

Ethno- medicobotanical observations on some tribal communities of Tripura, India

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Abstract

Recent ethno-medicobotanical study among Halam, Tripuri and Chakma ethnic groups of Tripura recorded the use of thirty four plants belonging to thirty families have been recorded which are found to be useful in curing various ailments. Some of the interesting plants are *Alocasia indica*, *Celosia cristata*, *Phlogacanthus thyrsoformis* *Spilanthus paniculata*, *Cardiospermum halicacabum* etc. Quite good number of new mode of uses are also recorded.

Key words: Tripura, Ethno-medicobotany, tribal communities.

INTRODUCTION

Man is depending on the plants since their origin for all kinds of necessities, including food, shelter, clothes, medicine etc. Ethnobotany is an offshoot of botany that deals with the plants used by ethnic people. The plants and records of uses of such plants in India dates back to the Vedic and Pre-Vedic era and Dr. K. E. Janaki Ammal in 1954 (Ammal 1954) was the first person to initiate such studies in this country.

Considerable ethnobotanical works have been done in North-East India specially in Arunachal Pradesh, Assam, Manipur and Meghalaya including Jain & Borthakur (1980), Sinha (1986), Dutta Choudhury (1999), Shil (2007), Tiwari *et al.* (1978), Bhattacharjee *et al.* (1977), Gogoi *et al.* (1979), Rao & Jamir (1982), and Nath & Maiti (2003). Dutta Choudhury *et al.* (2008) also recorded substantial amount of information on the medicinal uses of ferns and fern allies of this region.

Kalita & Surajit (2004) studied the plant based medicines used by the rural people of Dibrugarh district of Assam for curing 18 different diseases using 28 different species. Tamuli & Saikia (2004) recorded the use of 33 species of plants by Zeme Nagas of N.C. Hills district of Assam. Khumbongmayum *et al.* (2005) studied the therapeutic applications of 120 ethnomedicinal plants of Manipur, belonging to 106 genera and 57 families. However, the ethnobotanical publications from Tripura is scanty though as much as 31% of the state population are tribals and there are as many as 16 tribal groups living in the state. Shil (2007) carried out detailed ethnobotanical work on Reang tribe of Tripura but the major segment comprising of other tribal groups remained unexplored till date.

METHODOLOGY

Exhaustive field surveys have been undertaken covering all seasons for gathering information on each and every species used by tribal people as medicines. Surveys were conducted in Jaithang, Balidhum and Nabincherra villages of Tripura inhabited respectively by the Halam, Tripuri and Chakma communities.

Plants have been collected in their flowering and fruiting stage as far as possible from the natural habitat and serially tagged with field numbers and recorded different information in the

field note book. Specimens were processed into mounted herbarium sheets following Jain & Rao (1977) and were deposited in the Silchar Herbarium for further use. Plants were identified using local flora including Hooker (1872 - 1897), Kanjilal *et al* 1930 – 1940), Bor (1940) and Deb (1981 - 1983). A set of the specimens will be deposited at ASSAM Herbarium.

Ethnobotanical methodologies as suggested by Schultes (1960, 1962), Jain (1964, 1967, 1991) and Jain & Mudgal (1999) have been followed during field study. Informants include local medicine-men, village headmen and aged and experienced people. Queries have been made repeatedly, occasionally taking help from interpreters for confirmation of data on each medicinal plant. Data on each plant have been recorded as follows: (a) Sl. No. (b) Scientific name (c) Family (d) Vernacular Name (e) name of the tribe (f) Parts used (g) Mode of utilization and (h) Established report of use.

Recorded plants are enumerated below along with their scientific and local names, family, parts used, mode of use, and established uses of such plants.

ENUMERATION

Ageratum conyzoides L. [Asteraceae]; **LN:** *Khomorochewk & Shyamtulsi*; **Community:** Halam & Tripuri

Parts used: Leaves & twigs; **Method of use:** Paste used as antihemorrhagic by Halams; juice used as an expectorant by Tripuris.

