



International Journal of Current Research and Academic Review

ISSN: 2347-3215 Volume 4 Number 1 (January-2016) pp. 23-38

Journal home page: <http://www.ijcrar.com>

doi: <http://dx.doi.org/10.20546/ijcrar.2016.401.003>



Plants used in the Treatment of Stomach Problems by the Scheduled Caste Community of Andro Village in Imphal East District, Manipur, India

Th. Tomba Singh¹, A. Radhapyari Devi², H. Rajanikanta Sharma³ and H. Manoranjan Sharma^{4*}

¹Department of Botany, Himalayan University Naharlagun, Itanagar (Arunachal Pradesh), India

²P.G. Department of Botany, D.M. College of Science, Imphal-795001(India)

³Indian Institute of Science Education and Research (IISER), Mohali (Punjab)-160055 (India)

⁴Department of Botany, Thoubal College, Thoubal (Manipur)-795138 (India)

*Corresponding author

KEYWORDS

Andro, Manipur, Scheduled Caste Community, Stomach Problems

A B S T R A C T

The present ethnobotanical study was carried out at Andro Village in Imphal East District (Manipur) in the remote North-Eastern corner of India. The Andro village is located at the intersection of 94⁰.2'E longitude and 24⁰.44'N latitude. It has an area of about 4.0 km². The total population of Andro is 8316. The word Andro is derived from the word 'Handro' meaning return back after a long separation. The Andro Village is inhabited by a scheduled caste community known as 'Lois'. The scheduled caste people of Andro Village have a very good knowledge about the treatment of various diseases and ailments with plants. Every elderly people of Andro have common knowledge and easy cure for many common ailments and most of the elderly people uses and prepare different types of medicines from different plant parts. The present study reveals that 104 plants species belonging to 88 genera and 52 families were found to be used by the people of this community as ethnomedicine. Out of this, 38 species are found to be used in the treatment of stomach problems by this community. Some of the species are *Allium hookeri* Thwaites, *Alpinia galanga* (L.) Willd., *Basella alba* L., *Celtis australis* L., *Centella asiatica* (L.) Urb., *Citrus maxima* (Burm.) Merr., *Citrus medica* L., *Curcuma caesia* Roxb., *Cycas pectinata* Buch.-Ham., *Cynodon dactylon* (L.) Pers., *Cyperus rotundus* L., *Emilia sonchifolia* (L.) DC. ex DC., *Mentha arvensis* L., *Ocimum gratissimum* L., *Osbeckia nepalensis* Hook.f., *Zingiber officinale* Rosc. etc.

Introduction

About 80% of the populations of developing countries continue using traditional

resources in health care (Kim, 2005). The main goal of ethnopharmacology is to

identify novel compounds derived from plants and animals for use in indigenous medical systems. This knowledge can be used in the development of new pharmaceuticals. Mostly the traditional storage of ethnobotanical knowledge in memory and practice has a long history. At least 6500 species of plants are used locally in Asia in traditional and folk medicines. Several Asian countries have begun to encourage traditional medicines as an integral component of health care system.

According to studies on ethnomedicine and folk medicine about 2000 species of plants are newly identified as drug yielding plants and are well known for their use in about 4000 drug industries of various Indian system of medicine. It is estimated that about 7500 plants are used in local health traditions in mostly rural and tribal villages of India. Out of these, the real traditional medicine value of over 5000 plants is either little known or hitherto unknown to the mainstream population (Pushpangadan *et al*, 1995).

According to a report over 17500 species of higher plants are reported to occur in India and out of these 9000 are economically useful whereas 7500 of these species are reported to be used for health care by various ethnic communities in India (Arora, 1987). India officially recognizes over 2500 plants as having medicinal value and it has been estimated that over 6000 plants are used in traditional, folk and herbal medicines. The number of medicinal plants in India both indigenous and introduced has been variously put at between 3000 to 3500 species of higher plants.

North-Eastern region of Indian sub-continent harbours 50% of the plant wealth of India (Rao, 1981). The state of Manipur is included under the “Indo-Burma Hot spot”.

Manipur has also a rich diversity of flora and a large number of economic and medicinal plants. According to reports by the Botanical Survey of India (Singh *et al*, 2000), the state harbours over 3500 species of higher plants and is an important source for germplasm.

Stomach problem is a very common internal disorder. It includes stomach ulcer, gastric problems, burning sensation, indigestion, stomachic, worm infection etc. Manipur has its own scope for ethnobotanical studies since it is inhabited by numerous scheduled tribe and scheduled caste communities. Manipur is very rich in the resource of folk medicine and it had been functioning by a pluralistic society It is through the folk medicine that many traditional healers “Maiba” (male medical practitioners) and “Maibis” (female medical practitioners in Manipuri) can cure effectively certain diseases and ailments like snake bite, dog bite, bone setting etc. A good number of papers have been published in recent years on the Ethnobotany of Manipur with main emphasis on medicinal plants (Sharma and Devi, 2004; Sharma *et al*, 1999, 2003 a & b; Devi *et al*, 2013; Singh *et al*, 2003, 2013 & 2014 a & b and Sinha, 1996). However there is practically no paper concerning the ethnomedicinal uses of plants in the treatment of stomach problems in India. Thus in this paper an attempt is made to enumerate the use of plants in the treatment of stomach problems by a small realistic community of Andro in Manipur (India).

