

## ETHNO MEDICINAL INFORMATION ON COLLATION AND IDENTIFICATION OF SOME MEDICINAL PLANTS IN COLLEGE CAMPUS

Dr. R. MurugalakshmiKumari<sup>1</sup>, R.Nagajyothi<sup>2</sup>, V.G.Jyothimani<sup>3</sup>

<sup>1</sup>Assistant Professor of Botany,  
V.V.Vanniaperumal College For Women, Virudhunagar-626001, Tamil Nadu , India.

<sup>2</sup>Assistant Professor of Computer Applications,  
V.V.Vanniaperumal College For Women, Virudhunagar-626 001, Tamil Nadu , India.

<sup>3</sup> Assistant Professor of Computer Applications,  
V.V.Vanniaperumal College For Women, Virudhunagar-626 001, Tamil Nadu , India.

---

### ABSTRACT

The aim of present study is to investigate medicinal plants and document their medicinal uses. The study area was made inside the college campus. From this study 26 species of medicinal plants belonging to 15 families were recorded and their medicinal values were collected from the people of particular areas. This study focuses to create awareness among the people about medicinal plants and their medicinal values and also create awareness among the youth to practice and do more work in ethnobotany which has dramatically increased in recent years. The findings highlight the potential of QR codes as a valuable tool for enhancing tree management practices and fostering a deeper understanding and appreciation of campus green spaces.

**Key-words:** Medicinal plants, QR code, Trees, open source technology, database, environmental education.

### INTRODUCTION

Biodiversity brings enormous benefits to mankind from direct harvesting of plants and animals for food, medicine, fuel construction, material and other aesthetic, cultural, recreational and research values<sup>1</sup>. Plant resources have remind an integral part of human society throughout history. After fulfilling the primary needs like food and shelter, man has sought for a suitable remedy among the plants for curing various diseases<sup>2</sup>. India is a very rich in medicinal plants information and known for its rich biodiversity of medicinal plants hence called botanical garden of the world. India has a century's old tradition of using medicinal plants and herbal medicine for the alleviation of various diseases and ailments as

well as for the promotion of health happiness. People often look towards the traditional system of medicine not only for the curvatures effects of plants but also to hopefully provide them with elixirs of youth and good health<sup>3</sup>.

Medicinal plant treatment is very safe compared with modern treatment. The major systems of indigenous medicines are Ayurveda, Siddha, Unani. Among this Ayurvedic and Siddha medicinal treatment was practiced in India by using medicinal plants. Traditional medicines is defined as indigenous medicine that is used to maintain health and to prevent diagnose and treat physical and mental illness differently from allopathic medicine based on theories, beliefs and experiences<sup>4</sup>. Ethnobotanical studies are very important to reveal the past and present culture about plants in the world but indigenous knowledge of using medicinal plants for healing human ailments is however in danger of gradually becoming extinct because this knowledge is passed on orally from generation to generation without the aid of a writing system and because many traditional healers do not keep written records<sup>5</sup>. Our ancestors believed that herbs are only solutions to cure health related problems. Research take place by studying medicinal plants they found many drugs which are synthesized by the plants. A study shows that medicinal plants have been vital sources of both curative and preventive medicinal therapy preparations for human beings which also has been used for the extraction of important bioactive compounds<sup>6</sup>. Ethnomedicinal knowledge is concentrated in the elderly and relative members of the community and difficult in its transfer from the elders to the young generation<sup>7</sup>. Similar results were reported that young people showed disinterest in the traditional medicinal plants because modernization, growing world populations, increasing anthropogenic activities, rapidly eroding the natural ecosystem of medicinal plants<sup>7</sup>.

Although the tribal tracts are the store houses of information and knowledge on the multiple uses of medicinal plants. However such traditional knowledge is rapidly disappearing. There is an urgent need to document this knowledge, otherwise it will be lost forever. So the aim of the present study is to create awareness among the youth to learn the value of medicinal plants and conservation of local plants among their areas.

