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Use of Indigenous Plants in Traditional Health Care Systems by Mishing Tribe of Dikhowmukh, Sivasagar District, Assam

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ABSTRACT

The tribal peoples are custodian of unique traditional knowledge systems and their ambient flora and fauna. The Mishing community of Assam also has some traditional health care practices. Assam is very rich in plant biodiversity as well as in ethnic diversity and has great traditional knowledge based on plant resources. A survey on folk medicinal plants and folk healers of Mishing tribe was conducted in Dikhowmukh village of Sivasagar district, Assam. Informations were collected based on interview and field studies with local healers within the community. Identification of medicinal plants was done by the indigenous healers. Study was mainly with plants used to cure diseases and to enquire about different healing systems. We were able to explore 12 indigenous plants of their tribe. From the study it was concluded that Mishing tribe is very rich in indigenous health care practices and their healing techniques are not been scientifically validated till now.

Keywords: Indigenous Plants, Missing Tribe, Tribal Medicine, Traditional Knowledge Systems.

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1. Introduction

The Mishing (Miri) is an Indo-Mongoloid and East Asian group of people migrated from the eastern Himalayan regions in Tibet in the hoary past and finally settled in the fertile Brahmaputra valley in Assam province of India. While migrating to Assam, the Mishing followed mainly the course of the Brahmaputra, gradually spreading to other stretches of land lying on the banks of its tributaries like the Dihing, Disang, Dikhow, the Subansiri, the Ranganadi, the Dikrong, etc. with habitations scattered now in eight districts of the state, viz. Tinsukia, Dibrugarh, Dhemaji, Lakhimpur, Sibsager, Jorhat, Golaghat and Sonitpur. Dikhowmukh is the place where Dikhow river is joining to the Brahmaputra river in Sivasagar district, Assam. On the bank of both Dikhow river and Brahmaputra river of Dikhowmukh village Mishing tribes are residing since a long time ago.

The Mishings are known to use a good number of wild plants as traditional food and folklore medicines^[1]. The Mishings, a Tibet-Burmese section, is a prominent tribe with rich cultures contributing to the cultural diversity of the region. It is generally seen that the Mishing household women plays a very significant role in the society. They are also known to be highly passionate for cooking traditionally unique food items as well as for various folklore medicines^[1]. Hence, the elderly Mishing women are like store house of various informations and could be used as source for many important traditional knowledge systems of the community^[2].

The present study was carried out to enlist the indigenous plant species used as folklore medicine for treatment of certain ailments and also as traditional food having possible medicinal values^[3,4].

2. Materials and methods

2.1 Study area

Assam is one of the smaller Indian states with 2.8 percent of the total area of the Indian Union and 2.7 percent of its population. It is located between 90° -96° east longitude and 22-26 °C north latitude (Fig: 1). Sivasagar district is extended between 26° 45' -27° 15' N

latitude and 94° 25' -95°25' E longitude (Fig: 2). The Study was carried out in Dikhowmukh village of Sivasagar district. Dikhowmukh village is approximately 23 km away from Sivasagar town (Fig: 3). The study area is under Sivasagar subdivision. The average annual rainfall is 108.44 cm and temperature varies between 15 to 35 °C.



