Cloud Publications
International Journal of Advanced Herbal Science and Technology
2017, Volume 3, Issue 1, pp. 49-66
Crossref: 10.23953/cloud.ijahst.315

Research Article

Ethno Medicinal Uses of Plants Used By Jenu Kuruba Tribes at Rajiv Gandhi National Tiger Reserve Park, Hunsur, Mysore, Karnataka, India

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Publication Date: 10 October 2017

DOI: https://doi.org/10.23953/cloud.ijahst.315

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Abstract The following study deals with medicinal uses of around 20 plants used by Jenu Kuruba tribal community in Rajiv Gandhi National Tiger Reserve Park, Hunsur, Mysuru, Karnataka, India. The study was focused on the medicinal plants that are used for treatment of various ailments by the tribal people. The information was collected by questionnaire and consulting local people among the tribal community. The main purpose of this study was based on revealing the Ethano Botanical medicinal knowledge of the people and the medicinal potential of the plants growing wild in this reserve forest area and their sustainability to mankind.
Keywords *Ethno botany; Jenu Kuruba Tribes; Medicinal plants; Traditional knowledge*

1. Introduction

Earth provides a habitat not only for human-beings but also to another enormous world i.e., the Forest. Forest is the dominant terrestrial ecosystem on the earth. It is a very large area of land covered with trees and other woody plants. According to the UNO definition forests covered 4 billion hectares (15 million sq. miles) or approximately 30% of the world's land area in 2006. Forests account for 75% of the gross primary productivity of the earth's plant biomass. There are different types of forest like Boreal forest (towards the poles), Tropical Forest (towards the equator) and Temperate Forest. Precipitation and forest elevation plays an important role that affects forest composition.

The Forest provides habitat not only to plants, trees, animals, birds, and insects but also to important living organism the human-beings. There are many positive and negative ways in which both forest and human interact with each other. The forest provides economy to any country as it attracts tourists. Forest can also impose cost, affect people's health, interfere with tourists enjoyment harvesting forest resources negatively affects forest ecosystem.

The forest provides habitat for the tribal people, wild animals and birds too. According to the World Health Organization (WHO) as many as 80% of world's population depends today on traditional medicine for their primary health care needs (Azaizeh et al., 2003). Use of this traditional medicinal knowledge of the plants is gaining more popularity among the Indian and Chinese people as it is safe,

effective and inexpensive (Katewa et al., 2004). Research on plant-based traditional Knowledge provides a source to discover new drugs and nutraceuticals (Sharma and Mujumdar, 2003).

This article will give some insights of one such forest in Karnataka where the Jenu Kuruba tribes live inside the forest and they follow their own Ethno Botanical way for treating diseases. The following study helps us to evaluate the Ethno medicinal importance of plants used by Jenu Kuruba tribes and to preserve their culture, traditional knowledge which helps in conservation and sustainable utilization of the plants.