#### **MATERIAL AND METHODOLOGY**

For the survey and documentation of medicinal plants and trees, inside the college campus was conducted in Virudhunagar District, South India, Tamil Nadu. Virudhunagar municipality covers an area of 6.39 km<sup>2</sup> (2.47 sq mi)[6] It is located 506 km (314 mi) southwest of the state capital Chennai and 53 km (33 mi) south of Madurai. The city has an average elevation of 102 m (335 ft). The town is located to the east of the Kowsika river and

to the west of the Madurai–Tirunelveli railway line. The medicinal plants and trees were collected by photograph both in flowering and fruiting condition. The collected plants and trees were tagged by GPS Map stamp Camera which helps us in note the date, time, climate and place.

The plant is located with an address. Collected photography of medicinal plants and trees were gathered. The traditional methods of tree identification often require extensive knowledge of botanical characteristics and can be time-consuming. By leveraging the ubiquity of smartphones and QR code technology, we propose a convenient and efficient solution that allows users to identify trees in real-time. This paper outlines the design, implementation, and evaluation of a mobile application that utilizes QR codes to provide users with instant access to tree information, including species, common names, and other relevant details. The proposed system offers a user-friendly interface, seamless integration of QR code scanning, and a comprehensive database of trees.

## RESULT

In the present study, there were 26 medicinal plants collected belonging to 15 families namely Fabaceae(3), Solanaceae( 1 ),Apocynaceae ( 3), Amaranthaceae ( 2 ),Asteraceae (1), Araceae (1), Asphodelaceae (1), Acanthaceae (1), Euphorbiaceae (2), Lamiaceae (3), Zingiberaceae (1), Basellaceae (1), Cucurbitaceae (1), Rubiaceae (1) and Malvaceae (1). The documented details of medicinal plants are given below in tabular columns based on scientific name in alphabetical order along with their family name, common name, local name, habitat and uses. (Table -1)

**Table-1**

S. No	Scientific Name	Family Name	Common Name	Local Name	Habitat	Uses
1.	<i>Abolition indicum ( Link ) Sweet</i>	Malvaceae	Indian Abutilon	Thuthi	Shrub	Muscles strengthening,Reduces white discharge women ,Increases sperm motility,Acts as blood purifier,cures piles
2.	<i>Acalypha indica ( L)</i>	Euphorbiaceae	Copper leaf	Kuppaimeni	Herb	Cures phlegm, cough, asthma, skin diseases,rheumatoid,arthritis,scabies,bed sores
3.	<i>Achyranthus aspera (L)</i>	Amaranthaceae	Prickly chaff flower	Nayuruvi	Herb	Cures tooth pain,cancer,stomach pain, toxic bites,abdominal pain and bleeding piles
4.	<i>Adhatoda vasica nees(L)</i>	Acanthaceae	Malabar nut	Adhatoda	Shrub	Cures Asthma ,bronchitis, TB, cough and throat infection
5.	<i>Aerva lanata (L) Juss ex Schutt</i>	Amaranthaceae	Mountain Knot grass	Kannupillai, Sinupillai	Herb	Cures kidney stone,headache,painful urination, viper’s bites. Acts as natural deworming

