When Dinosaurs Roamed

the Wetumpka Impact Crater

February 20, 2015 – April 18, 2015

KFMG

KELLY FITZPATRICK MEMORIAL GALLERY

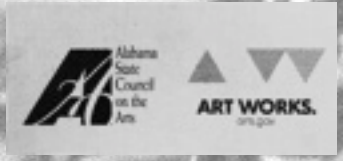
Plant Exhibition

408 SOUTH MAIN STREET | WETUMPKA, ALABAMA 36092 | KFMG-ONLINE.ORG

More than 85 million years ago, during the Cretaceous Period, a large meteor impacted the area now known as Wetumpka, alabama. The impact resulted in a crater approximately five miles in diameter causing significant changes to both the landscape of the area and the inhabitants of both land and sea. At that time, the Wetumpka area was largely covered by an inland sea with barrier islands, and the climate was very different from today. This impact crater is regarded as one of the best preserved marine impact craters in the world.

The exhibition includes large scale paintings, iron sculptures, exhibition models, fossils, plants and a series of oversized educational storyboards outlining much of the scientific research about the crater area. The exhibition also features the work of Karen Carr, Jerry Armstrong, Rick Spears, Jonathon Hughes, Wayne Atchison, Larry Percy and Asher Eilben. Additionally, the exhibition includes a juried exhibition of 65 kindergarten through grade twelve student work and a juried exhibition of 35 adult artists from throughout Alabama.

Major funding provided through a grant awarded to the KFMG by the Alabama State Council on the Arts, which is made possible through funding from an annual appropriation by the Alabama State Legislature and the National Endowment for the Arts. This public support enables the Kelly Fitzpatrick Memorial Gallery to reach new audiences, foster community development, provide high quality programming, and demonstrate the importance of the arts as a component for quality of life in Alabama. Additional support provided by the City of Wetumpka, the Wetumpka Impact Crater Commission, the Kelly Fitzpatrick Memorial Gallery and Wind Creek Casino.



Major Funding Provided by:

Alabama State Council on the Arts and National Endowment for the Arts

SCHEDULE OF EVENTS

Gallery Hours: Monday through Friday from 9am – 4pm, Saturday 10am - 3pm
Docent Guided Tours: Thursday and Saturday between the Hours of 10 am until 3pm.
Student Reception and Award Ceremony: Thursday, March 5, 2015 from 3:30 – 4:30
Adult Reception and Award Ceremony: 5:00 – 6:30 pm
Annual Crater Lecture: Thursday, March 5, 2015 @ 7pm
(Dr. David King@ the Wetumpka Civic Center)
Annual School Crater Tours: Friday, March 6, 2015
Annual Public Crater Tours: Saturday, March 7, 2015

"Choose to Know" Saturday Lectures that are associated with the exhibition "When Dinosaurs Roamed: The Wetumpka Impact Crater" at the Kelly Fitzpatrick Memorial Gallery. All Saturday lectures are free and open to the public and will be presented in the Kelly Fitzpatrick Memorial Galley. Saturday lectures begin at 11am.

- February 21, 2015 @ 11 am - "Alabama's Remarkable Biodiversity and Paleobiodiversity." June Ebersole of the McWayne Science Center, Birmingham Alabama

- February 28, 2015 @ 11 am - Meteorites and Art, Jerry Armstrong, Cosmic Artist, Atlanta Georgia

- March 5, 2015 @ 7pm – The Science of the Wetumpka Impact Crater, Dr. David King, Auburn University Professor of Geology at the Wetumpka Civic Center

- March 21, 2015 @11am - Artists Talk, Geologically Speaking: The Kerygma Series, Larry Percy, Associate Professor of Art of Troy University, Troy, Alabama

- March 28, 2015 @ 11 am - Dana Ehret of the Alabama Museum of Natural History, the University of Alabama, Tuscaloosa, Alabama, "New Fossil Finds for the Alabama Museum of Natural History"

- April 11, 2015 @ 11 am - Art and Science and Making It Up As I Go Along: How to Create Paleo Restoration Models. Rick Spears of the Fernbank Science Center, Atlanta, Georgia

- Friday, May 1, 2015 (Time to be announced) Artists Talk, Paleoart and the Work of Karen Carr, Karen Carr, International Paleoartist of New Mexico

Cretaceous Plant Exhibition

Designer Paul Sadler

The ancient Alabama landscape was much different than what you see today. Dinosaurs and other animals lived in a lush, coastal environment dotted with swamps, ponds, and marshes. In the warm Jurassic Period flora and fauna came to full prosperity again. The growing conditions were very good all over the Earth and abundant vegetation developed. The looks of the forests became totally different from those of the Carboniferous Period. During this time the gymnosperms were dominating.

The land plants of the Early Cretaceous Period were similar to those of the Jurassic. They included the cycads, ginkgoes, conifers, and ferns. The angiosperms appeared in the Early Cretaceous Period and became common by the beginning of the middle of the Cretaceous Period. Angiosperms came to represent the major component of the landscape by the mid-Late Cretaceous Period.

