

Original Research Article

DOI: 10.26479/2018.0404.04

AN ETHNOBOTANICAL STUDY OF MONOCOTYLEDONOUS MEDICINAL PLANTS USED BY THE SCHEDULED CASTE COMMUNITY OF ANDRO IN IMPHAL EAST DISTRICT, MANIPUR (INDIA)

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ABSTRACT: The present study deals with 30 monocotyledonous medicinal plants used in traditional phytotherapy by the scheduled caste community of Andro village in Imphal East District, Manipur (India). 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. It has an area of about 4.0 km². The total population of Andro is 8316 (4176 males and 4140 females). Each and every elderly person of Andro Village has common knowledge and easy cure for many common diseases. Most of the elderly people uses and prepare different types of medicines from different plant parts for the treatment of different kinds of ailments. These 30 species belong to 19 genera that are distributed over 9 families. They are used in the treatment of some 44 different diseases and ailments. Some of the monocotyledonous species commonly used as medicine include *Allium ascalonicum* L., *Alpinia galangal* (L.) Willd., *Arisaema tortuosum* (Wall.) Schott, *Curcuma angustifolia* Roxb., *Dactyloctenium aegyptium* (L.) Willd., *Hedychium flavescens* Carey ex Roscoe, *Kaempferia rotunda* L., and *Zingiber montanum* (J.Koenig) Link ex A. Dietr.

KEYWORDS: Andro, Manipur, Monocotyledonous plants, Scheduled Caste Community, Common diseases.

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1. INTRODUCTION

Traditional medicine is rich due to the diversity of human groups, languages, and customs, combined with the diversity of ecological regions, leading to innovative plant use and specialized knowledge [1]. They are often part of a local community, culture and tradition, and continue to have high social standing in many places, exerting influence on local health practices. One advantage in preferring traditional medicine is that traditional healers are found within a short distance, are familiar with the patient's culture and the environment and the costs associated with treatments are negligible [2]. They work on body and mind together to help cure an illness. Traditional medical knowledge of medicinal plants and their use by indigenous healers are not only useful for conservation of cultural traditions and biodiversity but also for community healthcare and drug development in the present and future [3]. Manipur, a hilly state in the remote north-eastern corner of India has its own scope for Ethnobotanical studies since it is inhabited by numerous scheduled tribe and scheduled caste communities. Thirty-three recognized tribal communities, the Meitei Pangal (Manipuri Muslims) and many Lois or schedule caste communities together with the majority Meitei Community uses different types of plants for domestic as well as for the prescription off healing activities to a great extent for the same or different ailments and vice versa. 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 [4-23].

2. MATERIALS AND METHODS

2.1. 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 km⁻². 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 groups which are generally known as ‘Lois’ has been included in the list of scheduled castes and tribes of Manipur.

2.2. Ethnomedicinal study of plant species

The paper is based on the data collected on ethnomedicinal practices among the people of Andro Village during January 2015 to December, 2017. For the present study all the 13 localities under Andro village have been exhaustively investigated ethnobotanically using standard methods for the collection of

ethnobotanical information [24-29]. 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 skin diseases. The specimens were identified by using standard local floras Manipur [23,30] and matched with the herbarium specimens of Assam at Kanjilal Herbarium (Shillong). 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 [31]. 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. Prior Informed Consent (PIC) was obtained from the people of Andro village.

3. RESULTS AND DISCUSSION

In the present enumeration each botanical name is followed by its commonly used synonyms, family, local names (Manipuri), and common English names. The distribution pattern of each species is followed by a brief description of the plant, part or parts used in the preparation and method of preparation and mode of use.

***Allium ascalonicum* L.**

Syn. *Allium fissile* Gray

Family: Amaryllidaceae.

Local name: Meitei tilhou macha.

Common name: Welsh onion / Seboule.

Distribution: Commonly cultivated in the valley.

