



Medicinal Plants Used Ethno Botanically by *Thenukuruba* Tribes of Coorg District, Karnataka, India

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DOI: 10.5958/2455-7129.2019.00017.7 **ABSTRACT**

Key Words:

Ethnobotany, Medicinal plants, Thenukuruba, Tribes.

The article deals with Ethno Botanical information collected from *Thenukuruba* which they use for curing various diseases ailments like fever, stomach-diseases, cuts, wounds, cough and other ailments. Totally around 20 plants have been documented Ethno botanically from the tribal people who live inside the Coorg forested areas of Karnataka, India. Instead of depending on modern scientific medicines these tribal people depend on the herbs, trees to cure diseases. So, the present research paper helps in documenting the Ethnobotanical knowledge of the tribal people into scientific knowledge which will be very much useful to man-kind.

INTRODUCTION

Earth is a place that provides space for all living organisms to live. On Earth the forests provides a dwelling place for trees, plants, animals, birds and insects. Without forests life existence is difficult. Medicinal plants are one such produce from forest which helps sustain life particularly of tribals. Work on ethno botanical wealth from forests are been still going on like of Bhadra wildlife sanctuary in Karnataka (Parinitha et al. 2003). The main threat is however decrease in the forest cover and hence its associated benefits. If this

continues extinction of flora and fauna will ultimately affect man-kind.

From ancient times plants have been used a source of food, raw materials, fuel, clothing, shelter and an important source as Medicine. Tribal and Ethnic community people use these plants and herbs to cure various and ailments. Each ethnic group follows their own way of utilizing the medicinal plants as medicines. Due to lack of healthcare centres and transportation facilities the tribal people collect the readily available plants in and around their area and utilize it as medicines.

In India, a large number of people live in rural areas and they still rely on medicinal plants for their survival. These plants grow naturally inside the forest and are useful in many ways. Various workers have studied floristic study in India. Floristic Surveys have been done in southern Peninsular India (Saldanha and Nicolson 1976, Rao 1981, Gamble 1995). Survey on Herbal medicinal plants have been done by Tribal people or indigenous Communities (Bhandary et al. 1995, 1996; Harsha et al. 2002, 2003; Parinitha et al. 2004), Traditional Herbal Medicinal Knowledge in Sagar Taluk of Shimoga District, Karnataka, India (Kumar and Shivanna 2009). *Symplocos laurina*: an unexplored important Medicinal plant of Shola forest system (Banu and Kashyap 2013). Herbal extract and Phytochemicals: plant secondary Metabolites and the enhancement of Human brain function (David and Emma 2011). Herbal remedies used for hair disorders by tribal and rural folk in Gujarat (Mitaliya et al. 2003).

John William Harshberger around the early 20th century was the first person to propose the idea of Ethno Botany. Ethno Botanical uses of Medicinal plants have also been documented by various workers Sharma 2013. Ethnopharmacological approaches to wound healing (Kumar et al. 2007), Katepurna Wildlife Sanctuary of Akola district (Rothe 2003). In order to cure various diseases and ailments man used his ethno botanical knowledge to cure diseases (Kshirsagar et al. 2001). North Eastern parts of India have huge unexplored Medicinal plants (Chakraborty et al. 2012).

Inside the Forested regions of Karnataka there are a small group of people or Tribes who live in small Hamlets in and around the forest. There are various Tribal groups inside the forests like: *Jenukuruba*, *Adiyan*, *Vasava*, *Chenchu*, *Halpati*, *Irular*, *Irulgia*, *Kuruba*, *Thenukuruba* and *Sholaga*. The following research work is based on the information gathered from *Thenukuruba* Tribes who live inside the Coorg forests of Karnataka and they practice their own

traditional way of Medicinal plants to cure diseases.

MATERIALS AND METHODS

Study area

The present ethno botanical Study was carried out in Coorg district, Karnataka, India. The other name for Coorg is Kodagu Province which was established in June 1834. The main language spoken was *KodavaTakk*. Other languages spoken were Tulu, Malayalam and other Tribal languages. Coorg is an important administrative district in Karnataka. It occupies an area of 4,102 sq.km (1,584 sq. km) in the Western Ghats of south west Karnataka. Climate is tropical wet. Main occupation is agriculture and rice, coffee are the important crops cultivated by the people. Timber and spices are grown in hill slopes. Headquarters of Coorg are Madikeri or Mercara. Coordinate of the study area is 12.3375° N, 75.8069° E.

