Guru Nanak College (Autonomous)

(Affiliated to University of Madras & Re-Accredited At "A" Grade by NAAC)
No. 161, Guru Nanak Salai, Velachery, Chennai – 600042, Tamil Nadu
Website: www.gurunanakcollege.edu.in

7.1.6- Green, Environment, Energy Audit Reports and Certificates

Supporting Documents | Audit Reports and Certificates

|| 2020-21 ||

MSK

Environment Conservation Training

MSK Academy of Training and Consultancy Services

CERTIFICATE

This is to certify that a detailed

GREEN & ENVIRONMENT AUDIT

has been conducted for

GURU NANAK COLLEGE(AUTONOMOUS),

Gurunanak Salai, Velachery, Chennai, Tamil nadu.

The college has submitted necessary data and credentials for scrutiny in accordance with the requirements for the period of July 2020 to June 2021.

The efforts taken by the Management, Members of the Faculty, Support Staff and the Students towards creating a strategic change in attaining holistic environmental sustainability is highly Appreciated and Commended.

Date : 30 June 2021

M. Sangeetha

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GURU NANAK COLLEGE (AUTONOMOUS)

Affiliated to University of Madras and Re-Accredited at "A" Grade by NAAC

Guru Nanak Salai, Velachery, Chennai – 600042.

MSK ACADEMY OF TRAINING AND CONSULTANCY SERVICES

COMPLIANCE VERIFICATION

This is to certify that

GURU NANAK COLLEGE (AUTONOMOUS)
Guru Nanak Salai, Velachery, Chennai 42.

Has been assessed and found to be in accordance with the requirements of detailed below

Green & Environment Audit

(Based on ISO 14001 : 2015 Standard)

Latest Issue: **10.07.2020** Valid Until: **09.07.2023**

Validity of this certificate is subject to annual surveillance audit to be done successfully on or before 20.07.2021 and 20.07.2022 respectively. In case if surveillence audit is not allowed to be conducted, this certificate shall be suspended withdrawn.

MSK Academy of Training and Consultancy Services

MSK Academy of Training and Consultancy Services
1 G, Krishna Accolade, Jayachandra nagar, 1st main road, pallikaranai
Chennai-600 100, TamilNadu India

GREEN, ENVIRONMENT AUDIT REPORT

GURU NANAK COLLEGE, CHENNAI

2020-21

CONTENTS

Executive Summary

The future of humankind depends very much on our ability to change our lifestyles and agree tofollow a low consumption pattern of living in terms of resources taken from the globe and return to a sustainable development path at the earliest. The opportunity window for restoring nature to its prolonged state of hosting life forms to flourish under its caring environs is according to scientists, very short and lasting only up to 2030. Within this time, with the willing actions of every citizen wherever they are, coordinated and directed actions should start and continue thereafter till a balancing stage is reached where moderate use of resources and mitigation actions for healing the hurts already inflicted, balance positively to a sustainable nature.

Eco campus is a concept implemented in many educational institutions, all over the world to make them sustainable because of their mass resource utilization and waste discharge in to the environment. Guru Nanak College believes that there is an urgent need to address these fundamental environmental problems and reverse the trends. The purpose of the audit was to ensure that the practices followed in the campus are in accordance with the Green Policy adopted by the institution.

It works on the several facets of 'Gr**e**en Campus' including Water Conservation, Tree Plantation, Waste Management, Paperless Work, and Alternative Energy. With this in mind, the specific objectives of the audit was to evaluate the adequacy of the management control framework of environment sustainability as well as the degree to which the Departments are in compliance with the applicable regulations, policies and standards.

Initially a questionnaire survey was conducted to know about the existing resources of the campus and resource consumption pattern of the students and staffs in the college. In order to assess the quality of water and soil, water and soil samples were collected from different locations of the college campus and analysed for its parameters. Collected data was grouped, tabulated and analyzed. Finally a report pertaining environmental management plan with strength, weakness and suggestion on the environmental issue of campus are documented.

CHAPTER I

1. Introduction

Environment Audit is quantitative and qualitative data to track air, soil and water waste, and to gain actionable insights to improve the operational performance in the atmosphere (Sturman et al., 2014). This audit is generally used to observe the clean and green environment of an Organization. It provides a 360˚ view of a surrounding campus and makes it easy for Owners / Managers / Environmentalists to collaborate, measure, control, and reduce environmental impacts. Finally it leads to enhancing the quality of life for human beings, animals and plants. Eco audit initiatives are the need of the hour across the world due to change in environmental conditions, global warming and increasing human population (Maltby, 1995; Haahkim and Yunus, 2017). It aims to make a sustainable and friendly environment for the stakeholders.

Environment Audit reflects evaluations that help us to identify environmental compliance and management system, implementation gaps, along with related corrective actions. The audit is a useful tool to determine how and where the most energy or water resources are being used, the type and volume of waste generated and can then considerations be given on how to implement changes and make savings. It can create health consciousness and promote environmental awareness, values and ethics. Overall, it plays a vital role in imparting a better understanding of Green impact on campus to staff and students.

1.1 Need for Environment Audit

As environmental sustainability is becoming an increasingly important issue for the nation, the role of higher educational institutions in relation to environmental sustainability is more prevalent. On this context, it becomes imperative to adopt the system of the “Green Campus” for the Institutes which will lead to sustainable development. Besides, it also reduces a sizable amount of atmospheric carbon dioxide from the environment. India is the first country in the world to make environmental audits compulsory. The government of India, by its gazette notification [No. GSR 329 (E)] of March 13, 1992, made it mandatory for all industries to provide annual environmental audit reports of their operations, beginning with 1992-93.

1.2 Objectives of Environment Audit

- To assess the patterns of consumption of energy and water
- To evolve institutional policies on various environmental attributes such as water, waste and sanitation
- To measure the quantum of generation of wastes and hazardous substances
- To inculcate the concepts of 5 R principle such as Reduce, Refuse, Recover, Recycle and Repurpose among the stakeholders thus making the organization as a better steward
- To implement environmental management strategies so as to reduce overall environmental foot print.
- Establishing a baseline of existing environmental conditions with focus on natural andphysical environment
- Creating awareness among students and staff concerning real issues of environmentand its sustainability
- To create a report that document baseline data of good practices and provide strategiesand action plans towards improving environmental quality for future

1.3 About the College

The Guru Nanak College, (GNC) in a lush green 25-acre campus, cradled between the Raj Bhavan and the campus of the IIT-Madras, facing the Guru Nanak Salai, is located in Velachery, South Chennai – the gateway to the IT expressway of Tamil Nadu. Guru Nanak College was established in 1971 to commemorate the 500th birth anniversary of Shri Guru Nanak Devji – the founder of the Sikh religion, by the Guru Nanak Educational Society (GNES). (Late) Lt. Col. G.S. Gill was the founder President, (Late) Padmashree P.N. Dhawan was the General Secretary and (Late) Sardar Manohar Singh Sabherwal was the Treasurer. This yeoman service of a small community of Sikhs, who made Tamil Nadu their home, after they left Punjab following the partition is historic. The noble mission of the GNES is to provide quality education to all, irrespective of socio-economic background, caste, creed or religion. This is in keeping with the motto of the College **'Pro Bono Publico'** which is a translation of Sikh prayer ‘Sarbat ka bhalla’ meaning for the **'Benefit of All'**. The Sikhs are a minority in the State and yet the Management does not claim any concessions extended to minority institutions. It is run and regulated like a non-minority institution in service of the majority community.

1.4 About GNES

The GNES has under its wings besides the College, the Guru Nanak Matriculation Hr. Sec. School, Swabhodhini (School for children with special abilities), the Guru Nanak Centre for Skill Development (GNCSD), the Guru Nanak Medical Centre, Twinning and Distance Education Programme of the Pondicherry University – a Central University.

The GNCSD, Medical Centre and Pondicherry University Twinning Programme were launched in 2019 as an integral part of the 550th Birth Anniversary celebration of Guru Nanak Devji.

The GNES administers all these institutions by an elected Governing Council of 20 members and a President. Presently, Sardar Rajinder Singh Bhasin is the President. The Executive authority and day-to-day administrative responsibilities, vests with the General Secretary and Correspondent. All the members of the Governing Council are businessmen of great repute and standing. Their involvement in running the institution is purely social work. The visible growth and development of the college is largely because of the service-orientation of the Management.

CHAPTER II

2. Methodology

To conduct Environment Audit, the methodology included different tools such as preparation of questionnaire, physical inspection of the campus, observation and review of the documentation, interviewing key persons and data analysis, measurements and recommendations. The purpose of the audit was to ensure that the practices followed in the campus are in accordance with the Green Policy adopted by the institution.

2.1 Preparation of questionnaire

Preparation of Environment Audit questionnaire based on the objectives

2.2 Setup Audit team and Focus Group Discussion

Environment Audit Team with staff and students was created and had group discussion for each category.

2.3 Data Collection

Data collection was carried out for each category by the Environment Audit teams. Collection of samples, observation, interviews and discussion with various staff members. The Focus Group discussions were held with staff members and the management focusing various aspects of Green Audit. The discussion was focused on identifying the attitudes and awareness towards environmental issues at the institutional and local level.

2.4 Onsite Visit

Field visit was conducted by the Environment Audit Team. The key focus of the visit was on assessing the status of the green cover of the Institution, their waste management practices and energy conservation strategies etc. The sample collection (water, air) was carried out during the visits. The water samples from bore water were taken and air samples from different places of the campus were collected. The sample collection, preservation, and analysis were done in the scientific manner as prescribed by the standard procedures.

2.5 Energy and Waste management

With the help of Teaching, Non- teaching staff, students, Administrative officer, Building Management Engineer and electrical Supervisor the audit team has assessed the energy

consumption pattern and waste generation, disposal and treatment facilities of the college. Themonitoring was conducted with a detailed questionnaire survey method.

The study covered the following areas to summarize the present status of environmentmanagement in the campus:

- Water Management
- Waste Management
- E-waste Management
- Green area Management
- Environmental Monitoring
- Environmental Awareness

CHAPTER III

3. OBSERVATIONS AND RECOMMENDATIONS

3.1 WATER AUDIT

Water auditing is a method of quantifying water flows and quality in simple or complex systems, with a view to reducing water usage and often saving money on otherwise unnecessary water use (Sturman et al., 2004). There is an increasing awareness around the globe of the centrality of water to our lives. This awareness crosses political and social boundaries. In many places people have difficult access to drinking water. Often it is polluted. Water auditing is a mechanism for conserving water, which will grow in significance in the future as demand for water increases.

3.1.1 Water consumption and Management

3.1.1 Recharge wells

The study observed that the main source of water for the institute is received from Recharge wells. Water is used for drinking purpose, toilets and gardening. The waste water from the RO water purifier is used for gardening purpose. During the survey, no loss of water is observed, neither by any leakages, or by over flow of water from overhead tanks. The data collected from all the departments is examined and verified. On an average the total use of water in the college is 35000 L/day, which include 15,000 L/day for domestic, 10,000 L/day for gardening purposes and 10,000 L/day for drinking purpose.

S.No.	Parameters	Source/Capacity
1	Source of water	Recharge wells
2	No. of Recharge/Storage Wells	3
4	No. of motors used	3
5	Water level	Nominal
6	Any water wastage/why?	No
7	Water usage for gardening	10000 L/day
8	Waste water sources	Canteen

3.1.2 Rainwater harvesting

Rain water harvesting units are also functioning for recharging ground water level. There are soaking pits available widespread all over the campus. The collected rooftop water is collected in the recharge wells. While, the rainwater from paved area are sent to recharge wells through stormwater drains.

The recharge wells are cleaned manually for every year

Yield/year = Area x Rainfall x Harvesting efficiency

Rain water harvesting pit

3.1.3 Drinking water

The water used for drinking purposes is clean and well-maintained. There are RO water Plant is Installed in the campus and available on all floors of the college to provide safe drinking water.

3.1.4 Water Quality Assessment

Water samples from the college were collected and analyzed for its quality parameters. The major parameters analyzed include colour, odour, turbidity, dissolved oxygen, acidity, alkalinity, chloride, hardness, pH, conductivity, total dissolved solids and salinity. The results are presented in the Annexure 4 of the report.

3.1.5 Recommendations

- There is a need for monitoring and controlling overflow and periodically supervision drills should be arranged.
- Ensure that all cleaning products used by college staff have a minimal detrimental impact on the environment, i.e. they are biodegradable and non-toxic, even when this exceeds the Control of Substances Hazardous to Health (COSHH) regulations.
- Gardens should be watered by using drip/sprinkler irrigation system to minimize water use.
- Waste water treatment plant should be installed to recycle and reuse the water used fordomestic purposes.
- Minimize wastage of water and use of electricity during the reverse osmosis process and ensure that the equipment used are regularly serviced and in good condition.

3.3 WASTE AUDIT

3.3.1 Waste Management

Waste management is a critical component of organization's operating policies. This indicator addresses waste production and disposal of different wastes like paper, food, plastic, biodegradable, construction, glass, dust etc. Furthermore, solid waste often includes wasted material resources that could otherwise be channelled into better service through recycling, repair, and reuse. Solid waste generation and management is a burning issue. Unscientific handling of solid waste can create threats to everyone. The survey focused on volume, type and current management practice of solid waste generated in the campus. The waste management plan has been developed properly in compliance with environment laws and legislative policies and regulations (Sharp, 2012; Sharma, 2020).

3.3.2 Solid waste management

Waste generated from tree droppings and lawn management are major solid wastes generated in the campus. Separate dustbins are provided for Bio-degradable and Plastic waste in order to segregate them at the source itself.

Single sided used papers are reused for writing and printing in all the departments to minimize the usage of papers. Important and confidential reports/ papers are sent for pulping and recycling after completion of their preservation period. Very less plastic waste (0.1Kg/day)is generated by some departments, office, garden etc. and campus is declared as Plastic Free zone. Metal waste and wooden waste is stored and sent to authorize scrap agents for further processing. Glass bottles are reused in the laboratories.

The college has separate bins to collect biodegradable and non-biodegradable waste generated in the campus. Regular meetings are conducted with ground staff regarding the cleanliness of the campus and proper disposal of waste.

3.3.3 Composting pits and Vermicomposting unit

Composting and Vermicomposting are techniques used to decompose natural residues that can be used as fertilizers for plants. This technique involves a big quantity of microorganisms, multiple invertebrates and a legion of fungi in an effort to flip the ingredients into the first-class vermin-compost round – if executed within the right situations. Vermicompost is a kind of compost that is made with earth worms; a selected sort of earth worms known as *Eisenia foetida*, a laboratory hybrid this is capable of devouring a big amount of organic deposits and then turning them into compost. This form of compost is an

incredible organic fertilizer (Dominguez *et al*., 2019).



Students and faculty involved in the construction of Organic Compost pits

3.2.1 Biogas Plant

In GNC, kitchen waste is used to generate thermal energy for cooking and heating. The bio-gas produced from food waste, decomposable organic material and kitchen waste, consisting of methane and a little amount of carbon dioxide is an alternative fuel for cooking gas (LPG).

Kitchen waste is processed and moistened to produce a suspension that subsequently undergoes a fermentation process. Fermentation produces biogas – a valuable energy source – that is desulphurised by biological means. Also, the waste materials can be disposed off

efficiently without any odour or flies and the digested slurry from the bio-gas unit can be used as organic manure in the garden. The major components of the bio-gas plant are a digester tank, an inlet for feeding the kitchen waste, gas holder tank, an outlet for the digested slurry and the gas delivery system for taking out and utilizing the produced gas.

The College Campus is Equipped with Bio Gas Plant to Promote the Alternate Energy Resources Method. Eco-friendly technology allows for the production of renewable natural gas in the form of biomethane. The facility processes about 500kg of kitchen waste every day and Gas Volume 40 cu m – mainly the contents of organic waste from College Hostels, as well as leftover food from Campus canteens and expired food.

3.3.4 Liquid waste management

Water conservation is a key activity as water availability affects on the development of the campus as well as on all area of development such as farming, industries, etc. Keeping this view water conservation activity is carried out. The waste water generated is disposed off into the underground sewage tanks through waste water drainage to municipal server. The source of wastewater is Domestic Waste Water i.e., Sewage water. The Sewage water mainly comes from Toilets of college, hostel, kitchen and canteen. Sewage Treatment Plant was installed in the campus Total sewage treatment plant capacity is 700 KLD. The Treated water is used for gardening Purpose and sludge is taken frequently from the collection tank and used for manure.

3.3.5 E-waste Management

E-waste is a consumer and business electronic equipment that is near or at the end of its useful life. This waste makes up about 5% of all municipal solid waste worldwide. It is hazardous than other waste because electronic components contain cadmium, lead, mercury, and Polychlorinated biphenyls (PCBs) that can damage human health and the environment. E-waste generated in the campus is of minimal quantity. It is being effectively managed, keeping in mind the environmental hazards that may arise if not disposed properly.

The cartridges of laser printers are refilled outside the college campus. Awareness programme was conducted by college regarding E-waste Management. The E- wastes and defective items from computer laboratories are being stored properly and recycled in effective Manner. The dismantled hardware of personal computers are used in PC trouble shooting lab. The dismantled electronic spare parts are immediately sold for reuse. The minimal amount of e-waste that is generated is taken by external vendor with Proper MOU.

3.3.6 Recommendations

- A wastewater treatment plant should be installed to recycle and reuse the waste watergenerated from domestic use.
- Use reusable resources and containers and avoid unnecessary packaging whereverpossible.
- The management should take an initiative to purchase recycled resources when they areavailable.
- The bio-medical waste from clinic in the campus should be properly disposed by theState Government approved vendor.

3.4 Ecofriendly Campus

This includes the plants, greenery and sustainability of the campus to ensure that the buildings conform to green standards. This also helps in ensuring that the Environmental Policy enacted, enforced and reviewed using various environmental awareness programmes.

Many trees are maintained in the campus (55 species) to maintain the bio-diversity. Various tree plantation programmes are being organized at college campus through NSS (National Service Scheme) unit and Management. This program helps in encouraging eco-friendly environment which provides pure oxygen within the institute and creates awareness among campus students. The plantation program includes various types of indigenous species of ornamental and medicinal wild plant species.

i. Use of Bicycles

Students and Non-teaching staff residing in and around the campus commute to college by bicycles. The college has constructed a cycle shed to safeguard their vehicles. This also motivates the students and staff to come to the college by bicycle.

ii. Public transport

Approximately 70% of students and 50% of staff use public transport. The students also utilize van services. This transport pooling is a greening initiative by college to avoid environmental pollution and reduce Carbon foot printing Levels.

iii. Roads

Roads in college are laid with provision for rainwater to seep through easily. This enables the easy recharge of ground water.

iv. Plastic free campus

The usage of plastic in college is minimal. The staff and the students are not

encouraged to use one time use plastic,plastic bags and disposable plastic things throughout the campus.

v. Battery Operated Vehicles

The Battery Operated Vehicles are strictly allowed inside the college campus to reduce the emission and maintain Pollution free & Eco Friendly Campus.

3.5 E - communication

The Principal's office, all the Departments of the college, controller of examination office, and laboratories are very well connected with a good and efficient LAN network. Hence all the inter office correspondence is done through email. This reduces the usage of papers.

3.5.1 Recommendations

- Review periodically the list of trees planted in the garden, allot numbers to the trees andkeep records.
- Establish a College Environmental Committee that will hold responsibility for the enactment, enforcement and review of the Environmental Policy.
- Environmental Committee shall be the source of advice and guidance to staff and students on how to implement this Policy.
- Ensure that an audit is conducted annually and action is taken on the basis of auditreport, recommendation and findings.
- Indoor plantation to inculcate interest in students, Bonsai can be planted in corridor tobond a relation with nature.

3.6 Environmental monitoring

As part of green audit of campus, the Green Audit Assessment Team has carried out the environmental monitoring of campus. This includes Illumination, Noise level, ventilation and indoor air quality of the class rooms. It was observed that illumination and ventilation is adequate considering natural light and air velocity present. Noise level in the campus is well below the limit.

The following surveys were conducted:

1. Ambient Air Quality monitoring - Annexure 1
2. Lux monitoring - Annexure 2
3. Noise Monitoring - Annexure 3

4. Drinking Water Analysis -Annexure 4

3.6.1 Ambient Air Quality Monitoring

Ambient air quality monitoring can help in providing a strategic solution towards air purification and help lead a safer life. Also, air quality monitoring in the college campus not only develops trust among the parents but ensures that the administration cares about their Students and Staff.

3.6.2 Lux & Noise Monitoring

Illumination is one of the most important environmental factors in the classroom. Many Doctors have discovered that lighting settings have significant impact on students' performance. So Lux monitoring can help in providing a Comfort Vision Environment to Students.

When assessing noise exposure in campus environments, it can be difficult to determine whether the level of sound has reached a point where it interferes with student learning and staff productivity, or worse, becomes a threat to their health and well-being and Monitored reports are enclosed.

3.7 Environmental Education

Environmental education is a manner that permits people to discover environmental issues, have interaction in hassle fixing, and take action to improve the surroundings. Awareness programme on the green campus initiatives needs to be accounted in a sustainable manner. Its benefits and self-sustainability can be projected for wider centric on earth and ecology conservation. Innovative practices that add up credentials in implementing the green campus which needs to be promoted in the awareness programme to the students and staff members including public domain (Adeniji, 2008).

An environmental audit is a kind of assessment supposed to create awareness of environmental compliance and implementation gaps in the management system, along with related corrective movements.


Students participating in Plants survey and knowing the names of the Campus flora

Conclusion

Though the institution is predominantly an engineering college, there is significant environmental research both by faculty and students. The environmental awareness initiatives taken by the management are substantial. The installation of solar systems, Usage of battery operated Vehicles practices are remarkable. Besides, environmental awareness programmes initiated by the administration proves that the campus is going green. The Herbal garden maintained by the College is highly appreciable .Few recommendations are added for waste management and waste reduction using alternate eco-friendly and scientific techniques. This may lead to the prosperous future in context of Green Campus and thus aid in a sustainable environment and community development.

ENERGY AUDIT –

Guru Nanak College Campus

Velachery , Chennai

21.10.2021

TABLE OF CONTENTS

Nomenclature

°C Degree Celsius
°F Degree Fahrenheit
AC Air-Conditioner
ACB Air Circuit Breaker
AVR Automatic Voltage Regulator COP Co-efficient of Performance CDDs Cooling Degree Days
DB Distribution Board
DEA Detailed Energy Assessment
DG Diesel Generator
ECM Energy Conservation Measures IFF International Fenestration Forum kV Kilo Volt
kVA Kilo Volt Ampere
kW Kilo Watt
kWh Kilo Watt Hour (Units)
LDB Lighting Distribution Board

lps Liter per second

M Meter
m^2 Square meter
m^3/hr Cubic meter per hour MDB Main Distribution Board

MWh Mega Watt hour

NA Not Available

PF Power Factor
TR Ton of Refrigeration

DETAILED ENERGY ASSESSMENT AT GURUNANAK COLLEGE CAMPUS, VELACHERY CHENNAI

Executive Summary

This report is the outcome of Detailed Energy Assessment (DEA) conducted at The Gurunanak College Campus , Chennai during August-October 2021. The main intent of the DEA is to establish a baseline of electricity consumption and identify the best strategy to achieve "net-zero" energy status in the future. The objective of Energy Audit is to balance the total energy inputs with its use and to identify the energy conservation opportunities in the stream. It has also focused attention to energy cost and cost involved in achieving higher performance with technical and financial analysis. The best alternative is selected on financial analysis basis. Energy audit has used data from various sources to look extensively at the existing energy consumption patterns and identify the areas for improvement, in addition to set reference points aiming at conservation of energy. An effort has been made to estimate energy savings and cost in order to account for the energy usage by of all major gadgets/equipment.
This step involved actual site measurement and field trials using various portable/fixed measurement instruments. It also involves input to output analysis to establish actual operating equipment efficiency and finding out losses in the system.

Identification and evaluation of Energy Conservation Opportunities has been effectuated by involving evaluation of energy conservation opportunities identified during the energy audit. It gives potential of energy saving and investment required to implement the proposed modifications with payback period. All recommendations for reducing losses in the system are backed with its cost benefit analysis. Prior to choosing the alternative energy supply system (solar) it is necessary to identify and evaluate energy- efficiency improvements for reducing electricity demand and consumption. This will enable Gurunanak College campus to transform the building operations from presently being an "importer" of the electricity to "net exporter" of electricity or at least become a "net-zero" facility.

DEA of Gurunanak College takes into consideration the specificity of the location, the heritage character of the buildings and local ambient conditions. Electricity is the major energy used in the Gurunanak College and apart from electricity, LPG is used for cooking purpose at the Gurunanak College for close to 700 people every day when fully occupied. The electricity consumption is for multiple buildings spread over the 25 acre campus . The DEA of Gurunanak College concentrated on 4 major areas: air-conditioning, lighting, office and appliances. The break-up of electricity consumption indicates that Fans and air-conditioners (ACs) are the single largest segment (67%) followed by lighting (14%), appliances (7%), motive power (such as overhead pump motors (7%), and office equipment (5%). Major electricity demand is

for Fans , almost all of which are more than a decade old resulting in higher electricity consumption.

The DEA consisted of data logging of electrical demand profiles during different times of the week days and weekends covering all the consumers, performance analysis of major energy consuming equipment, on-site survey and discussions with Gurunanak College personnel, followed by a technical evaluation of applicable measures that could reduce electricity consumption on overall life cycle cost basis. The DEA of the Gurunanak College identified energy conservation measures worth of 136,993 kWh reduction per annum out of the total 382154 kWh

Kwhrs consumed per annum with commensurate reduction in electrical demand of 40 kVA out of the total Maximum demand of 176 KVA. The savings represent 17% of the electricity currently being used by the building. The savings are mainly from replacement of yester year vintage Fans with energy-efficient Fans and replacement of fluorescent lights with energy-efficient LED lights and with motion controlled lights in public spaces with dynamic usage.

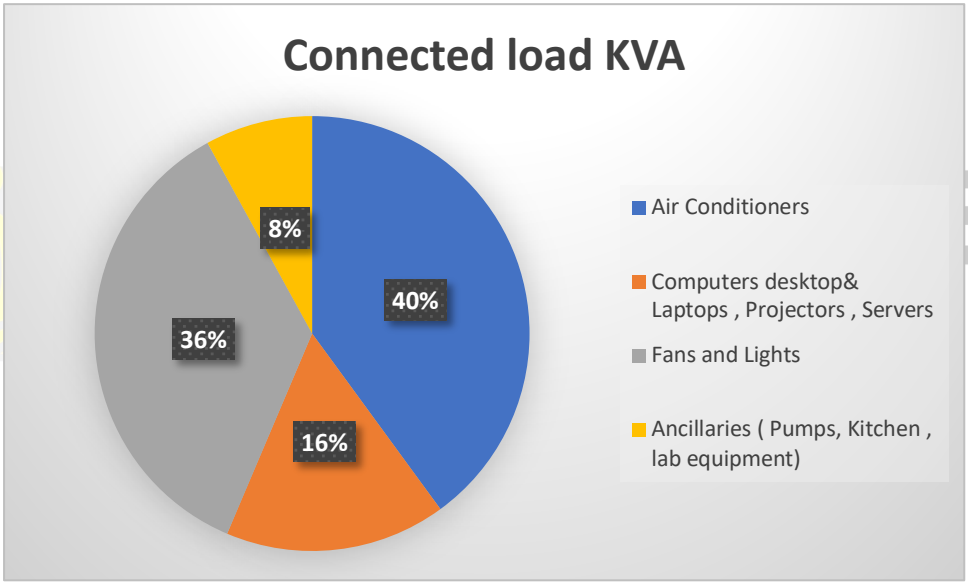
The replacement of the fans with energy efficient fans alone would result in the Power savings of 24 KVA and 48600 KWhrs every year.

With the prospective electricity scenario after implementation of all energy efficiency and conservation measures and to make the French Consulate building a “net-zero” premise, a 150 kW solar-grid interactive system is recommended. The College has already installed 15 KW of solar, including a hybrid plant using energy storage for evening street lighting.