Materials and Methods

Study Area

The present study site Andro village is located at the foothills of the Baruni (Nongmaiching) hills at a distance of about 24km from Imphal the capital city of

Manipur along the Imphal-Ngariyan hill road. The study site is included under the Imphal East District of Manipur. Andro village is one of the oldest villages in Manipur. The exact location of Andro village is at the intersection of 94⁰.2'E longitude and 24⁰.44'N latitude. The elevation of Andro is about 783m above the mean sea level. It has an area of about 4.0 km². Andro is surrounded by Sanapat in the east, Uchon on the south, Maringthel in the west and Baruni (Nongmaiching) Hills on the north. The inhabitants of this village are listed as a scheduled caste group of Manipur under the Scheduled Castes and Scheduled Tribes orders (Amendments) Act 1956 (Act no. 6 of 1956).

The word Andro is derived from the word "Handro" meaning return back after a long separation. The people of Andro belong to the 'Chakpas'. They still maintain their caste solidarities with a primitive state of economic life. They depend mostly on surrounding plant communities with traditional agriculture as a primary means of livelihood. Andro village is divided into thirteen Localities (Leikais in Manipuri). The people of Andro have its own origin, tradition, culture and history and still maintaining their realistic ideology.

One of the most interesting places in Andro is a big building known as "Meihoupham" or "Starting place of fire" which is situated in the heart of the village. According to the villagers it is supposed to be the oldest fire place in the world. Since time immemorial the fire in this fireplace is burning continuously till today and will do so in future. It is believed that this fire is the real, endless, continuous and living fire in this planet which is supposed to be present since the very beginning of the creation of the earth in this universe. The task of maintaining the fire is borne by each and

every household of the thirteen sub-villages as their unavoidable duty in a routine manner.

There are extreme rules and regulations as "do's" and "don'ts" regarding food habit, untouchability, breach of taboos etc. Each and every people of Andro have common knowledge and easy cure for many simple and common diseases like cold, cough, dysentery, diarrhoea, fever, burns, headaches etc.

Apart from Natural folk medicine and magico-religious folk medicines, a third type of treatment is also practiced by most people of this community. Here the local medical practitioners manipulated or massaged the different body parts, organs, veins, arteries, bones etc. which can improve the bodies fight against diseases. This type of treatment system is locally known as "Khutli-Shuba". In fact the local practitioners knew the physiology, anatomy, muscle structures, palpitation rhythm of human body and their functions very well.

Ethnomedicinal Study of Plant Species

The paper is based on the data collected on ethnomedicinal practices among the people of Andro Village during January 2012 to December, 2013. For the present study all the 13 localities under Andro village have been exhaustively investigated ethnobotanically using standard methods for the collection of ethnobotanical informations (Jain, 1987; Jain and Goel, 1987; Jain and Mudgal, 1999; Jain and Rao, 1977; Kapoor and Mitra, 1987; and Martin, 1994).

Three ethnomedicine specialists or local medical practitioners (Maiba = Male and Maibi = Female in Manipuri) were contacted from different localities of Andro Village. Elderly persons, heads of the

settlements and persons having thorough knowledge of medicinal plants and their utilization in day-to-day life were also consulted. The information gathered from one group or locality was compared with those collected from other groups. After detailed interview data were collected, based on the nature and use of medicinal plants in controlling and curing of piles.

Results and Discussion

In the present enumeration each botanical name is followed by its family, local name (Manipuri), and common English names if any, part or parts used in the preparation and method of preparation and mode of use. Efforts have also been made to find out the correct botanical names in accordance with the latest International Code of Nomenclature (ICN) 2012. For nomenclatural updates names in author citation www.theplantlist.org and www.ipni.org was used all the time. The correct authors' names have also been given as per *Authors of Plant Names* of Royal Botanic Garden, Kew (Brummit and Powell, 1992). Colour photographs were also taken for most of the species and herbariums were also prepared for the collected specimens and the same have been deposited in the Botany Department of Thoubal College, Thoubal (Manipur), India for future use.

***Allium hookeri* Thwaites**

Syn. *Allium tsoongii* F.T.Wang & Tang
Family: Amaryllidaceae.

Local name: Maroi napakpi. Common name: Winter leek.

Distribution: Commonly cultivated throughout the valley.

Description: It is a soft leathery herb having tunicate bulbs. Leaves are flatten and

leathery. Pedicels are much longer than the stellate white flowers.

Parts used: Leaves.

Mode of use: The fresh juice extracted from the leaves mixed with common salt is prescribed against stomach ulcers.

***Alpinia galanga* (L.) Willd.**

Syn. *Alpinia alba* (Retz.) Roscoe Family: Zingiberaceae.

Local name: Kanghu. ommon name: Greater galangal.

Distribution: Rare, grows wild in the wastelands. Sometimes cultivated.