Methodology

Field Trip was undertaken during the month of November 2017. The information was collected through questionnaires and Oral conversation with the people and Ethno Botanical data was collected about 19 medicinal Plants their local names, preparation method, its Medicinal importance were all collected and Photographed. Apart from these details Vernacular Names, Mode of preparation, i.e., either as paste, powder, decoction, khashayam or leghyam along with other ingredients added was also noted down. The Collected plants were identified taxonomically using "The Flora of Madras Presidency" by J. D. Hooker, Taxonomy of Vascular Plants by George H.M Lawrence and former Prof. Narasimhan of Department of Botany Madras Christian College, Tambaram. The plants were identified with their local names, photographs were taken and samples were collected.

RESULTS AND DISCUSSION

Ethno Botanical information regarding the Medicinal plants were collected from two Tribal persons namely

Jadia and *Karia* who helped us in providing details about 19 locally available plants which they used to cure various disease ailments is given in table 1.

Table 1. Ethno Botanical Description of Plants Used by *Thenukuruba* Tribes.

BOTANICAL NAME	PLANT NAME	FAMILY	DESCRIPTION	PART USED	ETHNO BOTANICAL USES
<i>Acalypha indica</i> L.	Tamil: Kuppaimeni Kannada: Kuppigida Hindi: Khokali Common Names: Three seeded Mercury, Indian Nettle, Indian Mercury, Indian Copper Leaf.	Euphorbiaceae	Distribution: In plains, Almost in all districts and Lower Hills. Weed of the garden. Erect / Annual Herb. Inflorescence- Catkin. Leaves- Broad, ovate, leaf base- rounded. Flowers- small usually Monoecious. Male Flowers- white- green, Located, on upper- part of flower spikes, ebracteate, minute clusters with Vermiculiform anthers. Female Flowers- Green located on the lower spikes, many- nerved, toothed bracts. Ovary- Hispid, 3lobed. Capsules- Hispid, 3 valved, concealed by bract. Stems-longitude pubescent Fruit- Tuberculate, pubescent, 3- lobed.	Leaves.	Leaves are used for snake- bite. The leaves are crushed and mixed with small amount of water and made into a paste and are applied on the bitten part to get relief from poisoning.
<i>Amaranthus spinosus</i> Linn).	Tamil: Mullukirai, Kannada: Mulluharivesoppu, Hindi: Kantachauli. CommonName: Thorny Amaranth, Spiny Amaranth, Prickly Amaranth, Spiny Pigweed.	Amaranthaceae.	Native of South America. Noxious weed. Present in all countries. Serious Weed of rice cultivation in India. Erect spinous herb. Stem- reddish, hard. Leaves- eaten as spinach, ovate to rhombic, elliptic, lanceolate, blades- 1 – 12 cm long. Leaf-stalk- 1 to 9 cm long. Flowers- Green, axillary, clusters in the lower part of the plant and in upper part unbranched / branched spike. Lower part- Without stamens, upper part with stamens. Seeds- Small, Matures one month after flowering	Leaves / Root.	Leaves- Leaves are chewed orally during mouth ulcers, stomach problem like diarrhea / dysentery, wound. Roots- roots are crushed the extract can be taken internally during fever, dysentery, diarrhea.