This flora included beech, figs, magnolias, poplars, willows, sassafras, sycamores, and herbaceous plants. By the end of the Cretaceous such plants became dominant and included elm, grape, laurel, birch, oak, and maple also made their appearance, along with grass and the sequoias of California. Interestingly it was during the Cretaceous Period that ferns first took to the trees. With the advent of many new plant types, insects also diversified, including a form of the dragonfly, and most were similar to today's insects. One of the hallmarks of the Cretaceous Period was the development and radiation of the flowering plants. The Late Cretaceous forests in Alabama represented a time when old types of plants that had long dominated the Mesozoic were giving way to the Angiosperms (flowering plants). The flowering plants comprise the vast majority of plant species on earth today, but were just evolving in the Cretaceous. About 40%-60% of the forests appear to have been composed of flowering plant species, with the remainder composed of ferns and allied plants, including tree ferns, and the Gymnosperms, the group to which conifers belong. Pine trees seem to have been confined only to the western edge of the state.

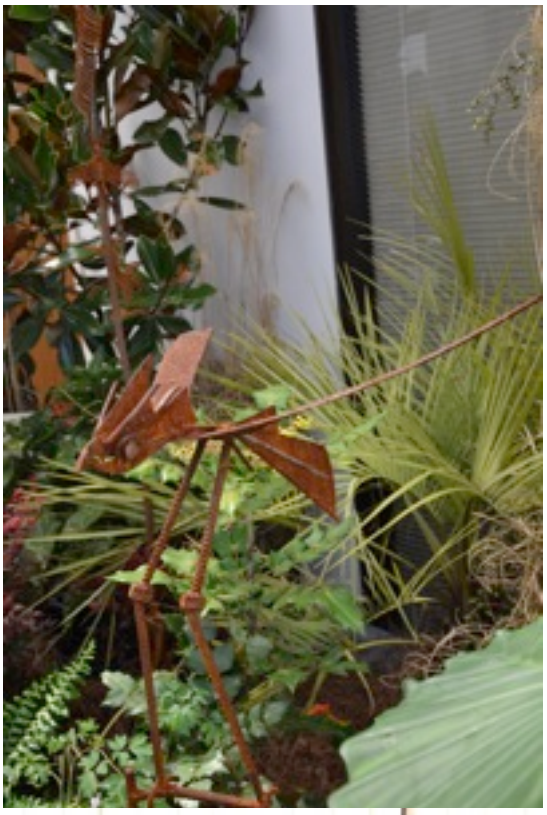
The oldest angiosperm fossil that has been found to date is Archaefructus liaoningensis, found by Ge Sun and David Dilcher in China. It seems to have been most similar to the modern black pepper plant and is thought to be at least 122 million years old. Some Mesozoic Era angiosperms included magnolias, laurel, barberry, early sycamores, and palms. Grasses may have evolved later. Cretaceous vegetation was increasing in density and species diversity as the quick-to-adapt flowering plants radiated throughout the world.

Existing or Developing Plants of the Cretaceous Period

Agathis
Angiosperms
(Flowering Plants)
Araliaceae (like Aralia)
Araucarians
Archaefructus liaoningensis
(like modern Black Pepper)
Barberry
Benettitaleans
Betulaceae (like Alnus)
Birch
Conifers
(like Araucarioxylon)
Metasequoia
Calycanthus floridus
Cercidophyllum Casuarina
Cephalotaxus Cercidiphyllum
Corneaceae (like Cornus)
Cycadeodias
(like Cycadeoidea)
Cypress, Bald Cyprus
Dicksonia
Ephedra
Equisetum macrozamia
Elm
Fagaceae
(like Quercus – oak)
Ferns
Fig
Filincophyta
(like Dryophyllum)
Filincophyta
(like Tetrastichia)
Ginkgophyta (like Ginkgo)
Grape
Gunnera
Gymnosperms
Hamamelis
Herbaceous Plants
Horsetails
Juniper
Lauraceae
(like Laurus and Sassafras)
Liquidambar
Lindera bensoin Liriodendron
tulipipera
Magnoliaceae
(like Magnolia)
Magnolia asuei
Mahonia
Metasequoia
Moraceae (like Ficus)
Nothofagus
Pacysandra
Palmae (Palmus)
Palm Trees
Pandanaceae (Pandanus)
Pinus (Pine Trees)
Podocarpus
Poplar
Proteacea
Salicaceae
(like Populus & Salicaceae)
Sciadopitys verticallata
Seed-Ferns
Sego palm
Stenocarpus
Sycamores
Treeferns
Willow

Lobby Gallery and
Balcony Gallery
Wayne Atchison
Cretaceous Plant
Exhibition: Paul Sadler

Lobby Gallery and
Balcony Gallery
Wayne Atchison
Cretaceous Plant
Exhibition: Paul Sadler



Boston Fern
Euphyllophyte

Nephrolepis exaltata, the Sword fern, is a species of fern in the family Lomariopsidaceae (sometimes treated in the families Davalliaceae or Oleandraceae, or in its own family, Nephrolepidaceae), native to tropical regions throughout the world.

It is common in humid forests and swamps, especially in northern South America, Mexico, Central America, Florida, the West Indies, Polynesia and Africa. Also known as the Wild Boston fern, Tuber ladder fern, or Fishbone fern — it is in the broader family of sword fern.