Description: It is a herbaceous plant having coated bulbs. Bulbs are 5 to 8 in numbers forming a bunch, red in colour having characteristic smell. Leaves are basal only, fistular and shorter than the scapes where the scapes are long and taper from the swollen base. Flowers are in dense globular umbel. Roots consist of a fascicle of several ovate-oblong bulbs.

Parts used: Bulb and leaves.

Ethnomedicinal uses: The leaves are used in the preparation of food items usually for flavour. The poultice is bulbs used to reduce child fever. Smashed bulb is applied against whitlow, paronychia and other diseases. The crushed bulb is soaked in water overnight along with the seeds of *Toxicodendron hookeri* (K.C. Sahni & Bahadur) C.Y. Wu & T.L. Ming (Family: Anacardiaceae; Local name: Heimang) and the extract is prescribed orally in urinary tract stones. The bulb along

honey is eaten raw in acidity and the paste obtained by crushing the bulb along with the leaves of *Eryngium foetidum* L. (Family: Apiaceae; Local name: Awa phadigom), bulbs of *Allium sativum* L. (Family: Amaryllidaceae; Local name: Chanam) and roots of *Plantago asiatica* subsp. *erosa* (Wall.) Z. Yu Li. (Family: Plantaginaceae; Local name: Yempat) is applied externally in body pains and muscular strains.

***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: Whole plant.

Ethnomedicinal uses: The leaves are used in the preparation of food items as a flavouring agent. Three to five raw leaves when eaten daily along with food is believed to reduce hypertension. The leaf made into a paste when applied on the forehead reduces dizziness. The fresh juice extracted from the leaves mixed with common salt is prescribed against stomach ulcers.

***Allium sativum* L.**

Syn. *Allium ophioscorodon* Link

Family: Amaryllidaceae.

Local name: Chanam.

Common name: Garlic.

Distribution: Commonly cultivated throughout the hills and valley.

Description: It is a perennial herb having a short axis that are circular and flat on the top, giving off slender fibrous rootlets below and from the crown several very thin, shining, papery scales which are large and much dilated below bearing in their axils large, oblong-ovoid, pointed, solid, sessile bulbs that are unequal, compressed together and the outer ones curved so as to form collectively an ovate and lobed white bulb. Flowers are terminal in position, singly through the centre of the bulb. Leaves arise from the rootstocks.

Parts used: Bulb and leaves.

Ethnomedicinal uses: Fresh bulb is crushed and used as poultice in boils or blains for early suppuration. Two to three small bulblets eaten daily along with food is believed to reduce hypertension and whooping cough. The extract obtained by frying the bulbs in sesame oil is used as ear drops in otitis while the bulb of the plant cooked in milk and eaten in piles, body pains and paralysis. It is also used in ulcers, cuts and wounds. The paste of the leaf along with mustard oil is

used to reduce child fever.

***Allium tuberosum* Rottler ex Spreng**

Syn. *Allium clarkei* Hook.f.

Family: Amaryllidaceae.

Local name: Maroi nakuppi.

Common name: Garlic chives.

Distribution: Commonly cultivated throughout the valley.

Description: It is a soft leathery herb having tunicate bulbs. Leaves are many out of which the basal ones are very narrowly linear, flattish, keeled and shorter than the terete slender scape. Pedicels are longer than the small whitish companulate perianth.

Parts used: Whole plant.

Ethnomedicinal uses: The leaves are wrapped with banana leaf (*Musa balbisiana* Colla; Local name: Changbi laphu; Family: Musaceae) and placed just at the top of cooking rice; it is then used for diuretic problems (easy urination). It is also used to reduce hypertension. The poultice of leaves is applied externally to reduce fever in children. Boiled extract of the plant is prescribed orally against piles and liver complaints. The whole plant is crushed along with the leaves of *Gynura bicolor* (Roxb. ex Willd.) DC. (Family: Compositae; Local Name: Tera paibi) and the extract mixed with fresh milk is prescribed in tuberculosis. It is also used in asthma, bronchitis and chest congestion.

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

Syn. *Alpinia rheedei* Wight

Family: Zingiberaceae.

Local name: Kanghu.

Common 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.

