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Research Article

Ethnomedicinal knowledge of Mog and Reang communities of south district of Tripura, India

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ABSTRACT

The tribal peoples of Tripura are using a wide variety of medicinal plants in their herbal medicinal practices. A field survey was performed over the Mog and Reang communities of Sabroom and Santirbazar Subdivision of Tripura to find out ethno-medicinal knowledge and plant parts utilizing in their various ailments. In this investigation total 51 species were identified belongs to 34 families. The data revealed that both the communities extensively use herbal medicine for the treatment of 30 different ailments. They frequently used these species to retrieve from different common ailments like rheumatism, jaundice, diarrhoea, tumour, cough, blood sugar, fever and others. In this study it is also revealed that they mostly usedleaf (58.82%), followed by Stem and bark (11.74%), root (11.74%), whole plant (7.84%), herb (39%), tree (31%), shrub (14%), creeper (6%), climber (6%) and parasitic plants (4%).

Key words: Traditional medicine, Mog and Reang, Communities, Tripura.

INTRODUCTION

Tripura is a small state in the North Eastern Region of India. Temperature of the state ranges from 6^0C to 37^0C and the annual rainfall is about 247.9 cm. The State is dominated with rich flora and fauna. The total population of the state is 36, 71,032 (Census, 2011) in which 33% belongs to 19 Tribal communities (Das et al., 2009) mostly inhabiting in the remote marginal forest areas in the state.The availability of resources for their livelihood in the forest ensures to live them traditionally in the forest areas. Each community has their unique socio-cultural heritage, language and food habits. The main livelihoods of the tribal peoples are farming and rubber cultivation. Some of them are depends on jhum cultivation and piggery. They are generally comfortable to use the traditional folk medicine among their community. Despite the advances in allopathic medicine herbal drugs play an important role in the treatment of various ailments of forest dwellers in Tripura. They have exclusive knowledge on the use of medicinal plants in their primary treatment of different complaints.

The present work specially emphasized the investigation and documentation of common medicinal plants used by two ethnic communities (Mog and Reang) of south Tripura District. The Ethno medicinal experiences of these two communities have been enlisted in detail. This study also painted the importance of medicinal plant diversity, benefit, the call for conservation and the need to motivate greater consciousness to the general administration of the government and wider medicinal plant user.

MATERIALS AND METHODS

The study was done during the period of May 2013 to April 2014, covering all the season for gathering information about all the species used by Mog and Reang communities as medicines. Information was collected mainly from the aged traditional hillers and experienced people of the study area. Repeated queries were made for confirmation and data gathered of each plant was cross checked for further verification. Translator's help were taken wherever the local languages are problematic. Plants were collected in the flowering and fruiting stage from their natural habitat and taken into the laboratory of department of the forestry and biodiversity. Each plant species were identified using flora of Tripura (Deb, 1983) and flora of Assam (Kanjilal et al., 1939).

Study area

The study was carried out in the Sabroom and Santirbazar subdivision of South Tripura district. The location of Sabroom and Santirbazar subdivision where the survey was conducted is 23°05'52.51"N to 91°42'10.96"E and 23°16'18.44"N to 19°34'31.77"E respectively.

Selection of ethnic communities

According to "Rajmala", the historical record of the royal lineage of Tripura, the Mogs (Burmese origin) were the powerful Buddhist kings of Tripura. Their language is grouped under Tibeto-Chinese family. Mog's social culture and belief are centralized with Burmese culture. Mog community by tradition is famous for their folk medicine. Reang are still a nomadic tribe and they speak the Reang dialect of Kokborok language which is

of Tibeto-Burmese origin and is locally referred to as KauBru**.** Their languages have affinity with Austro-Asiatic groups under Tibeto-Burman family. Reang folk life and culture have outstanding cultural components. Considering their origin, sociocultural conditions and choice of habitat the communities were selected.

RESULT AND DISCUSSION

In the present study 51 different medicinal plant belonging to 34 families were reported to be used by Mog and Reang communities for treatment of various diseases. The results of the study revealed evidences that medicinal plants play an important role in the healthcare system of Mog and Reang communities of south Tripura district of the state. The people of both the communities used these plants for well being of their life and general ailments as first aid. For each plant species described the botanical name, family name, local name (Tribe wise), part used and common uses are recorded (Table No. 1).

