

Indigenous Knowledge on Healthcare Practices by the Reang Tribe of Dhalai District of Tripura, North East India

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Abstract

The present study aimed to prepare an inventory of ethnomedicinal plants used by the Reang tribe Dhalai district of Tripura state, India. Reangs are mostly residing in deep forest and depend on their own traditional health care system. The survey was conducted during 2003 to 2004 in the different villages of Dhalai district of the state covering all the seasons. In the present work a total of 58 medicinal plants species belonging to 57 genera and 39 families are presented. Out of the total collection, in maximum cases leaves (48.28%) are used which is followed by root/rhizome (29.31%), bark (10.34%), fruit/seed (8.62%), stem (3.45%) and whole plant (1.72%), against different ailments. The collected plants are mostly used in blood coagulation, cough and cold, fever and headache, diarrhoea and dysentery, stomach problem and gastritis, bone fracture and sprains, carbuncle, jaundice, leucorrhoe, rheumatism, ringworm etc. Plant parts used, their preparation, and doses are discussed along with the family and local names of the collected herbs.

Keywords: Ethnomedicinal plants, Reang tribe, Dhalai district, Tripura state.

Introduction

All civilizations have always had traditions of using herbs to promote healing. From the ancient times to date, people healed themselves with traditional herbal medicines. In the recent years, a global trend of interest has been noticed in the traditional system of medicines. Plants

still remain the basis for development of modern drugs and medical plants have been used for years in daily life to treat diseases all over the world (Ates and Erzdogrul, 2003). Screening of medicinal herbs has become a potential source of biodynamic compounds of therapeutic value. The herbal medicines do not have any such effects but have benefits due to the combinations of medicinal ingredients coupled with vitamins and minerals. The World Health Organization (WHO) has listed 20,000 medicinal plants globally (Gupta and Chadha 1995); India's contribution (Singh, H. B 2000) is 15–20%. According to the WHO estimate, about 80% of the population in the developing countries depends directly on plants for its medicines (Pareek, 1996; Mukhopadhyay 1998). Ethno botanical studies have become increasingly precious in the development of modern health care and conservation programs in different parts of the globe (Black, 1996). The ethno botanical information gathered aims for the preparation of an inventory of medicinal herbs in Tripura state.

The state Tripura is one of the seven sister states of North Eastern region of India can be of very good prospects in this regard because of its unique ethnic culture and diverse vegetation. Tripura is located between $22^{\circ} - 56'$ to $24^{\circ} - 32'$ North latitude and between $90^{\circ} - 09'$ to $92^{\circ} - 20'$ East longitude. Total area of Tripura is 10496 Sq. Km. Reang is the second most populous tribe of Tripura. They are austromongoloid in origin. Reangs are primarily agriculturist tribe. They mostly used to practice the Huk or Jhum cultivation. Total Reang population in the state is 1, 43,478.

Comparatively very less attention has been paid by the ethno botanists for exploring the ethnomedicinal resources of the state. Deb (1968) has reported some medicinal plants of Tripura. Huidrom Singh (1996) worked on 'Choarak' (a local wine) in Tripura state. Singh *et al.* (1997) reported the medicinal plants of Tripuri tribals of Tripura state. Chakraborty (2003) worked on useful weeds of Tripura. Shil (2007) worked on the ethnomedicinal plants of Reang tribe of Tripura state.

Materials and Methods

Exhaustive field survey have been undertaken from 2003 to 2004 covering all the seasons for gathering information on each and every species useful in herbal medicine among the Reangs. Survey conducted in different villages of Dhalai district of Tripura state. The present research study was undertaken to document the plants solely used by the Reang tribe of Tripura state for the treatment of various diseases. Methodologies as suggested by Schultes (1960 & 1962), Jain (1964, 1967, 1987 & 1989) and Ford (1978) have been followed during collection

of information's on medico-botanical aspects. This being a descriptive research, survey method involving collection of data through questionnaire was adopted. The plants were collected from the study area, dried, preserved and identified with the help of available literature (Deb 1981 and 1983; Kanjilal *et al.* 1934, 1938, 1939 and 1940; Bor 1940; and Hooker 1872-1887) which are compared with the specimens in the Herbarium of Botanical Survey of India, Shillong; Herbarium of Assam University Silchar, Assam, India. Voucher specimens were deposited in the Herbarium of Department of Life Science, Assam University Silchar, Assam, India.