Known uses: Root juice antilithic; leaf juice styptic, applied to cuts and sores, externally in ague (Chopra *et al.* 1956)

Note: Its antihemorrhagic and expectorant properties are new reports amongst the Halams.

Alocasia indica Schultes [Araceae]; **LN:** *Maitu bulai*; **Community:** Tripuri

Parts used: Modified root; **Method of use:** Root paste used against rheumatism.

Known uses: Leaves styptic, astringent, tuber useful in piles and constipation (Chopra *et al.* 1956);

Note: Its anti-rheumatic property was reported for the first time.

Note: Similar practice found among certain other tribes also.

Alpinia nigra (Gertner) Burt [Zingiberaceae]; **LN:** *Peitranga*; **Community:** Chakma

Parts used: Rhizome; **Method of use:** Juice of rhizome is used against dyspepsia

Known uses: Different species of *Alpinia* used in/as fever, rheumatism, bronchial infections, expectorant, stomachic, stimulant, aphrodisiac, carminative, emetic (Chopra *et al.* 1956).

Note: No previous record of its use against dyspepsia.

Althea rosea (L.) Cavan [Malvaceae]; **LN:** *Kumai*; **Community:** Chakma

Parts used: Seeds; **Method of use:** Seed paste applied on children's the head during cold

Known uses: Seeds demulcent, diuretic, febrifuge; roots astringent, demulcent useful in dysentery. Flowers cooling, diuretic, used in rheumatism (Chopra *et al.* 1956).

Note: Its application as external ointment is now reported for the first time by the Chakma people.

Ananas comosus (L.) Merrill [Bromeliaceae]; **LN:** *Amortui*; **Community:** Tripuri.

Parts used: Fruit & leaf base; **Method of use:** Paste of leaf base consumed in diarrhoea.

Known uses: Leaf juice anthelmintic, unripe fruits abortifacient, juice of fruit antiscorbutic (Chopra *et al.* 1956).

Note: Anti- diarrheic use is a new record.

Azadirachta indica A. Jussieu [Meliaceae]; **LN:** *Neem*; **Community:** Halam.

Parts used: Leaves; **Method of use:** Leaves boiled in water and used to bathe the patient during malaria and chicken pox.

Known uses: Young fruits, bark and root bark astringent, antiperspirant; leaves as poultice in boils, antiseptic in ulcers and eczema; gum demulcent tonic in cataract; dry flowers tonic, stomachic; oil stimulant, antiseptic in rheumatism and skin diseases; bark, gum, leaf and seeds in scorpion stings and snake bites; berries purgative, emolument and anthelmintic (Chopra *et al.* 1956).

Note: Its use on malaria and chicken pox is a new report.

Bambusa sp. [Poaceae]; **LN:** *Waa-epahang*; **Community:** Tripuri.

Parts used: Entire plant; **Method of use:** Powder of the green portion of stem is used as antihemorrhagic.

Known uses: Various species emmenagogue, astringent, anti-hemorrhagic, emolument, used in hematemesis, tonic useful in fever, cough, menorrhagia, nausea, vomiting, snake bite and given to horses in cough and cold (Chopra *et al.* 1956).

Bryophyllum calycinum Salisbury [Crassulaceae]; **LN:** *Khurojot*; **Community:** Chakma.

Parts used: Leaves; **Method of use:** Chewed raw with sugar to control dysentery and diarrhoea.

Known uses: Juice of leaves styptic; seed on fresh cuts and abrasions, bruises, burns and superficial ulcers, given in bilious diarrhoea, lithiasis (Chopra, *et al.*, 1956).

Note: Report of anti-dysenteric property is new.

Cajanus cajan (L.) Millsp. [Fabaceae]; **LN:** *Khokhlaing*; **Community:** Halam.

Parts used: Leaves & Twigs; **Method of use:** Paste of leaves and twigs applied throughout the body in jaundice.

Known uses: Seeds in snake-bite; paste of seeds and leaves used to control milk flow (Chopra *et al.* 1956).

