



# CoastScapes

## Georgia Coastal Plain Native Plants For Butterflies and Moths (Lepidopteran Pollinators)

### The Important Role of Pollinators

Pollinators are profoundly important to our well-being and the health of our environment. In addition to their beauty, pollinators provide an important link in our environment by moving pollen between flowers and ensuring the growth of seeds and fruits. The work of pollinators touches our lives every day through the food we eat: of the estimated 1,330 crop plants grown worldwide for food, beverages, fibers, condiments, spices, and medicines, approximately 1,000 (75%) are pollinated by animals! In the United States, approximately one out of every three bites of food you eat and beverages you drink depends on the work of a pollinating animal!

Pollination by animals is also essential for maintaining the structure and function of a wide range of habitats and ecosystems in North America. Pollination is a vital stage in the life cycle of all flowering plants: approximately 90 percent of all plant species need the help of pollinating animals. The plant communities maintained by pollinators are an important resource for other wildlife that relies on them for food, nesting, and shelter. For example, approximately 25 percent of birds feed on fruit or seeds that serve as a major part of their diet, which is the result of pollination.

Pollinators comprise a diverse and fascinating group of wild creatures, from birds and bats to flies, beetles, wasps, ants, butterflies, moths, bees, and even the odd land mammal or reptile. About 1,000 of all pollinators are made up of vertebrates such as birds, bats, small mammals

and reptiles. However, most pollinators (about 200,000 species) are comprised of beneficial insects such as flies, beetles, wasps, ants, butterflies, moths, and bees.

Like all wildlife, pollinators, such as butterflies and moths, are affected by changes in our landscape. And, like all wildlife, pollinators are suffering from destruction of their habitat. Intensive agriculture and forestry, housing, infrastructure, and industry destroy and fragment wild areas. Pesticides have devastated pollinator populations, and pose a constant threat to the remaining populations. The native habitat that remains often is in isolated patches and is degraded by pesticides, invasive plant species, and changes in land management. Thus, conserving and restoring the habitats and plants butterflies, moths, bees, and other beneficial insect species depend on is an important strategy for sustaining adequate numbers of plant pollinators.

## Butterflies and Moths

Butterflies, moths, and caterpillars (the larval stage in the butterfly and moth life cycle) provide food for birds and other organisms, pollinate flowers, and are easy to attract to a garden or landscape. Butterflies and moths are found throughout the coastal plain of Georgia and will flourish within a well-designed landscape of native plants in both rural and urban settings.

**Life Cycle.** Butterflies and moths are unique because they change from a caterpillar to a winged adult through a process called **metamorphosis**. A typical moth or butterfly's life begins as an egg, generally laid on the leaf of a host plant. A **host plant** is a plant that provides the food source for the larval form, a caterpillar. Butterflies pollinate the plants as they take breaks from egg-laying to sip upon nectar. Eggs soon hatch into caterpillars, which act as eating machines to devour leaves of the host plant. Caterpillars often have very specific food requirements that restrict them to a particular plant. After a few weeks, the caterpillar molts into a hard protective casing, called a **pupa or chrysalis**. At the end of approximately two weeks, the adult emerges from the chrysalis, spreads and dries its wings, and begins searching for food and a mate. Following successful mating, the female begins her search for a host plant on which to deposit her eggs, and the life cycle begins again. Most species of butterflies and moths survive the winter by hibernating as caterpillars, pupae, or adults. Those species that spend the winter as adults tuck themselves behind loose bark or in tree cavities. They emerge in search of sap or rotten fruit on warm, sunny days. A few spend the winter as eggs. Fewer still migrate to warmer climates (e.g., Monarchs). Depending on the species, adult butterflies and moths can live from one week to nine months.

## Creating Butterfly-friendly Habitat

Creating butterfly habitat is an exciting and rewarding experience, in addition to providing an invaluable conservation tool! Beginning a butterfly garden can be as simple as choosing native flowering plants that will invite adult butterflies and moths into your garden to feed. However, if you truly want to create butterfly and moth habitat, which can serve as a sanctuary for these beautiful and graceful animals, you will need to consider the following guidelines. Keep in mind that an effective butterfly and moth habitat will provide everything the butterfly and moth need to complete their life cycle. This includes shelter, water, sun, and a diverse group of native plants for both adult and larval butterflies and moths.

- **Identify and protect butterfly and moth habitat already in place.** Existing butterfly and moth nectar and larval native plant sources can often be found near fencerows or hedgerows, riparian buffers, and other natural areas where a variety of plants grow. Protect these sites and their flowering plants.
- **Use locally adopted native plants to attract butterflies and moths.** Because butterflies, moths and native plants depend on each other for survival, using a wide variety of native plants is imperative. Native plants are those plants that occurred in the region prior to European settlement. Plants native to your area grow well because they are specifically adapted to the climate, soils, temperature, and precipitation. Native plants are those upon which regional butterflies and moths have adapted, and therefore, they are ideal for butterfly and moth habitat and for larger restoration projects. In addition, these plants require relatively little maintenance, watering, or care because they are adapted to the local area. Do NOT dig native plants from the wild and transport them unless the site in which you find them is in danger of being destroyed. Always get approval of the landowner if you are planning to “rescue” native plants from development.
- **Ensure that a variety of both adult nectar and caterpillar host plants are available.** David Herlocker, a naturalist for eNature.com, explains that butterflies and moths exhibit very specific preferences regarding which plants they use for feeding, laying eggs, and resting:

*“I cannot stress enough that nectar plants for adult butterflies are entirely different than the host plants sought by larvae for food. Food-source plants for the caterpillar are quite specific to species as well as region, while an adult butterfly might usurp nectar from any alluring, flowering plant. The adult demonstrates her finicky side instead when choosing where to lay her eggs.”*

The relationship between butterflies and moths, caterpillars and the plants they use for food is not a casual one. It is a relationship created over thousands of years as flowering native plants evolved alongside insects. As a result of this long evolution, caterpillars will use only certain plants for food. At the same time, butterflies are equally picky about which plants they will select to lay their eggs on. Thus, in any given locale, the butterflies and moths have adapted to their native surroundings, evolving in tandem with plants and creating a unique butterfly-plant relationship. Please note that many of the host plants that butterflies and moths have evolved with include trees, shrubs, and vines as well as the native herbaceous perennials, annuals, and biennials.