Results

1) *Allium cepa* L. [Family – Alliaceae]

Vernacular name: Chouck.

Occurrence: Commonly cultivated in kitchen gardens.

Usage in Ethnomedicine: Small pieces of fresh bulbs crushed between fingers and the pungent vapour so evolved is allowed to enter the eyes for reducing eye wart.

2) *Amischotolype hookeri* (Hassk.) Hara [Family – Commelinaceae]

Vernacular name: Msautotra.

Occurrence: Common on shady slopes of hill.

Usage in Ethnomedicine: Tender leaves boiled and eaten with rice to reduce neural pain.

3) *Ampelocissus divaricata* (Wall. ex Laws.) Planch. [Family – Vitaceae]

Vernacular name: Yosrem.

Occurrence: Common in the forest area.

Usage in Ethnomedicine: Leaves are crushed mixing with the leaves of china rose and the paste so obtained is applied on fresh cuts to stop bleeding. The same is used as an antiseptic.

4) *Anacolosa ilicoides* Mast. [Family – Icacinaceae]

Vernacular name: Musafama.

Occurrence: Grows wild.

Usage in Ethnomedicine: Leaves cut into small pieces, pounded and made to a paste. It is then applied locally around fresh cuts or wounds to reduce pain and also as antiseptic.

5) *Argereia nervosa* (Burm. f.) Hort. [Family – Convolvulaceae]

Vernacular name: Konglabli.

Occurrence: Grows wild on forest floor.

Usage in Ethnomedicine: Fresh root cut into small pieces, pounded to paste with water applied locally on bone joints as poultice to get cured from sprains.

6) *Begonia thomsonii* A. DC. [**Family** – Begoniaceae]

Vernacular name: Thaichengmokoi.

Occurrence: Found in moist and shady places.

Usage in Ethnomedicine: Roots cut into pieces, pounded and made to a paste. It is then diluted to double its content and decanted. The supernatant is taken internally thrice a day during diarrhoea.

7) *Boehmeria macrophylla* D. Don [**Family** – Utricaceae]

Vernacular name: Muithlimsu.

Occurrence: Common along road sides hillocks and slopes.

Usage in Ethnomedicine: Roots cut into pieces, pounded and made into a paste. About 10 gm of the paste is dissolved in a cup of water, decanted and supernatant is taken internally twice a day during leucorrhoea till the disease is cured.

8) *Brunella vulgaris* L. [**Family** – Lamiaceae]

Vernacular name: Lamaku

Occurrence: Common in wild condition.

Usage in Ethnomedicine: Fresh bark of the plant cut into pieces, pounded and an aqueous concentrated extracts is made and applied locally during toothache.

9) *Cassia tora* L. [**Family** – Caesalpiaceae]

Vernacular name: Luthamphang.

Occurrence: Frequent in the wastelands and along the road side in open sunny places.

Usage in Ethnomedicine: The pounded leaves are applied externally on the skin to check the affect of ringworm.

10) *Celosia argentia* L. [**Family** – Amaranthaceae]

Vernacular name: Khumchakorma.

Occurrence: Scattered as a weed in the cultivated areas and also in wild areas.

Usage in Ethnomedicine: Freshly prepared leaf extract taken orally during fever.

11) *Chonemorpha griffithii* Hook. f. [**Family** – Apocynaceae]

Vernacular name: Yiangma.

Occurrence: Grows wild on hillocks, particularly in sunny areas.

Usage in Ethnomedicine: Leaf paste is applied locally on fresh wound to stop bleeding and also used as antiseptic.

12) *Cissus adnata* Roxb. [Family – Vitaceae]

Vernacular name: Khumthaili.

Occurrence: Grows wild in the forest.