Description: Plant is herbaceous having tuberous aromatic root stocks. Leaves are large, oblong-lanceolate, acute, green above and paler below having long and glabrous sheaths. Flowers are greenish white in dense flowered panicles where the branches are short and rachis is pubescent. The size of the fruit is like the size of a small cherry and orange-red in colour.

Parts used: Rhizome.

Mode of use: Rhizome is crushed and the juice extracted is mixed with water and honey is prescribed in stomach and gastric problems at the dosage of one teaspoonful daily for one week.

***Basella alba* L.**

Syn. *Basella cordifolia* Lam.
Family: Basellaceae.

Local name: Urok sumbal.
Common name: Indian spinach.

Distribution: Very common in waste places.

Description: It is a succulent herbaceous plant. Stem is soft and branched, climbing nearby plants for support. Leaf is peculiar and somewhat heart shaped and fleshy.

Parts used: Leaves.

Mode of use: The people of Andro use this plant as a good diuretic agent. The crushed leaf extract gives relief in burning sensation of the stomach due to excessive eating of chilies.

***Brassica rapa* L.**

Syn. *Brassica campestris* L. var. *sarson*
Prain Family: Brassicaceae.

Local name: Haggam. Common name: Mustard.

Distribution: Commonly cultivated in the winter as a vegetable.

Description: It is a herbaceous plant. The leaves are cauline and ramal, alternate, exstipulate, sessile and lyrate shaped. Flowers pedicellate, bright yellow in colour and are in racemose raceme. Fruit is a siliqua.

Parts used: Leaves and seeds.

Mode of use: The fresh juice extracted from the leaves is mixed with a little honey and is given in indigestion. The oil extracted from the seeds is mixed with common salt and used in anointing the body to enhance digestion.

***Carica papaya* L.**

Syn. *Carica citriformis* Jacq. Family: Caricaceae.

Local name: Awathabi. Common name: Papaw.

Distribution: Very commonly cultivated.

Description: It is a fast growing soft tree, rarely branched. Leaves are large with long petioles, variously incised or deeply lobed forming a bunch at the top of the plant. Stem is cylindrical and hollow with many leaf scars

Parts used: Fruits.

Mode of use: Raw and ripe fruit is very good for digestive system and stomach and cures constipation. Unripe fruit also give the same result if used after boiling with sugar candy.

***Celtis australis* L.**

Syn. *Celtis serrata* Dippel Family: Cannabaceae.

Local name: Heikreng. Common name: European nettle tree.

Distribution: Very rare.

Description: It is a big tree. Leaves deciduous, very obliquely ovate, coarsely serrate and entire towards the base. The bark is irregular and ugly to look at due to infection by microorganisms. Ovary is ovoid in structure.

Parts used: Leaves.

Mode of use: The people of Andro prescribed the decoction of the leaves against any type of stomach problem.

***Centella asiatica* (L.) Urb.**

Syn. *Centella boninensis* Nakai ex Tuyama

Local name: Peruk. Common name: Indian pennywort.

Distribution: Very common and grows everywhere.

Description: It is a creeping herb, rooting from the nodes. Leaves are orbicular-reniform and incised a little on the leaf margin with a long petiole. Flowers are borne in clusters.

Parts used: Whole plant.

Mode of use: Eating 10 to 12 leaves with or without honey just after brushing in the morning is a common medicinal practice of this community. It is believed that it will cure stomach problems, indigestion and gastric problem. The decoction of the whole plant along with the leaves of *Emilia sonchifolia* (L.) DC. ex DC. (Family: Compositae; Local name: Tera paibi macha) also gives the same result.

Equal quantities of the fresh leaves are crushed together with the leaves of *Gynura bicolor* (Roxb. ex Willd.) DC. (Family: Compositae; Local name: Tera paibi) and the extract is prescribed in stomach ulcer. The leaves are crushed together with whole plant of *Oxalis corniculata* L. (Family: Oxalidaceae; Local name: Yensil) and *Ocimum tenuiflorum* L. (Family: Lamiaceae; Local name: Tulasi) using a little water and filtered through a fine cloth. The filtrate after the addition of Meitei-thum (local common salt) is prescribed in indigestion and gastric problems.

***Citrus maxima* (Burm.) Merr.**

Syn. *Citrus grandis* (L.) Osbeck Family: Rutaceae.

Local name: Nobab. Common name: Paradise apple.

Distribution: Commonly planted for the edible fruits.

Description: It is a profusely branched medium sized tree. It looks like a small banyan tree. Leaves are unifoliate. Petiole is broadly winged, obovate or oblanceolate. Flowers are whitish and sweet scented. Fruit is pyriform or globose, bigger than most of the members of Rutaceae.

Parts used: Fruits.

Mode of use: The fruit juice digestive and is used in many stomach complaints.

***Citrus medica* L.**

Syn. *Citrus limetta* Risso Family: Rutaceae.

Local name: Heijang. Common name: Citron.

Distribution: Commonly planted for the edible fruits, sometimes grows wild in the hills.