The Ferns are one of the ancient vascular plants, some of them as old as the Carboniferous Period (about 359 million years ago) and perhaps older. Several extinct groups of the Carboniferous Period and the Permian Period (299 million to 251 million years ago) that followed - Coenopteridaceae, Anachoropteridaceae, Tedeliaceae, Sermayaceae, and Tempskyaceae - represent related lines of evolution, but there are no intermediate examples to show close ties with any of the modern families of Ferns. By the time of the Triassic Period (beginning 251 million years ago), some of the modern Fern families were well established, and there are fossil records of the families Osmundaceae, Equisetaceae, Marattiaceae, Schizaeaceae, Matoniaceae, Dipteridaceae, Cyatheaceae, Marsileaceae, and Salviniaceae. However, according to most estimates, the families that contain the bulk of the modern Fern Species did not diversify until the Cretaceous Period (145.5 million to 65.5 million years ago.)

A fern is a leafy, flowerless plant that grows in areas of high moisture. Ferns are vascular plants, in that they have a complex internal vein structure that supplies nutrients to the outer regions of the plant. A fern is different from other vascular plants in that most vascular plants grow directly from seeds, while a fern grows from a spore, through an intermediate stage called a gametophyte. A fern requires certain characteristics in its surroundings to grow. Moisture in the air and soil is a must. A fern is a fairly delicate plant, so wind protection is needed also. A fern will require some direct sunlight, but not too much. Ferns also prefer climates that are more or less constant. A fern will usually not live through a frost. Ferns have even more specific conditions when it comes to reproducing. For example, a fern may live for a while in a fairly hostile environment, but will most likely not be able to reproduce there. Ferns will only grow naturally where conditions suit the survival of both the plants themselves, and the intermediate gametophytes. It is commonly accepted that the strength of the gametophyte alone will determine survival of the fern. Ferns have evolved to suit their environment. While some ferns are able to tolerate drought and heat, others will only thrive in the densest of rain forests. For a fern to grow properly in a garden, the garden and its surroundings must be very similar, nearly identical, to the environment it evolved in. For example, a tree fern, found mostly in rain forest climates, will not live in a garden that mimics a desert.

Asparagus Fern
Angiosperm

Family: Liliaceae (lil-ee-AY-see-ee: Meaning: The Lilium (lily) family
Genus: Asparagus (a-SPARE-uh-gus) Meaning: An ancient Greek name
Species: densiflorus (den-see-FLOR-us) Meaning: Densely flowered
Cultivar: Sprengeri

Not a fern at all, asparagus fern (Asparagus aethiopicus 'Sprengeri') is a member of the Asparagaceae family. Close examination reveals that unlike a true fern, this plant produces inconspicuous white flowers that later transform into red berries. The inch-long, needle-like "leaves" are actually short modified branchlets called cladodes, which appear along the thin stems so abundantly that the whole plant becomes a showy mound of bright green. The true leaves appear as dry scales along the stems, which also hide small thorns. Mature specimens can reach from 2 to 6 feet around.

History
The asparagus fern's scientific name derives from German botanist Carl Ludwig Sprenger, who is credited with its discovery in the Natal Province of South Africa. First introduced to the trade by an Italian seed company at the end of the 19th century, asparagus fern was documented in the 1900 "Cyclopedia of American Horticulture."

Gold Dust Acuba, Acuba japonica, "Vairegata"
Angiosperm

Aucuba japonica, commonly called spotted laurel, Japanese laurel, Japanese aucuba or gold dust plant (U.S.), is a shrub 3.28-16.40 ft., native to rich forest soils of moist valleys, thickets, by streams and near shaded moist rocks in China, Korea, and Japan. This is the species of Aucuba commonly seen in gardens - often in variegated form. The leaves are opposite, broad lanceolate, 1.9-3.15 in long and .78-1.9 in wide. Aucuba japonica are dioecious, they have separate male and female plants. The flowers are small, 0.15–0.31 in diameter, with four purplish-brown petals; they are produced in clusters of 10-30 in a loose cyme. The fruit is a red berry approximately .39 in in diameter, which is avoided by birds.

Aucuba has traditionally been placed within the dogwood (Cornaceae) family but in a rare show of respect has also been occasionally placed in its own family, Aucubaceae. Most recent treatments including the Angiosperm Phylogeny Working Group have grouped Aucuba with Garrya in the Garryaceae family. Aucuba is a group of about 10 or more species although the genus is still in some flux and there is likely several as yet unnamed species. All the members of the genus are evergreen trees or shrubs with separate male and female plants. Both sexes are generally necessary for fruit production on the females but there are a few selections of Aucuba japonica which will often fruit without a male nearby. Interestingly, there is a very long period—often several weeks—between pollination and actual fertilization in the genus.

John Graeffer first intoduced the Japanese aucuba (A. japonica) to the west in 1783. It represents one of the rare occasions when a variegated form of the species is introduced before the non-variegated type. His introduction,'Variegata', was the typical spotted "gold dust" plant that is still so common in the south. Although the introduction was a female, it was not until a male was introduced over half a century later that the ornamental value of the fruit was known in Europe.