Fig 1: Map showing Assam in India

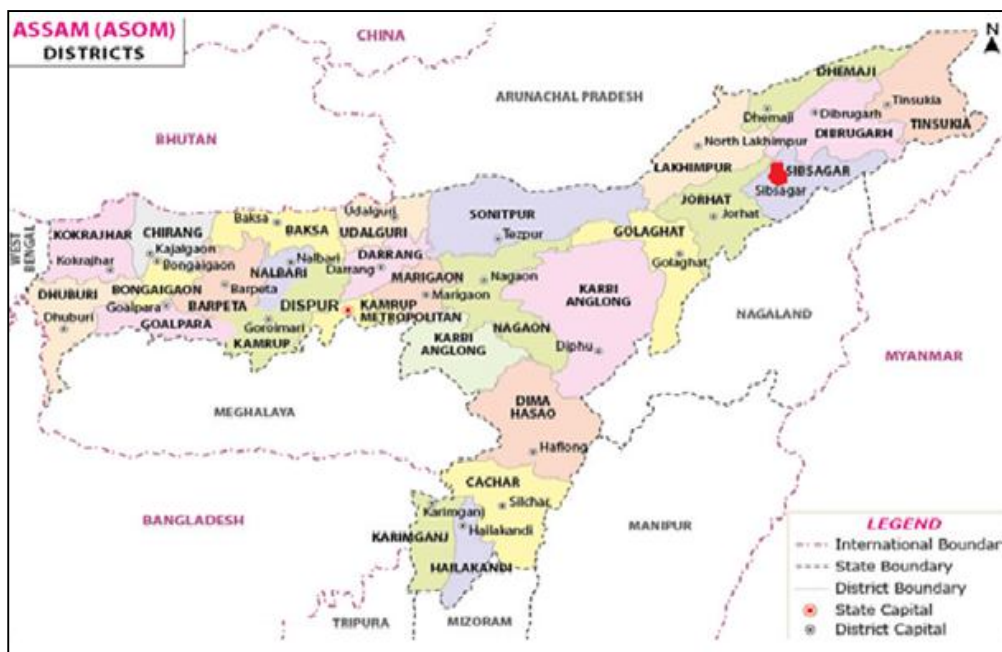


Fig 2: Map showing Sivasagar district in Assam

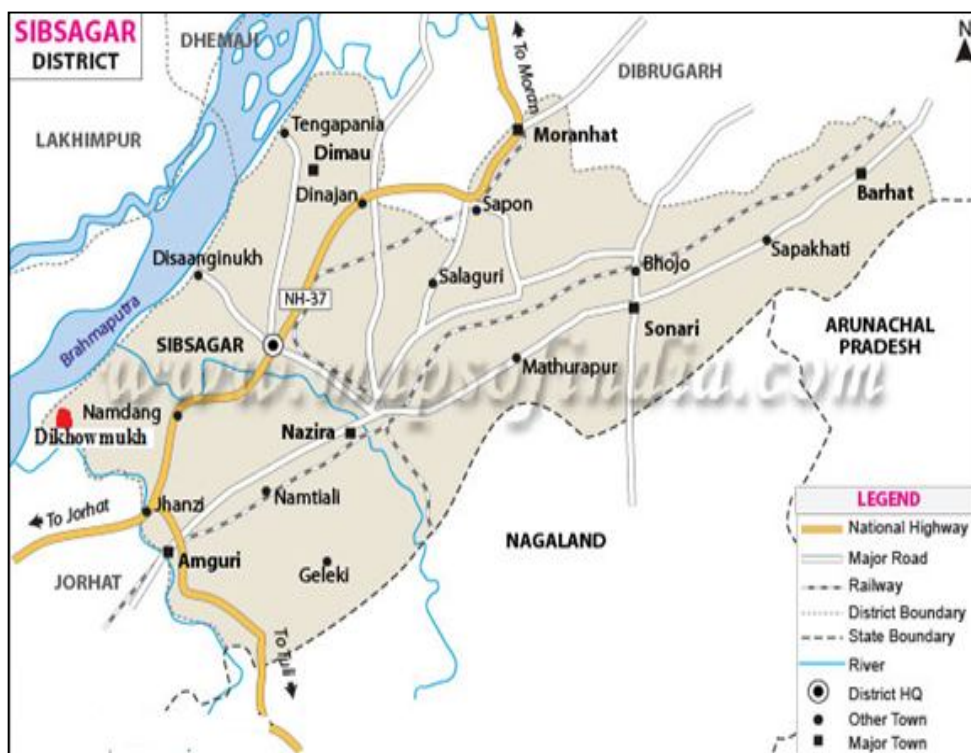


Fig 3: Map showing Dikhowmukh village in Sivasagar District

2.2 Target groups:

The study was conducted through extensive personal interviews, in-depth discussions and participant observations with the traditional medical practitioners and selected knowledge holders of Mishing tribe of Dikhowmukh villages in Sivasagar district, Assam. The target groups of the present study comprise elderly persons both male and female of the Mishing tribal community above 40 years, who practices the traditional health care systems. Some of them are folk healers and some are not. They are usually cultivators and most of them are familiar about the traditional uses of indigenous plants in various purposes. Moreover, the housewives who collect different wild plants as vegetables for cooking purposes were also considered for interview.

2.3 Interactions

The questionnaires were prepared to get the direct informations on the traditional knowledge that are prevailing and usually practiced in the community. The indigenous plant species used by the Mishing tribe were collected from the field as shown by the respondents and the detail informations about the plants and parts used in the treatment of different ailments were collected. Most of the plants were commonly occurring

Plants and known to most of the people. All the enumerated plant species were identified with the help of relevant and standard literature [5-7].

