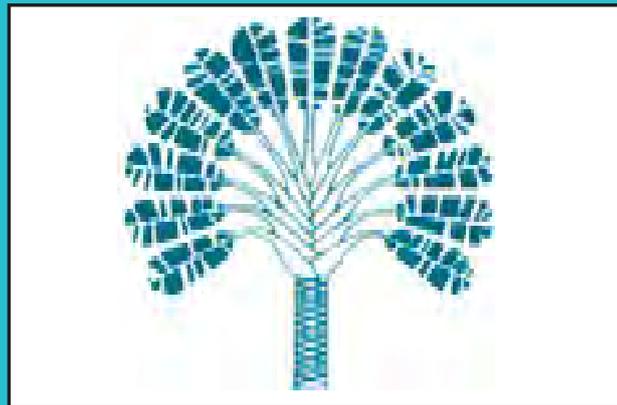




# Plants for life .... a celebration



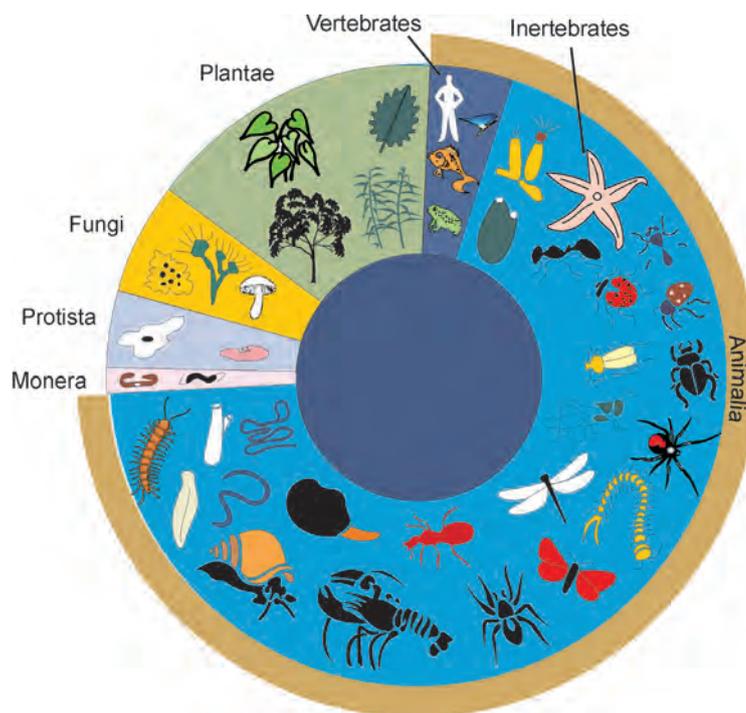
**Botanic Gardens Conservation International**

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## Plants for Life

### How many plants?

There are about 3,10,000 (three lakhs and ten thousand!) kinds of plants on Earth. India has 45,000 kinds of plants of which one-third are unique ...meaning they are found only in India. We say they are *endemic* to India. India has many species of such plants, more than many other countries. Certain regions in India like the Western Ghats, the northwestern and northeastern regions, eastern Himalaya, and Andaman & Nicobar Islands have many endemic plants.

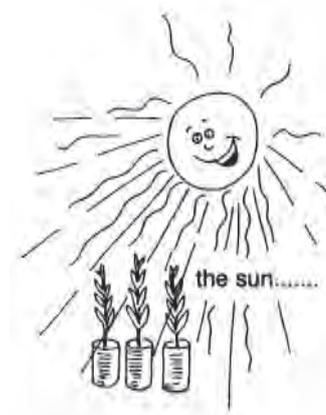


### How about animals ?

There are about 14,62,000 (Fourteen lakhs sixty two thousand only) kinds of animals (invertebrates & vertebrates) which live on Earth. Most animals need plants for their survival -- directly or indirectly.

### What? No flowers?

The beauty of a plant is its flower. But there are some plants that do not flower! Plants like conifers and cycads do not flower. There are about 15,000 flowering plants in India -- coconut, bamboo, jasmine -- and 64 non flowering plants. To help us understand plants better, plant scientists classify plants into flowering plants and non-flowering plants.



### Can we trap energy from the sun?

No we can't. But plants can! Many of us fail to realise that plants are the secret source of energy. They trap energy from the sun and store it in the form of fruits, seeds, and roots which we eat. All animals depend on plants for their food either directly or indirectly. So plants give us life.



### The Money Tree

The benefits that we get are manifold and it may be a surprise when we calculate the service that we get in terms of money. The total value of plant service in the world has been estimated to be 33.3 trillion dollars (1,332 lakh crores).

We receive many benefits from plants directly. We already mentioned food but plants also provide water. Plants are essential to trap water in the soil which increases the ground water level.

## The Medicine Tree

Most medicines we use come from plants. Plants also help us indirectly. Plants help to maintain a healthy atmosphere. Trees in sufficient quantity control storms, droughts and floods. Plants give us oxygen that we breathe. Plants help us reduce pollution. Plants maintain the fertility of the soil.



## The Doctor Tree

In traditional medicine plants were used as drugs. In modern medicines, plant products are the main source for treatment of disease. Some people think that all plants have some medicinal properties. About 2,532 plants are used in Indian folk-medicine. The medicine for treatment of malaria is from a plant called *Cinchona*. Traditional medicines are used by about 60% of the world's population. These are also used in developed countries as well where modern medicines are predominantly used. Use of plants as a source of medicine has been passed on from generation to generation for thousands of years. Plants are an important component of the health care system in India.