- **Provide butterflies plenty of sun.** It is essential that your butterfly habitat is in a sunny location. Butterflies are cold-blooded insects that often start their day by warming their bodies in the sun. Thus, most butterflies are active only in the sun, and many butterfly larval and nectar plants require sunny habitats. Be sure to include a spot in the garden where sunlight will reach the ground early in the day. Provide a few large flat rocks for butterflies to perch on while basking in the sun. In addition, exposed soil or even hard surfaces will warm up in morning sunlight and provide additional basking opportunities. Try to locate your garden where it will receive at least six hours of direct sunlight each day.
- **Provide shelter from wind, rain and predators.** While you may think that shrubs and trees create unnecessary shade, they do provide an important feature in the butterfly garden. Properly placed, trees and shrubs will shelter your butterfly habitat from rain and wind, which makes it easier for butterflies to explore your area. Additionally, trees and shrubs give valuable shelter where butterflies can roost at night or hide from predators. In addition, remember that many shrubs and trees are also caterpillar host food plants! You can provide shelter for the butterflies and moths in your habitat by leaving snags (standing dead trees) or a brush pile.
- **Provide water sources.** Nectar, dew, and tree sap provide butterflies with moisture but puddles and moist dirt or sand are also popular water sources. “Puddling stations” can be as simple as a damp area of ground covered with sand. Placed where they are easily viewed and sheltered from the wind, puddling stations are thought to provide butterflies dissolved salts in addition to water.
- **Buy native plants based on ecotypes.** Whenever possible, buy native seed or native plants from a reputable nursery that sells local ecotypes (plants propagated from seed or stock originally collected in the area you plan to plant rather than in another biogeographic region). Often plants sold as native are not from local sources, and thus may not give you the full benefits of easy growing and pollinator forage. In

addition, always check the scientific name of a plant to the common name at the nursery in order to confirm the plant you are buying is truly the one you desire for your landscape.

- **Do not use invasive plants.** Avoid plant species known to be highly invasive. These plants do not provide the quality nectar that the pollinators depend on, will likely spread and dominate other species, reduce the diversity and value of the habitat, and increase maintenance demands. For more information and sources on invasive plants, check out the CoastScapes website: [www.coastscapes.org](http://www.coastscapes.org).
- **Choose plants with a diversity of color.** Butterflies are guided to the nectar source by colors and patterns. Thus, choose flowers with bright colors such as pink, orange, yellow, purple, blue, and violet (white is also an option).
- **Place plants that bloom simultaneously together.** Clusters of flowers attract more pollinators than individual blooms. More specifically, concentrate flowering plants with similar bloom times to allow butterflies easy access to seasonally abundant nectar sources without excessive movement and increased exposure to predators. However, when it comes to planting caterpillar food plants, scatter the plant groups around the landscape. If plants are grown in more than one small location, the caterpillar eggs are less vulnerable to predators. Many butterflies will choose to lay their eggs on plants that already to not have eggs on them.
- **Include flowers with blooms of different sizes and depths.** Butterflies and moths are all different sizes, have different proboscis lengths, and consequently, will feed on different shaped flowers. For example, smaller butterflies, such as hairstreaks and skippers, have shorter proboscises and are unable to reach the nectar in larger blooms. Larger butterflies, such as swallowtails, favor larger blooms. How large, how spiky, or how dense the plants grow may also be a factor in which plants to choose. By choosing plants that grow to different heights, such as shrubs, trees, perennials and vines, with a variety of flower shapes and colors that have different blooming times, you will be creating a garden that is attractive to a wide range of butterflies and moths.
- **Have a diversity of plants flowering all season.** Different species of butterflies and moths can be seen anytime between early spring and late fall – maybe longer in coastal Georgia – so a sequence of plants providing a diversity of flowers throughout the growing season will support a range of butterflies and moths that are active at different times of the year.
- **Avoid hybrids.** Avoid planting hybrid flower varieties or those that have been bred for showy or “double” blossoms, as these often lack the nectar rewards of the parent species, and may also lack the fragrance that butterflies may be drawn to. In addition,

horticultural varieties and hybrids are not necessarily suited to local conditions. Research suggests native plants are four times more attractive to butterflies than ornamentals and exotics.

- **Provide mulch or low growing ground covers around the base of the host plants.** Many caterpillars spend time hiding on the ground next to the host plant during the day and feed only at night. Other caterpillars use the soil around the base of the host plant when it is time to pupate.
- **Try to disturb the soil and mulch as little as possible in the fall.** Leave as much dried matter (grasses and dead perennial plant stems) in the garden as you can tolerate. Although it may not look too tidy, many types of caterpillars need this plant material to survive the winter.
- **Provide additional food sources.** Peelings and cores of fruit (peeled, overly ripe bananas work well) can be discarded in partially shaded nooks in the garden where they will attract butterflies that eat rotting fruit. Adult butterflies may also feed on tree sap.
- **Eliminate the use of herbicides and pesticides to ensure butterfly, moth and caterpillar survival. Whenever feasible, choose non-pesticide solutions first.** Both insecticides and herbicides can be harmful to butterflies, moths, and caterpillars. While herbicides don't directly target pollinators, they can destroy plants that provide nectar and food, forcing butterflies and moths to forage more widely for food. This requires more energy and exposes them to more threats, and as a result, they produce fewer offspring to emerge the following year. Insecticides, on the other hand, target insects and, depending on the active ingredient and how it is formulated and applied, have a wide range of toxicities to butterflies and moths. Foraging pollinators are poisoned by insecticides when they absorb the fast-acting toxins through their exoskeleton, drink toxin-tainted nectar, or gather polluted pollen or micro-encapsulated insecticides. Even sublethal doses of insecticides can eventually kill butterflies and moths by affecting their behavior. Butterflies that are exposed may have trouble navigating their way back to shelter after foraging, or they may; simply be unable to fly.

