

NC Zoo
Guide
to the
Forest Aviary
Plants



North Carolina Zoo
Asheboro • Connect your life to wildlife





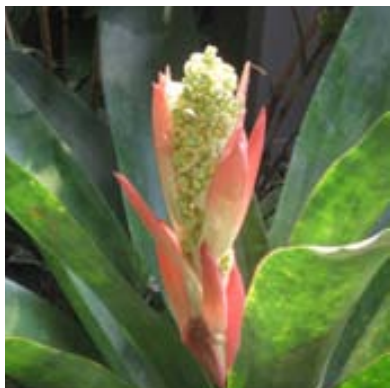
1. EPIPHYTES

Epiphytes are plants that grow high on trees, vines or rocks to take advantage of the sunlight in the canopy layer. They have special roots to help them hold on and special methods for using water. Epiphytes are not parasitic and only use the host plant for support. Orchids, ferns, bromeliads and even cacti may grow as epiphytes and you will find these throughout the Aviary.



2. BROMELIADS

Water collected in bromeliads provides passing animals with pools from which to drink, and places for insects such as Great Damselflies and mosquitoes to lay their eggs. Bromeliads are also used as tadpole nurseries by certain tropical frogs.





3. ORCHIDS

The majority of orchids grow in the tropics and more than half of orchid species are epiphytes. The Orchid family is one of the largest families of flowering plants and the beauty and diversity of the flowers comes from specialized shapes and scents developed to attract pollinators.



4. PINEAPPLE,

Ananas comosus

Family: Bromeliaceae
Origin: South America

Cultivated for its fruit that is consumed fresh or as canned fruit or juice, it is the third most important commercial tropical fruit crop in the world. (Seasonal display)



5. VANILLA ORCHID

Vanilla planifolia 'Variegata'

Family: Orchidaceae
Origin: Central America, West Indies

Vanilla is an orchid grown commercially for its seed pods or 'vanilla beans'. The flowers are open only for one day and must be hand-pollinated. The resulting seedpods are harvested green, cured by a sweating process and used for extract and flavoring. Most of the world's vanilla comes from Madagascar and Indonesia.



6. BRAZILIAN GRAPE TREE *Myrciaria cauliflora*

Family: Myrtaceae

Origin: Brazil

Flowers and fruit are borne directly on the trunk and branches of the Brazilian Grape Tree. Grape-sized dark purple fruit are usually consumed fresh.



7. POWDERPUFF, *Calliandra haematocephala*

Family: Fabaceae

Origin: Bolivia

Raspberry-like flower buds open to red powderpuff flower heads consisting of masses of scarlet stamens. *Calliandra* comes from the Greek words kallos, meaning beauty, and andros, meaning stamen.



8. SHRIMP PLANT, *Justicia brandegeana*

Family: Acanthaceae

Origin: Mexico

White flowers protrude from reddish bracts that resemble a shrimp, hence the common name. Hummingbirds and butterflies are attracted to the flowers.



9. GIANT SPIRAL GINGER, *Tapeinochilus ananassae*

Family: Costaceae

Origin: Malaysia

Large long-lasting cones are made up of waxy red bracts with occasional yellow flowers appearing from the bracts.



10. LOLLYPOP PLANT, *Pachystachys lutea*

Family: Acanthaceae

Origin: Peru

Overlapping yellow bracts with protruding white flowers are thought to resemble lollipops.



11. PACAYA PALM, *Chamaedorea tepejilote*

Family: Arecaceae

Origin: Mexico to Colombia

This palm has been cultivated for centuries, especially in Guatemala where the local peoples consume the unopened male flowers (pacaya). Pacaya is a popular and important vegetable, eaten raw or cooked.



12. ORANGE SHERBET IXORA, *Ixora javanica* 'Orange Sherbet'

Family: Acanthaceae

Origin: Mexico

Soft orange flowers are carried in clusters and the leaves are said to have anti-tumor activity.



13. WEEPING FIG, *Ficus benjamina*

Family: Moraceae

Origin: South & Southeast Asia, Australia

One of the most common house plants, Weeping Fig grows into a large graceful tree with pendulous branches and shiny leaves when in its native range. The small fruit are a favorite for several species of birds.