<i>Achyranthes aspera</i> Linn.	Tamil: Nayurivi, Kannada: Uttaranee.	Amarant haceae	An erect herb. Grows along roadside, waste lands and on all plains / Districts. Height- 3ft. Leaves- obvate usually obtuse, Tomentose, reaching 4 inches long, 3 inch broad. Leaf- Blade: Elliptic, ovate, Orbiculate or rhomb ate. Inflorescence- Adaxial / abaxial. Bracts- Membranous. Bracteoles- long, aristate, spinose wings attached to sides and base. Flowers- 4 Or 5 tepals, 3 to 7 m in length, Margins fimbriae, pseudo staminodes. Fruits - While grazed by animals it gets adhered to skin of animals and carried away and sown in other places to safeguard against snakes and scorpions.	Leaves.	Leaves- Crushed and made into a paste by mixing it in water and applied inside the mouth for Tooth - ache.
<i>Blainvillea acmella</i> (L.) Philipson.	Hindi: Kanghi Kannada: Bende. Common Name: Para cress flower.	Asterace ae.	Erect scrubid herb. Leaves: upper leaves, Alternate, Ovate, and Acuminate Apex with rounded base. Peduncles: 1.5cm, Ovate, oblong, pubescent. Ray Floret- 2mm across. Disc Floret- 2mm across, tubular, across regular. Flowers: Male Flowers short, 2 - 3 toothed, ligules, yellow or white. Anther Bases- Obtuse. Style Arms of Male Flowers short, flat. Achene- Truncate. Inflorescence: Capitulum or Head	Leaves, Flowers	Leaves – They are made into a paste and applied for rheumatism i.e., for Muscle and Joint pains. Flowers- They are smashed and mixed with water applied on forehead headache.

<i>Momordica charantia</i> , <i>Linn.</i>	Tamil: Pavakai, Hindi: Karela, Kannada: Hagalakayi. Common Name: Bitter Melon.	Curcubit aceae.	A slender Twinning annual herb. Tendrils: It bears Vine which grows up to 5m in length. Leaves: Simple, Alternate, 4 to 12cm, with 3 to 7 deeply separated lobes. Flowers: Separate yellow Male and Female Flowers. Fruit: External part of Fruit skin is warty in texture, oblong shaped, large central cavity surrounded by flesh with Flattened seeds embedded in it. When Greenish fruit is cooked as a vegetable which will be crispy too bitter taste. Ripened Fruit may be bright orange color, crimson coloured pulp with raised tubercles.	Leaves, Fruits	Leaves: After delivery of a child the leaves are cooked and given to women the juice extract is given. 2. Fruits: Fruits are cooked as Vegetables and for diabetes too.
<i>Sida cordata</i> <i>(Burm.f.)</i> <i>Borss.</i> <i>Waalk</i>	Tamil: Palampaci, Koraippaci, NilaThutti, Kurumthotti, Mayirmanikkam, Velippaci. Hindi: Bhuinii. Common Name: Long stalkSida, Heart- leaf Sida, Country-mallow	Malvacea e	Branched perennial herb with branches prostrate / trailing. Leaves: Serrate, Ovate, Acute or Acuminate, Cordate. Flowers: Yellow coloured, occurs Solitary or in clusters at the end of the branches. Fruits : Globose Hairy Flowering / fruiting Time: Oct – Nov. Grows in wasteland.	Roots	Roots : The root is crushed and made into a paste and applied on wounds / bolis. For stomach problem the root juice is consumed orally twice a day.
<i>Senna occidentalis</i>	Tamil: Payaverai / NattamTakarai. Hindi: Kasunda/ Bari. Kannada: Kasondi, Kolthache. Common Name: Coffee Weed.	Fabaceae	Annual herb. Height- 2m. Leaves- Compound. Flowers- Occurs in Leaf axils. Sepals- green, 6 – 9 mm long. Petals- yellow, 1 to 2 cm long. Stamens – 6 to 7. Seed pods- Dark Brown. 9. Seeds – Dull brown, 4 to 5 mm long, flattened on both ends.	Seeds	Seeds - seeds are crushed mixed in water and given for cold and dry cough.

