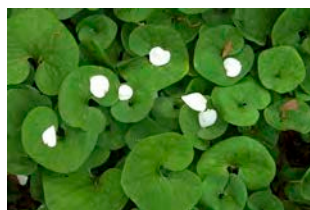
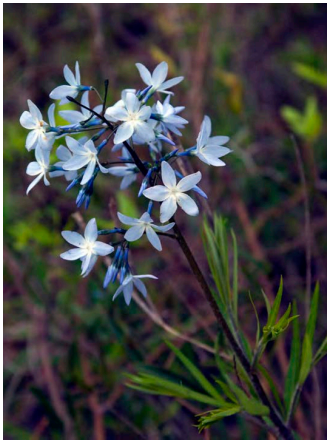




Native Plants for Georgia



Part III: Wildflowers

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This publication is dedicated to Will Corley, former faculty member in the Department of Horticulture, who spent a large part of his career developing a wildflower mix for the Southeast and helping beautify Georgia's public parks and highways.

For generations, long before there was a nursery industry, people planted and enjoyed wildflowers. They harvested seeds, cuttings and plants from the wild, experimented with various propagation techniques and incorporated their favorite plants into their landscapes. Many of these plants were valued not only for their ornamental qualities but also for their culinary or medicinal uses. Those that were proven performers and adapted well to domestication became “passalong” plants that were shared with friends, relatives and neighbors.

As the nursery industry evolved in the 1800s, exotic plants were imported from foreign lands. Soon native plants became diluted with exotic plants in the product mix. The buying public generally became more interested in the dazzling qualities of new plants than in whether plants were native or imported from another country. As a result, approximately 80 percent of the plants in the nursery trade today are non-native exotics.

Today, there is renewed interest in “going native” and restoring diversity to our landscapes by planting native plants. The reasons for this are many and varied. Planting a native plant lends a historical sense of pride to a gardener who grows a plant that early pioneers or even Native American Indians may have planted. Furthermore, regionally-adapted native plants have developed a natural resistance to pests and a tolerance to drought, ice storms and other environmental extremes common to the area.

Some native plants provide food or shelter for wildlife and create “watchable wildlife habitats.” In his book *Bringing Nature Home*, Douglas Tallamy explains “the unbreakable link between native plant species and native wildlife,” especially the native insect populations that form the broad base of the food chain. “When native plants disappear or are replaced by exotic species, native insects disappear, thereby impoverishing the food sources for birds and other animals,” he says. The loss or decline of native plant populations through urban development and habitat destruction or by encroachment from invasive exotic species changes the whole biology and balance of an ecosystem.

What are Native Wildflowers?

The term “wildflower” in this publication is a general term used to define both annual and perennial native herbaceous plants with showy flowers that have evolved with an ecosystem and grow naturally without either direct or indirect human intervention. Although native grasses and sedges are included in this definition, they are described separately in Part IV of this native plant publication series.

Many native plant enthusiasts question whether improved cultivars of native wildflowers resulting from hybrid crosses of two native species are still native plants. In the book *Armitage's Native Plants for North American Gardens*, Allan Armitage humorously refers to these plants as “nativars.” In this publication, cultivars of native plants will be mentioned when they have qualities different from those of the native species and when they are widely available in the nursery trade.

Growing Wildflowers Successfully

To grow wildflowers successfully, one must carefully simulate their native growing environments, giving special consideration to sunlight requirements, soil types and moisture levels. Some wildflowers are “generalists” and grow well in a variety of habitats, while others require very specific growing conditions. Some prefer wet conditions and are best used in bog gardens or on the edges of ponds or streams. Many prefer dry, sunny sites and adapt well to perennial borders, cottage gardens or meadows. Still others prefer dry woodland settings with filtered shade, while some like shaded woodlands adjacent to streams or seepage areas where soils are moist and high in organic matter.

A few wildflowers are aggressive and spread by creeping underground stems, called rhizomes, or by above-ground runners, called stolons. Others spread by dispersing seeds and establishing new colonies of seedling plants. These aggressive plants are best planted either in wildflower meadows where they can freely compete with other aggressive plants or in confined areas where their spread can be managed.

Many wildflowers are not self-fertile; therefore, to produce fertile seeds, several seedlings need to be planted in close proximity in order to cross. If plants are propagated vegetatively from the same parent, the seeds produced usually will be sterile.

Before planting wildflowers, consider whether they are cool-season or warm-season plants. Cool-season wildflowers, also called spring ephemerals, like Trillium, Wild Ginger, Bloodroot and May-apple, bloom in late winter or spring. In their native habitat, these plants are found on the floor of deciduous hardwood forests where changing light patterns govern their life cycle. They grow rapidly and flower from March to May before the leaves on the canopy trees are fully expanded and when light levels reaching the forest floor are highest. Then, as the leaves of the canopy trees mature and light levels at ground level decrease, cool-season wildflowers go dormant or disappear until the following spring. On the other hand, warm-season wildflowers like *Baptisia*, Partridge Pea, Blazing Star and Goldenrod produce their strongest growth when night-time temperatures reach 70 degrees Fahrenheit. They bloom in summer and fall then go dormant if they are a perennial or re-seed and die if they are an annual. In their native habitat, these plants are found along forest edges and

in meadows and will not grow well in dense shade. By planting a combination of cool-season and warm-season plants or seeds, gardeners can attain at least nine months of color.

It is a common misconception that wildflowers are maintenance-free plants when grown in garden habitats. Whenever a plant's environment is altered by taking it from its native habitat to a cultivated landscape, it will require maintenance, particularly during the first year or two while it is getting established and adapting to a new location. Some wildflowers are pruned back after flowering to encourage more compact growth or repeat flowering. Others that spread aggressively from seed are pruned after flowering to prevent seed production. Wildflowers used for roadside beautification are often mowed late in the season to scatter seeds that will germinate and produce new plants for motorists to enjoy the following year.

Obtaining Plants and Learning about Native Wildflowers

Always obtain wildflower plants or seeds from reputable sources. Most of the common wildflowers or their cultivars can be found in nurseries, garden centers, mail-order catalogs or their online equivalents. There are several Native Plant Societies throughout the Southeast, and most have an annual native plant sale.

Beware of "Meadows in a Can" or other wildflower seed mixes that are formulated for other regions of the country, such as the Pacific Northwest or the Northeast. Many of these mixes contain non-native species as well as species not well suited for the heat and humidity of the Southeast. For best results, look for seed mixes formulated for the Southeast.

Transplanting wildflowers from their native habitats to cultivated landscapes is discouraged. It is prohibited if the plants are rare or endangered, or if they are located on land owned by the state or federal government. It also is illegal to collect plants from private land without permission from the landowner. Some organizations, such as the Georgia Plant Conservation Alliance, the Georgia Native Plant Society and the Nature Conservancy, conduct organized rescues of native plants that are threatened by construction, provided permission is given by the landowner.

The Georgia Native Plant Society is an active statewide organization that offers seminars and workshops throughout the year (see www.gnps.org). The State Botanical Garden of Georgia offers an 80-hour certificate program on native plants that includes a series of courses through which one can earn a Certificate of Native Plants (botgarden.uga.edu). The reference list at the end of this publication cites both websites and books that provide excellent information for wildflower enthusiasts.

Guide to Plant Descriptions

This publication describes an assortment of wildflowers worthy of landscape culture. They are arranged alphabetically by botanical name. Most of them are readily available in the nursery trade, but a few may require some searching of catalogs or websites or visits to specialty plant growers. Endangered, threatened or rare plant species listed in *Protected Plants of Georgia*, a publication of the Georgia Department of Natural Resources, are not included in this publication. Other plants that have very specific growing requirements that cannot easily be created or maintained in landscapes were also omitted. The appendix contains a *Guide for Selecting Wildflowers* described in this publication. It is based on various criteria, such as plant height, flower color, time of bloom and light requirement. Readers should find this table useful for selecting the right plants for specific locations in their landscapes.

Information on each plant is provided according to the following criteria:

Common Name(s) / Botanical Name / Family

Life Cycle

Characteristics

Cultural Requirements

Landscape Uses

Size

Hardiness Zones

Habitat

Native To

Propagation

Comments

Common Name(s) / Botanical Name / Family: Shown here are the generally accepted common names used by respected botanical authorities. For this publication, *Flora of Southern and Mid-Atlantic States* by Alan S. Weakley, North Carolina Herbarium, was used as the definitive source for botanical names. The family name is given as a point of information since some unifying traits are common to plants in the same family.

Life Cycle: This section explains whether the plant is an annual, biennial or perennial. An annual flowers, fruits and dies in one growing season. A biennial grows vegetatively the first year, then flowers, fruits and dies the second year. A

perennial usually flowers and fruits each year, and lives for several years. Some plants may be annuals in some areas of Georgia and perennials in other areas of the state. A few plants perceived by gardeners as perennials may actually be re-seeding annuals.

Characteristics: In this section, the authors provide a botanical description of the plant, such as growth habit, leaf shape, leaf arrangement, flower form, time of flowering, flower size and color, and the type of root or fruit. The following figures illustrate common terms used to describe the plants, including common leaf shapes, common leaf arrangements, common types of inflorescences (arrangement of flowers on flowering stalks) and parts of flowers. A glossary at the end of this publication provides definitions of the botanical terms used to describe the plants.