Table No.1: List of medicinal plant species used by the Mog and Reang communities

Scientific name	Local name	Family name	Part (s)used	Medicinal uses
Datur astramonium Linn.	Kalodutra (Reang)	Solanaceae	Leaves	Poultice of the leaves are applied for any kinds of rheumatism.
Plumbago zeylanica Linn. (Chitrak)	Agunishita (Reang)	Plumbaginaceae	Leaves	Liquid of the leave's thrash is used in forehead to treat jaundice.
Cuscuta reflexa Roxb.	Tarulata (Reang)	Cuscutaceae	Whole plant	Decoction of the plant is used for Strengthening the liver and Kidneys and Uterine problems.
Oroxylum indicum (Linn.) Vent.	Ttaokharung (Reang) Krungehiasie (Mog)	Bignoniaceae	Bark	The juice is extracted after crushing the stem bark and is taken for treatment of jaundice.
Piper longum Linn.	Mukhoipaopi (Reang), Nariengbainapoeou (Mog)	Piperaceae	Whole plant	Decoction of the Whole plant is used for the treatment of diarrhoea and rheumatism.
Clerodendrum japonicum (Thunb.)	Moishebak (Reang), Nariengbainapoeou (Mog)	Verbenaceae	Leaves	Young leaves are boiled in water then the sup is taken for the treatment rheumatism and any kinds of pains of the body.
Bougainvillea glabra (Choicy)	Khumlekha (Reang), Khongkhahruou (Mog)	Nyctaginaceae	Flower	Decoction of the flower is taken for lowering the blood-sugar level.
Mangifera indica Linn.	Thaichu (Reang), Sarahpouh (Mog)	Anacardiaceae	Young leaves	Young ground leaves eaten with rice to treat the dysentery, diarrhoea and paste is applied on toothache.
Spondia spinnata (Linn.f.)Kurz.	Amra (Reang and Mog)	Anacardiaceae	Bark	Bark with *Piper nigrum* fruit is crushed and juice is taken with water for diarrhoea.
Combretum latifolium Blume.	Kaechiblai (Reang) Sohkgickkniye	Combretaceae	Leaves	Leaves juice is used to cure dysentery and guitar.
Ricinus communis Linn.	Urtoukchock (Reang) Kraohchukghi (Mog)	Euphorbiaceae	Leaves	Leaves juice is taken to prevent piles. Paste of the leaves is used for the treatment of ulcer.
Moringa olifera Lam.	Signahbhaong (Reang and (Mog)	Moringaceae	Bark, leaves	Stem bark crushed in water is taken to cure hook-worm and cough.
Mitragyna rotundifolia (Roxb.)	Kalomphang (Reang) Khoithubhaon (Mog)	Rubiaceae	Leaves	Leaves latex is applied externally on boils and tumour to prevent the formation of pus.
Ipomoea aquatic Forssk.	Athuoyakong (Reang) Reegrahmah (Mog)	Convolvulaceae	Leaves	Leaves juice is taken with water for regular menstrual cycle in women.
Enhydra fluctuans Lour.	Hakhnai (Reang) Gaingah (Mog)	Asteraceae	Whole plant	Leaves are boiled in water and juice is taken in empty stomach the morning as a blood purifier.

Ananas comosus (L.) Merr.	Amotoi (Reang) Khnayindrabang (Mog)	Bromeliaceae	Soft white leaf base.	Paste of the soft leaf base is mixed with sugar and this paste is taken to cure hook-worm.
Urginea indica Kunth.	Sitri (Reang) Mrabaing (Mog)	Liliaceae	Bulb	Whole bulbs decoction is used for the treatment stomach disorders of cows and buffalos.
Streblus asper Lour.	Mukhuichiechai (Reang)	Moraceae	Leaves	Fresh leaves are crushed, warmed up and then applied on the fractured area of the body.
Phyllanthus emblica Linn.	Amloi (Reang) Kuchuchi (mog)	Euphorbiaceae	Bark	Bark paste applied on the head 60 minutes before the bath, reduce hair fall and relieves from dandruff.
Averrhoa carambola Linn.	Kamranga (Reang) Songrahchi (Mog)	Oxalidaceae	Fruit	Fruit juice is eaten to cure jaundice.
Vanda roxburghii R.Br.	Khelangmba (Reang) Soutahlanghin (mog)	Orchidaceae	Leaves	Leaves juice is taken with water to prevent epilepsy and cough.
Coccinia indica (L.) Voigt	Taokhaspoitha (Reang)	Cucurbitaceae	Leaves	Leaves juice is taken after crushing to cure rheumatism and raw are eaten for the treatment high blood sugar.
Bryophyllum calycinum Salisb.	Ginghor (Reang) Krungdaoh (Mog)	Crassulaceae	Leaves	Leave juice is used for diarrhea and digestive problem.
Aloe vera(L.)Burm. f.	Ainsa(mog)	Liliaceae	Leaves	Succulent leaf paste is applied in skin diseases and stomach disorders.
Merremia umbellate (L.) Hallier f.	Dungbaomdu (Reang)	Convolvulaceae	Leaves	Whole plant is crushed and used in bone fracture.
Microcos paniculata Linn.	Torohchi (Mog)	Tilliaceae	Leaves	Fresh leaves are crushed, warmed up and then applied on the fractured area of the body.
*Mimosa pudica*Linn.	Samsotimchi (Reang) Krahpaing (Mog)	Fabaceae	Root	Dried root powder is administered to cure general fevers and fresh root is used for the treatment of toothache.
Mallotus tetracoccus (Roxb.) Kurz.	Laichoblai (Reang) Printala (Mog)	Euphorbiaceae	Leaves	Leaf paste is applied for treatment of skin diseases and ring warm.
Andrographis paniculata Burm.f.). Wall. ex Nlles	Chichumaikha(Mog), Chorpai (reang)	Acanthaceae	Leaves	Leave juice is taken to reduce fever in malarial fever.
Asparagus racemosus Willd.	Tengahrangmrah(Mog)	Liliaceae	Tubero-us root	Root juice is taken to prevent the formation of kidney stones.
Holarrhena antidysenterica Wall.	Khumungbhah (Mog)	Apocynaceae	Bark	Bark juice is taken for the treatment of used for dysentery and fever.
Centella asiatica Linn.	Samsota (Reang) Pukhoohchi (Mog)	Apiaceae	Whole plant	Whole plant is taken in ailment of dysentery and stomachache.
Piper nigrum Linn.	Muoruhko (Mog)	Piperaceae	Fruit	Fruits are boiled in water and taken in malarial fever. It is also an anti-asthmatic.
Achyranthes aspera Linn.	Udlinga (Mog)	Amaranthaceae	Root	Root juice is taken in stomachache.