Note: Widely used as a hepatoprotective agent.

Calotropis gigantea (L.) R. Brown ex Aiton [Asclepiadaceae]; **LN:** *Angarpata*; **Community:** Chakma.

Parts used: Leaves; **Method of use:** Leaves heated and applied locally to relieve pain.

Known uses: Root bark anti-dysenteric, diaphoretic, expectorant, emetic, applied as paste in elephantiasis; tincture of leaves used in intermittent fevers; latex irritant, purgative; powdered flowers given in cold asthma and indigestion (Chopra *et al.* 1956).

Note: External application of warm leaves in pain relief is a new report.

Cardiospermum halicacabum L. [Sapindaceae]; **LN:** *Heda-bhokta*; **Community:** Chakma.

Parts used: Leaves; **Method of use:** Paste of the leaves applied on the body during measles.

Known uses: Plant used in rheumatism, stiffness of limbs, snake-bite. Root diaphoretic diuretic, aperients, laxative, rubefacient, emmenagogue, occasionally used in rheumatism, lumbago and nervous diseases; leaves rubefacient, poultice in rheumatism; leaf juice used in ear ache (Chopra *et al.* 1956).

Note: External remedy to measles is new report.

Carica papaya L. [Caricaceae]; **LN:** *Paypay*; **Community:** Chakma.

Parts used: Fruit; **Method of use:** Fruits are used as stomachic.

Known uses: Latex of unripe fruits used to remove freckles and blemishes from skin, anthelmintic; ripe fruits stomachic, carminative, diuretic; seeds vermifuge, emmenagogue, used to quench thirst (Chopra *et al.* 1956).

Celosia cristata L. [Amaranthaceae]; **LN:** *Radhachuro phool*; **Community:** Chakma.

Parts used: Leaves; **Method of use:** Leaf juice taken orally as antihemorrhagic during parturition.

Known uses: Seeds anti-diarrheic, aphrodisiac, useful in blood diseases, eye and for oral sores (Chopra *et al.* 1956).

Note: Use of leaf juice as an antihemorrhagic is a new report.

Centella asiatica (L.) Urban [Apiaceae]; **LN:** *Perup*; **Community:** Halam.

Parts used: Leaves; **Method of use:** Eaten either as paste or cooked as a vegetable in dysentery and diarrhoea.

Known uses: Plant useful as alternative and tonic in diseases of skin, leprosy, nerves and blood; leaves useful for improving memory and in syphilitic skin diseases (Chopra *et al.* 1956).

Note: Leaf juice commonly used in dysentery and diarrhoea.

Clerodendrum viscosum Ventenat [Verbenaceae]; **LN:** *Killiashak*; **Community:** Chakma.

Parts used: Leaves; **Method of use:** Cooked as vegetable; juice used as expectorant; leaf decoction used to check high blood pressure.

Known uses: Plant useful in inflammations, anorexia, dyspepsia, flatulence, helminthiasis, cough, asthma, bronchitis, hiccough, chronic skin diseases, leucoderma, leprosy and fevers. The leaves can be used or external application in headache (<http://ayurvedicmedicinalplants.com/plants/223.html>, 2009).

Note: Its hepatoprotective property is a new report.

Crinum asiaticum L. [Amaryllidaceae]; **LN:** *Khobaron*; **Community:** Chakma.

Parts used: Leaves; **Method of use:** Leaf juice used in rheumatism both for man and domestic animals.

Known uses: Many species of *Crinum* used as laxative, expectorant, anti-bilious and in urinary troubles; also used as emollient, emetic, burns, infections, etc.; bulbs used as rubefacient, in piles and abscesses; leaf juice used in ear-ache (Chopra *et al.* 1956).

Note: The anti-rheumatic property of the plant is a new report.

Costus speciosus (Koenig ex Retzius) Smith [Costaceae]; **LN:** *Mylongma Khotomai*; **Community:** Tripuri.