Figure 1. Common Leaf Shapes

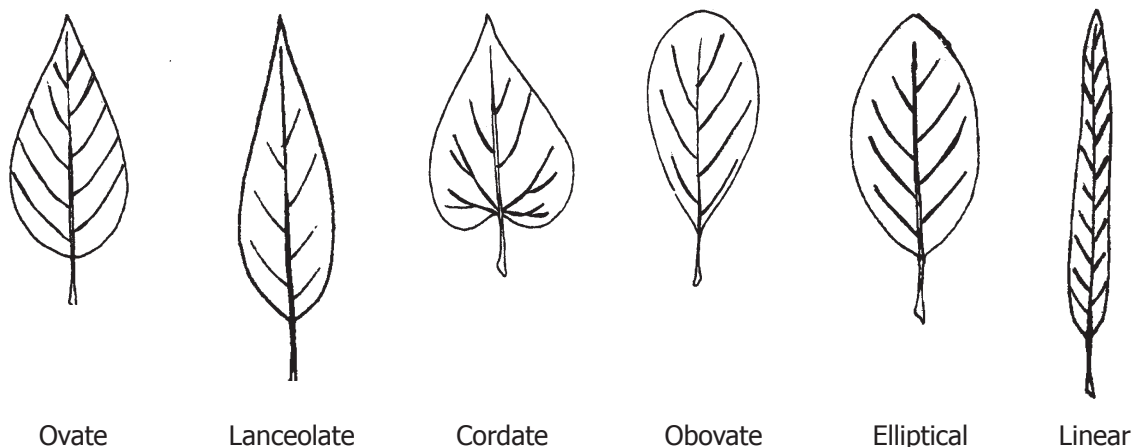


Figure 2. Common Leaf Arrangements

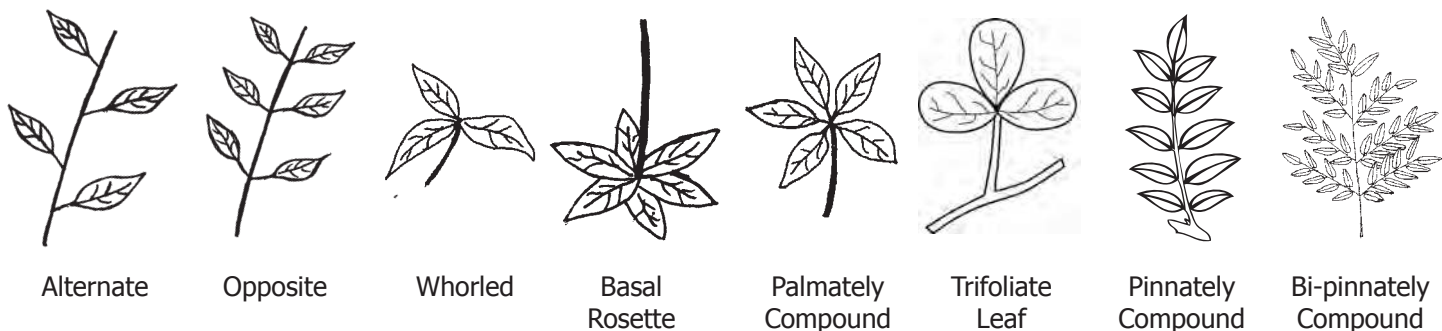


Figure 3. Common Types of Inflorescences (Arrangement of flowers)

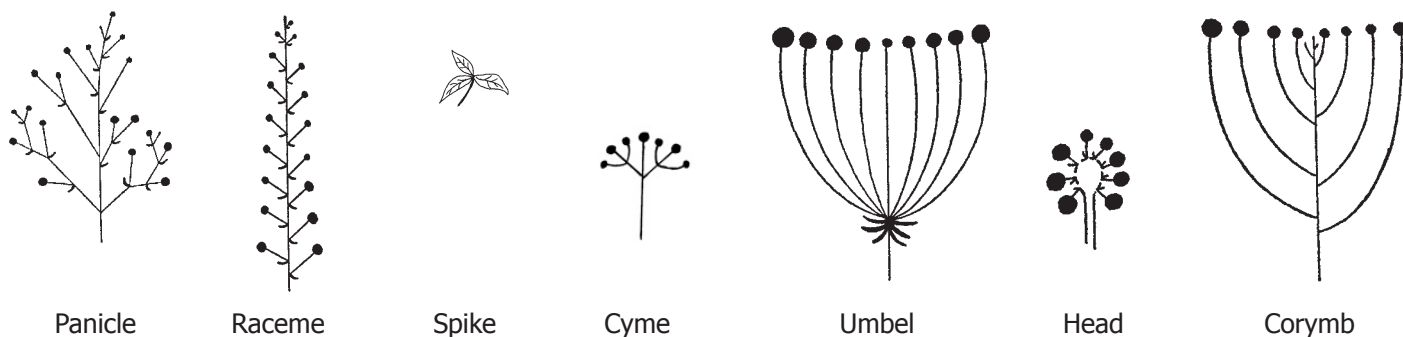
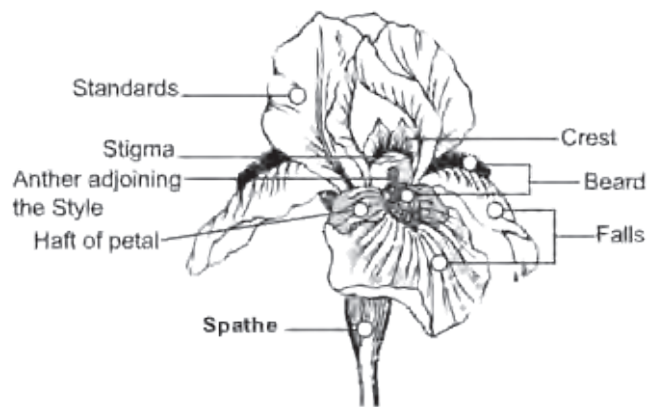
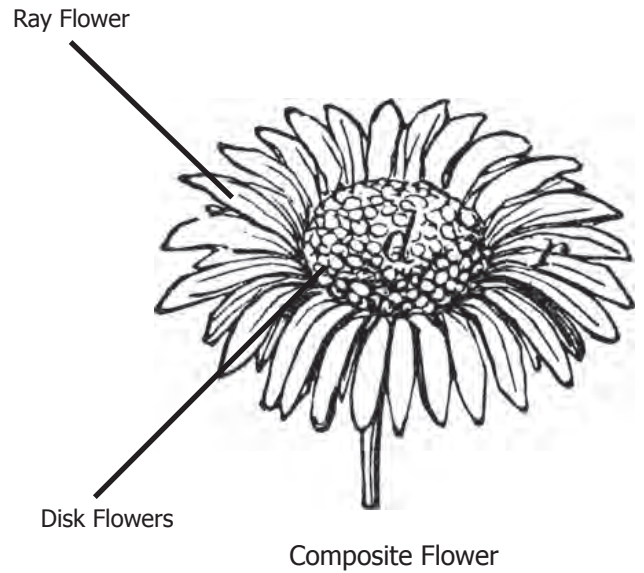
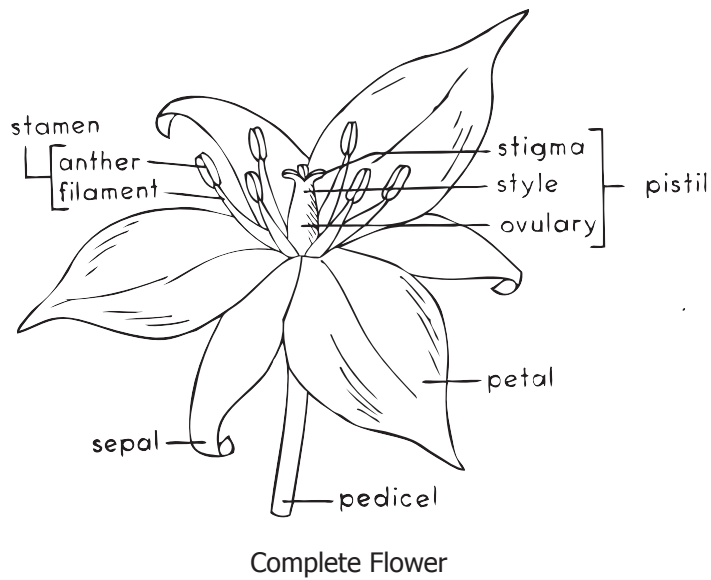
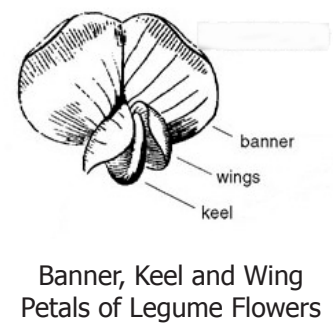
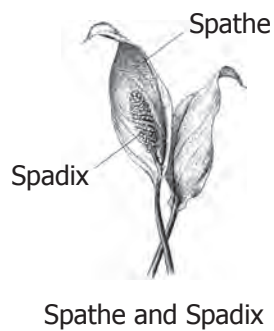
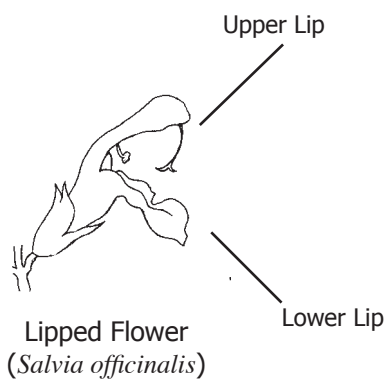