Weeping Youpon, Ilex vomitoria
Angiosperm

Ilex or holly, is a genus of 400 to 600 species of flowering plants in the family Aquifoliaceae, and the only living genus in that family. The species are evergreen and deciduous trees, shrubs, and climbers from tropics to temperate zones worldwide.

The phylogeography of this group provides examples of various speciation mechanisms at work. In this scenario ancestors of this group became isolated from the remaining Ilex when the Earth mass broke away into Gondwana and Laurasia about 82 million years ago, resulting in a physical separation of the groups and beginning a process of change to adapt to new conditions. This mechanism is called allopatric speciation. Over time survivor species of the holly genus adapted to different ecological niches. This led to reproductive isolation, an example of ecological speciation. In the Pliocene, around five million years ago, mountain formation diversified the landscape and provided new opportunities for speciation within the genus.

The fossil record indicates that the Ilex lineage was already widespread prior to the end of the Cretaceous period. Based on the molecular clock the common ancestor of most of the extant species probably appeared during the Eocene, about 50 million years ago, suggesting that older representatives of the genus belong to now extinct branches. The laurel forest covered great areas of the Earth during the Paleogene, when the genus was more prosperous. This type of forest extended during the Neogene, more than 20 million years ago. Most of the last remaining temperate evergreen forests are believed to have disappeared about 10,000 years ago at the end of the Pleistocene. Many of the then existing species with the strictest ecological requirements became extinct because they could not cross the barriers imposed by the geography, but others found refuge as a species relict in coastal enclaves, archipelagos, and coastal mountains sufficiently far from the extreme cold and aridity and protected by the oceanic influence.

Podocarpus

Podocarpus, from the Greek, podos, meaning "foot", and karpos, meaning "fruit") is a genus of conifers, the most numerous and widely distributed of the podocarp family, Podocarpaceae. Podocarpus are evergreen shrubs or trees usually from 1 to 25 meters tall, known to reach 40 meters at times. The leaves are 0.5 to 15 cm long, lanceolate to oblong or falcate (sickle-shaped) in some species, with a distinct midrib. They are arranged spirally, though in some species twisted to appear in two horizontal ranks. The cones have two to five fused scales, of which only one, rarely two, are fertile, each fertile scale has one apical seed. At maturity, the scales become berry-like, swollen, brightly colored red to purple and fleshy, and are eaten by birds which then disperse the seeds in their droppings. The male (pollen) cones are 5 to 20 mm long, often clustered several together. Many species, though not all, are dioecious. There are approximately 104 to 107 species in the genus.

Podocarpus and the Podocarpaceae were endemic to the ancient supercontinent of Gondwana, which broke up into Africa, South America, India, Australia-New Guinea, New Zealand, and New Caledonia between 105 and 45 million years ago. Podocarpus is a characteristic tree of the Antarctic flora, which originated in the cool, moist climate of southern Gondwana, and elements of the flora survive in the humid temperate regions of the former supercontinent. As the continents drifted north and became drier and hotter, Podocarps and other members of the Antarctic flora generally retreated to humid regions, especially in Australia, where sclerophyll genera like Acacia and Eucalyptus became predominant, and the old Antarctic flora retreated to pockets that presently cover only 2% of the continent. As Australia drifted north toward Asia, the collision pushed up the Indonesian archipelago and the mountains of New Guinea, which allowed podocarp species to hop across the narrow straits into humid Asia, with P. macrophyllus reaching north to southern China and Japan. The flora of Malesia, which includes the Malay peninsula, Indonesia, the Philippines, and New Guinea, is generally derived from Asia but includes many elements of the old Gondwana flora, including several other genera in the Podocarpaceae (Dacrycarpus, Dacrydium, Falcatifolium, Nageia, Phyllocladus, and the Malesian endemic Sundacarpus), and also Agathis in the Araucariaceae.

Bleeding Heart
Angiosperm

Lamprocapnos spectabilis (bleeding heart or Asian bleeding-heart) is a species of flowering plant in the poppy family Papaveraceae, native to Siberia, northern China, Korea and Japan. It is the sole species in the monotypic genus Lamprocapnos, but is still widely referenced under its old name Dicentra spectabilis (now listed as a synonym). It is valued in gardens and in floristry for its heart-shaped pink and white flowers, borne in spring.

Other common names include "Dutchman's breeches", "lyre flower" and "lady-in-a-bath"

The flowering plants (angiosperms), also known as Angiospermae or Magnoliophyta, are the most diverse group of land plants. Angiosperms are seed-producing plants like the gymnosperms and can be distinguished from the gymnosperms by characteristics including flowers, endosperm within the seeds, and the production of fruits that contain the seeds. Etymologically, angiosperm means a plant that produces seeds within an enclosure, in other words, a fruiting plant.

The ancestors of flowering plants diverged from gymnosperms around 245–202 million years ago, and the first flowering plants known to exist are from 160 million years ago. They diversified enormously during the Lower Cretaceous and became widespread around 120 million years ago, but replaced conifers as the dominant trees only around 60–100 million years ago.