## Will we always have enough plants ?

Plants on earth are now in danger. Mankind is cutting down trees to build houses, make paper, furniture, build fences, medicine and the many other materials that we use in daily life. Because of so much use plants are not safe; they are disappearing from earth.

## Do you want to protect plants ? ... our savours !

Do you feel that plants need care and protection? The best way to protect plants is to learn about them. You can also create interest in plants and their survival. You can take action and convince other people also to take action.

## The Saving Tree

It is easy to help save plants in your everyday life. If we all do something we can really make a difference to protect plants and our planet.

## Protect plants by

- Reducing the amount of electricity you use
- Turning off the TV when not watched.
- Making sure computer screens are off when not in use.
- Cycling or walking or using public transport.
- Producing less waste by
  - using the least possible packaging
  - re-using everything you can
  - repairing things instead of replacing
  - buying as many recycled products as possible
  - recycling and composting as much as you can.
- Using local plant species to make your garden more wildlife friendly.

Plants serve so many important functions and yet it is estimated that two thirds of the world's species will be lost by 2010. Plants are losing their forest homes.

**Remember we can not live without plants. So let us protect them.**

## Learning about plants

Five different kinds of plants useful to mankind, are used here to help you learn more about plants. Some of these are found in India and Asia. These are just a few examples taken from the thousands of kinds of plants around the world.

Learn about these important types of plants ...the names, structure and their uses to man. Here are their names :

**Coconut** (*Cocos nucifera*)

**Rattan** (*Calamus hookerianus*)

**Cactus** (*Pilosocereus royenii*)

**Birch** (*Betula albosinensis*)

**Pine** (*Taiwania cryptomerioides*)

The best learning technique is through games or activities. While learning about plants we will associate the name of trees with its parts, that is the 'trunk' or 'stem' and its uses.

**Enjoy learning !**

## Tree information

### Coconut

**Cocos nucifera** or coconut is one of the most useful palms. It is grown throughout India and in all tropical countries. It has a single trunk. It can grow up to 80 feet tall and yield 75 nuts a year. It can live for 80 years and start producing fruit from the fifth year.

Uses: All parts of coconut plant are useful. The white, fleshy part of the nut is edible and the cavity is filled with "coconut milk". Coir is the fiber from the husk of the nut, used in ropes, mats, and brushes. Copra is the edible dried part of the fruit. Coconut Oil is used for cooking and in soap industry. The trunks provide building timbers, the leaves provide materials for thatch and the husk and shells can be used for fuel. Toddy is obtained from the sap, which is derived from incising the flower clusters of coconut. Many varieties of coconuts are cultivated in India.



### Rattan

**Calamus hookerianus** is one of 26 Rattan species.

Rattans are mostly trailing or climbing spiny-palms with characteristic scaly fruits. The leaves are feather shaped. They grow in India in tropical forests.

Uses: Rattans are used mainly for making ropes, furniture frames, walking sticks, polo sticks, umbrella handles, baskets, sports goods, mats, wicker work, for stuffing and packing etc. Apart from conventional uses, these have beneficial medicinal



uses as well. And these are found in tropical forest ecosystem.

There are about 600 species of Rattans worldwide and 53 in India. Rattan in India are mainly distributed in the evergreen, semi-evergreen and moist deciduous forests in the Western Ghats of Penninsular India, Eastern and North-eastern India and the Andamans & Nicobar Islands.

## Birch

***Betula albosinensis*** is an example for Birch species. Young trees grow upright but the trunk and branches hang down and form curves. This is an interesting tree to observe. The bark peels and shines like burnished copper in rose, pink and purple shades.

Uses: The parts of the trees are used as broom and tool handles. The twigs are used in brooms and steeplechase jumps (Horse-race)



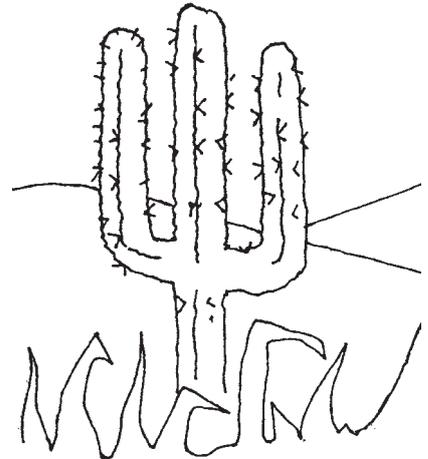
These trees are found in Afghanistan, China, Japan, India Kazakhstan, Korea, Kyrgyzstan, Mongolia, Nepal, Russia, Europe, North and South America. There are about 60 species of Birch trees and shrubs found across this region.

## Cactus

***Pilosocereus royenii*** is a kind of tree Cactus. The flower of tree cactus bloom during night time only. The flowers are pinkish to greenish in colour. The fruits are brownish.

Uses: Varieties of cactus are used as ornamental plants. The spine less varieties are used as food of natives of Americas for thousands of years.

*Pilosocereus royenii* is found in Mexico, Bahamas, Dominican Republic, Jamaica, Puerto Rico, Tobago, Virgin Islands, Lesser Antilles



## Pine

***Taiwania cryptomerioides*** is a kind of Pine. It is a rare, conifer tree. This is exceptionally lightwood. It is used in the making of coffins in Taiwan and hence it is called coffin tree. This is found in Taiwan at an elevation of 1500-3500m from the sea level. It can grow up to a height of 60m. It is said to live up to 2000 years.

Uses: The wood is easily worked, and is used in building, making furniture and coffins, bridge and boat construction, and paper manufacture.

This tree grows naturally in Myanmar and in South West China.