ANALYSIS OF KEY ENERGY CONSUMING AREAS/ APPLIANCES

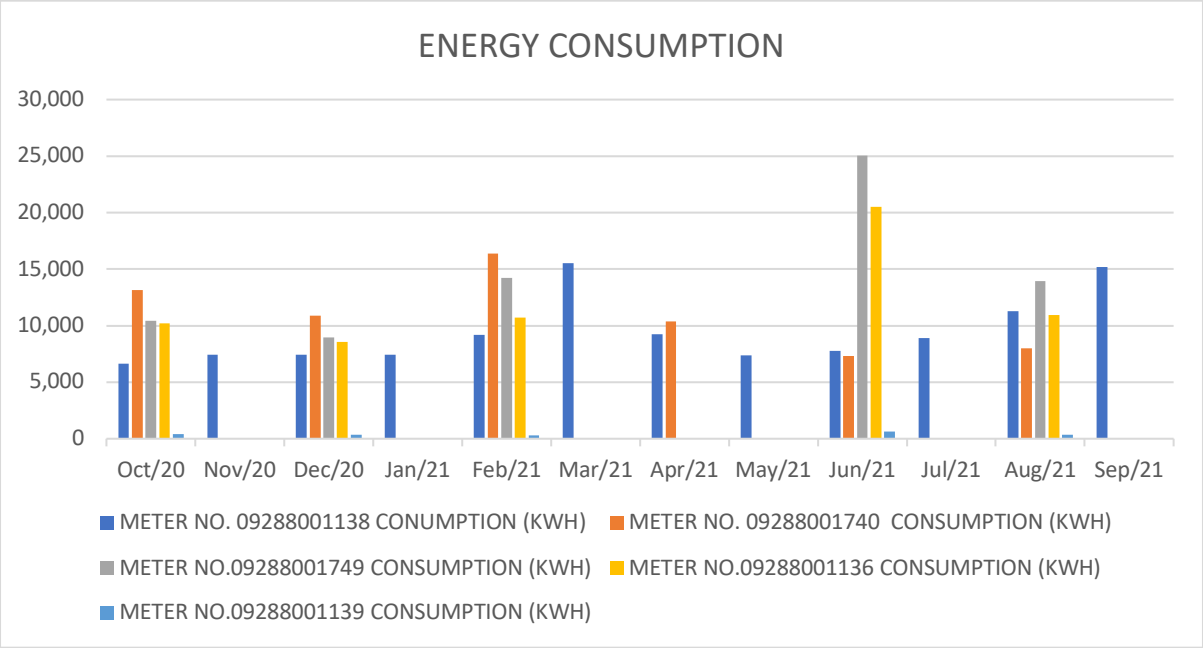
The Power consumption is distributed over the following equipment groups:

Sno.	Equipment	Connected load
1.	Air Conditioners	175 kva
2.	Computers desktop& Laptops , Projectors , Servers	72 kVA
3	Fans and Lights	156 KVA
4	Ancillaries (Pumps, Kitchen , lab equipment)	35 KVA

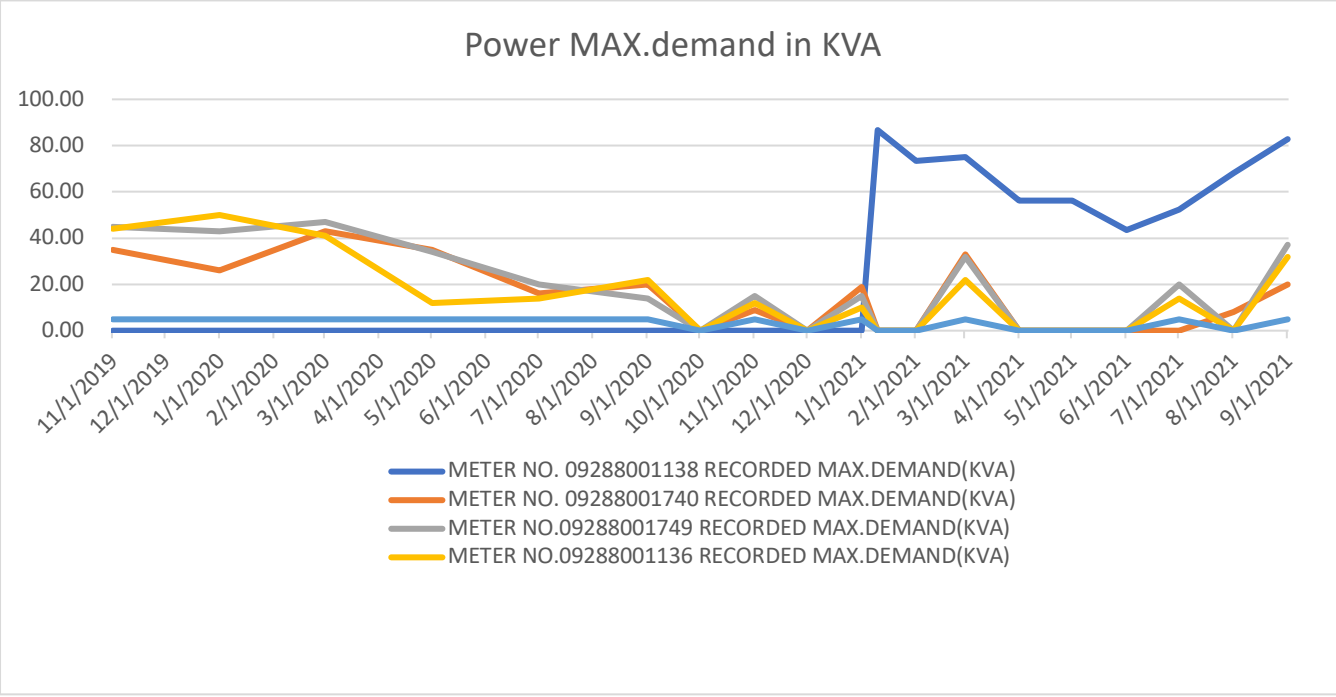


SUMMARY OF MONTHLY ELECTRICITY BILLS

Energy Consumption Patterns :The Campus has 5 dedicated meters for distribution and data has been logged to understand the maximum power requirements and energy consumption patterns. Below table gives an understanding of energy consumption through a calendar year 2020-21.

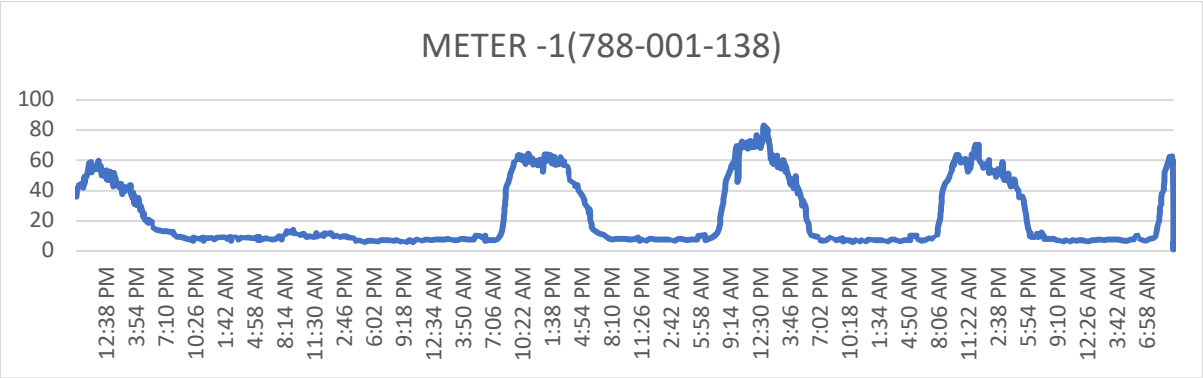


Power Consumption and Maximum demand

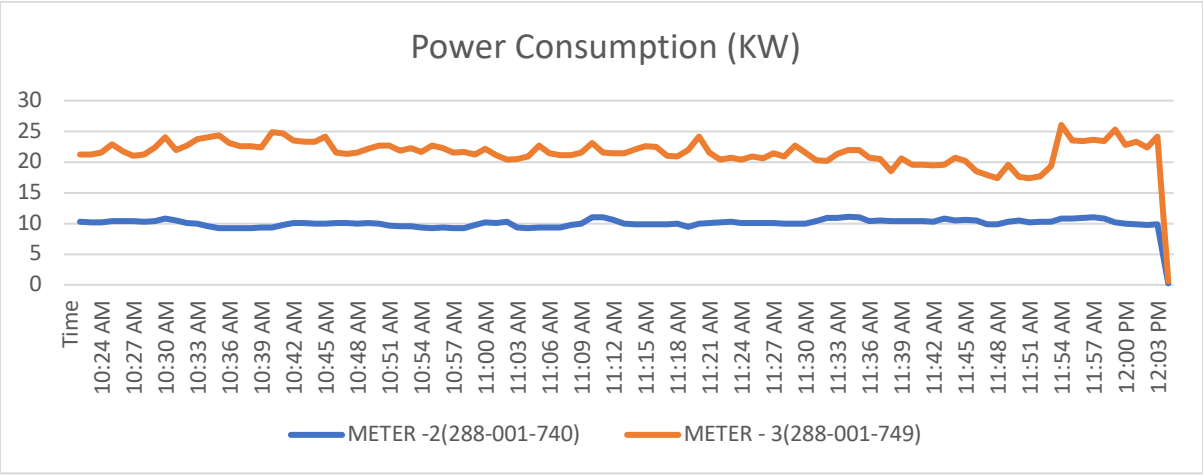


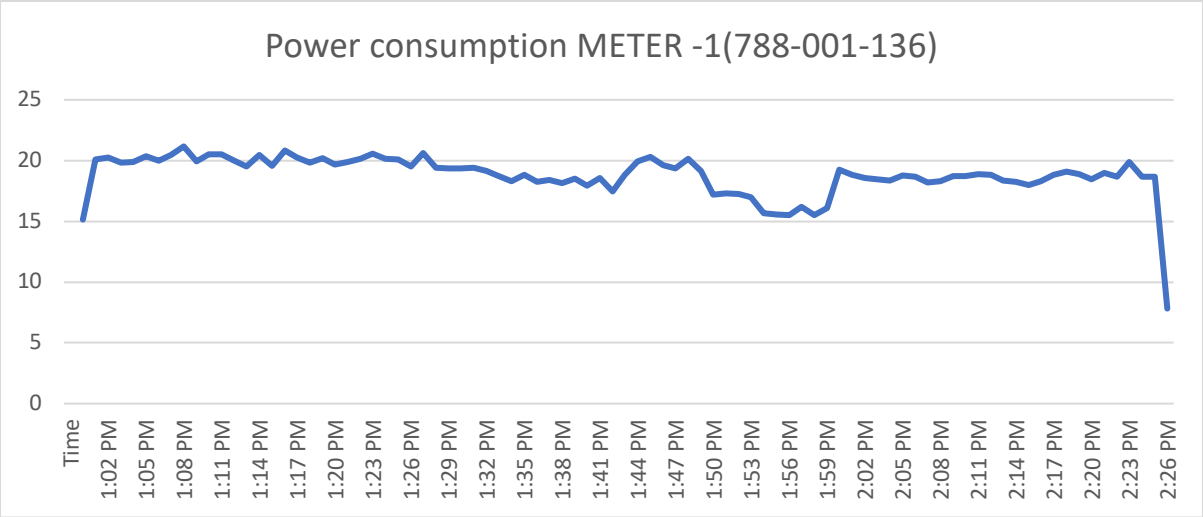
PRESENT ENERGY SCENARIO

Typical consumption



25-30 Sep 2021





CARBON SEQUESTERING :

Cities are the hubs of economic growth and development. Urban areas contribute close to half of India's gross domestic product today, but the rapid urbanization is a major driver of global change, driving land use change, habitat loss, biodiversity decline, climate change, and pollution both within and outside the city . A report published by International Council of Local Environmental Initiatives (ICLEI), South Asia, has stated that average per capita carbon emissions are higher in the metropolitan cities of India, being 1.19 tons per capita, as compared to only 0.90 tons per capita in the non-metropolitan cities. Reduction in carbon dioxide concentrations in the atmosphere can be achieved either by reducing the demand for energy, altering the usage of energy or increasing the rates of removal of CO2 through the trees through carbon sequestration, which can decrease the atmospheric carbon dioxide naturally .

The term urban forest and urban green space includes trees in gardens, parks, and along the streets, roads, canal, etc., which contribute to verdancy in the city. These spaces provide a variety of ecosystem services such as improving air quality , buffering of noise pollution, biodiversity conservation, mitigating Urban Heat Island effect, micro- climate regulation, stabilization of soil, ground water recharge, prevention of soil erosion, and carbon sequestration . Studies conducted by several scientists have claimed that urban green spaces can play a very important role in limiting the city's carbon footprint . The vegetation and soil of a greenspace cannot only sequester carbon, directly contributing to a reduction in atmospheric CO2 concentration, but also affect the carbon balance indirectly, through their effects on the urban energy balance and thus on CO2 emissions related to energy use. In addition, these upgrade the standards of urban living by facilitating the health and

well-being of the people by alleviating stress and enabling relaxation. Such areas also deliver an array of cultural services such as spiritual and religious, recreation, ecotourism and aesthetics. The maximum benefit of these spaces largely depends on judicious selection of an appropriate and diverse mix of tree species and their proper management in the urban areas

THE CAMPUS accommodating thousands of students and staff has a very low energy foot print. The campus is home to over 745 mature trees of multiple species with an average age of 15 years as an extension from the anna Zoological park and governors residence. The green canopy reduces heat islanding effect as the rooftops are shaded and are spread over large areas.

The thermal comfort in the campus is very high on account of the greenery and thus The usage of air-conditioning is very low making it ideal for campus activities.

The trees aid in carbon sequestering and have a far bigger contribution to the environment than the energy consumed by the operational energy of the buildings .

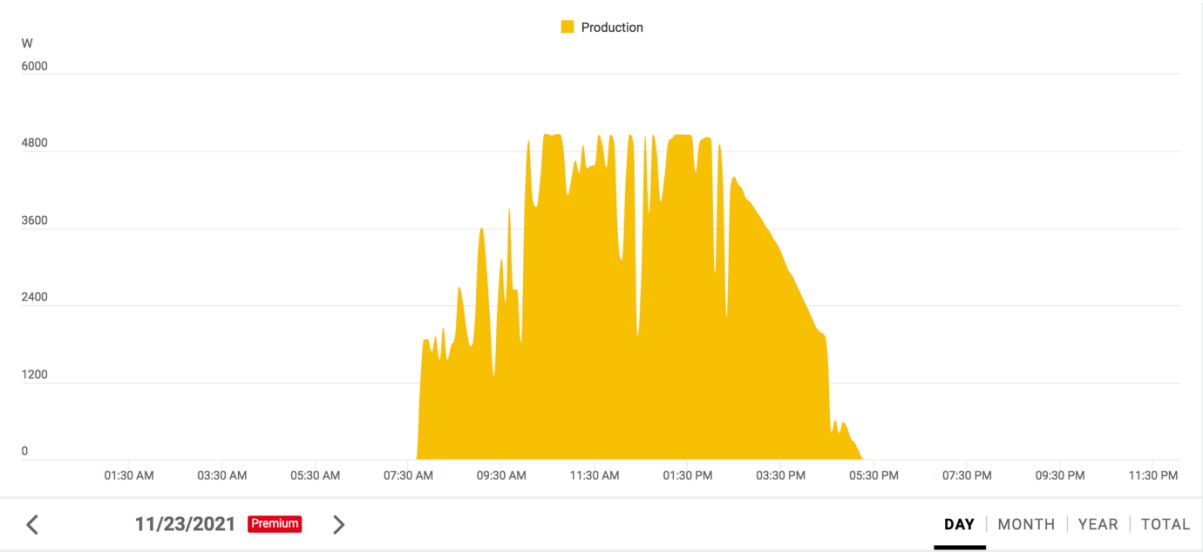
The estimated carbon capture with the tree cover in the campus is estimated at 70 Kgs / year/ tree . The total carbon capture is estimated at 52.15 Tonnes.

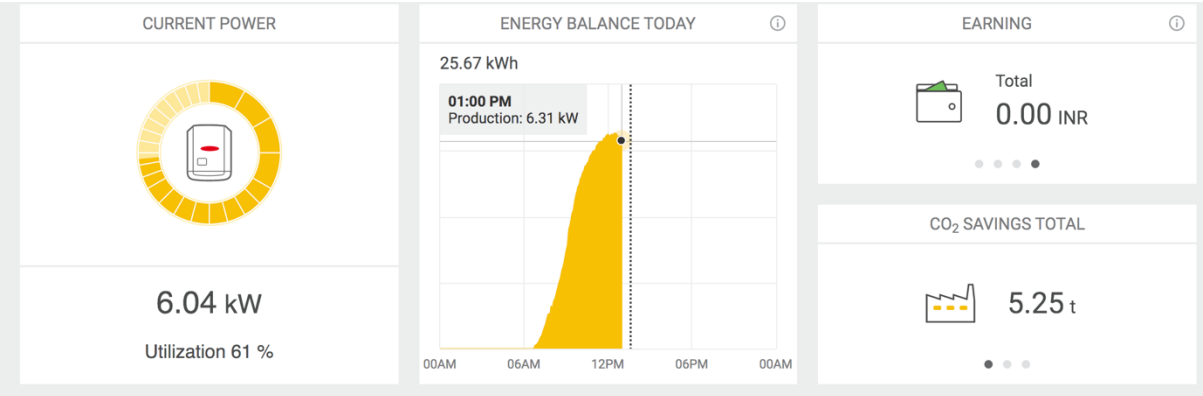
*It has been computed by taking into account of consumption of 1 Unit (1 kWh) of Electricity as equivalent to the CO_2 emission of 0.8 Kg or 0.8 Kg/kWh

IMPACT OF RENEWABLE ENERGY IN THE CAMPUS :

The Plant has a 15 KW SPV plant which generates an average of 63 KWhrs /day. The plant has a grid interactive unit and also a hybrid component where by energy is stored in an ESS – Energy storage solution and used to power on The street lights in the campus.

The system is enabled with realtime monitoring and provides energy generation data along with power quality.





OTHER RECOMMENDATIONS :

382154 Kwhrs consumed per annum with commensurate reduction in electrical demand of 40 kVA out of the total Maximum demand of 176 KVA. The savings represent 17% of the electricity currently being used by the building. The savings are mainly from replacement of yester year vintage Fans with energy-efficient Fans and replacement of fluorescent lights with energy-efficient LED lights and with motion controlled lights in public spaces with dynamic usage.

The replacement of the fans with energy efficient fans alone would result in the Power savings of 24 KVA and 48600 KWhrs every year.

With the prospective electricity scenario after implementation of all energy efficiency and conservation measures and to make the Guru Nanak College campus a "net-zero" premise, a 150 kW solar-grid interactive system is recommended. The College has already installed 15 KW of solar, including a hybrid plant using energy storage for evening street lighting.

It is Recommended that the old air conditioners are being replaced with new energy efficient BEE STAR labeled (3 Star and above) air conditioners in a phased manner.

E-FLORA OF GURU NANAK COLLEGE CAMPUS, CHENNAI, TAMIL NADU

PREPARED BY:

DEPARTMENT OF PLANT BIOLOGY AND PLANT BIOTECHNOLGY

2021

HISTORY OF GURU NANAK COLLEGE

The Guru Nanak College was established in the year 1971 as a Unit of Guru Nanak Educational Society to mark the 500th birthday of the great Shri Guru Nanak Devji, founder of the Sikh Religion. The objective of the college is to spread the ideals of universal brotherhood, oneness of God, communal harmony and welfare to all communities. The College is being run as a minority community college within the meaning of articles 29 and 30 of the Indian Constitution.

The college provides a quiet and ideal setting amidst natural surroundings. It is located on the Velachery-Tambaram Road within a verdant 20 acre campus gifted by the Government of Tamil Nadu for the development of an Arts & Science College.

The institution admits students as per the government norms. 30% of the total strength in each course is reserved for women students. Admission is open to trans-genders also. The College is now ranked among the top ten colleges in Chennai.

Motto:

Pro Bono Publico is the motto of the college. It is the translation of the last sentence of the sikh prayer "SarbatKaBhalla", which means "***For the benefit of all***"

Vision:

To be a leading Institution of Excellence in Higher Education by providing quality education to the aspiring and the needy from the less privileged sections of the Society and facilitate their Social upliftment in accordance with the motto "Sarbat ka Bhalla" which means "For the Benefit of all"

Mission:

- To create a vibrant academic atmosphere with a robust curricula which focuses on teaching, learning, research and outreach programs
- To provide comprehensive education to gain competence and commitment to face challenges catering to the ever-changing global needs
- To stimulate intrinsic and extrinsic value based pedagogy to foster innovation and outcome based educations

- To create a gender sensitized campus by empowering women in sharing knowledge and information
- To strengthen education leading to promotion of societal transformation
- To impart knowledge which is empowering, value based and holistic in nature
- To sensitize the students to environmental issues thus motivating them to be conscious of the environment

Core Values:

- To inculcate the values enshrined in Shri Guru Nanak Dev ji's teaching among students namely, Naam Japna – To remember god at all times, Kirat Karna – To work and earn a livelihood by honest means, Wand Chakna – Sharing with others the wealth acquired through hard work
- To promote critical thinking, life skills and social responsibility among the student community
- To reinforce the existing value system by incorporating values like Social justice and Equality
- To acquaint the students with higher national and global values to become critically engaged citizens in serving the society
- To infuse in students a sense of purpose, accountability, responsibility and personal strength to meet the challenges courageously

MANAGEMENT

- The Guru Nanak College was established in the year 1971 as a Unit of Guru Nanak Educational Society to mark the 500th birthday of the great Shri Guru Nanak Devji, founder of the Sikh Religion. The objective of the college is to spread the ideals of universal brotherhood, oneness of God, communal harmony and welfare to all communities. The College is being run as a minority community college within the meaning of articles 29 and 30 of the Indian Constitution.
- The college provides a quiet and ideal setting amidst natural surroundings. It is located on the Velachery-Tambaram Road within a verdant 22 acre campus gifted by the Government of Tamil Nadu for the development of an Arts & Science College.
- The institution admits students as per the government norms. 30% of the total strength in each course is reserved for women students. Admission is open to trans-genders also. The College is now ranked among the top ten colleges in Chennai.

VIEW OF COLLEGE CAMPUS

Green campus of Guru Nanak College Campus

Green campus of Guru Nanak College Campus

Energy conservation competition through Wall paintings by PBPBT Students

Energy conservation competition through Wall paintings by PBPBT Students

VIEW OF TREES AND NAME BOARD

Students involved in displaying Name Boards for the trees in GNC Campus

BIODIVERSITY

India possesses a rich biological diversity and incorporates four mega-diversity centres. However, large concern exists on the conservation and sustainable utilization of these rich bio-resources. It has been estimated that about 48,000 species of plants, representing 10% of the world flora, around 20,000 species of flowering plants, are contained within the country — which is also the homeland of 167 important cultivated plant species and 320 species of wild relatives of domesticated crops.

Documenting the patterns of species diversity and their distribution creates a valuable database, useful for implementing better management and conservation of Biological Resources.

BOTANICAL SURVEY

Intensive field Botanical studies were undertaken in the GNC Campus of about 22 acres of land, Velacheri at various seasons to document the plant taxa of various life forms. All the plants were botanically confirmed by relevant regional Flora.

All the plants were systematically listed here with botanical names, family, habit and occurrence. Photographs were also taken for all the plant taxa.

Students involved during Botanical Surveys in GNC Campus to learn the Botanical names of the Plants

METHODOLOGY

Regular Campus surveys were carried out along with the students of Department of Plant Biology and Plant Biotechnology [PBPBT] to document the flora distributed in Guru Nanak College Campus. Herbarium specimens were prepared and identified with the help of Gamble (1915-1936) and Hooker (1872-1897), Sharma et al., (1978); Suresh et al., (1996) and updated nomenclature by referring Henry *et al.*, (1987, 1989), and, Nair and Henry (1983). Relevant revisions and monographs will also be referred. All the plants were enumerated here with accepted Botanical name followed by synonyms, etymology, distribution, description, phenology and uses along with Photographs. The model of Herbarium Field Note Book and Herbarium label are provided here below.

Department of Plant Biology and Plant Biotechnology,
Guru Nanak College (Autonomous), Chennai -42

Herbarium Field Note Book

Collection No.: 123456 Date: Altitude (m):

Location: Long./Lat:

Taluk: District: State:

Forest/Vegetation type: Micro habitat: (marshy, dry, rock, sandy, etc.)

Botanical Name: Synonym:

Family: Local Name:

Biotic association:

Frequency of Occurrence: Abundant/Frequent/Occasional:

Population & Regeneration status:

Habit: H/S/T/Cl: Root:

Stem: Bark:

Leaves: Inflorescence:

Floral characters: Flowering/Fruiting:

Fruits: Seeds:

Special remarks:

Local use:

Collected by:

123456	123456	123456	123456

Department of Plant Biology and Plant Biotechnology,
Guru Nanak College (Autonomous), Chennai -42

Herbarium

Coll. No.: Date:

Locality: District:

State: Altitude:

Botanical Name:

Family: Local Name:

Habitat: Habit:

Field Characters:

Collected by:

LIST OF PLANTS AVAILABLE IN GURU NANAK COLLEGE

S.No.	Botanical Name
1.	Abutilon indicum (L.) Sweet
2.	Acacia auriculiformis A. Cunn ex Benth.
3.	Acalypha hispida Burm. f.
4.	Acalypha indica L.
5.	Achyranthes aspera L. var. aspera
6.	Albizia lebbeck (L.) Willd.
7.	Albizia saman (Jacq.) F.v. Muell.
8.	Alpinia galanga (L.) Willd.
9.	Alternanthera pungens Kunth
10.	Alternanthera tenella Colla
11.	Andrographis paniculata (Burm.f.) Wall. ex Nees
12.	Atalantia monophylla (L.) DC.
13.	Azadirachta indica A. Juss.
14.	Bambusa vulgaris Schrad.
15.	Borassus flabellifer L.
16.	Bougainvillea glabra Choisy
17.	Bougainvillea spectabilis Willd.
18.	Cadaba fruticosa (L.) Druce
19.	Caesalpinia coriaria (Jacq.) Willd.
20.	Caesalpinia pulcherrima (L.) Sw.
21.	Calotropis gigantea (L.) R. Br.
22.	Canna indica L.
23.	Carissa spinarum L. var. spinarum
24.	Cassia fistula L.
25.	Cassia javanica L. subsp. javanica
26.	Casuarina equisetifolia L.
27.	Catharanthus roseus (L.) G. Don
28.	Cestrum nocturnum L.
29.	Chlorophytum capense (L.) Voss
30.	Cissus quadrangularis L.
31.	Citrus limon (L.) Burm.f.
32.	Clerodendrum inerme (L.) Gaertn.
33.	Clerodendrum phlomoidis L.f.
34.	Clitoria ternatea L.
35.	Coccinia grandis (L.) Voigt

36.	Cocculus hirsutus (L.) W. Theob.
37.	Cocos nucifera L.
38.	Cordyline australis (G. Forst.) Endl. [
39.	Cordyline fruticosa (L.) A. Chev.
40.	Crateva religiosa G. Forst
41.	Crinum latifolium L.
42.	Cycas circinalis L.
43.	Cymbopogon citratus (DC.) Stapf
44.	Cynodon dactylon (L.) Pers.
45.	Datura metel L.
46.	Delonix regia (Boj. ex Hook) Rafin.
47.	Dieffenbachia seguine (Jacq.) Schott
48.	Dracaena marginata Hort.
49.	Dracaena reflexa Lam.
50.	Epipremnum aureum (Linden & Andre) G.S. Bunting
51.	Euphorbia heterophylla L.
52.	Euphorbia hirta L.
53.	Euphorbia milii Des Moul. var. milii
54.	Euphorbia thymifolia L.
55.	Euphorbia tirucalli L.
56.	Evolvulus nummularius (L.) L.
57.	Ficus benghalensis L.
58.	Ficus benjamina L.
59.	Ficus elastica Roxb. ex Hornem.
60.	Ficus religiosa L.
61.	Ficus tinctoria G. Forst. subsp. tinctoria
62.	Gomphrena globosa L.
63.	Guazuma ulmifolia Lam.
64.	Gymnema sylvestre (Retz.) R. Br. ex Schultes
65.	Hemidesmus indicus (L.) R. Br. ex Schult var. indicus
66.	Hibiscus rosa-sinensis L.
67.	Holoptelea integrifolia Planch.
68.	Hybanthus enneaspermus (L.) F. Muell.
69.	Ichnocarpus frutescens (L.) R. Br.
70.	Indigofera tinctoria L.
71.	Ixora coccinea L.
72.	Jatropha gossypiifolia L.
73.	Justicia adhatoda L.
74.	Justicia gendarussa Burm.f.