Ethnomedicinal uses: Crushed rhizome is applied externally on various fungal infections of the skin. Boiled extract of the rhizome is prescribed orally against piles and liver complaints. The rhizome cooked with lata fish (*Channa orientalis* Bloch & Schneider) is eaten in general weakness. Rhizome is crushed and the juice extracted is mixed with water and honey is prescribed in fever and typhoid fever at the dosage of one teaspoonful daily for one week. But the amount must not exceed the prescribe dosage. It is also used for gastric problems. Fresh smashed rhizome is rubbed on ring worms and other skin diseases. The rhizome is crushed along with the rhizomes of *Zingiber*

montanum (J. Koenig) Link ex A. Dietr. (Family: Zingiberaceae; Local name: Tekhao yaikhu) and the mixture is used in dizziness and headaches.

***Alpinia officinarum* Hance**

Syn. *Languas officinarum* (Hance) Farw.

Family: Zingiberaceae.

Local name: Pullei manbi.

Common name: Galangal.

Distribution: Grows wild in wastelands.

Description: The plant is a perennial herb with cylindrical creeping rhizomes. Rhizome is reddish brown. Leaves are lanceolate, smooth, alternate and long. Flowers are of moderate size and are nearly sessile in simple terminal spike or raceme.

Parts used: Rhizome.

Ethnomedicinal uses: The fresh extract of the rhizome is used as diuretic and in cough. The rhizome is crushed along with the rhizomes of *Zingiber montanum* (J. Koenig) Link ex A. Dietr. (Family: Zingiberaceae; Local name: Tekhao yaikhu) and petioles of *Alocasia macrorrhizos* (L.) G. Don (Family: Araceae; Local name: Hongu) and the mixture are applied in dizziness and headaches.

***Arisaema tortuosum* (Wall.) Schott**

Syn. *Arisaema wightii* Hook.f.

Family: Araceae.

Local name: Lin-cheishu.

Common name: Cobra plant.

Distribution: It is a rare plant, growing in moist waste lands on the hill slopes.

Description: Plant is a slender, soft, thickly grown tuberous herb. Leaves are pedatipartite where the petioles are long and sheaths are often mottled with purple. The leaflets are sessile, ovate-lanceolate. Spathe is long and green outside. The tube is as long as the limb and is sub-cylindrical. Spadix is bisexual and the male flowers are stalked. Ovaries are ovoid and attenuated into a short style.

Parts used: Whole plant.

Ethnomedicinal uses: It has good medicinal uses for paralysis. The fresh juice extracted by crushing the petioles along with rhizomes of *Zingiber officinale* Roscoe (Family: Zingiberaceae; Local name: Shing) and leaves of *Mentha spicata* L. (Family: Lamiaceae; Local name: Nungshi hidak) is mixed with honey and prescribed one 'Yaum' (approximately equal to 5 to 6 teaspoonful) after food daily for 4 to 5 days. Pieces of the sun dried petiole are chewed as well as boiled extract of the same is used as gargle in tonsillitis commonly by this community. Thin slices of the rhizome are wrapped in banana leaf, roasted and then applied at the abdomen in swelling and the smashed rhizome is applied as poultice on whitlow, paronychia, snake bites and around boils for early suppuration by the people of this community.

***Arundo donax* L.**

Syn: *Arundo bambusifolia* Hook.f.

Family: Poaceae.

Local name: Yengthou.

Common name: Giant reed.

Distribution: It is very common, planted domestically on the fencing boundaries of most of the homestead compounds.

Description: It is a tall perennial grass whose culms are erect and having nodes and internodes. Leaf blades are linear-lanceolate and taper to a very fine point. Inflorescence is a large terminal decomposed plumose panicle in which the branches are scaberulous.

Parts used: Leaves and tender shoots.

Ethnomedicinal uses: The smashed tender shoot is applied as poultice on poisonous bites and the extract of the same mixed with honey is prescribed orally in chest congestion, asthma, fever, malaria and worm infections in children. The tender shoot is boiled along with the leaves of *Azadirachta indica* A. Juss. (Family: Meliaceae; Local name: Neem) and *Bambusa tulda* Roxb. (Family: Poaceae; Local name: Ootang-wa) and the extract so obtained is applied in scabies and other skin diseases.