Urena lobata Linn.	Yak khunjur (Reang)	Malvaceae	Leaves	Leaf paste is applied with tied bandage to heal wounds.
Clerodendrum viscosum Vent.	Araokhuinaima (Reang) Toahkhongkha (Mog)	Verbinaceae	Root, leaves	Root and leaves juice is taken in stomach disorders.
Psidium guajava Linn.	Goyang (Reang) Goyonshi (Mog)	Mytraceae	Leaves	The liquid pellet of the leaves is administered to cure tongue ulcers.
Catharanthus roseus (L.) G. Don.	Khumboiragi (Reang) Techioknolabin (Mog)	Apocynaceae	Leaves	Fresh leaves are taken in the morning to reduce high blood - sugar level.
Alternanthera brasiliana Linn.	Lalagunsita (Reang)	Amaranthaceae	Root	Root is crushed and juice is taken with water for regular menstrual cycle in women.
Nyctanthes arbortristis L.	Chingkhabain (Mog)	Oleaceae	Leaves	Leaves are paste and juice is taken to cure fever.
Solanam xanthocarpum Chard & Wendl.	Khangkhastey (Reang) Pokonehi (Mog)	Solanaceae	Root	Root juice is given for drunker to reduce intoxication.
Alstonia scholaris (L.) R.Br.	Choinlingbah (Mog)	Apocynaceae	Leaves	Leave latex is applied externally in treatment of tumor.
Spilanthes paniculata Wall. ex DC.	Usnoi (Mog)	Asteraceae	Flower	Flower is used for to cure toothache.
Blumea lacera L.	Fogma (Mog)	Asteraceae	Leaves	Warmed up leaf used to cure rheumatic pains.
Litsea glutinosa (Lour.) C. B. Rob.	Balmaimy (Reang)	Lauraceae	Bark	Bark powder is mixed with goat milk administered in chest pain. Stem bark paste applied and tied with bandage to heal wound.
Casia alata L.	Khaspoiblai (Reang)	Fabaceae	Leaves	Leaf paste is applied for skin diseases and fungal infection like as ring warm
Calotropis procera (Ait.) R.Br.	Shepalimphang (Reang)	Asclepiadaceae	Leaves	Poultice of the leaves is applied in rheumatism, eczema and some other skin diseases. Some time it is use in wounds recovery.
Hibiscus rosasinensis L.	Uri(Reang) Narieban (Mog)	Malvaceae	Flower and leaves	Leaves and flower crushed to treat burn injuries and fever
Leucus aspara Spreng.	Dron (Reang)	Lamiaceae	Leaves and flower	Decoction of leaves and flower juice is taken to treatment in liver ailments and headache.
Tinospora cordifolia (Thumb) Miers	Mourgiada (Reang)	Menispermaceae	Stem	Stem is boiled in water and sup taken to increase immunity and for the treatment of blood sugar.
Clerodendrum philippinum (Thumb)	Maishebak	Verbinaceae	Root	Root juice is taken to prevent rheumatism.