75.	Justicia japonica Thunb.
76.	Lannea coromandelica (Houtt.) Merr.
77.	Lantana camara L. var. camara
78.	Lawsonia inermis L.
79.	Leptadenia reticulata (Retz.) Wight & Arn.
80.	Leucaena leucocephala (L.) Gills
81.	Limonia acidissima L.
82.	Madhuca longifolia (J. Koenig ex L.) Macbr. var. longifolia
83.	Mangifera indica L.
84.	Mimosa pudica L.
85.	Mimusops elengi L.
86.	Mirabilis jalapa L
87.	Mollugo nudicaulis Lam.
88.	Morinda coreia Buch.-Ham.
89.	Moringa oleifera Lam.
90.	Mukia maderaspatana (L.) M. Roem.
91.	Muntingia calabura L.
92.	Murraya koenigii (L.) Spreng.
93.	Nerium oleander L.
94.	Ocimum basilicum L.
95.	Ocimum gratissimum L.
96.	Ocimum tenuiflorum L.
97.	Pamburus missionis (Wight) Swingle
98.	Pedilanthus tithymaloides (L.) Poit.
99.	Peltophorum pterocarpum (DC.) Heyne
100.	Phoenix pusilla Gaertn.
101.	Phyllanthus amarus Schumach. & Thonn.
102.	Phyllanthus maderaspatensis L.
103.	Piper betle L.
104.	Plumeria rubra L.
105.	Polyalthia longifolia (Sonn.) Thwaites
106.	Pongamia pinnata (L.) Pierre
107.	Premna serratifolia L.
108.	Psidium guajava L.
109.	Punica granatum L.
110.	Rauvolfia tetraphylla L.
111.	Ravenala madagascariensis Sonn.
112.	Rhaphidophora pertusa (Roxb.) Schott
113.	Ricinus communis L.

114.	Sansevieria trifasciata Prain
115.	Saraca asoca (Roxb.) Wilde
116.	Senna occidentalis (L.) Link
117.	Senna siamea (Lam.) H.S. Irwin & Barneby
118.	Senna tora (L.) Roxb.
119.	Sida acuta Burm. f.
120.	Solanum torvum Sw.
121.	Spermacoce hispida L.
122.	Sterculia foetida L.
123.	Streblus asper Lour.
124.	Swietenia macrophylla King
125.	Syzygium cumini (L.) Skeels
126.	Tabebuia rosea (Bertol.) DC.
127.	Tabernaemontana divaricata (L.) R. Br.
128.	Tamarindus indica L.
129.	Tecoma stans (L.) Kunth
130.	Tectona grandis L.f.
131.	Terminalia bellirica (Gaertn.) Roxb.
132.	Terminalia catappa L.
133.	Thespesia populnea (L.) Sol. ex Correa
134.	Tinospora cordifolia (Willd.) Miers
135.	Trianthema portulacastrum L.
136.	Tridax procumbens L.
137.	Waltheria indica L.
138.	Wrightia tinctoria R. Br. subsp. tinctoria
139.	Ziziphus mauritiana Lam. var. mauritiana
140.	Ziziphus nummularia (Burm.f.) Wight & Arn. var. nummularia

ABUTILON INDICUM (L.) Sweet

CLASSIFICATION:

Order: Malvales

Family: Malvaceae

Genus: Abutilon

Species: A. indicum

This species is accepted, and its native range is NW. Africa, Mascarenes, Tropical & Subtropical Asia to W. Pacific.

REGIONAL NAMES: "THUTHI" In Tamil, **"ATIBALAA"** In Sanskrit, **"DUVVENA KAYALU"** In Telugu, **"TUTHTHI GIDA"** In Kannada.

DISTRIBUTION: ***Abutilon indicum*** **(Indian abutilon, Indian mallow)** is a small shrub in the Malvaceae family, native to tropic and subtropical regions and sometimes cultivated as an ornamental.

USES: This plant is often used as a medicine. Its roots and leaves are used for curing fever.

In traditional medicine, A. indicum various parts of the plant are used as a demulcent, aphrodisiac, laxative, diuretic, sedative, astringent, expectorant, tonic, anti-inflammatory, anthelmintic, and analgesic and to treat leprosy, ulcers, headaches, gonorrhoea, and bladder infection. β-Sitosterol is present in *A. indicum* and a petroleum ether extract has larvicidal properties against the mosquito larvae *Culex quinquefasciatus*. A methanol extract of *A. indicum* has some antimicrobial properties.

ACALYPHA HISPIDA

CLASSIFICATION:

Order: Malpighiales

Family: Euphorbiaceae

Sub family: Acalyphinae

Genus: Acalypha

Species: A. hispida

REGIONAL NAMES: **"VATTATTALI"** In Tamil, **"SHIBJHUL"** In Bengali.

DISTRIBUTION: ***Acalypha hispida*** **(The chenille plant, Philippines Medusa, Red hot cat's tail)**, It is a flowering shrub in the Euphorbiaceae

family native to Asia. Shrubs, 1-3 m tall. Branchlets grayish tomentulose when young. Stipules triangular, 6-10 mm, pilose; petiole 4-8 cm; leaf blade broadly ovate or ovate, 8-20 × 5-14 cm, papyraceous, base broadly cuneate, obtuse, or subcordate, margin coarsely serrate, apex acuminate or acute; basal veins 3-5. Plants dioecious. Only female flowers known. Female flowers 3-7 in each bract, fascicled, subsessile; spikes 15-30 cm, axillary, pendulous; peduncle short, pubescent; bracts scattered, ovate-rhombic, ca. 1 mm, entire; sepals (3 or)4, subovate, ca. 1 mm, acute, puberulent; ovary subglobose, densely hirtellous; styles 3, 5-7 mm, laciniate, crimson or red-purple.

USES: The roots and flowers, fresh or in decoction, are considered a remedy for haemoptysis. A poultice of the leaves is used in the treatment of leprosy.

ACALYPHA INDICA L.

CLASSIFICATION:

Order: Malpighiales

Family: Euphorbiaceae

Sub family: Acalyphinae

Genus: Acalypha

Species: A. indica

REGIONAL NAMES: "**RICINELLE DES INDES**" In French, "**MUKTAJHURI**" In Bengali, "**KUPPAIMENI**" In Tamil, "**KUPPAMENIYA**" In Sinhalese.

DISTRIBUTION: ***Acalypha indica*** (**Indian Acalypha, Indian Mercury, Indian Copperleaf, Indian Nettle, Three-seeded Mercury**) is an herbaceous annual that has catkin-like inflorescences with cup-shaped involucres surrounding the minute flowers. It is mainly known for its root being attractive to domestic cats, and for its various medicinal uses. It occurs throughout the Tropics. In India its leaves are used to treat Jaundice.

USES: Ingestion of *Acalypha indica* may lead to haemolysis in people suffering from glucose-6-phosphate dehydrogenase deficiency. Acalyphin is used as a substitute for ipecacuanha, a vermifuge, expectorant and emetic. *Acalypha indica* is listed in the Pharmacopoeia of India as an expectorant to treat asthma and pneumonia.

ACACIA AURICULIFORMIS A. CUNN EX BENTH.

CLASSIFICATION:

Order: Fabales

Family: Fabaceae

Genus: Acacia

Species: A. auriculiformis

REGIONAL NAMES: "**MINNUMAANU**" In Telugu, "**AKAASHMONI**" In Bengali, "**KATHTHI KARUVEL**" In Tamil.

DISTRIBUTION: ***Acacia auriculiformis*** (**Auri or Earleaf acacia**), is a fast-growing, crooked, gnarly tree in the family Fabaceae. It is native to Australia, Indonesia, and Papua New Guinea. It grows up to 30m tall.

USES: This plant is raised as an ornamental plant, as a shade tree and it is also raised on plantations for fuel wood throughout Southeast Asia, Oceania and in Sudan. Its wood is good for making paper, furniture and tools. It contains tannin useful in animal hide tanning. In India, its wood and charcoal are widely used for fuel. Gum from the tree is sold commercially, but it is said not to be as useful as gum Arabic. In Thailand the small fresh leaves are eaten, often with nam prik chili sauce or papaya salad. The tree is used to make an analgesic by indigenous Australians. Extracts of Acacia auriculiformis heartwood inhibit fungi that attack wood.

ACHYRANTHES ASPERA L.

CLASSIFICATION:

Order: Caryophyllales

Family: Amaranthaceae

Genus: Achyranthes

Species: A. aspera

REGIONAL NAMES: "**ADHOGHANTA**" In Sanskrit, "**APANG**" In Hindi, "**NAYURIVI**" In Tamil, "**ANTISHA**" IN Telugu, "**UTTARANEE**" In Kannada.

DISTRIBUTION: ***Achyranthes aspera*** (**chaff-flower, prickly chaff flower, devil's horsewhip,**) is a species of plant in the Amaranthaceae family. It is distributed throughout the tropical world. It can be found in many places growing as an introduced species and a common weed. It is an invasive species in some areas, including many Pacific Islands environments.

USES: The juice of this plant is a potent ingredient for a mixture of wall plaster. The herb is administered in India in cases of dropsy. The seeds are given in hydrophobia, and in cases of snake-bites, as well as in ophthalmia and cutaneous diseases. The flowering spikes, rubbed with a little sugar, are made into pills, and given internally to people bitten by mad dogs. The leaves, taken fresh and reduced to a pulp, are considered a good remedy when applied externally to the bites of scorpions. The ashes of the plant yield a considerable quantity of potash, which is used in washing clothes.

ALBIZIA LEBBECK (L.) WILLD.

CLASSIFICATION:

Order: Fabales

Family: Fabaceae

Genus: Albizia

Species: A. lebbeck

REGIONAL NAMES: "**SARAS**" In Hindi, "**TINIA**" In Urdu, "**VAGA**" In Malayalam, "**VAGAI**" In Tamil.

DISTRIBUTION: ***Albizia lebbeck*** (**Flea tree, Frywood, Women's tongue tree, Siris)** is native to Indomalaya, New Guinea and Northern Australia and widely cultivated and naturalised in other tropical and subtropical regions. It is a tree growing to a height of

18–30 m tall with a trunk 50 cm to 1 m in diameter. The leaves are bipinnate, 7.5–15 cm long, with one to four pairs of pinnae, each pinna with 6–18 leaflets. The flowers are white, with numerous 2.5–3.8 cm long stamens, and very fragrant. The fruit is a pod 15–30 cm long and 2.5-5.0 cm broad, containing six to twelve seeds.

USES: Its uses include environmental management, forage, medicine and wood. Lebbeck is an astringent, also used by some cultures to treat boils, cough, to treat the eye, flu, gingivitis, lung problems, and pectoral problems; it is used as a tonic, and is used to treat abdominal tumours. It is also psychoactive. In ancient Tamil culture, the flowers of the lebbeck decorated as a crown were used to welcome victorious soldiers, thus comes the blessings "Vetri Vaagai Suudi vaa" means win and come decorated with vaagai flowers.

ALBIZIA SAMAN (JACQ.) F.V. MUELL.

CLASSIFICATION:
Order: Fabales
Family: Fabaceae
Genus: Albizia
Species: A. saman

REGIONAL NAMES: **"GULABI SIRIS"** In Hindi, **"BILITI SIRIS"** In Bengali, **"THOONGUMOONJI MARAM"** In Tamil.

DISTRIBUTION: ***Albizia saman*** **(Rain tree, Coco tamarind, Monkey pod)**, is a species of flowering tree in the Fabaceae family, that is native

to the Neotropics. Large, fast-growing, deciduous tree of up to 25 m tall, it has a very wide umbrella-shaped crown. Its trunk is short and fissured. Its compound leaves are bipinnate. Leaflets are rather large, increasing in size from base to tip, the largest 4-5 x 2-3 cm, asymmetrical and almost rhombic. The leaves usually close up in dark conditions such as during cloudy or rainy days and at night. Flowers are bisexual, 4 cm long, slightly fragrant, with long pinkish-white stamens, grouped in hemispherical heads. They produce non-dehiscent pods, 15-25 x 2 cm, flat, straight or slightly curved, and black in colour when ripe. The pods do not split open and the hard seeds remain inside embedded in the sticky, sugary, brownish pulp.

USES: A decoction of the inner bark and fresh leaves is used as a treatment for diarrhoea and stomach-ache. A crude aqueous or alcoholic extract of the leaves is observed to have an inhibiting effect on Mycobacterium tuberculosis. An infusion of the leaves is used as a laxative. The seeds are chewed for treating a sore throat.

ALTERNANTHERA TENELLA COLLA

CLASSIFICATION:
Order: Caryophyllales
Family: Amaranthaceae
Genus: Alternanthera
Species: A. tenella

REGIONAL NAMES: **"KUSAL"** In Marathi, **"OTTARA MUL"** In Tamil.

DISTRIBUTION: ***Alternanthera tenella*** **(Sanguinarea)**, is a plant in the Amaranthaceae family native to South America. Prostrate herbs,

stem white villous. Leaves 3-4.5 x 2 cm, elliptic-oblong, apex sub-acute, hairy above, subsessile, ovoid. Head axillary, to 4, ovoid, sessile; bracts and bracteoles ca 2.5 mm, elliptic-lanceolate, spinescent; tepals outer 3 ca 4 mm, lanceolate, spinescent, inner two smaller; fertile stamens 5, filaments 1.5 mm, anthers oblong, pseudostaminodes strap shaped, longer than the filaments; ovary ovoid, style short. Seeds brownish, discoid.

USES: The plant is used as an antiviral agent.

ANDROGRAPHIS PANICULATA (BURM.F.) WALL. EX NEES

CLASSIFICATION:

Order: Lamiales

Family: Acanthaceae

Genus: Andrographis

Species: A. paniculata

REGIONAL NAMES: "**KALAMEGHA**" In Sanskrit, "**SIRIYA NANGAI**" In Tamil, "**NELABEVU**" In Kannada, "**KIRAYAT**" In Hindi, "**NILAVEMA**" In Telugu.

DISTRIBUTION: ***Andrographis paniculata (King of bitters, Indian Echinacea)*** is an annual herbaceous plant in the family Acanthaceae, native to India and Sri Lanka.It is widely cultivated in Southern and South-eastern. It grows erect to a height of 30–110 cm (12–43 in) in moist, shady places. The slender stem is dark green, squared in cross-section with longitudinal furrows and wings along the angles. The lance-shaped leaves have hairless blades measuring up to 8 cm (3.1 in) long by 2.5 cm (0.98 in). The small flowers are borne in spreading racemes. The fruit is a capsule around 2 cm (0.79 in) long and a few millimetres wide. It contains many yellow-brown seeds.

USES: A. paniculata has been used in Siddha and Ayurveda medicine and is promoted as a dietary supplement for cancer prevention and cure. It also has antibacterial, antioxidant, antimicrobial properties. It is also used to treat rheumatoid arthritis.

ATALANTIA MONOPHYLLA (L.) DC.

CLASSIFICATION:

Order: Sapindales

Family: Rutaceae

Subfamily: Aurantioideae

Genus: Atalantia

Species: A. monophylla

REGIONAL NAMES: **KATUNARENGA** In Malayalam, **KATTU ELUMICHAI** In Tamil.

DISTRIBUTION: ***Atalantia*** **monophylla (Wild lime)** is a species of plants in the family Rutaceae. They are woody climbers naturally found in tropical regions. They are small and much-branched. The branches are usually armed with single, stout, sharp spines up to 2 cm long. The yellowish-green, globose fruits are 15 - 20mm in diameter. The plants are harvested from the wild, usually for medicinal purposes.

USES: 'warm' oil obtained from the fruit is used in the treatment of chronic rheumatism. The fruits are said to make a nice pickle.

AZADIRACHTA INDICA A. JUSS.

CLASSIFICATION:

Order: Sapindales

Family: Meliaceae

Genus: Azadirachta

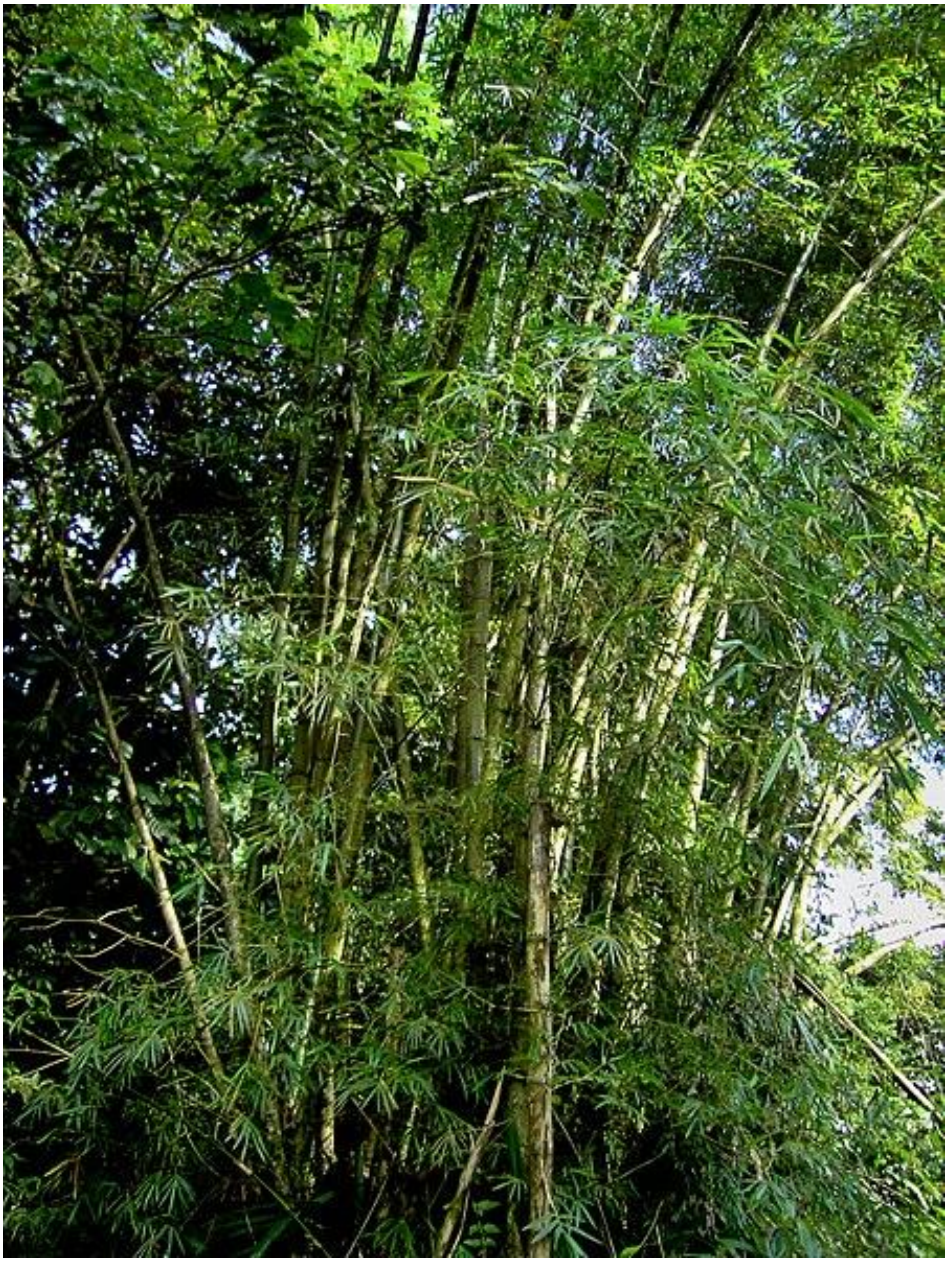
Species: A. indica

REGIONAL NAMES: "**NEEM**" In Hindi, "**VEPPAI**" In Tamil, "**NIMBAKA**" In Sanskrit, "**ARIYAVEPPU**" IN Malayalam, "**TURAKABEVU**" In Kannada, "**VEPA**" In Telugu.

DISTRIBUTION: ***Azadirachta indica*** (**Neem, Nimtree, Indian lilac**) is a tree in the mahogany family Meliaceae. It is one of two species in the genus *Azadirachta*, and is native to the Indian subcontinent; it is typically grown in tropical and semi-tropical regions. Its fruits and seeds are the source of neem oil.

USES: All parts of Neem tree used as anthelmintic, anti-fungal, anti-diabetic, antibacterial, antiviral, contraceptive and sedative. Neem tree is used in many medicinal treatment like skin diseases, healthy hair, improve liver function, detoxify the blood, Pest and disease control, fever reduction, dental treatments, cough, asthma, ulcers, piles, intestinal worms, urinary diseases etc.

BAMBUSA VULGARIS SCHRAD.



CLASSIFICATION:

Order: Poales

Family: Poaceae

Genus: Bambusa

REGIONAL NAMES: "**BANS**" In Hindi, "**MULA**" In Malayalam, "**MOONGIL**" In Tamil.

DISTRIBUTION: ***Bambusa vulgaris*** **(Common Bamboo)** is an open-clump type bamboo species. It is native to Indochina and to the province of Yunnan in southern China. Bambusa vulgaris forms moderately loose clumps and has no thorns. It has lemon-yellow culms (stems) with green stripes and dark green leaves. Stems are not straight, not easy to split, inflexible, thick-walled, and initially strong. The densely tufted culms grow 10–20 m (30–70 ft.) high and 4–10 cm (2–4 in) thick. Culms are basally straight or flexuous (bent alternately in different directions), drooping at the tips. Culm walls are slightly thick. Nodes are slightly inflated. Internodes are 20–45 cm (7.9–17.7 in). Several branches develop from mid-culm nodes and above. Culm leaves are deciduous with dense pubescence. Leaf blades are narrowly lanceolate.

USES: The stems are used as fuel and the leaves are used as fodder, though a large amount of ingestion of leaves is known to cause neurological disorder among horses. So it also has some disadvantages. It is also cultivated for its medicinal properties and also for its beauty.

BORASSUS FLABELLIFER L.

CLASSIFICATION:

Order: Arecales

Family: Arecaceae

Genus: Borassus

Species: B. flabellifer

REGIONAL NAMES: **"TAAD"** In Hindi, **"KARIMPANA"** In Malayalam, **"TATICHETTU"** In Telugu, **"OLEGARI"** In Kannada, **"PANAI"** In Tamil,
"TAALAH" In Sanskrit.

DISTRIBUTION: ***Borassus flabellifer*** **(Toddy palm, Ice apple)** is native to the Indian subcontinent and Southeast Asia. Borassus flabellifer is a robust tree and can reach a height of 30 metres (98 ft.). The trunk is grey, robust and ringed with leaf scars; old leaves remain attached to the trunk for several years before falling cleanly. The leaves are fan-shaped and 3 m (9.8 ft.) long, with robust black teeth on the petiole margins. Like all Borassus species, B. flabellifer is dioecious with male and female flowers on separate plants. The fruits are black to brown with sweet, fibrous pulp and each seed is enclosed within a woody endocarp.

USES: The young plant is said to relieve biliousness, dysentery and gonorrhoea. Young roots are anthelmintic and diuretic. It is given in certain respiratory diseases. Sap from the flower stalk is prized as a tonic, diuretic, stimulant, laxative and anti phlegmatic and amoebic ide. Sugar made from this sap is said to counteract poisoning and it is prescribed in the treatment of liver disorders.

BOUGAINVILLEA GLABRA CHOISY

CLASSIFICATION:

Order: Caryophyllales
Family: Nyctaginaceae
Genus: Bougainvillea
Species: B. glabra

REGIONAL NAMES: **"BOOGANBEL"** In Hindi, **"BAGANBILAS"** In Bengali, **"KAGITHALA PUVVU"** In Telugu, **"KAKITHA POO"** In Tamil.

DISTRIBUTION: ***Bougainvillea glabra,*** (**Lesser bougainvillea, Paper flower)** is the most common species of bougainvillea used for bonsai. It

is an evergreen, climbing shrub with thorny stems. It usually grows 10–12 ft. (3.0–3.7 m) tall, occasionally up to 30 ft. (9 m). Tiny white flowers usually appear in clusters surrounded by colourful papery bracts, hence the name paper flower. The leaves are dark green, variable in shape, up to 4 in (10 cm) long.[4] The flowers are about 0.4 cm in diameter (the pink petal-like structures are not petals, but bracts).

USES: Bougainvillea has medicinal values to regulate menstruation, vaginal (white) discharge, treatment of hepatitis and cough. The flowers and stems are dried, boil in water and drink as tea. Bougainvillea leaves are used to cure variety of disorders like for diarrhoea, and to reduce stomach acidity. It is used for cough and sore throat. Infusions of flowers used as treatment for low blood pressure. Leaves are used to cure diabetes. Stems helps in the cure of hepatitis.

BOUGAINVILLEA SPECTABILIS WILLD.

CLASSIFICATION:

Order: Caryophyllales
Family: Nyctaginaceae
Genus: Bougainvillea
Species: B. spectabilis

REGIONAL NAMES: **"CHEREI"** In Manipuri, **"BOOGANVEL"** In Marathi, **"BOUGAINVILA"** In Konkani.

DISTRIBUTION: ***Bougainvillea spectabilis*** **(Greater Bougainvillea)** grows as a woody vine or shrub, reaching 15 to 40 feet (4.6 to 12.2 m) with heart-shaped leaves and thorny, pubescent stems. The flowers are generally small, white, and inconspicuous, highlighted by several brightly coloured modified leaves called bracts. The bracts can vary in colour, ranging from white, red, mauve, purple-red, or orange. Its fruit is a small, inconspicuous, dry, elongated achene.

USES: It has been reported to have anti-inflammatory, anti-bacterial, anti-viral, anti-tumour, anti-hypercholestrolemic, anti-hyperlipidemic, and anti-sterility properties. The Yanadi tribe of Chittoor district, Andhra Pradesh, India, once used the leaves to heal diabetes. The plant is also widely grown as an ornamental plant.

CADABA FRUTICOSA (L.) DRUCE

CLASSIFICATION:

Order: Brassicales

Family: Capparaceae

Genus: Cadaba

Species: C. fruticosa

REGIONAL NAMES: **"KATTAKATTI"** In Malayalam, **"KODHAB"** In Hindi, **"AADAMORINIKA"** In Telugu, **"VIZHUTHI"** In Tamil.

DISTRIBUTION: ***Cadaba fruticosa*** **(Indian Cadaba)** is a species of plant in the family Capparaceae. It is endemic on Indian Subcontinent. Its natural habitat is subtropical or tropical dry shrub

land. It is threatened by habitat loss. It is a climbing shrub, height up to 5 m. Oval leaves with rounded tip are arranged alternately on the branches. Flowers usually in terminal racemes, or axillary solitary. Petals 4, clawed. Disk-appendix about as long as the petal claw, tubular, often trumpet shaped, apex generally petaloid and more or less toothed. Stamens 4-6, exserted, spreading; filaments on a short androphore or irregularly fused with the gynophore. Fruit is nearly cylindrical, leathery - internal tissues surrounding the nearly round seeds are often orange coloured.

USES: Leaves are anthelmintic and deobstruent, decoction is used in uterine obstructions. Leaves are used as poultice on sores and roots are used as purgative, deobstruent, emmenagogue and aperients.

CAESALPINIA CORIARIA (JACQ.) WILLD.

CLASSIFICATION:

Order: Fabales

Family: Fabaceae

Genus: Libidibia

Species: L. coriaria

REGIONAL NAMES: **"ALDE KAAYI"** In Kannada, **"LIBI DIBI"** In Marathi, **"INGIMARAM"** In Tamil, **"DIVI DIVI"** In Telugu.

DISTRIBUTION: ***Libidibia coriaria*** **(Divi-divi, Cascalote, *and* *Watapana*)** is a leguminous tree or large shrub native to the Caribbean, Mexico, Central America, and northern South America. *L. coriaria* rarely reaches its maximum height of 9 m (30 ft.) because its growth is contorted by the trade winds that batter the exposed coastal sites where it often grows. In other environments it grows into a low dome shape with a clear sub canopy space. Leaves are bipinnate, with 5–10 pairs of pinnae, each pinna with 15–25 pairs of leaflets; the individual leaflets are 7 mm long and 2 mm broad. The fruit is a twisted pod 5 cm (2.0 in) long.