14. SAPODILLA, *Manilkara zapota*

Family: Sapotaceae
Origin: Mexico, Central America

Sapodilla trees, when tapped, yield milky latex called chicle- the original base for chewing gum. Now most chewing gum is synthetic-based. This tree yields edible fruit and also very dense, hard wood.



15. BLACK PEPPER, *Piper nigrum*

Family: Piperaceae
Origin: India, Ceylon

Pepper is one of the oldest and best-known spices in the world. From the earliest days of commerce, pepper's ability to spice up the bland European diet made it an item of extreme luxury and a staple of trade. Today, the United States imports about 35 to 40 million pounds annually. Black and White Pepper actually comes from the same plant, *Piper nigrum*. Black Pepper is made from dried unripened fruit. White Pepper is made from the inner portion of the fully ripened fruit.



16. DWARF YLANG YLANG, *Cananga odorata var. fruticosa*

Family: Annonaceae
Origin: Southeast Asia

This compact shrub produces very fragrant yellow flowers, much like the Ylang Ylang tree's flowers used in the perfume industry (Chanel # 5)



17. LIGNUM-VITAE, *Guaiacum sanctum*

Family: Zygophyllaceae
Origin: South Florida, West Indies

This tree produces the hardest of commercially available wood, so heavy it sinks in water. The wood was once popular for bowling balls, propeller shafts, gears and mallets. It is now endangered due to commercial exploitation. Its resin is also used medicinally.



18. PANAMA ROSE BUSH PENTAS,
Rondeletia leucophylla 'Panama Rose'

Family: Rubiaceae

Origin: Mexico

A winter blooming shrub with clusters of pink, star-shaped flowers that are sweetly fragrant after sunset.



19. WEST INDIAN MAHOGANY,
Swietenia mahagoni

Family: Meliaceae

Origin: Cuba, Haiti, Jamaica,
San Domingo, the Bahamas,
and the Florida Keys

This tree is the original mahogany of commerce and is listed as an internationally endangered species due to overharvesting. It has been replaced as a source of timber by *Swietenia macrophylla*, Mahogany is the most exported timber of tropical America.



20. RED GINGER, *Alpinia purpurata*

Family: Zingiberaceae

Origin: Pacific Islands

Red Ginger has very showy long-lasting blooms of red bracts with an occasional white flower. They develop into large clumps and are sold as tropical cut flowers.



21. SINGAPORE GOLD SHAMPOO GINGER,
Zingiber zerumbet 'Singapore Gold'

Family: Zingiberaceae

Origin: Malaysia

A milky substance coaxed from the cone-shaped floral bracts of this aromatic plant is used as shampoo in Asia and Hawaii and is also an ingredient in some brands of commercial shampoo.



22. CHOCOLATE TREE OR CACAO, *Theobroma cacao*

Family: Sterculiaceae

Origin: Central and South America

This tree is the principle source of cocoa, grown throughout the wet lowland tropics. After fermentation and roasting, the seeds yield the cocoa and chocolate of commerce. Flowers and fruits are born on the woody trunks and limbs.



23. QUEEN SAGO, *Cycas circinalis*

Family: Cycadaceae

Origin: Old World Tropics

Cycas are members of an ancient and distinct group of plants known as Cycads. These plants were widespread when dinosaurs roamed the earth but many species are endangered now.



24. BLACK SAPOTE, *Diospyros digyna*

Family: Ebenaceae

Origin: Mexico & Central America

Black Sapote produces a tomato-sized fruit that is made into dessert, pie filling, ice cream, or sometimes a liqueur. It has been used in traditional medicines and the unripe fruit have been used as a fish poison. It is very closely related to the native persimmon of the U.S. and sometimes called Black Persimmon.



**25. GOLDEN FLEECE
RATTLESNAKE PLANT, *Calathea crotalifera* 'Golden Fleece'**

Family: Marantaceae

Origin: Mexico to S. Trop. America

Aptly named for the rattle shaped bract, this cultivar has yellow bracts with small white flowers. Rattlesnake plants have naturalized throughout the Hawaiian Islands.



26. SPIRAL FLAG, *Costus*

Family: Costaceae

Origin: Tropics

Named for the spiraling stems, some species are velvety soft on the backs of the leaves. Inflorescences can range from showy cone-like bracts to soft crepe-like flowers.



