

know your flora

A Glimpse of
Thar Ecosystem



Desert Flowers

by Keith Douglas

Living in a wide landscape are the flowers –
Rosenberg I only repeat what you were saying –
the shell and the hawk every hour
are slaying men and jerboas, slaying

the mind; but the body can fill
the hungry flowers and the dogs who cry words
at nights, the most hostile things of all.
But that is not news. Each time the night discards

draperies on the eyes and leaves the mind awake
I look each side of the door of sleep
for the little coin it will take
to buy the secret I shall not keep.

I see men as trees suffering
or confound the detail and the horizon.
Lay the coin on my tongue and I will sing
of what the others never set eyes on.



Dr. Bhoma Ram Jat
Chief Environment Manager - Onshore,
Cairn Oil & Gas, Vedanta Ltd.

From The Editor's Desk ●●

Low rainfall, intense sunlight, dry winds, and huge dunes is what comes to our mind when we think about a desert. Even these extreme conditions support numerous xerophytic plants and wildlife. These plants have adapted to survive in such an inhospitable environment. The simplest adjustment is to have a shorter lifecycle - to germinate during the first rains and die out by the time the soil dries up, leaving behind seeds that will bloom again next year. Some plants have evolved special root systems, while others have unique leaves that allow them to withstand prolonged periods of drought.

At Cairn Oil & Gas, Vedanta Ltd. we are committed to protect and enhance the local biodiversity and plants. The 'Desert Park' at Mangala Processing Terminal (MPT) in Barmer, Rajasthan is home to more than 50 native plant species. We have an in-house nursery to develop saplings of desert species like guggul (endangered species), Khejari, Kumat, Jungle Jalibi, Ber, etc. The desert species not only have a better survival rate but also require minimum irrigation.

We have also used these species to stabilise sand dunes around our facilities. We are making seed balls of native species with clay (to retain moisture for longer periods)

for propagation on dunes and other areas during monsoon. The greenbelts at our site locations act as pollutant sinks and apart from sequestering carbon, they also conserve and enhance biodiversity, retain soil moisture, recharge groundwater, and help maintain the micro-climate of the region. As per a study conducted by independent third-party agency M/s. IORA Ecological Solutions Pvt. Ltd. in 2018, the carbon sequestration potential of Cairn plantations is 23,155.78 tonnes of CO2 equivalent.

The vegetation in deserts is a unique blend of perennial grasses, hardy shrubs, and scattered small trees. These plants are the main source of fuel and fodder for the rural population and provide numerous beneficial products to the local people as well as the industry. There is a great wealth of ethnic medicinal knowledge derived from these plants as people have been practicing these cures for both human and livestock diseases for ages.

Know Your Flora – A Glimpse of Thar Ecosystem will take you on an insightful journey showcasing the various roles that desert flora has played over centuries. I hope this compilation will serve as a great read and the much-needed window into the ecosystem of the Thar region.

Introduction..

Know Your Flora – A Glimpse of Thar Ecosystem Flora to Sand to Oil

The Great Indian Desert or the Thar Desert, extends over 77,000 square miles enclosing parts of Northwestern India and Eastern Pakistan. A major portion (about 85 per cent) of this desert is spread over the Indian states of Rajasthan, Haryana, Punjab, and Gujarat. The rest lies in Pakistan's Sindh and Punjab. It is believed to be the 17th largest desert and the 9th largest subtropical desert in the world.

Conjure an image of a subtropical desert and you will most likely picture a vast expanse of uninhabitable dunes. Therefore, it comes as something of a surprise to find that the Thar Desert uniquely supports rich vegetation,

wildlife, and culture. With extreme conditions, such as intense summer heat, failing monsoons, and a rapidly dwindling water table, flora



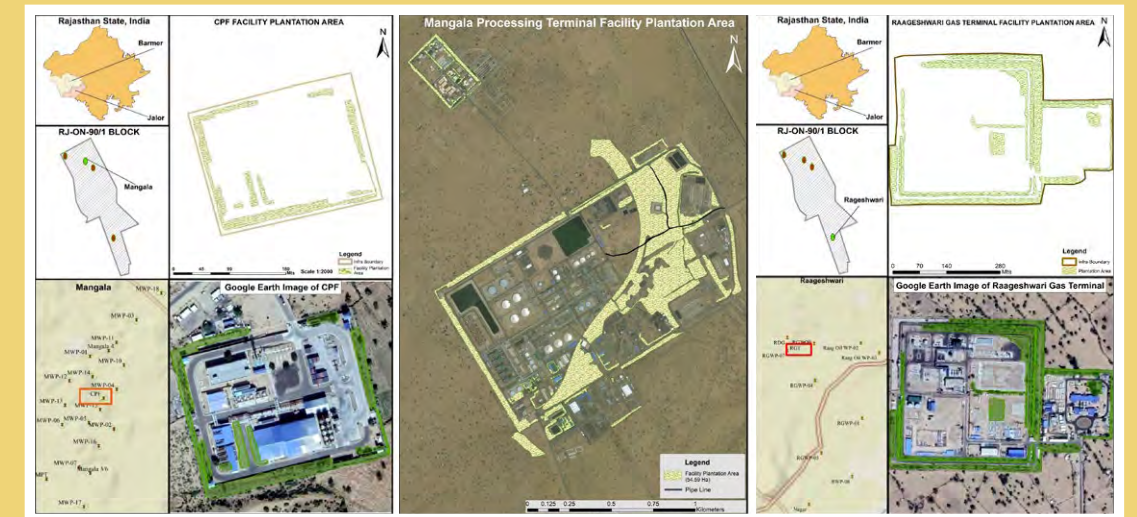
and fauna still thrive here. The Thar Desert is known for its diversified habitat, ecosystem, and wildlife species that are diminishing in most deserts across the world. Despite the arid conditions of this region, it supports a diversified vegetation comprising of trees, shrubs, herbs, and grasses, which supports numerous lives and makes it the most densely populated desert in the world, with a population density of 83 people per square kilometer. Originating in the Pushkar Valley of the Aravalli Range, the only natural source of water in this region is believed to be the Luni River journeying up to the Rann of Kutch in Gujarat. The Rajasthan canal system is believed to be the

world's largest canal irrigation system that is being extended to enable cultivation in the desert region.

With great ecological diversity, the Thar Desert is also home to other natural resources like oil, natural gas, coal, minor minerals, etc. Natural resource-based company, Cairn Oil & Gas, Vedanta Ltd. is engaged in the exploration and production of hydrocarbons in

its existing RJON-90/1 block and has recently accorded OALP blocks, spread across an area of ~7,000 sq.km. in this desert. The Vedanta Group has a biodiversity policy which, among other things, talks about minimising and mitigating the biodiversity risks throughout their locations; identifies and monitors the impact of their operations on biodiversity, and works for the conservation of rare and

endangered species. With our commitment towards biodiversity and conservation, Cairn has developed a greenbelt in and around its facilities with ~50 native plant species and has also prepared a site-specific Biodiversity Management Plan (BMP). This plan identifies sensitive habitats, important species, and key biodiversity hotspots to assess the impact of our operations on the biodiversity



Google images of the greenbelt areas at Cairn's facilities in RJON 90/1 block area

of the region and work towards impact mitigation, consequent management, and conservation.

Cairn has developed greenbelt as an integral part of its permanent facilities in a phased manner through source-receptor-approach-based plantation. Cairn in partnership with the local forest department has developed around 220

hectares of land as greenbelt at its site locations as well as surrounding community land. The company has planted more than 1,50,000 saplings in a phased manner. Plantation in peripheral greenbelts at facility areas helps in mitigating the impact of fugitive emissions and plantation in the community area provides shelter to desert fauna.



Desert plants are classified as xerophytes. The Great Indian Desert exhibits ~700 plant species and out of which ~150 plant species are having medicinal values. The medicinal properties of these plants range from analgesic, antifungal, antimicrobial, hypolipidemic to hepatoprotective, and anti-cancerous. Other than medicinal values, the traditional recipes prepared from varieties of desert plants have helped the people of Rajasthan survive famines for centuries. Their importance can be gauged from the fact that the trees and their fruits and seeds have different names, depending on their physical attributes. The pod of khejri is called sangri, dried tinda is called phophaliya, flowers of phog tree are called phogalo, and seeds of kumbat are known by a variety of poetic names such as kumatiya, lehariya, papri and chapatiya. These age-old traditional recipes, however, are fading from the landscape of Rajasthan due to severe droughts in the recent years. Many traditional recipes are a thing of the past in the state. Seeds of bhurat and bark of kheri are two such examples.

Trees	
<i>Salvadora persica</i>	Peelu
<i>Salvadora oleoides</i>	Bada Peelu
<i>Tecomella undulata</i>	Rohira
<i>Prosopis cineraria</i>	Khejri
<i>Acacia senegal</i>	Kumat
<i>Zizyphus mauritiana</i>	Ber
<i>Zizyphus nummularia</i>	Jhar Beri
<i>Azadirachta indica</i>	Neem
<i>Cordia myxa</i>	Goonda
<i>Phoenix dactylifera</i>	Date palm
<i>Prosopis juliflora</i>	Jungle Keekar
<i>Acacia nilotica</i>	Babul
<i>Tamarix aphylla</i>	Farash
<i>Acacia tortilis</i>	Israeli Babul
<i>Albizia lebbek</i>	Kala Siras
<i>Pithecellobium dulce</i>	Jungle Jalebi
<i>Tamarindus indica</i>	Imli
<i>Cassia siamea</i>	Kesia
<i>Trachycarpus fortunei</i>	Palm Tree
<i>Manilkara zapota</i>	Chikoo
<i>Pongamia pinnata</i>	Karanj
<i>Leucaena leucocephala</i>	Subabul
<i>Alstonia scholaris</i>	Black Board Tree
<i>Millingtonia hortensis</i>	Neem Chameli
<i>Mimusops elengi</i>	Maulsari
<i>Casuarina equisetifolia</i>	Whistling Pine

Shrubs	
<i>Aerva javanica</i>	Bui
<i>Leptadenia pyrotechnica</i>	Kheep
<i>Capparis decidua</i>	Ker
<i>Commiphora wightii</i>	Guggal
<i>Cassia angustifolia</i>	Sonamukhi
<i>Nerium indicum</i>	Kaner
<i>Calligonum polygonoides</i>	Phog
<i>Crotalaria burhia</i>	Siniya
<i>Lawsonia inermis</i>	Henna
<i>Echinops echinatus</i>	Oont Kateli
<i>Calotropis gigantea</i>	Aak, Madar
<i>Catharanthus roseus</i>	Sadabahar
<i>Ocimum sanctum</i>	Tulsi
<i>Plumeria pudica</i>	Nag Champa
<i>Bougainvillea spectabilis</i>	Bougainvillea
<i>Tecoma stans</i>	Piliya
<i>Opuntia ficus-indica</i>	Nagfani

Herbs	
<i>Cenchrus biflorus</i>	Bhurat
<i>Lasiurus scindicus</i>	Sewan Grass
<i>Cenchrus ciliaris</i>	Dhaman Grass
<i>Citrullus colocynthis</i>	Bitter Apple
<i>Euphorbia caducifolia</i>	Thor
<i>Solanum xanthocarpum</i>	Kateli
<i>Oligochaeta ramosa</i>	Unt Kantilo
<i>Convolvulus Pluricaulis</i>	Sankhpushpi
<i>Pullicaria undulata</i>	Khar
<i>Amaranthus viridis</i>	Jungli Chaulai
<i>Verbesina encelioides</i>	Cowpen Daisey
<i>Euploca strigosa</i>	Chitiphul
<i>Aloe barbadensis miller</i>	Aloe Vera
<i>Cucumis callosus</i>	Kachri

About Know Your Flora - A Glimpse of Thar Ecosystem

This year's theme of International Biological Diversity Day and World Environment Day emphasises hope, solidarity, and the importance of working together at all levels to build a future in harmony with nature. Intending to spread awareness and document the regional biodiversity, this book captures valuable information about 57 local floral species growing in and around our RJON-90/1 Block. Welcome to the world of unique desert flora.



Interim CEO, Vedanta Limited
CEO, Hindustan Zinc Limited & Base Metal

From The Group CEO's Desk ●●

On the onset, I would like to greet the readers a happy World Environment Day 2020. The day of peoples' action #ForNature. Despite all our technological advances, we are completely dependent on healthy and vibrant eco-systems for our water, food, medicines, clothes, fuel, shelter and energy, just to name a few.

With the increasing frequency, intensity of natural disasters, climate change and the current pandemic like COVID-19, nature is showing us that life as we know it, is on the verge of a breakdown. It is time to wake-up, to take notice and to reimagine our relationship with nature. We need to emphasize on importance of working together at all levels to build a future of life in harmony with the nature.

We at Cairn Oil & Gas, Vedanta Limited consider environment protection as integral part of our development activities and, are committed to accomplish and sustain our vision of Zero Harm, Zero Waste, Zero Discharge. Cairn

has taken several initiatives like greenbelt development with native species, dedicated drinking water facility for wild animals, desilting and renovation of nadis, development of wadis using local fruit plant species projects under CSR programs, to protect the natural environment where we operate.

We are operating in Thar Desert, which is a unique eco-system and home to diverse plant species and wildlife. With the release of "Know Your Flora – Glimpses of Thar Ecosystem" the readers will come to know more about native plant species present in and around our operation areas, their role in life eco-system.

I would like to congratulate the Environment team at Cairn Oil & Gas for compiling this knowledge about nature where we live and operate.



Shri Vishraam Meena
District Collector – Barmer, Rajasthan

From The District Collector's Desk ●●

Biodiversity involves eight million plant and animal species, the ecosystems that house them, and the genetic diversity among them. This year, the World Environment Day falls on June 5 with the theme "Biodiversity – Time for Nature". It is an occasion for all of us to be more aware on the environmental concerns affecting our planet and to mobilize a unified opinion and resources towards protecting our mother earth. It is also a time to celebrate and reinforce our commitments to the environment and people, especially the younger generation.

Rajasthan is home to the great Indian Thar Desert which extends over 77,000 square miles enclosing parts of Northwestern India and beyond. The Thar Desert is known for its diversified habitat, ecosystem, and wildlife species that are diminishing in most deserts across the world. Despite the arid conditions of this region, it supports a diversified vegetation comprising of trees, shrubs, herbs, and grasses, which supports numerous lives and makes it the most densely populated desert in the world.

With great ecological diversity, the Thar Desert is also home to other natural resources like oil, natural gas, coal, minerals, etc.

Many companies are currently engaged in the exploration and production activities in this region, while ensuring to mitigate and minimize biodiversity risks with the support of the technology, detailed studies and working with all stakeholders. This ecological landscape is supporting the people of the region with food, shelter and livelihood which is required to be protected and nourished to balance the life and ecosystem.

In today's life we have become so engrossed in technology that we have forgotten to spend time with nature.

This book Know Your Flora – A Glimpse of Thar Ecosystem compiled and published by Cairn Oil & Gas, Vedanta Limited, is a fine compilation of the floral diversity of the Thar region. It showcases how private companies working in tandem with the state and district forest departments with the right intent, can contribute to the ecology and biodiversity of the region.

I hope this compendium becomes a stepping stone to future research, and encourages all stakeholders to celebrate and contribute to maintaining this rich inheritance.

Bui ●●

(Desert Cotton)

Botanical Name:
Aerva javanica
Habitat:
Sandy areas
Flowering Season:
July-September

Features

- Most common desert bush
- Produces thick white inflorescence
- Grows up to a meter high
- Dioecious in nature, it requires both male and female plants to develop seeds

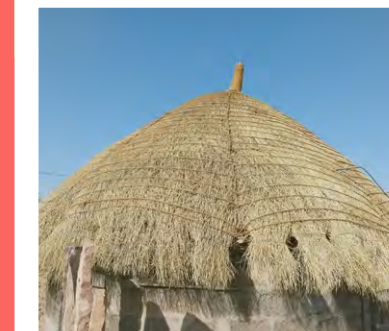
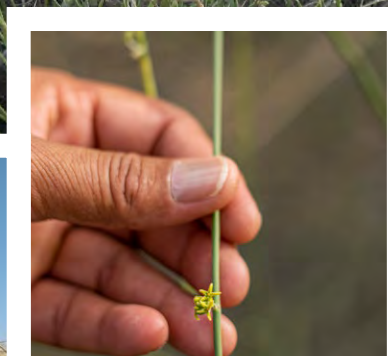
Uses

- Acts as sand binder
- Traditionally used as anti-inflammatory herb
- Leaves are antifungal, and roots are diuretic and used to cure urinary diseases
- In India, its boiled seeds are fed to animals suffering from diseases of the feet and mouth
- Used as fodder for goats
- Its cotton is traditionally used to fill mattresses and pillows



Photograph by: Dr. B.R.Jat /Saju Kuttappan
Location: Mangala 3/6

Source: https://www.researchgate.net/publication/261878577_A_Review_on_the_Pashanbheda_Plant_Aerva_javanica



Photograph by: Saju Kuttappan /Sikandar Khan
Location: Mangala 3/6

Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5566157/>

Kheemp ●●

(Broom Brush)

Botanical Name:
Leptadenia pyrotechnica
Habitat:
Sandy areas
Flowering Season:
August-March

Features

- Native to semi arid desert
- More or less leafless, profusely branched shrub that grows a half to a metre high
- Yellowish green flowers

Uses

- A sand binder, it controls sand dunes
- Injury caused by its thorns can be treated with a paste made of its leaves
- Leaves and shoots used as a cure for fever, hepatitis, constipation, and obesity
- Stem juice used as nasal droplets to treat cough and cold
- Plant sap used as an ointment to cure skin diseases and diabetes
- Due to its durability, it is used for making thatched roofs for huts
- Pods used as a vegetable

Kair ●●

(Bare Caper)

Botanical Name:

Capparis decidua

Habitat:

Wastelands, sandy areas

Flowering Season:

March-May

Features

- A perennial woody plant, mainly found in subtropical and tropical regions
- Native to desert and arid region of the Indian subcontinent
- A drought-resistant small multi-branched shrub of arid regions that can rarely exceed a height of 5 meters

Uses

- Blanched fruits are used as a vegetable and green berries are used in the preparation of pickles
- Processed seed oil is used for cooking and to cure skin diseases
- Ker Sangri is one of the most popular dishes in Rajasthan, made with boiled fruit and Sangri (Khejri pods)
- Traditionally used to cure toothache, arthritis, asthma, cough, inflammation, malaria, constipation, and swelling
- Used as a remedy for bad breath and cardiac issues.