Description: It is a shrub with many elongated hard thorns. Leaves are compound palmately and unifoliate. Petiole is glabrous. Flowers are whitish and sweet scented. Fruit is a hesperidium.

Parts used: Fruits.

Mode of use: The fruit juice is very good for digestion and commonly used after lunch and dinner. A mixture of the fruit juice with water and sugar or honey is a good preparation for indigestion and stomach problems.

***Curcuma caesia* Roxb.**

Syn. *Curcuma kucchoor* Royle Family: Zingiberaceae.

Local name: Yaimu. Common name: Black zedoary.

Distribution: Rare cultivated by some people for its medicinal properties; grows wild occasionally.

Description: It is a stem less tuberous herb. Leaves are lanceolate with parallel venation. There is a darkish purple ray along the midrib which runs the whole length and to some portion of the petiole. Petiole and sheath are as long as the blade. Flowering bracts are green with a ferruginous tinge and coma is deep bright red that tends to crimson. Flowers form a compact structure like a gymnospermous loose cone.

Parts used: Rhizome.

Mode of use: Boiled extract of the rhizome is used in stomach ulcer.

***Cycas pectinata* Buch.-Ham.**

Syn. *C. jenkinsiana* Griff. Family: Cycadaceae.

Local name: Yendang. Common name: Palm fern.

Distribution: Grow wild mostly in the hill slopes; sometimes planted in the homestead compounds as an ornamental and also for the edible leaves.

Description: It is an arboreal plant up to 3.5m tall looking like a palm tree or a small tree fern. The stem bears a crown of recurved leaves with flat, narrow and linear leaflets. A few spines are present at the base of the petiole. The male cones are shortly peduncled, cylindrical-ovoid and up to 40cm long. The megasporophylls have pectinate leaf blades and bear 4-6 glabrous ovules on their stalks.

Parts used: Female cones.

Mode of use: Boiled extract of the female cone with honey is prescribed against stomach problems.

***Cynodon dactylon* (L.) Pers.**

Syn. *Capriola dactylon* (L.) Kuntze Family: Poaceae.

Local name: Tingthou. Common name: Dog grass.

Distribution: Very common throughout the valley.

Description: It is a creeping herb with slender and prostrate stem extensively creeping by scaly rhizomes. Leaves are lanceolate, linear and more or less glaucous. The floral glumes are obliquely oblong.

Parts used: Whole plant.

Mode of use: The fresh juice extract of the whole plant along with honey is a good remedy for indigestion and other stomach problems like stomach ulcer.

***Cyperus rotundus* L.**

Syn. *Cyperus bicolor* Vahl Family: Cyperaceae.

Local name: Sembang Kaothum. Common Name: Common hedge.

Distribution: Very common in the valley.

Description: The plant is herbaceous with stoloniferous rhizome. Stems are thickened at the base in a nodose manner and passing below abruptly into a stiff rhizome that is covered with the fibrous remains of the leaf sheath. Leaves are linear and acuminate. Inflorescence is umbellate in which the

primary rays are variable and the nut is obovoid.

Parts used: Tubers.

Mode of use: The tuber is crushed along with the rhizomes of *Musa × paradisiaca* L. (Family: Musaceae; Local name: Laphu), petioles of *Eichhornia crassipes* (Mart.) Solms. (Family: Pontederiaceae; Local name: Kabokang) and leaves of *Nicotiana tabacum* L. (Family: Solanaceae; Local name: Hidak mana) and the poultice is used against stomach problems by this community.

***Dactyloctenium aegyptium* (L.) Willd.**

Syn. *Dactyloctenium mucronatum* (Michx.) Willd. Family: Poaceae.

Local name: Pungphai. Common name: Egyptian grass.

Distribution: It is a common grass, growing in moist places and on the roadsides.

Description: It is an annual prostrate herb. The sheath is striate where the lower portion is whitish and keeled above. The ligules are membranous, very short and scantily ciliolate. The blades are linear and taper to a fine point that is broad and flat. Flowering glumes are long and mucronate.

Parts used: Whole plant.

Mode of use: The whole plant is crushed along with the tender shoots of *Eclipta prostrata* (L.) L. (Family: Compositae; Local name: Uchi sumbal); whole plant of *Centella asiatica* (L.) Urb. (Family: Apiaceae; Local name: Peruk); tender shoots of *Agave cantala* (Haw.) Roxb. ex Salm-Dyck var. *cantala* (Family: Asparagaceae; Local name: Kewa); leaves of *Eryngium*

foetidum L. (Family: Apiaceae; Local name: Awa phadigom or Sha maroi) and the extract so obtained is prescribed in stomach complaints.

***Emilia sonchifolia* (L.) DC. ex DC.**

Syn. *Senecio sonchifolius* (L.) Moench
Family: Compositae.

Local name: Tera paibi macha /Kharbon.

Distribution: Very common in the valley.

Description: it is a slender, glabrous, annual herb. Stem is soft and branched. Leaves variable, the lower ones are petioled, margin serrate or toothed, cauline ones are more or less amplexicaul and auricled, apices acute. Inflorescence is a capitulum. Involucral bracts are cylindrical and glabrous. Flowers are purplish white. Pappus is copious and white in colour.