For more information regarding Georgia's coastal plain native plants, to utilize the CoastScapes coastal plains native plant search engine website, or to learn how to further promote and protect pollinators, go to the CoastScapes website: [www.coastscapes.org](http://www.coastscapes.org).

## Plant Choice Considerations

The native plants listed below include Georgia coastal plain native plants that have been reported by various sources to provide adult nectar and larval host plants for regionally distributed butterflies and moths. Although these plants provide numerous benefits of being native plants (e.g., reduced water needs, reduced fertilizer and pesticide use, etc.), new plantings will require regular irrigation for six weeks to six months or more before they become established. Trees larger than two inches caliper width will take longer to establish. Although native plants have evolved to local conditions, plants of any species must be allowed time to become fully established in a landscape before all of its native plant features will be evident. All plants need water while establishing their root system and during periods of extended drought. Root establishment can take from months to one to several years, depending on the original size of the plant. Larger plants will take longer to establish.

Although the plants provided in the list below may be native to the coastal plain region of Georgia, individual plants may not grow everywhere in the region. In addition, the characteristics of any site will typically vary from place to place and some plants may do better than others at various places within a site. Putting plants in the right places is the key to ensuring they survive and remain healthy in your landscape. When selecting plants from this list, remember that many factors determine the suitability of a plant for a particular location. Consider light requirements, local climate, soil type, moisture, adaptability, hardiness, heat tolerance, and other factors. All plants listed are suited to the USDA Hardiness Zone 8. Please check to see if your zone falls within the 8a or 8b hardiness zone and then choose plants accordingly. Choose native plants that match and thrive under the conditions in your landscape and you will have a butterfly-friendly CoastScapes landscape! You will reduce the need for water, fertilizers, pesticides, and pruning while providing valuable pollinator habitat. Planting a variety of both native nectar plants for adults and host native plants for caterpillars in a sunny location will ensure many hours of viewing pleasure as these lovely and beautiful creatures visit your butterfly-friendly CoastScapes landscape!



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### Trees

<i>Acer barbatum</i>	southern sugar maple
<i>Acer leucoderme</i>	chalk maple
<i>Acer negundo</i>	boxelder
<i>Acer rubrum</i>	red maple
<i>Acer saccharinum</i>	silver maple
<i>Aesculus parviflora</i>	bottlebrush buckeye
<i>Aesculus pavia</i>	red buckeye
<i>Amelanchier arborea</i>	common serviceberry
<i>Amelanchier canadensis</i>	Canadian serviceberry
<i>Asimina triloba</i>	pawpaw
<i>Betula nigra</i>	river birch
<i>Carpinus caroliniana</i>	American hornbeam
<i>Carya alba</i>	mockernut hickory
<i>Carya aquatica</i>	water hickory
<i>Carya cordiformis</i>	bitternut hickory
<i>Carya glabra</i>	pignut hickory
<i>Carya illinoensis</i>	pecan
<i>Carya ovalis</i>	red hickory
<i>Carya ovata</i>	shagbark hickory
<i>Carya pallida</i>	sand hickory
<i>Castanea dentata</i>	American chestnut ("disease free")
<i>Castanea pumila</i>	chinkapin

<i>Catalpa bignonioides</i>	southern catalpa
<i>Celtis laevigata</i>	sugarberry
<i>Celtis occidentalis</i>	common hackberry
<i>Celtis tenuifolia</i>	dwarf hackberry
<i>Cercis canadensis</i>	eastern redbud
<i>Chamaecyparis thyoides</i>	Atlantic white cedar
<i>Cornus alternifolia</i>	Pagoda dogwood
<i>Cornus florida</i>	flowering dogwood
<i>Cornus foemina</i>	stiff dogwood
<i>Crataegus aestivalis</i>	mayhaw
<i>Crataegus crus-galli</i>	cockspur hawthorn
<i>Crataegus flava</i>	yellow hawthorn
<i>Crataegus marshallii</i>	parsley hawthorn
<i>Crataegus spathulata</i>	littlechip hawthorn
<i>Crataegus viridis</i>	green hawthorn
<i>Diospyros virginiana</i>	common persimmon
<i>Fagus grandifolia</i>	American beech
<i>Fraxinus americana</i>	white ash
<i>Fraxinus caroliniana</i>	Carolina ash
<i>Fraxinus pennsylvanica</i>	green ash
<i>Fraxinus profunda</i>	pumpkin ash
<i>Gleditsia triacanthos</i>	honeylocust
<i>Halesia carolina</i>	Carolina silverbell
<i>Halesia diptera</i>	two-winged silverbell
<i>Halesia tetraptera</i>	mountain silverbell
<i>Ilex opaca</i>	American holly
<i>Juglans nigra</i>	black walnut
<i>Juniperus silicicola</i>	southern redcedar
<i>Juniperus virginiana</i>	eastern redcedar
<i>Liquidambar styraciflua</i>	sweetgum
<i>Liriodendron tulipifera</i>	tuliptree
<i>Magnolia virginiana</i>	sweetbay
<i>Malus angustifolia</i>	southern crab apple
<i>Morus rubra</i>	red mulberry
<i>Oxydendron arboretum</i>	sourwood
<i>Persea borbonia</i>	redbay
<i>Persea palustris</i>	swamp bay

