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Studies on ethno medicinal and traditional healing practices among mising community of Desangmukh Gaon Panchayat, Sivasagar District of Assam, India

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Abstract
Assam is a state of natural beauty and rich in natural resources. Tribal communities practice different types of traditional healing practice. Ethno medicinal study of medicinal plants by Mising community in Desangmukh, Sivasagar, Assam was done during the year 2016-2017. In the present study 33 species belonging to 26 families has been recorded, which commonly used by people are curing several diseases like skin disease (*Azadiracta indica)*, cough (*Ocimum sanctum)*, piles (*Mesua ferrea),* diarrhea (*Citrus aurantifolia),* wound (*Mikania micrantha)*, Jaundice (*Saccahrum*), white discharge of women (*Costus specious*) and other common disease. Majority of the medicinal plant used by the Mising community is from Asteraceae family followed by Combretaceae, Myrtaceae, Lamiaceae, Solanaceae, Verbinaceae and Zingiberaceae. During the course of interaction the plants which are found are listed according to herb, shrub, trees and climber plants and their parts were used in various disease treatment. Apart from the Mising community of Desangmukh villages also have deep faith in the efficacy of mantras in curing disease.

Keywords: Ethnobotany, Mising tribe, Medicinal plant, Traditional Healing

1. Introduction
The term ethnobotany is defined as the study of human evaluation and manipulation of plant materials, substances and phenomenon including relevant concepts in primitive and unlettered societies [1]. It can also be defined as all studies, which describe local people's interaction with the surrounding natural vegetation [2].
Plants are the basis life on earth and are central to people's livelihoods. Tribal people are the ecosystem who live in harmony with the nature and maintain a close link between man and environment [3]. The tribal people and ethnic races throughout the world have developed their own culture, customs, cults, religious rites, taboos, legends and, folk tales and songs, foods, medicinal practices, etc. Numerous wild and cultivated plants play a very important and vital role among these cultures [4].
The Mising 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 Mising followed mainly the course of the Brahmaputra, gradually spreading to other stretches of land lying on the banks of its tributaries like Dihing, Desang, Dikhow, the Subansiri, the Ranganadi, the Dikrong, etc. With habitations scattered now in eight districts of the state, *viz*, Tinsukia, Dibrugarh, Dhemaji, Lakhimpur, Sivasagar, Jorhat, Golaghat and Sonitpur [5]. As ethnic tribes, the Mising have their own social organizations, religious beliefs and life crises. They have magico-beliefs, religious traditional beliefs and other customs related to herbal medicine treatments parallel to modern medical practices that prevail among them. Magico-spiritual and religious traditional beliefs have impact on the psychology of the patient and the guardians and have great significance in curing the illness [6]. The main aim of the study is the documentation of some important medicinal plants used among Mising people in Desangmukh Gaon Panchayat.

Materials and Methods
Study area
The Study was undertaken during August 2016-June 2017 by conducting survey in the twelve

villages of Desangmukh, Sivasagar, Assam. Desangmukh Gaon panchayat is approximately 20 km away from Sivasagar town. The total population is 10,197 (Census 2011). The latitude 26 ^{0}11″ N and longitude 92 ^{0} 13″ E are the geo-coordinate of the Desangmukh Gaon panchayat.

Interactions

The study was conducted through personal interviews with the traditional practitioners of Mising tribe of Desangmukh areas villages. Present study comprise elderly persons both male and female who practices the traditional healing practice. A semi-structured questionnaire was used for generating the required information on the available medicinal plants [7]. After ethno-medicine surveys, herbarium were prepared [8]. Some plant species were identified with the relevant and standard literature [9] and some plant species are identified by the taxonomists of Department of Botany, D.C.B Girls' College, Jorhat, Assam.

Results

During the present study, 33 plant species belonging to 26 families were found to use as traditional health care services by the village Mising community of Desangmukh (Gaon Panchayat), Sivasagar district. The indigenous plant species commonly used and Traditional method of treatment by the Mising tribe of the study area has been listed (Table1).

