruation troubles. Plant paste is applied on forehead to reduce headache.

(Contd)

Table 1—Medicinal plants and their uses by different tribes—*Contd*

Plant name and family	Local name	Uses
<i>Datura stramonium</i> L. (Solanaceae)	<i>Ngolnagamgoi</i> (V) ; <i>Dhutra</i> (R)	Seeds are taken once daily as the remedy for skin diseases.
<i>Dioscorea alata</i> L. (Dioscoreaceae)	<i>Khamalu</i> (TGC & Beng)	Tubers are used in piles.
<i>Diplazium esculentum</i> (Retz.) Sw. (Athyriaceae)	<i>Paloi</i> (Beng.); <i>Shikomamoidu</i> (R)	Young fronds are used as vegetable, which stimulate digestion.
<i>Eclipta prostrata</i> L. (Asteraceae)	<i>Kariya</i> (Beng)	Whole plant is used in fresh cuts and wounds; plant juice is useful in hair growth; stem and leaf juice is taken against constipation.
<i>Emblica officinalis</i> Gaertn. Euphorbiaceae)	<i>Aola</i> (B ), <i>Amlaki</i> (Beng)	Seeds are useful in menstruation trouble. Leaves and fruits are also useful in diabetes; fruit is also useful in constipation.
<i>Enhydra fluctuans</i> Lour. (Asteraceae)	<i>Hincha</i> (Beng)	Stem is used in gastric and ulcers; whole plant is useful in constipation.
<i>Ficus religiosa</i> L. (Moraceae)	<i>Ashwata</i> (Beng)	Leaf bark juice is used as tonic.
<i>Globa multiflora</i> Wallich ex. Baker in Hook.f. (Zingiberaceae)	<i>Jungliada</i> (Beng)	Rhizome useful in fresh cuts, wounds and swelling. Rhizome paste is applied on forehead to reduce headache.
<i>Glycosmis pentaphylla</i> (Retz.) Correa (Rutaceae)	<i>Bonjamir</i> (Beng)	Fresh leaf juice is useful in skin diseases.
<i>Heliotropium indicum</i> L. (Boraginaceae)	<i>Hatisura</i> (Beng )	Root juice is useful against ophthalmia. Fresh leaf extract is applied externally in fresh cuts and wounds.
<i>Hibiscus rosa sinensis</i> L. (Malvaceae)	<i>Jaba</i> (B)	Flowers paste is applied on fresh cuts and wounds. Extract of flowers is also used in irregular menstruation trouble.
<i>Houttuynia cordata</i> Thunb. (Saururaceae)	<i>Tengalai</i> (B)	Whole plant except root is taken for the purification of blood. Plant is used against jaundice and also as appetizer.
<i>Hoya globulosa</i> Hook. f. (Asclepiadaceae)	<i>Fashia</i> (R)	Leaf paste is applied on bone fracture.
<i>Hydrocotyl javanica</i> Thunb. (Apiaceae)	<i>Kudmankoni</i> (Beng)	Whole plant is useful in stomach trouble.
<i>Hyptis suaveolens</i> (L.) Poit (Lamiaceae)	<i>Bilati tulsi</i> (Beng)	Young twigs and leaf are useful against skin diseases.
<i>Ipomoea carnea</i> Jacq. (Convolvulaceae )	<i>Kalam, Bahia</i> (Beng)	Fresh milky juice of the plant is useful in fresh cuts and wounds.
<i>Justicia gendarussa</i> Burm.f. (Acanthaceae)	<i>Udisanghalu</i> (TGC)	Leaf useful in bone fracture.
<i>Lantana camara</i> L. var. <i>aculeate</i> (Verbenaceae)	<i>Japnlao</i> (H)	Young leaves mixed with salt are eaten to stimulate digestion. Bruished leaves are used in fresh cuts and wounds.
<i>Leonurus sibiricus</i> L. (Lamiaceae)	<i>Guma</i> (TGC); <i>Raktaron</i> (Beng)	Root used in stomach trouble.
<i>Leucas aspera</i> Spreng. (Lamiaceae)	<i>Drun kalash</i> (Beng)	Leaf used against stomach trouble.
<i>Lipia geminata</i> H.B. & kunth (Verbenaceae)	<i>Pichas ban, Motka</i> (Beng )	Fresh leaf juice is useful against fresh cuts and wounds.
<i>Macaranga denticulata</i> Muell.-Arg. (Euphorbiaceae)	<i>Loko</i> (H)	Stem juice is useful in skin diseases, cuts and wounds.
<i>Mangifera indica</i> L. (Anacardiaceae)	<i>Am</i> (Beng)	Leaf juice is taken against gastric problems, ulcers and diarrhoea.