<i>Pinus clausa</i>	sand pine
<i>Pinus echinata</i>	shortleaf pine
<i>Pinus elliottii</i>	slash pine
<i>Pinus glabra</i>	spruce pine
<i>Pinus palustris</i>	longleaf pine
<i>Pinus serotina</i>	pond pine
<i>Pinus taeda</i>	loblolly pine
<i>Populus deltoides</i>	eastern cottonwood
<i>Populus heterophylla</i>	swamp cottonwood
<i>Prunus americana</i>	American plum
<i>Prunus angustifolia</i>	Chickasaw plum
<i>Prunus caroliniana</i>	Carolina laurelcherry
<i>Prunus serotina</i>	black cherry
<i>Prunus umbellata</i>	hog plum
<i>Ptelea trifoliata</i>	common hoptree
<i>Quercus alba</i>	white oak
<i>Quercus arkansana</i>	Arkansas oak
<i>Quercus austrina</i>	bastard white oak
<i>Quercus chapmanii</i>	Chapman oak
<i>Quercus coccinea</i>	scarlet oak
<i>Quercus falcata</i>	southern red oak
<i>Quercus geminata</i>	sand live oak
<i>Quercus hemisphaerica</i>	Darlington oak
<i>Quercus incana</i>	bluejack oak
<i>Quercus laevis</i>	turkey oak
<i>Quercus laurifolia</i>	laurel oak
<i>Quercus lyrata</i>	overcup oak
<i>Quercus margarettae</i>	runner oak
<i>Quercus marilandica</i>	blackjack oak
<i>Quercus michauxii</i>	swamp chestnut oak
<i>Quercus myrtifolia</i>	myrtle oak
<i>Quercus nigra</i>	water oak
<i>Quercus pagoda</i>	cherrybark oak
<i>Quercus phellos</i>	willow oak
<i>Quercus prinoides</i>	dwarf chinkapin oak
<i>Quercus prinus</i>	chestnut oak
<i>Quercus shumardii</i>	Shumard's oak

<i>Quercus sinuata</i> var. <i>sinuata</i>	bastard oak
<i>Quercus stellata</i>	post oak
<i>Quercus velutina</i>	black oak
<i>Quercus virginiana</i>	live oak
<i>Robinia pseudoacacia</i>	black locust
<i>Salix caroliniana</i>	coastal plain willow
<i>Salix nigra</i>	black willow
<i>Sassafras albidum</i>	sassafras
<i>Taxodium distichum</i>	bald cypress
<i>Tilia americana</i>	American basswood
<i>Ulmus alata</i>	winged elm
<i>Ulmus americana</i>	American elm
<i>Ulmus rubra</i>	red elm
<i>Zanthoxylum clava-herculis</i>	Hercules' club

## Shrubs

<i>Alnus serrulata</i>	hazel alder
<i>Amorpha fruticosa</i>	desert false indigo
<i>Amorpha georgiana</i>	Georgia false indigo
<i>Aralia spinosa</i>	devil's walkingstick
<i>Asimina incana</i>	woolly pawpaw
<i>Asimina parviflora</i>	smallflower pawpaw
<i>Asimina pygmaea</i>	dwarf pawpaw
<i>Baccharis halimifolia</i>	eastern baccharis
<i>Callicarpa americana</i>	American beautyberry
<i>Ceanothus americanus</i>	New Jersey tea
<i>Cephalanthus occidentalis</i>	common buttonbush
<i>Clethra alnifolia</i>	coastal sweetpepperbush
<i>Cornus amomum</i>	silky dogwood
<i>Cornus asperifolia</i>	toughleaf dogwood
<i>Corylus americana</i>	American hazelnut
<i>Cyrilla racemiflora</i>	swamp titi
<i>Epigaea repens</i>	trailing arbutus
<i>Erythrina herbacea</i>	redcardinal
<i>Frangula caroliniana</i>	Carolina buckthorn
<i>Gaylussacia dumosa</i>	dwarf huckleberry

<i>Gaylussacia frondosa</i>	blue huckleberry
<i>Gaylussacia nana</i>	Confederate huckleberry
<i>Gaylussacia tomentosa</i>	hairytwig huckleberry
<i>Hamamelis virginiana</i>	American witchhazel
<i>Hydrangea arborescens</i>	wild hydrangea
<i>Hypericum brachyphyllum</i>	coastal plain St. Johnswort
<i>Hypericum crux-andreae</i>	St. Peterswort
<i>Hypericum densiflorum</i>	bushy St. Johnswort
<i>Hypericum fasciculatum</i>	peelbark St. Johnswort
<i>Hypericum frondosum</i>	cedarglade St. Johnswort
<i>Hypericum galioides</i>	bedstraw St. Johnswort
<i>Hypericum hypericoïdes</i>	St. Andrew's cross
<i>Hypericum myrtifolium</i>	myrtle St. Johnswort
<i>Hypericum nitidum</i>	Carolina St. Johnswort
<i>Hypericum reductum</i>	Atlantic St. Johnswort
<i>Hypericum suffruticosum</i>	pineland St. Johnswort
<i>Hypericum tetrapetalum</i>	fourpetal St. Johnswort
<i>Ilex decidua</i>	possumhaw
<i>Ilex glabra</i>	inkberry
<i>Ilex verticillata</i>	common winterberry
<i>Ilex vomitoria</i>	yaupon
<i>Illicium floridanum**</i>	Florida anisetree**
<i>Itea virginica</i>	Virginia sweetspire
<i>Kalmia carolina</i>	Carolina laurel
<i>Kalmia hirsute</i>	hairy laurel
<i>Kalmia latifolia</i>	mountain laurel
<i>Lindera benzoin</i>	northern spicebush
<i>Lyonia ferruginea</i>	rusty staggerbush
<i>Lyonia ligustrina</i>	maleberry
<i>Lyonia lucida</i>	fetterbush lyonia
<i>Lyonia mariana</i>	piedmont staggerbush

**\*\* PLEASE NOTE!!** *Illicium floridanum* is a protected plant in Georgia. Before choosing this shrub for planting, please take great care to assure that your conditions are appropriate for the necessary requirements and needs of this rare and protected plant.