Photograph by: Neshat Azam Ansari / Ravindra Choudhary
Location: Outside Gate no 03-MPT

Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5566157/>

Bhurat ●●

(Indian Sandbur)

Botanical Name:

Cenchrus biflorus

Habitat:

Dry sandy soil

Flowering Season:

August-September

Features

- A threatened species, it is endemic to West Rajasthan
- Can tolerate high temperatures, wind, and droughts but is susceptible to frost
- Can grow up to a metre in height
- A noxious weed, its adherent burs facilitate its rapid spread

Uses

- Bhurat is valued as nutritious animal fodder
- It is a desertification indicator
- Used for the reclamation of degraded land in Thar, Rajasthan
- Its seeds have also been milled and consumed as flour during famine



Photograph by: Neshat Azam Ansari
Location: Mangala 3/6

Source: <https://www.cabi.org/isc/datasheet/113042>
<https://www.feedipedia.org>

Peeloo ●●

(Toothbrush Tree)

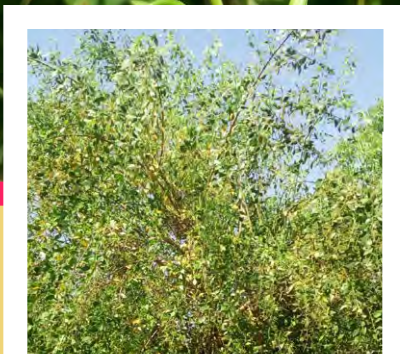
Botanical Name:
Salvadora persica
Habitat:
Desert Park, MPT
Flowering Season:
December-March

Features

- Commonly known as miswak (teeth cleaning twig)
- An endangered multipurpose tree
- These desert trees have knobbly trunks and a dark canopy of fleshy leaves
- Has small, peppery berries come in colours ranging from bright ruby red to white. The minuscule greenish-yellow flowers are easily overlooked

Uses

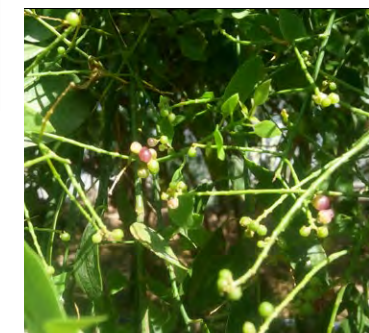
- Sweet, edible fruits
- The fresh leaves are eaten as a salad and are traditionally used as a cure for asthma, cough, rheumatism, piles, etc.
- Leaves are analgesic, diuretic, useful for nasal troubles, piles, scabies, and strengthening teeth. Stem bark is used to treat gastric troubles
- Traditionally used as a toothbrush, its fibrous branches have been recognised by the WHO for oral hygiene
- Roots are used in preparation of toothpaste



Photograph by: Jayesh Gehlot
Location: Desert Park, MPT



Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3249923/>



Photograph by: Neshat Azam Ansari
Location: Mangala 3/6

Source: https://www.researchgate.net/publication/322630990_Reproductive_Biology_of_Salvadora_oleoides_Decne_Salvadoraceaehttp://www.flowersofindia.net/catalog/slides/Bada%20Peelu.html

Kharo Jaal ●●

(Desert Grape)

Botanical Name:
Salvadora oleoides
Habitat:
Seasonal watercourses and rocky depressions
Flowering Season:
February-March

Features

- Also called peelu, this small tree, under favorable conditions, can grow up to a height of 6 to 9 meters
- Has a short trunk, often bent or twisted, that grows up to 2 meters in diameter
- Can withstand great soil salinity
- Its slim, graceful, olive-like leaves are unmistakable but so is the dense canopy which often droops right down to the ground hiding its trunk altogether. The trunk is highly gnarled and offers refuge to many small creatures within its corrugated folds and hollows

Uses

- The fruit is edible and has a sweet flavour. It is a rich source of calcium, with 15 times the amount of calcium in wheat
- Its seed oil is used to treat rheumatic pain
- The leaves are used to cure cough
- Its fruits are used to treat gallbladder stones and fever
- It is often lopped off for camel and goat fodder
- Wood ash used to treat Camel Mange
- Its dense canopy has a cooling effect and serves as shelter for animals. The temperature under its canopy is 8-10oC less than the ambient temperature

Rohira ●●

(Desert/
Marwar Teak)

Botanical Name:

Tecomella undulata

Habitat:

Sandy plains and valleys

Flowering Season:

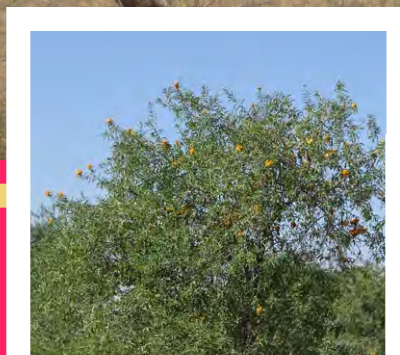
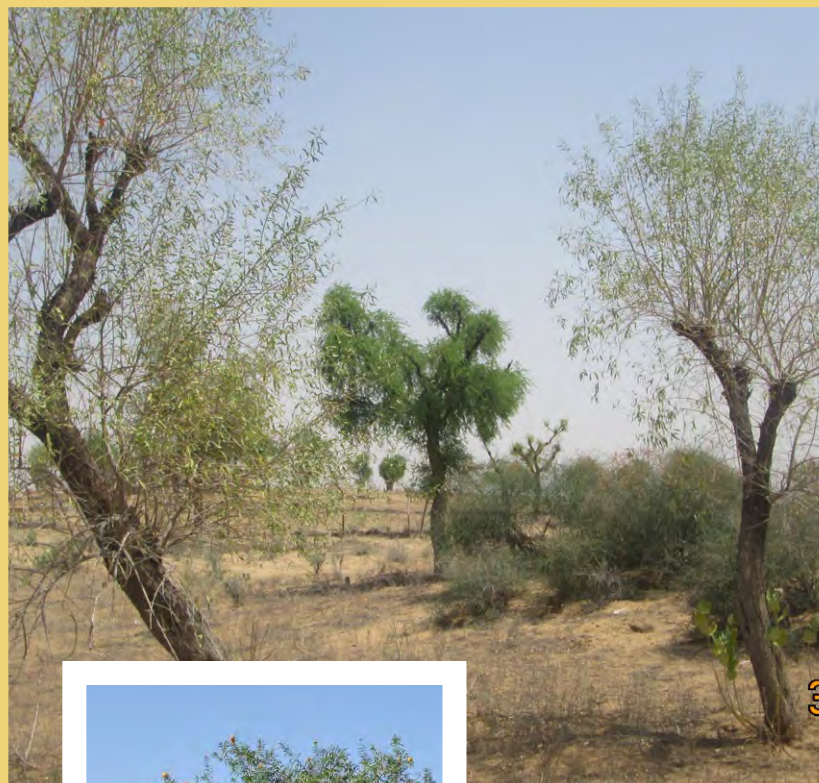
January-March

Features

- With beautiful hues of red and yellow, Rohira is the state flower of Rajasthan
- Known as 'Desert Teak' or 'Marwar Teak'
- Its fruits are long, thin, slightly curved capsule up to 20 cm long, with winged seeds
- It has been designated as a 'threatened' species in Rajasthan
- It propagates through seeds and can grow up to 6 meters high

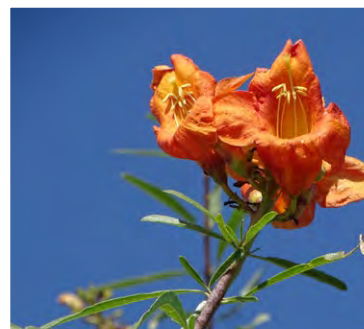
Uses

- It acts as a windbreak
- Its powdered bark mixed with hot milk is used as an abortifacient
- Its leaf and stem extract is effective against typhoid fever
- It is also well known for its therapeutic antifungal, anti-termite, analgesic, anti-obesity properties
- Leaves are antifungal, and roots are diuretic and used to cure urinary diseases
- In India, its boiled seeds are fed to animals suffering from diseases of the feet and mouth
- Used as fodder for goats

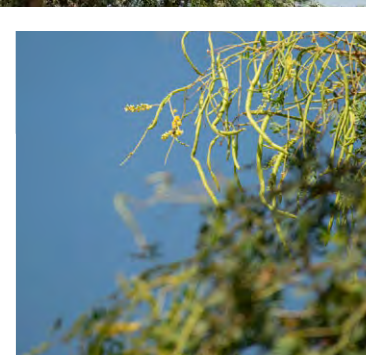
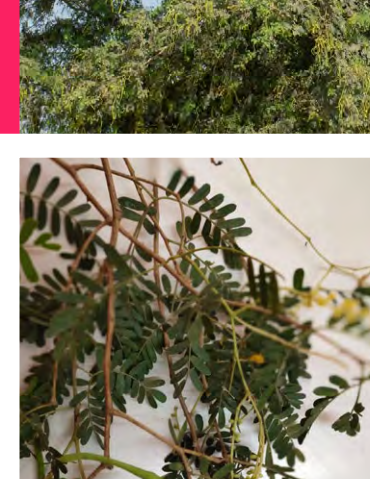
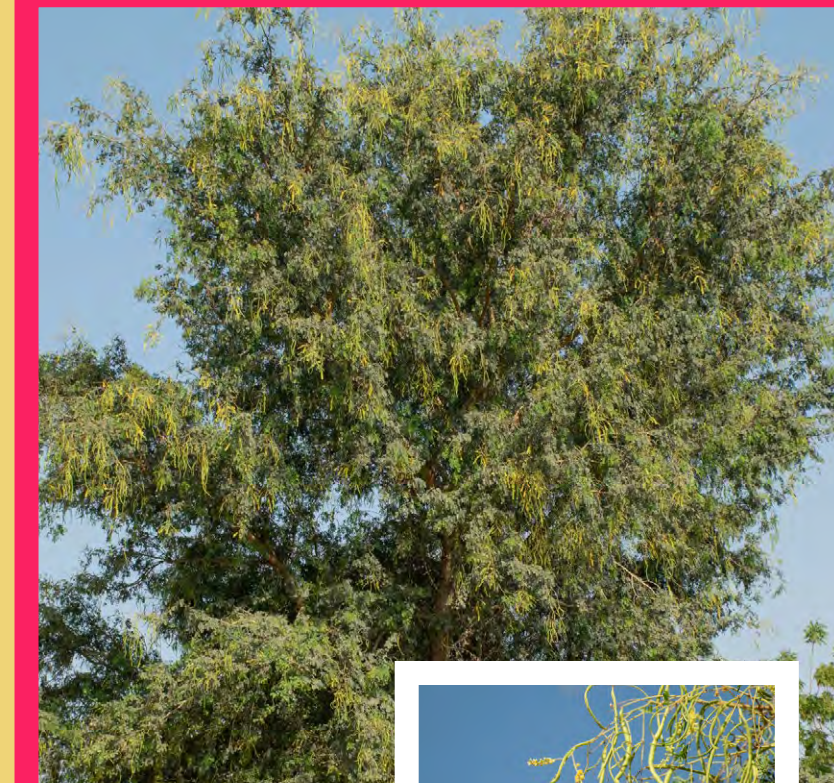


Photograph by: Dr. B.R.Jat /Saju Kuttappan

Location: Mangala 3/6



Source: <https://link.springer.com/article/10.1007/s10722-014-0140-3>
https://www.researchgate.net/publication/272257737_CRITICAL_REVIEW_ON_Tecomella_undulata_A_MEDICINALLY_POTENT_ENDANGERED_PLANT_SPECIES_OF_INDIAN_THAR_DESERT



Photograph by: Dr. B.R.Jat/Saju Kuttappan

Location: Greenbelt Area, Flood Channel, MPT

Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4918122/>
<http://www.flowersofindia.net/catalog/slides/Khejri%20Tree.html>

Khejri ●●

(Kalp Taru/
Wonder Tree)

Botanical Name:

Prosopis cineraria

Habitat:

Sandy areas

Flowering Season:

February-March

Features

- Endemic to arid and semi-arid regions, it symbolises the sacred mythological 'Kalpa Vriksh' (wish tree) of desert
- A moderate-sized evergreen thorny tree, that can tolerate drought
- The plant has a deep root system and low requirement for water and nitrogen
- Plays a vital role as a sand binder in the stabilisation of dunes and enriches poor desert soil by fixing atmospheric nitrogen

Uses

- The pods (sangri), rich in nutrients and antioxidants, are cooked and eaten in summers
- Its bark extract has antidiabetic and antioxidant properties
- The bark is dry, bitter, with a sharp taste; and cures leprosy, dysentery, asthma, piles, and muscle tremors
- The flowers mixed with sugar are used during pregnancy to safeguard against miscarriage
- The leaves serve as fodder for livestock in desert



Oscar Quintero
Chief Operating Officer, Cairn Oil & Gas,
Vedanta Ltd.

From The COO's Desk ●●

We, humans, exist within a fragile and vital web of life on our planet. Each component of this web plays an important role and the entire system gets affected if a component is altered or removed. This unique ecological balance supports all forms of life on mother earth. We get fresh air to breathe, clean water to drink, nutritious food to eat, and it even provides us with resources to develop medicines and helps us mitigate the impact of climate change by absorbing carbon and reducing air pollution.

However, due to the exploitation of these resources by humans, nature is diminishing at an unprecedented rate. The emergence of SARS-CoV-2 has underscored the fact that when we destroy biodiversity, we destroy the system that supports human life. Biodiversity underpins life on earth. Through this book, we come to know about unique desert plant species, which

makes the Thar desert the most densely populated desert in the world. These plant species have helped the native people survive famines for centuries.

At Cairn Oil & Gas, Vedanta Ltd. 'Health, Safety, and Environment' are the most important aspects of our operations. We have developed greenbelts with ~ 1.5 lakh saplings at our site locations and surrounding community areas using ~ 50 native plant species. We use drip irrigation and recycle treated sewage water for sustainable greenbelt development. Cairn has also taken several other initiatives to support local biodiversity.

I would like to give my best wishes to the environment team at Cairn for sharing interesting facts about local flora through this compilation.



Shobhit Tiwari
Chief Health Safety Environment Quality Officer
Cairn Oil & Gas, Vedanta Ltd.

From The CHSEQ's Desk ●●

Around 75 per cent of all emerging infectious diseases in human beings are zoonotic, in other words, they come to us via animals. Recent epidemics like Ebola, bird flu, Middle East Respiratory Syndrome (MERS), Nipah virus, Severe Acute Respiratory Syndrome (SARS), Zika virus, and the latest SARS-CoV-2, all are linked to human activities like deforestation, illegal wildlife trade, intensified agriculture, livestock production, and climate change, etc. With modern lifestyles, people are forgetting traditional knowledge and the importance of native plant species and destroying the ecosystem by exploiting biodiversity. If we continue this path unabated, the unscalable loss of biodiversity will have severe implications on humanity, from the collapse of food and health systems to the disruption of the entire supply chain.

It's time to re-examine our relationship with nature. It is time to go back to and preserve traditional knowledge of living in harmony with nature. We need to support sustainable development if we want unceasing benefits from mother nature. Cairn Oil & Gas, Vedanta Ltd. is committed

to protect and enhance the biodiversity in its areas of operation. We have developed a 'desert park' at Mangala Processing Terminal (MPT) in Barmer, Rajasthan to showcase more than 50 desert species at a single base. We have also developed a nursery to nurture and acclimatise saplings of desert plants to minimise plant mortality. We have also used native plant species to stabilise dunes around our areas of operation.

Though this book, we aim to preserve the traditional knowledge about the diverse flora in the Thar Desert. This unique natural habitat is home to more than 700 plant species, with unique survival mechanisms and innumerable benefits to human beings. The medicinal properties of these plants range from analgesic, antifungal, antimicrobial, hypolipidemic to hepatoprotective, and anticancerous. Other than the medicinal value, the traditional recipes prepared from these plants are highly nutritious.

This book provides a great insight into the floral diversity of the Thar Desert. I hope you enjoy reading this as much as we did putting this together.