Parts used: Leaves.

Mode of use: It is also one of the most commonly used plants by this community. Its main uses are in stomach complaints. Fresh leaves are eaten raw with Ametpa (a local delicacy prepared with chilies and fermented small fishes called Ngari) for 5 to 6 days. Three or four leaves are eaten daily in this manner.

***Eupatorium cannabinum* L.**

Syn. *Eupatorium birmanicum* DC. Family: Asteraceae.

Common name: Burma agrimony. Local name: Langthrei.

Distribution: Rare, planted in the homestead compounds in the valley for its medicinal value.

Description: it is a perennial under-shrub, growing in a bunch with straight, rarely branched cylindrical and glabrous stem. Leaves are sessile, elongated with serrate margins, exstipulate, opposite sometimes alternate, lanceolate and pointed. Flowering head is a corymbose and homogamous. Fruit is truncate and black having five ridges.

Parts used: Leaves.

Mode of use: This plant is used by the people of Andro in various religious ceremonies like prayer to God for improving and curing of many diseases. The burning sensation of the stomach due to excessive eating of chilies can be countered by eating a few fresh shoot tips or fresh extract of the plant with or without some pure soil.

***Ficus religiosa* L.**

Syn. *Ficus peepul* Griff. Family: Moraceae.

Local name: Sana khongnang. Common name: Bo tree.

Distribution: Wild and planted mostly as roadside tree.

Description: It is a large deciduous tree with spreading branches. It grows up as an epiphyte when young. Bark fairly smooth, pale grayish which peels off in rounded flakes. Wood is greyish white. Leaves smooth with reticulate venation, broadly ovate or rotund, caudate, pendulous, apex long, pointed, produced into a pointed tail and petioles long. Fruits sessile in axillary pairs, smooth, depressed-globose, black or purple when ripe. Flowers appear in summer and fruits in the rainy season.

Parts used: Root bark.

Mode of use: It is a sacred religious tree worshipped to get cured from many diseases. Decoction of the root bark is useful in stomach problems.

***Hippochaete debilis* (Roxb. ex Vaucher) Ching**

Syn. *Equisetum debile* Roxb. ex Vaucher
Family: Equisetaceae.

Local name: Lai-utong. Common name: Horse tails.

Distribution: Grow mostly in damp, moist and shaded places; sometimes it is also found near ponds and marshy places.

Description: It is a herbaceous perennial plant with creeping and much branched subterranean rhizomes bearing aerial stems. Stem is subterranean, horizontal and branched. Rhizome is conspicuously jointed forming nodes and internodes. Two types of shoots i.e. fertile and sterile are present. Fertile shoots are generally unbranched, non green in colour and short lived. Sterile branches are green in colour, persistent and have a whorl of lateral branches at each node.

Parts used: Rhizomes.

Mode of use: Juice is extracted from an equal amount of the rhizomes of *Hippochaete debilis* (Roxb. ex Vaucher) Ching, whole plant of *Centella asiatica* (L.) Urb. (Family: Apiaceae; Local name: Peruk) and leaves of *Emilia sonchifolia* (L.) DC. ex DC. (Family: Compositae; Local name: Tera paibi macha). Then the extract is mixed with honey in the ratio of 4:1. The preparation is used at the rate of two spoonfuls once a day in the morning on an empty stomach for 6 to 7 days in stomach problems.

***Mentha arvensis* L.**

Syn. *Mentha viridula* Host Family: Lamiaceae.

Local name: Nungshi hidak. Common name: Field mint.

Distribution: Very common and cultivated for the leaves which are used as condiments.

Description: It is a perennial herb with running root-stocks. Stem is branched and hairy. Leaves are almost sessile or shortly petioled, oblong to ovate or lanceolate, obtusely or acutely serrate, sparsely hairy or almost glabrous. Flowers are in axillary, capitate whorls borne on axils of leaves on upper stem.

Parts used: Whole plant.

Mode of use: The local people use this plant very commonly in indigestion and gastric problems- the fresh extract of the plant is mixed with Meitei-thum (local common salt) and boiled for 10 to 15 minutes and given one yaum (5 to 6 teaspoonful) 2 times daily for 2 to 3 days or until complete recovery.

***Mimosa pudica* L.**

Syn. *Mimosa hispida* Kunth Family: Leguminosae.

Local name: Kangphal ekaithabi. Common name: Sensitive plant.

Distribution: Very common.

Description: It is a prostrate, diffused herb. Many small prickles are present on the aerial plant parts. Stem is herbaceous, solid and hairy. Leaf base is pulvinous. Leaves fold automatically when touched. Flowers pink in colour. Fruit is a lomentum.

Parts used: Whole plant.

Mode of use: Boiled extract of a mixture of the whole plant along with those of *Zehneria*

scabra (L.f.) Sond. (Family: Cucurbitaceae; Local name: Lam thabi) is used in stomach problems.

***Ocimum americanum* L.**

Syn. *Ocimum canum* Sims Family: Lamiaceae.