<i>Morella cerifera</i>	wax myrtle
<i>Phoradendron leucarpum</i>	oak mistletoe
<i>Photinia pyrifolia</i>	red chokeberry
<i>Quercus minima</i>	dwarf live oak
<i>Quercus pumilla</i>	running oak
<i>Rhododendron alabamense</i>	Alabama azalea
<i>Rhododendron arborescens</i>	smooth azalea
<i>Rhododendron atlanticum</i>	dwarf azalea
<i>Rhododendron austrinum</i>	orange azalea
<i>Rhododendron canescens</i>	mountain azalea
<i>Rhododendron colemanii</i>	Red Hills azalea
<i>Rhododendron flammeum</i>	piedmont azalea
<i>Rhododendron minus</i>	piedmont rhododendron
<i>Rhododendron periclymenoides</i>	pink azalea
<i>Rhododendron prunifolium</i>	plumleaf azalea
<i>Rhododendron viscosum</i>	swamp azalea
<i>Rhus aromatica</i>	fragrant sumac
<i>Rhus copallinum</i>	winged sumac
<i>Rhus glabra</i>	smooth sumac
<i>Rubus argutus</i>	sawtooth blackberry
<i>Salix floridana</i>	Florida willow
<i>Salix humilis</i>	prairie willow
<i>Sambucus nigra ssp. canadensis</i>	American black elderberry
<i>Stewartia malacodendron**</i>	silky camellia**

**\*\* PLEASE NOTE!!** *Stewartia malachodendron* is a protected plant in Georgia. Before choosing this shrub for planting, please take great care to assure that your conditions are appropriate for the necessary requirements and needs of this rare and protected plant.

<i>Styrax americanus</i>	American snowbell
<i>Styrax grandfolius</i>	bigleaf snowbell
<i>Symplocos tinctoria</i>	common sweetleaf
<i>Vaccinium arboreum</i>	farkleberry
<i>Vaccinium corymbosum</i>	highbush blueberry
<i>Vaccinium crassifolium</i>	creeping blueberry
<i>Vaccinium darrowii</i>	Darrow's blueberry
<i>Vaccinium elliottii</i>	Elliott's blueberry

<i>Vaccinium myrsinites</i>	shiny blueberry
<i>Vaccinium stamineum</i>	deerberry
<i>Vaccinium virgatum</i>	smallflower blueberry
<i>Viburnum acerifolium</i>	mapleleaf viburnum
<i>Viburnum dentatum</i>	southern arrowwood
<i>Viburnum nudum</i>	possumhaw
<i>Viburnum obovatum</i>	small-leaf arrowwood
<i>Viburnum prunifolium</i>	blackhaw
<i>Viburnum rufidulum</i>	rusty blackhaw
<i>Zamia pumilla</i>	coontie

## Cactus and Succulents

<i>Yucca aloifolia</i>	aloe yucca
<i>Yucca filamentosa</i>	Adam's needle
<i>Yucca flaccida</i>	weak-leaf yucca
<i>Yucca gloriosa</i>	moundlily yucca
<i>Yucca recurvifolia</i>	curve-leaf yucca

## Grasses and Sedges

<i>Andropogon brachystachyus</i>	shortspike bluestem
<i>Andropogon gerardii</i>	big bluestem
<i>Andropogon glomeratus</i>	bushy bluestem
<i>Andropogon gyrans</i>	Elliott's bluestem
<i>Andropogon ternarius</i>	splitbeard bluestem
<i>Andropogon virginicus</i>	broomsedge bluestem
<i>Arundinaria gigantea</i>	giant cane
<i>Carex alata</i>	broadwing sedge
<i>Carex baltzellii</i>	Baltzell's sedge
<i>Carex cephalophora</i>	oval-leaf sedge
<i>Carex cherokeensis</i>	Cherokee sedge
<i>Carex dasycarpa</i>	sandywoods sedge
<i>Carex flaccosperma</i>	thinfuit sedge
<i>Carex gigantea</i>	giant sedge
<i>Carex glaucescens</i>	southern waxy sedge

<i>Carex lupulina</i>	hop sedge
<i>Carex lurida</i>	shallow sedge
<i>Carex nigromarginata</i>	black edge sedge
<i>Carex vulpinoidea</i>	fox sedge
<i>Chasmanthium latifolium</i>	Indian woodoats
<i>Festuca rubra</i>	red fescue
<i>Panicum amarum</i>	bitter panicgrass
<i>Panicum anceps</i>	beaked panicgrass
<i>Panicum virgatum</i>	switchgrass
<i>Saccharum alopercuroides</i>	silver plumegrass
<i>Saccharum balwinii</i>	narrow plumegrass
<i>Saccharum brevibarbe</i>	shortbread plumegrass
<i>Saccharum giganteum</i>	sugarcane plumegrass
<i>Schizachyrium scoparium</i>	little bluestem
<i>Sorghastrum nutans</i>	Indiangrass
<i>Tridens flavus</i>	purpletop tridens
<i>Zizania aquatica</i>	annual wildrice
<i>Zizaniopsis miliacea</i>	giant cutgrass