<p><i>Leucas aspera, spreng</i></p>	<p>Tamil: Thumbai. Hindi: Chhota Halkusa. Kannada: Tumbeguda</p>	<p>Lamiaceae.</p>	<p>Annual Herb. Height: 15 to 60 cm. Stems : Hispid, scab rid. Leaves : Short petiole, opposite, linear, entire, obtuse, narrow, petiole length – 2.5 to 6 mm, Epidermis has thick waxy cuticle and presence of stomata. The stems shape is quadrangular has a wide stele; stems epidermis is covered with thick waxy cuticle with traversed stomata. In case of young stem xylem tissue is radially organized and the parenchymatous phloem tissue is very narrow. When the stem starts growing the phloem tissue widen along the sides of the radial xylem tissue, epidermis is very thin flattened and straight. Parenchyma cells in the cortex is thick walled, prolonged shaped and contains a large amount of starch grains. Phloem and xylem are separated by cambiums which are globose to subglobose Inflorescence: Flowers are held together in auxiliary whorls or dense terminals. Inflorescence is verticillaster attached to the base directly without a stalk or peduncle. Have 6mm long bracts which are bristle tipped, linear, acute, and ciliate with long slender hair. Flowers: Complete white coloured, pentamerous, irregular, bisexual, zygomorphic, and hypogynous. Calyx: Gamosepalous with 5 sepals, Tubular like, 10 nerved, 6 to 10 toothed, mouth Contracted, Glabrous below, ribbed scab rid above. Upper side of the mouth is oblique, short – teeth, ciliate, triangular,</p>	<p>The leaves of this plant are dried in sun for some days and crushed made into powder. The powder is mixed in hot water and it is inhaled to cure from headache.</p>
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			<p>spineless, 8 to 13mm in length.</p> <p>Corolla: Gamopetalous, 5 petals, lower lip 3 fid, upper lip 2 fid, erect, white, concave, villous outside, tube 5mm in length, corolla is 1 cm, upper region is pubescent, annulated in the middle, Middle lobe obviate, rounded and lateral lobe are small in size, subacute.</p> <p>Androecium: Epipetalous, 4 stamens, Didynamous, Cells divaricate, Ascending, Ascending connivant cells, Upper pair shorter, Ultimately Confluent.</p> <p>Gynoecium: Two carpels with Superior Ovary, syncarpous, on maturity 4 celled, 4 ovate each chamber, style Gynobasic, long, stigma bifid</p> <p>Fruit: Nutlets 2.5m long, brown, smooth, oblong in shape, Inner part - Angular, Outer part – round in shape</p>		
<i>Mimosa pudica</i> , Linn.	<p>Tamil: ThottalVadi, Thottalsinungi.</p> <p>Hindi: Lajwati,</p> <p>Kannada: Lajjabati.</p>	Leguminosae / Fabaceae	<p>Grows in hot climate. Moist localities of Low Countries.</p> <p>Diffused under shrub. The sensitive plant with sensitive Leaves. Bristly Pods.</p> <p>Stem: Slender, branching erect in young plants but creeps after aging. The stem starts hanging, sparsely to densely, prickly, grows to length of 1.5m.</p> <p>Leaves: Bipinnately Compound leaves with 1 or 2 pinna pairs, 10 to 26 leaflets per pinna, prickly petioles.</p> <p>Flowers: Pedunculate, stalked, pale pink or purple coloured, Globose to ovoid head, upper part floret is red Filament are Pink to Lavender coloured.</p> <p>Fruits: Occurs in Clusters, 2 to 8 pods, 1 to 2 cm long each, prickly on the margins, pods breaks into 2</p>	Leaves.	<p>Leaves re boiled in water and consumed during Stomach ache and diarrhea.</p> <p>Leaves are crushed and made into a paste and consumed for kidney stones.</p>

			to 5 Segments. Seeds: Hard seed		
<i>Lantana camera</i>	Tamil: Unnicheddi	Verbenaceae	Grows in and around profusely in the Western Ghats, 6000 ft., in Coorg, Wynaad. Aromatic plant. Perennial shrub, 2m tall. Leaves: Simple, opposite, broadly ovate has a strong odor when crushed. Flowers : Small, Tubular, 4 petals, arranged in clusters, occurs in different color red, yellow, white, pink, orange based on inflorescence, age maturity. After pollination the flowers change their color from yellow to orange, pinkish, reddish. It acts as a pollinator signaling. Fruit: Berry- like drupe, changes from green to dark purple on maturity. Fruit has a tutti fruity smell. Seeds: small seeds eaten by birds and other animals	Leaves, plant extract.	Leaves: Leaves are made into a paste and applied for skin infection and itching. Plant extract is in taken to relieve from joint pains and hip pain
<i>Calotropis gigantea</i> (L.) Dryand.	Tamil: Erukku Hindi: Mudar Kannada: Yakka Crown Flower	Asclepiadaceae	Grows in all plains in almost all districts on black Cotton Soil. Large milky shrub very pale in color. Stem: Milky stem and secretes white latex. Leaves: Thick leaves, large, sessile, ovate or obvate, cordate at the base, light green leaves. Flowers: Large, Pale with large fleshy follicles, green and ventricose, flowers arise in clusters, waxy flowers, lavender or white in color, 5 pointed petals and a small crown rises from the center which holds the stamens valvate aestivation, sepals or petals arranged in whorls. Sepals or petals touch one another at the margin without overlapping Seeds: Abundant white milky coma. Bark: Yellowish- white, soft wood yields fibers which are used to stuff pillows	Leaf, Latex from stem.	Leaves: The leaves are crushed and made into a paste. Latex: Latex from the stem is oozed on the foot affected by foot corn infection and tied with leaf of calotropis regularly.