Local name: Mayangba. Common name: Hoary basil.

Distribution: Common and cultivated for the leaves which are used as condiment.

Description: It is a much branched herb. Stem is cylindrical and hairy with nodes and internodes. Leaves are opposite, petiolate, ovate, slightly serrate and acute. Flowers are white borne at the tips of each branchlets and in close whorls in spiciform racemes having bracts that are elliptical lanceolate, stalked and ciliate with long white hairs.

Parts used: Leaves.

Mode of use: The fresh extract of the leaves mixed honey is a good remedy for indigestion in infants.

***Ocimum gratissimum* L.**

Syn. *Ocimum febrifugum* Lindl. Family: Lamiaceae.

Local name: Ram Tulasi. Common name: Shrubby basil.

Distribution: Very common planted in the homestead compounds for religious purposes.

Description: It is a much branched perennial under-shrub. Stem is branched and sub-quadrangular. Leaves are simple, petiolate, elliptical, lanceolate, serrate, pubescent on both sides and aromatic.

Inflorescence is verticillaster type. Flowers are white, bracteate and pedicellate.

Parts used: Leaves.

Mode of use: The leaves are boiled together along with the leaves of *Phaseolus lunatus* L. (Family: Leguminosae; Local name: Kalandri) and the decoction is prescribed against stomach complaints in children. Fresh leaf juice is applied in indigestion.

***Osbeckia nepalensis* Hook.f.**

Syn. *Osbeckia nepalensis* Hook.f.
var. *nepalensis*

Family: Melastomataceae. Local name: Yachubi.

Distribution: Rare, grows near the foothills.

Description: It is an erect shrub producing branches with hard hairs. Petiole is very short. The leaves are lanceolate. Flowers in corymbose cymes and are white or purple in colour.

Parts used: Leaves.

Mode of use: The extract of tender leaves after boiling with the leaves of *Emilia sonchifolia* (L.) DC. ex DC. (Family: Compositae; Local name: Tera paibi macha) is used in stomach complaints.

***Phyllanthus emblica* L.**

Syn. *Emblica officinalis* Gaertn. Family: Phyllanthaceae.

Local name: Heikru. Common name: Emblic myrobalan.

Distribution: Very common both in the hills and valley and occasionally planted for the edible fruits.

Description: It is a small or medium sized deciduous tree with smooth greenish grey or red bark. Leaves are feathery with drooping with small leaflets arranged on either side of the rachis and pinnate in form.

Male and female flowers are borne on the same tree during the hot season. Flowers are small, greenish yellow borne in dense clusters. Male flowers are small and borne on short stalks and numerous. Female flowers are closely pressed to the stem, subsessile and few in numbers.

Parts used: Seeds.

Mode of use: Seeds are used as a cure for stomach disorders.

***Quercus acutissima* Carruth.**

Syn. *Quercus serrata* var. *attenuata* Blume
Family: Fagaceae.

Local name: Uyung nayatpi. Common name: Oak tree.

Distribution: Grows commonly on the hill slopes.

Description: It is a tall tree. Leaves are oblong-lanceolate to lanceolate, acute or acuminate, serrate, glabrous and shining. Male spike is elongated; female flowers are on short axillary spikes having filiform style. Acorns are solitary or in pairs.

Parts used: Acorns and leaves.

Mode of use: Acorn powder is mixed with a little honey and is applied in stomach problems.

***Rotheca serrata* (L.) Steane & Mabb.**

Syn. *Clerodendrum serratum* (L.) Moon.
Family: Lamiaceae. Local name: Moirang khanam.

Distribution: Very common in the foothills and wastelands of the state.

Description: Plant is a shrub. Stem is quadrangular and glabrous. Leaves are acute, serrate, oblong and elliptical. Petioles are stunted. Flowers many with a pair of acute bracts at each branching. Fruit is a drupe.

Parts used: Leaves and roots.

Mode of use: The decoction of the roots is used as stomachic. Fresh leaves and flowers when eaten raw with Ametpa (A local delicacy prepared with small fermented fishes and chilies) are useful in indigestion.

***Zingiber officinale* Roscoe**

Syn. *Amomum zingiber* L. Family: Zingiberaceae.

Local name: Shing. Common name: Ginger.

Distribution: Very common and widely cultivated.

Description: It an aromatic herb with large rootstocks. Tubers are cylindrical, brown and scaly. Stem is leafy. Leaves are linear-lanceolate to lanceolate. Flowers are yellowish white in colour.

Parts used: Rhizomes.

Mode of use: The fresh juice of the rhizome mixed with honey is prescribed in stomach complaints.

The present study reveals that 38 plant species were found to be used by the scheduled caste community of Andro in the treatment of stomach problems. These 38 plant species belongs to 35 genera which are distributed over 25 families (16 dicotyledons, 7 monocotyledons, 1 gymnosperm and 1 pteridophyta).