Usage in Ethnomedicine: Fresh tubers are pounded and made to paste. The paste is applied locally around the carbuncle to get relief from pain and liberate pus.

13) *Clausena heptaphylla* (Roxb.) Wt. & Arn. [Family – Rutaceae]

Vernacular name: Sataukura.

Occurrence: Cultivated mainly for edible fruits.

Usage in Ethnomedicine: Fruit juice with rock salt is taken internally for the treatment of cough and claimed to be effective against asthma also.

14) *Clerodendrum paniculatum* L. [Family – Verbenaceae]

Vernacular name: Boiec.

Occurrence: Cultivated for edible fruits.

Usage in Ethnomedicine: Freshly harvested roots cut into pieces and pounded together with the roots of *Tamarindus indica* and *Ananas comosus* and made to paste. The decoction of the mixture is then taken internally twice a day for the treatment of Typhoid.

15) *Croton caudatus*. Geis. [Family – Euphorbiaceae]

Vernacular name: Jiran.

Occurrence: Grows wild on forest floor and abandoned jhum land.

Usage in Ethnomedicine: Decoction of roots used to relive from constipation.

16) *Curcuma aromatica* Salisb. [Family – Zingiberaceae]

Vernacular name: Bloungkarma.

Occurrence: Grows along road sides and in jhum field.

Usage in Ethnomedicine: About 20 gm of fresh rhizome is taken with molasses in empty stomach for seven days for the treatment of stomach ailments.

17) *Cymbidium aloifolium* (L.) Sw. [Family – Orchidaceae]

Vernacular name: Khelang.

Occurrence: Grows as epiphyte on tree trunks.

Usage in Ethnomedicine: Aerial root cut into pieces, crushed between two stones and a paste is made. This is applied in the form of poultice on the broken joints after setting the bones.

Bamboo splints are usually tied around the joints to check further dislocation of the fractured bones.

18) *Desmodium motorium* (Houtt.) Merr. [Family – Papilionaceae]

Vernacular name: Turkimondon.

Occurrence: An under shrub fairly common in grasslands.

Usage in Ethnomedicine: The leaves are cooked with meat of deer and are taken internally. It helps in improving health.

19) *Desmos longiflorus* (Roxb.) Safford [Family – Annonaceae]

Vernacular name: Khorjun.

Occurrence: Grows wild in the forest. Occurrence common.

Usage in Ethnomedicine: Bark cut into pieces pounded and about 50 gm of it boiled in glass of water. The extract so obtained is used as mouth wash during toothache.

20) *Drypetes assamica* (Hook. f.) Pax & Hoffm. [Family – Euphorbiaceae]

Vernacular name: Lamaku.

Occurrence: Grows wild on forest floor.

Usage in Ethnomedicine: Freshly prepared decoction of bark is applied locally in toothache.

21) *Entada pursaetha* DC. [Family – Mimosaceae]

Vernacular name: Kung.

Occurrence: Grows wild in the forest. Distribution-rare.

Usage in Ethnomedicine: Oily paste obtained by crushing 2-3 mature seeds is used for body massage during severe body pain.

22) *Eria pubescens* (Hook.) Lindl. ex Stend. [Family – Orchidaceae]

Vernacular name: Khelangpachi.

Occurrence: Commonly found on tree trunk as epiphytes.

Usage in Ethnomedicine: Powdery seeds obtained from ripe fruits applied locally in ear sore. About 1 gm of powder is given at a time twice daily till the sores dried up.

23) *Eusteralis stellata* (Lour.) Panig. [Family – Lamiaceae]

Vernacular name: Mulomandar.

Occurrence: Grows wild in the forest, often cultivated.

Usage in Ethnomedicine: Fresh leaves pounded together with kidney of goat and made a paste. About 10 gm of it is taken internally twice a day for seven days for night blindness.

24) *Ficus rigida* Jack. [Family – Moraceae]

Vernacular name: Jola.

Occurrence: Scattered throughout the state, scarce.