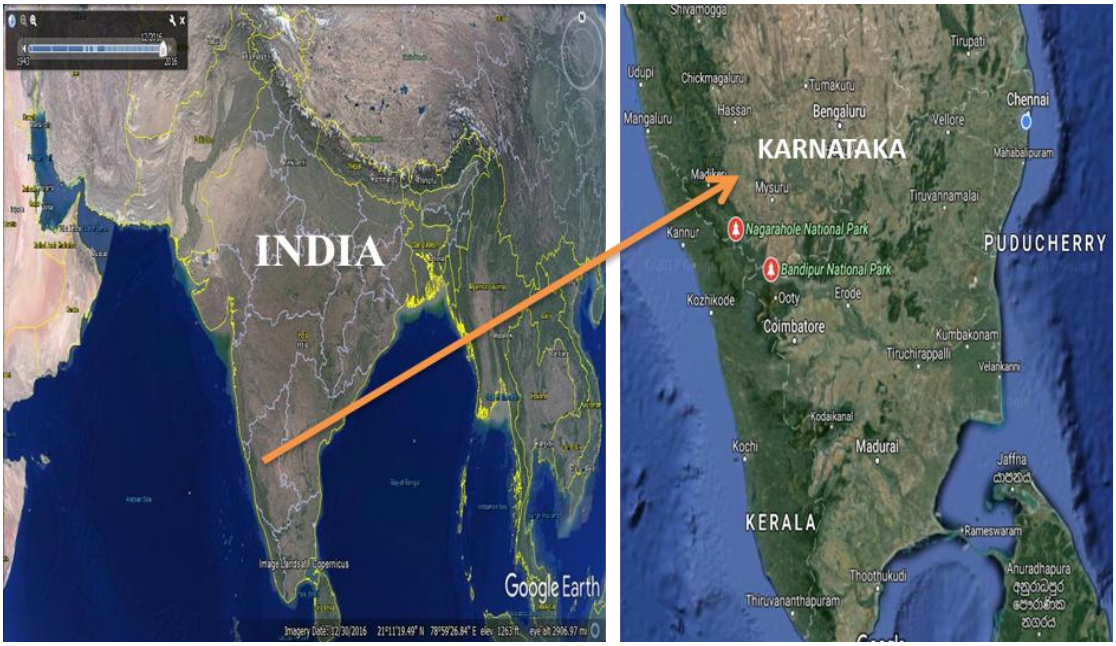

Figure 1: *Map image showing the State Karnataka in India*

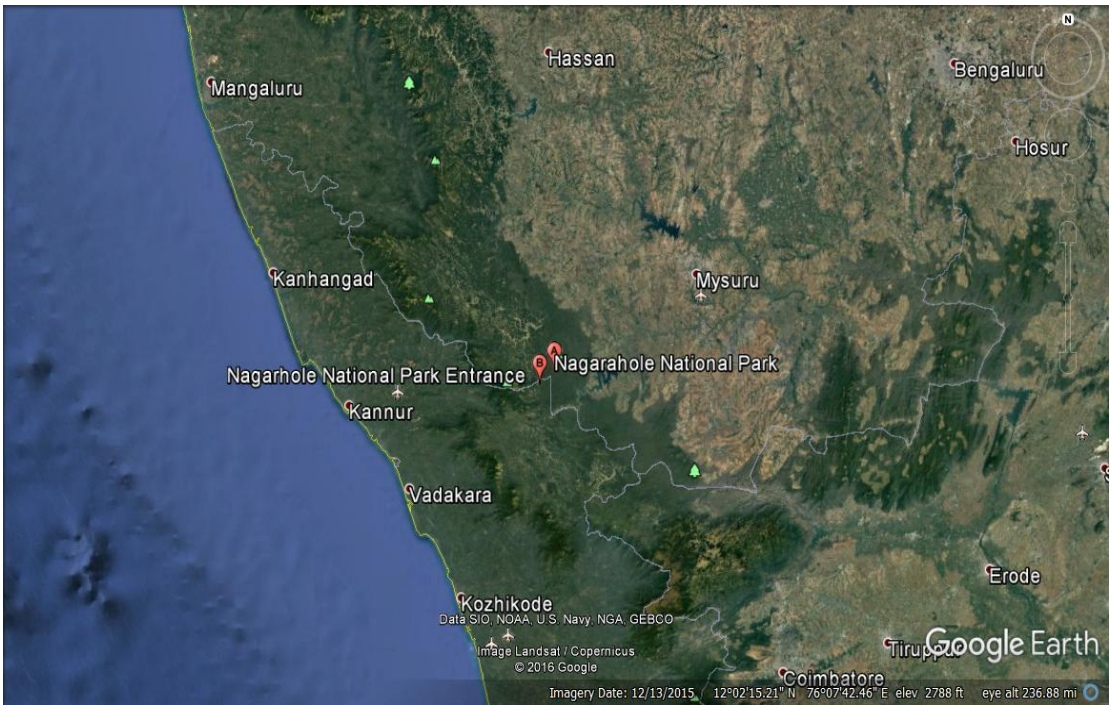

Figure 2: *Map image showing Nagarhole Tiger Reserve Forest in Karnataka, India*

1.1. Study Area

Ethno botanical studies of the plants were done that grow wild inside the Nagarhole Tiger Reserve Forest, (NTRF) Hunsur, Karnataka and information was gathered from Jenu Kuruba tribes. Karnataka lies in the South-Western region of India with its capital as Bangalore. It is the seventh largest Indian state covering an area of 191,976 sq.km (74,122 sq.) or 5.83% of the total Geographical area of India. It consists of 30 districts with its official language as Kannada. Co-ordinates 15.3173˚N, 75.7139˚E, in the global position (Figure 1).

The forest was declared the 37th project Tiger Reserve in 1999. The area for ethno Botanical studies is Nagarhole Tiger Reserve Forest; it is a National park located in Kodagu and is a part of the Nilgiri Biosphere Reserve. The park is inhabited by a great variety of flora and fauna. Among the animals found are the Bengal Tiger (*Panthera tigris*), Indian leopard (*Panthera pardusfusca*), Dhole (*Cuonalpinus alpinus*), Sloth bear (*Melursu sursinus),* Striped hyaena (*Hyaena hyaena*), Chital (*Axis axis*), Sambar deer (*Rusa unicolor*), Barking deer (*Muntiacus*), Four-horned antelope (*Tetracerus quadricornis),* Gaur (*Bos gaurus*), Wild boar (*Susscrofa)* and Indian elephant (*Elephasmaximus indicus*).

Birds

Over 270 species of birds are found in the Nagarhole National Park. These birds help in pollination and spreading of the plant species that helps in making the forest much dense with enormous vegetation growth. Some important common birds found inside the forest are Woodland birds, Water-fowls, Blue bearded bee-eater (*Nyctyornis atherton*), Scarlet minivet (*Pericrocotus speciosus*), Ospreys (*Pandiun haliaetus*), Herons (Ardeidae), Ducks (*Anasplaty rhynchas),* Vulture (*Gyps bengalensis*), Greater spotted eagle (*Aquila changa*) and Nilgiri wood pigeon (*Columba elphinstonii*).