Parts used: Leaves and stem; **Method of use:** Leaf juice used as an ingredient of a medicine for jaundice; sap of stem used to remove parasites from ears.

Known uses: Root astringent, purgative, depurative, stimulant, tonic, anthelmintic, antinode in snake bite (Chopra *et al.* 1956).

Note: The report of hepatoprotective and insecticidal properties of the species is new.

Curcuma caesia Roxburgh [Zingiberaceae]; **LN:** *Kalahalud*; **Community:** Chakma.

Parts used: Rhizome; **Method of use:** Rhizome extract reduces the action of intoxicants, i.e. as anti-narcotic.

Note: No medicinal properties of this plant have been reported in the literatures consulted.

Cynodom dactylon (L.) Persoon [Poaceae]; **LN:** *Dubba*; **Community:** Chakma.

Parts used: Young twigs; **Method of use:** Shoot extract is anti-haemorrhagic.

Known uses: Decoction of roots diuretic in dropsy, secondary syphilis; root infusion in piles, crushed roots in chronic gleet; plant juice astringent, useful in cuts and wounds, diuretic, used in dropsy and anasarca, useful in diarrhoea, dysentery, nervous diseases and eye troubles (Chopra *et al.* 1956).

Chromolaena odoratum (L.) King & Robinson [Asteraceae]; **LN:** *Cheikhmarimshiekh*; **Community:** Halams.

Parts used: Leaves; **Method of use:** Leaf paste used to stop bleeding.

Known uses: Fish poison (Chopra, *et al.*, 1956); **Note:** Anti haemorrhagic property of the plant has not been reported by Chopra *et al.* 1956).

Euphorbia nerifolia L. [Euphorbiaceae]; **LN:** *Sairapal*; **Community:** Halams.

Parts used: Entire plant; **Method of use:** Leaves heated on fire and placed on chest to control cough.

Known uses: Milky juice used as purgative, for skin diseases; roots in scorpion sting, snake bite, as antiseptic and fish poison (Chopra *et al.* 1956).

Note: The use of leaves to control cough is a new report.

Ficus hispida L.f. [Moraceae]; **LN:** *Mayungmai*; **Community:** Tripuri.

Parts used: Raw fruit; **Method of use:** The fruit smashed and dipped in milk for 3-4 days. This milk is later given to cure jaundice.

Known uses: Fruit, seed & bark purgative, emetic (Chopra *et al.* 1956).

Note: Its hepatoprotective property is a new report.

Jatropha curcas L. [Euphorbiaceae]; **LN:** *Girogaachh*; **Community:** Chakma.

Parts used: Branches; **Method of use:** Small pieces of branches used as tooth brush (*datun*); sap is thought to be very good for gum infections.

Known uses: Seeds and roasted nuts purgative; latex useful in scabies, eczema and ringworm; leaves lactagogue, rubefacient (Chopra *et al.* 1956).

Mangifera indica L. [Anacardiaceae]; **LN:** *Thaihai*; **Community:** Halam.

Parts used: Stem Bark; **Method of use:** Bark kept immersed in water for 3-4 days and the filtrate is used against dysentery.

Known uses: Leaves used in scorpion sting; ripe fruits laxative, diuretic, astringent and anti-haemorrhagic; unripe fruits in ophthalmia and eruptions; rind of fruit astringent, stimulant and stomachic; seeds used in asthma; cotyledons antihemorrhagic, stops nasal bleeding, anthelmintic; bark astringent, used in uterine bleeding, haemoptysis and melena, diarrhoea (Chopra *et al.* 1956).

Note: Its anti-dysenteric property is a new report.

Mimosa pudica L. [Mimosaceae]; **LN:** *Cheaken laite*; **Community:** Halam.

Parts used: Entire plant; **Method of use:** Leaf paste applied on acne and pimples.

Known uses: Leaves and roots used in piles and fistula; leaf paste applied to hydrocele; leaf and stem used in scorpion sting (Chopra *et al.* 1956).

Note: The antiseptic properties of the plant is a new report.