<p><i>Solanum xanthocarpum</i>, S chard & Wendl.</p>	<p>Tamil: Kanda kattiri Hindi: Kateli, KataiRingani. Kannada: Kante, Chikchundi, Gulla, Cikkasonde, Kallante, Kantakeris</p>	<p>Solanaceae</p>	<p>Grow in almost all the plains, Districts, low hills. Weed of roadside and waste lands. An annual herb, 25 to 100 cm with pubescent hair. Leaves: Ovate shaped, Connate bases, pubescent, entire or coarsely dentate with obtuse apex. Inflorescence: Extra – Axillary umbel, cup- shaped Calyx with white corolla, the lobes are ovate- oblong, pubescent abaxially ciliate spreading, filaments- 1 to 15 mm long, oblong anthers. Flowers: Pale violet coloured, 75 inch in diameter Fruit: Dull black, globose (8 to 10 mm in diameter), berry fruit, fruiting pedicels are strongly deflexed</p>	<p>Fruit</p>	<p>The fruit is dried and in taken to relieve from heart diseases.</p>
<p><i>Azadirachta indica</i>, A. Juss.</p>	<p>Tamil: Vepamaram Hindi: Nim. Kannada: Turakabevu. Margasa Tree.</p>	<p>Meliaceae</p>	<p>Grows in the dry Forests of the Deccan and Carnatic region. Grows on Black cotton soil A large important useful deciduous tree grows fastly reaches and height of 15 to 20 mts, evergreen branches wide and spreading the branches forms a fairly dense crown about 20 to 25mts in diameter. Leaves: Alternate, imparipinnate, sub opposite, serrate, unequal at the base, petiole- short, dark green leaflets. Flowers: Hermaphrodite in axillary panicles, flowers are drooping Individual flowers, protandrous bisexual flowers male flowers occurs on the same Tree, 5 lobed calyx, 5 petals, imbricate stamina tube a little shorter than petals, cylindrical, widening, above, 9 to 10 lobed at the apex, ovary 3-celled style elongate, shortly cylindrical, 3 lobed, ovules 2 in each cell collateral Fruit: 1 seeded drupe, woody endocarp.</p>	<p>Leaves</p>	<p>Leaves are mixed in water and taken as Khashayam to kill insects in stomach. Leaves of the plant are dried made into powder and mixed with Neem oil and applied on swelling.</p>