The families Lamiaceae with 5 species and Asteraceae with 4 species each have contributed maximum number of species in the treatment of stomach problems which is followed by Zingiberaceae with 3 species. The families Rutaceae, Leguminosae, Poaceae and Apiaceae have equally contributed 2 species each. The remaining 18 families have only 1 species each used in the treatment of stomach problems. Out of the 38 species recorded, 26 species are herbaceous plants, 8 are trees, 4 are shrubs and 2 are climbers (figure 1).

For the treatment of stomach problems, leaves were used in the majority of the cases (39.02%), followed by whole plant (17.07%), rhizomes (12.19%) and fruits (7.32%). Seeds, tender shoots and roots have an equal usage with 4.88% each. The minimum usage are represented by female cones, acorns, tubers and with a usage value of 2.43% each (Figure 2). Further research is necessary to ascertain the exact number of plants being used by this scheduled caste community along with the exact methods of treatment.



Phyllanthus emblica L.



Citrus maxima (Burm.) Merr.



Mimosa pudica L.



Carica papaya L.



Brassica rapa L.



Basella alba L.



Phaseolus lunatus L.



Dactyloctenium aegyptium (L.) Willd.



Eryngium foetidum L.

Fig.1 Growth form of Different Species

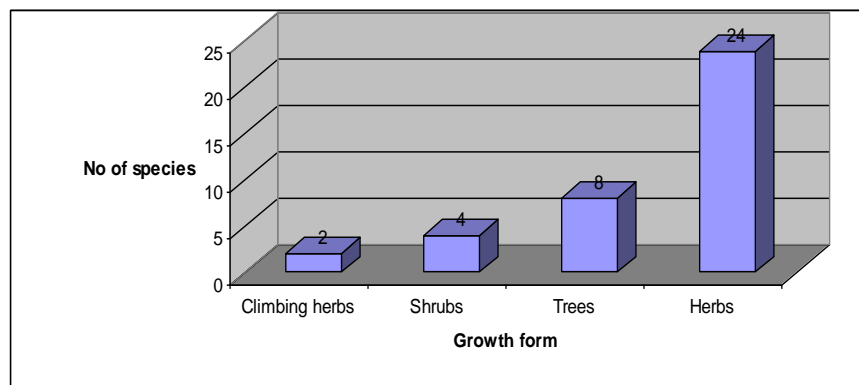
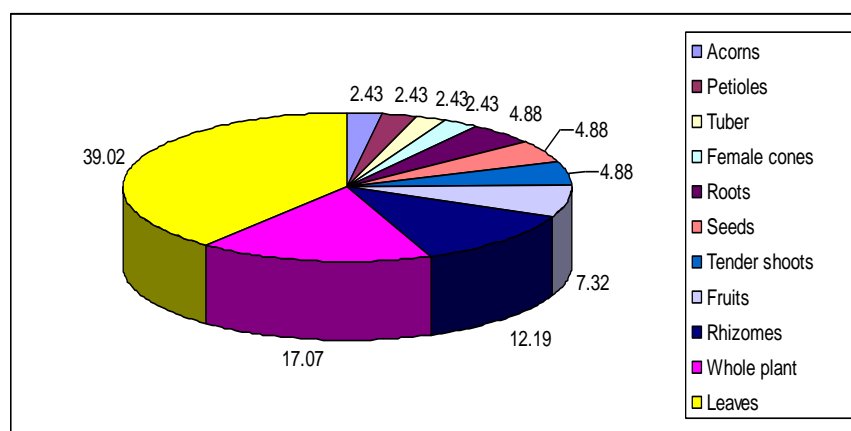


Fig.2 Uses of Different Plant Parts (%)



Conclusion

The present study documented the traditional uses of medicinal plants used in the treatment of stomach problems by the people of Andro Village, a small scheduled caste village in Manipur (India). This study can serve as baseline information on the medicinal plants wealth of this small realistic community. Further investigation will throw more light about the vast wealth of ethnobotanical information possessed by this community.

Acknowledgement

The authors are thankful to the Local Medical Practitioners of Andro Village in

particular and the people of Andro in general for their kind cooperation during the many field trips. The first and fourth authors are also thankful to the North Eastern Regional Office (NERO) of the University Grants Commission of India for financial assistance in the form of Minor Research Projects.

References

Anonymous 1984. All India Coordinated Research Project on Ethnobiology. Man and Biosphere Programme (MAB). Ministry of Environment and Forests, Government of India.