Kumatiyo ●●

(Gum Arabic Tree)

Botanical Name:

Acacia senegal

Habitat:

Dry, rocky hills or gravelly plains

Flowering Season:

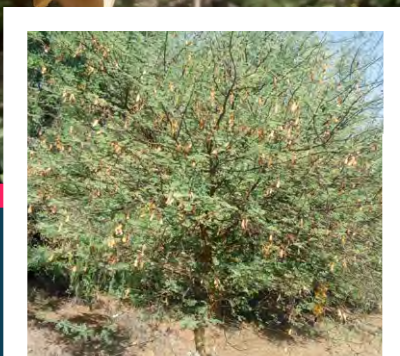
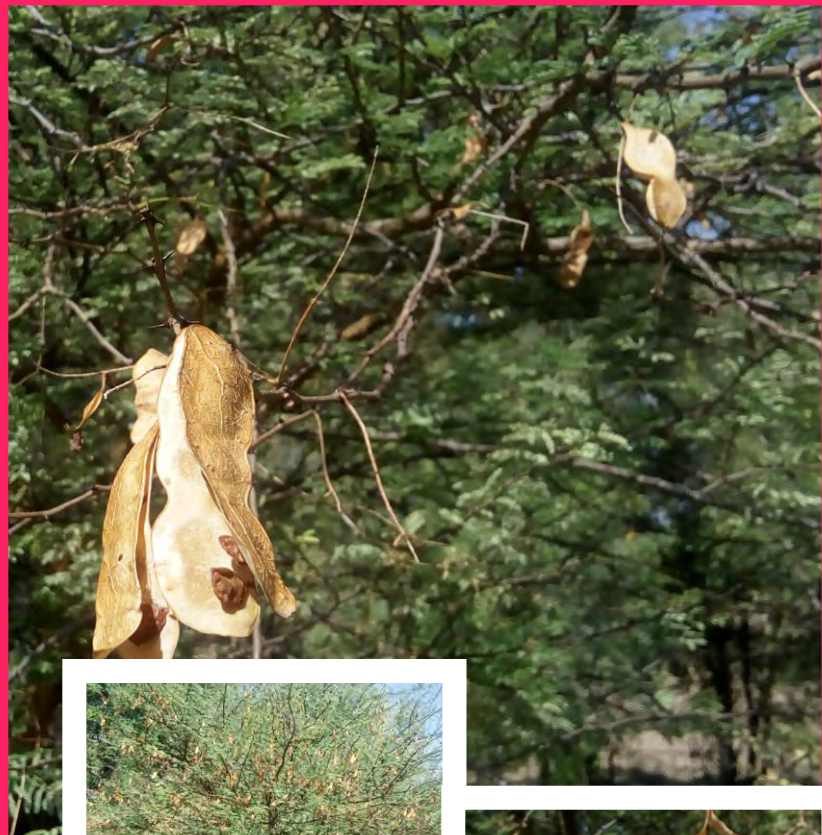
July - August

Features

- A small deciduous tree, native to semi-desert regions
- Can grow up to 5 meters high
- Flowers are white to yellowish, fragrant, and stalkless, and provide valuable nectar to honeybees
- Arabic gum is exuded by various species of Acacia. Usually mature trees (more than five years old) are tapped by making an incision in branches. The gum starts to collect in the wound within three to eight weeks.

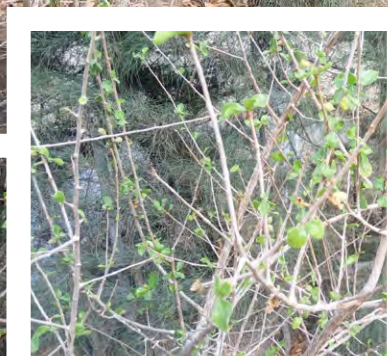
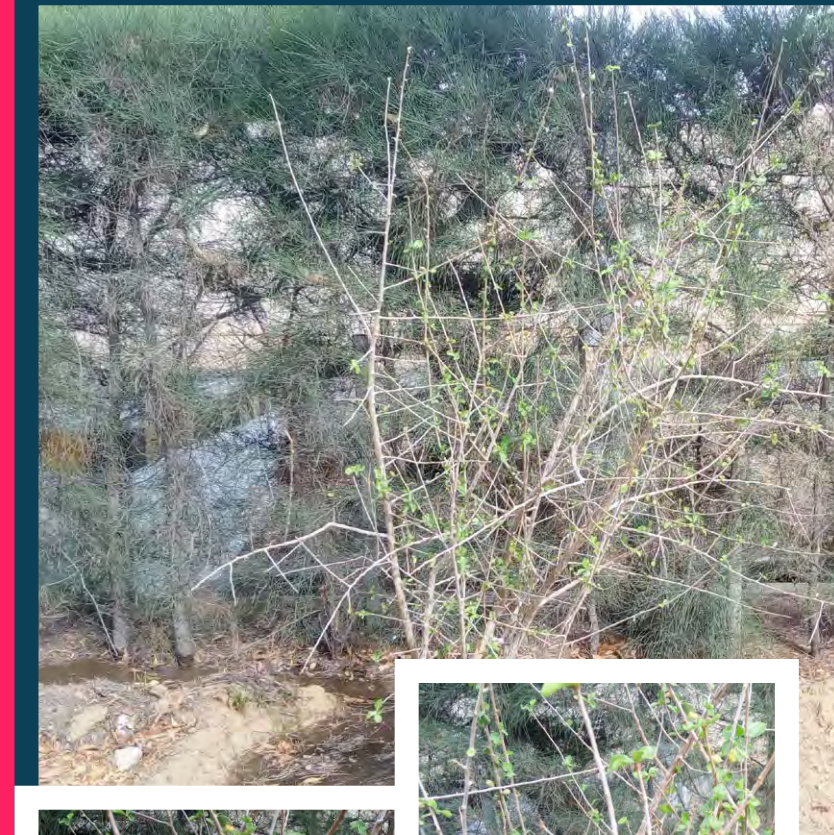
Uses

- Helps prevent desertification through dune stabilisation and acting as a windbreak
- Used in confectioneries to prevent crystallisation of sugar
- A source of Arabic gum used as a food stabiliser.
- Used in printing, paint glue, cosmetics, and textile industry
- Pods used as a vegetable, while seeds are boiled and preserved for future use



Photograph by: Neshat Azam Ansari
Location: Greenbelt Area, Flood Channel, MPT

Source: <https://www.flowersofindia.net/catalog/slides/Gum%20Arabic%20Tree.html>
<https://wikiaspedia.in/agriculture/post-harvest-technologies/natural-resins-and-gums-of-commercial-importance/gum-arabic>



Photograph by: Neshat Azam Ansari
Location: MBA Building-MPT

Source: https://www.researchgate.net/publication/272818752_Medicinal_Use_of_Endangered_Plant_Commiphora_wightii
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6087759/>

Guggul ●●

(Mukul Myrrh)

Botanical Name:

Commiphora wightii

Habitat:

Dry rocky and open hilly areas

Flowering Season:

January-March

Features

- Most valuable medicinal plant of the Thar desert, becoming rare due to overexploitation
- Listed in the Red Data Book of endangered plant species
- Guggul forms a low, stout, thorny shrub or rarely, a small tree with characteristic shiny, peeling bark and tiny red flowers, reaching a maximum height of 4 meters
- It flowers throughout the year, however, maximum fruiting is observed from January to April
- Oleo-gum resin exudes from bark during the winter season

Uses

- Gum resin is a natural health product, used primarily to reduce elevated blood cholesterol levels and arthritis
- Guggul is effective for weight loss and is a fat-burning agent. It increases the white blood cell count and possesses strong disinfecting properties
- It is used to manufacture gel for ulcers
- Guggul has been used to treat obesity, gout, facial paralysis, constipation, liver disorders, inflammation, cyst, diabetes, and skin diseases
- Gum Guggul releases a myrrh-like fragrance when burned over a naked flame and sells in the form of an incense, dhoop, in Indian bazaars

Sonamukhi

(Indian Senna)

Botanical Name:
Cassia angustifolia
Habitat:
Sandy plains
Flowering Season:
All year

Features

- A woody perennial herb that can grow up to 3 feet high
- It has a branched, pale green erect stem and long spreading branches bearing four to five pairs of leaves
- The pods of Sonamukhi measures about 6-8 cm and are 2 cm broad. The pods are greenish to brownish

Uses

- Its leaves and seeds contain glycosides and sennocides, used in Ayurvedic medicine
- The medicine prepared from Senna cures cough, jaundice, stomach diseases, skin diseases, habitual constipation, loss of appetite, indigestion, malaria, and anaemia
- It is also known for its antimicrobial, anticancer, and antioxidant properties
- It is used as a blood purifier



Photograph by: Dr. B.R.Jat/Moola Ram
Location: Greenbelt Area, Flood Channel, MPT

Source: http://staff.cimap.res.in/PublicationFiles/Industrial_Crops_&_Products.pdf
https://bioinfo.bisr.res.in/project/domap/plant_details.php?plantid=0060&bname=Cassia%20angustifolia



Photograph by: Jetha Ram
Location: Desert Park, MPT

Source: <https://www.feedipedia.org/node/421>
<http://www.indiaenvironmentportal.org.in/content/14673/a-sandy-paradox/>

Sewan

(Gorkha)

Botanical Name:
Lasiurus scindicus
Habitat:
Silty-sandy soils
Flowering Season:
May-June

Features

- Popularly known as the 'King of Desert Grasses'
- Sewan is the primary grass of extremely arid parts of Jaisalmer, Barmer, and Bikaner districts in western Rajasthan
- It thrives in sandy plains and low dunes, receiving annual rainfall below 200 mm
- Sewan rootstocks can lie dormant for years at a stretch. It only takes a shower or two during the monsoon period (July-August) for the sewan to grow into lush and profuse grasslands. It can grow up to the height of 75 cm to 100 cm

Uses

- It provides forage for wild mammals as well as livestock
- A rich source of protein and minerals, it is also palatable at a mature stage
- Can contain 8 to 10 per cent of protein during early growth
- Sewan grass patch is a preferred habitat of the Great Indian Bustard. The Great Indian Bustard disappeared from Barmer region due to the loss of Sewan Grass

Ber ●●

(Indian Jujube)

Botanical Name:
Ziziphus mauritiana

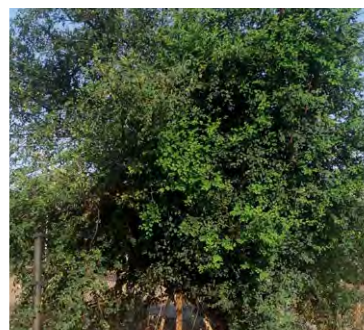
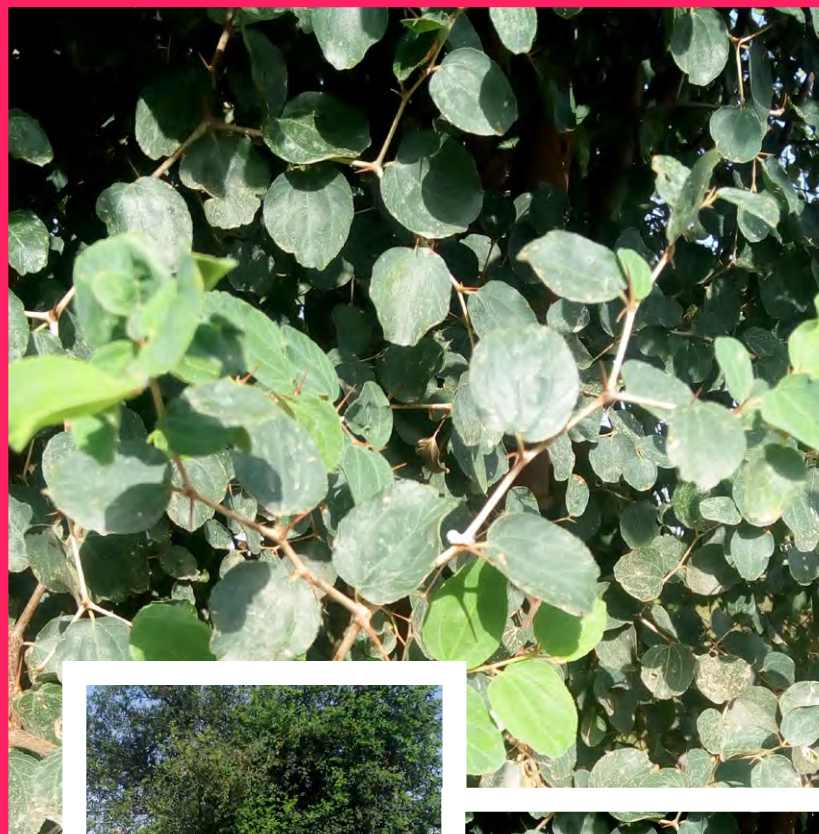
Habitat:
Wastelands, dry mid-hills
Flowering Season:
April-September

Features

- Ber is a small or medium-sized subtropical tree, popular for its small berry-like fruit
- A small spreading tree, with drooping branches; it can grow from 5 to 8 metres
- The flowers are yellowish and born in clusters along the leaf axils, shortly followed by the rounded fruit

Uses

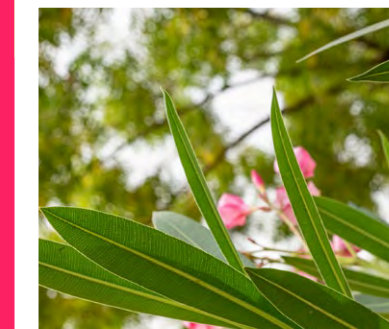
- Edible fruit with flavour ranging from sour to sweet flavor
- Seed extract may help manage diabetes regulating blood sugar levels
- Its leaves contain 5.6 per cent digestible crude protein and 49.7 per cent total digestible nutrients, making it a nutritive fodder for animals



Photograph by: Babulal
Location: Desert Park, MPT



Source: <https://www.ncbi.nlm.nih.gov/pubmed/20645731>
<http://www.flowersofindia.net/catalog/slides/Ber.html>



Photograph by: DR. B.R. Jat
Location: Greenbelt Area, Flood Channel, MPT

Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4127823/>

Kaner ●●

(Oleander)

Botanical Name:
Nerium indicum
Habitat:
Throughout India
Flowering Season:
April-September

Features

- An evergreen shrub that can grow up to a height of 5 meters.
- Beautiful blossoms of fragrant pink flowers that grow in bunches
- Has short branches and dark dusty green leathery narrow leave

Uses

- Its ethnomedicinal uses range from treatment of diverse ailments such as cardiac illnesses, asthma, corns, cancer, and epilepsy
- The root extract is known for its antibacterial properties
- A green dye from the flower is used in the treatment of skin diseases, healing wounds, and has anti-inflammatory properties.
- The juice prepared from the stem bark of Kaner is used to cure ear pain

Jhar Beri ●●

(Jujube Bush)

Botanical Name:
Ziziphus nummularia
Habitat:
Sandy plains
Flowering Season:
March-May

Features

- Native to arid regions of India
- A bushy, branched shrub, with zigzag branches.
- Can grow up to 3 meters
- A multipurpose wild economic species well adapted to dry and hot climates of peninsular India.

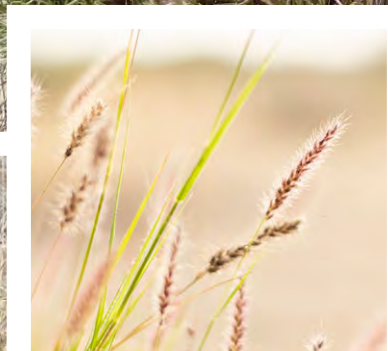
Uses

- Extract of Jhar Beri leaves is used in traditional medicine for the treatment of cold, cutaneous diseases, and pain
- Fruits are edible, although not very popular due to their small size
- Traditionally, it has also been used for sedative-hypnotic, antipyretic and analgesic purposes; however, scientific validations are lacking



Photograph by: Neshat Azam Ansari
Location: PFF Yard

Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4701709/>
<http://www.flowersofindia.net/catalog/slides/Jhar%20Beri.html>



Photograph by: Dr. B.R.Jat
Location: Greenbelt Area, Flood Channel, MPT

Source: <https://www.feedipedia.org/node/482>
<http://www.flowersofindia.net/catalog/slides/Bufel%20Grass.html>

Dhaman Grass ●●

(Buffle Grass)

Botanical Name:
Cenchrus ciliaris
Habitat:
Sandy plains
Flowering Season:
August-April

Features

- Dhaman grass is a shrubby grass that can grow up to 1.5 feet tall and 3 feet wide
- It is the most drought tolerant of all the commonly sown grasses in arid areas and can be found in environments with less than 100 mm of annual rainfall

Uses

- An important pasture grass in the tropics, it is widely used as forage in India
- Dhaman grass is valuable for erosion control

Badi Indrayan ●●

(Bitter Apple)

Botanical Name:
Citrullus colocynthis
Habitat:
Sandy plains
Flowering Season:
March-April

Features

- Endemic to sandy plains of Rajasthan
- An annual plant resembling the common watermelon with herbaceous and rough hairs
- The fruit is round, with a size of an orange, yellow and smooth. Ripe fruit has a hard leathery rind, a white spongy pulp enclosing numerous ovate, compressed white or brownish seeds
- Flowers are yellow, appearing singly at axils of leaves

Uses

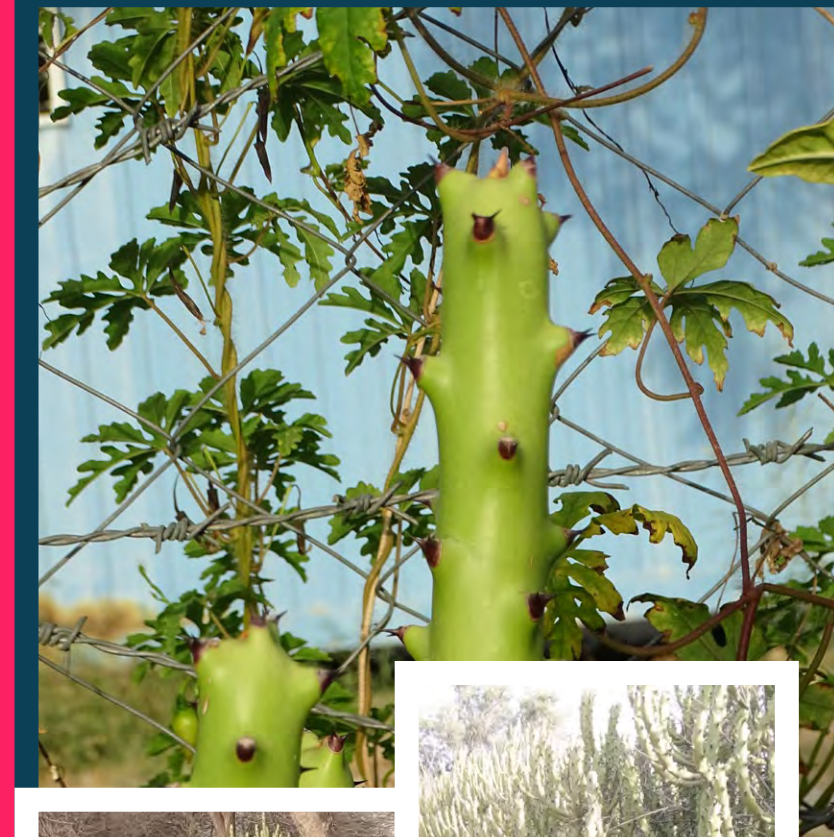
- *Citrullus colocynthis* possesses a wide range of medicinal uses and has been studied for its antidiabetic, anticancer, antioxidant, antimicrobial, and anti-inflammatory properties
- Rich in nutritional value, it contains a high quantity of protein and minerals
- Produces edible seed oil, however, there are no approved products of *C. colocynthis* available in pharmacies or herbal drug stores
- Used to treat digestive issues in cattle