## Perennials

<i>Achillea millefolium</i>	common yarrow
<i>Actaea racemosa</i>	black baneberry
<i>Agalinis purpurea</i>	purple false foxglove
<i>Allium canadense</i>	meadow garlic
<i>Amorpha herbacea</i>	clusterspike false indigo
<i>Amsonia tabernaemontana</i>	eastern bluestar
<i>Angelica venenosa</i>	Carolina anemone
<i>Antennaria plantaginifolia</i>	woman's tobacco
<i>Apocynum cannabinum</i>	indianhemp
<i>Aquilegia canadense</i>	red columbine
<i>Aristolochia serpentaria</i>	Virginia snakeroot
<i>Asarum canadense</i>	wild ginger
<i>Asclepias amplexicaulis</i>	clasping milkweed
<i>Asclepias cinerea</i>	Carolina milkweed
<i>Asclepias connivens</i>	largeflower milkweed
<i>Asclepias humistrata</i>	pinewoods milkweed

<i>Asclepias incarnata</i>	swamp milkweed
<i>Asclepias lanceolata</i>	fewflower milkweed
<i>Asclepias longifolia</i>	longleaf milkweed
<i>Asclepias michauxii</i>	Michaux's milkweed
<i>Asclepias obovata</i>	pineland milkweed
<i>Asclepias pedicellata</i>	savannah milkweed
<i>Asclepias perennis</i>	aquatic milkweed
<i>Asclepias tuberosa</i>	butterfly milkweed
<i>Asclepias variegata</i>	redring milkweed
<i>Asclepias verticillata</i>	whorled milkweed
<i>Asclepias viridis</i>	green antelopehorn
<i>Baptisia alba</i>	white wild indigo
<i>Baptisia lanceolata</i>	gopherweed
<i>Baptisia lecontei</i>	pineland wild indigo
<i>Baptisia perfoliata</i>	catbells
<i>Baptisia tinctoria</i>	horseflyweed
<i>Bidens bipinnata</i>	Spanish needles
<i>Bidens cernua</i>	nodding beggartick
<i>Bidens laevis</i>	smooth beggartick
<i>Boehmeria cylindrica</i>	smallspike false nettle
<i>Canna flaccida</i>	bandanna of the Everglades
<i>Cardamine concatenata</i>	cutleaf toothwort
<i>Cardamine pensylvanica</i>	Pennsylvania bittercress
<i>Carphephorus corymbosus</i>	coastal plain chaffhead
<i>Chamaecrista fasciculata</i>	partridge pea
<i>Chaemacrista nictitans</i>	sensitive partridge pea
<i>Chelone glabra</i>	white turtlehead
<i>Cirsium horridulum</i>	yellow thistle
<i>Cirsium muticum</i>	swamp thistle
<i>Cirsium virginicum</i>	Virginia thistle
<i>Clitoria mariana</i>	Atlantic pigeonwings
<i>Conoclinium coelestinum</i>	blue mistflower
<i>Coreopsis auriculata</i>	lobed tickseed
<i>Coreopsis basalis</i>	goldenmane tickseed
<i>Coreopsis falcata</i>	sickle tickseed
<i>Coreopsis gladiata</i>	coastal plain tickseed
<i>Coreopsis grandiflora</i>	largeflower tickseed

<i>Coreopsis lanceolata</i>	lanceleaf tickseed
<i>Coreopsis major</i>	greater tickseed
<i>Coreopsis nudata</i>	Georgia tickseed
<i>Coreopsis pubescens</i>	start tickseed
<i>Coreopsis tinctoria</i>	golden tickseed
<i>Coreopsis tripteris</i>	tall tickseed
<i>Coreopsis verticillata</i>	whorled tickseed
<i>Croton punctatus</i>	gulf croton
<i>Cynoglossum virginianum</i>	wild comfrey
<i>Daucus pusillus</i>	American wild carrot
<i>Delphinium carolinianum</i>	Carolina larkspur
<i>Desmodium ciliare</i>	hairy small-leaf ticktrefoil
<i>Desmodium floridanum</i>	Florida ticktrefoil
<i>Desmodium lineatum</i>	sand ticktrefoil
<i>Desmodium nuttallii</i>	Nuttall's ticktrefoil
<i>Desmodium paniculatum</i>	panicledleaf ticktrefoil
<i>Doellingeria umbellata</i>	parasol whitetop
<i>Dyschoriste oblongifolia</i>	oblongleaf snakeherb
<i>Echinacea pallida</i>	pale purple coneflower
<i>Echinacea purpurea</i>	eastern purple coneflower
<i>Erigeron philadelphicus</i>	Philadelphia fleabane
<i>Erigeron pulchellus</i>	Robin's plantain
<i>Erigeron quercifolius</i>	oakleaf fleabane
<i>Eryngium aquaticum</i>	rattlesnakemaster
<i>Eryngium integrifolium</i>	blueflower eryngo
<i>Eryngium yuccifolium</i>	button eryngo
<i>Eupatoriadelphus fistulosus</i>	trumpetweed
<i>Eupatorium altissimum</i>	tall thoroughwort
<i>Eupatorium capillifolium</i>	dogfennel
<i>Eupatorium hyssopifolium</i>	hyssopleaf thoroughwort
<i>Eupatorium perfoliatum</i>	common boneset
<i>Eupatorium purpureum</i>	sweetscented joe pye weed
<i>Eupatorium rotundifolium</i>	roundleaf thoroughwort
<i>Eupatorium serotinum</i>	lateflowering thoroughwort
<i>Eurybia paludosa</i>	southern swamp aster
<i>Eurybia surculosa</i>	creeping aster
<i>Fragaria virginiana</i>	Virginia strawberry