Reptiles

The forest provides habitat to a vast number of reptiles and they are four-limbed animals which belong to the class reptilia. Some common reptiles found in the forest are the common Toad (*Bufame lanostictus*), Indian monitor Lizard (*Varanus bengalensis*), Indian rock python (*Python molursus*), Common Krait (*Bangarus caeruleus*), Rat snake (*Ptyas mucosus*), Bamboo pit viper (*Trimeresurus gramineus*), Russel's viper (*Daboi arussellii*), Common Vine snake (*Ahaetul lanastus*), are found inside the sanctuary.

Similar research on animals in Nagarhole Tiger Reserve Forest like Predator-prey relationship among the large mammals of Nagarhole National Park (Karnath, 1993), Estimating sloth-bear abundance from repeated presence-absence data in Nagarhole-Bandipur (Gopalaswamy, 2006).

Flora

Nagarhole is natural woodland and a dwelling place for all kinds of plants, animals, micro-organisms (biotic components) together with the non-living physical (abiotic) factors of the environment. There occurs a variation in the forest types in the Nagarhole Tiger Reserve Forest. Teak and Rosewood trees are grows in the North Western Ghats moist Deciduous Forest, dry deciduous forest in the central Deccan plateau. Commercially important trees growing inside the forest are Rosewood (*Dalbergia sissoo*), Teak (*Tectona grandis*), Sandalwood (*Santalum album*), Silver oak (*Grevillea robusta*) are also found in large numbers. Similar research works have been carried out like Flowering plants of Rajiv Gandhi (Nagarhole) National Park (Manikandan and Lakshminarasimhan, 2012).

Figure 3: *Photographs taken during field collection and interaction with the Tribal Community at Nagarhole Tiger Reserve Forest, Karnataka, India*

Figure 4: *Interaction with Tribal people regarding Ethno Medicinal plants usage*

Apart from this Indian Gooseberry (*Phyllanthus emblica*), Beechwood *(Fagus*), trees grow here, shrubs like Horse nettles (*Solanum carolinense*), Tick clover (*Desmodium trifolum*), Lantana (*Lantana camera*), Bonesets, Golden Shower trees (*Cassia fistula*), Flames of the Forest (*Delonix regia*) and Bamboo (*Bambusa vulgaris*) grow abundantly in the forest regions of Nagarhole.

Figure 5: *Field visit and ethno medicinal plants collection inside the forest*

Jenu Kuruba Tribes

The tribal people dwell inside the forest and they depend on the forest resources to live their daily livelihood. India has a very rich diversity of medicinal plants distributed in different geographical and environmental conditions. There are around 8000 medicinal plants in India and India has the second largest tribal population in the world after Africa. The total tribal population in India is around 8% as per 1991 census of India. The tribal people use these plants as food as well as medicines to cure various ailments. They too use these plants during their religious rituals and functions. The age-old Knowledge of the plants is the basis for Ethno Botanical research.

During our research work at the field we met a group of tribal people by name Jenu Kuruba tribes who were the first inhabitant of the Forest and practice their own traditional and medicinal practices till now. The Jenu Kuruba tribes are originally food gatherers and honey collectors of the forest. They live scattered in small groups in and around the forest. There are few research work done based on their living condition like Tribes in Karnataka Status of health research (Roy et al., 2015). The term Jenu means “honey” and Kuruba means “Shepard”. These Tribes were excellent climbers of trees and are skilled in the use of sling, bows and arrows. These people live in thatched roof houses made of mud, leaves and grasses. Their food, dress, house, medicines are all linked with the forest. These tribal people collect honey, wax and other forest products like roots and tubers for their survival and they practice their own way of medical ailments to cure diseases.

2. Methodology

The main purpose of this research was to gather information on the medico-ethno botanical knowledge from the tribal people. Two field trips (Figure 3, 4 and 5) were made between 2015 and 2016 and the tribes, were interviewed orally along with Questionnaire and information was collected. The language which they spoke was not understandable as we were accompanied by two forest guards they spoke to the tribes in their local tribal Kannada language and the information was translated into English. A field data sheet was prepared to record the plant details like the plant names, parts used for curing, preparation method any other ingredient used and were recorded for each ethno medicinal plant.