(Contd)

Table 1—Medicinal plants and their uses by different tribes—*Contd*

Plant name and family	Local name	Uses
<i>Melia composita</i> Willd. (Meliaceae)	<i>Gura Neem (Beng)</i>	Leaf is useful in stomach and liver troubles.
<i>Melastoma malabathricum</i> L. (Melastomaceae)	<i>Loloti (B); Taintong (R)</i>	Fruits are used as one of the ingredients for breaking impotency. Stem is used in toothache.
<i>Mentha arvensis</i> L. (Lamiaceae)	<i>Nungshi (B)</i>	Pounded leaves mixed with salt are eaten against stomach trouble.
<i>Michelia champaca</i> L. (Magnoliaceae)	<i>Chaimpa (R)</i>	Leaf is used against colic. Seed is used as appetizer; also in liver and stomach troubles.
<i>Mikania micrantha</i> H.B.K. (Asteraceae)	<i>Repuji Buddu(R); Repujiloth(Beng)</i>	Whole plant except root is useful against diarrhoea. Fresh leaf paste is applied externally in fresh cuts and wounds. Leaf juice is useful in eye trouble.
<i>Mimosa pudica</i> L. (Mimosaceae)	<i>Hlonuor (H); Lonisabe (V); Shyamsati (R); Shyamgabloo(B)</i>	Leaf juice is used externally on piles and boils; leaf paste is applied on bone injuries as pain killer, and tumour for early burst. Root juice mixed with the fruit juice of <i>Dillenia indica</i> L. and few drops of honey is taken once daily to cure dysentery.
<i>Momordica charantia</i> L. (Cucurbitaceae)	<i>Kangla (R)</i>	Leaf juice is taken once daily in morning to control diabetes.
<i>Moringa oleifera</i> Lam. (Moringaceae)	<i>Shajna(Beng.; B. &amp;M.)</i>	Bark paste is used externally on the effected body parts to reduce rheumatic pain.
<i>Morus australis</i> Poir in Lam. (Moraceae)	<i>Tuthphol (Beng ); Mulberry (RN)</i>	Fruits are useful in cough; root is used in jaundice.
<i>Nerium indicum</i> Mill. (Apocynaceae)	<i>Karabi (Beng )</i>	Leaf is used against skin diseases.
<i>Nyctanthus arbor-tristis</i> L. (Oleaceae)	<i>Safali (Beng)</i>	Leaves are useful in liver trouble. Leaves are used in fever.
<i>Ocimum sanctum</i> L. (Lamiaceae)	<i>Barpai (H); Shyamsata (R )</i>	Root is used against scorpion sting and snakebite. Leaf juice mixed with honey is taken against cough and fever. Juice of tulsi, turmeric and onion is given to cure gout. Leaf juice is also used in constipation.
<i>Oxalis corniculata</i> L. (Oxalidaceae)	<i>Amrul (Beng )</i>	Whole plant except root is used against eye trouble. Plant juice is taken against dysentery also applied on the fresh cuts and injury to stop bleeding. Whole plant is used as appetizer.
<i>Phlogacanthus tubiflorus</i> Nees (Acanthaceae)	<i>Alubabui (B)</i>	Boiled leaf juice is given in cough.
<i>Plumeria acuminata</i> Ait (Apocynaceae)	<i>Gulich (Beng )</i>	Leaf is used in stomach trouble.
<i>Polygonum barbatum</i> L. (Polygonaceae)	<i>Anbon (H); Neetfhgang (R )</i>	Stem is used in gastric trouble and ulcers.
<i>Pothos scandens</i> L. (Araceae)	<i>Haranga (Beng)</i>	Whole plant is used in bone fracture.
<i>Portulaca oleracea</i> L. (Portulacaceae )	<i>Gheekanchan (B)</i>	Stem and leaves are used as appetizer.
<i>Pouzolzia hirta</i> (Bl.) Hassk. (Urticaceae)	<i>Chirchira(Beng)</i>	Leaf and stem are used as lactagogue.
<i>Psidium guajava</i> L. (Myrtaceae)	<i>Karthal,Kaw-am (H); Gaiang (R)</i>	Root bark juice is useful in diarrhoea.
<i>Punica granatum</i> L. (Punicaceae)	<i>Dalim (Beng )</i>	Leaf juice is taken orally in dysentery.
<i>Ricinus communis</i> L. (Euphorbiaceae)	<i>Mutih (H); Arandi (TGC)</i>	Seed oil is used externally against rheumatism. Leaves are used against bodyache and headache.