USES: The pods of *Caesalpinia coriaria* are very rich in tannin and are used in the tanning industry. The pods are also used to prepare a blackish or bluish dye for cotton and wool. They are sometimes employed as a mordant for dyeing vegetable fibres with other dyes. In medicine the pods are used as an antiperiodic and for dressing sores. *Caesalpinia coriaria* is used as an ornamental and shade plant and its leaves as mulch.

CAESALPINIA PULCHERRIMA (L.) SW.

CLASSIFICATION:

Order: Fabales

Family: Fabaceae

Genus: Caesalpinia

Species: C. pulcherrima

REGIONAL NAMES: **"GULETURA"** In Hindi, **"RATNAGANDHI"** In Telugu, **"KENJIGE"** In Kannada, **"SIDHAKYA"** In Sanskrit, **"MAYIRKONDRAI"** In Tamil.

DISTRIBUTION: ***Caesalpinia pulcherrima*** **(Peacock flower, Red bird of paradise, Dwarf Poinciana, *Flamboyant-de-jardin*)** is a species of flowering plant in the family Fabaceae, native to the tropics and subtropics of the Americas but its exact origin is unknown due to widespread cultivation. It is a shrub growing to 3 m tall. In climates with few to no frosts, this plant will grow larger and is semi evergreen. Grown in climates with light to moderate freezing. This species is more sensitive to cold than others. The leaves are bipinnate, 20–40 cm long, bearing three to 10 pairs of pinnae, each with six to 10 pairs of leaflets 15–25 mm long and 10–15 mm broad. The flowers are borne in racemes up to 20 cm long, each flower with five yellow, orange, or red petals. The fruit is a pod 6–12 cm long.

USES: A decoction is used as a purgative and emmenagogue. According to the dosage it may be used as a mouthwash for teeth or gums, a remedy for colds and fevers, or even as a strong abortifacient. It is used in the treatment of diarrhoea. The leaves are emmenagogue, febrifuge and tonic. An infusion is used to relieve constipation, as a treatment for kidney stones, and to accelerate childbirth. The leaves of the yellow flowered form are used to treat stomach-aches.

CALOTROPIS GIGANTEA (L.) R. BR.

CLASSIFICATION:

Family: Apocynaceae
Subfamily: Asclepiadoideae
Genus: Calotropis
Species: C. gigantea

REGIONAL NAMES: **"SAFED AAK"** In Hindi, **"JILLEDI PUVVU"** In Telugu, **"ERUKKU"** In Tamil, **"YAKKA"** In Kannada, **"ARK"** In Sanskrit.

DISTRIBUTION: ***Calotropis gigantea*** (**Crown flower**) is a species of *Calotropis* native to Southeast Asia and Africa. It is a large shrub growing to 4 m (13 ft.) tall. It has clusters of waxy flowers that are either white or lavender in colour. Each flower consists of five pointed petals and a small "crown" rising from the centre which holds the stamens. The aestivation found in is valvate i.e. sepals or petals in a whorl just touch one another at the margin, without overlapping. The plant has oval, light green leaves and milky stem.

USES: calotropis is used for digestive disorders including diarrhoea, constipation and stomach ulcers; for painful conditions including toothache, cramps, and joint pain; and for parasitic infections including elephantiasis and worms. Some people use calotropis for syphilis, boils, inflammation, epilepsy, hysteria, fever, muscular spasm, warts, leprosy, gout, snakebites, and cancer.

CANNA INDICA L.

CLASSIFICATION:

Order: Zingiberales

Family: Cannaceae

Genus: Canna

Species: C. indica

REGIONAL NAMES: **"SARVAJJAYA"** In Hindi, **"KALAHU"** IN Kannada, **"KARDAL"** In Marathi, **"NILA VAZHAI"** In Tamil.

DISTRIBUTION: ***Canna indica*** **(Indian shot, African arrowroot, Edible canna)** is a plant species in the family Cannaceae. It is native to much of South America and Central America. *Canna indica* is a perennial growing to between 0.5 m and 2.5 m, depending on the variety. The flowers are hermaphrodite. The seeds are small, globular, black pellets, hard and dense enough to sink in water.

USES: The plant is used in the treatment of women's complaints. The root is diaphoretic and diuretic. It is used in the treatment of fevers. A decoction of the root, combined with fermented rice, is used in the treatment of gonorrhoea and amenorrhoea. The leaves are diuretic and emollient.

CARYOTA URENS L.

CLASSIFICATION:

Order: Arecales

Family: Arecaceae

Genus: Caryota

Species: C. urens

REGIONAL NAMES: **"MARI"** In Hindi, **"KONTAL PANAI"** In Tamil, **"ANAPPANA"** In Malayalam, **"BAGANI"** In Kannada, **"SRITALAH"** In Sanskrit, **"JEELUGU"** In Telugu.

DISTRIBUTION: ***Caryota urens*** **(Fishtail Palm, Jaggery Palm, Toddy Palm)**, is a species of plant in the Arecaceae family native to India and Southeast Asia. Tall unbranched palm with peristant scars of leaf bases. Leaves in terminal clusters, few, large, bi-pinnatisect, leaf-sheaths large, clasping basaly the trunk. Flower in much branched spadix of 8-10 ft. long, arise from the upper leaf-sheaths and then successively come downwards, monoecious. Fruit globose, 1-2-seeded, pulp pungent; seeds with hard testa.

USES: A porridge prepared from the seed flour is used to treat gastric ulcers, migraine headaches, snake-bite poisoning and rheumatic swellings. The root is used for treating tooth ailments. The bark and seed are used to treat boils. The tender flowers are used for promoting hair growth.

CASSIA FISTULA L.

CLASSIFICATION:

Order: Fabales

Family: Fabaceae

Genus: Cassia

Species: C. fistula

REGIONAL NAMES: **"AMALTAS"** In Hindi, **"KAKKE"** In Kannada, **"KANIKONNA"** In Malayalam, **"KRITAMALA"** In Sanskrit, **"RAELA"** In Telugu, **"KONRAI"** In Tamil.

DISTRIBUTION: ***Cassia fistula*** **(Golden rain tree, Cana fistula)** is a flowering plant in the family Fabaceae. The species is native to the Indian subcontinent and adjacent regions of Southeast Asia. The golden shower tree is a medium-sized tree, growing to 10–20 m (33–66 ft.) tall with fast growth. The leaves are deciduous, 15–60 cm (5.9–23.6 in) long, and pinnate with three to eight pairs of leaflets, each leaflet 7–21 cm (2.8–8.3 in) long and 4–9 cm (1.6–3.5 in) broad. The flowers are produced in pendulous racemes 20–40 cm (7.9–15.7 in) long, each flower 4–7 cm (1.6–2.8 in) diameter with five yellow petals of equal size and shape. The fruit is a legume, 30–60 cm (12–24 in) long and 1.5–2.5 centimetres (0.59–0.98 in) broad, with a pungent odour and containing several seeds.

USES: It is grown as an ornamental tree. It is also used in the treatment of cancer, constipation, convulsions, delirium, diarrhoea, dysuria, epilepsy, haematuria, pimples and glandular tumours. Bark is useful in boils, leprosy, ringworm affection, diabetes and cardiac problems. Leaves are useful in skin diseases, burning sensation, dry cough and fever.

CASSIA JAVANICA L.

CLASSIFICATION:

Order: Fabales

Family: Fabaceae

Genus: Cassia

Species: C. javanica

REGIONAL NAMES: "JAVA RANI" In Manipuri.

DISTRIBUTION: ***Cassia javanica*** **(Apple blossom tree, Rainbow shower tree)**, is a species of tree in the Fabaceae family. Its origin is in

Southeast Asia. It is a fast growing, deciduous / semi-deciduous tree which flowers in spring and sheds its leaves in the winter months. It has a straight trunk that reaches heights of 25 - 40m. The leaves are paripinnate with 12 pairs of elliptical leaves. The flowers range in colour from pale pink to crimson with yellow coloured stamens and are found in open clusters. The ground under the tree is covered with a beautiful carpet of pink towards the end of the flowering season. The fruit are housed in long cylindrical dark brown pods.

USES: It is used for treating constipation, colic, chlorosis and urinary disorders. Its leaves are effective against herpes simplex and the bark is one of the ingredients in anti-diabetic formulations. It yields a lightweight to heavy hardwood that is used for general construction, furniture and cabinet making. The bark is used for tanning in the leather processing industry.

CASUARINA EQUISETIFOLIA L.

CLASSIFICATION:

Order: Fagales

Family: Casuarinaceae

Genus: Casuarina

Species: C. equisetifolia

REGIONAL NAMES: **"JUNGLISARU"** In Hindi, **"SARUGUDA"** In Telugu, **"SAMPIRANI"** In Malayalam, **"SAVUKKU"** In Tamil, **"KYASURINA"** In Kannada.

DISTRIBUTION: ***Casuarina equisetifolia*** **(Australian pine tree)**, is a she-oak species of the genus Casuarina. The native range extends from

Thailand, Burma and Vietnam throughout Malaysia east to French Polynesia. It is an evergreen tree growing to 6–35 m (20–115 ft.) tall. The foliage consists of slender, much-branched green to grey-green twigs 0.5–1 mm (0.020–0.039 in) diameter, bearing minute scale-leaves in whorls of 6–8. The male flowers in simple spikes 0.7–4 cm (0.28–1.57 in) long, the female flowers on short peduncles. It is monoecious. The fruit is an oval woody structure 10–24 mm (0.39–0.94 in) long and 9–13 mm (0.35–0.51 in) in diameter, superficially resembling a conifer cone made up of numerous carpels each containing a single seed with a small wing 6–8 mm (0.24–0.31 in) long.

USES: Root extracts are used for the treatment of dysentery, diarrhoea and stomach-ache. A decoction of the twigs is used for treating swelling. A decoction of the inner bark, combined with the inner bark of Terminalia catappa, is taken as a treatment for asthma and shortness of breath.

CATHARANTHUS ROSEUS (L.) G. DON

CLASSIFICATION:

Order: Gentianales

Family: Apocynaceae

Genus: Catharanthus

Species: C. roseus

REGIONAL NAMES: **"SADABAHAR"** In Hindi, **"SHAVAM NAARI"** In Malayalam, **"NAYANTARA"** In Bengali, **"NITHYA KALYANI"** In Tamil.

DISTRIBUTION: ***Catharanthus roseus*** **(Madagascar periwinkle, Rose periwinkle, Vinca rosea)**, is a species of flowering plant in family Apocynaceae. It is native and endemic to Madagascar. It is an evergreen subshrub or herbaceous plant growing 1 m tall. The leaves are oval to oblong, 2.5–9 cm long and 1–3.5 cm broad, glossy green, hairless, with a pale midrib and a short petiole 1–1.8 cm long; they are arranged in opposite pairs. The flowers are white to dark pink with a darker red centre, with a basal tube 2.5–3 cm long and a corolla 2–5 cm diameter with five petal-like lobes. The fruit is a pair of follicles 2–4 cm long and 3 mm broad.

USES: The species has long been cultivated for herbal medicine and as an ornamental plant. The extracts of its roots and shoots, though poisonous, are used against several diseases. Extracts from it have been used against numerous diseases, including diabetes, malaria, and Hodgkin's lymphoma. Many of the vinca alkaloids were first isolated from Catharanthus roseus, including vinblastine and vincristine used in the treatment of leukaemia and Hodgkin's lymphoma.

CESTRUM NOCTURNUM L.

CLASSIFICATION:

Order: Solanales

Family: Solanaceae

Genus: Cestrum

Species: C. nocturnum

REGIONAL NAMES: **"RAT KI RANI"** In Hindi, **"HASNA HANA"** In Bengali, **"THABAL LEI"** In Manipuri, **"RERANI"** In Telugu, **"NALLIRAVU NAYAKI"** In Tamil.

DISTRIBUTION: ***Cestrum nocturnum*** **(Night-blooming jasmine)**, is a species of *Cestrum* in the plant family Solanaceae. It is native to the West Indies, but naturalized in South Asia. It is an evergreen woody shrub growing to 4 m (13 ft.) tall. The leaves are simple, narrow lanceolate, 6–20 cm (2.4–7.9 in) long and 2–4.5 cm (0.79–1.77 in) broad, smooth and glossy, with an entire margin. The flowers are greenish-white, with a slender tubular corolla 2–2.5 cm (0.79–0.98 in) long with five acute lobes, 10–13 mm (0.39–0.51 in) diameter when open at night, and are produced in cymose inflorescences. A powerful, sweet perfume is released at night. The fruit is a berry 10 millimetres (0.39 in) long by 5 mm (0.20 in) diameter, either marfil white or the colour of an aubergine. There is also a variety with yellowish flowers. There are mixed reports regarding the toxicity of foliage and fruit.

USES: It is used for treating epilepsy. Leaves have significant analgesic and bactericidal activity. The volatile oil is known to be mosquito-repellent. Local anaesthetic effect, inhibitory effect on central Nervous system and cardiac arrthymic effect of plant are also documented. It has tumour Inhibition ability.

CHLOROPHYTUM COMOSUM (L.) VOSS

CLASSIFICATION:

Family: Asparagaceae

Subfamily: Agavoideae

Genus: Chlorophytum

Species: C. comosum

REGIONAL NAMES: **"MUSLI"** In Hindi.

DISTRIBUTION: ***Chlorophytum comosum*** **(Spider plant, Airplane plant, St. Bernard's lily)** is a species of perennial flowering plant. It is native to tropical and southern Africa. It grows to about 60 centimetres (24 in) high. It has fleshy, tuberous roots, about 5–10 cm (2–4 in) long.

The long narrow leaves reach a length of 20–45 cm (8–18 in) and are around 6–25 millimetres (0.2–1.0 in) wide. Individual flowers are greenish-white, borne on stalks (pedicels) some 4–8 mm (0.2–0.3 in) long. Each flower has six three-veined tepals which are 6–9 mm (0.2–0.4 in) long, slightly hooded or boat-shaped at their tips. The stamens consist of a pollen-producing anther about 3.5 mm (0.1 in) long with a filament about the same length or slightly longer. The central style is 3–8 mm (0.1–0.3 in) long. Seeds are produced in a capsule 3–8 mm (0.1–0.3 in) long on stalks (pedicels) which lengthen to up to 12 mm (0.5 in).

USES: It is used for treating bronchitis, fractures and burns.

CISSUS QUADRANGULARIS L.

CLASSIFICATION:
Order: Vitales
Family: Vitaceae
Genus: Cissus
Species: C. quadrangularis

REGIONAL NAMES: **"HADJORA"** In Hindi, **"MANGARAVALLI"** In Kannada, **"CANNALAMPARANTA"** In Malayalam, **"ASTHI SAMHAARA"** In Sanskrit, "**PERANDAI"** In Tamil, **"GUDAMETIGE"** In Telugu.

DISTRIBUTION: ***Cissus quadrangularis*** **(Veld grape, Devil's backbone, Adamant creeper)** is a perennial plant of the grape family

native to the Indian subcontinent. It reaches a height of 1.5 m and has quadrangular-sectioned branches with internodes 8 to 10 cm long and 1.2 to 1.5 cm wide. Along each angle is a leathery edge. Toothed trilobe leaves 2 to 5 cm wide appear at the nodes. Each has a tendril emerging from the opposite side of the node. Racemes of small white, yellowish, or greenish flowers; globular berries are red when ripe.

USES: It has been used to heal broken bones and injured ligaments and tendons. It is a tonic and an analgesic. It is used for obesity, diabetes, a cluster of heart disease risk factors called "metabolic syndrome", and high cholesterol. It has also been used for gout, rheumatoid arthritis, allergies, loss of appetite, weak bones, scurvy, cancer, upset stomach, haemorrhoids, peptic ulcer disease, painful menstrual periods, asthma, seizures, malaria, wound healing, and pain.

CLITORIA TURNATEA L.

CLASSIFICATION:

Order: Fabales

Family: Fabaceae

Genus: Clitoria

Species: C. ternatea

REGIONAL NAMES: **"APARAJITHA"** In Hindi, **"SANGU KANNIKODI"** In Tamil, **"SANGU PUSHPAM"** In Malayalam.

DISTRIBUTION: ***Clitoria ternatea*** **(Asian pigeon wings, Bluebell vine, Cordofan pea)**, is a plant species belonging to the Fabaceae family

native to tropical and equatorial Asia, Thailand and Malaysia. It is a perennial herbaceous plant, with elliptic, obtuse leaves. It grows as a vine or creeper, doing well in moist, neutral soil. The most striking feature about this plant is the color of its flowers, a vivid deep blue; solitary, with light yellow markings. They are about 4 cm (1.6 in) long by 3 cm (1.2 in) wide. Some varieties yield white flowers.
The fruits are 5–7 cm (2.0–2.8 in) long, flat pods with six to ten seeds in each pod. They are edible when tender.

USES: It is ascribed various qualities including memory enhancing, nootropic, antistress, anxiolytic, antidepressant, anticonvulsant, tranquilizing, and sedative properties. The plant has also been ascribed properties affecting female libido due to its similar appearance to the female reproductive organ.

COCCINIA GRANDIS (L.) VOIGT

CLASSIFICATION:

Order: Cucurbitales
Family: Cucurbitaceae
Genus: Coccinia
Species: C. grandis

REGIONAL NAMES: **"KUNDUR"** In Hindi, **"KOVAI"** In Tamil, **"KOVA"** In Malayalam, **"DONDA KAYA"** In Telugu, **"BIMBIKA"** In Sanskrit.

DISTRIBUTION: ***Coccinia grandis*** **(The ivy gourd, Scarlet gourd, Tindora)** is a tropical vine. It grows primarily in tropical climates and is commonly found in the southern Indian state of Kerala. It is a dioecious, perennial, herbaceous vine that can grow between 9 and 28 m long. It has glabrous stems, an extensive tuberous root system and axillary tendrils. The alternate, simple leaves have a broadly ovate, 5-lobed, 5-9 by 4-9 cm. The flowers are white, star-shaped with 5 petals. The fruit is a smooth, bright red, ovoid to ellipsoid berry, 5-7.1 cm long.

USES: Fruits are used to treat leprosy, fever, asthma, bronchitis, and jaundice. It possesses mast cell-stabilizing, antianaphylactic, and antihistaminic potential. The roots are used to treat osteoarthritis, Scabies and joint pain. They also have the capacity to reduce blood suger level.

COCCULUS HIRSUTUS (L.) W. THEOB.

CLASSIFICATION:

Order: Ranunculales

Family: Menispermaceae

Genus: Cocculus

Species: C. hirsutus

REGIONAL NAMES: **"FARID BUTI"** In Hindi, **"DAAGADI BALLI"** In Kannada, **"PAATHAALAMUULI"** In Malayalam, **"AMBASTHA"** In Sanskrit, **"KATTUK KODI"** In Tamil, **"CHIPURU TIGA"** In Telugu.

DISTRIBUTION: ***Cocculus hirsutus*** **(Broom Creeper, Ink berry)**, is a tropical, invasive creeper native to India, Pakistan, and tropical Africa.

Perennial climber, 2-3 m. Leaves 3-5-veined from the base, variable in shape, older leaves often distinctly 3-5-lobed, younger leaves oblong-ovate to somewhat obovate, covered in yellowish velvety hairs, apex with a small sharp mucro. Flowers in axillary clusters, unisexual; sepals densely hairy. Fruit somewhat ellipsoid, 4 mm in diameter, fleshy, purple-blue when ripe.

USES: The Leaf infusion is taken to treat stomach-ache and female sterility Leaf sap is taken to treat nervous illnesses. The leaves are used to treat skin infections and itchy skin including eczema, rheumatism and gonorrhoea, the roots are taken as a tonic and alterative and as a diuretic and laxative. A root decoction is applied against fever, rheumatism and severe weight loss. The cooked leaves are eaten to treat night blindness and a jelly prepared by soaking leaves in cold water is taken to check spermatogenesis.

COCOS NUCIFERA L.

CLASSIFICATION:

Order: Arecales

Family: Arecaceae

Genus: Cocos

Species: C. nucifera

REGIONAL NAMES: **"NARIYAL"** In Hindi, **"TENGU"** In Kannada, **"THENGA"** In Malayalam, **"NARIKELA"** In Sanskrit, **"THENGAI"** In Tamil, **"NARIKEL"** In Telugu.

DISTRIBUTION: ***Cocos nucifera*** **(Coconut)** is a species of plant in the Arecaceae family native to India. Erect trees with annular petiolar scars. Leaves pinnatisect, 4-6 m long; leaflets reduplicate, 60-100 x 2.5-5 cm, base narrow, apex tapering, acute. Spadices interfoliar, 50-100 cm long, panicled; branches to 60 cm long. Spathe 60-130 cm long, oblong, woody. Flowers monoecious, subsessile. Male flowers: often paired, to 8 mm long. Sepals c. 3 mm long, ovate. Petals 6-8 mm long, ovate, woody, yellowish-brown. Stamens 6; pistillode short, 3-fid. Female flowers 1-3 per branch, basal, globose. Perianth-lobes 6; woody; outer lobes broadly obovate, c. 2 cm across; inner lobes reniform, to 2 cm across. Ovary 3-celled; ovule 1 per cell; style short. Drupe to 30 cm long, ovoid or globose, trigonous; pericarp fibrous; endocarp stony. Seed coherent with the endocarp.

USES: The seed oil is cytotoxic, emetic, emollient, hypotensive and purgative. It is also used to treat rheumatism and back pains or as an ointment to maintain smooth, soft skin. The root is employed in treating stomach-ache and blood in the urine.

CORDYLINE FRUTICOSA (L.) A. CHEV.

CLASSIFICATION:

Family: Asparagaceae

Subfamily: Lomandroideae

Genus: Cordyline

Species: C. fruticosa

REGIONAL NAMES: NO REGIONAL NAMES AVAILABLE IN INDIA.

DISTRIBUTION: ***Cordyline fruticosa*** **(Cabbage palm, Good luck plant, Ti plant),** is an evergreen flowering plant in the Asparagaceae

family native to tropical southeastern Asia, Papua New Guinea, Melanesia, and northeastern Australia. It is a woody plant growing up to 4 m (13 ft) tall, with leaves 30–60 cm (12–24 in) (rarely 75 cm or 30 in) long and 5–10-centimetre (2.0–3.9 in) wide at the top of a woody stem. It produces 40–60-centimetre (16–24 in) long panicles of small scented yellowish to red flowers that mature into red berries.

USES: An infusion of the leaves is used as a remedy for swellings, inflammations, dry fevers, stomach-ache, eczema and gastritis.
The leaf buds are used to treat lower chest pains. Applied externally, the juice of the leaves is used to treat earache and infected eyes.
Liquid from the stem is used to treat sickness after childbirth and also to help expel the afterbirth.The root is used to treat inflammations, baldness, toothache and laryngitis. Pieces of the root, soaked in vinegar, are used to make a preparation against bleeding.

CRATEVA RELIGIOSA G. FORST

Order: Brassicales

CLASSIFICATION:

Family: Capparaceae

Genus: Crateva

Species: C. religiosa

REGIONAL NAMES: **"BARNA"** In Hindi, **"MARVILINGA"** In Tamil, **"VARUNA"** In Sanskrit, **"NIR MATHALAM"** In Malayalam, **"NIRVALA"** In Kannada, **"VOOLEMARA"** In Telugu.

DISTRIBUTION: ***Crateva religiosa*, (The sacred garlic pear, temple plant, Spider tree)** is a species of flowering tree of the capers family. native to Japan, Australia, much of Southeast Asia and several South Pacific islands. A moderate sized deciduous tree. Bark grey, smooth horizontally wrinkled. Leaves trifoliate. The leaves are clustered at the ends of branchlets, with a common petiole 5 to 10 centimeters long, at the summit of which are tree leaflets. Flowers white, or cream and occur in many flowered terminal corymbs, are about 5 centimeters in diameter, greenish-yellow, and the stamens are purplish. The fruit is ovoid or rounded, and 3 to 5 centimeters in diameters, with hard and rough rind. The seeds are about 10 centimeters in length, numerous, kidney-shaped, and embedded in a yellow pulp.

USES: It has anti-inflammatory, diuretic, lithontriptic, demulcent and tonic properties. Bark yields ceryl alcohol, friedelin, lupeol, betulinic acid and diosgenin. It is useful in disorders of urinary organs, urinary tract infections, pain and burning micturition, renal and vesical calculi.

CYMBOPOGON CITRATUS (DC.) STAPF

CLASSIFICATION

Order: Poales

Family: Poaceae

Genus: Cymbopogon

Species: C. citratus

REGIONAL NAMES: **"GANDHATRINA"** In Hindi, **"KARPPURAPPUL"** In Tamil, **"VASANA PULLU"** In Malayalam, **"NIMMAGADDI"** In Telugu, **"MAJJIGEHULLU"** In Kannada, **"BHUSTRINA"** In Sanskrit".

DISTRIBUTION: ***Cymbopogon citratus*** **(Lemon grass, Oil grass)**, is a tropical plant from South Asia. Lemon Grass is a fragrant herb. This grass grows in dense clumps that can grow to 6 ft in height and about 4 ft in width, although it commonly seen much smaller. Leaves are strap-like, 1.3-2.5 cm wide, to 3 ft long, and have gracefully drooping tips. The evergreen leaves are bright bluish-green and release a citrus aroma when crushed. They rarely produce flowers.

USES: It is used for treating digestive tract spasms, stomachache, high blood pressure, convulsions, pain, vomiting, cough, achy joints (rheumatism), fever, the common cold, and exhaustion. It is also used to kill germs and as a mild astringent.

CYNODON DACTYLON (L.) PERS.

CLASSIFICATION:

Order: Poales

Family: Poaceae

Genus: Cynodon

Species: C. dactylon

REGIONAL NAMES: **"DOBRI"** In Hindi, **"GARIKEHULLU"** In Kannada, **"NILADURVA"** In Sanskrit, **"ARUGAMPILLU"** In Tamil, **"GHERICHA"** In Telugu.

DISTRIBUTION: ***Cynodon dactylon*** **(Vilfa stellata, Bermuda grass, Dhoob, Scutch grass)**, is a grass that originated in Africa. The blades are a grey-green colour and are short, usually 2–15 cm (0.79–5.91 in) long with rough edges. The erect stems can grow 1–30 cm (0.39–11.81 in) tall. The stems are slightly flattened, often tinged purple in colour.The seed heads are produced in a cluster of two to six spikes together at the top of the stem, each spike 2–5 cm (0.79–1.97 in) long. It has a deep root system; in drought situations with penetrable soil, the root system can grow to over 2 metres (6.6 ft) deep, though most of the root mass is less than 60 centimetres (24 in) under the surface.

USES: It can be used in case of many diseases. It is beneficial to wounds, piles, eczema, urticaria, injuries, eye problems, skin rashes, constipation, indigestion, constipation, mental ability, diabetes, epilepsy, vaginal problems, menstrual problems and gynecological problems.

DATURA METEL L.

CLASSIFICATION:

Order: Solanales

Family: Solanaceae

Genus: Datura

Species: D. metel

REGIONAL NAMES: **"SAFED DHATURA"** In Hindi, **"UMMAM"** In Malayalam, **"OOMATHTHAI"** In Tamil, **"DHATURA"** In Sanskrit.

DISTRIBUTION: ***Datura metel*** **(Devil's Trumpet)**, is a species of flowering plant in the Solanaceae family. Subshrubs; branches somewhat zigzag. Leaves entire or angled with acute lobes, c. 12 x 8 cm, ovate, base oblique, apex acute or acuminate; petiole to 6 cm long. Flowers solitary in axil, erect; pedicels 1-1.5 cm long. Calyx 6-8 cm long, tubular, 5-lobed, minutely pubescent. Corolla creamy-white, c. 15 cm long, funnel-shaped; teeth 5, cuspidate. Stamens 5, attached towards the base of corolla tube, included, subequal; filaments hairy at base. Capsule c. 3 cm across, spherical, covered with short spines, dehiscence irregular. Seeds compressed, c. 5 mm long, smooth, brown.

USES: It is used as a treatment for chest complaints, including asthma, cough, tuberculosis and bronchitis. The whole plant, but especially the leaves and seed, is abortifacient, anaesthetic, anodyne, antiasthmatic, antispasmodic, antitussive, bronchodilator, hallucinogenic, hypnotic and mydriatic. It has a wide range of applications, including in the treatment of epilepsy, hysteria, insanity, heart diseases, fever with catarrh, diarrhoea and skin diseases.

DELONIX REGIA L.