Table 1: Medicinal plants use in Mising community

Scientific Name	Family	Local Name	Parts	Uses
Acorus calamus (L)	Aracaceae	Boch	*R*	Cough
Ananas comosus Lin	Bromaliaceae	Keteki kontal	*L*	Thread worm
Ageratum conyzoides (L)	Asteraceae	Namying-oing	*L*	Cuts and wounds as antiseptic.
Azadiracta indica (A.Juss)	Meliaceae	Moha Neem	*L*	Pox
Bryophyllum pinnatum (Lam)	Crassulaceae	Duportenga	*L*	Treatment of stone.
Caesalpinia bonducella(L)	Caesalpiniceae	Letagooti	*TL, S*	Liver trouble, Pneumonia.
Centella asiatica (L)	Apiaceae	Horumanimuni	*WP*	Gastric trouble.
Clerodendron colebrookianum (L)	Verbinaceae	Pakkom	*L*	Malaria
Costus speciosus (J. Koenig)	Zingiberaceae	Jomlakhuti	*R*	White discharge of women
Citrus aurantifolia (Christr.)Sw.	Rutaceae	Gol nemu	*T, F*	Pneumonia, Diarrhoea
Curcuma longa (Salisb)	Zingiberaceae	haladhi	*R*	Treatment of bone fracture.
Datura metal (L)	Solanaceae	Dhatura	*L*	Stone, pressure
Drymaria cordata (Wild.ex Sc)	Caryophyllaceae	Laijabori	*L*	Sinusitis
Eugenia jambolana (L)	Myrtaceae	Jamu	*B*	Dysentery
Ficus racemosa (L)	Moraceae	Tajik	*L/St*	Dysentery, liver disorder.
Impatiens triptela	Balsaminaceae	Koriabijol	*Ro/St*	Jaundice
Leucus aspera (L)	Lamiaceae	Durun	*L*	Sinusitis
Mangifera indica (L)	Anacardiaceae	Kedi	*L*	Stone
Mesua ferrea (L)	Guttiferae	Nahor	*B*	Piles
Mikania micrantha	Asteraceae	Japanilota	*L*	Cut and wounds.
Ocimum sanctum (L)	Lamiaceae	Tulokhi	*FL*	Cough, stomach problem
Oxalis corniculata (L)	Oxalidaceae	Horu tengesi	*L*	Diabetes
Paederia foetida	Rubiaceae	Bhedailota	*L*	Diarrhoea.
Piper nigrum (L)	Piperaceae	Jaluk	*S*	Pneumonia.
Psidium guajava (L)	Myrtaceae	Modhuri	*Y L*	Diarrhoea and vomiting.
Saccahrum (L)	Graminaceae	Tabad	*St*	Jaundice
Sapindus mukorssi. Gaertn	Sapindaceae	Monichal	*B, F*	Whooping cough & liver disorder.
Scoparia dulcis. (Linn)	Plantaginaceae	Jalukbon	*Ro, L*	Pneumonia and urine problem.
Solanum indicum (L)	Solanaceae	Bangko	*F*	Thread worm
Swertia chirayita (Roxb.Ex) K.	Gentianaceae	Chirota	*L*	Thread worm, Ashtma.
*Tarminalia arjuna (*Roxb.)Wight	Combretaceae	Arjun	*B*	Swelling of leg
Terminalia chebula (Retz)	Combretaceae	Silikha	*L*	Stone
Vitex negundo. (L)	Lamiaceae	Pochotiya	*L*	Diabetes
B- Bark, L- Leave, F- Fruit, FL- Fresh Leave, R- Rhizome, Ro- Root, TL- Tender Leave, S-Seed, St- Stem, TL- Tender Leave, T- Thorn, WP- Whole Plant, YL- Young Leave,				

During courses of interaction 11 different herbs, 8 different shrubs, 9 different trees and 3 different climber plants and there parts were found used in various disease treatment. Asteraceae is the major family with 3 numbers of species used by Mising community of Desangmukh as medicine followed by Combretaceae, Myrtaceae, Lamiaceae, Solanaceae, Verbinaceae and Zingiberaceae. (Fig1).

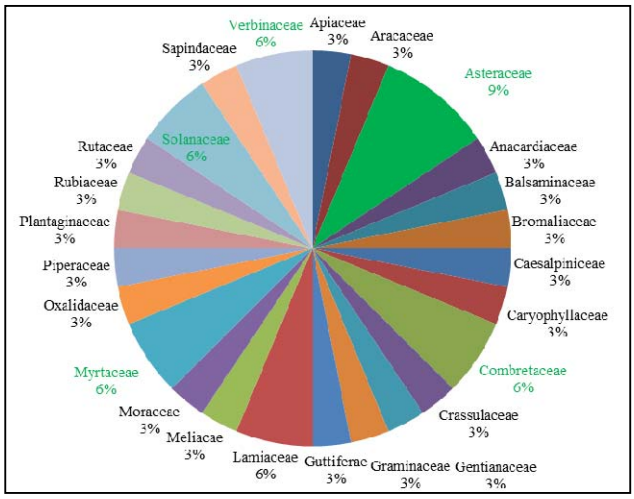

Fig 1: Family (medicinal plants) identified in the study area (%)