*(Contd)*

Table 1—Medicinal plants and their uses by different tribes—*Contd*

Plant name and family	Local name	Uses
<i>Saraca asoca</i> (Roxb.) De Wilde (Caesalpiniaceae)	<i>Asok (B); Maikampar (H)</i>	Bark juice is used as tonic.
<i>Scoparia dulcis</i> L. (Scrophulariaceae)	<i>Burahanganja (R)</i>	Leaf juice is useful in jaundice; plant juice is useful against irregular menstruation trouble.
<i>Scutellaria discolor</i> Coleb. (Lamiaceae)	<i>Yenakha (B)</i>	Fresh leaf juice is used against cuts and wounds.
<i>Sida rhombifolia</i> L. (Malvaceae)	<i>Barella (TGC)</i>	Plant extract is useful in rheumatism and urinary trouble.
<i>Solanum nigrum</i> L. (Solanaceae)	<i>Kaikor (Beng)</i>	Stem and leaves are useful in constipation. Seeds are also used in liver trouble.
<i>Solanum torvum</i> Swartz (Solanaceae)	<i>Sipiang (V)</i>	Fruit paste is useful against headache; root useful against fever and cough; seeds useful in toothache.
<i>Solanum xanthocarpum</i> Schrad & Wendl. (Solanaceae)	<i>Saipiangjianj (V)</i>	Root is used against small pox.
<i>Spilanthes paniculata</i> DC. (Asteraceae)	<i>Ussnai (R); Ankacha (H)</i>	Young stem and leaf is taken for deworming, constipation and liver trouble. Fresh flower is applied against toothache.
<i>Sterculia villosa</i> Roxb. (Sterculiaceae)	<i>Faithi (R); Khapui (H)</i>	Root juice is used as tonic; root juice mixed with honey is taken orally against blood dysentery.
<i>Syzygium cumini</i> (L.) Skeels (Myrtaceae)	<i>Kotuhi-Dam (B)</i>	Young leaf juice is taken once daily in empty stomach to check blood sugar in diabetes. Seed powder is given in diabetes.
<i>Tagetes patula</i> L. (Asteraceae)	<i>Genda (Beng)</i>	Leaf juice is useful in fresh cuts and wounds; plant juice against dysentery.
<i>Tamarindus indica</i> L. (Caesalpiniaceae)	<i>Tengtere (H); Taintai (R)</i>	Seeds useful against snakebite; leaf extract against rheumatism.
<i>Terminalia arjuna</i> (Roxb.) Weight & Arn. (Combretaceae)	<i>Arjuna (B &amp;TGC)</i>	Bark and leaf juice is useful in liver trouble.
<i>Terminalia chebula</i> Retz.(Combretaceae)	<i>Baukla (R)</i>	Fruits used as appetizer are also applied against small pox.
<i>Tinospora cordifolia</i> (Willd.) Miers ex Hook. f. & Thoms.	<i>Gulacha, Guruchi (Beng, B)</i>	Plant juice is useful against swelling. Stem juice is taken against gastric trouble and ulcers.
<i>Torenia diffusa</i> D. Don. (Scrophulariaceae)	<i>Paukmukuan (RN)</i>	Whole plant is used against headache.
<i>Urena lobata</i> L. (Malvaceae)	<i>Bachita (B)</i>	Root is useful against rheumatic pain.
<i>Vernonia cinerea</i> (L.) Less. (Asteraceae)	<i>Hiyalmutra(B)</i>	Leaf juice is useful in leucorrhoea.
<i>Vitex negundo</i> L. (Verbenaceae)	<i>Tingpir (H)</i>	Leaf juice boiled with garlic and mustard oil is applied externally to get relief from rheumatic pain.
<i>Wedelia chinensis</i> (Osbeck.) Merr. (Asteraceae)	<i>Bhanra (B,TGC)</i>	Stem and leaf juice is useful for hair growth.
<i>Xanthium strumarium</i> L. (Asteraceae)	<i>Gagra (B)</i>	Fruits are used against toothache.
<i>Ziziphus jujuba</i> Lam. (Rhamnaceae)	<i>Bruji (R)</i>	Bark juice is useful in stomach trouble.