S. No	Scientific Name	Family Name	Common Name	Local Name	Habitat	Uses
						medicine
6.	<i>Aloe barbadensis miller (Mil)</i>	Asphodelaceae	Aloe vera	Katralai	Shrub	Improves digestive system and boost immunity, Cures acne, sunburn,skin cancer
7.	<i>Basella alba (L)</i>	Basellaceae	Indian spinach	Pasalai keerai	Soft - stemmed vine	Cures abscesses,conjunctivitis,cataract and labour pain
8.	<i>Calotropis gigantea(L)Dryand</i>	Apocynaceae	Crown flower , Giant Milkweed	Erukkam	Shrub	Cures poisonous bites,enlarged spleen,skin diseases, gout,rheumatism,blemishes, discoloration in skin
9.	<i>Clitoria ternatea (L)</i>	Fabaceae	Asian pigeon wings,Blue pea, Butterfly pea	Sangu Poo, Kakkanaam, Sankhupushpa -m	Herb	Increases blood flow in scalp of head region, Prevent aging, Regulate blood level,Cures Chronic fatigue,Reduces stress and anxiety
10	<i>Coccinia grandis (L.Voigt)</i>	Cucurbitaceae	Ivy gourd	Koovai	Climber	Cures diabetes, cataract,gonorrhoea,chest cold and skin eruption
11	<i>Coleus amboinicus(Lour)</i>	Lamiaceae	Indian mint	Karpuravalli	Shrub	Cures cold, hair problems,asthma, severe wheezing,hiccups,mouth ulcers
12	<i>Curcuma longa (L)</i>	Zingiberaceae	Turmeric	Manjal	Herb	Cures itching,depression, hay fever,dark spots or blemishes
13	<i>Epipremnum aureum (Linden &amp; Andre) G.S. Bunting</i>	Araceae	Money plant, Silver Vine	Panam illai	Vine	Reduces stress, sleeping disorder and mental illness . Acts as an anti- radiator
14	<i>Euphorbia hirta (L)</i>	Euphorbiaceae	Asthma Weed	Amman pacharisi	Herb	Cures warts, swelling ulcers,bleeding andmale sexual disorder
15	<i>Hibiscus-rosa sinensis (L)</i>	Malvaceae	Shoeblackplant	Sembaruthi	Shrub or Herb	Cures blood pressure,Maintain body fluid balance,Prevents over flowing during menstrual cycle and improve hair growth
16	<i>Ixora coccinea (L)</i>	Rubiaceae	Jungle geranium	Idli Poo ,Vetchi poo	Shrub	Prevents cancer,cures fever,body fitness,skin diseases,unhealed wounds and irregular periods
17	<i>Leucas aspera (Willd) Link</i>	Lamiaceae	Common leucas	Thumbai	Herb or shrub	Cures headache,cold,cough,fever,piles,jaundice,diabetes ,respiratory diseases and snakes bites
18	<i>Nerium oleander (L)</i>	Apocynaceae	Sweet scented oleander	Arali	Shrub	Cures microbial infection,snake bites, joint pain and headache .Improves skin complexion
19	<i>Ocimum tenuiflorum (L)</i>	Lamiaceae	Holy basil	Tulsi	Shrub	Cures hair loses,heart diseases,diabetes, kidney and respiratory problems
20	<i>Phyllanthus amarus (Schumach &amp; Thonn)</i>	Amaranthaceae	Gale of wind	Keelanelli	Herb	Cures jaundice,skin diseases, hair growth, urinary tract stones, HIV and hepatitis.

S. No	Scientific Name	Family Name	Common Name	Local Name	Habitat	Uses
21	<i>Senna auriculata</i> (L) Roxb	Fabaceae	Mature tea tree	Avari, Avarpoo	Shrub	Keeps body warm,detoxifies smelling in our body,urinary infection,cures diabetes ,bolstering immunity
22	<i>Solanum trilobatum</i> (L)	Solanaceae	Purple fruited pea plant	Thoothuvalai, surai	Herb	Respiratory problems,chest congestion, TB , Improves stamina ability,Good for bones and cancer cells and increase semen quality
23	<i>Tabernaemontana divaricata</i> R.Br.ex.Roem & Schult	Apocynaceae	Pinwheel flower	Nanthiya veelai	Shrub	Cures eye diseases, tooth pain, skin diseases, intestinal worm infection
24	<i>Tecoma stans</i> (L) Juss ex Kunth	Bignoniaceae	Yellow trumpet bush Yellow bells	Sonapatti, Thanga Arali poo	Shrub	Cures blood pressure, urine infection,diabetes,rats and snakes bites and stomach pain
25	<i>Tridax procumbens</i> (L)	Asteraceae	Tridax dairy	Vettu kanya poondu, Thatha poo, Kinatru pasan	Herb	Cures skin diseases, Liver disorders, gastritis, heartburn blisters, sores and ulcers. Acts as an antiseptic, haemostatic and parasiticide
26	<i>Trigorulla folium graceum</i> (L)	Fabaceae	Fenugreek	Vanthanyam	Herb	Controls cholesterol level, hair loss and menstrual problems, Purifies blood in our body.