			Seed: Elliptic solid albumen, Cotyledon thick, fleshy, Cordate, base, radicle, superior.		
<i>Cynodon dactylon.</i>	Tamil: Arugumpul Hindi: Doop ghaas Kannada: Garikehullu, Balli garike, Ambatehullu	Poaceae	A common grey-green colored short plant about 2-15 cm long with rough edges. Stem: Erect, height (1 to 30cm), slightly flattened, slightly purple in color. Spikes: Umbelled or Racemose, borne on 2 to 6 spikes together at the stem top. Spike lets: 2 to several flowers, rarely 1 to 2 are fertile. Roots: The root system penetrates deep into the soil; it forms a dense mat like. It reproduces through seeds, runners and rhizomes.	Root	The whole plant is crushed and extracted juice is applied to stop bleeding from wounds, cuts etc. The Arugumpul juice is used to clear worms in the stomach so, the above leaf part when green is made into a juice that helps to clear stomach problems, dysentery, diarrhea.
<i>Zingiber officinale.</i>	Tamil: Shukku, Inchi. Hindi: Adrak. Kannada: Alla Ginger.	Zingibera ceae.	Flowering plant, herbaceous, perennial plant with pseudo stem. Underground rhizome. Flowers: Rarely the Plant Flowers, greenish – yellow in color. Rhizome: Dark brown in color, outer layer is roughly and corky whereas inner centered layer is pale-yellow in color. Wildly Cultivated runs wildly in the Western Ghats.	Whole Plant, rhizome	The whole plant is crushed and made into a paste with water to get relief from Cold and Cough. Paste of the plant is applied on the fore-head for head-ache and to remove water from the head. Khashayam is made and consumed during fever.
<i>Phyllanthus niruri, Linn.</i>	Tamil: Keezhanelli. Hindi: Jar- amla. Kannada: Kiru Nelli.	Euphorbi aceae	Medicinal herb/ Weed. An annual branch herb. Grows in the plains of all districts in gardens/ cultivated land. Branches: Herbaceous Stem: Light, Erect, Greenish, Slender, Smooth. Flowers: Pale Green. Fruits: Smooth, Very tiny capsules contains seeds inside	Leaves.	Leaves are crushed the extracted juice is taken orally as Khashayam for Jaundice. Leaves are powdered and added in water a tea is made and drunk to get relief from body pain, stomach ache, kidney stones it gives refreshment to the body.

<i>Solanum torvum</i> Sw	Tamil: Sundaikkai. Hindi: Bhurat, Bhankatiya. Kannada: Kudanekayi.	Solanaceae.	Shrub: reaching a height of 12 ft. Grows almost in all districts, Wastelands, roadside. Perennial Plant. Stem: Grey, Smooth with Lenticels. Roots: Tap root, White in color, Lateral, well-developed. Twigs: Grey- Green with star shaped hair has short spines, which are curved slightly prickly, throughout the plant. Leaves: Opposite or one per node, border ovate, deeply lobed. Petioles: 1 to 6 cm long, blades covered by short hair. Flowers: Tubular, White with 5 pointed lobes occurs in Corymiform Cymes. Fruits: Berries, green like peas becomes yellow when fully ripe with numerous seeds, which are flat, round and brown.	Leaf Fruit.	Leaves: Leaves are crushed and the extract is applied on wounds / cuts. Crushed leaves applied as a paste on the skin infections. Leaves crushed taken internally for Microbial removal from stomach throat problems. Fruits: Both fresh / dried fruit is used for cooking also used in soups
<i>Ocimum sanctum</i> L.	Tamil: Tulsi. Hindi: Tulsi. Kannada: Tulasi.	Lamiaceae.	Grows in all the Plains, Districts. Grown in Hindu Temples and Houses. An erect much branched softly pubescent under shrub Stem: An erect, many small-branched subshrub, hairy stem. Leaves: Purple or Green, Simple Leaves, Petioled with an ovate shaped, toothed Margin, have a strong smell with decussate phyllotaxy. Flowers: Purplish flowers in close whorls on elongate racemes.	Leaves	Leaves crushed and the juice extract is mixed in water boiled and made into syrup and taken orally for dry cough, fever and cold. Fresh green leaves are added in tea, soups for flavor and to give refreshment.

<i>Clitoria ternatea. L.</i>	Tamil: Karkatun. Hindi:Khagin. Kannada: Nagar hedi.	Fabacea e	Grows in garden, sown in hedges and thickets. Climbing / Erect herb. Perennial herbaceous Leaves: Elliptic, obtuse, pinnate, 3- many foliate, Stipules persistent, Striate, stipules small, subulate. Flowers: Brightly colored flowers, showy, fascicled or racemose, bracts persistent, large bracteoles persistent, blue or white colored Flowers. Calyx: Membranous, 2 Upper teeth Sub connate, tubular. Corolla: Exerted much, large standard	Whole plant.	If there is swelling around the neck the whole climbing plant is tied to reduce swelling
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