Momordica charantia L. [Cucurbitaceae]; **LN:** *Gangrauk*; **Community:** Tripuri.

Parts used: Fruits and twigs; **Method of use:** Fruits anthelmintic; juice of twigs used in dyspepsia.

Known uses: Leaf juice emetic, purgative, used in biliousness, burning of soles of feet; fruits and leaves purgative, emetic, used in piles, jaundice, leprosy and as vermifuge (Chopra *et al.* 1956).

Musa ornata Roxburgh [Musaceae]; **LN:** *Mot*; **Community:** Halam.

Parts used: Entire plant; **Method of use:** Flowers juice is given in dysmenorrhoea and menorrhagia.

Note: No such uses of the plant have been found in the literatures consulted.

Piper betle L. [Piperaceae]; **LN:** *Phatui bulai*; **Community:** Tripuri.

Parts used: Leaves; **Method of use:** Raw leaves carminative and mild stimulant.

Known uses: Leaves aromatic carminative, stimulant; used in respiratory catarrhs, eye troubles, cerebral congestions, satyriasis, as antiseptic and also in snake bite; fruit in cough, root used as oral contraceptive (Chopra *et al.* 1956).

Phlogacanthus thyriformis (Hardwicke) Mabblerley [Acanthaceae]; **LN:** *Basakpata*; **Community:** Chakma.

Parts used: Leaves; **Method of use:** Leaf juice used as an expectorant.

Note: No such use of the plant has been reported in the standard literature.

Psidium guajava L. [Myrtaceae]; **LN:** *Sapri*; **Community:** Halam.

Parts used: Fruits and twigs; **Method of use:** Young twigs are chewed in dysentery.

Known uses: Root bark reported to be astringent, used in diarrhoea; fruits laxative; leaves astringent, used against diarrhoea, cholera, vomiting, wounds and ulcers (Chopra *et al.* 1956).

Note: Plant's anti-dysenteric property is a new report.

Scoparia dulcis L. [Scrophulariaceae]; **LN:** *Naipunchewk*; **Community:** Halam.

Parts used: Entire plant; **Method of use:** Decoction used as an anthelmintic for infants aged 6 months to 1 year.

Known uses: Plant infusion used as ague and as an emetic (Chopra *et al.* 1956).

Note: Its use as paediatric anthelmintic is a new report.

Spilanthes paniculata Wallich ex. DC. [Asteraceae]; **LN:** *Ansha*; **Community:** Halam.

Parts used: Leaves; **Method of use:** Juice is used in dyspepsia.

Note: No medicinal use of the plant been reported in standard literature.

Stephania spp. [Menispermaceae]; **LN:** *Thandamanik*; **Community:** Chakma.

Parts used: Leaves; **Method of use:** Leaf paste is applied on the belly in stomach-ache.

Known uses: Various species used as astringent, in pulmonary tuberculosis, asthma, dysentery, fever, diarrhoea, dyspepsia, urinary troubles (Chopra *et al.* 1956).

Note: The Its external use in stomach-ache is a new report.

Terminalia chebula Retzius [Combretaceae]; **LN:** *Bukhala buthai*; **Community:** Tripuri.

Parts used: Fruits; **Method of use:** Fruits used as an astringent and stomachic.

Known uses: Fruits astringent, laxative, locally applied on wounds and ulcers; used in stomatitis, carious teeth, bleeding and ulceration of gums; bark diuretic, cardiac tonic (Chopra *et al.* 1956).

RESULT AND DISCUSSION

Altogether 34 species of plants of ethnomedicinal importance belonging to 30 families of angiosperms were collected. These plants are enumerated here along with their scientific and local names, family, parts used, mode of use, and established uses. A note has been provided whenever it was felt necessary.

Of all the recorded plants 33 were found to be of medicinal importance and the remaining one plant is anti-narcotic. Out of the 34 species identified taxonomically, 16 are in their wild state and 10 are cultivated for several medicinal purposes. Remaining 4 species are reported to cultivated as well as growing in the wild.

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