- Arora, R.K. 1987. Ethnobotany and its role in the conservation and use of plant genetic resources in India. *Ethnobotany*. 9: 6-15.
- Brummit, R. K., and Powell, C. E. 1992. Authors of Plant Names. Royal Botanic Gardens, Kew (England).
- Devi, A. R., Y. M. Devi, T. T. Singh and Sharma, H. M. 2013. A preliminary survey of the medicinal plants used by the scheduled caste community of Khurkhul in Imphal West District (Manipur). In: *Plant Diversity Resources of Indo-Burma Biodiversity Hotspot and their Conservation* (Eds.) E. J. Singh, S. M. Singh and A. Pinokiyo . D.M. College of Science, Imphal. Pp. 187-197.
- Jain, S.K. 1987. A Manual of Ethnobotany. Scientific Publishers, Jodhpur (India).
- Jain, S.K. and Goel, A.K. 1987. Workshop Exercise I: Proforma for field work. In: *A Manual of Ethnobotany* S.K. Jain (Ed.). Scientific Publishers, Jodhpur (India). Pp. 142-153.
- Jain, S.K. and Mudgal, V. 1999. A Hand Book of Ethnobotany. Bishen Singh and Mahendra Pal Singh, Dehradun (India).
- Jain, S.K. and R. R. Rao, V. 1977. *A Hand Book of Field and Herbarium Methods*. Today & Tomorrow's Publishers, New Delhi (India).
- Kapoor, S.L. and Mitra, R. 1987. Form for botanical and ethno-pharmacognostic investigation of a plant used in traditional medicine. In: *A Manual of Ethnobotany* (Ed.) S.K. Jain. Scientific Publishers, Jodhpur (India). Pp. 155-157.
- Kim, H. 2005. Do not put too much value on conventional medicines. *Journal of Ethnopharmacology*. 100: 37-39.
- Martin, G. J. 1994. *Ethnobotany-A Methods Manual*. Chapman and Hall, London.
- Pushpangadan, P., Ulf Nyman and George, V. 1995. *Proceeding of the First National Conference on Ethnopharmacology*. Visual Security Printing Enterprises Pvt.Ltd. New Delhi (India).
- Rao, R.R. 1981. Ethnobotany of Meghalaya-Medicinal plants used by Khasi and Garo tribes in Meghalaya. *Economic Botany*. 34:4-9.
- Sharma, B. M., H. M. Sharma and Devi, A.R. (2003,a): Ethnomedicinal uses of plants by the Manipuris (Meiteis) of Manipur. In: *Recent Progress in Medicinal Plants*. Vol. 7. *Ethnomedicine and Pharmacognosy II* (Eds.). V.K. Singh, J.N. Govil, S. Hashmi and G. Singh. Studium Press LLC, Texas (Houston), USA. Pp. 523-541
- Sharma, H.M. and Devi, A. R. 2004. Ethnomedicinal uses of plants in the treatment of urinary tract diseases by the Meiteis of Manipur. In: *Ethnomedicinal Plants* (Eds.) P.C. Trivedi and N. K. Sharma. Pointer Publishers, Jaipur (India). Pp. 151-159.
- Sharma, H. M., A. R. Devi and Sharma, B. M. 2003,b. Ethnomedicinal uses of monocotyledonous plants by the Meiteis of Manipur. In: *Ethnobotany and Medicinal plants of India and Nepal* (Eds.) V. Singh and A. P. Jain. Scientific Publishers, Jodhpur. pp. 473- 480.
- Sharma, H.M., B.M. Sharma and Devi, A.R. 1999. Contributions to the edible fruits of Manipur. *Journal of Economic and Taxonomic Botany*. 23(2): 615-623.

- Singh, H.B., R. S. Singh and Sandhu, J.S. 2003. Herbal Medicine of Manipur. A Colour Encyclopedia. Daya Publishing House, New Delhi.
- Singh, N. P., A. S. Chauhan and Mondal, M.S. 2000. Flora of Manipur Vol. I. Botanical Survey of India, Calcutta (India).
- Singh, S.K., R.K. B. Singh and Sharma, H.M. 2015. Ethnobotanical studies on certain plants associated with traditional culture of Chothe tribe in Bishnupur district of Manipur, India. *Pleione*. 9(1): 144 - 159.
- Singh, T.T., A.R. Devi, H.R. Sharma and Sharma, H.M. 2013. Plants used in the treatment of Boils, Blains and Ulcers by the Scheduled Caste Community of Andro in Imphal East District, Manipur (India). In: *Bioresources and Traditional Knowledge of Northeast India* (Eds.) K.K. Singh, K.C. Das and H. Lalruatsanga Mizo Post Graduate Science Society, Aizwal (India). Pp. 279-289.
- Singh, T. T., H. M. Sharma, A. R. Devi and Sharma, H. R. 2014 a. Plants used in the treatment of piles by the scheduled caste community of Andro village in Imphal East District, Manipur (India). *Journal of Plant Sciences, USA*. 2 (3): 113-119.
- Singh, T. T., H. R. Sharma, A. R. Devi and Sharma, H. M. 2014 b. Plants used in the treatment of fever by the scheduled caste community of Andro village in Imphal East District, Manipur (India). *Trends in Life Sciences*. 3 (3): 23-29.
- Sinha, S.C. 1996. Medicinal Plants of Manipur. Sinha and MASS Publication, Imphal, Manipur (India).

How to cite this article:

Tomba Singh, Th., A. Radhapyari Devi, H. Rajanikanta Sharma and Manoranjan Sharma, H. 2016. Plants used in the Treatment of Stomach Problems by the Scheduled Caste Community of Andro Village in Imphal East District, Manipur, India. *Int.J.Curr.Res.Aca.Rev.* 4(1): 23-38
doi: <http://dx.doi.org/10.20546/ijcrar.2016.401.003>