<i>Gaillardia aestivalis</i>	lanceleaf blanketflower
<i>Gaillardia pulchella</i>	firewheel
<i>Geranium carolinianum</i>	Carolina geranium
<i>Geranium maculatum</i>	spotted geranium
<i>Helenium autumnale</i>	common sneezeweed
<i>Helenium pinnatifidum</i>	southeastern sneezeweed
<i>Helianthus angustifolius</i>	swamp sunflower
<i>Helianthus annuus</i>	common sunflower
<i>Helianthus debilis</i>	cucumberleaf sunflower
<i>Helianthus divaricatus</i>	woodland sunflower
<i>Helianthus heterophyllus</i>	variableleaf sunflower
<i>Helianthus longifolius</i>	longleaf sunflower
<i>Helianthus microcephalus</i>	small woodland sunflower
<i>Helianthus simulans</i>	muck sunflower
<i>Helianthus strumosus</i>	paleleaf woodland sunflower
<i>Heliopsis helianthoides</i>	smooth oxeye
<i>Hibiscus aculeatus</i>	comfortroot
<i>Hibiscus coccineus</i>	scarlet rosemallow
<i>Hibiscus grandiflorus</i>	swamp rosemallow
<i>Hibiscus laevis</i>	halberdleaf rosemallow
<i>Hibiscus moscheutos</i>	crimsoneyed rosemallow
<i>Houstonia caerulea</i>	azure bluet
<i>Impatiens capensis</i>	jewelweed
<i>Ionactis linariifolius</i>	flaxleaf whitetop aster
<i>Iris hexagona</i>	Dixie iris
<i>Iris verna</i>	dwarf violet iris
<i>Iris virginica</i>	Virginia iris
<i>Lepidium virginicum</i>	Virginia pepperweed
<i>Lespedeza angustifolia</i>	narrowleaf lespedeza
<i>Lespedeza hirta</i>	hairy lespedeza
<i>Lespedeza repens</i>	creeping lespedeza
<i>Lespedeza virginica</i>	slender lespedeza
<i>Liatris aspera</i>	tall blazing star
<i>Liatris chapmanii</i>	Chapman's blazing star
<i>Liatris elegans</i>	pinkscale blazing star
<i>Liatris gracilis</i>	slender blazing star
<i>Liatris pilosa</i>	shaggy blazing star

<i>Liatris spicata</i>	dense blazing star
<i>Liatris squarrosa</i>	scaly blazing star
<i>Liatris tenuifolia</i>	shortleaf blazing star
<i>Lilium catesbaei</i>	pine lily
<i>Lilium michauxii</i>	Carolina lily
<i>Lilium superbum</i>	turk's-cap lily
<i>Lobelia cardinalis</i>	cardinalflower
<i>Lobelia elongata</i>	longleaf lobelia
<i>Lobelia glandulosa</i>	glade lobelia
<i>Lobelia puberula</i>	downy lobelia
<i>Ludwigia decurrens</i>	wingleaf primrose-willow
<i>Ludwigia maritima</i>	seaside primrose-willow
<i>Ludwigia virgata</i>	savannah primrose-willow
<i>Lupinus diffuses</i>	Oak Ridge lupine
<i>Lupinus perennis</i>	sundial lupine
<i>Lysimachia ciliata</i>	fringed loosestrife
<i>Lysimachia lanceolata</i>	lanceleaf loosestrife
<i>Malva viscus arboreus</i>	wax mallow
<i>Marshallia graminifolia</i>	grassleaf Barbara's buttons
<i>Melanthera nivea</i>	snow squarestem
<i>Monarda citriodora</i>	lemon beebalm
<i>Monarda punctata</i>	spotted beebalm
<i>Nuttallanthus canadensis</i>	Canada toadflax
<i>Oclemena reticulata</i>	pine barren whitetop aster
<i>Oenothera biennis</i>	common evening primrose
<i>Oxypholis rigidior</i>	stiff cowbane
<i>Palafoxia integrifolia</i>	coastal plain palafox
<i>Penstemon australis</i>	Eustis Lake beardtongue
<i>Penstemon laevigatus</i>	eastern smooth beardtongue
<i>Penstemon multiflorus</i>	manyflower beardtongue
<i>Phlox amoena</i>	hairy phlox
<i>Phlox carolina</i>	thickleaf phlox
<i>Phlox divaricata</i>	wild blue phlox
<i>Phlox drummondii</i>	annual phlox
<i>Phlox glaberrima</i>	smooth phlox
<i>Phlox maculata</i>	wild sweetwilliam
<i>Phlox pilosa</i>	downy phlox

<i>Phlox nivalis</i>	trailing phlox
<i>Phyla nodiflora</i>	turkey tangle fogfruit
<i>Physostegia angustifolia</i>	narrowleaf false dragonhead
<i>Physostegia purpurea</i>	eastern false dragonhead
<i>Physostegia virginiana</i>	obedient plant
<i>Pityopsis graminifolia</i>	narrowleaf silkgrass
<i>Plantago heterophylla</i>	slender plantain
<i>Plantago virginica</i>	Virginia plantain
<i>Plantago wrightiana</i>	Wright's plantain
<i>Podophyllum peltatum</i>	mayapple
<i>Pontederia cordata</i>	pickerelweed
<i>Prunella vulgaris</i>	common selfheal
<i>Pseudognaphalium obtusifolium</i>	rabbit-tobacco
<i>Pycnanthemum flexuosum</i>	Appalachian mountainmint
<i>Pycnanthemum incanum</i>	hoary mountainmint
<i>Pycnanthemum pycnanthemoides</i>	southern mountainmint
<i>Pycnanthemum tenuifolium</i>	narrowleaf mountainmint
<i>Rubus cuneifolius</i>	sand blackberry
<i>Rubus trivialis</i>	southern dewberry
<i>Rudbeckia hirta</i>	blackeyed Susan
<i>Rudbeckia fulgida</i>	orange coneflower
<i>Rudbeckia laciniata</i>	cutleaf coneflower
<i>Rudbeckia mohrii</i>	Mohr's coneflower
<i>Rudbeckia triloba</i>	browneyed Susan
<i>Ruellia caroliniensis</i>	Carolina wild petunia
<i>Rumex hastatulus</i>	heartwing sorrel
<i>Salvia azurea</i>	azure blue sage
<i>Salvia coccinea</i>	blood sage
<i>Salvia lyrata</i>	lyreleaf sage
<i>Salvia urticifolia</i>	nettleleaf sage
<i>Seriocarpus tortifolius</i>	dixie white top aster
<i>Senecio glabellus</i>	butterweed
<i>Sida rhombifolia</i>	Cuban jute
<i>Silene virginica</i>	fire pink
<i>Silphium asteriscus</i>	starry rosinweed
<i>Silphium compositum</i>	kidneyleaf rosinweed
<i>Sisyrinchium angustifolium</i>	narrowleaf blue-eyed grass

