



## Survey and Documentation of Locally Available Medicinal Plants Used by the Mising Tribe in Majuli River Island, Assam

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**(ABSTRACT)** The paper documents the locally available medicinal plants used by the Mising tribe residing in Naganchuk village in Majuli River Island, Assam. Personal interviews and in-depth discussions were held with the local medicine men to collect data on medicinal plant utilization. Total 31 medicinal plants belonging to 24 families used in treating 14 different diseases were recorded. The plants are arranged disease wise along with their scientific name, family, local name and detail use. Systematic documentation of medicinal plant knowledge is vital in preserving the traditional knowledge of the tribe and in understanding the sustainable human-environment interactions.

**KEYWORDS :** Medicinal plants, Traditional knowledge, Mising, Majuli, Assam

### INTRODUCTION:

In the integrated subject of anthropology, the study of health seeking behaviour and the traditional herbal medicines prepared from different plant species to treat various diseases by an ethnic group or a community is an important area of research. From ancient times, traditional cultures around the world have used plants as a source of medication for preventive and curative purposes. North-East (NE) India, an important part of the Indo-Myanmar biodiversity hotspot<sup>1</sup>, is a rich storehouse of numerous medicinal plants many of which are endemic. In the NE Indian state of Assam, the different tribal communities residing in various parts and pockets of the state still rely to a great extent on the use of medicinal plants in their primary health care. A number of significant studies have been conducted on ethnomedicinal plants used by different tribes of Assam<sup>2-6</sup>. The present brief study aims to explore and document the locally available medicinal plants used by the Mising tribe in Majuli River Island, Assam.

Majuli (Total area: 352 sq. km) is a beautiful river island in the Brahmaputra River, and the first island district of India. Majuli has a wetland ecosystem with great biodiversity, harbouring many rare and endangered flora and fauna unique to this region. The island is inhabited by the Mising, Deori and Sonowal Kachari tribes, and many non-tribal Assamese communities. The Mishings are a prominent plains tribe of Assam; the 2<sup>nd</sup> largest tribal group of the state. They are patrilineal, patriarchal and patrilocal. Agriculture is the main economy; they are pile dwellers; and traditionally adhere to their animistic religious beliefs and practices. They are the worshippers of *Dony* (The Sun) and *Polo* (The Moon). The Mishings possess a rich repository of plant based medicinal knowledge. Exploration and systematic documentation of such knowledge is vital in preserving the traditional knowledge (TK) of the tribe and in understanding the sustainable human-environment interactions.

### MATERIALS AND METHODS:

Systematic field survey was conducted in *Naganchuk* Mising village, under Jengrai block in Majuli. There are 04 traditional medicine men in the village. Ethnomedicinal information was collected through extensive personal interviews and in-depth discussions. Data on the disease/s treated; the use of different medicinal plants - part/s used; form of usage (fresh/dried); methods of medicine preparation and mode of administration were recorded. Plant species were identified with the help of standard literature on local flora<sup>7</sup>. The documented medicinal plants are arranged disease wise along with their scientific name, family and local names (i.e. Assamese; the Mising name of some of the plants are denoted by 'Mi'). Verbal consent of the knowledge holders was taken during the study.

### RESULTS AND DISCUSSION:

#### Bone Fracture:

The white latex obtained from *Ficus glomerata* Roxb. (Moraceae; *Dimoru gosh*; *Takpiyang* - Mi) tree is applied in a thick layer over the fractured area and bandaged for 4 days. Thin bamboo sticks are used to hold the fractured area intact.

#### Cough and Cold:

Juice extract of *Zinziber officinale* Rosc. (Zingiberaceae; *Ada*; *Take* -

Mi) rhizome and *Ocymum santum* Linn. (Lamiaceae; *Tulosi*) fresh leaves mixed with honey is given orally twice daily until cure. *Caesalpinia bonducella* Flem. (Leguminosae; *Leta guti*) seed is grind to powder, mixed with honey and given orally to cure cough.

#### Constipation:

Powdered dried fruit of *Terminalia chekula* Retz. (Combretaceae; *Hilikha*) mixed with cow urine is given twice daily as remedy.

#### Dysentery:

For quick relief salt fermented fruit of *Citrus limon* (L) Burm. f. (Rutaceae; *Golnemoo*) is given orally twice a day. The old fermented fruits are the most effective. Fresh leaf juice of *Hydrocotyle rotundifolia* Roxb. (Umbelliferae; *Saru manimumi*; *Borma manimumi* - Mi) mixed with honey is taken orally daily until cure. Paste and juice extract of young leaves of *Paederia foetida* Linn. (Rubiaceae; *Bhedailota*; *Bungki repuk* - Mi) is given orally for 6-7 days.

#### Eczema/Skin infection:

Fresh leaf paste/juice extract of *Gendarussa vulgaris* Ness. (Acanthaceae; *Bikholya koroni*) is applied externally over the infected area for 5-7 days.

#### Gastric:

Fresh rhizome juice of *Curcuma longa* Linn. (Zingiberaceae; *Halodhi*) mixed with cow milk is given once daily in empty stomach till relieve.