CLASSIFICATION:

Order: Fabales

Family: Fabaceae

Genus: Delonix

Species: D. regia

REGIONAL NAMES: **"GULMOHAR"** In Hindi, **"KEMPU TORAI"** In Kannada, **"SEMMAYIRK KONDRAI"** In Tamil, **"PEDDATURAYI"** In Telugu.

DISTRIBUTION: ***Delonix regia*** **(Royal Poinciana, Flamboyant, Flame tree)**, is a species of flowering plant in the Fabaceae family native to India. Small, diffuse or erect, suffruticose undershrubs with branches finely tomentose. Leaves compound, alternate, spiral; rachis ca. 4-10 cm long, slender, with a sessile discoid gland near the lowest leaflets; stipules large, linear subulate with a broad base, persistent; petioles ca. 2-3 mm long; leaflets 25-50 pairs, overlapping. Flowers solitary or in pairs, yellow; sepals lanceolate-ovate, acuminate, finely pilose externally; petals elliptic-orbicular. Pods, strap-shaped, flat, rostrate at apex, covered with fine bristles, dehiscent. Seeds compressed, obliquely oblong.

USES: The plant is reported to have antibacterial, antidiabetic, antidiarrhoeal, antifungal, antiinflammatory, antimalarial, antimicrobial, antioxidant, cardio-protective, gastro-protective, hepato-protective and wound healing activity. It is used to treat a range of disorders, including constipation, inflammation, rheumatoid arthritis, diabetes, pneumonia, and malaria.

DRACAENA REFLEXA LAM.

CLASSIFICATION:
Order: Asparagales
Family: Asparagaceae
Genus: Dracaena
Species: D. reflexa

REGIONAL NAMES: NO REGIONAL NAMES AVAILABLE IN INDIA.

DISTRIBUTION: ***Dracaena reflexa*** **(Song of India)**, is a plant species in the Asparagaceae family native to Mozambique, Madagascar and Mauritius. It is slow-growing and upright in habit, tending to an oval shape with an open crown. The lanceolate leaves are simple, spirally

arranged, 5–20 cm long and 1.5–5 cm broad at the base, with a parallel venation and entire margin; they grow in tight whorls and are a uniform dark green. The flowers are small, clustered, usually white and extremely fragrant, appearing in mid winter. Neither the flowers nor the fruit are especially showy.

USES: It is used to cure malarial symptoms, poisoning, dysentery, diarrhea, dysmenorrhea, and it is also known to be useful as an antipyretic and hemostatic agent.

EUPHORBIA HETEROPHYLLA L.

CLASSIFICATION:
Order: Malpighiales
Family: Euphorbiaceae
Genus: Euphorbia
Species: E. heterophylla

REGIONAL NAMES: **"PAL PERUKKI"** In Tamil, **"BEDIAAKU"** In Telugu.

DISTRIBUTION: ***Euphorbia heterophylla*** **(Japanese poinsettia, Fire on the mountain, Painted spurge, Milkweed, Kaliko plant)**, is a plant belonging to the Euphorbiaceae family. It grows between 30 and 100 cm tall and has hollow stems that may be branched or simple with angular ribs. The leaves of the plant have variable within and between populations. The lower leaves alternate whereas the upper leaves are opposite and commonly have a whitish or bright red base. The cyathia or false flowers are located in clusters at the head of the stalk and are yellowish green. They have no petals, the red colour being part of the young leaves coloration. The fruits are small, segmented capsules.

USES: A decoction of the stems or the leaves is taken as a purgative and laxative to treat stomach ache, constipation and to expel intestinal worms. A leaf infusion is used to treat skin problems including tumour. The roots are used in the treatment of gonorrhoea and also to increase milk production in breast-feeding women. A leaf extract is used to treat body pains.

EUPHORBIA HIRTA L.

CLASSIFICATION:
Order: Malpighiales
Family: Euphorbiaceae
Genus: Euphorbia
Species: E.hirta

REGIONAL NAMES: **"AMMAN PACCHARISI"** In Tamil, **"NELAPALAI"** In Malayalam, **"NANABALU"** In Telugu, **"ACHCHEDIDA"** In Kannada, **"BARA DUDHI"** In Hindi.

DISTRIBUTION: ***Euphorbia hirta*** **(Asthma weed)**, is a pantropical weed native to India. It is a slender-stemmed, annual, hairy plant with many branches, growing up to 40 cm tall, reddish, or purplish in colour. Leaves are opposite, elliptic-oblong to oblong-lance like, 1-2.5 cm long, blotched, with purple in the middle, toothed at the edges. Flowers, purplish to greenish in colour, dense, cymes, about 1 mm in length. Capsules are broadly ovoid, hairy, and three-angled.

USES: It is used to treat bronchitis, asthma and laryngeal spasm. It is also used to treat intestinal amoebic dysentery, jaundice, pimples, gonorrhoea, digestive problems and tumours. Large dosage may lead to gastro-intestinal irritation, nausea and vomiting.

EUPHORBIA MILII DES MOUL. VAR. MILII

CLASSIFICATION:

Orders: Malpighiales

Family: Euphorbiaceae

Genus: Euphorbia

Species: E.milii

REGIONAL NAMES: **"KIREEDAK KALLI"** In Tamil.

DISTRIBUTION: ***Euphorbia milii*** **(The crown of thorns, Christ plant, Corona de Cristo),** is a species of flowering plants in the euphorbiaceae family and native to Madagascar. It is a succulent climbing shrub growing to 1.8 m tall, with densely spiny stems. The straight, slender

spines, grows up to 2 cm long and helps to scramble over other plants. The leaves are found only on new growth and are obovate, up to 3.5 cm long and 1.5 cm broad. The flowers are small, subtended by a pair of conspicuous petal like bracts, variably red, pink or white. Fruits are rare.

USES: It is used to cure cancers and warts. They curb the spread of schistosomiasis.

EUPHORBIA THYMIFOLIA L.

CLASSIFICATION:

Order: Malpighiales

Family: Euphorbiaceae

Genus: Euphorbia

Species: E.thymifolia

REGIONAL NAMES: **"CHHOTA DUDHI"** In Hindi, **"SITRAMMAN PACHCHARISI"** In Tamil, **"BILI CHITRAPHALA"** In Kannada, **"GORAKSHA DUGDHI"** In Sanskrit.

DISTRIBUTION: ***Euphorbia thymifolia*** **(Gulf Sandmat, Chickenweed, Dwarf spurge, Red caustic creeper)**, is a species belonging to the euphorbiaceae family. It is a small branched, softly hispid prostrate herbs. Leaves opposite, distichous, 2-7 x 2-4 mm, oblong or suborbicular, base obliquely cordate, margin serrulate, apex obtuse, 1-nerved, subsessile. Cyathia in axillary clusters. Involucre campanulate, c. 8 mm long; glands 4. Male flowers 1-4, ebracteolate. Female laterally pendulous; ovary tomentose; style 3-forked from base. Capsule c. 2 mm across, obtusely angled, glabrescent. Seeds 4-angular, minutely tuberculate, red.

USES: It is used in against dysentery, enteritis, diarrhoea and venereal diseases. The dried leaves and seeds are slightly aromatic and are used as a stimulant, astringent, anthelmintic and laxative. A decoction of fresh aerial parts is applied externally to treat dermatitis, eczema and skin inflammations. Fresh crushed plants are applied as a plaster for healing sprains. The latex is applied to warts. A maceration of the dried leaves is drunk for facilitating childbirth.

EVOLVULUS NUMMULARIUS (L.) L.

CLASSIFICATION:
Order: Solanales
Family: Convolvulaceae
Genus: Evolvulus
Species: E. nummularius

REGIONAL NAMES: **"AKHUPARNI"** In Sanskrit, **"VISHNUKRANTHA"** In Hindi.

DISTRIBUTION: ***Evolvulus nummularius*** **(Roundleaf Bindweed)**, is a species of Convolvulaceae family native to tropical America. Slender

prostrate perennial herbs. Leaves 5-15 x 4-10 mm, broadly ovate to orbicular, base subcordate, apex obtuse to emarginate, glabrous or sparsely hairy below; petiole to 5 mm long. Flowers 1-2, in leaf-axils; pedicels slender 2-5 mm long. Calyx lobes 5, free, 2-3.5 mm long, ovate-lanceolate, acute, ciliate on margins. Corolla white, 6-8 mm across, rotate. Stamens sub-exserted. Capsule 3-4 mm across, globose. Seeds brown to black.

USES: It is used as sedatives. It is also used to treat paralysis, epilepsy and convulsions.

FICUS BENGHALENSIS L.

CLASSIFICATION:
Order: Rosales
Family: Moraceae
Genus: Ficus
Subgenus: Urostigma
Species: F. benghalensis

REGIONAL NAMES: **"BARH"** In Hindi, **"VAT"** In Sanskrit, **"AALAI"** In Tamil, **"MARRI CHETTU"** In Telugu, **"ALADA MARAM"** In Kannada, **"PERAAL"** In Malayalam.

DISTRIBUTION: ***Ficus benghalensis*** **(Banyan, Banyan fig)**, is a tree native to the Indian Subcontinent. Large spreading evergreen tree, epiphytic in early life with numerous aerial roots from the branches which thicken and ultimately become stilts. Bark grayish brown, smooth, younger parts softly pubescent. Leaves elliptic-ovate, 12-18 by 5-8 cm long, margin entire, obtuse at apex, rounded at base. Petiole 2-3 cm, stipules 1.5-2.5 cm, deltoid, acute, coriaceous. Figs in axillary pairs, sessile, globose, silky pubescent, basal bracts suborbicular. Male and female flowers in the same receptacle. Syconus fruit scarlet red when ripe.

USES: The leaves are used to remedy dysentery, diarrhoea and diaphoretic. They are applied to abscesses as a poultice to promote suppurations and discharge of pus. The concentrated latex, combined with the fruit, is aphrodisiac and is used to treat spermatorrhoea and gonorrhoea.

FICUS BENJAMINA L.

CLASSIFICATION:

Order: Rosales

Family: Moraceae

Genus: Ficus

Subgenus: Conosycea

Species: F. benjamina

REGIONAL NAMES: **"PUKAR"** In Hindi, **"VELLAL"** In Tamil, **"PUTRA JUVI"** In Malayalam, **"KONDA GOLUGU"** In Telugu, **"BANIJ"** In Sanskrit.

DISTRIBUTION: ***Ficus benjamina*** **(Weeping fig, Benjamin fig)**, is a species of flowering plant in the family Moraceae, native to Asia and Australia. Large tree about 30 m tall, epiphytic in early life, bark smooth with drooping branches producing aerial roots which can develop into new trunks. Leaves simple, alternate, elliptical, thick and 3-4 inches long with acuminate tip, petiole 1 cm long, stipules lanceolate. Inflorescence hypathodium. Figs axillary on leafy branches, solitary or paired, red or yellow when mature, globose, glabrous or pubescent, base attenuate into stalk, sessile, involucral bracts inconspicuous, glabrous, persistent. Male, gall and female flowers within the same fig. Syconus fruit.

USES: The bark of the root, the root itself, and the leaves are boiled in oil and applied on wounds and bruises. The juice of the bark has a reputation for curing liver diseases The pounded leaves and bark are applied as a poultice in the treatment of rheumatic headaches.

FICUS RELIGIOSA L.

CLASSIFICATION:
Order: Rosales
Family: Moraceae
Genus: Ficus
Species: F. religiosa

REGIONAL NAMES: **"ASWATTHA"** In Hindi, **"ARALIMARA"** In Kannada, **"ARAYAL"** In Malayalam, **"ASHVATTHA"** In Sanskrit, **"PIPPALAMU"** In Telugu, **"ARASA MARAM"** In Tamil.

DISTRIBUTION: ***Ficus religiosa*** **(Sacred fig, Bodhi tree, Pippala tree),** is a species of fig native to the Indian subcontinent and Indochina

that belongs to Moraceae family. It is a large dry season-deciduous or semi-evergreen tree up to 30 metres (98 ft) tall and with a trunk diameter of up to 3 metres (9.8 ft). The leaves are cordate in shape with a distinctive extended drip tip; they are 10–17 centimetres (3.9–6.7 in) long and 8–12 centimetres (3.1–4.7 in) broad, with a 6–10 centimetres (2.4–3.9 in) petiole. The fruits are small figs 1–1.5 centimetres (0.39–0.59 in) in diameter, green ripening to purple.

USES: The leaves and twigs are alterative, antidote, aphrodisiac, astringent, antigonorrhoeal and laxative. It is used for the treatment of haemoptysis and fistula. Fresh sap from the leaves is used to cure diarrhoea, cholera and for wound healing. They are used in the treatment of ascites and are chewed by women to promote fertility.

FICUS TINCTORIA G. FORST.

CLASSIFICATION:

Order: Rosales

Family: Moraceae

Genus: Ficus

Species: F. tinctoria

REGIONAL NAMES: **"DATIR"** In Marathi, **"KALIATTHI"** In Tamil, **"LTTHI"** In Malayalam, **"GUDMITTEMARA"** In Kannada.

DISTRIBUTION: ***Ficus tinctoria*** **(Dye fig, Humped fig)**, is a hemiepiphytic tree of genus Ficus. It is native to Asia, Malesia, northern Australia, and the South Pacific islands. It is a small tree usually hemiepiphyte. Bark coarse. Branchlets brown. Stipules lanceolate, Leaves distichous, leaf blade elliptic to ovate-elliptic, asymmetric, larger in young plants and leathery. base broadly cuneate, margin entire or toothed, apex acute. Figs axillary on leafy shoots, solitary and paired, globose, with sparse small tubercles, slightly rough, base attenuate into stalk, peduncle short, involucral bracts ovate, margin revolute when dry. Male flowers near apical pore, calyx lobes white, linear, stamens 1, Gall flowers calyx lobes similar to male flowers, ovary obliquely ovoid, style lateral. Female flowers calyx lobes transparent and linear, style persistent, short, stigma enlarged. Achenes ellipsoid, keeled with tubercles. Syconus fruit.

USES: A decoction of the plant juices and leaves is mentioned as an internal remedy for weakness after childbirth. The plant juices and leaves are used as a dressing for broken bones.

GOMPHRENA DECUMBENS L.

CLASSIFICATION:

Order: Caryophyllales
Family: Amaranthaceae
Genus: Gomphrena
Species: G.decumbens

REGIONAL NAMES: **"NEERVADAMALLI"** In Malayalam.

DISTRIBUTION: ***Gomphrena decumbens*** **(Water globe head)**, is a species of flowering plant belonging to the amaranthaceae family native

to South America. Decumbent herbs; stems hispid. Leaves opposite, 4 x 1 cm, obovate, obtuse, tomentose. Spikes 2 x 1 cm, oblong, supported by 2 basal bracts. Flowers many, densely packed; sepals 5, outer ones lanceolate, 7 mm long, strongly aristate, white-cottony hairy, inner smaller; stamens 5, filaments combined into a tube; ovary obovoid; style forked above. Achenes membranous, circumscissile; seed one, 2 x 2 mm, muriculate, brown. Sterile flowers with hooked, bristle like tepals.

USES: It is significantly used against bronchial asthma, diarrhea, hay fever, pains, tonic, carminative, diabetes, dermatitis, and piles.

GUAZUMA ULMIFOLIA LAM.

CLASSIFICATION:

Order: Malvales
Family: Malvaceae
Genus: Guazuma
Species: G. ulmifolia

REGIONAL NAMES: **"RUDRAKSHI"** In Hindi, **"RUDRAKSHAM"** In Malayalam, **"THENPUCHIMARAM"** In Tamil, **"BHADRAKSHA"** In Telugu, **"RUDRAKSHI"** In Kannada, **"RUDRAKSHA"** In Sanskrit.

DISTRIBUTION: ***Guazuma ulmifolia*** **(West Indian elm or Bay cedar),** is a medium-sized tree belonging to the Malvaceae family. It grows up to 30 m in height and 30–40 cm in diameter and comes with a rounded crown. Leaves are distributed in an alternate pattern with 2 rows in assembled flatly. The leaves are ovate to lance-shaped, finely saw toothed margin, usually have a rough texture and are 6–13 cm in length and 2.5–6 cm in diameter. The panicles are in a branched pattern around 2.5–5 cm in length and are found at the bottom of the leaves. The flowers come in many, are short stalked, small in size, have a brown-yellow color, five parted, 1 cm in length and have a small fragrance to them. The fruit which have capsules that are round to elliptical in shape are 15-25mm in length. They have many seeds which are shaped like eggs and are 3mm in length, grey in color.

USES: A beverage of crushed seeds soaked in water is used to treat diarrhea, dysentery, colds, coughs, contusions, and venereal disease. It is also used as a diuretic and astringent.

HEMIDESMUS INDICUS L.

CLASSIFICATION:

Order: Gentianales
Family: Apocynaceae
Genus: Hemidesmus
Species: H. indicus

REGIONAL NAMES: **"ANANTAMUL"** In Hindi, **"NANNARI"** In Tamil, **"NARUNENTI"** In Malayalam, **"SUGANDHA PALA"** In Telugu, **"SOGADE"** In Kannada, **"ANANTAMUL"** In Sanskrit.

DISTRIBUTION: ***Hemidesmus indicus*** **(Indian sarsaparilla),** is a species of Apocynaceae family that is found in South Asia. The stem and branches twine anticlockwise, and are profusely laticiferous, elongate,

narrow, teret and wiry of deep purple or purplish brown colour with the surface slightly ridged at the nodes. Roots are woody, slender and aromatic. Roots smell similar to camphor. Leaves are simple, petioled, exstipulate, apiculate acute or obtuse, dark green above but paler and sometimes pubescent below. Flowers may be greenish yellow to greenish purple outside, dull yellow to light purplish inside with calyx deeply five lobed. Corolla are fused and twice the number of calyx. Seeds are many, flat, oblong, with a long tuft of white silky hairs.

USES: The root is a valuable alterative, blood purifier, demulcent, diaphoretic, diuretic and tonic. It is used in the treatment of appetite loss, dyspepsia, fever, skin diseases, syphilis, leucorrhoea, genitourinary diseases and chronic coughs. A paste of the roots is applied externally to swellings and rheumatic joints.

HIBISCUS ROSASINENSIS L.

CLASSIFICATION:

Order: Malvales

Family: Malvaceae

Genus: Hibiscus

Species: H. rosa-sinensis

REGIONAL NAMES: **"GURHAL"** In Hindi, **"DASAVALA"** In Kannada, **"CHEMPARATI"** In Malayalam, **"CEMBARUTTI"** In Tamil.

DISTRIBUTION: ***Hibiscus rosa-sinensis*** **(Chinese hibiscus, Rose mallow, Shoeblackplant)**, is a species of flowering plant in the

Malvaceae family, native to East Asia. It is is a bushy, evergreen shrub or small tree growing 2.5–5 m (8–16 ft) tall and 1.5–3 m (5–10 ft) wide, with glossy leaves and solitary, brilliant red flowers in summer and autumn. The 5-petaled flowers are 10 cm (4 in) in diameter, with prominent orange-tipped red anthers.

USES: It is considered as a laxative, aphrodisiac and a emmanagogue(which stimulates menstruation), it is a blood purifier and is good for curing cystitis, cough, syphilis and gonorrhoea. It is also said to be a very good natural source of vitamin C.

HOLOPTELEA INTEGRIFOLIA PLANCH.

CLASSIFICATION:
Order: Urticales
Family: Ulmaceae
Genus: Holoptelea
Species: H. integrifolia

REGIONAL NAMES: **"CHILBIL"** In Hindi, **"AAYA"** In Tamil, **"AAVAL"** In Malayalam, **"NALI"** In Telugu, **"CHIRIVILVA"** In Sanskrit, **"TAPSI"** In Kannada.

DISTRIBUTION: ***Holoptelea integrifolia*** **(Kanju, Indian elm, Cork tree)**, is a species of floweing plants of the ulamaceae famil native to Asia. Large deciduous trees, to 25 m high, bark 6-8 mm thick, whitish-

grey, smooth. Leaves simple, alternate; ovate-oblong, ovate or elliptic-ovate, base rounded or subcordate, apex acuminate, margin entire, distantly serrate when young. Flowers polygamous, appear before leaves, 5-8 mm across, greenish-purple, in axillary fascicles; tepals 4 or 5, free, anthers pubescent; female flowers with longer pedicels; ovary superior, compressed, long stipitate, 2-winged, 1-celled, ovule 1; style 2 fid. Fruit a samara, 3 cm across, orbicular, wings nerved, glabrous, seed one.

USES: The bark and leaves are used for treating oedema, diabetes, leprosy and other skin diseases, intestinal disorders, piles and sprue.
A poultice of the bark and leaves is applied to treat boils, swellings and rheumatic pains. The bark is used externally as a treatment for rheumatism, ringworm, scabies, ulcers and scorpion stings.

HYBANTHUS ENNEASPERMUS

CLASSIFICATION:

Order: Malpighiales

Family: Violaceae

Genus: Hybanthus

Species: H.enneaspermus

REGIONAL NAMES: **"RATAN PURUSH"** In Hindi, **"PURUSHARATHNA"** In Kannada, **"RATNAPURUSHA"** In Telugu, **"RATHNAPURUSHA"** In Sanskrit, **"OR ITHAZH THAMARAI"** In Tamil, **"ORITHALTHAMARA"** In Malayalam.

DISTRIBUTION: ***Hybanthus enneaspermus*** **(Spade flower, Pink ladies slipper)**, is a floweing species of violaceae family native to South Asia and Africa. Annual herbs to 30 cm high; stem woody at base, scabrous. Leaves subsessile, 0.6-3 x 0.3-1 cm, linear-lanceolate or elliptic-lanceolate, base attenuate, margins distantly crenate, crenations scabrous hairy, apex acute, hirsute; stipules 1-2 mm long, linear-lanceolate. Flowers axillary, solitary; pedicel 0.6-1.5 cm long, slender. Sepals 5, subequal, 2-3 x 1 mm, lanceolate, acute, ciliate. Petals 5, pinkish, unequal; lower one 0.8-1.5 cm long, suborbicular, clawed, other 4 smaller, 3-5 mm long, elliptic or triangular-oblong. Capsules 5-8 mm long, ovoid. Seeds many, ovoid.

USES: It is considered to be extremely beneficial to men, used as a diuretic, demulcent and tonic. The root is diuretic and is used in urinary affections and bowel complaints of children. Decoction of leaves and tender stalks is demulcent. The fruit is used to treat scorpion sting.

INDIGOFERA TINCTORIA L.

CLASSIFICATION:

Order: Fabales
Family: Fabaceae
Genus: Indigofera
Species: I. tinctoria

REGIONAL NAMES: **"NEEL"** In Hindi, **"AJARA"** In Kannada, **"AMARI"** In Malayalam, **"AKIKA"** In Sanskrit, **"ACHITAM"** In Tamil, **"KONDA NILI"** In Telugu.

DISTRIBUTION: ***Indigofera tinctoria*** **(Common indigo, Black henna),** is a flowering species of Fabaceae family native to South Asia. Suffrutescent herbs, to 1.5 m tall; stem erect, appresed-pubescent. Leaves pinnately 5-13-foliolate; leaflets opposite, 5-22 x 5-12 mm, elliptic to obovate, base and apex rounded, darkening on drying; stipules c. 2 mm long, subulate. Inflorescence axillary, spicate-racemose, many-flowered. Flowers 5-7 mm long, red; pedicels c. 1 mm long. Calyx 2-3 mm long, pubescent; lobes narrow lanceolate, acuminate. Petals reddish; standard c. 4 mm long, suborbicular. Ovary 8-12-ovuled, hairy. Pods 2-3 cm long, c. 2 mm wide, linear, straight or slightly curved, 8-12-seeded.

USES: A leaf infusion is used to treat a range of disorders including epilepsy and nervous disorders; asthma and bronchitis; fever; complaints of the stomach, liver, kidney and spleen; and as a rabies prophylactic. Applied externally, the leaves are made into an ointment for treating skin diseases, wounds, sores, ulcers and haemorrhoids.

IXORA COCCINEA L.

CLASSIFICATION:
Order: Gentianales
Family: Rubiaceae
Genus: Ixora
Species: *I. coccinea*

REGIONAL NAMES: "RUGMINI" In Hindi, **"VETCHI"** In Malayalam, **"VEDCHI"** In Tamil.

DISTRIBUTION: ***Ixora coccinea*** **(Jungle geranium, Flame of the woods)**, is a species of flowering plant in the Rubiaceae family native to Southern India, Bangladesh, and Sri Lanka. It is a dense, multi-branched evergreen shrub, commonly 4–6 ft (1.2–1.8 m) in height, but capable of reaching up to 12 ft (3.7 m) high. It has a rounded form, with a spread that may exceed its height. The glossy, leathery, oblong leaves are about 4 in (10 cm) long, with entire margins, and are carried in opposite pairs or whorled on the stems. Small tubular, scarlet flowers in dense rounded clusters. Fruit is Berry 0.6-0.8 cm diam., didymous; seeds 2, globose, 0.3-0.4 cm diam.

USES: The roots are said to be analgesic, antiseptic, astringent, diuretic, sedative. They are used in the treatment of hiccups, fever, gonorrhoea, loss of appetite, nausea, diarrhoea and dysentery. The flowers are said to have similar properties to the roots, but in a milder form. It is employed as a lotion against eye troubles, sores and ulcers.

JATROPHA GOSSYPIIFOLIA L.

CLASSIFICATION:
Order: Malpighiales
Family: Euphorbiaceae
Genus: Jatropha
Species: J. gossypiifolia

REGIONAL NAMES: **"RATANJOTI"** In Hindi, **"SIRIYA AAMANAKKU"** In Tamil, **"CHUBANNA KADALAVANAKKU"** In Malayalam, **"CHIKKA KADA HARALU"** In Kannada.

DISTRIBUTION: ***Jatropha gossypiifolia*** **(Bellyache bush, Black physicnut)**, is a species of flowering plant in the Euphorbiaceae family native to Mexico, South America and the Caribbean islands. Shrubs, purplish green and glandular hairy on younger parts. Leaves in close spiral, deeply 3-5-lobed, 7-11 x 8-12 cm, orbicular-cordate, margin with gland-tipped hairs, lobes obtusely acuminate, 5-nerved; stipules glandular-hairy; petiole 3-10 cm long, glandular-hairy. Flowers red with yellow centre, unisexual in axillary and terminal monoecious corymbose cymes. Capsule 1.3-17 x 1-1.4 cm, 3-lobed. Seeds oblong, 3-gonous.

USES: The leaves are blood purifier, febrifuge, purgative, heart problems, diarrhoea, stomach ache and indigestion. The leaf-sap is applied to the tongues of babies for treating thrush. A poultice of the leaves is used for treating sores, bruising, swellings, inflammations, headaches and piles. The sap has a widespread reputation for healing wounds, as a haemostatic and for curing skin problems; it is applied externally to treat infected wounds, ulcers, cuts, abrasions, ringworm, eczema, dermatomycosis, scabies and venereal diseases.

JUSTICIA ADHATODA L.

CLASSIFICATION:

Order: Lamiales

Family: Acanthaceae

Genus: Justicia

Species: J. adhatoda

REGIONAL NAMES: **"ARUS"** In Hindi, **"ADUSOGE"** In Kannada, **"AATALOOTAKAM"** In Malayalam, **"ATARUSA"** In Sanskrit, **"ATATOTAI"** In Tamil, **"ADDASARAMU"** In Telugu.

DISTRIBUTION: ***Justicia adhatoda*** **(Malabar nut, Vasaka)**, is a medicinal plant native to Asia. A stiff, evergreen, much-branched perennial shrub with a strong, unpleasant odour, 1.2-6 m tall. Leaves

opposite, elliptic-lanceolate or ovate-lanceolate, margins entire, apex acute, 5-30 cm long, hairy, light green above, dark beneath, leathery. Flowers large, white with red or yellow-barred throats, borne in compact, axillary, pedunculate spikes with large bracts. Fruits (capsules) clavate, longitudinally channelled, 1.9-2.2 cm long and 0.8 cm wide, pubescent. Seeds globular.

USES: The whole plant is antiinflammatory, antispasmodic, febrifuge, pectoral. The roots and leaves used for treating bronchitis, asthma, fever and jaundice. A medicine for setting broken bones, relieving pain, resolving phlegm. The leaves are antiseptic in nature.

JUSTICIA DIFFUSA L.