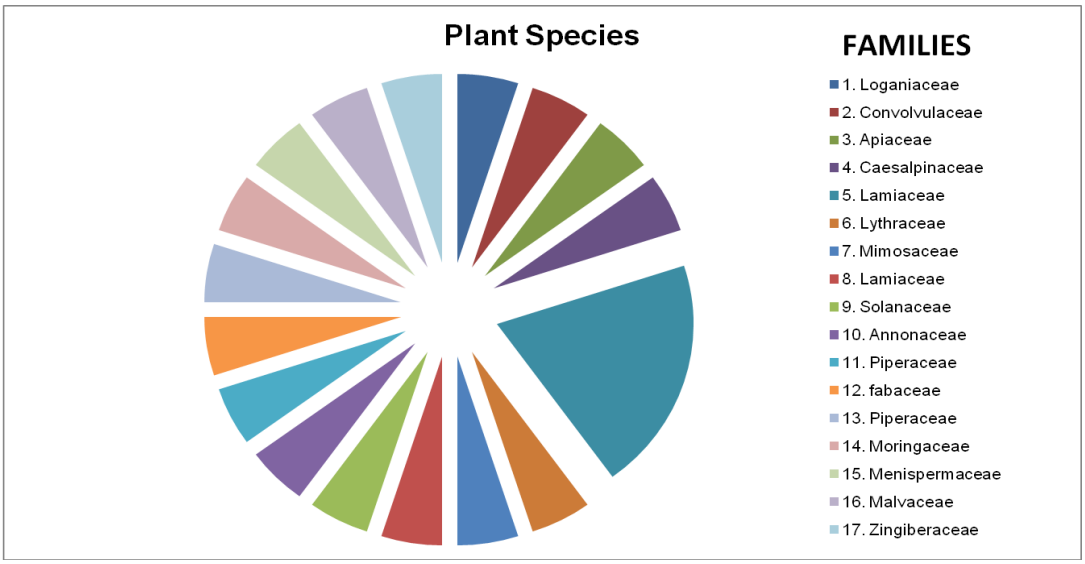

Figure 6: *Plant species among the Families used by Jenu Kuruba Tribes at Nagarhole Tiger Reserve Forest, Karnataka*

3. Results and Discussion

The knowledge on medicinal plants was collected from local tribal people, elderly persons who helped us in providing information regarding medicinal plants and their usage. These local tribes naturally use the available plant as herbal medicines. Based on the information given medicinal importance of 20 plants (Table 1) were recorded. Among the 20 plants reported the dominant family was found to be Lamiaceae and Piperaceae and the rest of the genus single species was reported.

Table 1: *Medicinal plants grown in Nagarhole Tiger Reserve Forest, Karnataka, India* (Gamble, 2017; Saldanha, C.J., 1984).

Botanical Name	Vernacular Name	Family	Description	Chemical constituent	Part Used	Medicinal use
***Trachyspermum ammi* (L.)**	Tamil - Omam Hindi - Ajwain Bishop's weed Kannada - Other names Caraway, Carom	Apiaceae	1. Annual herb. 2. Origin - From India/Pakistan. 3. Fruit - Small, pale brown, Schizocarpus, Oval in shape. 4. Has a bitter, pungent taste. 5. Smells like thyme. 6. Has more aromatic smell.	Fruits - yield essential oil, mainly gamma-terpinene, p-cymene and thymol.	Root, Fruits.	Fruit-used in sore throat, diarrhea, respiratory, abdominal spleen disorders, cholera, blood poisoning distaste.
Cassia occidentals* L. (or) *Senna occidentalis	Tamil - payaverai Hindi - kasondi, Kannada – Elemurisoppu Cashanda Other names - Septic weed, Coffee senna, Coffee weed, Mogdad coffee, Negro-coffee, stinking weed, Styptic weed, Stephanie weed	Caesalpinaceae	1. A diffused under shrub. 2. Formerly placed in the genus Cassia. 3. Plant - Sub glabrous, foetid, few feet high. 4. Leaves - Alternate, compound leaf, margin ciliate, glabrous or	Roots - emodin, Seeds - chrysarobin (1, 8- dihydroxy-3-methyl-9-anthrome) and N-methyl morphine.	Root, leaf.	Jenu tribes use: Roots- cough/ scorpion sting. Leaf- asthma Seed- skin diseases.

			pubescence, paripinnate, channeled rachis, rachis has a gland at the base, stipules cordate, leaflets 4-5 pairs, oblong, acuminate. 5. Inflorescence - Axillary corymb terminal panicle. 6. Flowers - yellow coloured, complete, bisexual slightly irregular, Zygomorphic, pentamerous, hypogynous, pedicillate, bracteates, bracts white with pinkish tinge, thin, orate - acuminate, caduceus, yellow. 7. Calyx-sepals - gamosepalous , tube short, 5 lobed, obtuse. Glabrous, imbricate, odd sepal. 8. Corolla - petals 5, polypetalous, sub - equal with distinct claw, conspicuously veined, ascending. 9. Androecium - stamens 10, free, unequal in size, 7 perfect and 3 reduced to staminode, unequal filaments, dithecous anthers, basifixed, introrse, and dehiscing by terminal pores. 10. Gynoecium - Capitate, many ovuled, carpel 1, Superior ovary, unilocular. Marginal			