Hen and Chicks
Angiosperm

Hen and chicks (also known as hen-and-chickens, or hen-and-biddies in the American South) is a common name for a group of small succulent plants belonging to the flowering plant family Crassulaceae, native to Europe and northern Africa. They grow close to the ground with leaves formed around each other in a rosette, and propagating by offsets. The "hen" is the main plant, and the "chicks" are the offspring, which start as tiny buds on the main plant and soon sprout their own roots, taking up residence close to the mother plant.

The Latin name for hens and chicks is Sempervivum tectorum. The Latin word Sempervivum means always living or in other words an evergreen plant and the Latin word tectorum means on roofs. The translation then means always living on roofs. You may be wondering how this has anything to do with hens and chicks, but in Europe hens and chicks were originally planted on roofs to help reduce fire by lightning on thatch roofed houses. Since hens and chicks are succulents this would explain why hens and chicks are able to slow down fires by the excess water that they store inside of them.

Hens and chicks have some distinctive characteristics. One of these is the fact that hens and chicks are called rosettes. The larger rosettes are called the hens while the smaller rosettes are called the chicks. The colors of hens and chicks can be anywhere from green to red or a mixture of the colors. As the chicks become larger they produce more chicks as their offspring thus creating the mental image of a mother hen with her chicks. Hens and chicks are usually grown for their foliage that spreads between 1-2 inches in width, but they do flower once. After a hen has flowered she will die, but she has usually produced many smaller chicks that are ready to take her place.

Sempervivums are hardy alpine succulents in the Crassulaceae family and there are many hybrids and species of sempervivum, and they all feature similar growth habits. In their natural habitat, they are usually found 3,000-8,000 feet above sea level in the mountainous regions of Central and Southern Europe and Mediterranean Islands.

Angel Wing Begonia
Angiosperm

Begonia "Angel Wing" is a hybrid Begonia which resulted from a cross between Begonia aconitifolia and B. coccinea. The hybridization was made by California plant breeder Eva Kenworthy Gray in 1926.

The Angel Wing Begonia resides within the Cane Group of Begonias, along with the Dragon Wing type which generally lacks variation on its leaves. Both Angel and Dragon are named for the shape of their leaves. Angel Wings generally contain spots or a frosted pattern. The underside is often a deep red. They flower and produce blooms that range in colors from red and pink to white.

Often, these plants are used as year-round houseplants. They are easy to grow for a gardener who understands begonias. Since they are native to the tropics, the ideal growing conditions include high humidity, good circulation of the air around the plant, a lot of water, and a lot of light. The more light, the more brilliant the color of the leaves.

Angel Wing Begonias will grow well under shade cloth, lattice or in early morning/late afternoon sun. They will burn if grown in direct mid-day sun. The flowers are edible, with a sweet tart taste.

With more than 1,600 species, Begonia is the sixth-largest angiosperm genus. The species are terrestrial (sometimes epiphytic) herbs or undershrubs, and occur in subtropical and tropical moist climates, in South and Central America, Africa, and southern Asia. Terrestrial species in the wild are commonly upright-stemmed, rhizomatous, or tuberous. The plants are monoecious, with unisexual male and female flowers occurring separately on the same plant; the male contains numerous stamens, and the female has a large inferior ovary and two to four branched or twisted stigmas. In most species, the fruit is a winged capsule containing numerous minute seeds, although baccate fruits are also known. The leaves, which are often large and variously marked or variegated, are usually asymmetric (unequal-sided).

Heavenly Bamboo, Nandina domestica, "Gulf Stream"
Angiosperm

Family: Berberidaceae (bear-ber-id-AY-see-ee) (Info)
Genus: Nandina (nan-DEE-nuh) (Info)
Species: domestica (doh-MESS-tik-a) (Info)
Cultivar: Gulf Stream

Nandina domestica, nan-DEE-nuh. Commonly known as nandina, heavenly bamboo or sacred bamboo, is a species of flowering plant in the family Berberidaceae, native to eastern Asia from the Himalayas to Japan. It is the only member of the monotypic genus Nandina

Despite the common name, it is not a bamboo but an erect evergreen shrub up to 7 ft. tall by 5 ft. wide, with numerous, usually unbranched stems growing from ground level. The glossy leaves are sometimes deciduous in colder areas, 20–39 in. long, bi- to tri-pinnately compound, with the individual leaflets 2–4 in. long. The young leaves in spring are brightly coloured pink to red before turning green; old leaves turn red or purple again before falling. The flowers are white, borne in early summer in conical clusters held well above the foliage. The fruit is a bright red berry ripening in late autumn and often persisting through the winter.

Magnolia, "Little Gem"
Angiosperm

Magnolia is a large genus of about 210 flowering plant species in the subfamily Magnolioideae of the family Magnoliaceae. It is named after French botanist Pierre Magnol.