Usage in Ethnomedicine: Roots cut into pieces and pounded to made paste. Small pills are prepared from the paste and 1 pill taken internally at bed time which act as laxative.

25) *Flacourtia jangomas* (Lour.) Raeusch. [Family – Flacourtiaceae]

Vernacular name: Bakhla

Occurrence: Cultivated around the villages.

Usage in Ethnomedicine: The leaf paste is applied externally over the carbuncle to get it burst and get cured from the disease.

26) *Globba multiflora* Wall. ex Baker [Family – Zingiberaceae]

Vernacular name: Hiching.

Occurrence: Common along road side cutting and on shady and moist areas.

Usage in Ethnomedicine: Hot decoction of rhizome is taken internally (around half cup) twice daily for the treatment of hoping cough.

27) *Goniothalamus sesquipedalis* (Wall.) Hook. f. [Family – Annonaceae]

Vernacular name: Damnagra.

Occurrence: Common in the forest.

Usage in Ethnomedicine: Fresh root cut into pieces pounded and made paste with water. It is then diluted to double of its content and supernatant is taken internally (half cup) thrice daily for leucorrhoea till it is cured.

28) *Jasminum laurifolium* Roxb. [Family – Oleaceae]

Vernacular name: Mali.

Occurrence: Grows wild, also cultivated as ornamental plants.

Usage in Ethnomedicine: About 10 gm of leaf together with leaves of *Aegle marmelos* crushed in a mortar. The decoction is taken internally to stop vomiting. About ½ cup decoction is taken once during vomiting.

29) *Lygodium flexuosum* (L.) Sw. [Family – Schizaeaceae]

Vernacular name: Duoreng.

Occurrence: Common on shady and moist road side cuttings.

Usage in Ethnomedicine: Rachis of the plant tied over forehead to reduce headache.

30) *Mallotus philippensis* (Lamk.) Muell. [Family – Euphorbiaceae]

Vernacular name: Boltauthu.

Occurrence: Common tree found throughout the state.

Usage in Ethnomedicine: Curry prepared using the leaf bud mixing with hen's egg taken internally during leucorrhoea to cure from the disease.

31) *Mangifera indica* L. [Family – Anacardiaceae]

Vernacular name: Thaichu.

Occurrence: Cultivated for edible fruits.

Usage in Ethnomedicine: Fresh bark pounded, made a water extract, filtered and about 20 ml of it is taken internally thrice a day during dysentery. Aqueous extract of tender leaves is also used for the same purpose.

32) *Melothria heterophylla* (Lour.) Cogn. [Family – Cucurbitaceae]

Vernacular name: Dupoitha.

Occurrence: Grows wild on forest floor.

Usage in Ethnomedicine: Fresh roots cut into pieces, pounded and made to paste. It is then diluted to and the decoction is taken internally thrice a day for 7 days to ease and release urinary troubles and blockages.

33) *Mentha arvensis* L. [Family – Lamiaceae]

Vernacular name: Khumbawbaw.

Occurrence: Grows wild and also cultivated.

Usage in Ethnomedicine: About 10 gm of leaves pounded together with a few seeds of *Piper nigrum* and made paste. It is then diluted and the decoction is taken internally thrice a day during asthmatic problem and continued till the disease is cured.

34) *Mesua ferrea* L. [Family – Guttiferae]

Vernacular name: Khersai.

Occurrence: Cultivated for timber.

Usage in Ethnomedicine: Seeds pounded and made an oily paste used for massaging the body to reduce excess pain. One message is given a day till pain reduces. Seeds are also burnt as substitute for candle.

35) *Michelia champaca* L. [Family – Magnoliaceae]

Vernacular name: Champa.

Occurrence: Cultivated mainly for scented flower.

Usage in Ethnomedicine: About 10 gm of seed powder is dissolved in a cup of cold water and taken in empty stomach during jaundice. The disease is cured if it is taken regularly for 7 days.

36) *Mikania cordata* (Burm. f.) Robinson. [Family – Asteraceae]

Vernacular name: Deshmara

Occurrence: Very common climber found throughout the state.