Figure 4. Flower Parts



(Credit: Town and Country Iris Society, Spokane, WA)



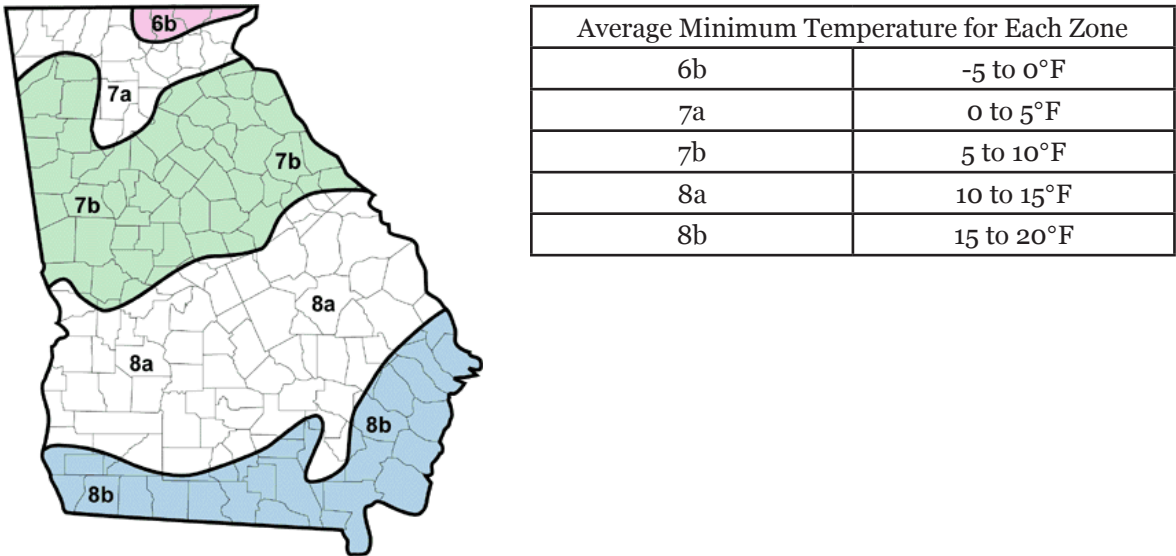
Cultural Requirements: A description of the type of environment the plant needs to thrive, including the light level, soil type and soil conditions, is provided. Other information useful in managing the plant, such as pruning after flowering to encourage repeat bloom or to prevent self-seeding, is included where appropriate.

Landscape Uses: This section suggests the type(s) of landscapes or environmental conditions appropriate for the plant. To grow native wildflowers successfully, it is important to simulate their native habitat as closely as possible.

Size: The expected mature height and/or spread of the plant under ideal cultural conditions are listed here.

Hardiness Zones: Hardiness zones are listed for Georgia. They are an estimate of the plant’s winter hardiness according to established U.S. Department of Agriculture hardiness zones. Most native plants are hardy throughout the state; however, nature does not always cooperate with the guidelines humans develop. Variations in microclimates may extend the growing range north or south of the zone listed. The USDA plant hardiness zones in Georgia are shown in Figure 5.

Figure 5. Cold Hardiness Zone Map of Georgia



Habitat: The environment(s) in which the plant is found in the wild.

Native To: A general description of the region within the continental U.S. where the plant is presently found in its native habitat.

Propagation: The propagation technique(s) commonly used to reproduce the plant are described.

Comments: Additional information about the plant that the reader may find interesting is provided here, such as the plant’s attractiveness to wildlife or other cultivars of the plant available in the nursery trade.

Doll's Eyes, White Baneberry / *Actaea pachypoda*

Family: Buttercup / *Ranunculaceae*

Life Cycle: Perennial

Characteristics: Branched stems bear two or three large tri-foliate toothed leaves. Tiny white flowers are borne in terminal clusters in May or June. Flower stalks thicken after bloom and turn red. Flowers are followed by dense clusters of white pea-size fruit having a distinctive purple spot on their stigmatic end, causing them to resemble the eyes of a china doll. Berry clusters persist into fall and provide ornamental interest until frost.

Cultural Requirements: Plant Doll's Eyes in moist, organic, well-drained soils and partial shade to full shade. It does not like drought or wet feet. It will self-seed and spread when given the right growing conditions.

Landscape Uses: Use Doll's Eyes in shaded gardens.

Size: 1 to 3 feet tall and 2 to 3 feet wide

Hardiness Zones: All of Georgia

Habitat: North-facing slopes of nutrient-rich forests

Native To: Maine to Florida, west to Louisiana, north to Nebraska and Minnesota

Propagation: Seed or division

Seed: Collect seeds in August. Remove pulp and sow outdoors in flats or ground beds. Germination should occur the following spring.

Division: Root division can be done in spring or fall.

Comments: All parts of this plant are poisonous when ingested, so avoid planting this plant in areas frequented by children.

Images: Page 51

Black Cohosh, Black Bugbane / *Actaea racemosa* (syn. *Cimicifuga racemosa*)

Family: Buttercup / *Ranunculaceae*

Life Cycle: Perennial

Characteristics: Slender stems bear pinnately compound leaflets with three-lobed terminal leaflets (see Figure 2). Leaflets are ovate, deeply cut and finely-toothed along their margins. In April or May, racemes 3 to 6 inches long appear at the tips of the branches bearing small, white, fragrant flowers lasting two to three weeks. Seeds are borne in capsules that make a rattling sound when shaken.

Cultural Requirements: Black Cohosh prefers moist, well-drained, humus-enriched soil and partial shade or full shade. Cut back plants in late winter to make way for new spring growth.

Landscape Uses: Use Black Cohosh to brighten shady areas in the landscape, such as butterfly gardens and perennial borders.

Size: 4 to 6 feet tall and 2 to 4 feet wide

Hardiness Zones: All of Georgia

Habitat: Rich hardwood forests

Native To: Massachusetts, west to Indiana, south to Mississippi, east to Georgia

Propagation: Seed or division

Seed: Harvest and plant seeds outside in fall. It may take two years for seeds to germinate and four years to produce a flowering plant from seed.

Division: Dig and divide roots in fall or spring.

Comments: Black Cohosh is the food source for larvae of the Spring Azure butterfly. The foliage has a pungent odor that repels other insects. Flower nectar attracts several other butterflies. The root has been used medicinally for arthritis, menopausal symptoms and other ailments.

Images: Page 51

Common White Snakeroot / *Ageratina altissima* (syn. *Eupatorium rugosum*)

Family: Aster / *Asteraceae*

Life Cycle: Perennial

Characteristics: Leaves are opposite, elliptic to oval in shape, 3 to 6 inches long, with toothed margins and pointed tips. Small, fluffy, bright white flower heads in loose, flat-topped clusters appear on short stalks from late summer to frost. Fruit are small, dry, hairless, seed-like achenes surrounded by white bristles.

Cultural Requirements: This plant prefers sun to light shade and moist loamy soils, but it will adapt to dry soils. Deadheading will encourage repeat flowering and prevent unwanted re-seeding.

Landscape Uses: Use Common White Snakeroot in woodland edges.

Size: 2 to 3 feet tall

Hardiness Zones: All of Georgia

Habitat: Open forests, meadows, and under power lines and in rights-of-ways

Native To: New England, south to Georgia, west to Louisiana, north to Wisconsin

Propagation: Seed, cuttings or division

Seed: Collect seeds from September to October and store them dry at 40°F for one month, then plant.

Cuttings: Stem-tip cuttings can be taken in April or May.

Division: Divide plants in fall or spring.

Comments: Common White Snakeroot can spread aggressively by seeds and rhizomes. Native Americans used an extract from the roots to treat snakebites, hence the common name.

Images: Page 51

Fly Poison / *Amianthium muscitoxicum*

Family: Bunchflower / *Melanthiaceae*

Life Cycle: Perennial

Characteristics: Basal leaves are narrow and elongated, 12 to 24 inches long. They spread outward and arch downward. Leafless flowering stalks resemble those of hyacinths, rising 1 to 2 feet above the foliage and producing dense cylindrical clusters of creamy white flowers that fade to bronze-green in early summer. The flowers are tiny, approximately 1/4 inch across, with six reflexed tepals and anthers that rise above the stigma. A sticky substance coats the flowers, causing them to glisten. Seeds are borne in capsules.

Cultural Requirements: This plant prefers moist, slightly acid soil and one to two hours of direct morning sunlight followed by afternoon shade.

Landscape Uses: Plant Fly Poison in moist perennial borders or wildflower gardens in partial shade. Plant them in groups for maximum show.

Size: 1 to 2 feet tall

Hardiness Zones: All of Georgia

Habitat: Low pinelands, savannahs, woodlands or moist meadows

Native To: New York to Florida, west to Louisiana, north to Oklahoma and Missouri

Propagation: Seed or division

Seed: Plant seeds when ripe in spring. No pre-treatment is required.

Division: Root division can be done in fall or spring.

Comments: All parts of this plant contain toxic alkaloids and are poisonous to livestock and humans. Avoid using it where young children play. Wear gloves when dividing plants. Early settlers crushed the bulbs and mixed them with sugar to prepare a fly poison, hence the common name.