3. Results and Discussions

During the present study, 12 different plant species were found to use as traditional health care services by the village Mishing people of Dikhowmukh, Sivasagar district. Table 1 enlist the indigenous plant species commonly used by the Mishing tribe of the study area. Though people of the study areas access to the health care services, yet they prefer folklore medicines for certain ailments as immediate and effective measures [8]. Both male and female were found to possess good knowledge of folklore medicines specially derived from plants (Table 1). The habit of using forest based wild herbs, shrubs, climbers and trees for cooking purposes are unique to the Mishing tribe. The recent trends of habitat destruction and decrease in the forest area has rendered many species to disappear from the environment for which household of the Mishing tribal community are maintaining some easily propagatable of frequently used plant species such as *D. wallichiana*, *N. feylavica*, *F. glomerata*, *Z. hamiltonianum* etc. in the backyard of their house [8] in order to achieve their immediate needs.

3.1 Tables and figures

Table 1: Indegenous plants of Dikhowmukh village

Sl. no	Scientific name	Local name in Assamese	Family	Parts used	Uses
1	<i>Mimosa pudica</i> L.	Nilaji	Mimosaceae	Root	Tooth worm, Menstrual problem
2	<i>Hydrocotyle rotundifolia</i> Roxb.	Horu manimuni	Apiceae	Leaves, Roots	Dysentery, diarrhoea, piles, rheumatism, as digestive, diuretic and vermifuge and menstrual problem
3	<i>Bambusa balcooa</i> Roxb	Bholuka bah	Poaceae.	Shoots, Young leaves	pain killer in insect bites and menstrual problem
4	<i>Caesalpinia crista</i> Linn.	Leta guti	Caesalpinaceae	Fruits	Used with <i>D. cordata</i> in fever and fruits are used as tonic and antipyretic.
5	<i>Leucas aspera</i> Spreng	Durun bon	Lamiaceae	Leaves, Root	Leaves are used in lack of appetite, sinusitis, stomach complaints and headache. The leaf extract is used in skin problems. Roots are used to treat pneumonia, swellings, ring worms, boils etc and in the relief of snake bites.
6	<i>Musa balbisiana</i> Colla	Bhim kol	Musaceae	Fruit, Root	Stomach problems and dysentery. Roots are used to treat pneumonia
7	<i>Piper nigrum</i> Linn.	Jaluk	Piperaceae	Fruits	The fruits are consumed in indigestion, body-ache and in the post labor ailment and in bone fractures and pneumonia
8	<i>Eichornia crassipes</i> Solams	Meteka	Pontederiaceae	Flowers/roots	Stomach ache/ trouble, roots are used in the treatment of pneumonia
9	<i>Cordia dichotoma</i>	Buwal	Boraginaceae	Bark	Stomach problem, gastritis
10	<i>Nyctanthes arbor tristis</i>	Khewali	Oleaceae	Leaves	Cutting wounds, to stop bleeding
11	<i>Pachystachys lutea</i>	Hunboronia	<u>Acanthaceae</u>	Root	To treat pneumonia
12	<i>Adhatuda vesica</i>	Bosa	<u>Acanthaceae</u>	Root	To treat pneumonia, chest affections, expectorant, bronchitis, asthma, tuberculosis, diarrhoea, dysentery and malaria.

Table 2: Percentage of indigenous plant parts used

Sl.no	Parts used	Number	Percentage
1	Root	7	58.33
2	Leaves	4	33.33
3	Shoot	1	8.33
4	Fruits	3	25.00
5	Bark	1	8.33

Table 3: Number of Indigenous Plants used in Different Diseases

Sl.no	Disease	No of plants used	Percentage
1	Tooth worm	1	8.33
2	Menstrual problem	3	25.00
3	Dysentery	3	25.00
4	Diarrhea	2	16.67
5	Piles	1	8.33
6	Rheumatism	1	8.33
7	Diuretic	1	8.33
8	Vermifuge	1	8.33
9	pain killer in insect bites	1	8.33
10	Fever	1	8.33
11	lack of appetite	1	8.33
12	Sinusitis	1	8.33
13	stomach complaints	1	8.33
14	Headache	1	8.33
15	skin problems	1	8.33
16	Pneumonia	6	50.00
17	swellings	1	8.33
18	ring worms	1	8.33
19	Boils	1	8.33
20	Snake bite	1	8.33
21	Indigestion	1	8.33
22	body-ache	1	8.33
23	post labor ailment	1	8.33
24	bone fractures	1	8.33
25	Gastritis	1	8.33
26	Cutting wounds, to stop bleeding	1	8.33
27	chest affections	1	8.33
28	Expectorant	1	8.33
29	bronchitis	1	8.33
30	asthma	1	8.33
31	Tuberculosis	1	8.33
32	malaria	1	8.33