***Colocasia gigantea* (Blume) Hook.f.**

Syn. *Caladium giganteum* Blume

Family: Araceae.

Local name: Yendem.

Common name: Taro.

Distribution: Commonly cultivated for the edible petioles and corms.

Description: The plant is herbaceous. Leaves are broad, bright green, slightly repand and end lobes are triangular-acute with strongly marked whitish mid-rib. Petiole is longer than the leaf. Such petioles overlap one another forming an Isoetaceous model.

Parts used: Whole plant.

Ethnomedicinal uses: The tender leaves after slight roasting is applied over boils or blain for early suppuration. The petiole is cooked with or without a local fish "Ngakra" (*Clarias batrachus* L.) and is eaten by lactating mothers for recovering loss of blood during delivery. Use of cooking oil is usually avoided during cooking. The same preparation using cooking oil is prescribed in arthritis, rheumatic pains and as a tonic by this community. Slices of the rhizome are applied on the forehead in dizziness. The ash obtained by burning the petiole mixed with honey and water is prescribed against dry cough.

***Curcuma angustifolia* Roxb.**

Family: Zingiberaceae.

Local name: Yaipal.

Common name: East Indian arrowroot.

Distribution: Grows wild on hill slopes.

Description: It is a stem less herb having small rootstocks that emits long, fleshy fibres that terminates in pale oblong pendulous tubers. The leaf blades are lanceolate and acute. Flowers are yellow and longer than their bracts. Capsule is ovoid and ultimately opening by 3-valves.

Parts used: Rhizome.

Ethnomedicinal uses: Boiled extract of the rhizome is prescribed in menstrual disorders, cough, gastric and indigestion problems. A mixture of the crushed rhizomes of the plant along with the rhizomes of *Curcuma caesia* Roxb. (Family: Zingiberaceae; Local name: Yaimu) when applied externally will cure various skin infections.

***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.

Ethnomedicinal uses: The rhizome along with the rhizome of *Zingiber officinale* Roscoe (Family: Zingiberaceae; Local name: Shing) is crushed together and the juice extracted is mixed with a little honey. The mixture is then applied to those patients whose disease nature cannot be ascertained for a long time. So old age peoples suffering from incurable and undetectable diseases can be treated with this mixture. It is also used for tonsillitis and throat problems. Boiled extract of the tuber is also used in cough, stomach ulcer and fever.

***Curcuma longa* L.**

Syn. *Curcuma domestica* Valetton

Family: Zingiberaceae.

Local name: Yaingang.

Common name: Turmeric.

Distribution: Cultivated and very common.

Description: It is a rhizomatous, perennial herb having irregular shaped tubers. The underground

stem or rhizome produces lanceolate, long, smooth and uniform green leaves. The floral bracts are pale green, ovate and sometimes pink. The flowers are pale yellow in colour.

Parts used: Rhizome.

Ethnomedicinal uses: The fresh rhizome is eaten raw as antidote to small pox, asthma and with the kernel of coconut (*Cocos nucifera* L.; Family: Arecaceae; Local name: Yubi) in worm infection by almost all the people. Fresh extract of the rhizome in mixed with sesame oil and applied against scabies, other skin infections and eye diseases. Fresh extract of the rhizome in mixed with honey is prescribed against high body temperature, fever, malaria, typhoid fever and gonorrhoea. The rhizome is crushed along with the leaves and fruits of *Solanum americanum* L. (Family: Solanaceae; Local name: Morok manbi) and the extract mixed with honey is prescribed in cough and worm infections in children. It believed by all people of this community that if whenever they go outside their village for any purpose they used to carry a piece of the rhizome along with a bulb-let of garlic so that they can avoid or prevent from a poisonous gas released by snakes like python and others.

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

Syn. *Paspalum dactylon* (L.) Lam.