Images: Page 52

Fringed Blue Star / *Amsonia ciliata*

Family: Dogbane / *Apocynaceae*

Life Cycle: Perennial

Characteristics: Leaves are alternate, linear or lance-shaped, four to 15 times longer than they are wide. They are sessile (attached directly to the stem, without a petiole) and are closely spaced up the stem. They turn golden yellow in fall. Pale blue flowers, ½ inch long, are star-shaped with five lobes and white centers. Flowers appear in loose clusters on stem tips from April to early May. Stems are pubescent. Slender seed pods, 4 to 7 inches long, are borne in pairs. They split along one side, releasing seeds. All plants in the genus *Amsonia* have milky sap.

Cultural Requirements: Fringed Blue Star is easy to grow in well-drained soil and full sun to partial shade. It requires some water during dry periods. Cut it back after flowering to maintain a bushy, erect growth form.

Landscape Uses: Fringed Blue Star is a good plant for perennial borders, rock gardens, cottage gardens or woodlands. It is showier when planted in groups.

Size: 2 to 3 feet tall

Hardiness Zones: All of Georgia

Habitat: Dry, sandy, rocky areas and sand hills

Native To: Florida into Texas, north to Kansas and Indiana, east to Virginia. It is primarily a plant of the Coastal Plain.

Propagation: Seed or cuttings

Seed: Collect seeds when the capsules turn tan and the seeds turn brown. Place them in hot water and let them soak overnight before planting. This removes a germination inhibitor from the seed.

Cuttings: Stem cuttings can be taken in May or June. Treat them with a rooting hormone to enhance rooting.

Comments: Butterflies are attracted to the flowers. A variety called Georgia Pancake or Threadleaf Sandhills Blue Star, *Amsonia ciliata* var. *tenuifolia*, also can be found in the Coastal Plain.

Images: Page 52

Wideleaf Blue Star, Eastern Blue Star / *Amsonia tabernaemontana*

Family: Dogbane / *Apocynaceae*

Life Cycle: Perennial

Characteristics: This is a compact clump-forming plant with narrow, lustrous green leaves that radiate around the stem. Leaf shape is variable, ranging from ovate to lanceolate. Leaves turn yellow-gold in fall. From spring to early summer, blue, star-shaped flowers, ½ inch across, are borne in loose clusters at stem tips. The petals have fine hairs along their margins. The flowers are followed by long narrow seed pods that are attractive and provide ornamental value to the winter landscape.

Cultural Requirements: Wideleaf Blue Star is easy to grow in well-drained soil and full sun to partial shade. It may grow leggy in shaded areas. It is drought tolerant once established. Cut back plants after flowering to encourage compact growth. Deer do not like the milky sap.

Landscape Uses: This is a low-maintenance perennial for perennial borders or containers.

Size: 2 to 3 feet tall and 2 to 3 feet wide

Hardiness Zones: All of Georgia

Habitat: Rich hardwood forests, floodplains and stream banks

Native To: Massachusetts, west to Kansas, south to Texas, east to Florida

Propagation: Seed or cuttings

Seed: Collect seeds when the capsule turns tan and the seeds turn brown. Place them in hot water and let them soak overnight to remove a germination inhibitor before planting.

Cuttings: Stem cuttings can be taken in May or June. Treat them with a rooting hormone to enhance rooting.

Comments: Once planted, Wideleaf Blue Star tends to thrive on neglect. A similar species, *A. hubrichtii*, Arkansas Blue Star, grows 3 feet tall and wide. It was a 2009 Georgia Gold Medal winner and is a valued landscape plant; however, because it is native to Oklahoma and Arkansas and is not native to Georgia, it is not described in this publication. For a description of this plant, see www.georgiagoldmedal-plants.org

Images: Page 52

Wood Anemone / *Anemone quinquefolia* Family: Buttercup / *Ranunculaceae*

Life Cycle: Perennial

Characteristics: A slender stalk, 4 to 8 inches tall, has basal leaves and a terminal whorl of three leaflets, each divided into three to five narrow, sharply toothed segments. Basal leaves disappear at flowering. In April/May, a single white or pink flower rises above the terminal leaf whorl. The flowers are 1 inch across and consist of five to seven petal-like sepals. The plant spreads by rhizomes to colonize an area, but it is not aggressive.

Cultural Requirements: This plant likes moist, organic soil and partial shade.

Landscape Uses: Plant Wood Anemone adjacent to paths in moist woodlands with filtered shade.

Size: 4 to 9 inches

Hardiness Zones: All of Georgia

Habitat: Moist hardwood forests, meadows and fields

Native To: Maine, south to Georgia, west to Mississippi, north to the Dakotas

Propagation: Seed or division

Seed: Collect seeds in spring and plant them in outdoor flats right away. They require warm and cold stratification to germinate, so don't expect seedlings until the following spring. It takes three to four years for seedlings to flower.

Division: Divide the rhizome in fall.

Comments: All parts of the plant are poisonous.

Images: Page 53

Tall Thimbleweed / *Anemone virginiana* Family: Buttercup / *Ranunculaceae*

Life Cycle: Perennial

Characteristics: Multiple erect stems rise 2 feet. A whorl of three-lobed leaves appears halfway up the stem. In April and May, a solitary white flower, 1 inch across, is borne at the top of each stem. The flowers consist of five white petal-like sepals with a thimble-like center mound of yellow stamens. Flowers give way to thimble-shaped seed heads that remain on the plant well into winter. The fluffy seed heads are a nice ornamental feature in fall.

Cultural Requirements: Tall Thimbleweed prefers moist organic soils and sun or partial shade. It will adapt to dry sites.

Landscape Uses: Use Tall Thimbleweed in open woodlands or wildflower meadows.

Size: 1 to 2 feet tall

Hardiness Zones: All of Georgia

Habitat: Moist field and woodland edges, prairies and meadows

Native To: Maine to Florida, west to Louisiana, north to the Dakotas, Wyoming and Colorado

Propagation: Seed or division

Seed: Collect seeds in September when the seed heads become fluffy. Stratify them at 40°F for two months before planting. They should germinate in two to three weeks at 70°F.

Division: Divide plants when they are dormant.

Comments: All parts of the plant are poisonous when ingested.

Images: Page 53

Rue-anemone / *Anemonella thalictroides* (syn. *Thalictrum thalictroides*)

Family: Buttercup / *Ranunculaceae*

Life Cycle: Perennial

Characteristics: The plant produces a whorl of basal leaves, each having three lobes. In March or April, several flowering stems, approximately 9 inches long, emerge from each plant. Each stem produces a solitary terminal flower above a whorl of leaves. Flowers are white, 1 to 1½ inches wide and comprised of five to 10 petal-like sepals surrounding greenish-yellow stamens. The root is tuberous.

Cultural Requirements: Rue-anemone requires shade or partial shade and consistently moist, sandy soils. It does not like clay soils.

Landscape Uses: Use Rue-anemone in shaded wildflower gardens and shaded woodlands.

Size: 6 to 9 inches tall

Hardiness Zones: All of Georgia

Habitat: Rich hardwood forests and stream banks

Native To: Florida to Oklahoma, north to Minnesota, east to Maine

Propagation: Seed or division

Seed: Collect the pale green seeds in May and sow them immediately. No pre-treatment is required.

Division: Divide the tuberous root in fall or spring.

Comments: All parts of Rue-anemone are poisonous when ingested.

Images: Page 53

Hairy Angelica / *Angelica venenosa*

Family: Carrot / *Apiaceae*

Life Cycle: Perennial

Characteristics: Hairy Angelica is a member of the parsley/carrot family and resembles these plants. The leaves have toothed margins, winged petioles and are divided into three leaflets. The upper part of the stem as well as flower stems (peduncles) and leaf stems (pedicels) are covered with fine hairs. Flowers are snow white and borne in compound umbels from June through July. Flowers and leaves are aromatic. Fruit are round, hairy and flat with three ridges on each side. The plant has a taproot.

Cultural Requirements: Plant Hairy Angelica in sunny or partially shaded moist rocky areas. The plant dies down and disappears in winter. Self-seeding occurs, and it may produce many plants.

Landscape Uses: This plant looks nice when planted in groups of three or more plants in wildflower gardens, rock gardens, damp ditches or meadows.

Size: 3 to 4 feet tall

Hardiness Zones: All of Georgia

Habitat: Moist rocky forests, damp ditches and sand hills

Native To: Florida to Mississippi, north to Oklahoma and Michigan, east to Connecticut

Propagation: Seed or cuttings

Seed: Collect seeds in September or October and give them dry, cold stratification (40°F) until late December, then plant them in outdoor beds or flats. Do not cover them because they need light to germinate. They should germinate in late winter to early spring.

Cuttings: Take root cuttings in fall or spring.

Comments: Hairy Angelica holds up well as a cut flower. It is often devoured by the caterpillar of the Black Swallowtail butterfly. Deer also like this plant.

Images: Page 54

Plantain Pussytoes / *Antennaria plantaginifolia*

Family: Aster / Asteraceae

Life Cycle: Perennial

Characteristics: Basal leaves are spoon-shaped (narrow toward the base and widening to a broad, rounded tip). They are 3 inches long, ¾ inch wide and woolly. Stem leaves are wider and more rounded than the basal leaves. Plants are connected to each other by ground-hugging stolons and form a dense groundcover over time. Dense clusters of fuzzy white flower heads are borne in March at the top of stalks that are 6 to 18 inches tall. The flower heads resemble a cat's paw, hence the common name.

Cultural Requirements: Plantain Pussytoes requires dry to slightly moist soil and good drainage as well as full sun or partial shade. It thrives in poor soil.