27. SATINWOOD, *Murraya exotica*

Family: Rutaceae

Origin: Southeast Asia

This large attractive shrub has glossy leaves and produces clusters of wonderfully fragrant white flowers several times throughout the year.



28. CURRY LEAF, *Murraya koenigii*

Family: Rutaceae

Origin: India

The leaves of this small tree are used as seasoning in Asian cooking, however the seeds are poisonous.



29. FRANGIPANI, *Plumeria*

Family: Apocynaceae

Origin: Mexico, Central America

Plumeria has been spread to all tropical areas of the world and many people think it is native to Hawaii and other Pacific Islands. The flowers come in many colors and are most fragrant at night to lure moths from flower to flower, although they have no nectar. Flowers are also used for making leis, and in Polynesian culture can be worn by women to indicate the status of their relationships.



30. STAGHORN FERN, *Platycterium*

Family: Polypodiaceae

Origin: Tropics

These ferns are epiphytic - growing on trunks and branches of other plants. The uniquely shaped fronds resemble antlers of a stag or elk, thus the name Staghorn Fern.



31. TILLANDSIA, *Tillandsia*

Family: Bromeliaceae

Origin: Southern US, Central & South America

Tillandsias are epiphytes which grow without soil, attached to other plants and only using the host plant for support. Moisture and nutrients are gathered from the air and from decaying leaves, insect matter and the occasional animal feces. Tillandsia species are found in the deserts, forests and mountains of tropical and subtropical America. Thinner leafed species grow in rainy regions and thick leafed ones in drier areas. A species of Tillandsia called Spanish Moss, *Tillandsia usneoides*, is familiar to many as it grows in the southeastern U.S. hanging in masses from Live Oaks and Bald Cypress.





32. FISHTAIL PALM, *Caryota mitis*

Family: Arecaceae
Origin: Southeast Asia

Named for the leaves with fishtail shaped leaflets, the red fruit produced by this palm contains oxalic acid which is toxic when ingested, and may result in severe dermatitis if contacted with skin.



33. PAPER FLOWER, *Bougainvillea glabra*

Family: Nyctaginaceae
Origin: South America

These vigorous woody vines use hooked thorns to scramble over other plants and structures. The small white flowers are surrounded by bright papery thin bracts and are produced in spectacular masses, making *Bougainvillea* popular as ornamental plants in the tropics.



34. MACADAMIA NUT TREE, *Macadamia integrifolia*

Family: Proteaceae
Origin: Queensland, Australia

Macadamia nut trees grow in Australian rainforest and along stream banks. It was introduced to Hawaii in 1881 as an ornamental tree and in 1948 new selections led to commercial production. The creamy white kernels are up to 80% oil and 4% sugar and are considered by many to be the prime edible nut.



35. TURNIP FERN, *Angiopteris angustifolia*

Family: Marattiaceae
Origin: Malaysia to Philippines

These giant ferns are considered primitive since similar fossilised fronds have been found in rocks millions of years old. In the wild they grow in rainforests, often near streams.



36. AUSTRALIAN TREE FERN, *Cyathea cooperi* 'Brentwood'

Family: Cyatheaceae

Origin: Australia

This single-trunked giant fern can grow to 30 feet.



37. BREADFRUIT, *Artocarpus altilis*

Family: Moraceae

Origin: Malay Peninsula

Breadfruit is a staple food crop in many tropical areas and the starchy fruit can be roasted, fried, baked, boiled, or fermented. In 1789, Captain Bligh lost his ship *Bounty* to a mutiny by members of the crew on the voyage back to England from Tahiti, where they had been sent to collect breadfruit as a cheap food for slave laborers who worked the sugar plantations of the West Indies.



38. CARDINAL'S GUARD, *Pachystachys coccinea*

Family: Acanthaceae

Origin: West Indies & South America

This upright shrub produces long spikes of scarlet red flowers which emerge out of a green cone.