			placentation, simple style, stigma capitate. 11. Fruit - pod, dehiscent, woody, glabrous, recurved, subcompresssed, distinctly torulose, 20-30 seeded. 12. Plant is poisonous to cattle. 13. Leaves are poisonous but used in Maldivian diet.			
***Vitex negundo* L.**	Tamil - Notchi Hindi - Mewri Kannada - Lakkisoppu Other Names - Chinese chaste tree, 5 - leaved tree, horse - shoe vitex.	Lamiaceae	1. A large shrub or a small tree. 2. Grows - In the hills (up to 5000 ft.) in the dry region on the waste lands, around the villages, roadside, on the bank streams. 3. Height - 2 to 8m. 4. Aromatic shrub. 5. Branchlets - Quadrangular, densely whitish, tomentosa branch lets. 6. Used in folk medicines. 7. Used in South, S-E Asia. 8. Bark- Reddish brown, thin, grey, hard. 9. Leaves - 5 lanceolate, leaflets digitate, sometimes 3. 10. Leaflets - Each leaflet is around 4 to 10 cm in length, central leaflet, largest with a stalk. 11. Leaf edges - serrate, toothed, bottom surface with hair. 12. Flowers - borne in panicles (10 to 20 cm) length.	Leaf juice - casticin, isorientin, chrysophenol D, Lute Olin, p-hydroxyl benzoic acid and D-fructose. Oil contains sabinene, Linalool, terpinen - 4-ol, 3-Caryophyllene, α - guaiene and globulol.	Leaf, root	Jenu tribes use its parts like Root- Sinus Leaf- Cough, Fever, asthma.
***Lawsonia inermis* L.**	Hindi - Mehndi, Tamil - Marithani,	Lythraceae	1. Grows along the	Esculetin, Fraxetin, Lawsone, Esculetin,	Leaves	Leaf- Intrinsic

	Kannada - Gorantee Hina, Henna, Mignonette tree, Egyptian privet.		Coromandel coast, Deccan. 2. Tall shrub or small tree. 3. Leaves - yields henna dye, small leaves, grows opposite to each other on the stem, glabrous, sub-sessile, elliptical, and lanceolate. 4. Flowers - white, 4 sepals, petals - obvate with white or red stamens. 5. Ovary - 4 celled, erect. 6. Fruits - Small, brownish, capsules. 7. Seeds - open irregularly into 4 splits. 8. Bark - Grayish brown, thin. 9. Wood - Grey, hard.	Isoplumbagin, Scopoletin, Betulin, Betulinic acid, Hennadiol, Lupeol, Lacoumarin, Quinone and napthoquinone Tannin: 1		Hemorrhage, ulcers, skin troubles, leprosy, head ache, cardiac diseases, deodorant and sedative.
***Mimusop s pudica* L.**	Lajjulu, Multidare muni, Touch me not plant. Tamil - Thottarsinungi, Shy plant, Sensitive plant.	Mimosaceae	1. Introduced from tropical America. 2. Diffused under shrub. 3. Spreads very fast and troublesome plant and difficult to eradicate. 4. Thorny 5. Leaves - Sensitive, bipinnately compound with 1 or 2 pinnae pairs with 10-26 leaflets per pinna. 6. Petioles - prickly. 7. Flowers - Pinkish, Purple coloured flowers, head arise from leaf axis in mid-summer and more flowers as the plant grows. 8. Floret - Petals red in upper part. 9. Filaments - pink to lavender. 10. Fruit - Flat,	1. Contains toxic alkaloid mimosine, flavonoid, C-glucosides, Sterols, terenoids, tannins, fatty acids. 2. Roots - 10% tan methylnin. 3. Seeds - Produce mucilage made up of D-glucuronic acid and D- xylose. 4. Roots - SO2 methyl sulfonic acid, pyruvic acid, lactic acid, ethane sulfinic acid, propane sulfonic acid, thioformaldehyde.	Root Leaves.	Roots- Used by the tribes to cure Urinary disorders, Snake poisoning, accidental wounds.

			pod-shaped, clustered, 2-8 pods, margin prickly. 11. Seeds - Hard seed coat that restricts germination.			
Plectranthus amboninicus* (Lour.) *Spreng* or *Coleus ambonicus.	Tamil - Karpooravalli, Omavalli, Ajwain, Indian Borage. Kannada - Karpurahalli, DoddapathreSoppu.	Lamiaceae	1. Grown - In Circars, Deccan, Carnatic, Malay sp. 2. Aromatic herb, succulent, fleshy. 3. Much branched, possess short soft erect hairs. 4. Stem - Fleshy, long rigid hairs, tomentose. 5. Leaves - Covered with soft, erect hairs, undivided leaves with pleasant aromatic smell. 6. Flowers - small purple flowers borne on short stem. 7. Used in Medicines and as flavors in drinks. 8. Calyx - Bell-shaped, throat is smooth inside with 2 lips, upper lip-ovate, lower lip - 4 narrow teeth. 9. Fruit - nutlets, smooth, pale-brown in color, 0.7 mm long and 0.5mm wide. 10. It rarely flowers. 11. Seeds - difficult to collect.	Monoterpenoids, Diterpenoids, Triterpenoids, Sesquiterpenoi, phenolic, flavonoids, esters	Leaves.	Leaves- cold, cough, sore throat, nasal Congestion to treat fever skin, skin infection, for rashes.
***Daturametel* Linn.**	Tamil - Oomathi, Kari ummathi, Datura. Kannada- Unmatta Dhattura. Devil's trumpet, Metel.	Solanaceae	1. Erect herb. 2. Perennial/annual herb. 3. Ht - 3ft high. 4. Shoots - dark violet. 5. Leaves - oval to broad shaped, dark violet simple, alternate leaves. 6. Flowers - Pleasant	Scopolamine, Daturadiol, Hyoscyamine, Fast Udine, Allantoin, Niacin, Vit-C, Tropine, Nor atropine, Metelodine, Hyosine, Fastusic acid.	Leaf, Flowers, seeds	Leaves- skin diseases, boils. Flowers- Applied for cracks in feet. Seeds- rabies.