Photograph by: Dr. B.R.Jat / Neshat
Location: NA 05, Aishwarya



Source: <https://www.ncbi.nlm.nih.gov/pubmed/24936768>
<https://www.hindawi.com/journals/criem/2013/652192/>



Photograph by: Ravindra Choudhary
Location: RGT

Source: <https://www.ncbi.nlm.nih.gov/pubmed/23063754>
<http://www.flowersofindia.net/catalog/slides/Leafless%20Milk%20Hedge.html>

Thor ●●

(Leafless Spurge)

Botanical Name:
Euphorbia caducifolia
Habitat:
Gravel plains, rocky areas
Flowering Season:
January-March

Features

- Native to the Thar desert in India
- A multi-stemmed shrub forming dense thickets up to 3 meters tall and 10 meters wide
- With sparsely spiny columnar branching, it has numerous branches growing from the very base to the top

Uses

- Its branches are cut and dried to be used as fuel wood. The dried stalks are the cheapest of firewood.
- It is commercially farmed to reap latex and other chemicals.
- It has been traditionally used to treat bleeding wounds, cutaneous eruptions, and other skin diseases
- Its long cylindrical thorny stems make it suitable for bio-fencing

Phog ●●

(Buckwheat)

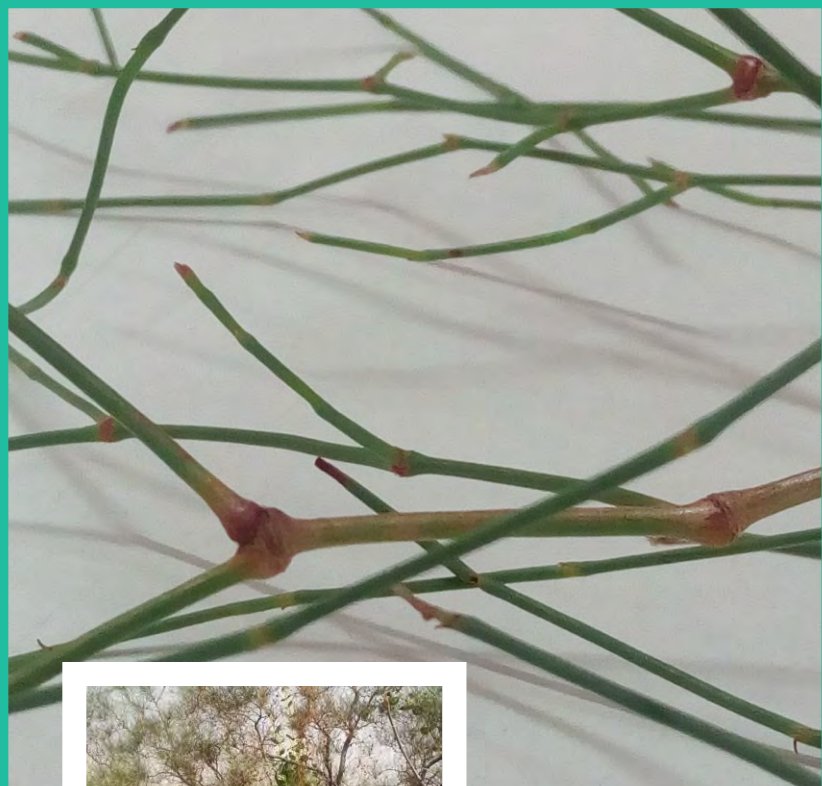
Botanical Name:
Calligonum polygonoides
Habitat:
Sandy areas
Flowering Season:
February - March

Features

- Listed in the Red Data Book of IUCN as an endangered species due to its vast exploitation in the Indian Arid zone
- Profusely branched, hairless shrub with whitish to pale brownish bark, up to 1.5 m tall
- Highly resistant to drought and frost
- Grows well in absence of any type of vegetation and is dominant in the biomass of the sandy areas of the desert
- The flower bud locally known as 'Phogla' blooms for a very short period, i.e. one to two weeks.

Uses

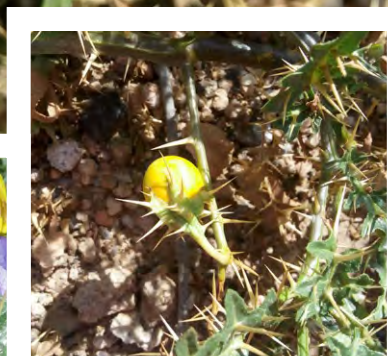
- Important habitat for desert wildlife
- Mainly used as fuel, it is also a good sand-binder, and fodder for camels.
- Used in building huts/shelter.
- Branches of Phog are used in zinc purification.
- Sore-gums can be cured by a decoction of this plant.
- Flowers and fruits are used to prepare Indian delicacies - raita and spicy kadhi



Photograph by: Dr. B.R. Jat/Saju Kuttappan
Location: Mangala WP 09



Source: <http://www.cibtech.org/J-Plant Sciences/PUBLICATIONS/2015/Vol-4-No-2/11-JPS-007-PRAVEEN-CALLIGONUM.pdf>



Photograph by: Dr. B.R. Jat/Saju Kuttappan
Location: Greenbelt Area, Flood Channel, MPT

Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4918122/>
<http://www.flowersofindia.net/catalog/slides/Khejri%20Tree.html>

Kateli ●●

(Bhatkaiya)

Botanical Name:
Solanum xanthocarpum
Habitat:
Sandy soil
Flowering Season:
November-May

Features

- Herbaceous spiny perennial herb with prominent nodes and internodes
- Roots are almost cylindrical and tapering.
- Flowers are purple while a few flower axillary cymes with glabrous, globular berry are green when young and turn yellow at maturity.
- The seeds are smooth, compressed, and reniform with bitter taste.
- It has been categorised as a rare species due to its over exploitation.

Uses

- Panchang (whole herb including roots) and berries, have anthelmintic properties and are used to treat bronchitis, asthma, fever, to relieve thirst, and used in urinary concretions
- Phytoconstituents present in its fruit have considerable antioxidant properties

Neem ●●

(Indian Lilac)

Botanical Name:
Azadirachta indica
Habitat:
Plains
Flowering Season:
March-April

Features

- A fast-growing tree, it can grow up to a height of 20-23 meters with a straight trunk and a diameter of around 4-5 feet
- The leaves are compound and imparipinnate, with each comprising five to 15 leaflets
- Fruits are green drupes which ripen to turn golden yellow

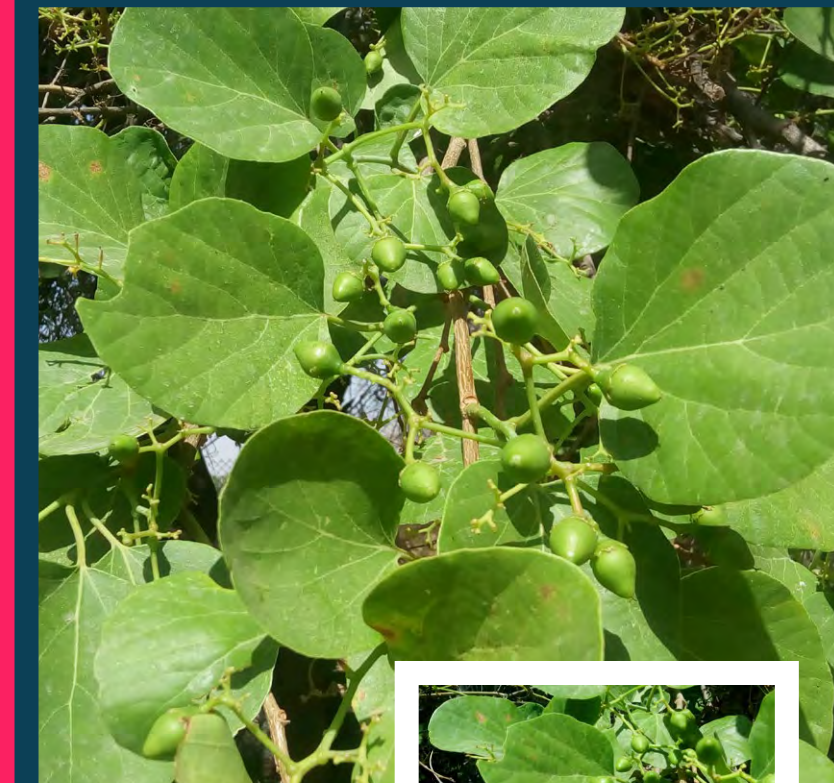
Uses

- A rich source of limonoids endowed with antioxidant, anti-inflammatory, and anticancer properties
- A powerful blood purifier and detoxifier
- Neem leaves relieve symptoms of viral infections, including the common cold, herpes, influenza, and chickenpox
- Leaves, fruit, bark, and flower extract have antioxidant properties
- Extract of Neem leaves help in healing wounds through increased inflammatory response



Photograph by: Saju Kuttappan/ Jayesh Gehlot
Location: Environment Lab

Source: <https://www.sciencedirect.com/topics/pharmacology-toxicology-and-pharmaceutical-science/azadirachta-indica>
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3695574/>



Photograph by: Neshat Azam Ansari
Location: Gate No. 01-MPT

Source: https://www.researchgate.net/publication/313742890_The_Pharmacological_and_therapeutic_importance_of_Cordia_myxa-A_review

Lasura ●●

(Indian Cherry/Gondi)

Botanical Name:
Cordia myxa
Habitat:
Rocky and sandy regions
Flowering Season:
February – March

Features

- Dioecious shrub or a small tree that can grow up to 12 meters, the trunk is tortuous or straight, with a grey cracked bark
- Branches spread and form a dense crown, branchlets are hairy and become glabrous over time with very prominent leaf scars
- Flowers are small, yellowish, with red or pink veins

Uses

- A multi-purpose tree, used as food and medicine
- Used in shelter-belts of semi-arid regions to prevent soil erosion
- Used to treat respiratory infections, cough, and sore throat and its pulp is applied to calm rheumatic pain
- Bark juice is consumed to treat fever
- Fruits are boiled to remove the bitter taste before being dried and stored to reduce cooking time and consumed as vegetables

Shinyo ●●

(Sania/Jhunda)

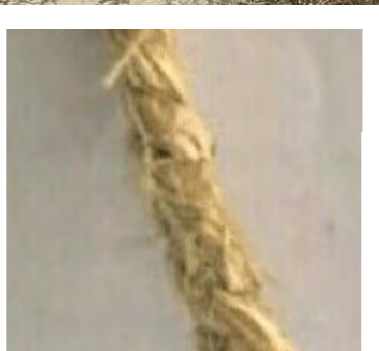
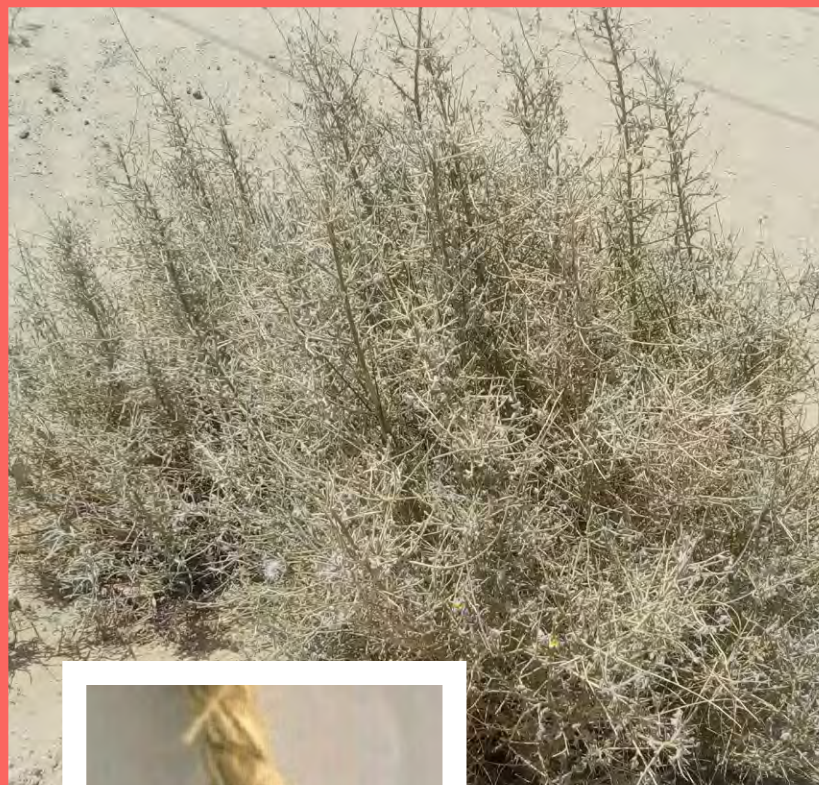
Botanical Name:
Crotalaria burhia
Habitat:
Sandy areas
Flowering Season:
January-March

Features

- It can grow up to 30-60cm in height, with numerous hoary branches covered in dense appressed pubescence
- A few, deciduous, simple leaves, with 0.6-2.5 cm of length, 3-10 mm breadth, that are oblong, blunt, with velvety hair on both sides

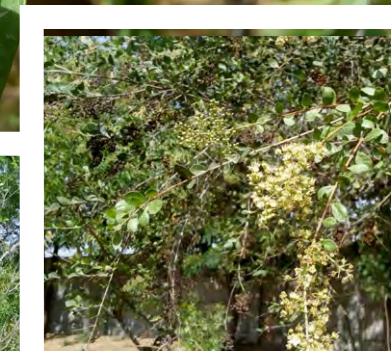
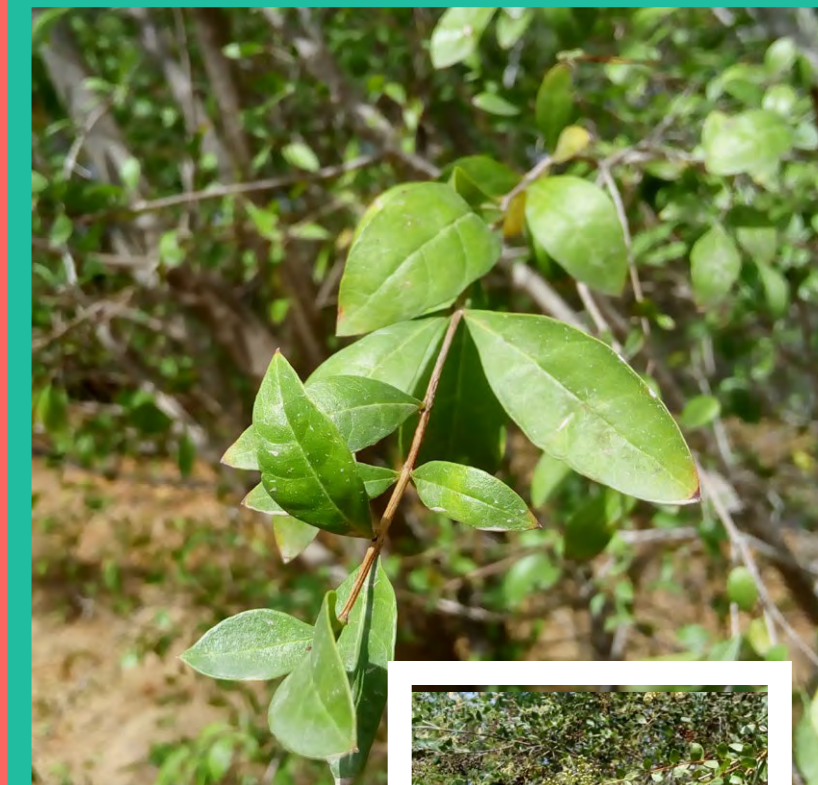
Uses

- Due to its cooling effect, it is used to make Jhumpa (desert hut) and rooftop cover in Western Rajasthan
- Suitable for making ropes and mats, with a Teflon-like tensility
- Cultivated as a fibre crop for soil stabilisation
- Juice from its roots, mixed with sugar, is used to treat kidney pain. The root is also used to treat rheumatism



Photograph by: Neshat Azam Ansari
Location: Outside gate No. 03

Source: <http://temperate.theferns.info/plant/Crotalaria+burhia>
https://www.researchgate.net/publication/318534523_Application_of_Novel_Fibres_of_Crotalaria_Burhia_for_Rope_Rooftop_Cover_and_Mat_Production



Photograph by: Vishnu Patidar
Location: Gate no 06-MPT

Source: https://www.researchgate.net/publication/318489787_AYURVEDIC_MEDICINAL_PLANT_LAWSONIA_INERMIS_LINN_A_COMPLETE_REVIEW

Heena ●●

(Mehndi)

Botanical Name:
Lawsonia inermis
Habitat:
Semi-arid sandy areas
Flowering Season:
April-June

Features

- Henna is a heavily-scented, multi-branched, slender, evergreen shrub that can grow up to 6 metres high
- Flowers are very fragrant