From this study, it has found that different plant parts are used by Mising community to curing diseases. Such as different leaves are use from 16 different plants, different bark use from 3 different plants, different fruits are use from 3 different plants, different rhizome use from 2 different plant, different roots use from 2 different plant, different seeds use from 2 different plant, different stem use from 2 different plant, different whole plants use from 3 different plant. On the other hand, thorn is use from one plant species (Fig2).

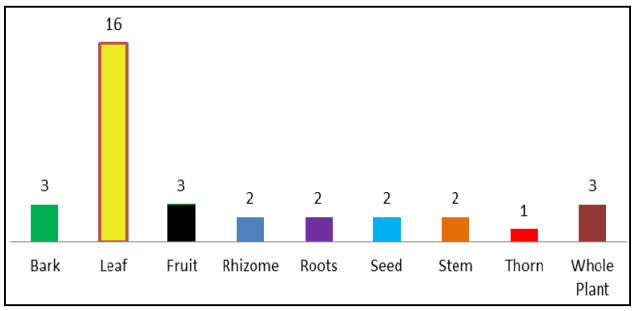

Fig 2: Different parts of Medicinal plants used by Mising tribes

21 plant species are representing below out of total 33 species with various ailments. Out of these 21 plant species, 4 species are use in treatment of Pneumonia, 4 species against stone, 3 species against diarrhoea, 3 species for jaundice and 3 species for thread worm. 2 species fo r Cough, 2 species for cuts, 2 species for diabetes, 2 species for dysentery, 2 species for liver and 2 species for sinus. Some disease like asthma, bone fracture, gastric, malaria, piles, pox, stomach, swelling of leg, white discharge, whopping cough have only one species is used for each disease. (Fig3).

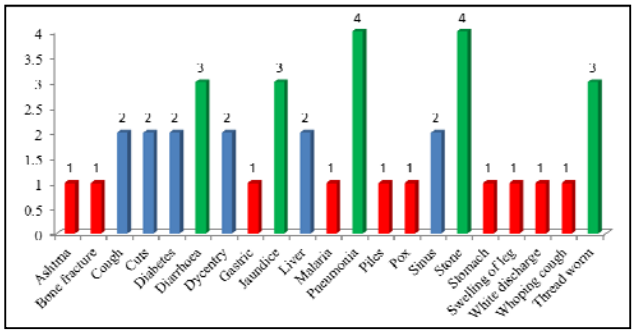

Fig 3: No. Of Plant species for various ailments

Some traditional practitioners 'of the Mising community don't want to share their medicinal formula (Preparation Technique) as they believed that if they share their medicinal formula then it is believed to be ineffective in future within them. But it is also true that their traditional knowledge is transmitted to their next generation if he/she wills to acquire it. Some traditional practitioners' have shared the formulation for treating following diseases:

Traditional method of treatment:

1. Disease- White discharge of women

Plants- Jomlakhuti (*Costus specious*)
Part used- Rhizome
Procedure- Underground rhizome is grinded and kept with water overnight. Filtrate is taken orally with milk in the stomach.

2. Disease- Sinusitis

Plants- Laijabori (*Drymaria cordata)*
Part used- Whole plant
Procedure- Firstly it is crushed and then put in to steamer and then it should be inhaled.

3. Disease- Piles

Plants- Nahor (*Mesua tera)*
Gol nemu (*Citrus aurintifolia)*
Part used- I. Bark, II. Fruit
Procedure- I. Firstly bark is crushed then it is soaked in water and kept overnight and in the morning it should be taken in empty stomach.
II. 250 ml. milk should be boiled with citrus juice and drink it.

4. Disease- Urinal problem

Plants- Duportenga (*Bryophyllum pinnatum)*
Part used- Leaf
Procedure- Leaf extract taken with water in the empty stomach in the morning.

5. Disease- Pneumonia

Plants- 1. Jalukbon(*Scoparia dulcis) Linn* 2. Gol Nemu (*Citrus aurantifolia)* 3. Jaluk (*Piper nigrum)*
Part used- 1. Roots 2. Thorn 3. Seed
Procedure- 21 thorns of Citrus aurantifolia for adult (5 thorns for young), 12 black peppers and roots of Scoparia dulcis should be mixed and grinded well. It should be taken empty stomach in the morning.