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.

Ethnomedicinal uses: The fresh juice extract of the whole plant along with honey is a good remedy for indigestion and other stomach problems. It is also prescribed orally against uterine bleedings, stomach ulcer and piles. If someone desires to vomit from any reason either due to excessive eating or anything else, then chewing some tender leaves automatically leads to vomiting. In fact this practice is believed to be imitated from the behaviour of domestic animals like dog, cat etc. Sometimes the crushed plant paste is applied as poultice on cuts and fresh wounds. Aerial portion of the plant is used as an inseparable item in many religious ceremonies.

***Cyperus rotundus* L.**

Syn. *Chlorocyperus rotundus* (L.) Palla

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: Whole plant.

Ethnomedicinal uses: The paste formed by crushing the rhizomes along with the leaves of *Dactyloctenium aegyptium* (L.) Willd. (Family: Poaceae; Local name: Pungphai) is applied as poultice in snake bite. It is also used in swellings in the eyelid. The crushed extract of the rhizome along with honey is prescribed in high body temperatures. The tuber is crushed along with the rhizomes of *Musa x 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 as antidote to snake bite. Fresh extract of the crushed rhizome is also used to cure typhoid, mouth ulcers, skin diseases and stomach problems by this community.

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

Syn. *Eleusine aegyptia* (L.) Desf.

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 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.

Ethnomedicinal uses: The tender leaves are crushed along with *Centella asiatica* (L.) Urb. (Family: Apiaceae; Local name: Peruk) and the juice so extracted is mixed with honey is used daily in the morning as a very good tonic. The whole plant is boiled with the leaves of *Toona ciliata* M. Roem. (Family: Meliaceae; Local name: Tairen), *Setaria pumila* (Poir.) Roem. & Schult. (Family: Poaceae; Local name: Hup), *Eupatorium cannabinum* L. (Family: Compositae; Local name: Langthrei) and *Phragmites karka* (Retz.) Trin. ex Steud. (Family: Poaceae; Local name: Tou) and the decoction is used as bath in various skin diseases including allergy. The whole plant is crushed along with the tender shoots of *Eclipta prostrata* (L.) L. (Local name: Uchi sumbal), *Centella asiatica* (L.) Urb. (Family: Apiaceae; Local name: Peruk), *Agave cantala* (Haw.) Roxb. ex Salm-Dyck (Family: Asparagaceae; Local name: Kewa), *Eryngium foetidum* L. (Family: Apiaceae; Local name: Awa phadigom) and the extract so obtained is prescribed in severe typhoid fever, ulcers and other stomach complaints.

***Hedychium coronarium* (Koenig) ex Retz.**

Syn. *Hedychium chrysoleucum* Hook.

Family: Zingiberaceae.

Local name: Takhellei angouba.

Common name: Ginger lily.

Distribution: Grows wild and planted in the homestead compounds for the beautiful, scented flowers.

Description: It is a perennial herb having horizontal tuberous rootstocks. Leaves are oblong or oblong-lanceolate. Flowers are white with yellow tinge and staminodes are oblong or oblong-lanceolate. The lips are broad, shallowly bifid and distinctly clawed.

Parts used: Whole plant.

Ethnomedicinal uses: Rhizome is an excellent antioxidant. Crushed leaves are used to check nose bleeding and in sinusitis. Decoction of the rhizome is used against fever, cough, leucorrhoea and other gynecological disorders.

***Hedychium flavescens* Carey ex Roscoe**

Syn. *Hedychium emeiense* Z.Y. Zhu

Family: Zingiberaceae.

Local name: Tekhao yaikhu amuba.

Common name: Yellow Ginger.

Distribution: Rare grows Wild in the foothills and occasionally planted in the homestead compounds.

Description: It is a shrub possessing horizontal tuberous rootstocks. Leaves are distichous and lanceolate. The stem when young is reddish brown in colour. Flowers in a compact cluster gust like a gymnospermous cone. Flowers are beautiful and like an orchidaceous flower. Flowers are fragrant and sulphur yellow in colour. Calyx is green, cylindric and shorter than the bract. Capsules are oblong and glabrous. Seeds are with a crimson aril.