CLASSIFICATION:
Order: Lamiales
Family: Acanthaceae
Genus: Justicia
Species: J. diffusa

REGIONAL NAMES: **"CHERUPULLADI"** In Malayalam.

DISTRIBUTION: ***Justicia diffusa*** **(Spreading justicia)**, is a plant in the Acanthaceae family native to South and Southeast Asia. Herbs. Leaves 4-5 x 3 cm, elliptic-ovate, apex subacute, base rounded; petiole

to 1 cm. Spike axillary, to 6 cm; bracts and bracteoles to 2 cm, ovate, acute; calyx lobes to 4 mm, lanceolate, acute, subequal, margin ciliate; corolla ca 5 x 2 mm across; stamen 2; ovary 1 mm, style 3 mm, hairy. Capsule to 5 mm, hairy above; seeds ovate, papillose.

USES: Leaves, roots and other parts are used as anti-pyrietic, anti-inflammatory, anti-spasmodic, antiseptic and antidiabetic.

JUSTICIA GENDARUSSA BURM.F.

CLASSIFICATION:

Order: Lamiales

Family: Acanthaceae

Genus: Justicia

Species: J. gendarussa

REGIONAL NAMES: **"NILI NARGANDI"** In Hindi, **"KARUNOCHI"** In Tamil, **"VADA KODI"** In Malayalam, **"ADDASARAMU"** In Telugu, **"ADUTHODAGIDDA"** In Kannada, **"GANDHARASA"** In Sanskrit.

DISTRIBUTION: ***Justicia gendarussa*** **(Willow-leaved justicia)**, is a small erect, branched shrub endemic to India. Shrubs, branches dark purple, terete, smooth. Leaves 7-10 x 2 cm, linear or oblong-lanceolate, apex acute or obtuse, base acute, chartaceous, glabrous, lateral nerves 5-7 pairs, bluish; petiole 2-3 mm long. Spikes terminal, to 8 cm long, narrow; bracts linear, 4 mm long. Flowers white; calyx lobes linear-lanceolate, 5 mm long; corolla white with purple streaks, 1.5 cm long; ovary and style puberulus. Capsule 12 mm long, glabrous.

USES: The leaves and young shoots are antiperiodic, antispasmodic, cardiotonic, carminative, diaphoretic, emetic and febrifuge. A decoction is used in the treatment of chronic rheumatism. An infusion of the leaves is taken internally in the treatment of a wide range of conditions including pains in the head, paralysis of one side of the body and facial paralysis; lumbago, amenorrhoea, swellings, fevers, coughs, asthma, colics, eczema, cephalalgia, hemiplegia, facial paralysis, earache and hemicranias.

LANNEA COROMANDELICA (HOUTT.) MERR.

CLASSIFICATION:

Order: Sapindales

Family: Anacardiaceae

Genus: Lannea

Species: L. coromandelica

REGIONAL NAMES: **"MOHIN"** In Hindi, **"OTI"** In Tamil, **"OTIYAN MARAM"** In Malayalam, **"AJASRNGI"** In Telugu, **"GODDA"** In Kannada, **"JHINGINI"** In Sanskrit.

DISTRIBUTION: ***Lannea coromandelica*** **(Indian ash tree)**, is a species of tree in the family Anacardiaceae that is native to South and Southeast Asia. Deciduous trees, to 25 m high, bark surface grey to dark brown, rough. Leaves imparipinnate, alternate, clustered at the end of branchlets, estipulate; rachis 21-27 cm, stout, swollen at base, stellate-hairy pubescent when young; leaflets 7-11, opposite; petiolule 3-5 mm, slender, pubescent; lamina 5-12 x 3-8 cm, oblong, oblong-ovate, oblong-lanceolate or ovate, base oblique, acute or round, apex acuminate, margin entire, lower surface and part of the upper with scattered stellate pubescence. Flowers unisexual, yellowish-green. Fruit a drupe, 12 mm long, ovoid, red; stone hard; seed compressed.

USES: The leaf paste is applied to treat sprains and elephantiasis.The stem bark is used as an antifertility drug and a medicine to many gastro intestinal problems.

LANTANA CAMARA L.

CLASSIFICATION:

Order: Lamiales

Family: Verbenaceae

Genus: Lantana

Species: L. camara

REGIONAL NAMES: **"RAIMUNIYA"** In Hindi, **"UNNICHEDI"** In Tamil, **"KAKKE"** In Kannada, **"PULIKAMPA"** In Telugu, **"VANACCHEDI"** In Sanskrit, **"KONKINI"** In Malayalam.

DISTRIBUTION: ***Lantana camara*** **(Big-sage, Tickberry, West Indian lantana)**, is a species of flowering plant in the Verbenaceae family native to the American tropics. It is a thorny shrub upright, half climbing or sometimes more or less hanging, reaching 2-3 m in height. The stems and branches are angular, bearing curved spines, arranged along the edges. The leaves are simple, opposite, decussate with rough lamina, oval, regularly dentate with acute apex. The inflorescence is a hemispherical head, axillary or terminal, yellow, pink or orange colored, made up of many small tubular flowers. The fruits are small drupes, fleshy, varying in color from blue to black.

USES: The root is used as a refrigerant and an antifebrile. A decoction is used to treat influenza, cough, mumps, incessant high fever, malaria, cervical lymph node tuberculosis, asthma, toothache, headache, inflammation, gonorrhoea and leucorrhoea. An infusion of the leaves and flowering tops is used in the treatment of fevers, constipation, tuberculosis, catarrh and bronchitis.

LAWSONIA INERMIS L.

CLASSIFICATION:

Order: Myrtales

Family: Lythraceae

Genus: Lawsonia

Species: L. inermis

REGIONAL NAMES: **"MEHENDI"** In Hindi, **"MAILANJI"** In Malayalam, **"MARUDAANI"** In Tamil.

DISTRIBUTION: ***Lawsonia inermis*** **(Henna tree, Mignonette tree, Egyptian privet)**, is a flowering plant and the sole species of the genus Lawsonia native to South Asia. It is a tall shrub or small tree, standing 1.8 to 7.6 m tall (6 to 25 ft). It is glabrous and multi-branched, with spine-tipped branchlets. The leaves grow opposite each other on the stem. They are glabrous, sub-sessile, elliptical, and lanceolate (long and wider in the middle. Henna flowers have four sepals and a 2 mm (0.079 in) calyx tube, with 3 mm (0.12 in) spread lobes. Its petals are obvate. Henna fruits are small, brownish capsules, with 32–49 seeds per fruit.

USES: The leaves are taken internally in the treatment of amoebic dysentery. They are also used in the treatment of diarrhoea and to promote menstrual flow. They are used as a gargle to treat sore throats. The leaves are used externally in the treatment of various skin diseases including leprosy, wounds, ulcers and herpes.

LEPTADENIA RETICULATA (RETZ.) WIGHT & ARN.

CLASSIFICATION:

Order: Gentianales

Family: Apocyanaceae

Genus: Leptadenia

Species: L.reticulata

REGIONAL NAMES: **"DORI"** In Hindi, **"BUGUDI HOOVINA GEDDE"** In Kannada, **"ATAKODIYAN"** In Malayalam, **"ARKAPUSHPI"** In Sanskrit, **"PAALAI KEERAI"** In Tamil, **"GUTTIPALAA"** In Telugu.

DISTRIBUTION: ***Leptadenia reticulata*** **(Cork Swallow- Wort)**, is a plant species belonging to the Apocyanaceae family native to Indo-malayasia and Madagascar. Woody climbers, latex milky, mealy pubescent. Leaves to 9 x 7 cm, broadly ovate, oblong, gradually acute at apex, base truncate or shallowly cordate, stellate hairy; petiole to 3 cm. Umbels axillary; peduncles to 0.5 cm, pubescent; flowers yellow, pedicels to 7 mm; bracts 4 mm, hairy; calyx cupular, 2 mm, pubescent, ovate; corolla tube 1.5 mm, lobes 3 mm, triangular ovate, margins folded, pubescent; corona double, outer corolline, bifid; inner staminal; pollinia suberect, pellucid; ovary 1 mm. Follicles paired, 6 x 2 cm, bluntly acute at both ends.

USES: The plant is galactogogue, cooling, nutritive, aphrodisiac, stimulant, diuretic, and eyetonic. It is used to cure seminal debility, general weakness, cough, dyspnoea, fever, asthma, constipation, sore throat, and gonorrhoea.

LEUCAENA LEUCOCEPHALA (L.) GILLS

CLASSIFICATION:

Order: Fabales

Family: Fabaceae

Genus: Leucaena

Species: L. leucocephala

REGIONAL NAMES: **"SAFEED BABOOL"** In Hindi, **"SUBAABUL"** In Malayalam, **"PERUNTAKARAI"** In Tamil.

DISTRIBUTION: ***Leucaena leucocephala*** **(Lead tree, Jumbay, River tamarind, White popinac)**, is a small fast-growing mimosoid tree native to southern Mexico and northern Central America. Shrubs, up to 2 m tall; branchlets terete. Leaves compound; ; pinnae 1 pair, 2-5.5 cm, with a pair of large sessile leaflets at apex and an odd one much smaller below on outside, all with a gland on rachis at base; stipules spinelike. Flowers homogeneous, tetramerous; calyx ca. 1.3 mm, campanulate, slightly 4-toothed; corolla ca. ca. 7 mm, funnel-shaped; stamens numerous; filaments white; ovary glabrous. Legume ca. 10-14 × 2-2.4 cm, strap-shaped, flat, margin thickened, base attenuate, apex rounded, oblique, mucronate, dehiscent from apex to base.

USES: The roasted seeds are used as emollient. A decoction of the root and bark is used as an abortifacient.

MANGIFERA INDICA L.

CLASSIFICATION:

Order: Sapindales

Family: Anacardiaceae

Genus: Mangifera

Species: M. indica

REGIONAL NAMES: **"AAM"** In Hindi, **"AAMRA"** In Sanskrit, **"MAA"** In Tamil, **"AMRAMU"** In Telugu, **"MAVU"** In Kannada, **"AMARAM"** In Malayalam.

DISTRIBUTION: ***Mangifera indica*** **(Mango)**, is a species of Anacardiaceae family native to India. Evergreen trees, to 30 m high, bark 2-2.5 cm, dark grey, rough with vertical fissures; blaze yellow; exudation yellowish, gummy. Leaves simple, alternate, clustered at the tips of branchlets, estipulate; petiole 10-75 mm long, stout, glabrous, pulvinate. Flowers polygamous, yellowish-green, in terminal panicles; pedicels jointed; bract deciduous; calyx 4-5 partite, ovate, imbricate, hairy without, cauducous; petals 4-5, oblong-obovate, subequal, nerves at base gland crested, free or adnate to the disc; disc fleshy, cupular, 4-5 lobed. Fruit a drupe, 5-15 cm long, oblong-reniform, compressed, yellowish-red, mesocarp fleshy, endocarp fibrous; seed subreniform.

USES: The leaves are astringent and odontalgic. An infusion is drunk to reduce blood pressure and as a treatment for conditions such as angina, asthma, coughs and diabetes. The fruit is antiscorbutic and antidysenteric.

MADHUCA LONGIFOLIA (J. KOENIG EX L.) MACBR.

CLASSIFICATION:

Order: Ericales

Family: Sapotaceae

Genus: Madhuca

Species: M. longifolia

REGIONAL NAMES: **"MAHUA"** In Hindi, **"IPPE"** In Kannada, **"NJANNAL"** In Malayalam, **"MADHUCA"** In Sanskrit, **"ILLUPEI"** In Tamil, **"MADHUKAMU"** In Telugu.

DISTRIBUTION: ***Madhuca longifolia*** **(Indian butter tree)**, is a flowering tree in the sapotaceae family native to the Indian tropical region. Trees, up to 20 m high, bark grey, 1.3 cm thick, vertically cracked, exfoliating in thin scales; blaze reddish-brown or dark red; exudation milky. Leaves simple, alternate, clustered at the end of branchlets; stipules lateral, lanceolate, cauducous; petiole 20-40 mm long, stout, glabrous. Flowers bisexual, creamy, axillary; calyx lobes 4 [2 +2], obovate, fulvous tomentose, acute; corolla tube 8 mm long, lobes 6-12, oblong. Fruit a berry, ovoid, greenish, fleshy, tawny-tomentose with out; pedicel stout; seeds 2.

USES: The bark is used to cure leprosy and to heal wounds, the flowers are used to relieve coughs, biliousness and heart-trouble while the fruit is given in cases of blood diseases.

MIMOSA PUDICA L.

CLASSIFICATION:
Order: Fabales
Family: Fabaceae
Genus: Mimosa
Species: M. pudica

REGIONAL NAMES: **"CHUI MUI"** In Hindi, **"THOTTA CHURUNGI"** In Tamil, **"TINTARMANI"** In Malayalam, **"MUCHCHUGA"** In Kannada, **"ATTAPATTI"** In Telugu, **"LAJJA"** In Sanskrit.

DISTRIBUTION: ***Mimosa pudica*** **(Sensitive plant, Sleepy plant, Touch-me-not)**, is a creeping annual or perennial flowering plant of the Fabaceae family native to South and Central America. Straggling subshrubs; stem 4-angular, without prickles. Leaves alternate to 12 cm long; rachis, tomentose; pinnae 5-10 pairs; leaflets c.20 pairs, oblong, 3-7 by 0.75-1 mm, overlapping, base oblique-truncate, apex acute-mucronate. Flowers pink. Lomentum flat, margin with recurved prickles; seeds 3-5, subrhombic.

USES: The leaves are used in treating hemorrhoids and urinary infections. The juice is used in sinus, sores, piles, and fistula, paste is applied to glandular swellings, and hydrocele. Root decoction is efficacious in gravel and other urinary complaints. Treats dysentery, fever, syphilis, leprosy, stomach worms, veneral diseases, insect bite, insomnia, nervousness, and piles.

MIMUSOPS ELENGI

CLASSIFICATION:

Order: Ericales
Family: Sapotaceae
Genus: Mimusops
Species: M. elengi

REGIONAL NAMES: **"MAULSARI"** In Hindi, **"MAGHIZHAM"** In Tamil, **"IIANI"** In Malayalam, **"RANJAL"** In Kannada.

DISTRIBUTION: ***Mimusops elengi*** **(Spanish cherry, Medlar, Bullet wood)**, is a medium-sized evergreen tree native to South Asia, Southeast Asia and northern Australia. Evergreen trees, to 20 m high, bark dark

grey, cracked or fissured longitudinally, scaly, rough. Leaves simple, alternate, spiral, stipulate; stipules lanceolate, caducous; petiole 15-40 mm long, slender, grooved above, pubescent. Flowers bisexual, white, fragrant, 1-3 in axillary fascicles, pedicel 1 cm long; calyx lobes 8 in 2 series of 4 each, thick, outer lanceolate, valvate, pubescent; petals 9 mm long, lobes with 2 dorsal appendages, corolla 1 cm across; lobes 24, 3 series of 8 each, with hairs on back and margins, acuminate. Fruit a berry, yellow, ovoid, 2.5 cm long, 1.5 cm across, fleshy, epicarp thin; seeds usually 1, oblong-ellipsoid, laterally compressed.

USES: The leaves are used to treat headache, toothache, wounds and sore eyes, and are smoked to cure infections of the nose and mouth.The flowers have been used as a remedy against diarrhoea.The young fruits have been employed in a gargle for treating sprue. The pounded seeds are used to cure obstinate constipation.

MOLLUGO NUDICAULIS LAM.

CLASSIFICATION:
Order: Caryophyllales
Family: Molluginaceae
Genus: Mollugo
Species: M.nudicaulis

REGIONAL NAMES: **"ULLUKKUMARUNNU CHEDI"** In Malayalam.

DISTRIBUTION: ***Mollugo nudicaulis*** **(Naked stem carpet weed, Daisy leaved chick weed)**, is a species of Molluginaceae family

distributed pantropically. Annual acaulescent herbs. Leaves radical, 2.5-4 x 1.3-2 cm, obovate to spathulate, base attenuate, margin entire, apex rounded , glabrous, subsessile. Cymes terminal, corymbose. Pedicel filiform to 4 mm long. Tepals 5, 2-3 mm long, elliptic, hooded, white. Stamens 3-5; filament c.1.5 mm long. Ovary oblong, 3-lobed, 3-celled; stigmas 3, sessile, flat, spreading, papillose. Capsule c. 2 mm long, ellipsoid. Seeds many, oblique-reniform, reddish-black, thickly tuberculate.

USES: The plant is an antipyretic, antiseptic, appetizer, emmenagogue, laxative.The plant is used as an anticancer, antitoxic and diuretic agent.

MORINDA CITRIFOLIA

CLASSIFICATION:

Order: Gentianales

Family: Rubiaceae

Genus: Morinda

Species: M. citrifolia

REGIONAL NAMES: **"BARTUNDI"** In Hindi, **"MOGALI"** In Telugu, **"NUNA"** In Tamil, **"MANNAPAVATTA"** In Malayalam, **"TAGASE MADDI"** In Kannada.

DISTRIBUTION: ***Morinda citrifolia*** **(Indian mulberry, Beach mulberry, Cheese fruit)**, is a fruit-bearing tree Rubiaceae family. Its native range extends across Southeast Asia and Australia. Evergreen shrubs or small crooked trees, 3-8 m high; bark greyish or yellowish-brown, shallowly fissured, glabrous; branchlets quandrangular. Leaves simple, opposite, 12-50 x 5-17 cm, elliptic-lanceolate, entire. Flowers bisexual, fragrant, in dense globose heads, connate by the calyces, peduncle 1-4 cm long, opposite to normally developed leaves. Calyx tube hemispheric, limb truncate. Corolla funnel-shaped, up to 1.5 cm long, lobes 5 lanceolate, acute. Fruit an ovoid syncarp of pyramidal, 2-seeded drupes, 3-10 cm x 2-3 cm, yellow-white; seeds black, with hard albumen and distinct air chamber.

USES: Fruits are used in the treatment of diabetes, high blood pressure, aches, pains, burns, arthritis, inflammation, tumors, the effects of aging, and parasitic, viral, and bacterial infections.

MORINGA OLEIFERA LAM.

CLASSIFICATION:

Order: Brassicales

Family: Moringaceae

Genus: Moringa

Species: M. oleifera

REGIONAL NAMES: **"SENJANA"** In Hindi, **"GUGGALA"** In Kannada, **"MURINGAI"** In Malayalam, **"MURUNGAI"** In Tamil, **"MULAGA"** In Telugu.

DISTRIBUTION: ***Moringa oleifera*** **(Drum stick tree, Horse radish tree, Benzoil tree)** is a species in the Moringaceae family native to South Asia. A middle sized soft tree with thick corky bark. Leaves compound, with pale green leaflets when young, become darker when older and yellow at the fall period. Generally planted in the the home stead, also use as hedge as cuttings propagate easily, found as escape in the forest. Flowers small, whitish , honey scented. Fruit is a capsule about 9 - 20 inch. Long

USES: It is a nutritious, diuretic, laxative herb that is expectorant, increases milk flow, controls bacterial infections and is rubefacient when applied topically. It contains a potent antibiotic.The root is used as a vesicant. The root juice is used internally in the treatment of asthma, gout, rheumatism, enlarged spleen and liver, bladder and kidney stones, inflammatory conditions.Externally, the root is used to treat boils, ulcers, glandular swellings, infected wounds, skin diseases, dental infections, snake bites and gout.

MUKIA MADERASPATANA (L.) M. ROEM.

CLASSIFICATION:

Order: Cucurbitales

Family: Cucurbitaceae

Genus: Mukia

Species: M. maderaspatana

REGIONAL NAMES: **"AGANAKI"** In Hindi, **"MUSUMUSUKKAI"** In Tamil, **"MUKKALPIRAM"** In Malayalam, **"POTTI BUDAMU"** In Telugu, **"CHITRATI"** In Kannada.

DISTRIBUTION: ***Mukia maderaspatana*** **(Madras pea pumpkin, Rough bryony)**, is a species of cucurbitaceae family native to South Asia.

Prostrate or climbing scabrid herbs; tendrils simple. Leaves 4-8 x 3-7 cm, ovate-deltoid, angular or shallowly 3-5-lobed, base cordate, margin denticulate, apex accuminate, mucronate, scabrid on both sides; petiole to 6 cm. Male flowers in axillary, sessile clusters. Calyx tube to 2 mm, villous; lobes subulate, erect. Petals 5 , c. 3 mm long, ovate-oblong, obtuse, yellow. Stamens 3, free, inserted at base of calyx tube; anthers oblong, ciliate. Female flowers solitary or in clusters. Ovary villous. Berry c. 1.2 cm across, globose, red. Seeds lenticular, rugose.

USES: Seeds in decoction are sudorific; used for flatulence. Crushed seeds used for aching bodies, especially with sprained backs. Seeds masticated to relieve toothache. Roots used as diuretic and as laxative in constipation. It is used for diabetes and also for fever, anxiety and to improve appetite.

MUNTINGIA CALABURA L.

CLASSIFICATION:
Order: Malvales
Family: Muntingiaceae
Genus: Muntingia
Species: M. calabura

REGIONAL NAMES: **"THEN PAZHAM"** In Tamil, **"NAKKARAEGU"** In Telugu, **"GASAGASE HANNINA MARA"** In Kannada.

DISTRIBUTION: ***Muntingia calabura*** **(Calabur tree, Capulin, Jamaica cherry)**, is a genus of plants in the Muntingiaceae family comprising native to the neotropics, from Mexico south to Bolivia. It is a shrub or tree up to 12 m tall with spreading branches. The leaves are alternate, distichous, oblong or lanceolate, 4–15 cm long and 1–6 cm wide, with toothed margin and covered in short hairs. The flowers are small (up to 3 cm wide), solitary or in inflorescences of 2-3 flowers; with 5 lanceolate sepals, hairy; 5 obovate white petals; many stamens with yellow anthers and a smooth ovoid ovary. Fruit, an edible berry, red at maturity, about 1.5 cm wide.

USES: The leaves are used for headaches, prostate problems and to reduce gastric ulcers. Bark is used as an antiseptic. Flowers are used as antiseptic, to reduce swelling, as antispasmodic and fruits are used for respiratory problems and as antidiarrheic.

MURRAYA KOENIGII (L.) SPRENG.

CLASSIFICATION:

Order: Sapindales

Family: Rutaceae

Genus: Murraya

Species: M. koenigii

REGIONAL NAMES: **"KARI PATTA"** In Hindi, **"KARIVEPILLAI"** In Tamil, **"KAREAPELA"** In Malayalam, **"KAREPAKU"** In Telugu, **"GANDHABEVU"** In Kannada, **"ALAKAVHAYA"** In Sanskrit.

DISTRIBUTION: ***Murraya koenigii*** **(The curry tree)**, is a tropical tree in the family Rutaceae native to India and Sri Lanka. t is a small tree, growing 4–6 m (13–20 feet) tall, with a trunk up to 40 cm (16 in) diameter. The aromatic leaves are pinnate, with 11–21 leaflets, each leaflet 2–4 cm (0.79–1.57 in) long and 1–2 cm (0.39–0.79 in) broad. The plant produces small white flowers which can self-pollinate to produce small shiny-black drupes containing a single, large viable seed.

USES: Leaves are digestive stimulant, tonic, rich in vitamin A and calcium. Leaves are also used for diarrhoea, dysentry and checking vomitting. Bark-paste is antisceptic, applied to skin eruptions. Root extract is taken for relief from renal pain.

NERIUM OLEANDER L.

CLASSIFICATION:

Order: Gentianales

Family: Apocynaceae

Genus: Nerium

Species: N. oleander

REGIONAL NAMES: **"KANER"** In Hindi, **"PADDALI"** In Kannada, **"KANAVIRAM"** In Malayalam, **"CHANDATA"** In Sanskrit, **"ARALI"** In Tamil, **"GANNERU"** In Telugu.

DISTRIBUTION: ***Nerium oleander*** **(Nerium, Oleander)**, is a small tree in the Apocynaceae family native to Southwest Asia. It grows up to 2–6 m (6.6–19.7 ft) tall, with erect stems; first-year stems have a glaucous bloom, while mature stems have a grayish bark. The leaves are in pairs or whorls of three, thick and leathery, dark-green, narrow lanceolate, broad, and with an entire margin. Leaves are light green and very glossy when young, before maturing to a dull dark green/greenish gray. The flowers grow in clusters at the end of each branch; they are white, pink to red, with a deeply 5-lobed fringed corolla round the central corolla tube. The fruit is a long narrow pair of follicles 5–23 cm (2.0–9.1 in) long, which splits open at maturity to release numerous downy seeds.

USES: The leaves and the flowers are cardiotonic, diaphoretic, diuretic, emetic, expectorant and sternutatory. A decoction of the leaves has been applied externally in the treatment of scabies and parasitic skin worms and to reduce swellings.The whole plant is said to have anticancer properties.

OCIMUM BASILICUM L.

CLASSIFICATION:

Order: Lamiales

Family: Lamiaceae

Genus: Ocimum

Species: O. basilicum

REGIONAL NAMES: **"BABUI TULSI"** In Hindi, **"KAAMA GAGGARE"** In Kannada, **"PACH CHA PUSHPAM"** In Malayalam, **"TIRUNITTRU PACHCHILAI"** In Tamil, **"BHOO TULASI"** In Telugu.

DISTRIBUTION: ***Ocimum basilicum*** **(Great basil, Saint-Joseph's-wort)**, is a culinary herb of the Lamiaceae family native to Central Africa

and Southeast Asia. Erect annual herbs to 60 cm tall; stem obtusely 4-angular. Leaves 3.5-6 x 1.5-2.5 cm, ovate-elliptic, base cuneate, margin entire to distantly crenulate, apex acute. Racemes to 14 cm long; bracts oblanceolate, ciliate; pedicel to 2 mm long. Calyx to 6 mm long; tube c. 3 mm long, sparsely strigose; upper lip c. 3 mm long, broadly ovate; lower lip to 4 mm long, hairy within. Corolla cream, 7-10 mm long; tube c. 4 mm long, inflated below; lobes 5. Stamens 4; filaments of posterior pair with a transverse process of tufted hairs. Nutlets 2-3 x 1-1.5 mm, ellipsoid, black, mucilaginous when wet. Fruiting calyx 6-8 mm long.

USES: The leaves and flowering tops are antispasmodic, aromatic, carminative and tonic. They are taken internally in the treatment of feverish illnesses (especially colds and influenza), poor digestion, nausea, abdominal cramps, gastro-enteritis, migraine, insomnia, depression and exhaustion. Externally, they are used to treat acne, insect stings, snake bites and skin infections.

OCIMUM GRATISSIMUM L.

CLASSIFICATION:

Order: Lamiales

Family: Lamiaceae

Genus: Ocimum

Species: O. gratissimum

REGIONAL NAMES: **"RAM TULSI"** In Hindi, **"PERUNTULASI"** In Tamil, **"NIMMA TULASI"** In Telugu, **"AJAKA"** In Sanskrit.

DISTRIBUTION: ***Ocimum gratissimum*** **(Clove basil, African basil, Wild basil)**, is a species of Ocimum native to Africa, Madagascar, southern Asia, and the Bismarck Archipelago. Shrubs, 2 m high; stem glandular-scabrid. leaves elliptic to obovate, base attenuate serrate, acuminate at apex; nerves 6-pairs; thinly tomentose below; petiole to 6 cm long. Racemes terminal, panicled; bracts oblanceolate. Flowers 4-6 at each node; pedicel 4 mm long; calyx 5 mm long, glabrous; upper lip ovate, obtuse, lobes of lower lip acuminate, glandular; corolla white, tube 2-3 mm long, lobes obtuse; filaments glabrous or villous at base; anthers sagittate at base. Nutlets 1.5 x 1 mm, pitted, brown.

USES: Clove basil is an aromatic, stimulant, antispasmodic, antiseptic herb that repels insects, expels internal parasites and lowers fevers.
The leaves and stems are used internally in the treatment of colds, especially chest colds; fevers, headaches, impotence, flatulence, diarrhoea, dysentery, post-partum problems, and worms in children.

OCIMUM TENUIFLORUM L.

CLASSIFICATION:

Order: Lamiales

Family: Lamiaceae

Genus: Ocimum

Species: O. tenuiflorum

REGIONAL NAMES: **"TULSI"** In Tamil, Hindi, Telugu, Kannada, **"TRITTAVU"** In Malayalam.