Uses

- Traditionally in India, mehndi is applied to hands and feet. Henna symbolizes fertility and is used during marriages in North India
- It has a cooling effect in the hot Indian summers
- A decoction derived from its bark is applied to treat burns and scalds
- Root is considered as a potent medicine for gonorrhoea, it is also used for sore eyes
- Powered seeds mixed with ghee (clarified butter) are effective against dysentery
- Powered seeds are used to treat liver disorders and associated problems
- Flowers are used to extract perfume
- It is also used as a hair dye

Date Palm ●●

(Khajoor)

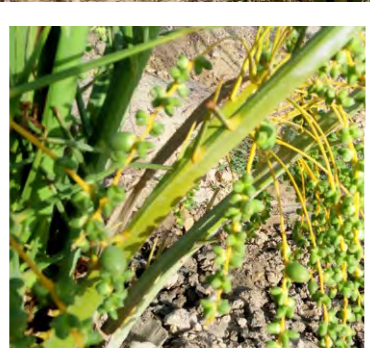
Botanical Name:
Phoenix dactylifera
Habitat:
Sandy areas
Flowering Season:
Feb-March

Features

- Evergreen tree that can grow up to 7 meters in height and yields fruit crops in dry arid zones
- Pollination is critical for good fruiting; therefore, pollen is usually artificially introduced to the female flowers by cutting a male inflorescence and placing it strategically within a female inflorescence
- It is considered to be the oldest cultivated tree fruits
- It is salt tolerant

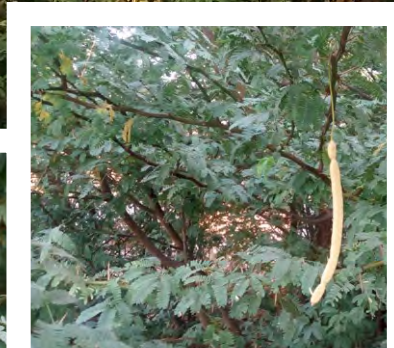
Uses

- The fruit is often dried and then eaten raw or used to add sweetness to a variety of food products such as cakes, fruit pies, confectionery etc.
- Its fruits have antioxidant properties
- Dates are one of the few foods with high potassium content
- Fruits are used to treat respiratory diseases and fever
- It has a lot of medicinal properties and is used to treat cold, fever, sore throat, and low sperm count



Photograph by: Vishnu Patidar
Location: Sub Station 07-MPT

Source: https://www.researchgate.net/publication/266676946_Date_palm_Production_in_India-_Prospects_and_Problems



Photograph by: Sikandar Khan
Location: Out side gate no 01-MPT

Source: https://www.researchgate.net/publication/299624062_Mesquite_Devi_Prosopis_Juliflora_CLIMATIC_HITS_DESTROY_VEGETATION_ACROSS_THAR_Mesquite_Devi_Prosopis_Juliflora

Janglee Kikar ●●

(Baavlia/Mad Tree)

Botanical Name:
Prosopis juliflora
Habitat:
Rocky and sandy areas
Flowering Season:
March-April

Features

- An evergreen tree with a large crown and an open canopy that can grow up to a height of 5-10 meters.
- Stem is greenish-brown, sinuous, and twisted, with axial thorns situated on both sides of the nodes and branches
- It is a noxious invader species that grows at the cost of other species, truly called Baavlia (mad tree).

Uses

- Valued for shade, it is also used for timber and forage
- Pods are cooked to make gruel
- It is sometimes fermented to make mesquite wine
- It is a bio-indicator for industrial smelter pollution
- It can survive acidic to alkaline soil and is considered a safe and effective choice for phytoremediation

Babool ●●

(Arabic Gum Tree)

Botanical Name:

Acacia nilotica

Habitat:

Tropical and subtropical areas

Flowering Season:

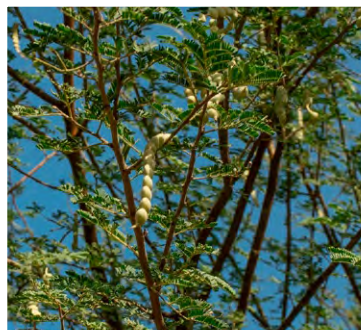
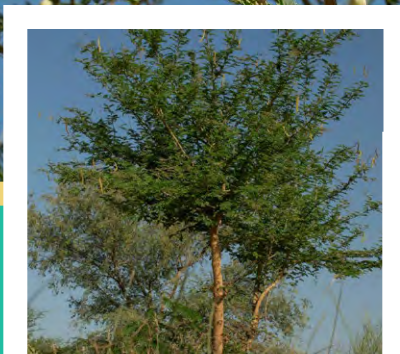
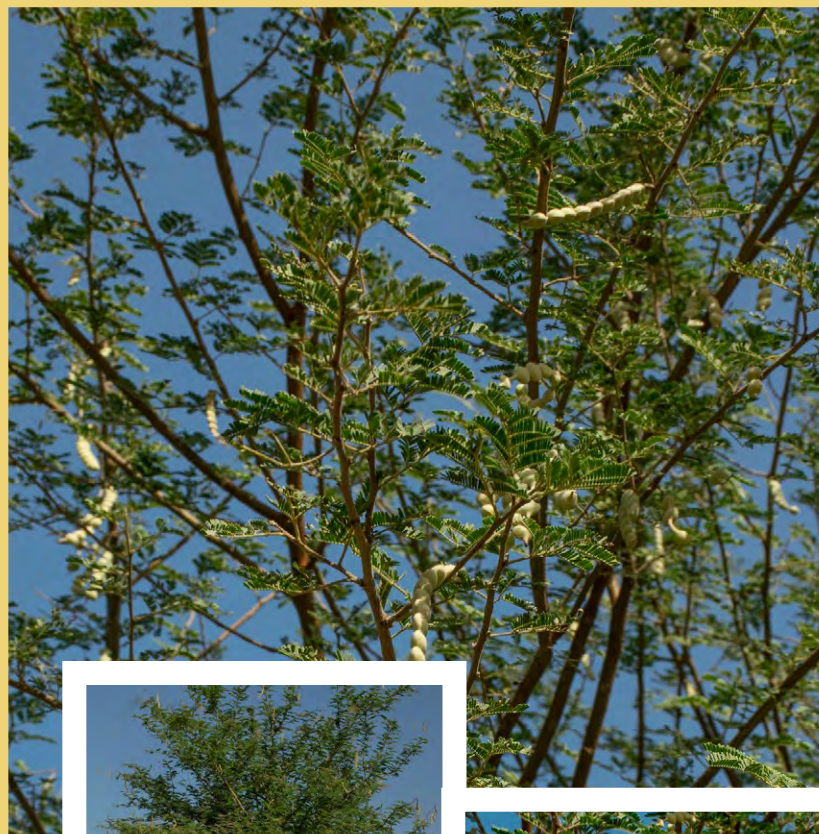
July-October

Features

- It is an evergreen tree that can grow up to 2.5 to 25 meters high
- In favorable conditions, it attains a height of 15-25 metre and a girth of 2.4-3.0 metres. In unfavorable localities, it is a stunted, shrubby or a straggling tree

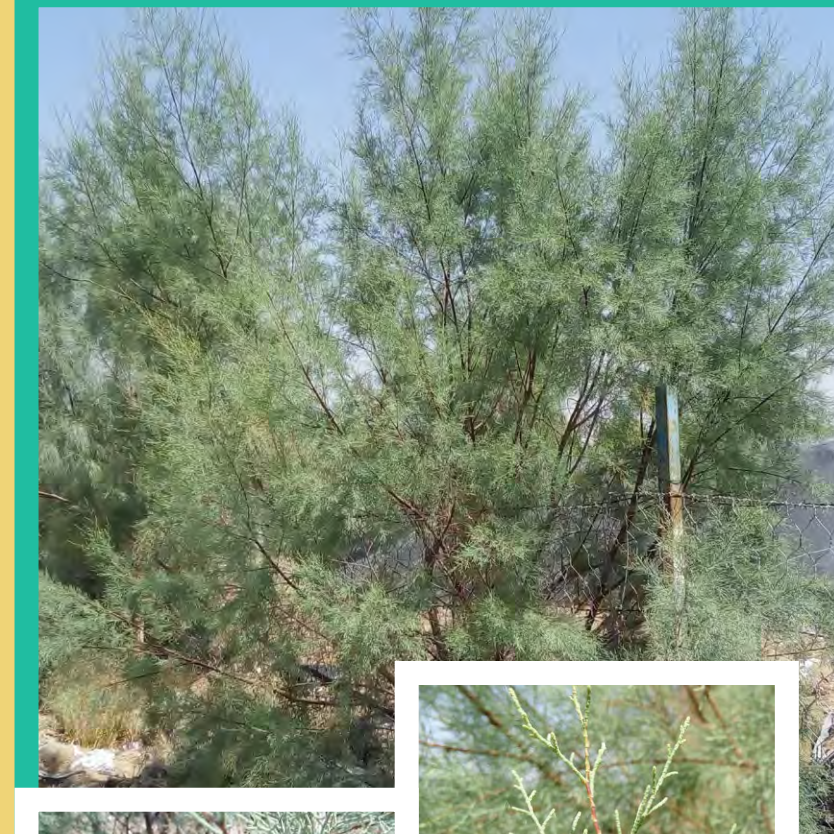
Uses

- A paste made of the burnt leaves with coconut oil makes a very efficacious balm to treat itching
- The leaves and the gum are used for gargling to relax sore throat and spongy gums. Decoction of leaves is also used to wash bleeding ulcers and wounds
- It is a multipurpose tree: it provides timber, fuel, shade, food, fodder, honey, dye, gum and is used in fencing. It also impacts the environment through soil reclamation, soil enrichment, protection against fire and wind, and is a haven for biodiversity and ornament
- It shows inhibitory activity against Hepatitis C virus (HCV) and human immunodeficiency virus (HIV)-I



Photograph by: Saju Kuttappan /Dr. B.R Jat
Location: Greenbelt Area, Flood Channel, MPT

Source: https://www.researchgate.net/publication/229058452_Acacia_nilotica_A_plant_of_multipurpose_medicinal_uses
<http://www.frienvic.nic.in/WriteReadData/UserFiles/file/pdfs/Babul.pdf>



Photograph by: Neshat Azam Ansari
Location: Non Haz. Yard-MPT

Source: <http://tropical.theferns.info/viewtropical.php?id=Tamarix+aphylla>

Farash ●●

(Laal Jhad)

Botanical Name:

Tamarix aphylla

Habitat:

Saline and sandy soil in arid regions

Flowering Season:

April-November

Features

- It is an upright, evergreen tree with drooping twigs and a dense spreading crown with several heavy large limbs;
- It usually grows 8 - 12 metres tall, but occasional specimens up to 18 metres are recorded. The bole can be 60 - 80cm in diameter.
- It can spread rapidly producing jungle-like growth and can crowd out native species

Uses

- The bark is a source of tannins and used as a mordant while dyeing
- Its bitter bark is an astringent and is used for treating eczema and other skin diseases
- The branches are used to weave baskets
- Its wood splits readily and polishes well. It is used for making ploughs, wheels, carts, tool handles, brush-backs, ornaments, furniture, turnery and fruit boxes, etc.
- It is preferred as a shade for beehives in the summer

Oont Kantalao ●●

(Globe Thistle)

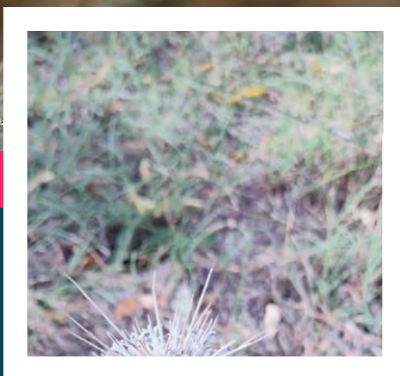
Botanical Name:
Echinops echinatus
Habitat:
Wastelands
Flowering Season:
December-January

Features

- It is a xerophytic herbaceous plant.
- It is an erect, rigid, pubescent, annual shrub about 1 m in height. It has short, stout stems with branches widely spreading from the base
- A very common weed of waste places, open grounds and along road sides. Distribution: Churu, Barmer, Jodhpur, Bikaner, Pali, Dungarpur, Tonk, Banswara and Jhalawar districts.

Uses

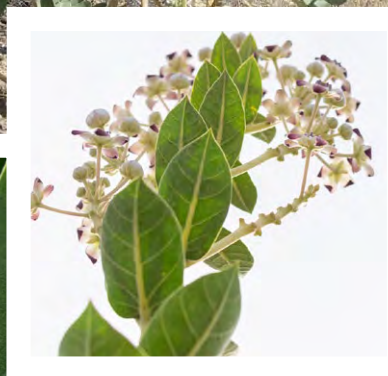
- In Rajasthan, *E. echinatus* paste is smeared on the soles and palms to treat heatstroke
- In case of scorpion stings, the root is eaten raw directly in order to relieve pain.
- Its roots have been claimed to be useful in treating colds, whooping cough in children, fever, and wounds
- The plant is recommended for jaundice, hysteria, dyspepsia, hoarseness of throat.
- The plant shows a wide range of pharmacological activities such as antifungal, analgesic, diuretic, antioxidant, anti-inflammatory, and antibacterial properties



Photograph by: Saju/Dr. B.R. Jat
Location: MPT



Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4557238/>
https://bioinfo.bisr.res.in/project/domap/plant_details.php?plantid=0080&bname=Echinops%20echinatus



Photograph by: Saju Kuttappan /Dr. B.R. Jat
Location: Non Haz. Yard-MPT

Source: https://www.researchgate.net/publication/275521097_Calotropis_Gigantea_Linn_-_A_Complete_Basket_Of_Indian_Traditional_Medicine/link/553e62a80cf210c0bdaa6374/download

Aak ●●

(Arka)

Botanical Name:
Calotropis gigantea
Habitat:
Degraded ecosystems
Flowering Season:
Throughout the year

Features

- A fast-growing, attractive, evergreen flowering shrub or small tree that grows up to 5 metres in height, and occasionally up to 10 metres
- Has oval, light green leaves, and a milky stem
- The seeds have a hairy parachute
- This plant plays host to a variety of insects and butterflies
- Flowers appear in clusters (umbellate cymes) throughout the year, but primarily in summer.

Uses

- The milky latex (sap) is considered to be antiseptic, it is used in the treatment of leprosy, asthma, etc. It is taken orally, mixed with salt
- Leaves of the plant are useful in the treatment of paralysis and fever
- The root bark extract has healing properties
- The plant has analgesic, antimicrobial, anti-pyretic, insecticidal, cytotoxicity, and interceptive properties

Israeli Babool ●●

(Acacia Tortilis)

Botanical Name:

Acacia tortilis

Habitat:

Sandy areas

Flowering Season:

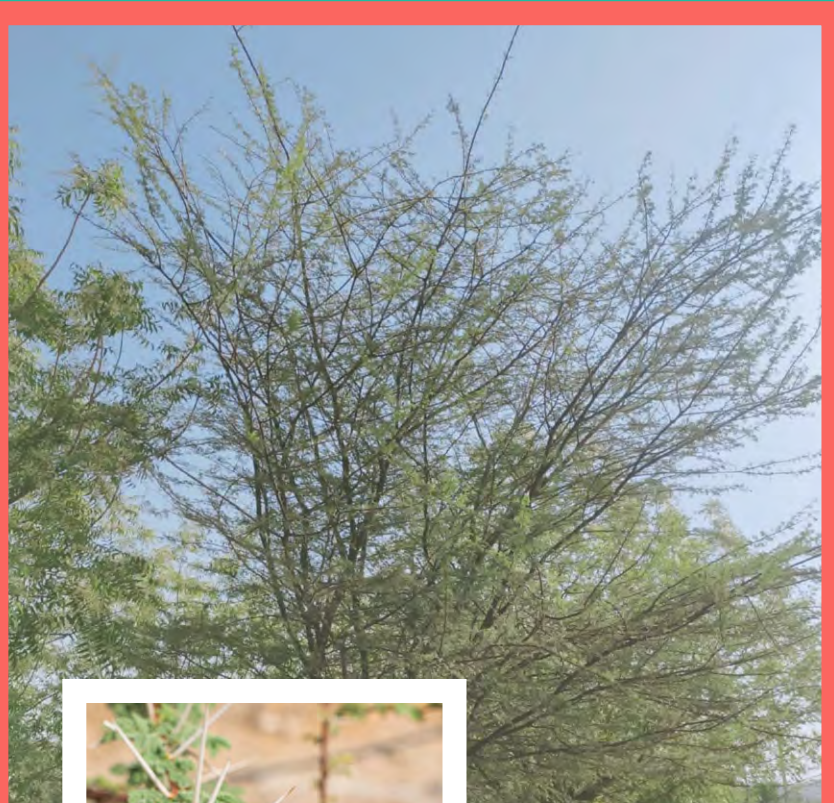
May - July

Features

- It was introduced to Rajasthan from Israel in 1958
- A thorny legume tree, it grows up to 4-8 meters in height, and can occasionally grow up to 20 meters
- Often called 'umbrella thorn' for its distinctive spreading crown, is one of the most widespread trees