Parts used: Rhizome.

Ethnomedicinal uses: Rhizome is used in various skin infections. Boiled extract of the rhizome with Meitei thum (local made common salt) is used as gargle in throat swellings and also prescribed orally in abdominal swellings, colic and piles. Crushed extract of the fresh rhizome is used with honey in chest congestion, cough, asthma and bronchitis.

***Kaempferia galanga* L.**

Syn. *Kaempferia plantaginifolia* Salisb.

Family: Zingiberaceae.

Local name: Yai thamna manbi.

Common name: Blue ginger.

Distribution: Rare and wild, sometimes cultivated.

Description: It is a herb having tuberous rootstocks and fleshy root fibres. Leaves are round, ovate spread horizontally lying flat on the surface of the ground.

Parts used: Rhizome.

Ethnomedicinal uses: The plant is very commonly used by the local medicine men. The use is mainly based on the folklore culture. If someone like an astrologer or medicine men have done something wrong which is commonly known as 'Potsem jadu' (Black art) in favour of a particular person then the opposite person can return back the same treatment to the first person without efficacy to himself if he kept a piece of the rhizome just underneath his pillow for three days. The decoction of the rhizome with honey is prescribed orally in muscle weakness and also applied on the head in baldness.

***Kaempferia rotunda* L.**

Syn. *Kaempferia longa* Jacq.

Family: Zingiberaceae.

Local name: Leibaklei.

Common name: Peacock ginger.

Distribution: Commonly planted for the beautiful flowers.

Description: It is a herb having tuberous rootstocks. Leaves are oblong or-lanceolate, variegated with darker and lighter green above and tinged purple below. Flowers are borne from the ground in a crowded radical spike.

Parts used: Rhizome.

Ethnomedicinal uses: Rhizome is used in boils, inflammation and wounds. The fresh or boiled extract of the rhizome with honey is prescribed in epilepsy and acidity.

***Musa balbisiana* Colla**

Syn. *Musa martini* Van Geert

Family: Musaceae.

Local name: Changbi laphu.

Common name: Banana.

Distribution: Very common both in the hills and valley areas.

Description: It is a stout and erect plant. Leaves are simple, large, with parallel venation having a thick mid rib. The leaf base sheathing the trunk. The flowers are unisexual in two rows under each bract. Calyx is yellowish, lobed and fruits are fleshy and dehiscent.

Parts used: The whole plant.

Ethnomedicinal uses: Rotten rhizome made into paste with lime water is applied on whitlow, paronychia and the ripe fruit is made into paste with paddy husk is kept overnight in an airtight container and then the juice extracted is pressed out is prescribed in liver enlargement, painful

urination and as tonic in general weakness. Eating one banana daily in the morning is helpful in lowering hypertension. Unripe fruit is cooked and eaten in diabetes. Rhizome is also used in cough and as diuretic.

***Setaria pumila* (Poir.) Roem. & Schult.**

Syn. *Panicum glaucum* var. *elongatum* Pers.

Family: Poaceae.

Local name: Hup.

Common name: Pigeon grass.

Distribution: Very common, grows in moist shady places, sometimes forming mats on the surface of water bodies.

Description: It is a perennial grass, growing together forming a bunch of vegetation. Leaves are long, glabrous or hairy towards the base. Leaf blades linear and tapering to a fine point. The leaf sheaths are thin where the lower ones are compressed and keeled. Floating plants produces enormous rootlets. Inflorescence is on an erect, dense and continuous false spike. The rachis is slender, sub-angular and minutely pubescent.

Parts used: Whole plant.