Landscape Uses: The plant forms a silvery mat in the landscape and is an excellent groundcover for hot, rocky, dry habitats.

Size: 3 to 16 inches high and ½ to 1 foot wide

Hardiness Zones: All of Georgia

Habitat: Roadsides, woods and pastures

Native To: Maine to Minnesota, south to Missouri, east to Georgia

Propagation: Seed or division

Seed: Collect seeds in April or May. Store them dry at 40°F until the next February, then plant them in outdoor beds or flats.

Division: Plants can be divided in early spring.

Comments: The flowers hold up well in fresh floral arrangements, or they can be dried and used in dry floral arrangements. The plant is dioecious (produces male and female flowers on separate plants). Female flower heads are fuzzier than male flower heads. Butterflies are attracted to the flowers.

Images: Page 54

Eastern Columbine / *Aquilegia canadensis*

Family: Buttercup / Ranunculaceae

Life Cycle: Perennial

Characteristics: Eastern Columbine is an erect, branching plant. Leaves have three round lobes. Delicate red and yellow bell-like nodding flowers with spurred petals are produced on branch terminals in early spring and remain for about six weeks.

Cultural Requirements: This plant is easy to grow in full sun to partial shade. It prefers slightly alkaline soils that are well drained. The plant tends to re-seed readily and establish expanding colonies. Pruning after flowering will discourage re-seeding and will help avoid leaf miner problems.

Landscape Uses: Use Eastern Columbine in wildflower meadows, butterfly and hummingbird gardens or in woodlands having filtered shade.

Size: 2 to 3 feet tall and 1 to 1½ feet wide

Hardiness Zones: All of Georgia

Habitat: Calcareous or mafic woods and nutrient-rich rocky slopes

Native To: Most of eastern North America (east of the Rockies)

Propagation: Seed

Seed: Collect seeds in May and store them dry at 40°F for six months, then plant them in outdoor beds or flats. Germination should occur in about four weeks.

Comments: Hummingbirds and butterflies are attracted to the flowers.

Images: Page 54

Green Dragon / *Arisaema dracontium* Family: Arum / *Araceae*

Life Cycle: Perennial

Characteristics: Green Dragon is an unusual plant. A single irregular palmately compound leaf (see Figure 2) is borne on the end of a long stem. The leaf is divided into five to 15 unequal leaflets and arranged palmately (like the upturned palm of a hand). A separate flowering stem, approximately 6 inches long, appears in March or April. It bears at its tip a narrow green hooded spathe and a long-tipped spadix bearing numerous tiny white flowers (the dragon's tongue) protruding several inches from the spathe (see Figure 4). Flowers are held out of sight at the base of the spadix. The flowers are followed by green berries that change to red, then orange as they mature. The plant grows from an underground corm.

Cultural Requirements: Green Dragon prefers partial shade and moist, well-drained humus-enriched soil. It does poorly in heavy clay. It does not like to be disturbed once it is established.

Landscape Uses: Use this plant in moist, woodland gardens.

Size: 1 to 3 feet tall

Hardiness Zones: All of Georgia

Habitat: Bottomlands, stream banks or floodplains; wherever springtime moisture is abundant

Native To: New Hampshire to Florida, west to Texas, north to Nebraska and Minnesota

Propagation: Seed or division

Seed: Collect seeds from August to October. They have double dormancy, requiring both cold stratification and warm stratification to germinate. Place seeds with surrounding pulp in a bag of moist sphagnum moss in the refrigerator during winter. Separate the pulp from the seeds in spring and plant the seeds in outdoor flats. It may take another year for the seeds to germinate, so patience is a virtue.

Division: Offsets from the below-ground corm can be removed in winter and potted or transplanted.

Comments: Birds and mammals eat the fruit of this plant. The swollen underground corm contains calcium oxalate crystals and should not be ingested. When digging or working with the seeds, wear gloves to avoid skin irritation.

Images: Page 55

Jack-in-the-pulpit / *Arisaema triphyllum* spp. *quinatum* Family: Arum / *Araceae*

Life Cycle: Perennial

Characteristics: One to two glossy green leaves, 12 to 18 inches long, divided into three leaflets appear like an umbrella on the top of stalks that are 1 to 2 feet tall. Flowers are borne in April or May below the foliage. The inflorescence is unusually shaped, with an erect spadix bearing numerous tiny green to purple flowers, and a sheath-like hooded spathe extending over the spadix. The outside of the spathe is usually green or purple, and the inside is usually striped purple or greenish-white. Red berries follow the flowers in mid- to late summer. Roots grow from corms.

Cultural Requirements: This plant prefers fertile, moist, humus-rich soil and partial shade.

Landscape Uses: Jack-in-the-pulpit prefers a shady woodland garden with plenty of moisture.

Size: 1 to 2 feet tall and 6 to 10 inches wide

Hardiness Zones: All of Georgia

Habitat: Fertile hardwood forests, stream banks or floodplains where spring moisture is abundant

Native To: North America east of the Rocky Mountains

Propagation: Seed or division

Seed: Seeds have a double dormancy. Harvest seeds from August to October, remove them from their pulp and sow them in outdoor beds or flats. They require cold stratification followed by warm stratification, then cold stratification, then warm again. This can be satisfied by keeping them outdoors year-round. They may take up to two years to germinate.

Division: The corms can be divided from winter to early spring.

Comments: Birds and mammals enjoy this plant's berries. All parts of Jack-in-the-pulpit contain calcium oxalate crystals and should not be ingested. When digging or handling the seeds, wear gloves to avoid skin irritation.

Images: Page 55

Canadian Wild Ginger / *Asarum canadense* Family: Birthwort / *Aristolochiaceae*

Life Cycle: Perennial

Characteristics: Canadian Wild Ginger has two heart-shaped, hairy basal leaves up to 6 inches wide. In spring, cup-shaped purple flowers, 1-inch across, appear on short stems between the two basal leaves. Flowers are handsome, having three showy sepals and no petals, but they are usually hidden by the foliage. The plant spreads by rhizomes to eventually form a dense mat.

Cultural Requirements: This plant prefers moist, well-drained soils with abundant organic matter and partial shade to full shade. It likes soils with a slightly acid to neutral pH in the range of 6 to 7. The plant spreads slowly by rhizomes and eventually becomes a dense groundcover. Apply mulch to conserve moisture.

Landscape Uses: Use Canadian Wild Ginger as a groundcover in shaded, moist woodlands.

Size: 4 to 8 inches high and spreading

Hardiness Zones: 7

Habitat: Moist, shaded, nutrient-rich forests

Native To: Eastern North America, from Maine to Georgia, west to Louisiana, north to Oklahoma, Missouri and the Dakotas

Propagation: Seed or division

Seed: Collect seeds four to six weeks after flowering and plant them right away. Germination percentage decreases with storage. The seeds should germinate the following spring and bloom the second year.

Division: Rhizomes can be divided in fall or spring.

Comments: Early Colonists used the roots as a substitute for ginger.

Images: Page 55

Milkweed / Genus *Asclepias*

Milkweeds are plants most people either love or hate. They can be a nuisance in pastures, but in cultivated landscapes they can be beautiful additions to perennial borders and wildflower meadows. The foliage is a prime food source for a variety of butterfly larvae, and the flower nectar is valued by adult butterflies and hummingbirds. Some plants produce a substance called glycoside that discourages birds from eating butterflies.

Milkweed flowers are borne in clusters called umbels at the tips of stems. Each flower has five petals and an inner crown resembling a five-parted cup. Stems produce a white milky sap, with the exception of Butterfly Milkweed, which produces a clear sap when cut. Seeds are borne in pods that split, releasing hundreds of silky seeds that float long distances in the wind.

Plants are self-infertile, so if fertile seeds are desired, plant more than one plant in a colony so they will cross pollinate.

There are more than 20 native Milkweed species in the Southeastern U.S. with a habitat ranging from sand dunes to swamps. Five that are good candidates for landscape culture are described below.

Clasping Milkweed, Blunt-leaved Milkweed, Wavy-leaf Milkweed /
Asclepias amplexicaulis
Family: Dogbane / Apocynaceae

Life Cycle: Perennial

Characteristics: Leaves are opposite, sessile (lacking stalks), typically in two to five pairs along the stem. They are oblong in shape, 3 to 4 inches long and 2 to 3 inches wide. The mid-rib of the leaf is lighter in color than the surrounding area, and lateral veins have a reddish tint. Leaf margins are wavy. Summer flowers are borne in terminal umbels, each having 15 to 80 flowers. Each flower is borne on a slender stalk, 1 to 1½ inches long, and consists of five greenish-purple to pink petals that are curved downward. Above the petals are five light-pink cup-like appendages (called the hood) that have protruding flesh-colored horns. Seeds are borne in spindle-shaped pods, 3½ to 6 inches long and approximately 1 inch wide, that split lengthwise to release silky seeds that float on the wind.

Cultural Requirements: Clasping Milkweed does best in full sun and moist, well-drained soil. Aphids can be a problem.

Landscape Uses: Use Clasping Milkweed in sunny perennial borders, meadows and butterfly gardens.

Size: 1 to 3 feet

Hardiness Zones: All of Georgia

Habitat: Prairies, glades, rocky open woods and roadsides

Native To: Vermont, south to Florida, west to Texas, north to Minnesota

Propagation: Seed or cuttings

Seed: Collect seed pods when they turn tan and begin to split. Remove and discard their silky tails, then store the seeds dry at 40°F for four to six months. Sow them in outdoor beds or flats when night temperatures are between 65°F and 70°F. The seeds need light to germinate, so cover them lightly with the germination medium.