Usage in Ethnomedicine: The fresh leaves are pounded and the poultice is applied externally over the cut of stop bleeding.

37) *Mikania micrantha* Kunth. [Family – Asteraceae]

Vernacular name: Refugi.

Occurrence: A noxious weed spreading rapidly on waste lands during rainy season.

Usage in Ethnomedicine: Leaves crushed in between palms; juice squeezed out and is applied locally on fresh wounds to stop bleeding instantly and also as an antiseptic, when applied 2-3 times a day the wound is healed. It is also applied over forehead during headache.

38) *Monochoria hastata* (L.) Solms. [Family – Pontederiaceae]

Vernacular name: Chichiri.

Occurrence: Grows wild in water logged and marshy places.

Usage in Ethnomedicine: Fresh petiole cut into pieces, boiled with salt and eaten as vegetable for general health.

39) *Mussaenda roxburghii* Hook. f. [Family – Rubiaceae]

Vernacular name: Khurmumu.

Occurrence: Grows wild in base hillocks.

Usage in Ethnomedicine: Fresh bark cut into pieces, pounded and made to paste. It is then diluted and the decoction (c 20 ml) is given thrice a day against diarrhoea.

40) *Ophiorrhiza nutans* Clarke [Family – Rubiaceae]

Vernacular name: Salbuaio.

Occurrence: Grows wild in the secondary forest.

Usage in Ethnomedicine: Paste of leaves is considered to be very strong antiseptic and applied locally to dry old abscess. Fresh paste is applied twice a day till the abscess dries up.

41) *Pelatantheria insectifer* (Reichb. F.) Ridl. [Family – Orchidaceae]

Vernacular name: Uamaifry.

Occurrence: Grows wild as epiphytes on tree trunks.

Usage in Ethnomedicine: Fresh leaves along with the aerial roots of *Papilionanthe teres* cut into pieces, pounded and made to a paste. The paste is applied in the form of poultice on fractured bones after placing them in proper place. Bamboo splints are tied usually around the bone. It is believed that the poultice accelerates healing of bones and also acts as pain killer.

42) *Pithecellobium heterophyllum* (Roxb.) Macbr. [Family – Mimosaceae]

Vernacular name: Samtawkhi.

Occurrence: Grows wild on forest floor.

Usage in Ethnomedicine: A few drops of the decoction of leaves are taken internally in empty stomach during jaundice.

43) *Pleomele spicata* (Roxb.) N.E. Brown [Family – Agavaceae]

Vernacular name: Chanthi.

Occurrence: Grows wild on forest floor.

Usage in Ethnomedicine: Bark of modified root is removed and the soft white inner portion is taken as raw against stomach trouble.

44) *Potrulaca quadrifida* L. [Family – Portulacaceae]

Vernacular name: Khumchowma.

Occurrence: Cultivated in the home garden for coloured flowers and medicinal uses.

Usage in Ethnomedicine: The decoction of leaves is then taken internally during congestion in lung and when develops chest pain due to gastric problem.

45) *Prunus arborea* (Bl.) Kalkman [Family – Rosaceae]

Vernacular name: Lutaukha.

Occurrence: Grows wild in the forest.

Usage in Ethnomedicine: About 5 gm of leaf paste is taken internally in the form of pills twice daily as an appetiser.

46) *Psidium guajava* L. [Family – Myrtaceae]

Vernacular name: Gayong.

Occurrence: Cultivated for edible fruits and medicinal uses.

Usage in Ethnomedicine: The decoction of tender leaves after cooling used as a gargle to cure pyorrhoea. This is also taken internally against diarrhoea and prescribed 2-3 times a day.

47) *Pteris semipinnata* L. [Family – Pteridaceae]

Vernacular name: Skaiumamoidu.

Occurrence: Frequent along moist and shady base of hillocks and on moist road side cuttings.

Usage in Ethnomedicine: Fronds pounded to paste with water applied locally around carbuncle to getting it burst and also to reduce pain.

48) *Rhus chinensis* Miller [Family – Anacardiaceae]

Vernacular name: Dounilbly.