Magnolia is an ancient genus. Appearing before bees did, the flowers are theorized to have evolved to encourage pollination by beetles. To avoid damage from pollinating beetles, the carpels of Magnolia flowers are extremely tough. Fossilised specimens of M. acuminata have been found dating to 20 million years ago, and of plants identifiably belonging to the Magnoliaceae date to 95 million years ago. Another aspect of Magnolia considered to represent an ancestral state is the flower bud is enclosed in a bract rather than in sepals; the perianth parts are undifferentiated and called tepals rather than distinct sepals and petals. Magnolia shares the tepal characteristic with several other flowering plants near the base of the flowering plant lineage such as Amborella and Nymphaea (as well as with many more recently derived plants such as Lilium).

The natural range of Magnolia species is a disjunct distribution, with a main centre in east and southeast Asia and a secondary centre in eastern North America, Central America, the West Indies, and some species in South America.

Leatherleaf Mahonia
Angiosperm

Family: Berberidaceae (bear-ber-id-AY-see-ee)
Genus: Mahonia (ma-HO-nee-uh)
Species: bealei (BEEL-lee-eye)

Synonym: Berberis bealei

Mahonia is a genus of about 70 species of evergreen shrubs in the family Berberidaceae, native to eastern Asia, the Himalaya, North America and Central America. They are closely related to the genus Berberis. Botanists disagree on the acceptability of the genus name Mahonia. Several authorities argue plants in this genus should be included in the genus Berberis because several species in both genera are able to hybridize, and because when the two genera are looked at as a whole, there is no consistent morphological separation except simple vs compound leaves. Mahonia typically have large, pinnate leaves 10–50 cm long with 5-15 leaflets, and flowers in racemes (5–20 cm long).

The genus name Mahonia honors the Philadelphia horticulturist Bernard McMahon who introduced the plant from materials collected by the Lewis and Clark Expedition.

The type species of the genus is Mahonia aquifolium, (Oregon grape) from the Pacific coast of North America.

Several species are popular garden shrubs, grown for their ornamental, often spiny, evergreen foliage, yellow flowers in autumn, winter and early spring, and blue-black berries. The flowers are borne in terminal clusters or spreading racemes, and may be among the earliest flowers to appear in the growing season. The berries are edible, and rich in vitamin C, though with a very sharp flavor.

Chamaecyparis “fernspray”, Cypress Gymnosperm

Chamaecyparis obtusa 'Fernspray Gold'
Hinoki Cypress
Plant Type: Conifers

Chaemaecyparis obtusa 'Fernspray Gold' – an outstanding filiformis cultivar of Hinoki Cypress believed long lost to the trade surfaced, fortunately for us, in New Zealand. The arching branches, held nearly horizontal, radiate from the central trunk(s). Each elongated flattened branch mimics a heavily ruffled and gilded fern frond. The golden scale-like foliage shades to a rich dark green at the interior of the shrub. The green darkens in winter as the yellow burnishes to a golden orange. ‘Fernspray Gold’ develops very bright yellow foliage in full sun, greener-gold in half shade.

Genus Overview: Conifers

This exceptionally diverse group includes mostly evergreens exhibiting all manner of size, color and shape cloaked in scale-like foliage as in Arbor vitae (Thuja) and Elkhorn Cypress (Thujopsis) and Junipers (Juniperus) generally to the needled species like Pine (Pinus) and Spruce (Picea). Some notable deciduous members include Larches (Larix), Bald Cypress (Taxodium), Dawn Redwood (Metasequoia) and Golden Larch (Pseudolarix). There is much vexing confusion for surrounding eventual sizes of these remarkably diverse cone-bearing plants which range from shrubby mat-forming members to majestic, gigantic trees with a roster of shapes and forms between.

Zebra Grass
Angiosperm

Miscanthus sinensis is a species of flowering plant in the grass family Poaceae, native to eastern Asia throughout most of China, Japan, Taiwan and Korea. It is an herbaceous perennial grass, growing to 3–7 ft. tall, rarely 13 ft., forming dense clumps from an underground rhizome. The leaves are 7–30 in. tall. The flowers are purplish, held above the foliage. This plant is the preferred structure for the nesting of some species of paper wasps, such as Ropalidia fasciata.

Common names include Chinese silver grass, Eulalia grass, maiden grass, zebra grass, Susuki grass, porcupine grass. The Latin Miscanthus comes from the Greek for "stalk" and "flower". The qualifier sinensis means "from China", though the plant is found elsewhere in eastern Asia.

Aspidistra
Angiosperm

Aspidistra elatior
Common Names: iron plant, barroom plant, cast-iron plant
Family: Liliaceae (lily Family)

Aptly named 'cast-iron plant' for its seeming ability to last forever in the most adverse conditions, the humble Aspidistra elatior is a staple of the shade garden. It has wide, evergreen leaves that rise up from tough, rhizomatous roots. The lance shaped leaves are dark green and leathery, and around 12-20 in. long. The aspect of cast-iron plant is decidedly vertical. Some types of aspidistra are variegated with creamy streaks or dots; some are shorter than the species. The plants spread in clumps, vigorously but at a moderate enough rate not to be invasive or even troublesome. The flowers are borne close to the ground and never even seen unless one deliberately searches for them.

Location: Aspidistra elatior is originally from China.

Sego Palm
Gymnosperm

Cycas revoluta (Sotetsu, sago palm, king sago, sago cycad, Japanese sago palm), is a species of gymnosperm in the family Cycadaceae, native to southern Japan including the Ryukyu Islands. It is one of several species used for the production of sago, as well as an ornamental plant.