Cuttings: Take root cuttings in February.

Comments: The larvae of many butterflies eat the foliage, and adult butterflies like the flower nectar.

Images: Page 56

Swamp Milkweed / *Asclepias incarnata*
Family: Dogbane / Apocynaceae

Life Cycle: Perennial

Characteristics: Swamp Milkweed is a tall, clump-forming perennial. Medium green leaves are opposite, narrow, pointed, 3 to 6 inches long and 1 to 3 inches wide. Many flowering stalks arise from a single crown. The stalks contain a milky sap. In June or July, small, fragrant pink flowers appear in tight clusters at the stem ends. Each flower consists of five dark-rose petals that are curved downward. Above the flower are five erect cup-shaped appendages (collectively called the hood), each bearing a white, curved horn. Seeds are borne in spindle-shaped pods up to 4 inches long. The pods persist throughout the winter and split in spring, releasing silky-haired seeds that are carried by the wind.

Cultural Requirements: Swamp Milkweed is easy to grow in moist, well-drained soil and full sun. Plants have a deep tap root so it is best to leave them undisturbed once established. Aphids are attracted to this plant.

Landscape Uses: This is a good plant for butterfly and hummingbird gardens or wildflower meadows. It also likes growing in wetland gardens and at pond edges.

Size: 4 to 5 feet high and 2 to 3 feet wide

Hardiness Zones: All of Georgia

Habitat: Moist stream banks, swamps and marshes

Native To: Most of North America, except the far west coastal states

Propagation: Seed or cuttings

Seed: Collect pods when they turn tan and begin to split in spring. Remove silky tails from the seeds, then store the seeds dry at 40°F for four to six months. Sow the seeds the next spring in outdoor beds or flats. Cover them lightly with the germination medium because they need light to germinate.

Cuttings: Take root cuttings in February.

Comments: Foliage is slow to emerge in the spring. Monarch caterpillars feed on the foliage. All parts of the plant are poisonous.

Images: Page 56

Common Milkweed / *Asclepias syriaca* Family: Dogbane / Apocynaceae

Life Cycle: Perennial

Characteristics: Upright sturdy stems bear oblong leaves up to 8 inches long with reddish veins. From late spring to early summer, clusters of pinkish-purple flowers emerge from the upper leaf axils. They are pleasantly fragrant. Each flower consists of five reflexed pink petals below five erect pale-pink cup-like appendages that are collectively called the hood. Flowers are followed by warty seed pods, 2 to 4 inches long, which split open when ripe to release numerous silky-tailed seeds that float in the air. Stems exude a milky sap when cut. The plant spreads by rhizomes.

Cultural Requirements: Common Milkweed is easy to grow in full sun and well-drained soil that is slightly moist to dry. It can be an aggressive spreader from rhizomes. It also tends to self-seed and naturalize, so remove seed pods before they split if spreading is not desired.

Landscape Uses: Use Common Milkweed in butterfly gardens, perennial borders, wildflower gardens or rock gardens.

Size: 4 to 5 feet tall and 1 foot wide

Hardiness Zones: All of Georgia

Habitat: Open woods, fields, waste areas and roadsides

Native To: Eastern and central North America, from Maine to Georgia, west to Texas, north to the Dakotas. It also is found in Montana and Oregon.

Propagation: Seed or cuttings

Seed: Collect pods when they turn tan and begin to split. Remove silky tails from the seeds, then store the seeds dry at 40°F for four to six months. Sow them the next spring in outdoor beds or flats. Light is required for germination, so cover them lightly with the germination medium.

Cuttings: Take root cuttings in February.

Comments: Flowers are a nectar source for many butterflies, and leaves are a food source for the larvae of Monarch butterflies.

Images: Page 56

Butterfly Weed, Butterfly Milkweed / *Asclepias tuberosa* Family: Dogbane / Apocynaceae

Life Cycle: Perennial

Characteristics: Butterfly Weed is a bushy plant having several flowering branches emerging from a single crown. Leaves are alternate, lance-shaped, 1½ to 2¼ inches long, with pointed ends and smooth margins. Stems are hairy and the sap is clear. In late spring through summer, many small, bright orange flowers are borne in clusters, 2 to 5 inches across, on stem terminals. Seeds are borne in spindle-shaped pods that are 3 to 6 inches long. The pods split in late winter and the silky-haired seeds float to new locations.

Cultural Requirements: Butterfly Weed is easy to grow. It prefers full sun and well-drained soil. Once established, it is drought tolerant. It is difficult to transplant established plants from the wild, so it is best to plant container-grown plants.

Landscape Uses: This plant is an excellent addition to butterfly gardens, native plant gardens, rock gardens and wildflower meadows.

Size: 1 to 2 feet high and 1 to 2 feet wide

Hardiness Zones: All of Georgia

Habitat: Dry open woods, fields and roadsides

Native To: New England to Florida, west to Texas, north to Colorado and Minnesota

Propagation: Seed or cuttings

Seed: Collect pods when they turn tan and begin to split. Remove silky tails from the seeds, then store the seeds dry at 40°F for four to six months. Sow seeds the next spring in outdoor beds or flats. Light is required for germination, so cover them lightly with the germination medium.

Cuttings: Take root cuttings in February.

Comments: Butterfly Weed was a 2010 Georgia Gold Medal Winner. The flowers are a nectar source for many butterflies, and the foliage is a food source for Monarch butterfly larvae. Seed pods are used in dried floral arrangements. This is the only milkweed in Georgia that lacks milky sap. Its sap is clear. However, like the other milkweeds, the sap may irritate the skin, so gloves are recommended when taking cuttings or handling the plant.

Images: Page 57

White Milkweed / *Asclepias variegata* Family: Dogbane / *Apocynaceae*

Life Cycle: Perennial

Characteristics: Unbranched stalks containing milky sap bear large, opposite, ovate leaves up to 5½ inches long and 2¾ inches wide. In May or June white flowers with purple centers are borne in several clusters, 2 to 3 inches across, on the tips of stems. In late summer, hundreds of seeds are produced in spindle-shaped pods that are 5 to 6 inches long. The pods split in winter, releasing silky-haired seeds that float in the wind.

Cultural Requirements: This plant prefers open woodlands and slightly moist soils. Plant it where it gets filtered shade.

Landscape Uses: White Milkweed is a good plant for butterfly gardens, rock gardens and wildflower meadows.

Size: 2 to 3 feet tall and 18 to 24 inches wide

Hardiness Zones: All of Georgia

Habitat: Thickets, open woods, slopes and ridges

Native To: Connecticut to Florida, west to Texas and Oklahoma, north to Illinois and Ohio

Propagation: Seed or cuttings

Seed: Collect pods when they turn tan and begin to split. Remove silky tails from the seeds, then store the seeds dry at 40°F for four to six months. Sow seeds the next spring in outdoor beds or flats. Light is required for germination, so cover them lightly with the germination medium.

Cuttings: Take root cuttings in February.

Comments: Like other milkweeds, the milky sap of White Milkweed may irritate the skin. Flowers attract butterflies, and the foliage is a food source for Monarch butterfly larvae.

Images: Page 57

Wild Indigo / Genus *Baptisia*

Plants in the genus *Baptisia* are members of the pea family and are legumes. They have clover-like trifoliate leaves and pea-like irregular flowers borne in upright racemes at the ends of erect stems. Flowers have five petals: one large broad upper “banner” petal, two “wing” petals on either side and two lower “keel” petals that are joined to form a canoe shape (see Figure 4). Flowers are followed by distinctive black, hard, inflated seed pods containing small yellowish-brown, hard, waxy seeds. The roots contain nitrogen-fixing bacteria.

Wild Indigo is often called false indigo to indicate that it differs from true indigo, *Indigofera tinctoria*, a plant imported from India and used to establish a major dye industry in the Southeast in the 1800s. Blue Wild indigo, *Baptisia australis*, was used by the Cherokee Indians and early settlers as a source of blue dye for clothing. Some Indian tribes used Wild Indigo for medicinal purposes. The Osage Indians made eyewash from the plant. The Cherokee Indians made a tea from it to be used for treating sore teeth. The dried pods with loose seeds were used as rattles to entertain Indian infants.

Freshly sown Wild Indigo seeds germinate in about two weeks. Old seeds should be placed in hot water and soaked overnight to enhance germination. Note, however, that Wild Indigo crosses readily, so if there is a species planted adjacent to another one, the seed-grown offspring might not resemble the parent. Wild Indigo can also be propagated from softwood cuttings taken in spring. Cuttings should be dipped in a rooting hormone and kept in high humidity until they root, usually about eight weeks.

There are 14 *Baptisia* species native to the Southeast. Five that are worthy of landscape culture are described below.

White Wild Indigo / *Baptisia alba* Family: Legume / *Fabaceae*

Life Cycle: Perennial

Characteristics: White Wild Indigo is a bushy, upright plant with clover-like, trifoliate, bluish-green leaves. Leaflets are up to 2 inches long and covered with velvety hairs. They turn black in fall. Stems are covered with white fuzz. From April to July, white pea-like flowers (up to 1/2 inch long) are borne in terminal clusters (racemes) rising above the foliage. Oval seed pods turn black in fall and persist on the plant.

Cultural Requirements: White Wild Indigo prefers well-drained soil and full sun. Once established, it tolerates heat and drought. It slowly expands outward from the clump and should not be disturbed.