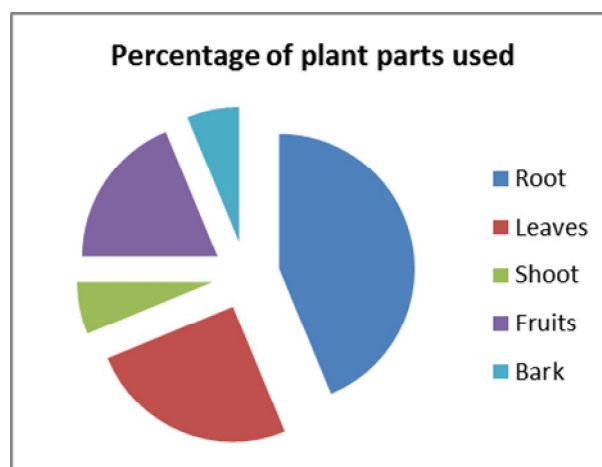
**Fig 4:** Percentage of plant parts used



Fig 5: *Mimosa pudica*



Fig 6: *Bambusa balcooa* Roxb



Fig 7: *Caesalpinia crista*



Fig 8: *Hydrocotyle rotundifolia* Roxb



Fig 9: *Leucas aspera* spreng



Fig 10: *Musa balbisiana* colla





Fig 11: *Adhatuda vesica*



Fig 12: *Eichornia crassipes Solans*



Fig 13: *Cordia dichotoma*



Fig 14: *Nyctanthes arbor tristis*



Fig 15: *Piper nigrum*



Fig 16: *Pachystachys lutea*

From the study it was found that among 12 different plants used as indigenous plants by the Mishing tribe of the study area, 6 plants are mainly used for the treatment of Pneumonia. Those plants are namely *Leucas aspera* Spreng, *Musa balbisiana* Colla, *Piper nigrum* Linn. *Eichornia crassipes* Solans, *Pachystachys lutea* and *Adhatuda vesica*. One method of treatment of Pneumonia is given in formula 1.

3.2 Formula 1

Plant	Part	Quantity
<i>Pachystachys lutea</i>	Root	1 plant
<i>Piper nigrum</i>	Seed	3-4 no
<i>Leucas aspera spreng</i>	Root	1 plant

All parts were grinded together and small amount of water is added. Then juice part is separated and salt is to be added and finally dosage form is ready to be used.

4. Conclusion:

A deep-rooted indigenous bio-cultural heritage surrounding plant resource utilization forms an inseparable part in the life of the Mishing tribe of Assam. Like other tribal communities the Mishing of Dikhowmukh village also have deep faith in the efficacy of mantras (magic) in curing diseases. Traditional healer (*Bej*) will diagnose the cause of the illness through divination. At the time of divination he will invoke the dead ancestors and Gods, through appropriate spells and incantations. They will convey the causes and remedies of illness to the *Bej* and he will treat the patient according to these directions. According to a *Bej* of Mishing tribe there are four major causes of illness; namely, (i) anger of god, (ii) anger of ancestral spirits, (iii) breach of taboo and (iv) possession of evil spirits. The traditional mantras still hold an important place in the Mishing society. The villagers are using these traditional mantras for the treatment of diseases like pain of chest, feet, and other parts of body, snakebite, tonsillitis, piles, bleeding of women, etc. In the Mishing society, apart from the local medicine men who treat most of the diseases, one comes across other specialists in bone-setting, curing of bite by dog, fox and snake and healing of

burn injuries. All of them are known as *Bej* in their society. The *Bejes* are ordinary cultivators or even landless labourers. They are generally males and their posts are not hereditary. Women are not permitted to be a *bej* because of their patriarchy nature. The *Bej* accepts remuneration in the form of a feast if the patient gets cured. The bulk of the drugs used by the *Bejes* to cure prevalent diseases are of vegetable origin. Apart from oral consumption of herbals certain other forms of treatment such as bathing, fumigation, fomentation, application of purgative, etc. are in vogue.

The present paper is an effort made to explore and document some vital aspects of the plant based traditional skills and technologies related to ethnomedicine and consumption of wild edible plants by the Mishing people of Dikhowmukh village, Sivasagar district of Assam. Further scientific research on the plant based indigenous knowledge can provide ample scope for further pharmaceutical studies as well as in the development of eco-friendly technologies for better livelihood.

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