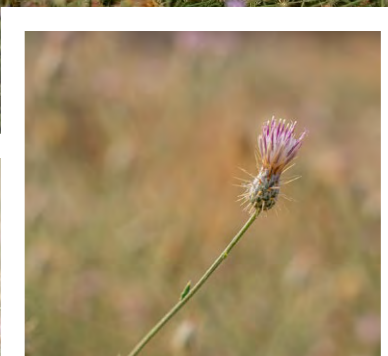
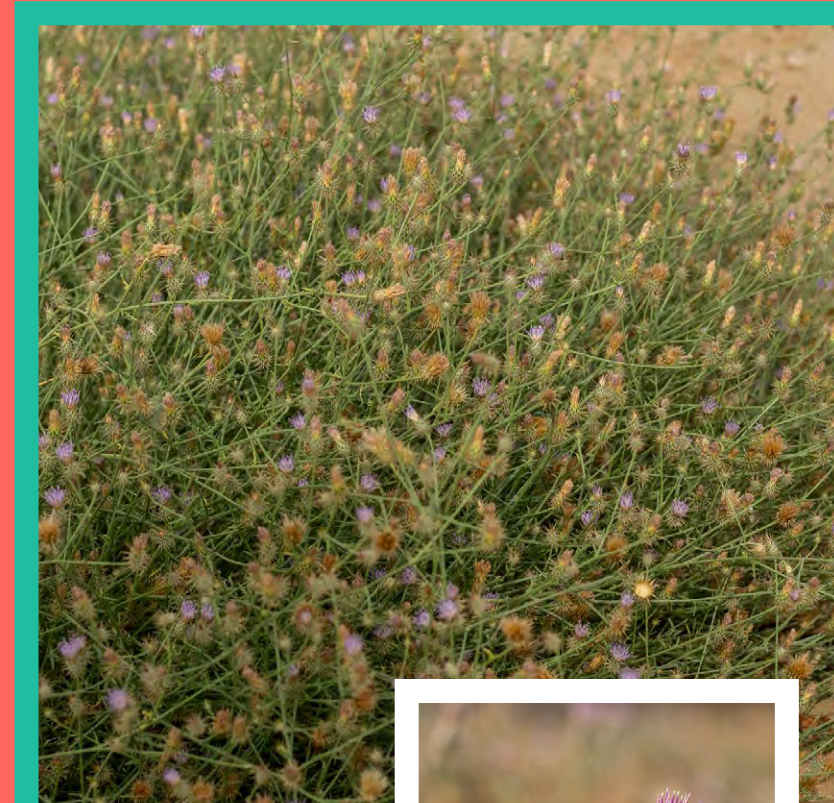
Uses

- It is a staple for camels and goats. Forage is available throughout the dry season when other sources are scarce
- Its dense red hardwood has a high calorific value of 4,400 Kcal/kg contributing to the superior quality of firewood and charcoal
- A nitrogen-fixing species, it is a soil improver and used against soil-erosion
- Bark is used to make rope



Photograph by: Sikandar/Neshat Azam Ansari
Location: Desert Park, MPT

Source: <https://www.feedipedia.org/node/339>
<https://www.winrock.org/factnet-a-lasting-impact/fact-sheets/acacia-tortilis-fodder-tree-for-desert-sands/>



Photograph by: Saju Kuttappan /Dr. B.R Jat
Location: Greenbelt Area, Flood Channel, MPT

Source: https://bioinfo.bisr.res.in/project/domap/plant_details.php?plantid=0114&bname=Oligochaeta%20ramosa
<https://www.banglajol.info/index.php/BJP/article/view/20566/14552>

Unt Kantilo ●●

(Bada Vard)

Botanical Name:

Oligochaeta ramosa

Habitat:

Dry wastelands and cultivated fields

Flowering Season:

January - March

Features

- A decumbent or sub-erect herb, it can grow up to 18-40 cm in height and has a woody base.
- The stem is angular, striate, and scaberulous
- Leaves are sessile, cuneate/attenuate at base

Uses

- It is traditionally used to cure cough, wounds, skin irritation, external swelling, piles, and diseases of the liver and general debility. It is also known to drive snakes away.
- Used as a cure for diarrhea and constipation
- Has laxative, antipyretic, antimicrobial, purgative, astringent, antiodotal, and resolvent properties
- A good source of nectar for honey bees

Shankh Pushpi ●●

(Aloe Weed)

Botanical Name:
Convolvulus Pluricaulis

Habitat:
Endemic to Barmer, Jaisalmer, and Jodhpur

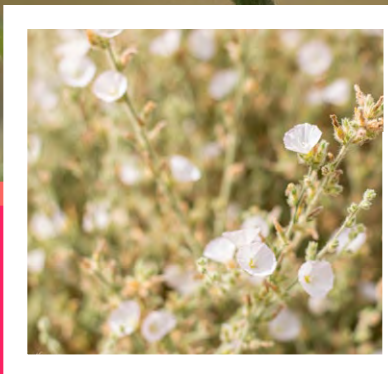
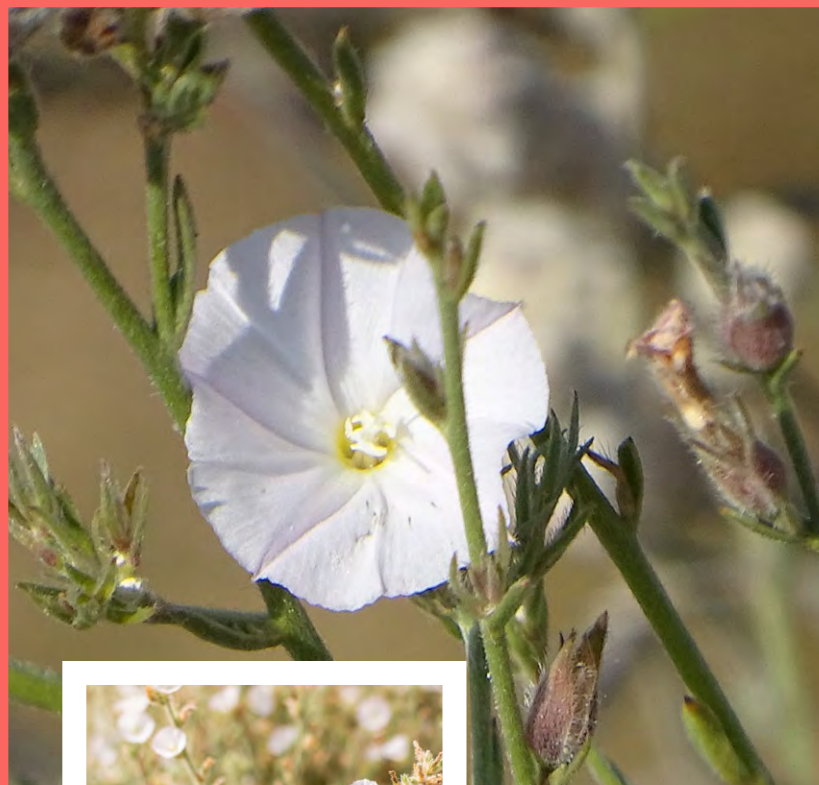
Flowering Season:
March-May

Features

- Perennial herb that looks like morning glory. Its branches are spread on the ground and can be spread up to 30 cm long
- Shankpushpi is a Sanskrit word meaning 'the plant with flowers shaped like a conch'. The flowers can be white to light pink

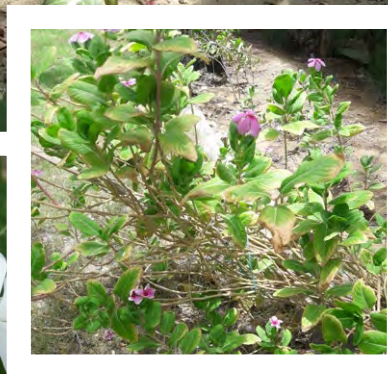
Uses

- All the parts of the herb are known to possess therapeutic properties
- It is believed to be the only herb capable of enhancing all the aspects of brainpower, such as learning, memory, and the ability to recall. However, its popularity stems from its ability to treat insomnia effectively
- It is also used for the treatment of hypertension, neurodegenerative diseases, ulcers, high blood pressure, epilepsy, vomiting, and diabetes, etc.



Photograph by: Saju Kuttappan/ Dr. B. R. Jat
Location: Greenbelt Area, Flood Channel, MPT

Source: [researchgate.net/publication/323357684_A_Review_on_Traditional_Indian_Herbs_Convolvulus_pluricaulis_Linn_and_its_Medicinal_Importance](https://www.researchgate.net/publication/323357684_A_Review_on_Traditional_Indian_Herbs_Convolvulus_pluricaulis_Linn_and_its_Medicinal_Importance)



Photograph by: Babulal
Location: Desert Park-MPT

Source: <https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/catharanthus-roseus>
<http://tropical.ferns.info/viewtropical.php?id=Catharanthus+roseus>

Sadabahar ●●

(Rosy Periwinkle)

Botanical Name:
Catharanthus roseus

Habitat:
Sandy soils and wastelands

Flowering Season:
All year

Features

- A profusely branched, erect, or decumbent perennial plant with stems that can become more or less woody. It grows from 30 - 100cm tall.
- It is known for its long flowering period
- A white latex is present in all parts of this plant

Uses

- The leaves and aerial parts of the plant have a wide range of traditional uses
- A decoction is taken to treat hypertension, asthma, menstrual irregularities, chronic constipation, diarrhoea, indigestion, malaria, dengue fever, diabetes, cancer, and skin diseases
- The flower used to treat mild diabetes

Soneli ●●

(Desert Golden Daisy)

Botanical Name:

Pulicaria undulata

Habitat:

Sandy plains and Wastelands

Flowering Season:

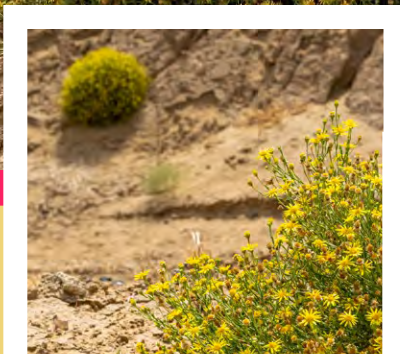
August-April

Features

- A species with woody roots and herbaceous stem, it can grow up to 15-30 cm
- Grows lanceolate leaves up to 3 cm long with glandular hair that produce a resinous substance with a characteristic odour

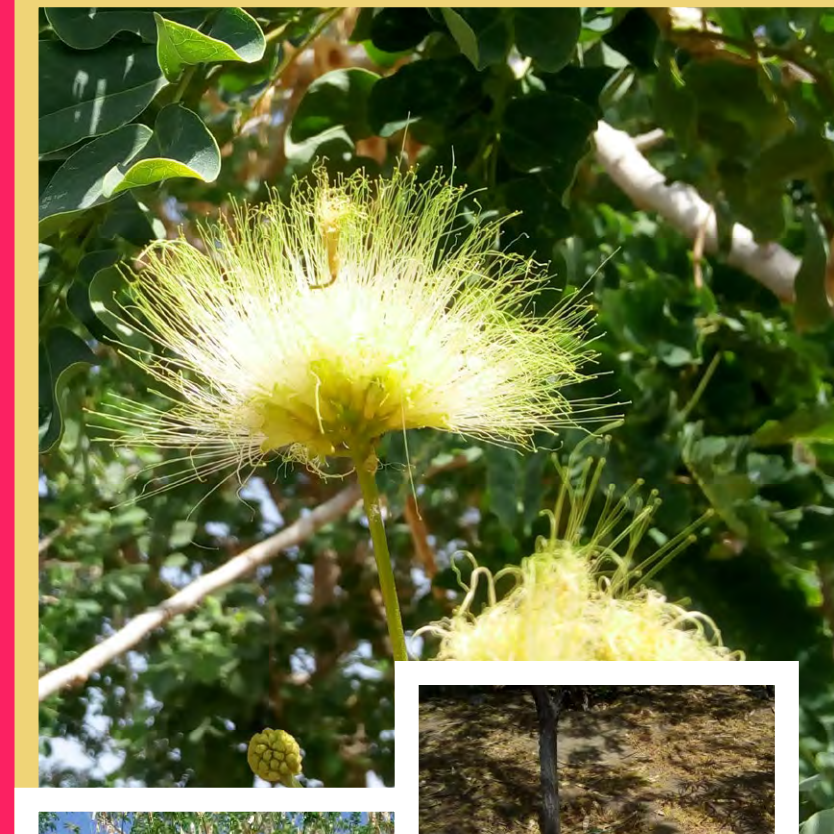
Uses

- Its plant extract is used to treat indigestion, stomach ache, and is also a blood purifier
- The extract of this plant is used in perfumes, and also they have antioxidant properties



Photograph by: Saju Kuttappan / Dr. B. R. Jat
Location: Greenbelt Area, Flood Channel, MPT

Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1868015/>



Photograph by: Neshat Azam Ansari
Location: Gate No 06-MPT

Source: <http://tropical.theferns.info/viewtropical.php?id=Albizia+lebbek>
<https://www.feedipedia.org/node/334>

Kala Siras ●●

(Siris Tree)

Botanical Name:

Albizia lebbek

Habitat:

Sandy river beds

Flowering Season:

May-October

Features

- Albizia lebbek is a deciduous, perennial medium-sized legume tree that can grow up to 3-15 metres in plantations and up to 30 metres in the open
- Its dense crown can grow up to 30 m in diameter.
- Reddish-brown pods contain five to 15 flat rounded, free moving seeds

Uses

- An efficient nitrogen-fixing legume, it nodulates abundantly without seed inoculation
- Fallen leaves make for litter rich in organic matter during the dry season
- The bark is an astringent and taken orally to treat diarrhoea, dysentery, and piles

Jungle Jalebi ●●

(Madras Thorn)

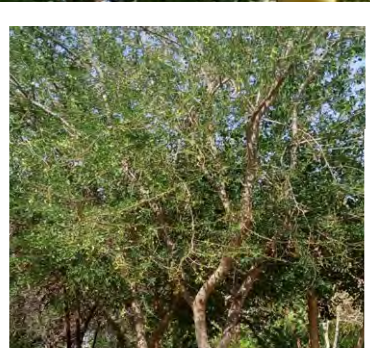
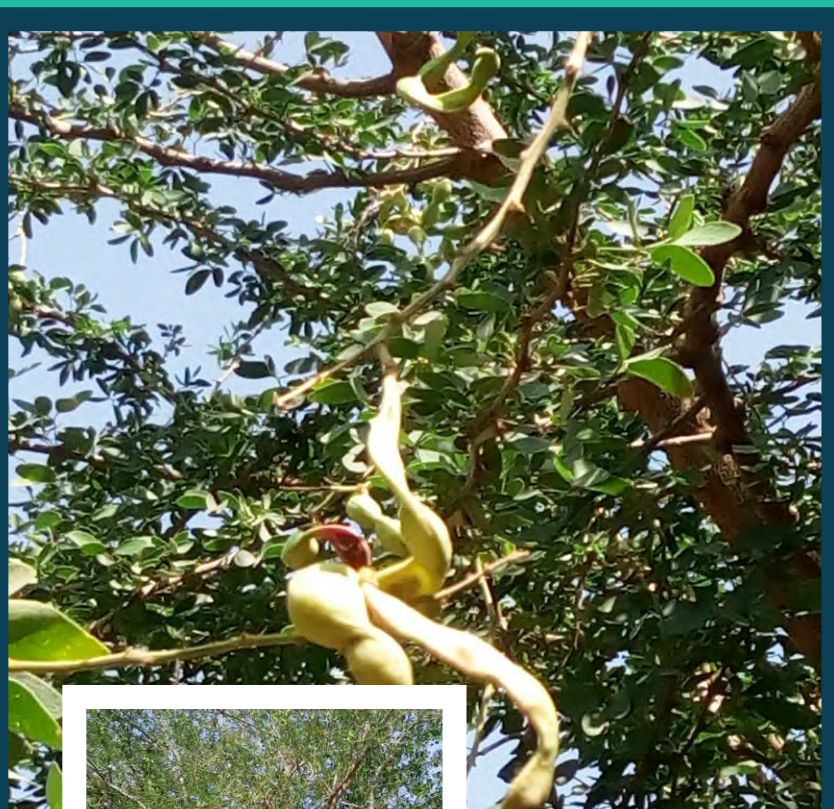
Botanical Name:
Pithecellobium dulce
Habitat:
Poor soils in dry climate
Flowering Season:
January-February

Features

- An evergreen plant that grows up 5-18 metres and occasionally up to 20 metres in height
- Pods are irregular in shape, flattened, set in a spiral of one to three whorls, and strangled between the seeds. It derives its common name from the north Indian sweet, Jalebi, that it resembles
- A nitrogen-fixing legume, it can survive dry periods and grow in most types of soil. It can also tolerate salinity

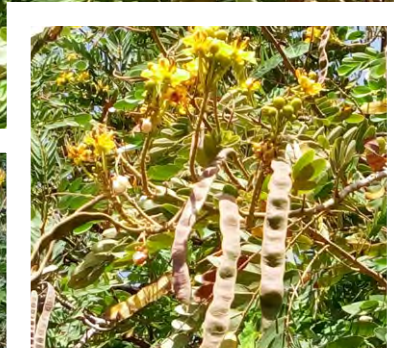
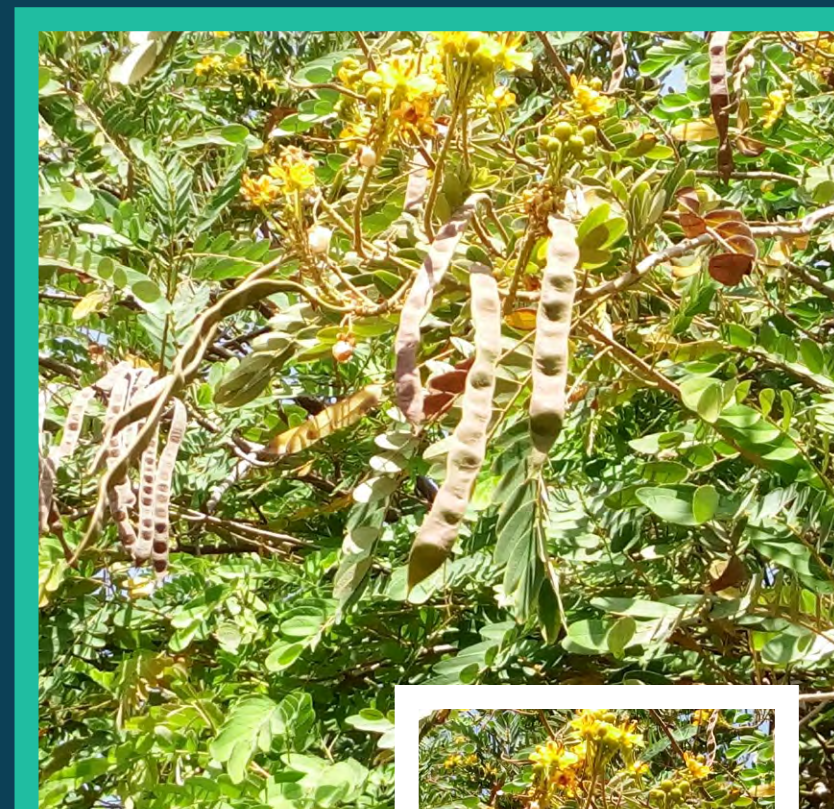
Uses

- The pods contain a sweet, pulpy flesh around the seeds and can be eaten raw, boiled, or made into a refreshing beverage
- A paste made from its leaves is applied externally to treat muscular swellings caused by inflammations
- The leaves mixed with salt cure indigestion and, in larger doses, can also induce abortion
- Seed juice is inhaled to treat chest congestion
- Root bark is a good remedy for diarrhea



Photograph by: Neshat Azam Ansari
Location: Desert Park-MPT

Source: <http://www.flowersofindia.net/catalog/slides/Madras%20Thorn.html>
<https://www.feedipedia.org/node/263>



Photograph by: Neshat Azam Ansari
Location: Gate No 06-MPT

Source: <http://www.nbrienvic.nic.in/WriteReadData/CMS/Cassia%20siamea.pdf>
https://www.researchgate.net/publication/316825888_Phytochemical_and_Pharmacological_Investigation_of_Cassia_Siamea_Lamk_An_Insight

Kassod ●●

(Yellow Cassia)

Botanical Name:
Cassia siamea
Habitat:
Moist fertile soil
Flowering Season:
April-June

Features

- Siamese Cassia is a small to medium-sized tree, up to 15-20 metres tall, with a short bole and low branched high crown
- 3.5 cm long yellow flowers grow in dense racemes at the end of the shoots, and in their axils.
- The plant is vulnerable to pollution and can lead to a reduction in leaf size.