Landscape Uses: Use White Wild Indigo in water-smart gardens (gardens designed with water conservation in mind), naturalized areas, butterfly gardens or perennial borders.

Size: 2 to 3 feet tall and 2 to 2 1/2 feet wide

Hardiness Zones: All of Georgia

Habitat: Prairies, dry open woods and ravines

Native To: Southeastern U.S.

Propagation: Seed or cuttings

Seed: Harvest seeds when pods turn tan but seeds inside are still green. They do not require pre-treatment, so plant them immediately. It takes up to three years to produce a flowering plant from seed.

Cuttings: Root cuttings can be taken in fall.

Comments: White Wild Indigo is easy to grow. It is tolerant of drought and poor soils and has no major pest problems. Flowers and seed pods can be dried and used in floral arrangements. The plant attracts birds and butterflies. Spiked Wild Indigo, *Baptisia albescens*, has white flowers and is somewhat smaller than White Wild Indigo, and its fruit are brown and elongated instead of black and oval like those of *Baptisia alba*.

Images: Page 57

Blue Wild Indigo / *Baptisia australis* Family: Legume / *Fabaceae*

Life Cycle: Perennial

Characteristics: Blue Wild Indigo is a bushy, upright plant with clover-like leaves having three bluish-green leaflets up to 2 inches long. Purple pea-like blooms appear in spring in dense terminal racemes, 4 to 16 inches long, above the foliage. Charcoal black seed pods, up to 2 1/2 inches long, rattle when dry.

Cultural Requirements: Blue Wild Indigo is easy to grow. It prefers full sun to partial shade and slightly moist to dry soil. Once established, it is drought tolerant and low maintenance. Cutting plants back after flowering promotes more compact growth and prevents self-seeding; however, it also prevents the formation of seed pods, which are an attractive feature of the plants.

Landscape Uses: Use Blue Wild Indigo in wildflower meadows, butterfly gardens and perennial borders.

Size: 3 to 4 feet tall and 3 to 4 feet wide

Hardiness Zones: All of Georgia

Habitat: Riverbanks, gravel bars and open meadows

Native To: New Hampshire, south to Georgia, west to Texas, north to Nebraska, Iowa and Michigan

Propagation: Seed or cuttings

Seed: Harvest seeds when pods turn tan but seeds inside are still green. They do not require pre-treatment, so plant them immediately. It takes up to three years to produce a flowering plant from seed.

Cuttings: Root cuttings can be taken in fall.

Comments: American Indians and settlers used this plant for extracting dye for fabrics. Bees and butterflies are attracted to the plant. A dwarf variety, *Baptisia australis* var. *minor*, is available. A popular hybrid cultivar in the nursery trade, called Purple Smoke, is a cross between Blue Wild Indigo and White Wild Indigo.

Images: Page 58

Longbract Wild Indigo, Cream Wild Indigo / *Baptisia bracteata* Family: Legume / *Fabaceae*

Life Cycle: Perennial

Characteristics: Longbract Wild Indigo has loosely branched stems that bear alternate, tri-foliate, clover-like leaves. Leaflets are about 3 inches long, 1 inch wide and pointed at both ends. Leaves and stems are gray-green due to numerous small hairs. In March or April, creamy white pea-like flowers, 1 inch long, droop downward in terminal racemes. Black pea-like seed pods follow the flowers and persist on the plant throughout the fall and winter months.

Cultural Requirements: This plant has a deep tap root, allowing it to withstand dry conditions and heat. It prefers full sun or partial shade. It may need some support to stand upright when grown in shade.

Landscape Uses: Longbract Wild Indigo provides a nice backdrop in perennial gardens, wildflower gardens, butterfly or hummingbird gardens or naturalized areas.

Size: 18 to 24 inches tall and 12 to 25 inches wide

Hardiness Zones: All of Georgia

Habitat: Sand hills, open woods and meadows

Native To: Eastern United States

Propagation:

Seed: Harvest seeds from October to December when the seed pods turn black. After removing the seeds from their pods, soak them overnight in tepid water before planting them in outdoor beds or flats.

Comments: Flowers are used in fresh floral arrangements, and seed pods are used in dried floral arrangements. The flowers attract butterflies and hummingbirds.

Images: Page 58

Gopherweed / *Baptisia lanceolata* Family: Legume / *Fabaceae*

Life Cycle: Perennial

Characteristics: Leaves are trifoliate. Leaflets are elliptic in shape, 1 to 4 inches long, with smooth margins. In spring and summer, yellow pea-like flowers appear at the leaf axils in short, loosely clustered racemes. These are followed by spherical black pods, 1/2 to 1 inch in length.

Cultural Requirements: Gopherweed prefers moist, fertile, acidic, well-drained soil in full sun. Once established, it is heat and drought tolerant. A Coastal Plain plant, Gopherweed likes sandy, porous soil.

Landscape Uses: Use Gopherweed in perennial borders, rock gardens, butterfly gardens or open woods.

Size: 2 to 3 feet tall and 3 feet wide

Hardiness Zones: All of Georgia

Habitat: Sand hills, open woods and roadsides in the Coastal Plain

Native To: The Coastal Plain from South Carolina to Florida

Propagation:

Seed: Harvest seeds from October to December when the seed pods turn black. Place the seeds in tepid water and allow them to soak overnight before planting them in outdoor beds or flats.

Comments: Dried foliage and seed pods are attractive in floral arrangements. Butterflies are attracted to the flowers. A similar species, *Baptisia perfoliata*, is also found in the Coastal Plain.

Images: Page 58

Shoofly Wild Indigo / *Baptisia tinctoria*

Family: Legume / *Fabaceae*

Life Cycle: Perennial

Characteristics: Leaves are small and clover-like, trifoliate and gray-green, with leaflets up to 1 inch long. In June or July, sparsely flowered racemes, 4 to 5 inches long, bear creamy yellow pea-like flowers up to 1/2 inch long. Seed pods follow flowers and turn black when mature.

Cultural Requirements: Plant Shoofly Wild Indigo in full sun to partial shade and dry to moderately moist soils. Once established, it is drought tolerant. Cut the plant back lightly after flowering to maintain a compact growth habit.

Landscape Uses: Use Shoofly Wild Indigo in cottage gardens, wildflower meadows, butterfly gardens and perennial borders.

Size: 2 to 3 feet tall and 2 to 3 feet wide

Hardiness Zones: All of Georgia

Habitat: Dry, open woods and sandy, acidic soils

Native To: Southeastern Canada, New England, south to Florida, west to Louisiana, north to Minnesota

Propagation:

Seed: Plant seeds directly after collecting them in the fall.

Comments: Shoofly Wild Indigo flowers are smaller and are not as showy as those of the other native *Baptisias*; however, it is a tough plant and easy to grow. Its flowers attract butterflies.

Images: Page 58

Bearded Beggarticks, Bur Marigold / *Bidens aristosa*

Family: Aster / *Asteraceae*

Life Cycle: Annual

Characteristics: This plant grows upright and has a shallow taproot. Leaves are alternate, pinnately or bipinnately compound (see Figure 2), lance-shaped and 1 to 2 inches long. In fall, numerous daisy-like bright yellow flowers, 1 to 2 inches across, are borne on the terminals of branched stems. The flowers tend to glow in the sun and have a fluorescent quality. Fruit are dark brown, flattened and have two prongs that project from one end.

Cultural Requirements: Plant Bearded Beggarticks in full sun or partial shade and moist soil.

Landscape Uses: Use Bearded Beggarticks in wildflower gardens, perennial borders, naturalized meadows and roadside plantings.

Size: 1 to 5 feet tall and 2 feet wide

Habitat: Ditches, marshes and wet meadows

Native To: Most of eastern and central North America, from Maine to Georgia, west to Texas, north to Minnesota

Propagation: Seed or cuttings

Seed: Collect seeds in fall. Store them dry at 40°F for three months, then plant.

Cuttings: Terminal stem cuttings can be taken in spring.

Comments: The prickly seeds, known as beggarticks, cling to clothing on autumn walks through the woods.

Images: Page 59

Nodding Beggarticks / *Bidens cernua*
Family: Aster / *Asteraceae*

Life Cycle: Annual

Characteristics: Leaves are opposite and lance-shaped, up to 6 inches long and 1½ inches wide, pointed at the tip and sessile. Nodding flowers are borne at the upper leaf axils in fall. They are daisy-like with yellow ray flowers approximately ¾ inch long that surround dark yellow disk flowers (see Figure 4). Fruit are small flat seed-like achenes with four stiff barbed prongs at their upper end. The prongs help them attach to animal fur and clothing and hitch a ride to a new location. The plant has a taproot.

Cultural Requirements: Nodding Beggarticks likes partial shade and moist, well-drained soil.

Landscape Uses: Use this plant around ponds, lakes, streams, wet meadows, roadside ditches, bogs or other wet sites. It is a good plant for wildlife habitats because birds eat the seeds.

Size: 3 to 5 feet

Habitat: Swamps and other wet or moist sites

Native To: All of North America

Propagation: Seed or cuttings

Seed: Collect seeds in fall. Store them dry at 40°F for three months, then plant.

Cuttings: Terminal stem cuttings can be taken in spring.

Comments: Another name for Beggarticks is stick-tights. The barbed nutlets adhere to the clothing of hikers in autumn.