6. Disease- Gallblader

Plants- 1. Kedi (*Mangifera indica*) 2. Hilikha (*Terminalia chebula*) 3. Jamuk (*Eugenia jambolana*)
Part used- 1.Leaf 2. Leaf 3. Leaf Procedure- Leaf of mango, chebulic, jamu should be boiled well and should be eaten

7. Disease- Jaundice

Plants- Koria bijol (*Impatiens tripetala)*
Part used- Stem and Roots
Procedure- Stem and roots of Koriabijol (*Impatiens tripetala)* should be crushed mixed with misiri (candy sugar) and should be eaten.

Discussion

Study of diversity of ethno botanical plants used by the Mising tribes of Golaghat District, Assam and their conservation. In this study they identified the total 70 species belonging 40 families [10], Use of indigenous plants in

traditional health care systems by Mishing tribe of Dikhowmukh, Sivasagar district, Assam, in this study they are identified the 39 species [5]. Ethno medicinal claims existing among Mising tribes of Assam, the study revealed that 24 plant species has been used against 10 diseases [6]. Ethnobotanical investigations among the Lushai tribes in North Cachar Hills district of Assam, Northeast India, in this study they document the usage of 31 plant species belonging to 26 families [7]. But in this study only 33 plant species belonging to 26 families were identified. Diversity of non-timber forest products (NTFPs): A provisioning ecosystem services among the Marwet community, Ri-Bhoi District, Meghalaya, in this study they document the 18 different trees, 10 different herbs and 4 different shrubs of medicinal importance [11]. But in this study11 different herbs, 8 different shrubs, 9 different trees and 3 different climber plants were identified. The finding of present study by Mising community of Desangmukh is somehow similar to other community of Assam. Like *Curcuma longa* is using to cure bone fracture by Ahom community [12], *Ocimum sanctum* is using to cure cough by Ahom community and Lushai community [7], *Mikania micarantha* is using to cure cuts and wounds [7]. Other hand a species may be used for treating different disease in different community, such as *Solanum indicum L.* is used by the Lushai community [7] for curing high blood pressure. But usage of same species is use for curing pneumonia in Ahom community [12]. But in this study *Solanum indicum L*. species is use for curing the thread worm. People of Mising tribe preferred traditional medicine because of their long term association with forest, low price, cultural acceptability, friendly attitude of healers and other traditional religious beliefs [6]. In the present study reveal that most of the plant species were used for the treatment of skin disease, asthma, dysentery, diarrhoea, stomach pain, cough, white discharge of women, jaundice. Some plants help in curing many diseases, as for example Jomlakhuti (*Costus specious)* plant cure jaundice and white discharge in women, Jalukbon (*Scoparia dulcis. Linn*) plants cure pneumonia and white discharge of women, Letagooti (*Caesalpinia bonducella*) plants cure liver trouble and pneumonia, Golnemu (Citrus aurantifolia) cure Pneumonia (thorn) and diarrhoea (fruit), Tajik (*Ficus racemosa)* cure dysentery and liver disorder.

Few species like *Clerodendron cloebrookianum, Psidium guajava Scoparia dulcis, Solanum indicum,* etc are not only used as medicine but also used in Mising traditional rice beer which is known as 'Apong'. 'Apong' is prepared from rice which is one of the common processes of Mising society.

Like other tribes of the Mising community of Desangmukh villages also have deep faith in the efficacy of mantras in curing disease. The traditional mantras still hold an important place in Mising communities. Some traditional beliefs are also followed by the Desangmukh Mising community to cure illness through prayers and mantras.

Conclusion

The Mising community has its own traditional religious practices. They accumulated natural knowledge it shows that they are concerned about the traditional ecological knowledge and its restoration from time immemorial. The study indicated that old traditional practitioners' had much knowledge in the use of ethno-medicinal plant species than the younger traditional practitioners. This may be due to the declining rate of knowledge of indigenous medicinal plant use which attributed to the low interest of the younger generation. Presently due to the modernization, deforestation, and socio economical upliftment of the tribal peoples, their traditional ecological knowledge of healing and curing many ailments is losing importance gradually. Thus, it is highly recommended and suggested that there should be some conservation strategies to protect the declining traditional ecological knowledge from near extinction.

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