**Table-2: Trees at our College Campus**

S. No.	Scientific name	Family name	Common name	Local name	Habit	Uses
1.	<i>Aeglemarmelos</i> (L) Correa	Rutaceae	Indian bael	Vilvam	Tree	Fever, respiratory problems, tuberculosis and gastric ulcer
2.	<i>Azadirachtaindica</i> A Juss	Meliaceae	Neem tree	Vappamaram	Tree	Cure poison, cancer, malaria, fungal disease, cardiac care and chicken pox
3.	<i>Bauhinia racemosa</i> Lam	Fabaceae	Yellow bauhinia	Thiruvachi	Tree	Skin problems, cure wounds, sore throat, swelling of liver.
4.	<i>Carica papaya</i> {L}	Caricaceae	Paw paw	Papaya tree	Tree	Cure diseases, gastrointestinal tract disorder, cure colorectal cancers, cure low sugar level, stomach intestinal problems.
5.	<i>Cocosnucifera</i> {L}	Arecaceae	Coconut tree	Thennaiaram	Tree	Treatment of urinary infection, moisturize skin and hair, build strong bones, skin aging problems
6.	<i>Ficusbenghalensis</i> (L)	Moraceae	Indian banyan	Aalamaram	Tree	Cures ear problems, nasal bleeding, treatment of gonorrhoea, tooth problems

S. No.	Scientific name	Family name	Common name	Local name	Habit	Uses
7.	<i>Ficus religiosa</i> {L} Forssk	Moraceae	Peepal tree	Arasamaram	Tree	change for conceiving a child, cure asthma, good for oral health, cure jaundice, treat breast problems
8.	<i>Manilkarazapota</i> {L} <i>P.Royen</i>	Sapotaceae	Chiko tree	Sapota	Tree	Immunity power, prevent colon cancer, stopping the loss of blood, development of the foetus during pregnancy
9	<i>Morindacitrifolia</i> <i>Roxb</i>	Rubiaceae	Indian mulberry	Manjanathi	Tree	Reduce heat of our body, cure external wounds, treat throat ulcer, keep their blood level normal
10.	<i>Musa paradisiaca</i> {L} <i>Colla</i>	Musaceae	Desert plantain	Valaimaram	Large herb	Proper functioning of heart, treat dysentery, bronchitis, cure fever and leprosy.
11.	<i>Murrayakoenigii</i> {L} <i>Spreng</i>	Rutaceae	Curry tree	Karuveppilai	Tree	Treat constipation, colic and diarrhea, improve appetite and digestion, weight loss.
12.	<i>Moringaoleifera</i> Lam	Moringaceae	Drumstick tree	Murunga	Tree	Protection of skin and hair, treatment of oedema, protect the liver, treating mood disorders like depression, anxiety and fatigue.
13.	<i>Psidiumguajava</i> {L}	Myrtaceae	Guava tree	Guava tree	Tree	Treat low blood sugar, reduce stomach pains, reduce menstrual cramps, knee pain, and cancer disease.
14.	<i>Sesbaniagrandiflora</i> {L.}Poiret	Fabaceae	Vegetable hummingbird	Agathi	Tree	Repair for damaged cells of pancreas, control blood sugar, hinder growth of tumor cells.

### QR Code Generation and Database creation

Open Source Software like PHP was used to generate QR code for each tree species. Using MySQL database tool, Tree database is created with the necessary fields like tree id, scientific name, family name, common name, local name and its medicinal uses. The QR code is generated for each distinct tree species and mapped to its descriptions. The following table-3 depicts the QR Code that is generated for the Neem Tree and its descriptions.

Table-3: QR Code generated for the Neem Tree

<p><b>QR CODE</b></p> 		<p><b>Scientific name:</b> Azadirachta indica A Juss</p> <p><b>Family name:</b> Meliaceae</p> <p><b>Common name:</b> Neem tree</p> <p><b>Local name:</b> Vappamaram</p> <p><b>Medicinal Uses:</b> cures poison, cancer, malaria, fungal disease, cardiac care and chicken pox</p>
---	--	---

## DISCUSSION

The investigated study was carried out in our college campus Virudhunagar. The following collected medicinal details of identified plants with recorded alphabetical order, followed by botanical name, family name, common name, local name and uses. The study area collected 26 species of plants belonging to 15 families. Current investigation determined that collected medicinal plants were used to cure all types of diseases such as cancer, diabetes, poisonous bites, skin diseases, respiratory problems, wound healing, menstrual problems, sperm motility, hair growth etc. Records recorded in this study represent useful and long-lasting information about the medicinal plants which can contribute to preserve the indigenous knowledge on the use of medicinal plants and also attract the youngsters towards traditional healing practices. In the current investigation study area peoples have good ethno medicinal knowledge that gives good quality of information. Male traditional healers are involved professionally in the field of traditional medicinal systems<sup>8,9,10</sup>.