			smell, white, short spinous, white to creamy yellow, red, violet coloured flowers. 7. Seed - Capsules, numerous conical humps with few spines. 8. Fruit- Capsule.			
***Annona reticulate* Linn.**	Tamil- Seethapalam Kannada- Seethaphala, Custard apple, Bull's heart, Ox-heart.	Annonaceae	1. Small deciduous or semi-ever green tree. 2. Height - 8m. 3. Stem& Leaves - Leaves hairless, straight, apex pointed. 4. Flowers - Yellow-green in colour of 3 or 4 cm in diameter. 5. Fruits - Varies in shape, heart- shaped, oblong, or irregular. 6. When ripe the fruit is brown or yellowish with red highlights and a varying degree of reticulation. 7. Flesh of the fruit is juicy 8. Very aromatic with repulsive taste. 9. Flavour - Sweet and pleasant.	1. Leaf- Annomonicin, Rolliniastatin, Annonaretin A, Copaene, Salsolinol. 2. Bark- Bullatacin, Reticulatacin. 3. Stem bark- Molvizarin, Dopamine, Salsolinol. 4. Seed- Annomonicin, Solamin, Sitosterol. 5. Fruit- Pinene, Myrcene, Limonene, Terpineneol-4	Leaf, Bark, Seed, Root, Fruit	Diarrhea in children and adults For diabetes, Grounded seeds applied on hair to fly away lice. To treat burning sensation.
***Piper nigrum*, Linn.**	Tamil- Milagu Hindi- Kalimirch, Kannada- Menasu Black pepper, White pepper, Green pepper, Pepper corn, Madagascar pepper.	Piperaceae	1. Western Ghats. 2. Climbing Shrub, 3. Height - 10m. 4. Roots - Short, adventitious roots. 5. Leaves - small, cordate gradually becomes larger and berries up to 25cm in diameter, almond shaped tapering towards the tip, dark green, shiny above, below pale green,	Lignans, Alkaloids, flavonoids, aromatic compounds and amides, essential oil, sabinene, pinene, phellandrene, linalool, limonene and piperine.	Black pepper oil, seeds.	Made into khasahayam, Seeds boiled in water along with garlic given for cold and cough.

			alternately arranged on the stems. 6. Flowers - Borne in clusters along the stalk, 50-150 whitish to yellow- green flowers borne on a spike. 7. Fruits - Berry - like, round, up to 6mm in diameter, green at first but becomes red as it ripens, each with a single seed, 50-60 fruits borne on each spike.			
***Clitoria ternatea* Linn**	Tamil- KarkaKartun Hindi- Khagin Kannada- Aparajite, Asian pigeon wings, Blue pea, Bluebell vine, Butterfly pea, Cordafan pea, Darwin pea.	Fabaceae	1. Pretty climber (herbaceous climber). 2. Grows as a vine or a creeper. 3. Leaves - obtuse, elliptic. 4. Flowers - deep blue, solitary with light yellow markings 4cm (long), 3cm (wide). 5. Fruits - long, flat pods, with 6-10 seeds in each pod, (5-7cm) long. 6. Edible when tender. 7. Roots - Forms symbiotic association with soil bacteria called rhizobia that transformatmospheric Nitrogen.	Triterpenoids, Flavonol glycosides, anthocyanin's, Steroids, Clio tides	Flowers, leaf, root, bark.	Roots- eye disease, mental disorder, snake poison, toothache.
***Moringa oleifera* lam.**	Tamil- Muringai Hindi- Sanjna Kannada- Noogay, Moringa, Drum stick tree, Horse-radish tree, Ben oil tree, Benz oil tree.	Moringacaeae	1. Deciduous tree. 2. Ht-10-12 cm. 3. Bark - Corky grey, soft white wood, whitish grey color, surrounded by a thick cork. 4. Young shoots - purplish (or) greenish white 5. Root - Has flavor of horse radish. 6. Branches - open crown, drooping, and fragile	PterygosperminMoringine, Amino moringinine acids, Spiro chin, saponins: 1, Behenic acid, Moringicacid, Niacin A & B Niazimicin, Camp sterol, Stigma sterol, Beta sit sterol	Leave, seeds, root, flowers, fruit (pods).	Leaves cooled in water- blood purifier.