Cycads are not closely related to the true palms (Arecaceae). The Latin specific epithet revoluta means "curled back", in reference to the leaves.

Origins

The cycad fossil record dates to the early Permian, 280 million years ago (mya). There is controversy over older cycad fossils that date to the late Carboniferous period, 300–325 mya. One of the first colonizers of terrestrial habitats, this clade probably diversified extensively within its first few million years, although the extent to which it radiated is unknown because relatively few fossil specimens have been found. The regions to which cycads are restricted probably indicate their former distribution in the Pangea before the supercontinents Laurasia and Gondwana separated. Recent studies have indicated the common perception of existing cycad species as living fossils is largely misplaced, with only Bowenia dating to the Cretaceous or earlier. Although the cycad lineage itself is ancient, most extant species have evolved in the last 12 million years.

The family Stangeriaceae (named for Dr. William Stanger, 1811–1854), consisting of only three extant species, is thought to be of Gondwanan origin, as fossils have been found in Lower Cretaceous deposits in Argentina, dating to 70–135 mya. The family Zamiaceae is more diverse, with a fossil record extending from the middle Triassic to the Eocene (54–200 mya) in North and South America, Europe, Australia, and Antarctica, implying the family was present before the break-up of Pangea. The family Cycadaceae is thought to be an early offshoot from other cycads, with fossils from Eocene deposits (38–54 mya) in Japan, China, and North America, indicating this family originated in Laurasia. Cycas is the only genus in the family and contains 99 species, the most of any cycad genus. Molecular data have recently shown Cycas species in Australasia and the east coast of Africa are recent arrivals, suggesting adaptive radiation may have occurred. The current distribution of cycads may be due to radiations from a few ancestral types sequestered on Laurasia and Gondwana, or could be explained by genetic drift following the separation of already evolved genera. Both explanations account for the strict endemism across present continental lines.

Pindo Palm
Angiosperm

Butia capitata, also known as Jelly Palm, is a palm native to Argentina, Brazil and Uruguay. This palm grows up to 6m (exceptionally 8m) in a slow but steady manner. It is easily identifiable with feather palm pinnate leaves that arch inwards towards a thick stout trunk.

Butia capitata is notable as one of the hardiest feather palms, tolerating temperatures down to about −10 °C; it is widely cultivated in warm temperate regions. For example, it is commonly grown on the East Coast of the United States as far north as Virginia Beach, Virginia and Seattle, Washington on the west coast.

Ripe fruit are about the size of large cherry, and yellowish/orange in color, but can also include a blush towards the tip. The taste is a mixture of pineapple, apricot, and vanilla. Taste can vary depending on soil conditions, and the tastes of apple, pineapple, and banana together is also common. It is tart and sweet at the same time, with a flesh similar to a loquat, but slightly more fibrous.

Kingdom:	Plantae
(unranked):	Angiosperms
(unranked):	Monocots
(unranked):	Commelinids
Order:	Arecales
Family:	Arecaceae
Genus:	Butia
Species:	B. capitata

Elephant Ear
Angiosperm

Colocasia is a genus of flowering plants in the family Araceae, native to southeastern Asia and the Indian Subcontinent. Some species are widely cultivated and naturalized in other tropical and subtropical regions. Common names include Elephant-ear, Taro, Cocoyam, Dasheen, Chembu, Champadhumpa, and Eddoe. Elephant-ear and Cocoyam are also used for some other large-leaved genera in the Araceae, notably Xanthosoma and Caladium. The generic name is derived from the ancient Greek word kolokasion which in the Greek botanist Dioscorides (1st century AD) meant the edible roots of both Colocasia esculenta and Nelumbo nucifera. It is thought that the edible roots of Colocasia esculenta have been cultivated in Asia for more than ten thousand years.

They are herbaceous perennial plants with a large corm on or just below the ground surface. The leaves are large to very large, 7.9–59.1 in. long, with a sagittate shape. The elephant's-ear plant gets its name from the leaves, which are shaped like a large ear or shield. The plant reproduces mostly by means of rhizomes (tubers, corms) but it also produces "clusters of two to five fragrant inflorescenes in the leaf axils". Like other members of the family, the plant contains an irritant which causes intense discomfort to the lips, mouth and throat. This acridity is caused in part by microscopic needle like raphides of calcium oxalate monohydrate and in part by another chemical, probably a protease. The acridity helps to naturally deter herbivores from eating it. It must be processed by cooking, soaking or fermenting - sometimes along with an acid (lime or tamarind) before being eaten. The species is dangerously invasive into wetlands along the American Gulf coast, where it threatens to displace native wetland plants. As only a few examples, it is on the invasive species list for Texas and Florida

Kingdom:	Plantae
(unranked):	Angiosperms
(unranked):	Monocots
Order:	Alismatales
Family:	Araceae
Subfamily:	Aroideae
Tribe:	Colocasieae
Genus:	Colocasia

Schefflera
Angiosperm

Schefflera arboricola (syn. Heptapleurum arboricolum) is a flowering plant in the family Araliaceae, native to Taiwan as well as Hainan. Its common name is Dwarf Umbrella Tree, as it appears to be a smaller version of the Umbrella Tree Schefflera actinophylla.