DISTRIBUTION: ***Ocimum tenuiflorum*** **(*Ocimum sanctum*, Holy Basil)**, is an aromatic perennial plant in the Lamiaceae family native to

the Indian subcontinent. It is an erect, many-branched subshrub, 30–60 cm (12–24 in) tall with hairy stems. Leaves are green or purple; they are simple, petioled, with an ovate, up to 5 cm (2.0 in)-long blade which usually has a slightly toothed margin; they are strongly scented and have a decussate phyllotaxy. The purplish flowers are placed in close whorls on elongate racemes. The fruits are small and the seeds yellow to reddish in color.

USES: It is used in the treatment of bronchitis, malaria, diarrhea, dysentery, skin disease, arthritis, eye diseases, insect bites and so on. It has also been suggested to possess anti-fertility, anticancer, antidiabetic, antifungal, antimicrobial, cardioprotective, analgesic and antispasmodic actions.

OLDENLANDIA UMBELLATA L.

CLASSIFICATION:

Order: Gentianales

Family: Rubiaceae

Genus: Oldenlandia

Species: O. umbellate

REGIONAL NAMES: **"EMBOOREL"** In Hindi, **"CHAYAVER"** In Malayalam.

DISTRIBUTION: ***Oldenlandia umbellata*** **(Chay root, Choy root)**, is a low-growing plant native to India. Diffuse or prostrate herbs; root-stock woody. Leaves sessile, 0.5-1.6 x 0.2-0.4 cm, linear-lanceolate, base

decurrent, margin revolute, apex acute, scabrous, 1-nerved; stipules with several bristles, base triangular. Flowers in many-flowered terminal, umbellate cymes and also sometimes axillary. Calyx lobes 4, persistent, c. 1.5 mm long, ovate-acuminate. Corolla pinkish-white, c. 3 mm across, campanulate; lobes 4, lanceolate. Stamens 4, in the throat of the corolla tube, exserted; filaments linear. Ovary c. 1 mm across, globose, hairy; stigma 2-fid, recurved. Capsule 2-2.5 mm across, globose, didymous, scabrid. Seeds angular, reticulate.

USES: A decoction of the leaves and bark is considered expectorant and is prescribed in cases of bronchial catarrh, bronchitis, tuberculosis and asthma.A decoction of the leaves is used as a wash for poisonous bites.

ORMOCARPUM COCHINCHINENSE

CLASSIFICATION:

Order: Rosales

Family: Fabaceae

Genus: Ormocarpum

Species: O.cochinchinense

REGIONAL NAMES: **"KATTUMORINA"** In Malayalam, **"KANANASHEKHARA"** In Sanskrit, **"ELUMBOTTI"** In Tamil, **"ADAVIMUNAGA"** In Telugu.

DISTRIBUTION: ***Ormocarpum cochinchinense*** **(South Indian Caterpillar Bush)**, is a species of Fabaceae family native to South and Southeast Asia. Erect subshrubs. Leaves pinnately 10-13-foliolate; leaflets alternate, 2-3 x 1.2 cm, obovate-oblong, obtuse; petiole slender; stipule ovate. Flowers in slender axillary, 6-10 cm long, racemes; bracts ovate; calyx 6 mm long, lobes ovate, acute, hairy; corolla 8 mm, long, pink; standard clawed, wings 5 x 4 mm, orbicular, auricled; stamens monadelphous, spitting later; ovary linear, many-ovuled, hispid. Pods, 1-4 jointed; joints oblong with soft echinate process.

USES: It is used in the treatment of bone fractures. It is also has antioxidative and antibiotic properties.

PELTOPHORUM PTEROCARPUM (DC.) HEYNE

CLASSIFICATION:
Order: Fabales
Family: Fabaceae
Genus: Peltophorum
Species: P. pterocarpum

REGIONAL NAMES: **"PEELA GULMOHAR"** In Hindi, **"KONDA CINTA"** In Telugu, **"PERUNGKONRAI"** In Tamil.

DISTRIBUTION: ***Peltophorum pterocarpum*** **(Copperpod, Yellow-flamboyant, Yellow flametree)**, is a species of Peltophorum native to

tropical southeastern Asia. It is a deciduous tree growing to 15–25 m (rarely up to 50 m) tall, with a trunk diameter of up to 1 m belonging to Family Leguminosae and sub-family Caesalpiniaceaea. The leaves are bipinnate, 30–60 cm long, with 16-20 pinnae, each pinna with 20-40 oval leaflets 8–25 mm long and 4–10 mm broad. The flowers are yellow, 2.5–4 cm diameter, produced in large compound raceme up to 20 cm long.The fruit is a pod 5–10 cm long and 2.5 cm broad, red at first, ripening black, and containing one to four seeds.

USES: It is used as an astringent to cure or relieve intestinal disorders after pain at childbirth, sprains, bruises and swelling or as a lotion for eye troubles, muscular pains and sores. It is also used for gargles and tooth powders. An antifungal principle is present in the leaflets and buds.

PHOENIX PUSILLA

CLASSIFICATION:

Order: Arecales

Family: Arecaceae

Genus: Phoenix

Species: P. pusilla

REGIONAL NAMES: **"EENTHA"** In Malayalam, **"PARUSAKAH"** In Sanskrit, **"ICHAM"** In Tamil, **"PALAVAT"** In Hindi.

DISTRIBUTION: ***Phoenix pusilla*** **(Ceylon date palm)**, is a species of flowering plant in the Arecaceae family native to southern India and Sri Lanka. Solitary or clustering palm, stem to 6 m high and 30 cm in diameter. Leaves to 3 m long; pseudopetiole to 70 cm long x 1.5 - 3 cm wide at base, rounded abaxillay; leaf sheath fibrous, reddish-brown; leaf bases persistent, vertically orientated on trunk, ca 8 cm wide at base; Staminate inflorescence erect. Staminate flowers ovoid, yellow-white. Pistillate inflorescence erect, arching at fruit maturity, orange-green. Fruit ovoid, ripening from green to red to purple-black, moderately fleshy, sweet; seed ovoid with rounded apices, pinkish-brown when fresh, drying glossy chestnut-brown.

USES: It is used in the treatment of bladder stones, Piles, Fevers, Dysentery , Rectal prolapses, Cough and Urinary tract infections.

PHYLLANTHUS MADERASPATENSIS L.

CLASSIFICATION:
Order: Malpighiales
Family: Phyllanthaceae
Genus: Phyllanthus
Species: P. maderaspatensis

REGIONAL NAMES: **"HAJARMANI"** In Hindi, **"NILA NELLI"** In Tamil, **"NALLA USIRIKA"** In Telugu, **"MADARAAS NELLI"** In Kannada, **"BHUMYAAMALAKI"** In Sanskrit.

DISTRIBUTION: ***Phyllanthus maderaspatensis*** **(Madras Leaf Flower)**, is a species of plant in the genus Phyllanthus native to

paleotropical region. It is an erect or spreading subshrub, growing to only 50 cm tall, well-branched and hairless. Leaves are arranged in 2-ranks - they are inverted lance-shaped or obovate, 1–4 cm long, up to 5 mm wide. Underside is glaucous, tip is blunt or rounded with a sharp point. Stipules have white margins. Male flowers arise 2 or 3 together with 1 female. Male flowers are on stalks up to 0.5 mm long, female flowers are on longer stalks. up to 1 mm long. Female flower petals are obovate with white margins, 2 mm long and 1.5 mm wide, twice the size of the male petals. Capsule is about 3 mm in diameter, with seeds 1–1.5 mm long.

USES: Plant sap is used as nose drops to treat toothache. Ground leaves are rubbed on the skin with lemon juice as treatment for rheumatism.The seeds are carminative, diuretic and laxative. The plant is used as an aphrodisiac. The plant is widely used to treat headache, bronchitis, earache and ophthalmia.

PHYLLANTHUS NIRURI L.

CLASSIFICATION:
Order: Malpighiales
Family: Phyllanthaceae
Genus: Phyllanthus
Species: P. niruri

REGIONAL NAMES: **"BHUI AONLA"** In Hindi, **"KEEZHA NELLI"** In Tamil, **"KILA NELLI"** In Malayalam, **"NELA USIRI"** In Telugu, **"BAHUPATRA"** In Sanskrit, **"KIRU NELLI"** In Kannda.

DISTRIBUTION: ***Phyllanthus niruri*** **(Gale of the wind, Stone breaker, Seed under leaf)**, is a species of Phyllanthus genus native to India. It is a small herb, usually under 30 cm tall, with numerous small oblong-elliptic or squarish leaves, glabrous, about 6-12 mm long. Yellow flowers are very small, and hang down in beautiful array hidden below the leaves. The flowers produce very small (2mm) fruits that burst open and the seeds are hurled away.

USES: It is used to treat liver and kidney disorders. It is an astringent, laxative, carminative and a tonic. It is used to cure diseases like gonorrhoea, constipation, stomach ache, dyspepsia, opthalmia and urinary disorders. It is also used to treat flu, dropsy, diabetes, jaundice, asthma and bronchial infection.

PIPER BETLE L.

CLASSIFICATION:

Order: Piperales

Family: Piperaceae

Genus: Piper

Species: P. betle

REGIONAL NAMES: **"PAN"** In Hindi, **"VEELYADE ELE"** In Kannada, **"TAMALAPAKU"** In Telugu, **"VETRILAI"** In Tamil, **"THAAMBOOLAM"** In Sanskrit.

DISTRIBUTION: ***Piper betle*** **(Betle)**, is a plant in the Piperaceae family native to South and Southeast Asia. Climbers dioecious. Stems rooted at nodes, 2.5-5 mm thick, slightly woody. Petiole 2-5 cm, very finely powdery pubescent; prophylls ca. 1/3 as long as petioles; leaf blade ovate to ovate-oblong, those at apex of stem sometimes elliptic, 7-15 × 5-11 cm, papery to ± leathery. Male spikes nearly as long as leaf blades at anthesis. Female spikes 3-5 × ca. 1 cm, longer in fruit; rachis fleshy, densely pubescent. Drupes fused to form terete, fleshy, reddish, compound fruit.

USES: The leaves are said to be anthelmintic, antibacterial, antifungal, antiseptic, aphrodisiac, astringent, carminative, expectorant, laxative, sialagogue, stimulant, stomachic and tonic. The leaf sap are applied to wounds, ulcers, boils and bruises. Heated leaves are applied as a poultice on the chest against cough and asthma, and on the abdomen to relieve constipation.

POLYALTHIA LONGIFOLIA (SONN.) THWAITES

CLASSIFICATION:

Order: Magnoliales

Family: Annonaceae

Genus: Polyalthia

Species: P. longifolia

REGIONAL NAMES: **"ASHOK"** In Hindi, **"HEMAPUSHPAM"** In Malayalam, **"DEVDARU"** In Telugu, **"VANSULAM"** In Tamil, **"UBBINA"** In Kannada, **"PUTRAJIVA"** In Sanskrit.

DISTRIBUTION: ***Polyalthia longifolia*** **(False Ashoka, The Buddha tree, Indian mast tree)**, is a flowering plant in the Annonaceae family native to India. An evergreen tree with a straight trunk, conical crown and slender drooping branches, about 10-25 m tall. Leaves simple, alternate, narrow lanceolate, 15-25 x 2-4 cm across, base slightly acute or cuneate, margin wavy or undulate. Flowers bisexual, axillary, solitary or fascicled on very short umbels from axils of fallen leaves, yellowish green, about 2.5-3 cm long, pedicels slender, tomentose, about 1-1.5 cm long, bracts submedian. Fruit of 10-15 baccate monocarps on upto 37 mm long woody stalk.

USES: It is used for fever, skin diseases, hypertension and helminthiasis. Bark is used as febrifuge.

PONGAMIA PINNATA L.

CLASSIFICATION:

Order: Fabales

Family: Fabaceae

Genus: Pongamia

Species: P. pinnata

REGIONAL NAMES: **"KARANJ"** In Hindi, **"PUNGAI"** In Tamil, **"PONNU"** In Malayalam, **"HONGE"** In Kannada, **"PUNGU"** In Telugu, **"KARANJAH"** In Sanskrit.

DISTRIBUTION: ***Pongamia pinnata*** **(Indian beech, Pongam oil tree)**, is a species in the Fabaceae family native to Asia. Trees, 6-10m. Leaves imparipinnate, 15-25cm;leaflets opposite, elliptic, apex acuminate, base obtuse, chartaceous, glabrous, dark green above, pale green beneath;stipules caduceus. Flowers 1.2-1.6cm, white, in simple axillary, racemes. Calyx brown, subtruncate. Corolla ca 1.2cm, white; standard silky, appendiculate at base, shortly clawed;wings adhering to the keel. Stamens monodelphous. Pods, woody, glabrous, flattened, oblong, indehiscent.Seeds 1-2, reniform, white streaked with brown.

USES: The seed oil is given as a stomachic and cholagogue in the treatment of dyspepsia and cases of sluggish liver. It is used externally as a liniment for rubbing on skin diseases and rheumatic joints. It has been shown to be effective in enhancing the pigmentation of skin affected by leucoderma or scabies.

PREMNA SERRATIFOLIA L.

CLASSIFICATION:

Order: Lamiales

Family: Lamiaceae

Genus: Premna

Species: P. serratifolia

REGIONAL NAMES: **"AGNIMANDHA"** In Kannada, **"APPEL"** In Malayalam, **"GANAKASIKA"** In Sanskrit, **"PASUMUNNAI"** In Tamil, **"GABBUNELLI"** In Telugu.

DISTRIBUTION: ***Premna serratifolia*** **(Headache tree)**, is a species in the Lamiaceae famil native to South and Southeast Asia. Trees, to 7 m high. Leaves simple, opposite, estipulate; petiole 4–14 mm, slender,

pubescent, grooved above; lamina 2.5-8.5 x 2-7.2 cm, elliptic, elliptic-oblong. Flowers bisexual, greenish-white, in terminal corymbose panicled cymes. Fruit a drupe, seated on the calyx, globose, purple; seeds oblong.

USES: The leaves and roots are used as a diuretic, stomachic and febrifuge. The leaves are used as a galactagogue, and also to treat rheumatic arthritis; colic and flatulence; coughs, headaches and fevers.

PSIDIUM GUAJAVA L.

CLASSIFICATION:
Order: Myrtales
Family: Myrtaceae
Genus: Psidium
Species: P. guajava

REGIONAL NAMES: **"AMROOD"** In Hindi, **"KOYYA"** In Tamil, **"PERU"** In Malayalam.

DISTRIBUTION: ***Psidium guajava*** **(The common guava, Lemon guava)**, is a small tree in the Myrtaceae family native to the Caribbean,

Central America and South America. Small trees. Stem smooth with pealing bark. Young stem 4-angled. Leaves l6-11 x 2.5-5 cm, elliptic-oblong, base rounded to obtuse-cuneate, apex acute-apiculate. Cymes axillary, 1-3-flowered. Berry 2.5-3.5 cm diam., globose crowned by persistent calyx lobes. Seeds many, embedded in fleshy pulp.

USES: A decoction of the plant is antispasmodic, astringent, febrifuge and vulnerary. All parts of the young fruit are astringent. The dried ripe fruits are recommended as a remedy for dysentery, while the leaves and fruits are used as a cure for diarrhoea.

PUNICA GARANATUM L.

CLASSIFICATION:

Order: Myrtales
Family: Lythraceae
Genus: Punica
Species: P. granatum

REGIONAL NAMES: **"MAADULAI"** In Tamil, **"ANAR"** In Hindi, **"DALIMBE"** In Kannada, **"MATALAM"** In Malayalam, **"MADHUBIIJA"** In Sanskrit, **"DADIMA PANDU"** In Telugu.

DISTRIBUTION: ***Punica granatum*** **(Pomegranate)** is a species in the Lythraceae family native to India. A shrub or small tree growing 6 to 10 m high, It has multiple spiny branches, and is extremely long-lived. Leaves are opposite or subopposite, glossy, narrow oblong, entire, 3–7 cm long and 2 cm broad. The flowers are bright red and 3 cm in diameter, with three to seven petals. The edible fruit is a berry, between a lemon and a grapefruit in size, 5–12 cm in diameter with a rounded shape and thick, reddish skin. The number of seeds in a pomegranate can vary from 200 to about 1400 seeds.

USES: The rind of the fruit and the bark of the pomegranate tree are used as a remedy against diarrhea, dysentery, and intestinal parasites. The seeds and juice are considered as a tonic for the heart and throat. The fruit is considered as a blood builder. Pomegranate juice is also used as an eyedrop, as it slows the development of cataracts.

RAUVOLFIA TETRAPHYLLA L.

CLASSIFICATION:

Order: Gentianales
Family: Apocynaceae
Genus: Rauvolfia
Species: R. tetraphylla

REGIONAL NAMES: **"BARA CHANDRIKA"** In Hindi, **"PAMPU KAALAACHCHEDI"** In Tamil, **"PAMPUMKOLLI"** In Malayalama, **"PAPATAKU"** In Telugu, **"DODDA CHANDRIKE"** In Kannada, **"VANA SARPAGANDHA"** In Sanskrit.

DISTRIBUTION: ***Rauvolfia tetraphylla*** **(Be still tree, Devil-pepper)**, is a plant in the Apocynaceae family native to Mexico, Central America, West Indies, and northern South America. A small, much-branched woody shrub, 0.6-1.2 m high. Leaves whorled, ovate-elliptic. Flowers greenish-white or creamy-white in umbellate cymes. Fruits (drupes) ovoid, deep red or purple when ripe; seeds oblong, rugose.

USES: The latex in the plant is said to be cathartic, diuretic, emetic and expectorant. It is used for treating dropsy and various other diseases. It is applied to granulated eyelids.

RAVENALA MADAGASCARIENSIS SONN.

CLASSIFICATION:

Order: Zingiberales

Family: Strelitziaceae

Genus: Ravenala

Species: R. madagascariensis

REGIONAL NAMES: **"PANTHAPADAP"** In Hindi.

DISTRIBUTION: ***Ravenala madagascariensis*** **(Traveller's palm)** is the only species in the Ravenala genus native to Madagascar. It is an

evergreen tree with an open, fan-like crown; it usually grows up to 20 metres tall. The cylindrical stem can be solitary, or branched at the base. The plant produces large, banana-like leaves that can each be 2.5 - 4 metres long and 80 - 150cm wide on top of a stout petiole that is 3 - 6 metres long. These are held in a fan-shaped formation of 20 or more leaves. The large white flowers are found with a green bract. The fruits are brown while the seeds are blue.

USES: The seed oil is used as an antiseptic.

RHIPSALIS CRUCIFORMIS L.

CLASSIFICATION:

Order: Caryophyllales

Family: Cactaceae

Genus: Rhipsalis

Species: R.cruciformis

REGIONAL NAMES: NO REGIONAL NAMES AVAILABLE IN INDIA.

DISTRIBUTION: ***Rhipsalis cruciformis***, is a saxicolous or epiphytic cactus semierect or creeping over rocks. Foliaceous (leaf-like), extremely variable, sometimes 3, 4, or even 5-angled, or flat, linear-lanceolate, to 50 cm long, 2 cm broad, more or less winged, narrowed at base, more or less purplish, especially on edges. Margins distinctly notched. Flowers are Borne laterally 2 to 5 or even more from an areole. White, cream, yellow, pink, or rarely magenta, reddish-brown on the uotside, 10 to 13 mm Long. Perianth-segments united at base into a short tube. Filaments slender, adnate to flower-tube. Stigma-lobes 4 or 5. Fruit, Globular, juicy, purplish to red, smooth, turgid, translucent, 6 to 12 mm in diameter. Seed is Light brown to black, 1.8 mm long.

USES: It is mainly used for decorative purposes and its medicinal properties is yet there for discovery.

RICINUS COMMUNIS L.

CLASSIFICATION:

Order: Malpighiales

Family: Euphorbiaceae

Genus: Ricinus

Species: R. communis

REGIONAL NAMES: **"ARANDI"** In Hindi, **"AMANAKKU"** In Tamil, **"OUDLA"** In Kannada, **"CHITTAMANAKKU"** In Malayalam.

DISTRIBUTION: ***Ricinus communis*** **(The Castor bean)**, is a species of perennial flowering plant in the Euphorbiaceae family native to the southeastern Mediterranean Basin, Eastern Africa, and India. Monoecious, branched glaucous shrubs. Leaves alternate, palmately 6-8-lobed, peltate, to 20 x 24 cm; lobes 9-15 x 3-6 cm, lanceolate, margin coarsely serrate, apex acuminate; petiole to 18 cm long. Flowers in terminal paniculate racemes, pale yellow; male flowers below, female ones above. Capsule 1.6-2 cm across, 3-lobed, prickly. Seeds oblong, smooth, marbled, carunculate.

USES: The seed is anthelmintic, cathartic, emollient, laxative and purgative. It is also powdered and applied to abscesses and various skin infections. A decoction of the leaves and roots is antitussive, discutient and expectorant. The leaves are used as a poultice to relieve headaches and treat boils.

SANSEVIERIA TRIFASCIATA PRAIN

CLASSIFICATION:

Order: Asparagales

Family: Asparagaceae

Genus: Sansevieria

Species: S. trifasciata

REGIONAL NAMES: NO REGIONAL NAMES AVAILABLE IN INDIA.

DISTRIBUTION: ***Sansevieria trifasciata*** **(Snake plant, Mother-in-law's tongue, and Viper's bowstring hemp)**, is a species of flowering plant in the Asparagaceae family native to tropical West Africa. It is a succulent plant with stout creeping rhizomes. Leaves 1 or 2 together, linear-oblanceolate, stiffly erect, 30-100 × 3 cm, the apex tapering to a stiff green point; the blades are transversely banded with contrasting green and whitish zones; margins are green. The inflorescence is pedunculate, 30-75 cm long. Flowers are solitary or in clusters of 2 or 3, pedicels up to 5 mm long; perianth tube 1 cm long or less, the linear lobes up to 2 cm long, white or greenish white. Fruits are subglobose to oblong-ellipsoid, 7-9 × 5-8 mm, bright orange.

USES: The plant is used to treat ringworm and fungal diseases. The leaf sap is applied directly on infected sores, cuts and grazes, it is also used to treat fungal and scabies infections.

SENNA TORA (L.) ROXB.

CLASSIFICATION:

Order: Fabales

Family: Fabaceae

Genus: Senna

Species: S. tora

REGIONAL NAMES: **"PANWAR"** In Hindi, **"SOGATA"** In Kannada, **"SAKRAMARDAKAM"** In Malayalam, **"SENAVU"** In Tamil.

DISTRIBUTION: ***Senna tora*** **(Sickle pod, Tora, Coffee pod)**, is a dicot legume in the subfamily Caesalpinioideae native to Central America. It is an herbaceous annual foetid herb. The plant can grow 30–90 centimetres (12–35 in) tall and consists of alternative pinnate leaves with leaflets mostly with three opposite pairs that are obovate in shape with a rounded tip. The leaves grow up to 3–4.5 centimeters long. The flowers occur in pairs in axils of leaves with five petals and pale yellow in colour. The stamens are of unequal length. The pods are somewhat flattened or four angled, 10–15 cm long and sickle shaped, hence the common name sickle pod. There are 30–50 seeds within a pod.

USES: The leaves and seeds are used to treat leprosy, ringworm, flatulence, colic, dyspepsia, constipation, cough, bronchitis and cardiac disorders.

SENNA SIAMEA (LAM.) H.S. IRWIN & BARNEBY

CLASSIFICATION:

Order: Fabales

Family: Fabaceae

Genus: Senna

Species: S. siamea

REGIONAL NAMES: **"SEEMIA"** In Hindi, **"SIMA TANGEDU"** In Kannada, **"CHELUMALARKKONDRAI"** In Tamil, **"MANJAKONNA"** In Malayalam, **"SIMA TANGEDU"** In Telugu.

DISTRIBUTION: ***Senna siamea*** **(Siamese cassia, Kassod tree)**, is a plant in the Fabaceae family native to South and Southeast Asia. Evergreen and ornamental tree about 200-300 cm tall with straight trunk, 30-35 cm in diameter, greyish brown, smooth, fissured at age. Leaves alternate, pinnately compound, green, opposite, leaflets 6-14 in pairs with short stalk of 3mm, oblong, 4-7× 1.5-3 cm width, rounded at both ends, glabrous, primary vein 1 and secondary vein 6-8 pairs per leaf, petiole short. Inflorescence raceme, corymb, axillary peduncle, 2-4cm long. Flowers hermaphrodite, complete, bright yellow 2-3 cm across, sub persistent bract, pedicel 1-2cm long, pentamerous. Fruits pods numerous, long, narrow, flat dark, brown, strap shaped, stipitate; Seeds numerous; bean shaped, shiny, dark.

USES: The fruit is used to charm away intestinal worms and to prevent convulsions in children. The heartwood is said to be a laxative, and a decoction is used against scabies.

SIDA ACUTA L.

CLASSIFICATION:

Order: Malvales

Family: Malvaceae

Genus: Sida

Species: S. acuta

REGIONAL NAMES: **"BARAIRA"** In Hindi, **"BALA"** In Sanskrit, **"PALAMBASI"** In Tamil, **"MUTTAVAPULAGAMU"** In Telugu, **"MALATANNI SHIRUPARUVA"** In Malayalam, **"VISHAKHADDI"** In Kannada.

DISTRIBUTION: ***Sida acuta*** **(The common wireweed, Morning mallow)**, is a species of flowering plant in the Malvaceae family native to Central America. Erect subshrubs to 70 cm tall; branches distichous. Leaves 3-6 x 1-2 cm, lanceolate to ovate, base truncate, margins serrate, entire towards base, apex acute or acuminate. Flowers solitary, axillary; pedicels to 5 mm long. Schizocarp to 5 mm long; mericarps 6-8, c. 3 x 2 mm, trigonous, reticulate, apically 2-awned. Seeds c. 2 mm long, trigonous.

USES: A decoction of the whole plant is used as a treatment for fevers. The juice of the plant is used to treat indigestion. The leaves are diuretic. An infusion is used to treat dysentery. A decoction of the leaves is used to bathe wounds. The leaves are applied to the head as a poultice to remedy headache. A poultice made from the boiled leaves is applied to ulcers and other sores.

SOLANUM TORVUM L.

CLASSIFICATION:

Order: Solanales

Family: Solanaceae

Genus: Solanum

Species: S. torvum

REGIONAL NAMES: **"BHURAT"** In Hindi, **"SUNDAIKKAI"** In Tamil, **"BRIHATI"** In Sanskrit, **"SUNDEKKAYI"** In Kannada, **"KOTTUVASTU"** In Telugu, **"ANACHUNDA"** In Malayalam.

DISTRIBUTION: ***Solanum torvum*** **(Prickly nightshade, Shoo-Shoo bush, Pea eggplant)**, is a spiny perennial plant in the Solanaceae famil native to the Tropical region. Shrubs to 2 m tall. Stem densely stellate-hairy when young; prickles few, scattered. Leaves 7-14 x 5-10 cm, ovate, usually coarsely 2-3-sinulate, base obliquely subcordate, apex acute, stellately pubescent on both sides, dense on lower sides, chartaceous, scattered with a few prickles on midrib and on petiole; lateral nerves 4 or 5 pairs; petioles 1.5 - 3.5 cm long. Inflorescence supra-axillary, many-flowered corymbose cymes; peduncle to 5 cm long. Calyx tube 2-2.5 mm long, campanulate, lobes oblong. Corolla white, c. 2.5 cm across; lobes 5-6 mm long, ovate, pubescent outside. Berry 1-1.5 cm across, globose, pale green turning dull orange. Seeds discoid, smooth.

USES: The juice of the plant is used to treat fevers, coughs, asthma, chest ailments, sore throats, rheumatism, dropsy, stomach aches and gonorrhoea. The juice of the flowers is used as eye drops. The fruit is diuretic. It is used in the treatment of malaria, stomach aches and problems with the spleen.

SOLANUM TRILOBATUM L.

CLASSIFICATION:

Order: Solanales

Family: Solanaceae

Genus: Solanum

Species: S. trilobatum

REGIONAL NAMES: **"TUDUVALAI"** In Tamil, **"TUTAVALAM"** In Malayalam, **"ALARKAPATRAMU"** In Telugu, **"ACHUDA"** In Sanskrit, **"AMBUSONDE"** In Kannada.