## CONCLUSION:

Due to the growing importance of ethnobotanical studies, it is necessary to collect information about the knowledge of traditional medicines, preserved in tribal and rural communities of various parts of India before it is permanently lost. There is a promising future of medicinal plants which helps in the treatment of present and future studies. Thus, there is enormous scope for tribal medicines based on plant products which are yet to be studied, analysed and documented. QR codes can provide quick access to information about

specific trees, helping people learn more about the local ecosystem and contribute to data collection efforts. Each QR code will be used as a tag for tagging trees and can be scanned by anyone to learn more about the trees. This system allows tree management departments to easily collect tree data and store it in a cloud database, which can then be retrieved to serve good management and raise community awareness of the benefit of tree cover among citizens. QR codes can provide quick access to information about specific trees, helping people learn more about the local ecosystem and contribute to data collection efforts. Each QR code will be used as a tag for tagging trees and can be scanned by anyone to learn more about the trees. This system allows tree management departments to easily collect tree data and store it in a cloud database, which can then be retrieved to serve good management and raise community awareness of the benefit of tree cover among citizens.

## REFERENCES

1. Sivasankari B, Pitchaimani S, Anandharaj M. A study on traditional medicinal plants of Uthapuram, Madurai District, Tamilnadu, South India. *Asian Pac J Trop Biomed*, 2013; 3(12): 975-9.
2. WHO, *Traditional Medicine: Growing Needs and Potentials*, 2002.
3. V.R. Mohan, A. Rajesh, T. Athi Perumalsamy and S. Sutha (2008) Ethnomedicinal Plants Used by the Kanikkars of Tirunelveli District, Tamil Nadu, India to Treat Skin Diseases
4. WHO, "Traditional medicine," 2012, <http://www.who.int/mediacentre/factsheets/fs134/en>. View at: [Google Scholar](#)
5. Sujatha G.,\* Rajathi V. and Bharathi k. ethnobotanical survey of indigenous medicinal plants used by the village peoples of viralur, pudukkottai district, tamil nadu, india issn 2349-8870 Volume: 4 Issue: 7 318-328 Year: 2017
6. Yuvenalis M. Mbuni, Shengwei Wang, Brian N. Mwangi, Ndungu J. Mbari, Paul M. Musili, Nyamolo O. Walter, Guangwan Hu, Yadong Zhou, and Qingfeng Wang Medicinal Plants and Their Traditional Uses in Local Communities around Cherangani Hills, Western Kenya. *Plants (Basel)*. 2020 Mar; 9(3): 331. doi: [10.3390/plants9030331](https://doi.org/10.3390/plants9030331)
7. Tilahun Tolossa Jima and Moa Megersa, (2018) Ethnobotanical Study of Medicinal Plants Used to Treat Human Diseases in Berbere District, Bale Zone of Oromia Regional State, South East Ethiopia <https://doi.org/10.1155/2018/8602945>



8. Prabhu S, Vijayakumar S, Morvin Yabesh JE, Ravichandran K, Sakthivel B.  
Documentation and quantitative analysis of the local knowledge on medicinal plants in Kalrayan hills of Villupuram district, Tamil Nadu, India, *J. Ethnopharmacol*, 2014; 157:7-20.
9. Parthiban R, Vijayakumar S, Prabhu S, Morvin Yabesh JE. Quantitative traditional knowledge of medicinal plants used to treat livestock diseases from Kudavasal taluk of Thiruvarur district, Tamil Nadu, India, *J. Rev. Bras. De Farmacog*, 2016; 26:109-121.
10. Vijayakumar S, Morvin Yabesh JE, Prabhu S, Ayyanar M, Damodaran R.  
Ethnozoological study of animals used by traditional healers in Silent Valley of Kerala, India, *J. Ethnopharmacol*. 162 (2015) 296- 305.