Fig. 1 H'mar women



Fig. 2 H'mar woman

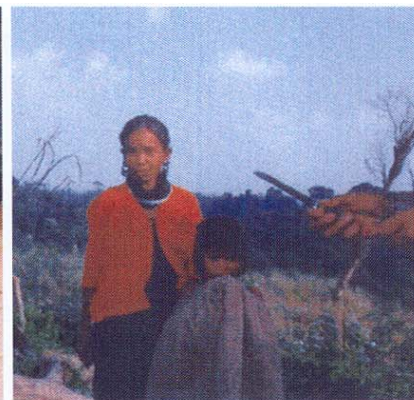
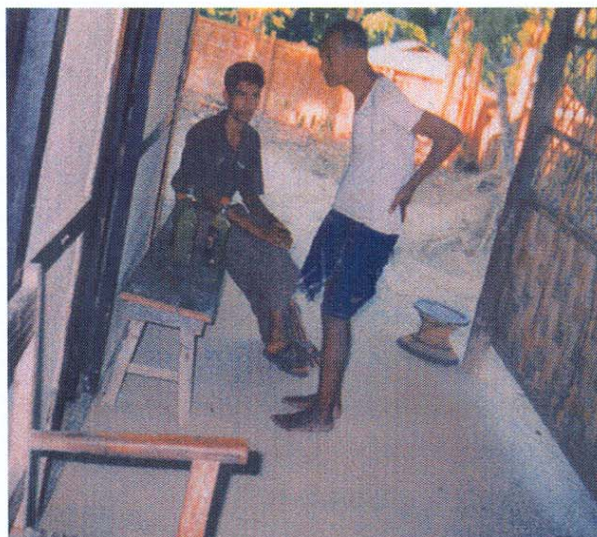


Fig. 3 Riang woman

Fig. 4 Rupendra Barman (*Kabiraj*) & a village patientFig. 5 *Angiopteris evecta* (Forst.) Hoffm.

used against rheumatic pain by *Barman* community of Cachar district and rhizome of the plant is also used in jaundice and it was claimed to be new report in ethnomedicine.

It was observed that at least few headmen & folk men in some of the villages have been taken measures for the conservation by domesticating some of the medicinal plants. The main aim is to minimize the labour of collection from the forests, which are not easily available but are important for their daily life in the treatment of different diseases and few plant species are protected by worship of God and with other traditional practices. In many cases, they never take off the whole plant or all fruits for the use but leave some reproductive parts for regeneration. It was also observed that due to population explosion and deforestation some of the tribes (*Riang*), who are moving from one place to another shifting cultivation,

is the major source of food. However, their traditional association with the forests helps in the conservation of some of the herbal plants and to retain the knowledge of medicinal plants. Industrialization, construction of roads and disturbance of wetlands affects the diversity of medicinal plants in this valley and some of the plants have become rare, threatened, and facing acute problem of extinction. Not only those plants but also other plants are to be conserved and the aboriginal knowledge of the process involved in the preparation of medicine is to be given due importance. *Ex-situ* conservation and multiplication of rare, endangered medicinal plants through modern breeding techniques should be encouraged. It is also important to development botanical gardens and declaration of reserve forests in this area, which will help in the conservation many of such species.



### Acknowledgement

Authors are thankful to Dr S Phukan, Deputy Director, Botanical Survey of India, Eastern Circle Shillong, for facilities in Herbarium and Library consultation. Authors are thankful to the local practitioners and herbalists for sharing their valuable knowledge and time. Authors are also thankful to UGC for financial assistance during the study.