Schefflera actinophylla is a tree in the Araliaceae family. It is native to tropical rainforests and gallery forests in Australia (eastern Queensland and the Northern Territory), New Guinea and Java. Common names include Queensland umbrella tree, octopus tree and amate.

S. actinophylla is an evergreen tree growing to 49 ft. tall. It has compound medium green leaves in groups of seven leaves. It is usually multi-trunked, and the flowers develop at the top of the tree. It often grows as an hemiepiphyte on other rainforest trees. It produces racemes up to 6.5 ft. long containing up to 1,000 small dull red flowers. Flowering begins in early summer and typically continues for several months.

The specific epithet actinophylla means "with radiating leaves".

Hollywood Juniper

Kingdom: Plantae
Division: Pinophyta
Class: Pinopsida
Order: Pinales
Family: Cupressaceae
Genus: Juniperus

Junipers are coniferous plants in the genus Juniperus of the cypress family Cupressaceae. Depending on taxonomic viewpoint, between 50 and 67 species of juniper are widely distributed throughout the Northern Hemisphere, from the Arctic, south to tropical Africa in the Old World, and to the mountains ofCentral America.

Junipers vary in size and shape from tall trees, 20–40 m tall, to columnar or low spreading shrubs with long trailing branches. They are evergreen with needle-like and/or scale-like leaves. They can be either monoecious ordioecious. The female seed cones are very distinctive, with fleshy, fruit-like coalescing scales which fuse together to form a "berry"-like structure, 4–27 mm long, with 1–12 unwinged, hard-shelled seeds. In some species these "berries" are red-brown or orange but in most they are blue; they are often aromatic and can be used as a spice. The seed maturation time varies between species from 6–18 months after pollination. The male cones are similar to those of other Cupressaceae, with 6–20 scales; most shed their pollen in early spring, but some species pollinate in the autumn.

The earliest conifers in the fossil record date to the late Carboniferous (Pennsylvanian) period (about 300 million years ago), possibly arising from Cordaites, a seed-bearing plant with cone-like fertile structures. This plant resembled the modern Araucaria. Pinophyta, Cycadophyta, and Ginkgophyta all developed at this time. An important adaptation of these gymnosperms was allowing plants to live without being so dependent on water. Other adaptations are pollen (so fertilization can occur without water) and the seed, which lets the embryo be transported and developed elsewhere.

Conifers appear to be one of the taxa that benefited from the Permian–Triassic extinction event.

Ficus elastica

Ficus elastica, also called the rubber fig, rubber bush, rubber tree, rubber plant, or Indian rubber bush is a species of plant in the fig genus, native to northeast India, Nepal, Bhutan, Burma, China (Yunnan), Malaysia, and Indonesia.

There are no unambiguous older fossils of Ficus. However, current molecular clock estimates indicate that Ficus is a relatively ancient genus being at least 60 million years old, and possibly as old as 80 million years. The main radiation of extant species, however, may have taken place more recently, between 20 and 40 million years ago.

It is a large tree in the banyan group of figs, growing to 30–40 metres (98–131 ft) (rarely up to 60 metres or 200 feet) tall, with a stout trunk up to 2 metres (6.6 ft) in diameter. The trunk develops aerial and buttressing roots to anchor it in the soil and help support heavy branches. It has broad shiny oval leaves 10–35 centimetres (3.9–13.8 in) long and 5–15 centimetres (2.0–5.9 in) broad; leaf size is largest on young plants (occasionally to 45 centimetres or 18 inches long), much smaller on old trees (typically 10 centimetres or 3.9 inches long). The leaves develop inside a sheath at the apical meristem, which grows larger as the new leaf develops. When it is mature, it unfurls and the sheath drops off the plant. Inside the new leaf, another immature leaf is waiting to develop.

Ornamental
Ficus elastica is grown around the world as an ornamental plant, outside in frost-free climates from the tropical to the Mediterranean and inside in colder climates as a houseplant. Although it is grown in Hawaii, the species of fig wasp required to allow it to spread naturally is not present there.

In cultivation, it prefers bright sunlight but not hot temperatures. It has a high tolerance for drought, but prefers humidity and thrives in wet, tropical conditions. Ornamental hybrids (such as Robusta) have been derived from Ficus elastica with broader, stiffer and more upright leaves than the wild form. Many such hybrids exist, often with variegated leaves. The figs of F. elastica: Most cultivated plants are produced by asexual propagation. This can be done by planting cuttings or air layering. The latter method requires the propagator to cut a slit in the plant's stem. The wound, which oozes with the plant's latex, is packed with rooting hormone and wrapped tightly with moist sphagnum moss. The whole structure is wrapped in plastic and left for a few months. When it is unwrapped, new roots have developed from the plant's auxiliary buds. The stem is severed and the new plant is potted on its own

KFMG

Kelly Fitzpatrick Memorial Gallery

408 SOUTH MAIN STREET | WETUMPKA, ALABAMA 36092 | KFMG-ONLINE.ORG