39. SNAKEWOOD TREE, *Cecropia palmata*

Family: Cecropiaceae

Origin: Central & South America

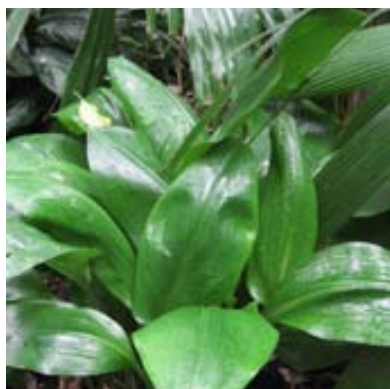
This fast growing tree has hollow internodes which are colonized by stinging ants attracted to the honey-like sap. This results in a symbiotic relationship with the ants protecting it from other leaf-eating insects. Many medicinal uses by indigenous people are documented.



40. ARECA PALM, *Dypsis lutescens*

Family: Arecaceae
Origin: East Madagascar

The Areca Palm, or Golden Cane Palm as it is also known, is very popular as a house plant and is commonly used in tropical landscapes around the world. Unfortunately it is endangered and very rare in its native home of Madagascar.



41. AMAZON LILY,

Eucharis amazonica

Family: Alliaceae
Origin: South America

Amazon lily has clumps of deep green, glossy leaves and produces waxy, white flowers that resemble daffodils. The flowers are fragrant and sometimes sold as cut flowers.



42. LADY PALM, *Rhapis excelsa*

Family: Arecaceae
Origin: South China

Lady Palms are slow-growing, undemanding and long-lived. The Japanese first collected these palms from China in the 17th century for the Imperial palaces and important nobility. During the 1800s, their fame began to spread and they were grown in conservatories, botanical gardens and as parlor palms across Europe and the U.S.



43. ROSE APPLE, *Syzygium jambos*

Family: Myrtaceae
Origin: Southeast Asia

The Rose Apple has showy white sweetly scented flowers followed by rose-scented edible fruit which is eaten fresh or in preserves and jellies. This plant can be quite invasive and become a threat to ecosystems in tropical areas where it has been introduced.



44. BANYAN TREE,
Ficus benghalensis

Family: Moraceae
Origin: India, Pakistan

Banyan trees are one of the species of “strangler figs” that begin life as epiphytes, sprouting from seeds deposited by birds in cracks and crevices of other trees. As the strangler fig grows it sends out aerial roots which gradually reach the ground and then envelope the host tree. The host tree eventually dies of strangulation or shading and the strangler fig stands in its place. Banyan trees can create a forest of massive limbs and prop roots spreading over several acres and are considered sacred by both Hindus and Buddhists.



45. GUAVA, *Psidium*

Family: Myrtaceae
Origin: Tropical America

This small tree is grown for its edible fruit. Sometimes known as “superfruits”, they are rich in vitamins A and C.



46. Papaya, *Carica papaya*

Family: Caricaceae
Origin: Tropical America

Papaya is a short-lived, fast-growing large shrub. A properly ripened papaya fruit is juicy, sweet with a melon-like flavor and rich in vitamins. The leaves and skin of the fruit contain “pa-pain”, a meat tenderizer and digestion aid. The seeds also are edible, imparting a spicy flavor somewhat reminiscent of black pepper.



47. BLUE GINGER, *Dichorisandra thyrsiflora*

Family: Commelinaceae
Origin: Eastern & Southern Brazil

“Blue Ginger”, cultivated for the striking blue flowers, resembles ginger in growth and habit. It is not a ginger at all, instead it belongs to the spiderwort family along with plants like Wandering Jew.



48. SHOOTING STAR, *Clerodendrum quadriloculare*

Family: Lamiaceae

Origin: Philippines

This winter blooming shrub produces striking clusters of flowers that resemble fireworks.

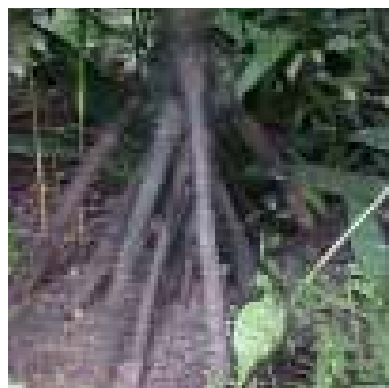


49. RUBBER TREE, *Hevea brasiliensis*

Family: Euphorbiaceae

Origin: Amazon Region

A sap-like substance called latex is extracted from this tree and is the primary source of natural rubber. Rubber tapping can begin when the trees are 5-8 years old and can continue for about 30 years. The trees are then cut and used in the manufacturing of furniture. The wood is valued for its dense grain, minimal shrinkage and attractive color. It is also prized as an “environmentally friendly” wood, as it makes use of trees that have been cut at the end of their latex-producing cycle.