Ethnomedicinal uses: It is used as a plant item included while worshipping God to improve upon many kinds of diseases by the local medical practitioners. The whole plant is boiled along with the leaves of *Malvastrum coromandelianum* (L.) Garcke (Family: Malvaceae) and *Sida cordata* (Burm. f.) Borss. Waalk. (Family: Malvaceae; Local name: Uhan) and the hot extract is used to cure skin allergy and other skin diseases. The plant is boiled along with the leaves of *Toona ciliata* M. Roem. (Family: Meliaceae; Local name: Tairen), *Eupatorium cannabinum* L. (Family: Compositae; Local name: Langthrei) and *Phragmites karka* (Retz.) Trin. ex Steud. (Family: Poaceae; Local name: Tou) and the decoction is used as bath in various skin diseases including allergy.

***Zingiber montanum* (J.Koenig) Link ex A. Dietr.**

Syn. *Zingiber purpureum* Roscoe

Family: Zingiberaceae.

Local name: Tekhao yaikhu.

Common name: Cassumunar ginger.

Distribution: Wild and sometimes cultivated.

Description: It an herb with elongated leafy stems and horizontal tuberous rootstocks. Leaves are sub-sessile, oblong-lanceolate with pubescent sheaths. Flowers are in dense fusiform or oblong ellipsoid spikes. The peduncles are with numerous oblong sheaths. Bracts are broadly ovate and pubescent with narrow membranous margins.

Parts used: Stem and rhizome.

Ethnomedicinal uses: Both the stem and rhizome are used in curing in skin diseases. Boiled extract

of the rhizome is given in urinary tract stone, cough, asthma and as diuretic. The soup obtained by boiling the rhizome along with crab is prescribed in leucorrhoea and bleeding piles. The steam heated packet containing the rhizome along with the leaves of *Justicia adhatoda* L. (Family: Acanthaceae; Local name: Nongmangkha angouba), rhizomes of *Alpinia galanga* (L.) Willd. (Family: Zingiberaceae; Local name: Kanghu) and leaves of *Elsholtzia griffithii* Hook.f. (Family: Lamiaceae; Local name: Lomba) is applied as hot foment in body, muscular and rheumatic pains.

***Zingiber officinale* Roscoe**

Syn. *Amomum zingiber* L.

Family: Zingiberaceae.

Local name: Shing.

Common name: Ginger.

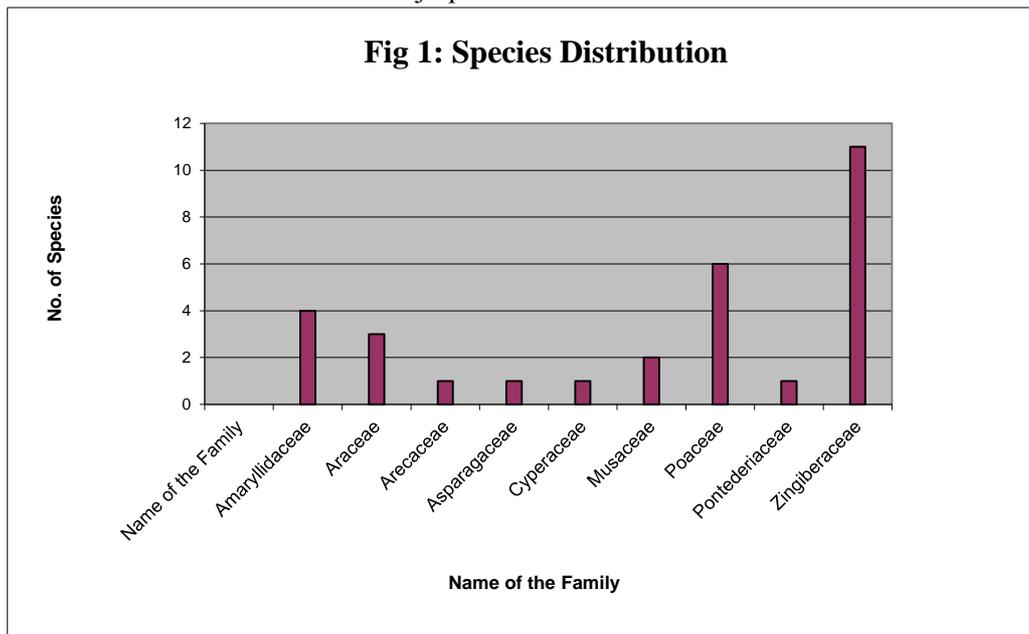
Distribution: Very common and widely cultivated.