#### Jaundice:

Juice of *Saccharum officinarum* Linn. (Poaceae; *Kuhiar*) is given daily till cure. Juice extract from young twigs of *Dellinia indica* Linn. (Dilleniaceae; *Ou tenga*; *Sompa* - Mi), fresh leaves of *Centella asiatica* Linn. (Umbelliferae; *Bor manimooni*; *Bortan manimumi* - Mi) and ripe fruits of *Duchesnea indica* Focke. (Rosaceae; *Gorukhis*; *Gudali* - Mi) mixed in one glass of water is given once daily in empty stomach for 3 days. Fresh stem juice of *Commelina benghalensis* Linn. (Commelinaceae; *Konasi molu*) with ripe *Musa paradisiaca* Linn. (Musaceae; *Bhim kol*) fruit is taken daily in empty stomach until cure.

#### Menstrual disorder:

Stem juice extract of *C. benghalensis* mixed with *mishri* (Rock sugar candy) and green gram is kept overnight. Next morning, the juice is taken in empty stomach and after 1 hour one local chicken egg is consumed raw. Root paste of *Solanum indicum* Linn. (Solanaceae; *Tita-bhekuri*; *Bangko* - Mi) is given orally thrice a day for 5-6 days.

#### Pneumonia:

2-3 *C. bonducella* seed and 5-6 *Piper nigrum* Linn. (Piperaceae; *Jaluk*) are crushed finely and mixed in a glass of lukewarm water along with a pinch of salt; the filtrate is given orally in empty stomach once daily till cure. Decoction made from fresh rhizome of *Acorus calamus* Linn. (Araceae; *Bosh*) mixed with a pinch of salt is given orally for 2 days. 3-4 fresh young leaves of *Ananas comosus* (L) Merr. (Bromaliaceae; *Matikothal*), 3 twigs of *Bischofia javanica* Blume. (Euphorbiaceae; *Urium*; *Sintir* - Mi), 3 twigs of *Psidium guajava* Linn. (Myrtaceae; *Modhuriaam*), 8-9 young leaves of *C. limon*, 3-4 young leaves of *Piper betle* Linn. (Piperaceae; *Pan*), 5-6 leaves of *C. asiatica* and *H. sibthorpioides* each, and 21 numbers of *P. nigrum* are mixed together

and crushed; the crude extract obtained is slightly heated and given orally once daily for 2 days. 3-4 root knots of *Kyllingia brevifolia* Rottb. (Cyperaceae; *Keya bon*), 1-2 young leaf of *Swertia chirata* Buds-Ham. (Gentianaceae; *Chirota*), 5-6 leaves of *C. limon*, 1-2 seeds of *Abrus precatorius* Linn. (Leguminosae; *Latu guti*) and black pepper are boiled in water; the decoction obtained is given in empty stomach once daily for 3 days.

#### Sinusitis:

Paste of *Leucas aspera* Spreng. (Lamiaceae; *Doron bon*; *Takom kori* - Mi) and *H. rotundifolia* leaves is held over the nostrils and the strong smell is inhaled.

#### Toothache:

3-5 leaves of *C. asiatica*, and 3 twig each of *L. aspera* and *Polygonum chinense* Linn. (Polygonaceae; *Madhuhuleng*; *Lorum* - Mi) are crushed to yield crude juice which is applied on the affected teeth overnight for 1 week.

#### Tonsillitis:

Bark extracts of *Acacia farnesiana* (L) Willd. (Leguminosae; *Tarua kadam*) mixed with lukewarm water is gargled twice daily until cure.

#### Stomach ache / indigestion:

Young leaf and stem of *L. aspera* is stem cooked and given to eat as vegetable with daily meal.

#### Urinary trouble:

Juice extract from fresh young leaves of *Bryophyllum pinnatum* Kuntz. (Crassulaceae; *Dooportenga*) is taken in empty stomach during morning. Leaf juice extract of *Oldenlandia corymbosa* Linn. (Rubiaceae; *Bonjaluk*) is given once daily for 1 week to cure urinary pain. One glass stem juice extract of *C. benghalensis* is mixed with *mishri* and kept overnight. In the morning the same is mixed with a glass of cow milk and taken orally in empty stomach.

The present study documented a total of 31 medicinal plant species belonging to 24 families that are used to cure 14 different diseases. Leaves are the most frequently used plant part in medicine preparation; while, stem, fruit, seeds, roots, bark and latex are the other plant parts suitably used. They are crushed to a paste when applied externally; squeezed for juice, made decoction in combination with water, and cooked as vegetable when taken internally. Dose regimen is determined by the type of disease and its severity. Sometimes, a single medicinal plant is used to cure more than one disease. *C. asiatica*, *C. benghalensis*, *H. sibthorpioides* and *L. aspera* are found to be used in such manner. Plants species like *A. precatorius*, *F. glomerata*, and *T. chekula* recorded in the present study are also used by other tribes<sup>8,9</sup> in their respective ethnomedicine preparation; however, the use pattern differs. The traditional medicine men of the village have vast ethnomedical knowledge and are expert service providers. They detect and diagnose diseases based on general observation of the patient, the symptoms told by the patient as well as their personal knowledge about specific descriptions of the disease characteristics. Most of the medicinal plants are collected fresh from their natural habitat just before use. A good number of medicinal plants were found to be grown by the medicine men as well as by the people in their home gardens. This is an important aspect of the TK of the people in preserving the plant genetic resource. The selective and judicious use of the medicinal plants from the natural environment provides enough breathing space to the plant species to grow and propagate. This nature based TK has been responsible for maintaining the man-nature equilibrium and sustainable use of plant resources. The present study may help in formulating a feasible roadmap to harness the enormous potential of the region's medicinal plant diversity towards human welfare through scientific approach for new and possibly more effective drug discovery.

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