50. STILT-ROOT PALM, *Verschaffeltia splendida*

Family: Arecaceae

Origin: Seychelles

This unusual palm is native to slopes and gorges on the Seychelles Islands. It develops a large amount of stilt roots that can be said to almost walk towards a sunny spot.



51. PINK SHELL GINGER, *Alpinia zerumbet*

Family: Zingiberaceae

Origin: East Asia

Commonly called shell ginger because the flowers resemble sea shells, especially while in bud. Its leaves are sometimes used to wrap zongzi - a traditional Chinese food made with sticky rice and other ingredients cooked inside leaves.



52. COMMON SCREW PINE, *Pandanus utilis*

Family: Pandanaceae

Origin: Madagascar

Leaves of this plant are used to make mats, baskets and even thatched roofs in the tropics and have a waxy coating that makes them naturally water resistant. Large prop roots emerge from the trunk to help support the plant.



53. LOBSTER CLAW, *Heliconia*

Heliconia

Family: Heliconiaceae

Origin: Tropical Americas & Pacific Ocean Islands

Heliconia range from medium to large sized plants with beautiful, erect or pendulous colorful inflorescences. Small flowers bloom from within large, waxy bracts and are an important food source for some hummingbirds.



54. KAPOK TREE, *Ceiba pentandra*

Family: Bombacaceae

Origin: Central and South America, West Africa

This tallest tree of the Amazon rainforest grows fruit containing seeds covered by silky, fluffy fibers with a waxy coating that resists decay. This cotton-like substance, known as Kapok, was used as stuffing for life jackets and as insulation.



55. COMMON BANANA, *Musa acuminata*

Family: Musaceae

Origin: Asia

Bananas originated in Asia with two species, which have been hybridized and domesticated to produce our present day bananas. The banana plant is not a tree, but a large herbaceous perennial. The fruiting stalk dies after producing fruit but offsets arise from the rhizome to replace it. Bananas are typically grown on plantations where tropical forest has been cut down. They are heavy feeders so these plantations only last a few years and then have to be moved to another location; however some growers are now using greener techniques.

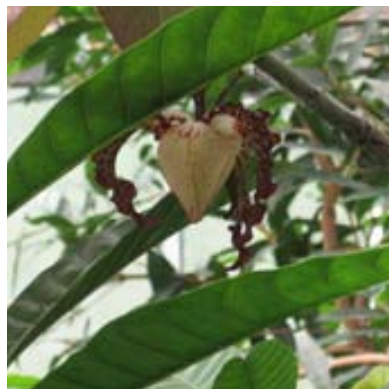


56. RUBBER PLANT, *Ficus elastica*

Family: Moraceae

Origin: Asia

Before the development of synthetic rubber in the 1940's, all rubber came from natural sources. This Rubber Tree produced an inferior natural rubber. Most natural rubber now comes from the plant *Hevea brasiliensis*.



57. AFRICAN NUTMEG, *Monodora myristica*

Family: Annonaceae

Origin: Africa

The seeds of this tree are used as a substitute for nutmeg. (Seeds for this plant came from the Limbe Botanical Garden in Cameroon as part of the N.C. Zoo's international field programs.)



59. GUIANA CHESTNUT, *Pachira aquatica*

Family: Bombacaceae

Origin: Tropical America

Guiana Chestnut is cultivated for its edible nuts which grow in a very large, woody pod. The nuts are said to taste like peanuts, and can be eaten raw or cooked or ground into a flour to make bread. The leaves and flowers are also edible.



60. ARABIAN COFFEE, *Coffea arabica*

Family: Rubiaceae

Origin: Ethiopia

Coffee grown under the natural shade of canopy trees preserves forest and animal (particularly bird) habitat. Hummingbirds, swallows, warblers, orioles, tanagers and other native and migratory birds find a safe haven in the remaining forests of shade coffee plantations.