			branches. 7. Leaves - Feathery, foliage, tripinnate. 8. Flowers - Fragrant, bisexual, surrounded by 5 unequal thinly veined yellowish-white petals, flowers in clusters, flowers twice or whole year. 9. Fruit - Hanging 3-sided brown, 20-45 cm size that holds dark brown seeds. 10. Seeds - yield valuable oil, 3 whitish papery wings, seeds dispersed by wind and water.			
***Cassia fistula* Linn.**	Tamil- Kondrai Hindi- Amaltas Kannada- Kakke Golden shower tree, Golden rain tree.	Fabaceae	1. Medium - sized tree. 2. Height - 10-20 m. 3. Bark - Young-pale and smooth. 4. Leaves - Deciduous, pinnate, 3 to 8 pairs of leaflets. 5. Flowers - long raceme, bright yellow, and 5 yellow petals of equal size / shape. 6. Wood - hard, reddish-brown, strong, durable, used for agricultural work, heart wood. 7. Fruit - Legume, broad, many seeded, pungent odor.	Hexacosanol, Anthraquinones, fistulaic acid, Rhein, Rhein- glucoside, Sennosides A&B, Phlobaphenes, Emodin, Chryso-phanic acid, fistuacacidin, Lupeol, Beta- sitosterol.	Root tubers Fruit, pod, and Fruit pulp.	Root tubers are given for snake-bites. Grind tubers and apply to body. Porcupine feeds on its tubers.
***Evolvulusalsinoides* L.**	Tamil- Vishnukranthi. Hindi- Vishnukrantha. Kannada- Vishnukranthi. Slender- dwarf. Morning-	Convolvulaceae.	1. Flowering plant. 2. Perennial herb. 3. Root - stock-woody. 4. Leaves - Variable, Lanceolate, oblong, ovate or even sub orbicular, hairiness also variable.	Scopolamine, Umbelliferone, Scopolin, 2- methyl-1, 2, 3,4 –buta-netetrol.	Leaves/ whole plant.	Cough, Whole plant is used for hair growth, female sterility.

			5. Flowers - Light- blue.			
Strychnos potatorum	Tamil- Thethankottai. Hindi- Nirmali. Kannada- Chilla. Clearing Nut Tree.	Loganiaceae	1. Grows - northern Circars, Deccan, Carnatic to South Travancore. 2. Deciduous Forest. 3. Height - 4000ft. 4. Medium - sized tree. 5. Bark - Brownish black, Corky, Deeply Cracked. 6. Wood - Hard, White yellowish turns to grey, less used. 7. Seeds - Used In traditional medicine and for water purification.	Seeds-Mannogalactan. Seeds, Leaves, Trunk, Bark-Diabolin, acetyldiabolin. Seeds-Brucine, Strychnine, Noracine, Oleanic acid, glycoside. Leaves, Bark-Isomotiol, Stigma sterol, Campestrol, Sitosterol.	Seeds, Leaves, Trunk.	Seeds- Used in cough, eye diseases, diarrhea, diabetes, piles.
***Piper longum* Linn.**	Tamil- Vettilai. Hindi- Pipalmal Kannada- KandanLippilli. Long pepper.	Piperaceae.	1. Habit - West Coast, Western Ghats, Evergreen forest in Malabar, Travancore, Anamalai Hills. 2. Slender under shrub, Creeping, Rooting below. 3. Branches - Erect, subscandent. 4. Berries - Small red when ripe, affords pepper, used in medicine.	Fruit- alkaloid piperine. Rutin, Beta-Caryophyllene, Piperyline, Piperoleine, Bisabolene, Chavicin, Pinene, Phellandrene, Pentacedane, beta-Bisabolene, Linalool, Limonene.	Fruit.	Fruit- Used in Fever, Cough Asthma, Thirst, Muscular pain, Vomiting.
TinosporacordifoliaMiers.	Tamil- Chintil. Hindi- Goluncha. Kannada- Amruthaballi. Heart leaved moonseed.	Menispermaceae.	1. Climbing shrub. 2. Stem - Succulent. 3. Bark - Papery at first then Corky. 4. Leaves - Glabrous, Simple, Alternate, Exstipulate, and long petioles up to 15cm long, roundish, pulvinate both at the base and at the apex.	Columbin, Tinospoaside, Jatrorhizine, Palmatine, Berberine, Temberterine.	Root, Leaf, Stem.	Stem- Anemia. Root- Vomiting. Leaf- Fever, Cough, Eye disease, Diabetes.