Uses

- It is well-known for its nutritional, medicinal, and economic importance and has been traditionally used for the treatment of ailments such as fever, malaria, diabetes, hypertension, asthma, constipation, diuresis, jaundice, etc.
- It is used to reforest denuded hills and mining sites, for shade and hedges, and as windbreaks
- A decoction from leaves is used to treat malaria
- Fruits are used to cure intestinal worms

Imli ●●

(Tamarind)

Botanical Name:

Tamarindus indica

Habitat:

Well-drained loamy, limestone (rocky) soil

Flowering Season:

May - July

Features

- An evergreen tree that can grow up to 24 metres in height and 7 metres wide
- Has pale yellow and pink flowers
- Grows best in drier areas of the tropics, though it can also do well in much wetter, monsoon areas so long as there is a distinct dry season

Uses

- According to World Health Organisation, its fruit is an ideal source of all essential amino acids except tryptophan
- Soft part of bark and root is used to treat abdominal pain, leaves to treat diarrhea and for fruits to treat constipation
- When mature, the pods contain a sticky paste which can be eaten raw.
- It is a favourite flavouring in the curries of India



Photograph by: Neshat Azam Ansari / Ravindra Choudhary

Location: STP Area-MPT/Fruit picture is from RGT

Source: <http://tropical.theferns.info/viewtropical.php?id=Tamarindus+indica>
<https://www.sciencedirect.com/science/article/pii/S2221169115300885>



Photograph by: Neshat Azam Ansari

Location: Desert Park-MPT

Source: <http://tropical.theferns.info/viewtropical.php?id=Amaranthus+viridis>
http://publish.plantnet-project.org/project/riceweeds_en/collection/collection/information/details/AMAVI

Jangli Chaulai ●●

(Pigweed)

Botanical Name:

Amaranthus viridis

Habitat:

Wastelands and degraded forests

Flowering Season:

March-April

Features

- An annual herb with erect or occasionally ascending stem, it can grow up to 10-80 cm high.
- Flowers are small and green (sometimes with a reddish tinge), generally radiating around the stem.

Uses

- The plant is often harvested from the wild as a source of food and medicine for local use
- The root juice is used to treat inflammation during urination
- The leaves are diuretic, febrifuge, and purgative
- Used as cattle fodder, and for making soap

Tulsi ●●

(Holy Basil)

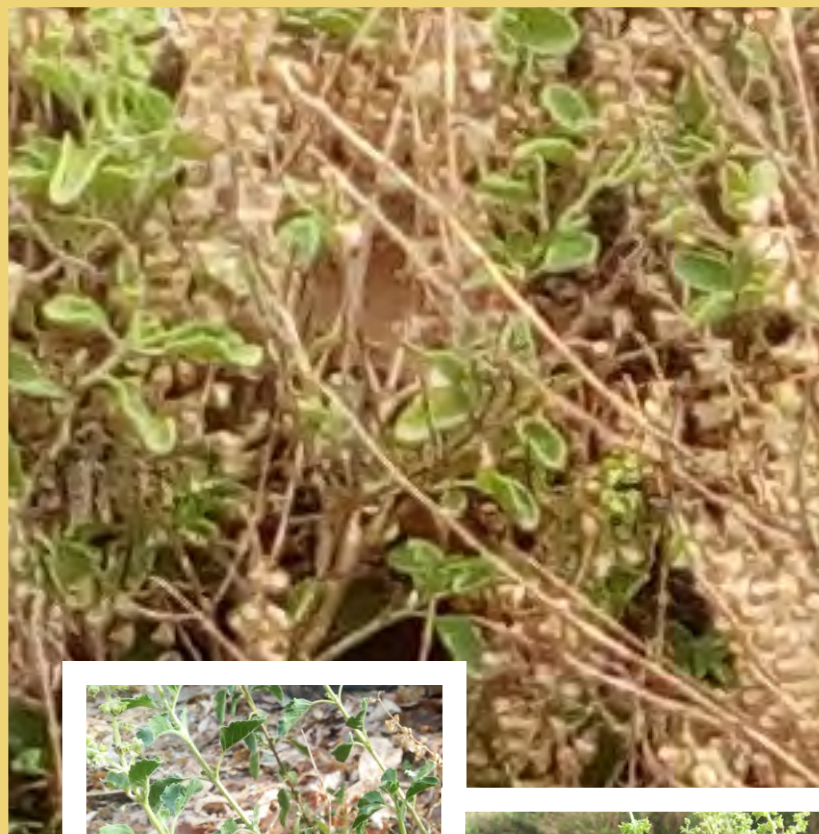
Botanical Name:
Ocimum sanctum
Habitat:
Moist soil
Flowering Season:
February-march

Features

- Queen of herbs, Hindus grow Tulsi in their homes, temples, and their farms. They use Tulsi leaves for religious purposes.
- Grown as a pot plant, it is found in almost every traditional Hindu house
- The fruits are small and the seeds yellow to reddish

Uses

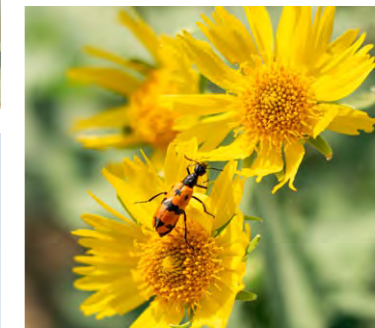
- A small herb seen throughout India, is recommended for the treatment of bronchitis, bronchial asthma, malaria, diarrhea, dysentery, skin diseases, arthritis, painful eye diseases, chronic fever, insect bites, etc.
- It has also been suggested to possess antifertility, anticancer, antidiabetic, antifungal, antimicrobial, cardioprotective, analgesic, and diaphoretic properties



Photograph by: Neshat Azam Ansari
Location: Desert Park-MPT



Source: <https://www.ncbi.nlm.nih.gov/pubmed/16170979>
https://www.researchgate.net/publication/309802187_Ocimum_sanctum_Tulsi_the_queen_of_herbs_A_Review



Photograph by: Saju Kuttappan /Dr. B.R Jat
Location: Greenbelt Area, Flood Channel, MPT

Source: https://www.wildflower.org/plants/result.php?id_plant=VEEN
<https://www.flowersofindia.net/catalog/slides/Golden%20Crownbeard.html>

Cowpen Daisy ●●

(Golden Crownbeard)

Botanical Name:
Verbesina encelioides
Habitat:
Flood plain, sandy, and degraded lands
Flowering Season:
April to November

Features

- An annual herb that grows 1-2 feet tall
- Minutely velvety with several yellow flower-heads
- An invasive plant, it does well on alkaline soils

Uses

- This plant is traditionally used to treat skin ailments
- It is considered drought tolerant

Palm Tree ●●

(Windmill Palm)

Botanical Name:

Trachycarpus fortunei

Habitat:

Warm temperate and subtropical region

Flowering Season:

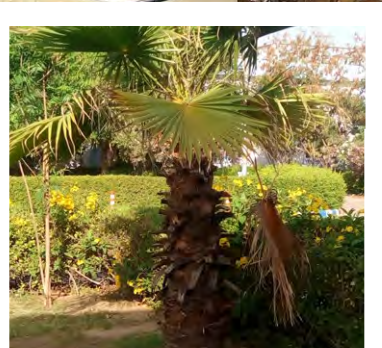
August-September

Features

- Grows up to 12-20 metres tall on a single stem with a diameter of 15-30 cm. The trunk is very rough with the persistent leaf bases clasp the stem as layers of coarse fibrous material
- The species is dioecious (individual flowers are either male or female, but only one sex is to be found on any one plant so both male and female plants must be grown if seed is required). It is pollinated by Insects.

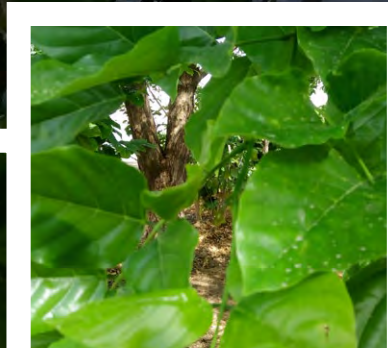
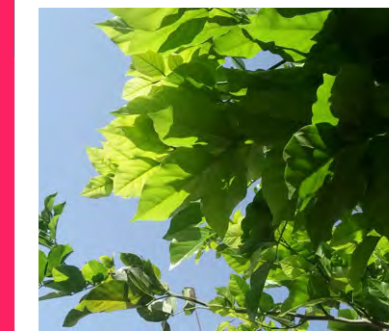
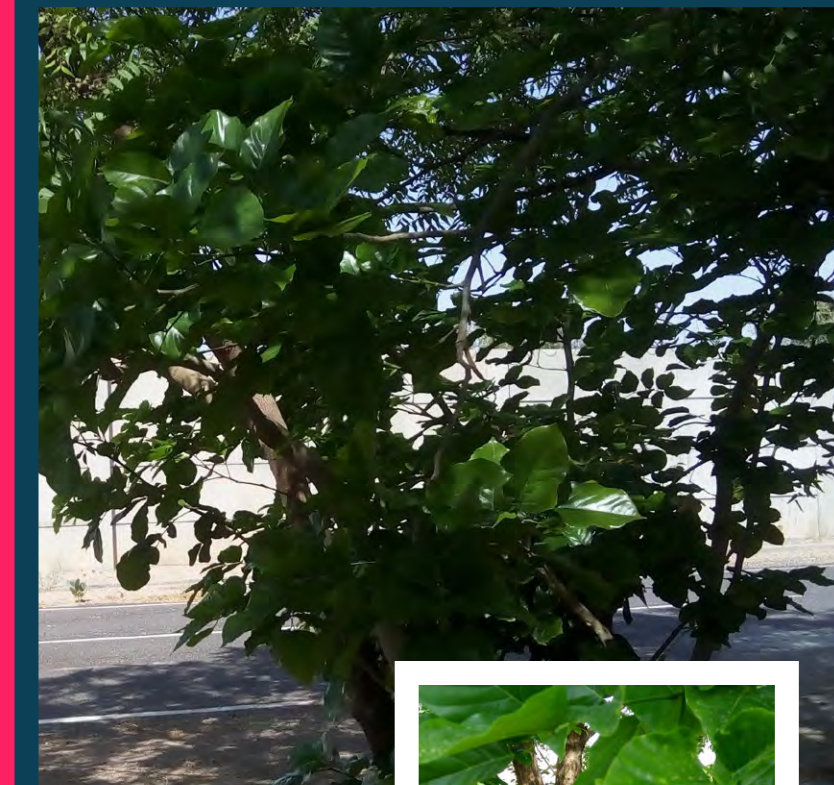
Uses

- Fresh flowers and terminal buds are edible
- The leaves are used for thatching or for weaving into baskets, mats, etc.
- inflammatory response



Photograph by: Jayesh Gehlot
Location: Environment Lab-MPT

Source: <https://www.flowersofindia.net/catalog/slides/Windmill%20Palm.html>
<https://pfaf.org/user/plant.aspx?latinname=Trachycarpus+fortunei>



Photograph by: Neshat Azam Ansari
Location: Desert Park-MPT

Source: <https://www.feedipedia.org/node/636>
<http://tropical.ferns.info/viewtropical.php?id=Pongamia+pinnata>

Karanj ●●

(Indian Beech Tree)

Botanical Name:

Pongamia pinnata

Habitat:

Lowland forests, saline soils

Flowering Season:

April-May

Features

- A fast-growing deciduous tree up to 20 metres tall, it is found throughout Asia
- A nitrogen-fixing tree, it produces seeds containing oil that are viable for a year if stored in air-tight containers
- Can produce oil in poor, degraded, or saline soils, it is used for soil reclamation around mining areas

Uses

- A multipurpose tree, it is particularly valued for its oil and also supplies dyestuff, wood, fuel, insect repellent, medicines, etc.
- Leaves used as a liniment for rubbing on skin diseases and rheumatic joints
- The powdered seeds are used as an expectorant to treat bronchitis and whooping cough

Chikoo ●●

(Sapodilla Plum)

Botanical Name:

Manilkara zapota

Habitat:

Open areas

Flowering Season:

Feb-April

Features

- A fairly slow-growing tree, upright and elegant, it is distinctly pyramidal when young. It grows up to 18 metres high in the open but reaches up to 30 metres when crowded in a forest.
- Strong and wind-resistant, it maintains an extensive root system and has a long life
- Flowers are small, bell-shaped, and cream colored. The fruit is shaped like an egg with rough, brown skin when ripe, which protects the grainy yellow fruit inside.

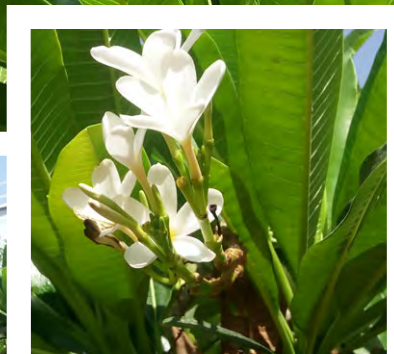
Uses

- The fruit can be eaten raw, or used to make sherbets, custard, ice-creams, pies, jams, jellies, etc.
- Very sweet, slightly acid, with flavours of pears, cinnamon, and brown sugar combined
- A leaf decoction is taken to treat fever, haemorrhage, wounds, and ulcers



Photograph by: Shreya Patel
Location: Greenbelt Area, Flood Channel, MPT

Source: <http://www.flowersofindia.net/catalog/slides/Chikoo.html>
<https://www.rainforest-alliance.org/species/sapodilla>



Photograph by: Neshat Azam Ansari
Location: Desert Park-MPT

Source: <http://tropical.theferns.info/viewtropical.php?id=Plumeria+alba>
<https://www.flowersofindia.net/catalog/slides/Wild%20Plumeria.html>

Nag Champa ●●

(Bridal Bouquet)

Botanical Name:

Plumeria pudica

Habitat:

Dry, rocky, and hot areas

Flowering Season:

All year

Features

- It is an evergreen species of Plumeria
- The flowers are not fragrant. The plant looks attractive even when it is not flowering, because of its beautiful leaves
- It can grow up to 3-8 metres in height
- The branches are rather soft and brittle
- A slow-growing plant, it flowers at an early age

Uses

- The latex from the stem is caustic. It is used for treating ulcers and skin diseases
- The flowers are bitter and caustic. They used to make syrup for treating chest coughs
- Seeds are used in the treatment of dysentery

Chitiphul●●

(Bristly Heliotrope)

Botanical Name:

Euploca strigosa

Habitat:

Sandy plains, roadsides, and denuded grounds

Flowering Season:

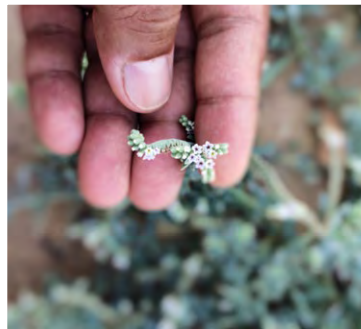
March-May

Features

- A prostrate to erect, annual or occasionally perennial plant that can grow up to 15 - 35cm tall
- The stems are usually multi-branched from the base

Uses

- It is used to cure snakebites, insect and scorpion stings, as a painkiller for pains in the limbs
- It is also used to treat sore eyes and for healing boils, wounds, and ulcers



Photograph by: Parvendra Kumar
Location: Kawas NW

Source: <http://tropical.theferns.info/viewtropical.php?id=Euploca+strigosa>
<https://www.flowersofindia.net/catalog/slides/Bristly%20Heliotrope.html>

Booganbel●●

(Great Bougainvillea)

Botanical Name:

Bougainvillea spectabilis

Habitat:

Tropical areas

Flowering Season:

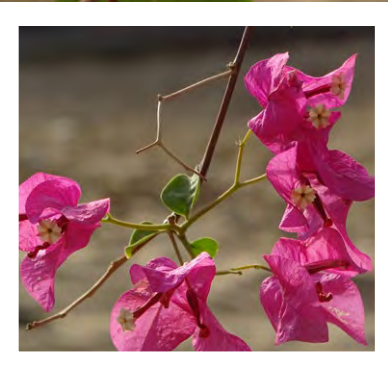
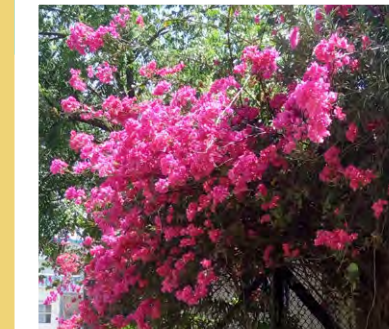
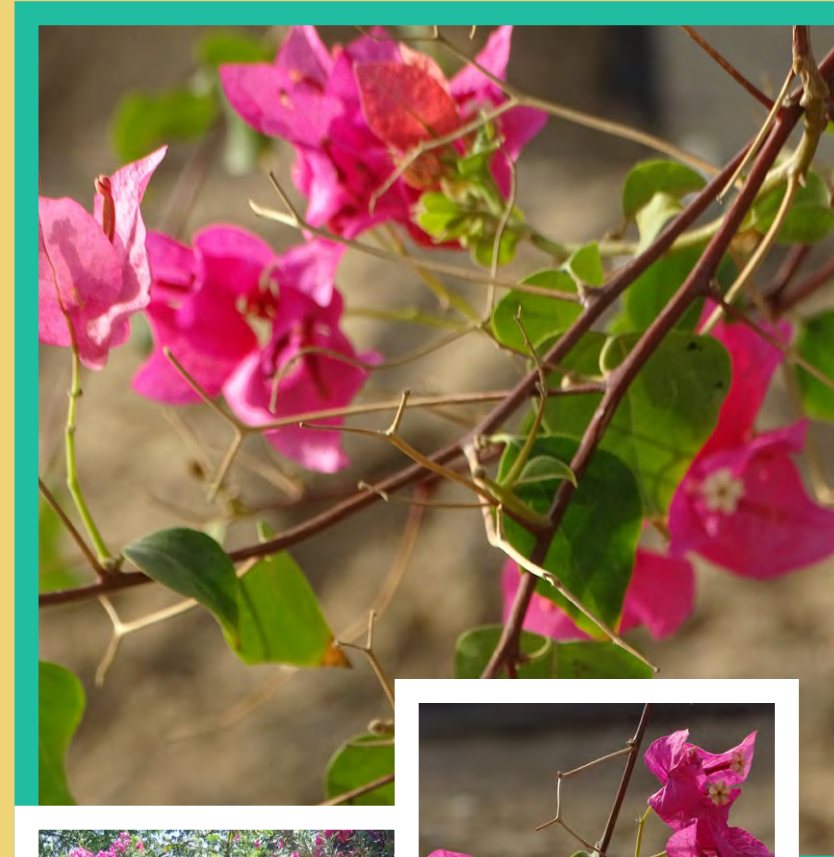
All year

Features

- Named after Louis de Bougainvillea, a French navigator who came across it in Brazil during the 18th century, it has gained popularity all over the world, due to its versatility, richness, and suitability to thrive in degrading environmental conditions
- An evergreen, climbing shrub with stems up to 10 metres long
- Adapted to climates with a distinct dry season and does not flower well in humid conditions

Uses

- Widely grown as an ornamental plant
- The plant contains pinitol, which is considered to be helpful in the treatment of non-insulin diabetes
- It is also used in other respiratory conditions, including snoring or lung pain, flu, and bronchitis



Photograph by: Neshat Azam Ansari / Ravindra Choudhary
Location: Warehouse-MPT

Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1572278/>
<http://www.efloraofgandhinagar.in/climbers/bougainvillea-spectabilis>

Subabul ●●

(Horse Tamarind)

Botanical Name:
Leucaena leucocephala

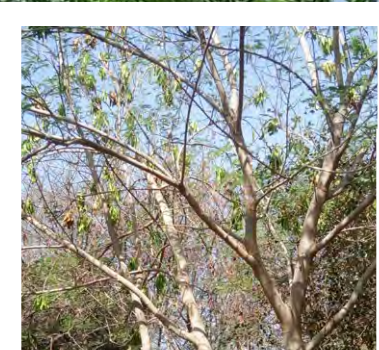
Habitat:
Disturbed and degraded lands
Flowering Season:
March-April

Features

- A fast-growing, evergreen, thornless tree, reaching a height of 5 metres
- An aggressive coloniser of wastelands
- It is tolerant of dryer climates (300 mm) and drought periods (up to six to seven months).
- It has a deep taproot and is highly branched. Leaves are bipinnate, bearing numerous leaflets 8 mm to 16 mm long

Uses

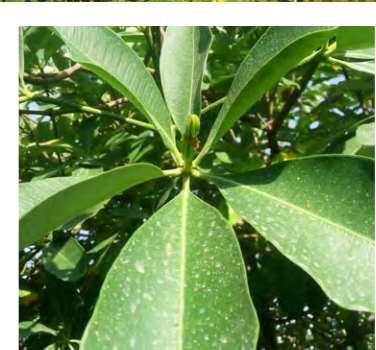
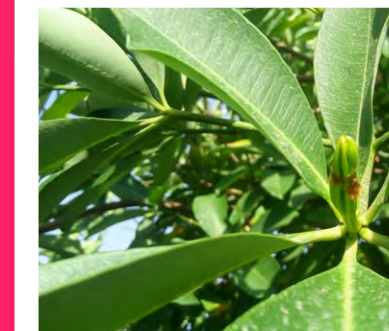
- It is a fast-growing plant with an extensive root system and has been used in land reclamation, and preventing soil erosion
- Subabul is valuable for its wood, which is used to make good quality charcoal, small furniture, and paper pulp



Photograph by: Ishita Khazanchi
Location: Desert Park-MPT



Source: <https://www.feedipedia.org/node/282>
<http://tropical.ferns.info/viewtropical.php?id=Leucaena+leucocephala>



Photograph by: Ishita Khazanchi
Location: Environment Lab-MPT

Source: <http://www.nbrienvs.nic.in/WriteReadData/CMS/Alstonia%20scholaris.pdf>
<https://vikaspedia.in/agriculture/crop-production/package-of-practices/medicinal-and-aromatic-plants/alstonia-scholaris>

Saptaparni ●●

(Devil's Tree)

Botanical Name:
Alstonia scholaris
Habitat:
Tropical areas
Flowering Season:
October

Features

- A medium-sized evergreen tree, usually 12–18 metres high, sometimes up to 27 m high, with a close-set canopy
- The bark is rough, greyish white, yellowish inside, and exudes bitter latex when injured
- The species name scholaris refers to the fact that the timber of this tree has traditionally been used to make wooden slates for school children
- Flowers are fragrant, greenish-white, or greyish-yellow in umbrella-shaped cymes

Uses

- An infusion of the bark is used in fever, skin diseases, liver complaints, chronic diarrhoea, and dysentery
- A decoction of the bark is applied as a wash for skin diseases
- The latex provides a good quality chewing gum

Piliya ●●

(Yellow Trumpet Bush)

Botanical Name:

Tecoma stans

Habitat:

Sandy lakes shores, disturbed sites

Flowering Season:

All year

Features

- A fast-growing shrub or small tree that typically grows up to 3-6 feet in height but has a potential to reach up to 7 metres
- Produces clusters of long, thin, and slightly flattened pods in autumn, that contain numerous papery-winged seeds

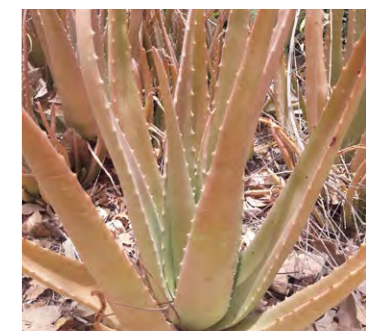
Uses

- A leaf infusion can be taken orally for treating diabetes and stomach pain
- A strong leaf and root decoction is taken orally as a diuretic
- It is often grown as an ornamental plant



Photograph by: Neshat Azam Ansari
Location: Environment Lab-MPT

Source: <http://tropical.theferns.info/viewtropical.php?id=Tecoma+stans>
<http://www.efloraofgandhinagar.in/shrub/tecoma-stans>



Photograph by: Surender Singh
Location: Environment Lab: MPT

Source: <https://ijpsr.com/bft-article/phytochemical-constituents-of-aloe-vera-and-their-multifunctional-properties-a-comprehensive-review/?view=fulltext>

Ghrit Kumari ●●

(Aloe Vera)

Botanical Name:

Aloe barbadensis miller

Habitat:

Arid sandy conditions

Flowering Season:

February-March

Features

- In India, it is found in Rajasthan, Andhra Pradesh, Gujarat, Maharashtra, and Tamil Nadu
- The most utilised medicinal plant worldwide
- A perennial succulent xerophyte with triangular leaves that develop water storage tissues to survive in dry areas

Uses

- Contains antioxidants such as vitamin A, C, and E
- It has cooling properties and is anti-inflammatory, and is used as a natural remedy for sunburns or burnt skin
- Its gel is used as a skin tonic for soothing the skin and keep it moist
- It has antiseptic, anti-inflammatory properties
- It is used as a cure for heart problems and relieving the symptoms of cancer and diabetes

Neem Chameli ●●

(Indian Cork Tree)

Botanical Name:
Millingtonia hortensis
Habitat:
Plains, found in most parts of India
Flowering Season:
January-February

Features

- According to Hindu mythology, it is a heavenly tree brought to earth by god Krishna
- In favourable conditions it can grow up to 24 metres, with pleasantly scented flowers. It is a drought-resistant tree
- Tall and straight, with comparatively few branches, it blooms in the night and early in the morning during cooler months

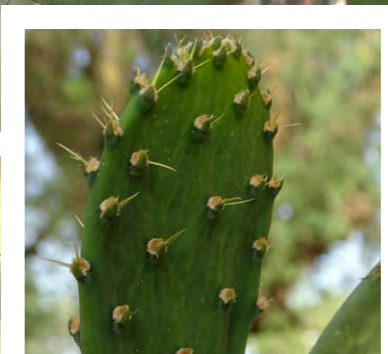
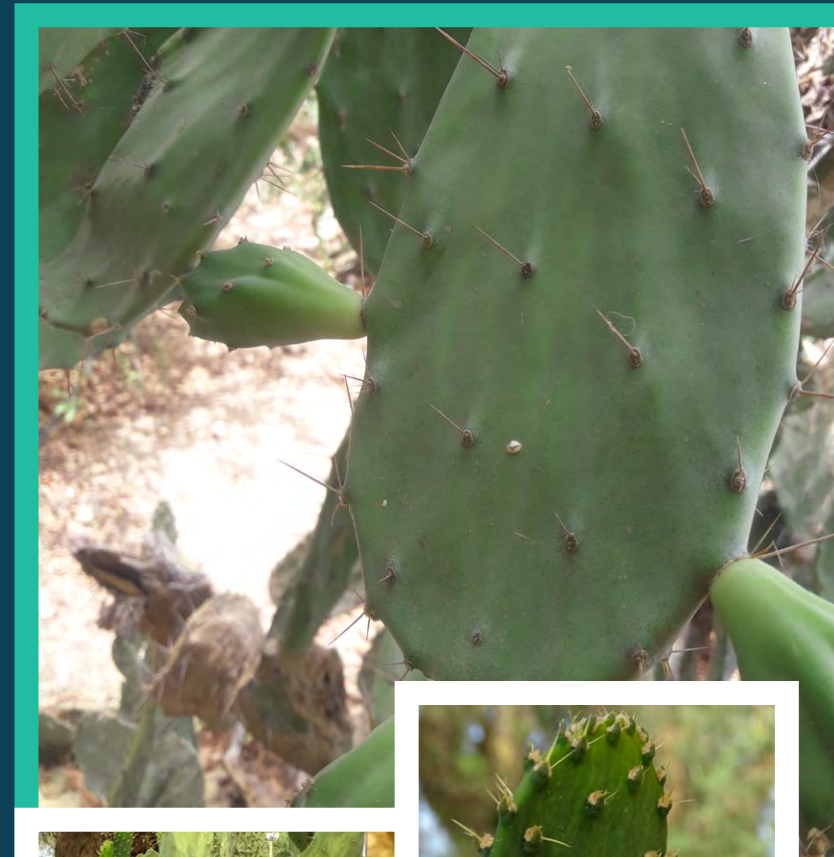
Uses

- Extract of its leaves has antimicrobial properties
- Dried flowers are used as a bronchodilator and also used as a lung tonic
- Bark is used to prepare dye



Photograph by: Brijesh Oza, and Surender Singh
Location: OB Barmer

Source: <http://globalresearchonline.net/journalcontents/volume4issue2/Article%202020.pdf>



Photograph by: Ravindra Choudhary
Location: RGT

Source: <https://www.cabi.org/isc/datasheet/37714>
<http://tropical.theferns.info/viewtropical.php?id=Opuntia+ficus-indica>

Nagphani ●●

(Prickly Pear)

Botanical Name:
Opuntia ficus-indica
Habitat:
Dry rocky areas
Flowering Season:
June-July

Features

- A slow-growing perennial shrub that can grow up to 3-5 metres high
- Leaves are generally reduced to thorns but may exist on young cladodes, however, they wither and fall quickly
- The fruit is succulent, reddish, ellipsoid, 7 cm long, and edible

Uses

- Fruits are used to prepare sweets and fermented liquor
- Fruit juice contains ascorbic acid(40mg/100g), carotene (9mg/100g), citric acid (0.8%), pectic substance, and gum.
- Seeds are nutritious (12.06%) and may be used as animal feed after grinding
- Slices of stem are heated and placed in water that is used to treat stomach inflammation
- Young stems are used as vegetables and mature stem are used as forage

Maulsari ●●

(Spanish Cherry)

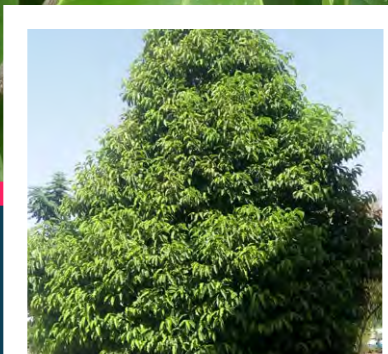
Botanical Name:
Mimusops elengi
Habitat:
Most parts of India
Flowering Season:
December-January

Features

- A native Indian plant, it has been integral to the history of medicine
- All parts of this plant are used to cure various kinds of disorders
- It is very famous for its shade and fragrant flowers

Uses

- The fruit is sweet and used for curing chronic dysentery
- The leaves are well known for their analgesic properties
- Unripe or ripe fruits, and flowers are used to prepare a lotion for sores and wounds



Photograph by: Surender Singh
Location: OB-Barmer



Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3609369/>

Kachri ●●

(Indravan)

Botanical Name:
Cucumis callosus
Habitat:
Sandy plains
Flowering Season:
June-July

Features

- Kachri is an annual climber, producing stems around 1.5 metres long that sprawl along the ground or into other plants where they attach themselves through tendrils.
- Kachri requires a hot and dry climate and a long growing season preferably with warmer days for cultivation both in rainy and summer season.
- High temperature and dryness is beneficial for this crop, fruit maturity, and quality and are also best for dehydration of its fruits

Uses

- Sundried kachri is used to make chutney along with garlic and chilies.
- Green fruit used as vegetable
- Kachri powder is used to cook meat in Rajasthan.
- Its roots are dried in shade to make powder and used once at night with lukewarm milk to treat fever
- Flowers are immersed in water for an hour or two and consumed twice a day to prevent heat strokes



Photograph by: Jetha Ram
Location: Greenbelt Area, Flood Channel, MPT



Source: <https://krishi.icar.gov.in/jspui/bitstream/123456789/2335/1>
https://www.researchgate.net/publication/273906292_Ethnobotany_of_a_threatened_medicinal_plant_Indravan_Cucumis_callosus_from_central_India

Junglisaru ●●

(Whistling Pine)

Botanical Name:

Casuarina equisetifolia

Habitat:

Sandy areas

Flowering Season:

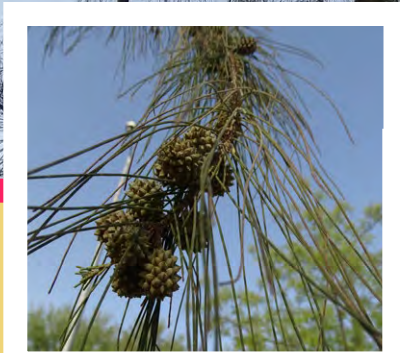
All year

Features

- An evergreen tree with a finely-branched, feathery crown
- This species can be monoecious or dioecious
- The tree fixes atmospheric nitrogen, is salt tolerant, and can grow vigorously on barren land

Uses

- The bark contains tannin which is used for preserving ropes
- Casuarina poles are used for scaffolding
- The bark is used traditionally to treat constipation, cough, stomachache, throat infections, and diarrhea
- Seeds have anti-diabetic properties
- The wood is suitable for paper pulp and is a promising raw material to manufacture paper for writing, printing, and wrapping



Photograph by: Ravindra Choudhary

Location: RGT

Source: https://www.researchgate.net/publication/304400379_Casuarina_equisetifolia_L_A_potential_tree

Cairn Oil & Gas

VEDANTA LIMITED

DLF Atria, Phase 2, Jacaranda Marg, DLF City, Gurugram - 122002, Haryana, India
T +91 124 459 3000 | F +91 124 414 5612 | www.cairnindia.com

CIN: L13209MH1965PLC291394