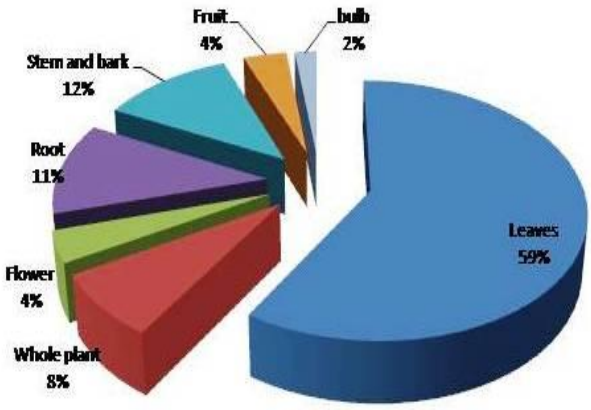

Fig 1: Percentage of various plant parts used as medicines

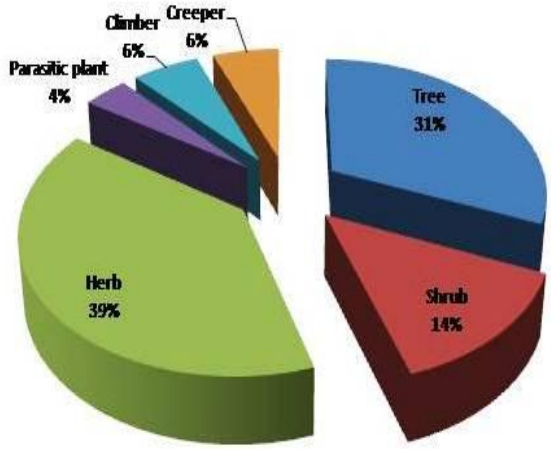

Fig 2: Percentage of medicinal plant based on their habit

All the plants recorded were found to be angiosperms. Out of 34 families recorded, Asteraceae, Apocynaceae, Liliaceae, Verbenaceae and Euphorbiaceae, are frequently used families found in this study. The general health problem such as jaundice, rheumatism, diarrhea, blood-sugar, dysentery, various types of ulcers, bone fracture, digestive problem, skin disease, toothache, fever, kidney stones, treatment of tumour, ring worm are the most common ailments recorded during this investigation.

This study also highlighted the uses of different plants for a common disease by the two ethnic communities. The information generated from the present study regarding the medicinal uses of the plants by these two communities also revealed that most of plants (90%) are collected form wild state and few of this species are maintained in their home garden. The most utilized plant parts in their preparation are leaves (58.82%), followed by stem and bark (11.74%), roots (11.74%), whole plant (8%), flowers (3.92%), fruits (3.92%) and bulbs (1.96%) (Fig.1). In context of the habit, numbers of species used by these tribes are tree (31%), herbs (39%), shrubs (14%), parasitic plants (4%), climbers (6%) and creepers (6%) (Fig. 2).

The most frequent preparation found in this study was use of decoction, extraction of juice and paste. Both the external and internal methods of application of this herbal medicine have been prescribed orally. The dosage and duration of application of this medicinal preparations described by the informants varied from the person to person. Extracts have been taken for 3-7 days in most of the cases. Plants parts administered orally were those claimed to be mainly for treating diarrhoea, urinary trouble, dysentery, diabetes and fever. On the other hand, plants and plant parts recommended to be applied externally included for treating skin disease, boils and rheumatism. Some preparations are recommended to apply to the injured part of the body e.g. bone fracture, scabies.

Some information recorded in the present study particularly to the use of *Piper nigrum, Piper longum, Ananas comosus, Alastonia scholaris, Cuscuta reflexa, Casia alata, Holarrhena antidysenterica, Ltsea glutinosa, Mangifera indica* have been reported by previous workers (Hazarika et al., 2012; Das et al., 2012; Majumder and Datta, 2007; Kshisha et al., 2012; Sen et al., 2011; Chakraborty et al., 2012; Faruque and Bokhtear Uddin, 2011; Kshirsagar and Upadhyay, 2009; Belal Uddin and Ahmed Mukul, 2012) are in agreement with our result. The current study also explore the uses of same common plants in the treatment of different ailments, although, the plants were reported earlier for some medicinal uses. On the other hand, *Bougainveillea glabra and Combretum latifolium* have been reported first time in this study. Our findings of the study bare that herbal medicine play an important role in the health care system of both tribal communities in the state.

CONCLUSION

This study highlighted the potential ethnomedicinal uses by the two communities for treatment of various ailments. The Mog and Reang community of south Tripura district has rich source of herbal medicine. The study shows the dependence of the ethnic people on the herbal remedies in their primary treatment of different ailments. This study may help to conserve the traditional knowledge, medicinal plant diversity and its aid in the improvement of the local people. This information can be used as the source of low cost health care formulation of the country and help to researchers for the discovery of new drugs. This work also revealed the information to protect those important plant species for sustainable uses for the future generation.

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