Occurrence: Common in the forest.

Usage in Ethnomedicine: The paste of fresh leaves applied locally of fresh cuts for clotting of blood and also for antiseptic action.

49) *Sonchus brachyotus* DC. Prodr. [Family – Asteraceae]

Vernacular name: Blonghamchen.

Occurrence: Found in the open hillocks and also in the jhum field.

Usage in Ethnomedicine: The freshly prepared extract of leaves taken internally to get cured from rheumatism.

50) *Spilanthes paniculata* Wall. [Family – Asteraceae]

Vernacular name: Ushnui.

Occurrence: Grows in open places and in rice fields.

Usage in Ethnomedicine: Leaf paste in large scale added to stagnant water pools for intoxication of fish to capture them easily.

51) *Stephania japonica* (Thunb.) Miers. [Family – Menispermaceae]

Vernacular name: Tousabachoiyama.

Occurrence: Climbers found in forest areas.

Usage in Ethnomedicine: Root paste is prepared in to small pills and administered to take internally as one pill thrice a day to get cured from rheumatism.

52) *Sterculia villosa* Roxb. ex Masters [**Family** – Sterculiaceae]

Vernacular name: Fathi.

Occurrence: Grows wild, not very common.

Usage in Ethnomedicine: The decoction of root is taken internally once day for good health. The extract may be taken regularly to keep strong.

53) *Terminalia arjuna* (Roxb.) Wight. & Arn. [**Family** – Combretaceae]

Vernacular name: Arjun.

Occurrence: Grows wild and also cultivated along the road sides.

Usage in Ethnomedicine: About 10 gm of bark powder boiled in milk and taken internally for the treatment of cardiac problem.

54) *Tinospora cordifolia* (DC.) Miers. [**Family** – Menispermaceae]

Vernacular name: Duboei.

Occurrence: Commonly climb upon mango tree.

Usage in Ethnomedicine: About ½ cup of the decoction prepared from stem is taken internally thrice a day against dysentery with abdominal pain.

55) *Tournefortia montana* Lour. [**Family** – Boraginaceae]

Vernacular name: Pamomlenima.

Occurrence: Grows wild, often cultivated.

Usage in Ethnomedicine: Watery extract of leaf is an effective antiseptic and applied locally on fresh wounds.

56) *Vernonia cinerea* (L.) Less. [**Family** – Asteraceae]

Vernacular name: Khumplaksom.

Occurrence: A common weed in open waste places.

Usage in Ethnomedicine: Freshly prepared leaf juice is taken internally during malarial fever to get cured quickly.

57) *Zanthoxylum armatum* DC. [**Family** – Rutaceae]

Vernacular name: Chaingslong.

Occurrence: Grows wild in the forest.

Usage in Ethnomedicine: Root paste is taken orally in the form of pills thrice a day during acute gastric pain.

58) *Zingiber cassumunar* Roxb. [Family – Zingiberaceae]

Vernacular name: Hiching.

Occurrence: Found common in wild condition.

Usage in Ethnomedicine: Decoction of rhizome is warmed and taken orally to cure cough and cold.

Discussion

The present study shows that the state Tripura is having great diversity of medicinal plants with rich ethnomedicinal uses against different ailments. It is now necessary to undertake detailed study of ethnomedicinal plants of the state Tripura. This will ensure to reveal a lot more information on ethnomedicinal value of some of the plants before they become extinct. Once this information unearthed can be conserved and utilized for the benefit of mankind.

In the present investigation out of total 58 species collected from the Reang tribes to treat various ailments, leaves (48.28%) are widely used, followed by root (29.31%), stem (3.45%), bark (10.34%), whole plant (1.72%), and seeds/fruits (8.62%). Mostly medicines are prepared in the form of paste or crude extract. 58 species reported in the present work belongs to 39 families. Highest numbers of plants are used from the family Asteraceae (5 species). Three species each from the families Euphorbiaceae, Lamiaceae, Orchidaceae and Zingiberaceae. Rest of the families contributed either 2 or single species.

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