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.

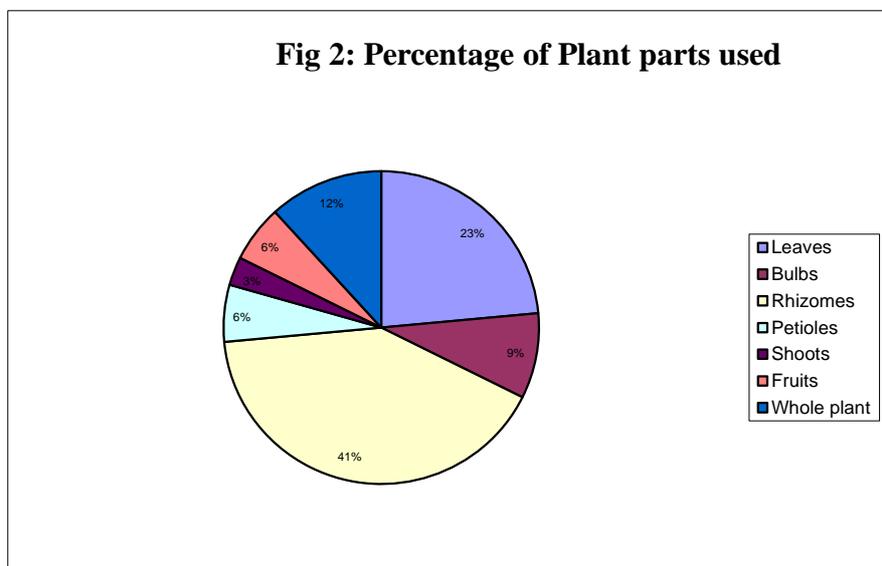
Parts used: Rhizome.

Ethnomedicinal uses: The fresh rhizome is eaten raw in dyspepsia and the fresh juice extract mixed with honey is prescribed in asthma, colic, cough, high body temperature, menstrual disorders and stomach complaints. The paste obtained by crushing the rhizome along with the seeds of *Brassica juncea* (L.) Czern. (Family: Brassicaceae; Local name: Haggam yella), roots of *Carica papaya* L. (Family: Caricaceae; Local name: Awathabi) and bulbs of *Allium sativum* L. (Family: Amaryllidaceae; Local name: Chanam) is applied on rheumatic and other body pains. The roasted rhizome is eaten with honey as expectorant in dry cough. The extract obtained by crushing the rhizome along with the tender shoots of *Agave cantala* (Haw.) Roxb. ex Salm-Dyck (Family: Asparagaceae; Local name: Kewa) is prescribed in typhoid fever.

The present study reveals that 30 monocotyledonous plant species were found to be used by the scheduled caste community of Andro in the treatment of 44 different types of ailments and diseases. These 30 species belongs to 19 genera which are distributed over 9 families. The families Zingiberaceae with 11 species and Poaceae with 6 species have contributed maximum number of medicinal plants (Figure 1).



For the treatment of the 44 different types of ailments and diseases, rhizomes were used in the majority of the cases (41.18%), followed by leaves (23.53%) and whole plants (11.76%). The minimum usage is represented by young shoots with a usage value of 2.94% each (Figure 2). Among the 30 species, *Zingiber officinale* Rosc. is used in the treatment of 12 diseases followed by *Zingiber montanum* (J.Koenig) Link ex A. Dietr. and *Curcuma longa* L. with 11 diseases each. Further research is necessary to ascertain the exact number of plants being used by this small scheduled caste community along with the exact methods of treatment.



4. 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.

5. 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 author is thankful to the North Eastern Regional Office (NERO) of the University Grants Commission of India for financial assistance in the form of a Minor Research Project.

6. CONFLICT OF INTEREST

The authors have declared that they have no conflict of interest.

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