



making sense of the climatron®

look up. What do you see? Some of the palm leaves here are over 16 feet long. This allows them to absorb more sunlight. What could you do with such a big leaf?

listen for animal sounds. What do you hear? About half the world's plant and animal species live in the tropical rain forest. How many feathered friends can you find that live here?

smell the damp air of the Climatron. Would you like to live in a place that is warm and wet all the time? It rains 80 to 400 inches each year in the rain forest. The temperature is 70 to 85° F.

touch gently the leaves of the cycad and the fern. What is similar? What is different? Many cycads have sharp spines on their leathery leaves for protection. But that didn't stop dinosaurs from eating them!

taste? Which of your favorite foods come from the tropical rain forest? (chocolate, cashews, chewing gum, etc.). How many can you find growing along the Agricultural Trail?

how many can you find?

- _____ bird-feeding stations
- _____ waterfalls and ponds
- _____ fish
- _____ flowers
- _____ plants with roots above the ground

history

In 1958, Garden Director Frits Went declared the need for a "new structure to be the latest word in greenhouse construction." The challenge in constructing a contemporary greenhouse, according to architect Gene Mackey, Jr., was to "create a minimum structure that would permit the maximum transmission of light." The architects turned to the geodesic dome.

Patented by Buckminster Fuller in 1954, the geodesic dome is a hemisphere made up of a network of lightweight but strong triangles, with perfectly distributed stress. The resulting structure has no need for interior supports, thus allowing maximum space and light for plants.



On October 1, 1960, the world's first geodesic dome greenhouse opened to the public. Called the "Climatron" for its climate-control abilities, the structure was toured by over 100,000 visitors in the first two months. In 1961, architects Murphy and Mackey won the coveted Reynolds Award, a prize for architectural excellence in a structure using aluminum. In 1976, the Climatron was named one of the 100 most significant architectural achievements in United States history.

DONOR OPPORTUNITIES

You can make a difference in the Garden. Special naming opportunities exist for honoring or memorializing your loved ones. For information, contact the Development Office at (314) 577-5120.

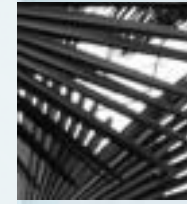
 MISSOURI BOTANICAL GARDEN
4344 Shaw Boulevard • Saint Louis, Missouri 63110
(314) 577-9400 • www.mobot.org

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Printed on 100% post-consumer recycled paper.
Photography by Beth Haines, Elizabeth McNulty, Josh Monken, Teresa Mulvihill, and Tim Parker.

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 Paper manufactured using 100% wind power.

11/05

THE CLIMATRON®



The Climatron® Conservatory

new inside ->

THE CLIMATRON®

Welcome to one of the most recognizable icons of the Missouri Botanical Garden, the Climatron® conservatory. Built in 1960, the Climatron is the world's first geodesic dome greenhouse. Walk beneath the native thatch hut, and inside you'll find a lush lowland rain forest, complete with waterfalls, tropical birds, and some 1,500 rare, fragrant, and interesting plants.



1. DOUBLE COCONUT (*Lodoicea maldivica*) Native to the Seychelles Islands off the east coast of Africa, this rare and endangered palm bears the largest and heaviest seed of any plant, weighing up to 50 pounds.

2. PASSION FLOWERS (*Passiflora*) Climbing vines feature ingenious protection against hungry caterpillars: tiny yellow structures on the leaves imitate eggs, so that butterflies think the vine is already occupied.

3. OLD MAN PALM (*Coccothrinax criinita*) Native to Cuba, it is called the "Old Man" palm because of its scraggly, white "beard" of fibers.

4. BUTTRESS TREE Many tropical trees develop thin, plank-like projections at their bases to help extend their roots broadly. The hollows that can form between the tree's fins are often home to a variety of animals.

5. ANT PLANTS An exhibit on plants, such as *Myrmecodia* and *Dischidia*, which have adapted to be homes for ants. See the ant colony living in an acacia shrub in the Brookings Interpretive Center.

6. FALLEN TREE Exhibit shows the cycle of fallen trees in the rain forest. When a tree falls, the opening allows more light in to other plants and many different animals use the tree for food and protection.

7. TROPICAL CARNIVORES (*Nepenthes*) Hanging overhead, these plants trap insects and other small animals in the pitcher-shaped parts of their leaves by secreting nectar and imitating the look of rotten meat.

8. WATER GARDENS See floating aquatic plants: water lettuce (*Pistia stratiotes*) with its spongy, air-filled leaves, and *Salinnia*, a small floating fern.

9. CYCAD RIDGE Some of the oldest plants known, cycads bear cones and are related to plants that flourished during the age of the dinosaurs. Some the Climatron's specimens were exhibited in the 1904 World's Fair.

10. TALIPOT PALM (*Corypha umbraculifera*) With 24 million flowers, the flower clusters of this palm are the largest in the plant kingdom. The Talipot is the largest palm in the Climatron, with leaf blades up to 16 feet long.

11. BANYAN TREE A species of fig (*Ficus*), the tree begins as an epiphyte, growing on another plant. It sends down aerial roots, which become "trunks," allowing it to extend eventually over several acres.

12. ARISTOLOCHIA TREE This plant commonly exists as a vine, but in tree form it is one of the rarest plants in the Climatron. Unusual blooms off the trunk near the ground are designed to attract the mushroom gnat.

13. EPIPHYTE FOREST Epiphytes are plants that grow perched on other plants. Orchids, bromeliads, and ferns are just a few. There are also epiphytic cacti, a rare epiphytic cycad, and many epiphytes from other families.

14. ARBOR The long roots of the curtain vine hang overhead. To the left notice the gnarled stem of the primitive gnetum vine, which bears exposed seeds in cones.

15. AGRICULTURAL TRAIL Humans depend daily on plant products of tropical origin. This trail focuses on such economic plants. At least one-half of the world's population relies on rice as the basis for their diet, and several species are grown here. Nearby are sugar cane, pineapple, and cassava.

Cacao, the base for chocolate, was once used by the Mayans and the Aztecs to make a beverage called "the food of the gods." Behind the cacao tree, on the wall, you can see a rattan plant, a vining palm that can grow to 600 feet long. The chicle tree, known for producing the main ingredient of chewing gum in the past, also bears a delicious fruit. Other fruits on display: avocado, carambola (star fruit), cherimoya (custard apple), guava, jackfruit, and jaboticaba, one of the most popular fruits in Brazil.

To the right is a vanilla orchid, the seedpods of which produce true vanilla flavoring. Further down the trail are a coffee tree and several bananas. Bananas are not actually trees with woody stems, but the world's largest herbaceous plants.

16. SCREW PINE (*Pandanus*) Named for its architecture, the screw pine is actually a flowering plant. Its leaves are often woven into thatch, baskets, hats, and mats, and the flowers used for perfumes and folk medicines.

17. AMAZONIAN AQUARIUM This tropical aquarium illustrates specific qualities of a river ecosystem and contains Amazonian fish, such as the silver dollar fish.