DISTRIBUTION: ***Solanum trilobatum*** **(Purple Fruited Pea Eggplant, Thai nightshade)**, is a species of flowering plant in the Solanaceae family native South and Southeast Asia. A slender prickly scrambling shrub, prickles curved, broad-based, yellowish and numerous along the stems, otherwise almost glabrous. Leaves rounded-ovate in outline, obtusely 3-5-lobed, 2-7 cm long, 1-4 cm wide, glabrous or slightly stellate, with a few prickles along the petiole and midrib. Inflorescences extra-axillary, peduncle short, 3-9-flowered; pedicels 1-2 cm long, widely divergent. Calyx 3 mm long, with narrow teeth, sparsely stellate. Corolla 12-16 mm long, deeply lobed, stellate-pubescent outside, purple, reflexed; stamens protruding, anthers 7 mm long, yellow. Fruits globose, c.15 mm diam., scarlet. Seeds compressed, 3 mm diam.

USES: The plant is antibacterial, antifungal, antimitotic, antioxidant and antitumouour. It is used in the treatment of asthma; vomiting of blood; rheumatism; several kinds of leprosy; to help reduce blood glucose levels, bilious matter and phlegm. The leaf juice is used as a remedy for fever. The seeds are used as a vermifuge.

STREBLUS ASPER LOUR.

CLASSIFICATION:

Order: Rosales

Family: Moraceae

Genus: Streblus

Species: S. asper

REGIONAL NAMES: **"DAHEYA"** In Hindi, **"KURRIPILA"** In Tamil, **"PARAKAM"** In Malayalam, **"BARANIKA"** In Telugu, **"MITALA"** In Kannada, **"AKSHADHARA"** In Sanskrit.

DISTRIBUTION: ***Streblus asper*** **(Siamese rough bush, Toothbrush tree)**, is a medium-sized tree native to South and Southeast Asia. Evergreen, dioecious or rarely monoecious trees, thick, light grey,

smooth, lenticellate, fibrous; exudation milky white latex; branchlets on trunk often arrested and thorny. Leaves simple, alternate, spiral; stipules 2-5 mm long, lateral, lanceolate, adpressedly hairy, cauducous; petiole to 4 mm long, slender, pubescent. Flowers unisexual, greenish-yellow; male in axillary heads, peduncle to 10 mm, sparsely puberulous to glabrous with 1-2 small bracts at the base; female flowers axillary, solitary or 2-5 in a cluster; peduncle to 10 mm, puberulous bracts and bracteoles 2.5 mm. Fruit a drupe, 6-8 mm across, globose, obscurely 2-humped, yellow to orange, tepals persistent; seed one, 4-5 mm across, globose, greyish-white.

USES: A decoction of the stem bark is used in the treatment of dysentery, diarrhoea and fevers. The bark is chewed as an antidote in snake poisoning. The powdered root bark is used to treat toothache and to cure peritonitis.

SYZYGIUM CUMINI (L.) SKEELS

CLASSIFICATION:
Order: Myrtales
Family: Myrtaceae
Genus: Syzygium
Species: S. cumini

REGIONAL NAMES: **"JAMUN"** In Hindi, **"NERULA"** In Kannada, **"HJAVAL"** In Malayalam, **"JAMBULA"** In Sanskrit, **"NAVAL"** In Tamil, **"NERDU"** In Telugu.

DISTRIBUTION: ***Syzygium cumini*, (Jambolan, Java plum, Jamun)**, is an evergreen tropical tree in the flowering plant family Myrtaceae native to the Indian Subcontinent. Medium sized trees; bark white, light pink inside. Leaves to 18 x 8 cm, ovate, oblong, long-acuminate at apex, acute at base; nerves many, close, shining above; petiole 1.5-2 cm long. Panicles to 10 cm across, on leafless branchlets. Flowers 6-9 mm across, subsessile; calyx tube 3 mm broad, turbinate; filaments 7 mm long. Berry 10 x 7 mm, obovoid, deep blue.

USES: Both the seeds and the fruit are diuretic and have important carminative and astringent properties. The seeds also reduce blood sugar levels and are useful in the treatment of diabetes. The seeds are used in the treatment of dysentery. The juice of the bark is considered good for treating wounds and enlargement of the spleen.The bark is used as a gargle to strengthen gums, treat mouth ulcers etc.

TABEBUIA PALLIDA L.

CLASSIFICATION:

Order: Lamiales

Family: Bignoniaceae

Genus: Tabebuia

Species: T. pallida

REGIONAL NAMES: **"BASANT RANI"** In Hindi, **"VASANTHA RANI"** In Tamil,

DISTRIBUTION: ***Tabebuia pallida*** **(White cedar, Rosy Trumpet tree)** is a flowering plant in the Bignoniaceae family native to Central America.

A tall fast-growing tree with crown wide, stratified and irregular with a few thick, horizontal branches.Branching is sympodial.Leaves, Decussate, long petiolate, compound, digitate, 5 unequal leaflets, the central leaflet is the larger. Flowers bisexual. Fruit, Long, slender, linear-cylindrical, brown, bivalve, loculicidal capsule, attenuate at both ends. The calyx is persistent. Seeds are whitish, thin, with broad, hyaline-membranous wings.

USES: Preparations of the bark of the tree are consumed to eliminate intestinal parasites, malaria and uterine cancer. A decoction of the bark is recommended for anemia and constipation. A decoction of the flowers, leaves and roots has been used to reduce fevers and pain, cause sweating, to treat tonsil inflammation and various other disorders.

TABERNAEMONTANA DIVARICATA L.

CLASSIFICATION:

Order: Gentianales

Family: Apocynaceae

Genus: Tabernaemontana

Species: T. divaricate

REGIONAL NAMES: **"CHANDNI"** In Hindi, **"NANDI BATTALU"** In Kannada, **"NANDIYAR VATTAI"** In Tamil, **"NANTHYAAR VATTAM"** In Malayalam.

DISTRIBUTION: ***Tabernaemontana divaricata*** **(Pinwheelflower, Crape jasmine, East India rosebay)**, is an evergreen shrub in the

Apocynaceae family native to India. Shrub upto 1 m Branches divaricate, milky latex present. Young shoots green, lenticellate. Leaves opposite, elliptic, acuminate or caudate. Inflorescence 1-few flowered cymes, axillary or terminal, peduncle c.5 cm long. Flowers 2.5-5 cm across, white; pedicel 1-1.5 cm long, bract minute or absent. Calyx lobes broad, ovate, acute c. 4 mm long. Corolla tube c. 2-2.5 cm, dialated in the middle, lobes obliquely ovate 2.5-3.75 cm long, double in cultivated form. Ovary glabrous; ovules numerous; style filiform; stigma papillose. Follicles 2.5-4x1 cm, sessile, glabrous, 1-3 ribbed, orange or bright red inside, curved to form a beak. Seeds 3-6, oblong or irregular in shape, striated.

USES: The roots are astringent. A decoction is used in the treatment of diarrhoea and various abdominal complaints. An infusion is applied as a remedy for jungle fever. The roots are used to treat hypertension, headache, and scabies. The pounded roots are applied to sore eyes. The root is employed as a local anodyne and chewed for the relief of toothache.

TAMARINDUS INDICA L.

CLASSIFICATION:

Order: Fabales

Family: Fabaceae

Genus: Tamarindus

Species: T. indica

REGIONAL NAMES: **"IMLI"** In Hindi, **"PULI"** In Tamil, **"CHINTA"** In Telugu, **"HUNSE"** In Kannada, **"AMLAM"** In Malayalam, **"TINTIRI"** In Sanskrit.

DISTRIBUTION: ***Tamarindus indica*** **(Tamarind)**, is a leguminous tree in the Fabaceae family native to tropical Africa. Trees, to 20 m high, bark brown to brownish-black, rough with vertical fissures. Leaves paripinnate, alternate; stipules lateral, minute, cauducous; rachis 8-13 cm long, slender, glabrous, pulvinate; leaflets 20-34, opposite, sessile, estipellate. Flowers bisexual, 1 cm across, yellow with reddish-pink dots, in lax terminal racemes. Fruit a pod 10-15 x 1-2 cm, oblong, fruit wall crustaceous, mesocarp pulpy, endocarp septate, leathery, indehiscent; seeds 3-8 or more, obovoid-orbicular, compressed, brown.

USES: A sweetened decoction of the leaves is good against throat infection, cough, fever, and even intestinal worms. The filtered hot juice of young leaves, and a poultice of the flowers, is used for conjunctivitis. The fruit is aperient and laxative . It helps to keep digestive organs in good condition, and also as a remedy for coughs and chest colds.

TECOMA STANS (L.) KUNTH

CLASSIFICATION:

Order: Lamiales

Family: Bignoniaceae

Genus: Tecoma

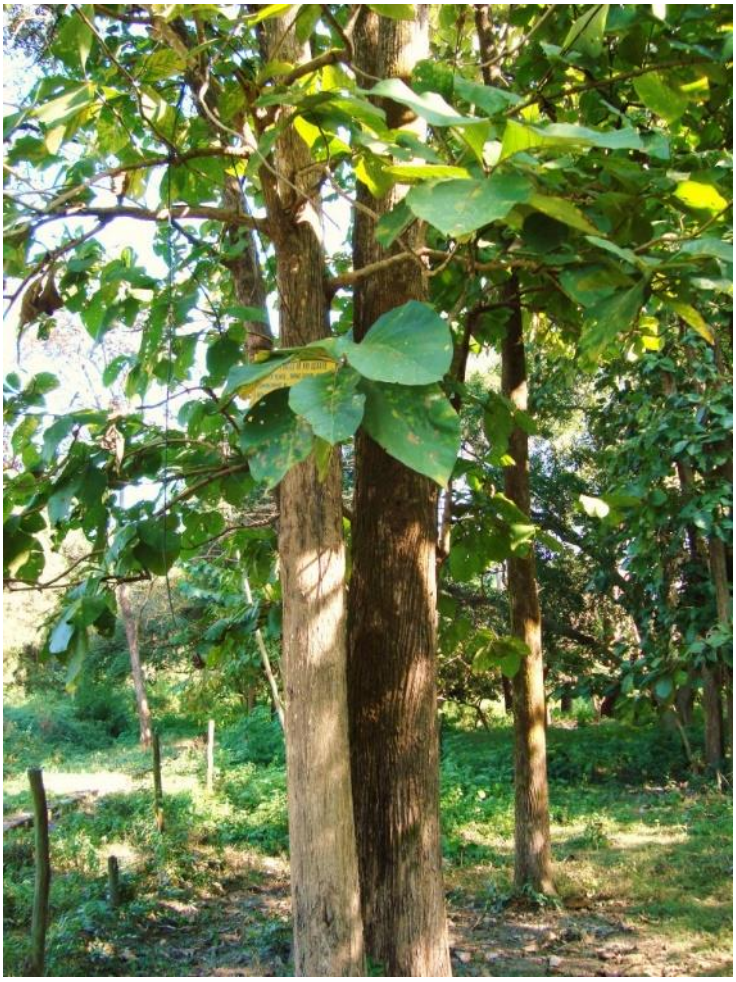
Species: T. stans

REGIONAL NAMES: **"PILIYA"** In Hindi, **"KORANEKELAR"** In Kannada, **"SONNAPATTI"** In Tamil, **"PACHAGOTLA"** In Telugu.

DISTRIBUTION: ***Tecoma stans*** **(Yellow Bells, Yellow Trumpet, Yellow Elder)**, is a species of flowering perennial shrub in the Bignoniaceae family native to America. It is a shrub or a small tree which can reach a height of 8 m. The pinnate leaves are bright green above, paler below and can be smooth or hairy, often around the veins. Inflorescences are terminal or subterminal with up to 20 bright yellow showy trumpet-shaped flowers, about 50 mm long. The fruit is a linear shiny capsule, 12-22 cm long and about 1 cm thick, pointed at the end. The two-valve dehiscent capsule splits open to release up to 77 papery-winged seeds which are primarily wind, and to a lesser extent water, dispersed.

USES: A leaf infusion can be taken orally for treating diabetes and stomach pains. A strong leaf and root decoction is taken orally as a diuretic and to treat syphilis and intestinal worms.

TECTONA GRANDIS



CLASSIFICATION:

Order: Lamiales

Family: Lamiaceae

Genus: Tectona

Species: T. grandis

REGIONAL NAMES: **"SAGWAN"** In Hindi, **"THEGA"** In Kannada, **"THEKKU"** In Malayalam, **"THAEKKU"** In Tamil.

DISTRIBUTION: ***Tectona grandis*** **(Teak)**, is a tree in the Lamiaceae family native to South and Southeast Asia. Deciduous trees, to 30 m high, bark 10-20 mm thick, yellowish-brown, rough. Leaves simple, opposite, estipulate; petiole 10-50 mm long, stout, tomentose. Flowers bisexual, white, 7 mm across, in terminal cymose panicles, 10-30 cm across, puberulus; calyx 5 mm long, campanulate, lobes 5-6, subequal, ovate, tomentose; corolla 6 mm long, lobes 5-6, oblong, spreading. Fruit a drupe, 1.5-2 cm across, globose, brown, densely floccose hairy, covered by the inflated calyx, epicarp spongy, endocarp stony; seeds 1-4, oblong.

USES: The bark is a vermifuge; promotes digestion; is effective in relieving bilious headaches and tooth aches; reduces inflammations or eruptions of the skin. It has been used to relieve the swelling of the eyelids. It has been used as a hair tonic. An oil extracted from the roots is used to treat eczema, ringworms and inflammation.

TERMINALIA BELLIRICA (GAERTN.) ROXB.

CLASSIFICATION:

Order: Myrtales

Family: Combretaceae

Genus: Terminalia

Species: T. bellirica

REGIONAL NAMES: **"BAHERA"** In Hindi, **"THANDRI"** In Tamil, **"THAANNI"** In Malayalam, **"TAAREKAAYI"** In Kannada, **"AKSHAH"** In Sanskrit.

DISTRIBUTION: ***Terminalia bellirica*** **(Bahera, Beleric, Bastard Myrobalan)**, is a large deciduous tree in the Combretaceae family native

to Southeast Asia. Deciduous trees, to 35 m high, bole often buttressed; bark 10-20 mm thick, surface blackish-grey, smooth. Leaves simple, opposite or alternate, clustered at the tip of branchlets, estipulate; petiole 15-80 mm, stout, slightly grooved above, glabrous. Flowers bisexual, greenish-yellow, 5-6 mm across, in axillary spikes. Fruit a drupe 2-2.5 x 1.8 cm, obovoid, obscurely 5-ridged, yellowish-brown, honed, not winged, softly tomentose; seed one, ellipsoid.

USES: The astringent fruits are commonly used , to treat ophthalmia, diabetes, liver complaints, hypertension, asthma, wounds, skin diseases, haemorrhoids, diarrhoea and dropsy. The bark is used as astringent, purgative and diuretic, and to treat diarrhoea, piles, leprosy and fever.

TERMINALIA CATAPPA L.

CLASSIFICATION:

Order: Myrtales

Family: Combretaceae

Genus: Terminalia

Species: T. catappa

REGIONAL NAMES: **"JANGLI BADAM"** In Hindi, **"NATTU VADUMAI"** In Tamil, **"KETAPAG"** In Malayalam,

"TAPASATARUVU" In Telugu, **"KADUBADAMI"** In Kannada, **"KSHUDRABIJA"** In Sanskrit.

DISTRIBUTION: ***Terminalia catappa*** **(Country-almond, Indian-almond)**, is a large tropical tree in the Combretaceae family native to Asia, Africa, and Australia. Herbs annual or biennial, with few fibrous roots; stem unbranched, extremely short. Leaves forming a flat rosette, subsessile or petiolate; stipule ca. 3-7 mm, connate with petiole at base. Inflorescence scapiform; racemes 1 or 2, ca. 6-22 cm, 2-19-flowered; bracts ca. 1-3 mm, simple, hastate; pedicels erect, ca. 1-7 mm; sepals 5, ca. 2-3 mm, united at base, light green, red, or reddish violet, narrowly oblong, striate, tuberculate, abaxially with short, glandular hairs and white glands; petals ca. 4 × 2-3 mm, white to light red to reddish violet, obovate;stamens 5, ca. 3 mm; ovary subglobose, glabrous; placentas 6; styles 6, ca. 2-3 mm, filiform, incurved; stigma toothlike. Capsule 5- or 6-valved. Seeds dark-brown to black, veined.

USES: Externally, the leaves may be rubbed to numb parts of the body. They may be used as a dressing for swollen rheumatic joints. The fluid from the bark is used to treat diabetes and as a tonic.

TERMINALIA ELLIPTICA L.

CLASSIFICATION:

Order: Myrtales

Family: Combretaceae

Genus: Terminalia

Species: T. elliptica

REGIONAL NAMES: **"ASAN"** In Hindi, **"KARU MARUDHU"** In Tamil, **"MATTHI"** In Malayalam, **"INNU MADDI"** In Telugu, **"BANAPPU"** In Kannada, **"RAKTARJUN"** In Sanskrit.

DISTRIBUTION: ***Terminalia elliptica*** **(Indian-Laurel)**, is a species of Combretaceae native to South and Southeast Asia. Deciduous trees, to 30 m high; bark 15-20 mm thick, surface grey-black, very rough, deeply vertically fissured. Leaves simple, opposite to subopposite, exstipulate; petiole 10-20 mm long, stout, grooved above, glabrous. Flowers bisexual, dull yellow, 2-3 mm across, in terminal and axillary paniculate spikes; peduncle tomentose. Fruit a drupe 3.5 x 5.5 cm, longitudinally 5-winged, glabrous; wings equal, thin, pubescent, lines on the wings horizontal, apex round, coriaceous, reddish-brown; seed one.

USES: The bark is an astringent. It is used in the treatment of diarrhoea. The juice of the bark is applied externally to cuts and wounds. It can also be boiled then rubbed onto the head to remove dandruff. A paste of the gum is applied externally to burns and is also used to treat swellings caused by inflammation.

THESPESIA POPULNEA L.

CLASSIFICATION:

Order: Malvales

Family: Malvaceae

Genus: Thespesia

Species: T. populnea

REGIONAL NAMES: **“PARA PIPAL”** In Hindi, **“PUVARASU”** In Malayalam, Tamil, **“PARSHWAPIPPAL”** In Sanskrit, **“HUVARASI”** In Kannada.

DISTRIBUTION: ***Thespesia populnea*, (The Indian tulip tree, Pacific rosewood, Portia tree)** is species of flowering plant in the Malvaceae family native to India. Trees, to 15 m high, bark dark brown; blaze yellowish-pink. Leaves simple, alternate, stipulate; stipules 4-10 mm long, free, lateral, linear to lanceolate, cauducous; petiole 5-10 cm, slender, swollen tipped, scaly. Flowers bisexual, yellow, showy, solitary or in cymes, axillary or terminal. Fruit a capsule, globose, indehiscent, depressed, scaly, ultimately glabrescent; seeds many, ovoid, channelled along the back, pubescent.

USES: The heartwood is carminative. It is useful in treating pleurisy, cholera, colic and high fevers. The fruit juice is used to treat herpes. The crushed fruit is used in the treatment of urinary tract problems and abdominal swellings. An extract of the fruit is applied to swollen testicles.

TINOSPORA CORDIFOLIA L.

CLASSIFICATION:

Order: Ranunculales

Family: Menispermaceae

Genus: Tinospora

Species: T. cordifolia

REGIONAL NAMES: **"GUDUCHI"** In Sanskrit, **"TIPPA TEEGA"** In Telugu, **"SEENDHIL KODI"** In Tamil, **"AMRUTHU"** In Malayalam, **"AMRUTHA BALLI"** In Kannada, **"GELOY"** In Hindi.

DISTRIBUTION: ***Tinospora cordifolia*** **(Heart-leaved moonseed)**, is an herbaceous vine of the Menispermaceae family native to India,

Myanmar and Sri Lanka. It is a large, deciduous extensively spreading climbing shrub with several elongated twining branches. Leaves simple, alternate, exstipulate, long petioles up to 15 cm long, roundish, pulvinate, both at the base and apex with the basal one longer and twisted partially and half way around. Flowers unisexual, small on separate plants and appearing when plant is leafless, greenish yellow on axillary and terminal racemes. Male flowers clustered, female usually solitary. Sepals 6, free in two series of three each, the outer ones are smaller than the inner. Petals 6 free smaller than sepals, obovate and membranous. Fruits aggregate of 1-3, ovoid smooth drupelets on thick stalk with sub terminal style scars, scarlet or orange coloured.

USES: It is used for diabetes, high cholesterol, allergic rhinitis, upset stomach, gout, lymphoma and other cancers, rheumatoid arthritis, hepatitis, peptic ulcer disease, fever, gonorrhea, syphilis, and to boost the immune system.

TRACHYCARPUS FORTUNEI

CLASSIFICATION:

Order: Arecales
Family: Arecaceae
Genus: Trachycarpus
Species: T. fortune

REGIONAL NAMES: NO REGIONAL NAMES AVAILABLE IN INDIA.

DISTRIBUTION: ***Trachycarpus fortune*** **(The Chinese windmill palm, Chusan palm)**, is a palm native to South and Southeast Asia. It is a dioecious, evergreen palm that can grow up to 15 m. Leaves are large (up to 1 m), distinctive and fan-shaped (1 m) from a sharply toothed petiole, which to around 1 m long, and even longer in shady areas.The trunk is straight, solitary and fibrous, and dead leaves hang from the top forming a skirt - however, the plant does not produce a trunk when it is small. Male flowers (yellow) and female flowers (greenish) grow on separate plants on large, branched and drooping spikes, followed by fruit that ripens to from green to blue-black. Fruit is kidney-shaped.

USES: The flowers and the seed are astringent and haemostatic. The root or the fruit is decocted as a contraceptive. The ashes from the silky hairs of the plant are haemostatic. Mixed with boiling water they are used in the treatment of haemopytsis, nose bleeds, haematemesis, blood in stools, metrorrhagia, gonorrhoea and other venereal diseases.

TRIANTHEMA PROTULACASTRUM

CLASSIFICATION:

Order: Caryophyllales

Family: Aizoaceae

Genus: Trianthema

Species: T. portulacastrum

REGIONAL NAMES: **"SABUNI"** In Hindi, **"MUCHCHUGONI"** In Kannada, **"TALUTAMA"** In Malayalam, **"CHIRATIKA"** In Sanskrit, **"SHARUNNAI"** In Tamil, **"AMBATIMADU"** In Telugu.

DISTRIBUTION: ***Trianthema portulacastrum*** **(Desert horsepurslane, Black pigweed)**, is a species of plant in the Aizoaceae family native to Africa and North and South America. Prostrate annual herb, with spreading stems up to 50 cm long, mostly hairless. Leaves opposite, usually one in each pair smaller than the other, more or less broadly obovate to almost circular; margin entire; petiole up to 20 mm long, expanding at the base into a sheathing membrane connecting with the base of the opposite leaf. Stipules up to 3 mm long. Flowers solitary in the leaf axils, often partly hidden by the sheathing leaf-bases.Perianth segments up to 5 mm long, pinkish or yellowish; stamens 10-20. Capsule to 5 mm long, turbinate, apex truncate, 2-lobed, brown, circumscissile. Seeds black with muricate concentric lines.

USES: The roots are abortifacient in large doses, cathartic, emmenagogue and stomachic properties. They are used to relieve obstructions of the liver, and to relieve asthma and amenorrhoea. The leaves are diuretic. They are used in the treatment of oedema, jaundice, strangury and dropsy.

TRIDAX PROCUMBENS L.

CLASSIFICATION:

Order: Asterales

Family: Asteraceae

Genus: Tridax

Species: T. procumbens

REGIONAL NAMES: **"JAYANTHI"** In Kannada, **"JAYANTI VEDA"** In Sanskrit, **"GHAMRA"** In Hindi, **"GAYAPAAKU"** In Telugu, **"KINATRUPPAASAN"** In Tamil, **"ODIYANCHEERA"** In Malayalam.

DISTRIBUTION: ***Tridax procumbens*** **(Coat button, Mexican daisy)**, is a species of flowering plants in the Asteraceae native to America. Procumbent herbs. Leaves 3-6 x 1.5-3 cm, ovate, apex acute, serrate, bulbous-based hairy; petiole 5-10 mm long. Heads 1.3 x 1.5 cm, solitary, on long peduncles; bracts in 3-series, lanceolate, hairy. Outer row of flowers ligulate, female, limb 3 x 2 mm, 3-toothed, white; inner flowers bisexual, tubular; corolla 6 mm long, 5-lobed at apex, yellow. Achenes 2 mm long, obovoid, densely hairy; pappus many, setaceous.

USES: The leaves are antiseptic, haemostatic and parasiticide. They are used as a treatment against bronchial catarrh, dysentery, and diarrhoea. A fine paste of the leaves is applied externally to reduce swelling of haemorrhoids and to stop bleeding. The leaf sap is applied topically to sores and ulcers.

YUCCA GLORIOSA L.

CLASSIFICATION:
Order: Asparagales
Family: Asparagaceae
Genus: Yucca
Species: Y. gloriosa

REGIONAL NAMES: "YERUM LEI" In Manipuri.

DISTRIBUTION: ***Yucca gloriosa*** **(Spanish Dagger, Adam's Needle, Palm Lily, Roman Candle)**, is a species of flowering plant in the Asparagaceae family native to southeastern United States. It is an evergreen shrub. The plant is known to grow to heights above 5 m (16 feet). It is caulescent, usually with several stems arising from the base,

the base thickening in adult specimens. The long narrow leaves are straight and very stiff, growing to 30–50 cm (12–20 in) long and 2-3.5 cm wide. They are dark green with entire margins, smooth, rarely finely denticulate, acuminate, with a sharp brown terminal spine. Inflorescence is a panicle up to 2.5 m (8 ft) long, of bell-shaped white flowers, sometimes tinged purple or red. Fruit is a leathery, elongate berry up to 8 cm long.

USES: The fruit is purgative. The fruit has a laxative effect. The root is detergent.

ZIZIPHUS MAURITIANA LAM.

CLASSIFICATION:

Order: Rosales

Family: Rhamnaceae

Genus: Ziziphus

Species: Z. mauritiana

REGIONAL NAMES: **"BER"** In Hindi, **"YELCHI"** In Kannada, **"BADARAM"** In Malayalam, **"ILLANTHAI"** In Tamil, **"BADRI"** In Sanskrit.

DISTRIBUTION: ***Ziziphus mauritiana*** **(Chinese date, jujube, Indian plum)**, is a tropical fruit tree species belonging to the Rhamnaceae family native to South and Southeast Asia. A small deciduous tree, armed with erect or recurved stipular thorn; bark dark grey . Leaves orbicular - round, basally 3-nerved, grey and glabrous above, rust-tomentose below. Flowers borne in axillary cymes in dense fascicles, small, greenish- yellow. Drupe oblong-globose.

USES: The dried fruits are anodyne, anticancer, antidote, expectorant, pectoral, refrigerant, sedative, stomachic, styptic and tonic. They are considered to purify the blood and aid digestion, and are used internally in the treatment of a range of conditions including chronic fatigue, loss of appetite, diarrhoea, pharyngitis, bronchitis, anaemia, irritability and hysteria.

ZIZIPHUS NUMMULARIA (BURM.F.) WIGHT & ARN.

CLASSIFICATION:

Order: Rosales

Family: Rhamnaceae

Genus: Ziziphus

Species: Z. nummularia

REGIONAL NAMES: **"JHAR BERI"** In Hindi, **"MULLUHANNNU"** In Kannada, **"AJA PRIYA"** In Sanskrit, **"KORGODI"** In Tamil, **"NELAREGU"** In Telugu.

DISTRIBUTION: ***Ziziphus nummularia*** **(Jharberi)**, is a species of Ziziphus native to the India and Pakistan. Straggling shrub, 2-5 m high; branches divaricate, flexuous; spines paired, one straight, very sharp, nearly as long as petiole, the other shorter, hooked. Leaves ovate, elliptic or orbicular, oblique or rounded at base, serrate at margin, acute or obtuse at apex, 1-2.5 x 0.5-1.8 cm, glabrous or tomentose above, tomentose to white-wooly beneath, 3-nerved at base. Inflorescences axillary 10-20 flowered cymes, short-peduncled or not. Flowers 4-5 mm across. Drupes globose, ca 0.8 cm, woody, glabrous, shining and black-red when ripe; seeds 1 or 2 compressed, black.

USES: Fruits are used as laxative and astringent, while its leaves are used in scabies, boils and as expectorant. It is used in the treatment of gout, rheumatism, diarrhea, fever, carbuncles, ulcers, abscess, boils and wounds.

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