			5. Lamina - Broadly ovate, cordate. 6. Flowers - Yellow on Nodes on old wood, Drupes - red, unisexual, small on separate plants. 7. Male Flowers - Clustered. 8. Female Flowers - Solitary. 9. Sepals - Free, Free in series of 3 each outer smaller. 10. Petals- 6 free, obvate, membranous 11. Fruit - Aggregate of 1-3, ovoid, smooth druplets, orange coloured.			
***Sida cordifolia* Linn.**	Tamil- Kurunthotti Hindi- Bala. Kannada- Hettuti. Flannel Weed, Country Mallow, and Heart- leaf sida.	Malvaceae	1. Weed. 2. Grows - along roadside, Wastelands. 3. Perennial shrub. 4. Entire plant covered with soft white hair. 5. Stem - Yellow-green, Hairy, Long, Slender. 6. Leaves - oblong, ovate, covered with hairs. 7. Flowers - dark yellow, with dark orange center. 8. Calyx - 5 - lobed. 9. Corolla - 5 - lobed.	Betaine, Choline, Vasicinol, Vasicinone, Hypaphorine, β – phenethylamine, ephedrine, pseudo-ephedrine.	Root, leaf, Bark.	Bark- Urinary troubles. Root- Diarrhea, Goiter, Bleeding piles, nervous disorders. Leaf- Cardiac disorders.
***Ricinus communis*Linn.**	Tamil- Amanaku. Hindi- Arend. Kannada- Haralu. Castor bean, Castor- oil plant.	Lamiaceae.	1. Grows wildly in the fields, Gardens, roadside, wastelands. 2. Small tree. 3. Bark - Greyish brown. 4. Wood - Soft, white. 5. Yields oil.	Seeds-oil (Castor), triglycerides (mainlyrianolein).	Leaf, Root.	Root- Fever, Chest pain, Diarrhea. Leaf- Piles, Cough, Wound, Night blindness, Jaundice, Used for burning and as lubricant.
***Leuca saspera* Spring**.	Tamil- Thumbai. Hindi- Guma. Kannada- Halkusa.	Lamiaceae.	1. Coarse erect, diffusely branched, annual herb. 2. Leaves - opposite sub	Triterpernoids, Oleanolic acid, Ursolic acid, Nicotine (Aerial Parts).	Whole plant.	Used in cold, fever, Cough, Jaundice, skin diseases.

			sessile or short petioles, linear or narrowly oblong, lanceolate, entire or distantly crenate, obtuse, narrowed at the base reaches up to 8cm broad, leaves epidermis covered in a thick waxy cuticle and is traversed with stomata. 3. Stems - Hispid or scabrid, wide stele, quadrangular, much branched. 4. Roots - Very thin. 5. Flowers - Verticillaster, 6. White, small, directly attached to the base without a stalk, complete, bisexual, irregular, Zygomorphic, Hypogynous, Pentamerous. 7. Calyx – Sepals - 5, gamosepalous, 10nerved, tubular, curved 6- 10 toothed, contracted at the mouth, Glabrous below, ribbed and scab rid above, mouth oblique, produced on the upper side, teeth short, triangular, ciliate, spinulose. 8. Corolla - Petals 5, Gamopetalous, bilabiate, tube annulate. 9. Androecium - Stamens 4, epipetalous, Didynamous, ascending the upper pair			

			shorter, anthers Connivent, cells divaricate, Ultimately Confluent. 10. Gynoecium - Carpels 2, Syncarpous, ovary superior, axile placentation, 1 ovule in each chamber, style gynobasic, long, Stigma bifid, subulate, upper lobe minute. 11. Fruit-Nutlets, brown, smooth, oblong in shape.			
***Zingiber officinalis* Rosc.**	Tamil-Inji Hindi-Adrak Kannada-Alla Ginger plant.	Zingiberaceae	1. Herb. 2. Perennial plant. 3. Stem - Annual. 4. Leaves - Narrow green. 5. Flowers - Yellow.	Volatile oil, Zingerone, Shogaols, Gingerols.	Rhizome.	Used in cough, Anemia, Piles, stomach ache, asthma, Diarrhea.

1. *Trachyspermum ammi (L.)*
2. *Cassia occidentals L. (or) Senna occidental.*
3. *Vitex negundo L.*
4. *Lawsonia inermis L.*
5. *Mimusop pudica.*
6. *Plectranthus amboninicus (Lour.)*
7. *Datura metel Linn.*
8. *Annona reticulate Linn.*
9. *Piper nigrum, Linn.*
10. *Clitoria ternatea Linn.*
11. *Moringa oleifera Lam.*
12. *Cassia fistula Linn.*
13. *Evolvulus alsinoides L.*
14. *Strychnos potatorum L.*
15. *Piper longum Linn.*
16. *Tinospora cordifloia Miers.*
17. *Sida cordifloia Linn.*
18. *Riccinus communis Linn.*
19. *Leucas aspera.*
20. *Zingiber officinalis Rosc.*

Almost these plants are easily available in the forest and they use these medicinal plants for generations together. They use these medicinal plants to cure various ailments and also to preserve and promote their health by practicing their own method. These methods are safe and less side effects. So, it is necessary to explore more medicinal information from these tribes that help to provide treatment for various diseases in this modern scientific world. During our field (Figure 3, 4 and 5) visits

the Lamiaceae family members recorded the highest number of Medicinal plants than the other 17 families (Figure 6).

5. Conclusion

In this modern scientific world the Jenu Kuruba tribes use these plants as medicine to cure various ailments instead of depending on Allopathic medicines. In this research, 20 common medicinal plants used by these tribes in medicinal preparation. The plants used by one group of tribes are used differently by another tribal group. So, it is our responsibility to maintain and preserve all the medicinal plants for the future, their conservation, germ plasm, preservation and cultivation.

Acknowledgement

Authors are thankful to the State Forest Department and State Government of Karnataka for their Co-operation and kind help to collect information regarding medicinal plants from the tribal people. Special thanks to the Jenu Kuruba tribes and the Forest guards who helped us by accompanying and translating the local language into English. I am very much thankful to the Department of Plant Biology and Plant Biotechnology, Presidency College (Autonomous), Chennai for providing necessary permission to carry out this research work.

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