### References

- 1 Borthakur SK, Less known medicinal plants among the tribes of *Karbi Anglong* (Mikir Hills) Assam, *Bull Bot Surv India*, 18 (1-4) (1976) 166-171.
- 2 Borthakur SK, Native phytotherapy for child and women diseases from Assam, North Eastern India, *Fitoterapia*, 63 (b) (1992) 483-488.
- 3 Borthakur SK, Postnatal care of women in traditional system in Assam, *Ethnobotany*, 8 (1996) 51-53.
- 4 Borthakur SK, Nath K & Gogoi, Herbal remedies of the Nepalese of Assam, *Fitoterapia*, 67(3) (1996) 231-237.
- 5 Das Nikal Jyoti, Devi K Amala & Goswami Satya Ranjan, Report on the treatment of dysmenorrhoea by the tribes of Nalbari district, Assam, *Indian J Traditional Knowledge*, 4 (1) (2005) 72-74.
- 6 Dolui AK, Sharma, HK, Marein, Theresia Breen, Lalhriatpuii, Folk herbal remedies from Meghalaya, *Indian J Traditional Knowledge*, 3 (4) (2004) 358-364.
- 7 Dutta BK & Dutta PK, Potential of Ethnobotanical studies in North East India, Overview, *Indian J Traditional Knowledge*, 4 (1) (2005) 7-14.
- 8 Hajra PK, On some important medicinal plants from Kameng district, Arunachal Pradesh, *Bull Megh Sci Soc*, 2 (1997) 16-20.
- 9 Hajra PK & Baishya AK, Ethnobotanical notes on the *Miris (Mishing)* Assam Plains: *Contribution of Indian Ethnobotany*, by Jain SK, (Scientific Publishers, Jodhpur), 1997, 161-168.
- 10 Pandey AK, Bora HR & Daka SC, A Ethnobotanical study of Golaghat district, Assam: Native of plant remedies for jaundice, *J Econ Tax Bot Addl Ser*, 12 (1936) 344-349.
- 11 Puri HS, Medicinal plants of Tezpur, Assam, *Bull Medico Ethnobot Res* 4(1987) 1-13.
- 12 Tamuli P & Saikia R, Ethno-medico-botany of the *Zeme* tribe of North Cachar Hills district of Assam, *Indian J Traditional Knowledge*, 3 (4) (2004) 430-436.
- 13 Das AK, Ethno-medico-botanical study of Cachar district of Assam, India, (M Phil Thesis, Assam University, Silchar), 2000.
- 14 Das Ajit Kumar & Sharma GD, Ethnomedicinal plants used by *Barman* and *Manipuri* community, Cachar district, Assam, *J Econ Tax Bot*, 27(2) (2003) 421-429.
- 15 Das AK, Sharma GD & Dutta BK, Study of Plant biodiversity and its conservation in Hailakandi district, Assam, India, Part 1 Flora, *J Econ Tax Bot*, 28 (1) (2004) 213-228.
- 16 Das Soma, Dutta PK & Dutta BK, Ethnobotanical studies of Barak valley conservation, Proc Seminar Biodiversity Assam & Conserv, Karimganj, Assam, by Bhattacharjee MK, Mazumder PB & Dutta Choudhury M, 2002, 179-199.
- 17 Dutta Choudhury M & Choudhury S, Ethnobotanical aspect of *Reang* tribe of Assam, India, Part 2, Proc UGC sponsored state level seminar on *Biodiversity of Assam & its conservation* (eds Bhattacharjee MK, Mazumder PB & Dutta Choudhury M) Karimganj (Assam), 2002, 151-168.
- 18 Jain SK & Rao RR, *Handbook of Field and Herbarium Methods*, New Delhi, 1977.
- 19 Jain SK, *A Manual of Ethnobotany*, (Scientific Publisher, Jodhpur), 1987.
- 20 Jain SK, *Methods and Approaches in Ethnobotany*, (Society Ethnobotanists, Lucknow), 1989.
- 21 Schultes RE, Tapping our heritage of ethnobotanical lore, *Econ Bot*, 14 (1960) 257-262.
- 22 Schultes RE, The role of Ethnobotanists in the search for new medicinal plants, *Loydea*, 25 (1962) 257-266.
- 23 Bor NL, *Flora of Assam*, Vol 5 (Government of Assam, Shillong), 1940.
- 24 Hooker JD, *The Flora of British India*, Vol 1-7 (London), (1872-1897).
- 25 Kanjilal UN, Kanjilal PC, Das A & Purkayastha C, *Flora of Assam*, Vol 1, (Government of Assam, Shillong), 1934.
- 26 Kanjilal UN, Kanjilal PC & Das A, *Flora of Assam*, Vol 2, (Government of Assam, Shillong), 1936.
- 27 Kanjilal UN, Kanjilal PC, Das A & De RN, *Flora of Assam*, Vol 3, (Government of Assam, Shillong), 1938.
- 28 Kanjilal UN, Kanjilal PC, De RN & Das A, *Flora of Assam*, Vol 4, (Government of Assam, Shillong), 1940.
- 29 Sharma BD, Balakrishnan NP, Sanjappa M, *Flora of India*, Vol 2, (BSI Calcutta, Deep Printers, New Delhi), 1993.
- 30 Sharma BD & Sanjappa M, with assistance from Balakrishnan N P, (Ed) *Flora of India*, Vol 3, (BSI, Calcutta, Deep Printers, New Delhi), July, 20, 1993.