<i>Sisyrinchium atlanticum</i>	eastern blue-eyed grass
<i>Solidago altissima</i>	Canada goldenrod
<i>Solidago arguta</i>	Atlantic goldenrod
<i>Solidago caesia</i>	wreath goldenrod
<i>Solidago erecta</i>	showy goldenrod
<i>Solidago fistulosa</i>	pine barren goldenrod
<i>Solidago gigantea</i>	giant goldenrod
<i>Solidago gracillima</i>	Virginia goldenrod
<i>Solidago leavenworthii</i>	Leavenworth's goldenrod
<i>Solidago nemoralis</i>	gray goldenrod
<i>Solidago odora</i>	anisescented goldenrod
<i>Solidago patula</i>	roundleaf goldenrod
<i>Solidago rugosa</i>	wrinkleleaf goldenrod
<i>Solidago sempervirens</i>	seaside goldenrod
<i>Solidago stricta</i>	wand goldenrod
<i>Stokesia laevis</i>	Stoke's aster
<i>Symphotrichum adnatum</i>	scaleleaf aster
<i>Symphotrichum concolor</i>	eastern silver aster
<i>Symphotrichum cordifolium</i>	common blue wood aster
<i>Symphotrichum dumosum</i>	rice button aster
<i>Symphotrichum elliotii</i>	Elliott's aster
<i>Symphotrichum lateriflorum</i>	calico aster
<i>Symphotrichum novae-angliae</i>	New England aster
<i>Symphotrichum patens</i>	late purple aster
<i>Symphotrichum praealtum</i>	willowleaf aster
<i>Symphotrichum tenuifolium</i>	perennial saltmarsh aster
<i>Symphotrichum undulatum</i>	wavyleaf aster
<i>Symphotrichum walteri</i>	Walter's aster
<i>Tephrosia virginiana</i>	Virginia tephrosia
<i>Thaspium barbinode</i>	hairyjoint meadowparsnip
<i>Thaspium trifoliatum</i>	purple meadowparsnip
<i>Tiarella cordifolia</i>	heartleaf foamflower
<i>Tradescantia hirsuticaulis</i>	hairystem spiderwort
<i>Tradescantia ohimensis</i>	bluejacket
<i>Trifolium carolinianum</i>	Carolina clover
<i>Trifolium reflexum</i>	buffalo clover
<i>Urtica chamaedryoides</i>	heartleaf nettle

<i>Verbena scabra</i>	sandpaper vervain
<i>Verbesina alternifolia</i>	wingstem
<i>Verbesina occidentalis</i>	hellow crownbeard
<i>Verbesina virginicus</i>	white crownbeard
<i>Vernonia angustifolia</i>	tall ironweed
<i>Vernonia gigantea</i>	giant ironweed
<i>Vernonia noveboracensis</i>	New York ironweed
<i>Viola affinis</i>	sand violet
<i>Viola bicolor</i>	field pansy
<i>Violet cucullata</i>	marsh blue violet
<i>Viola lanceolata</i>	bog white violet
<i>Viola x palmata</i>	early blue violet
<i>Viola pedata</i>	birdfoot violet
<i>Viola primulifolia</i>	primrose-leaf violet
<i>Viola septemloba</i>	southern coastal violet
<i>Viola sororia</i>	common blue violet
<i>Viola walteri</i>	prostrate blue violet
<i>Zephyranthes atamasca</i>	Atamasco lily
<i>Zizea aurea</i>	golden aster
<i>Zizia aptera</i>	meadow zizia
<i>Zizia trifoliata</i>	meadow alexanders

## Vines

<i>Ampelaster carolinianus</i>	climbing aster
<i>Apios americana</i>	groundnut
<i>Aristolochia tomentosa</i>	woolly dutchman's pipe
<i>Campsis radicans</i>	trumpet creeper
<i>Clematis crispa</i>	swamp leather flower
<i>Clematis virginiana</i>	devil's darning needles
<i>Decumaria barbara</i>	woodvamp
<i>Gelsemium sempervirens</i>	evening trumpetflower
<i>Ipomoea coccinea</i>	redstar
<i>Ipomoea cordatotriloba</i>	tievine
<i>Ipomoea imperati</i>	beach morningglory
<i>Ipomoea macrorhiza</i>	largeroot mornigg glory
<i>Ipomoea pandurata</i>	man of the earth
<i>Ipomoea pes-caprae</i>	bayhops

<i>Ipomoea quamoclit</i>	cypressvine
<i>Ipomoea sagittata</i>	saltmarsh morningglory
<i>Lonicera sempervirens</i>	trumpet honeysuckle
<i>Menispermum canadense</i>	common moonseed
<i>Passiflora incarnata</i>	purple passionflower
<i>Passiflora lutea</i>	yellow passionflower
<i>Smilax herbacea</i>	smooth carion flower
<i>Vicia caroliniana</i>	Carolina vetch
<i>Wisteria frutescens</i>	American wisteria

## Ground Covers

<i>Chrysogonum virginianum</i>	green and gold
<i>Glandularia canadensis</i>	rose mock vervain