Images: Page 59

Toothwort, Crinkleroot / *Cardamine diphylla* (syn. *Dentaria diphylla*)
Family: Mustard / *Brassicaceae*

Life Cycle: Perennial

Characteristics: Each stem usually produces only one pair of trifoliate, coarsely-toothed opposite leaves. In March or April a loose cluster of white to pink flowers appears on stem terminals. Each flower has four petals and is borne on a stalk that is about 2/3 inch long. Long thin pods bear the seeds. It colonizes an area by spreading rhizome.

Cultural Requirements: Toothwort prefers partial shade and moist acid soil high in organic matter.

Landscape Uses: Use this plant in woodland gardens, butterfly gardens and shaded rock gardens.

Size: 8 to 14 inches tall

Hardiness Zones: 6 to 7

Habitat: Rich hardwood forests and alluvial areas

Native To: Maine, south to Georgia, west to Alabama and Arkansas, north to Minnesota

Propagation: Seed or division

Seed: Sow seeds outdoors in a shaded seedbed. They require no pre-treatment; however, it takes three to four years to produce a flowering plant from seed.

Division: Divide rhizomes in fall or winter.

Comments: Toothwort attracts butterflies. It goes dormant in summer. A similar species, Cutleaf Toothwort, *Cardamine concatenata* (syn. *Dentaria lanceolata*), is also common in the Southeast.

Images: Page 59

Vanillaleaf, Deer tongue / *Carphephorus odoratissimus* Family: Aster / *Asteraceae*

Life Cycle: Perennial

Characteristics: Vanillaleaf has a single erect leafy stem. Basal leaves are linear, lance-shaped, 6 to 8 inches long and 1½ inches wide. Stem leaves are alternate, sessile and much smaller than basal leaves. When dried, the leaves have a vanilla scent. Stems are hairy. In summer, small purple strap-like disk flowers appear in a broad cylindrical inflorescence at stem tips. Flowers are surrounded by overlapping bracts. Fruit are small, dry, cone-shaped achenes surrounded by numerous fine bristles.

Cultural Requirements: Vanillaleaf prefers moist, organic soils in full sun to partial shade.

Landscape Uses: This is a good plant for wildflower meadows and background plantings in herb gardens or butterfly gardens.

Size: Up to 6 feet tall

Hardiness Zones: 8, primarily a Coastal Plain species

Habitat: Moist pinelands, savannahs and thin mixed woods

Native To: North Carolina to Florida, west to Louisiana

Propagation: Seed, cuttings or division

Seed: Collect seeds when seed heads become puffy in late summer. Plant them right away in a well-drained germination medium and maintain a temperature of 70°F or higher.

Cuttings: Take stem cuttings in spring when new growth begins to harden and dip the cut end in a rooting hormone.

Division: Divide plants in early spring.

Comments: Vanillaleaf attracts bees, birds and butterflies. The vanilla-scented leaves are dried and used in smoking tobacco.

Images: Page 60

Blue Cohosh / *Caulophyllum thalictroides* Family: Barberry/ *Berberidaceae*

Life Cycle: Perennial

Characteristics: Trifoliate-lobed leaves appear midway up the stem. They emerge smoky blue in spring and turn bluish-green at maturity. Young plants are covered with a white, waxy coating. In April, brownish-green to yellowish-green flowers, ½ inch across, with six pointed sepals appear in loose clusters at stem terminals. Flowers are followed by berry-like fruit that turn attractive bright blue as they mature and persist into fall. The plant spreads slowly by rhizomes to form colonies.

Cultural Requirements: Plant Blue Cohosh in shade and moist, well-drained soil.

Landscape Uses: Use this plant in moist, shady woodland gardens

Size: 1 to 3 feet tall and 1 foot wide

Hardiness Zones: All of Georgia

Habitat: Rich hardwood forests on basic soils

Native To: Maine to Georgia, Alabama, Arkansas and Oklahoma, north to North Dakota

Propagation: Seed

Seed: Collect berries when they begin to turn blue. Remove the seeds from the pulp covering them, then sow them in outdoor beds or flats. Patience is required because new seedlings may not appear until the second or third spring after sowing.

Comments: Fruit and seeds are poisonous when ingested, so exercise caution when planting this plant in areas frequented by young children.

Images: Page 60

Spurred Butterfly Pea / *Centrosema virginianum*

Family: Legume / *Fabaceae*

Life Cycle: Perennial

Characteristics: This is a twining, climbing or trailing vine with a tough, elongated root. Leaves are trifoliate. Each leaflet is lance-shaped and 1 to 2 inches long. From late spring through early summer, showy lavender flowers, approximately 1 inch across, with a white blotch hang downward from the leaf axils. There are two types of petals: a large, flat rounded petal (called the banner petal) that looks like the wings of a butterfly (hence the name Butterfly Pea) surrounds much smaller petals (called wing and keel petals) in the center of the flower (see Figure 4). Seeds are borne in flat pods, 3 to 7 inches long.

Cultural Requirements: Plant Butterfly Pea in full sun or partial shade and well-drained soil. It has an extensive root system. Like other members of the pea family, it has a symbiotic relationship with certain soil-borne bacteria that capture atmospheric nitrogen and convert it to a form of nitrogen that plants can use, thus enriching the soil. It tolerates drought.

Landscape Uses: It can be trained on supports or allowed to sprawl along the ground.

Size: 6 to 12 feet tall and 4 to 6 feet wide

Hardiness Zones: All of Georgia

Habitat: Dry woodlands

Native To: Florida to Texas, north to Illinois, east to Delaware

Propagation: Seed

Seed: Collect seed pods when they are almost mature and place them in a paper bag to dry and release their seeds. Soak seeds in water for 12 hours before planting.

Comments: Butterfly Pea has been used for animal forage and erosion control. Flowers attract bees and butterflies.

Images: Page 61

Partridge Pea / *Chamaecrista fasciculata*

Family: Legume / *Fabaceae*

Life Cycle: Annual

Characteristics: Pinnately-compound leaves consist of small blue-green leaflets. The leaflets fold together when touched. Large showy yellow flowers with red centers arise from the leaf axils from July to September. Often, one petal curves inward, partially covering the center of the flower. Slender pods bearing seeds follow the flowers.

Cultural Requirements: Plant Partridge Pea in sun or partial shade and dry, sandy soil.

Landscape Uses: Use Partridge Pea in meadows, native plant gardens and butterfly gardens. It tends to re-seed, which may be a concern in some areas.

Size: 2 feet tall and 12 to 18 inches wide

Habitat: Disturbed open places

Native To: Florida to Texas, north to North Dakota and Minnesota, east to New York and Connecticut

Propagation: Seed

Seed: Collect seed pods when they are nearly mature and place them in a paper bag to dry and release their seeds. Then sow them directly in outdoor beds or flats.

Comments: Flowers attract bees and butterflies. Birds like the seeds.

Images: Page 61

Fairy Wand, Devil's Bit / *Chamaelirium luteum*
Family: Swamp-pink / *Heloniadaceae*

Life Cycle: Perennial

Characteristics: A rosette of evergreen basal leaves hug the ground. Each leaf is 3 to 8 inches long and oval, with smooth margins. Stem leaves are narrower than the basal leaves. Small white flowers are borne in dense terminal spikes in spring. The spikes are 4 to 8 inches long. They turn yellow with age. Male and female flowers are borne on separate plants. Male flower spikes are about 5 inches long and curve at the tip, while female flower spikes are 2 inches long and have a blunt, upright tip.

Cultural Requirements: Fairy Wand prefers shade and moist soil high in organic matter. Both male and female plants must be grown if seeds are to be produced.

Landscape Uses: Use Fairy Wand in moist, shaded woodlands.

Size: 2 to 3 feet

Hardiness Zones: All of Georgia

Habitat: Rich, moist woodlands

Native To: Connecticut, west to Michigan and Illinois, south to Louisiana, east to Florida

Propagation: Seed

Seed: Collect seeds in November when capsules split, then store them at 40°F for one month before planting. It takes about three years to produce a flowering plant from seed.

Comments: The common name stems from the shape of the flower spike, which resembles a fairy's wand.

Images: Page 61

Woolly Sunbonnets, Pineland Daisy / *Chaptalia tomentosa*
Family: Aster / *Asteraceae*

Life Cycle: Perennial

Characteristics: Leaves are basal, elliptic to lance-shaped, about 4 inches long and 1¼ inch wide, dark green above and woolly white below. The petioles have wings. From February to April, daisy-like flower heads are borne on leafless, hairy stalks. The flower heads have pinkish-white ray flowers and creamy white disk flowers. Fruit are small, dry, seed-like achenes surrounded by many fine white bristles.

Cultural Requirements: Plant Woolly Sunbonnets in moist to wet soil and full sun.

Landscape Uses: Use Woolly Sunbonnets in wildflower meadows or around ponds. It slowly self-sows, forming a mat-like ground cover.

Size: 1 foot tall and 1 foot wide

Hardiness Zones: 8 (a Coastal Plain plant)

Habitat: Wet pine flatwoods, bogs and savannahs

Native To: North Carolina to Florida, west to Texas

Propagation: Seed or division

Seed: Collect seeds in May or June and store them dry at 40°F for planting in outdoor beds or flats in October. Seeds require light to germinate so cover them lightly with the germination medium.

Division: Divide plants in fall or spring.

Comments: Woolly Sunbonnets is a cool-season plant and blooms from late winter to early spring.

Images: Page 62

White Turtlehead / *Chelone glabra* Family: Plantain / *Plantaginaceae*

Life Cycle: Perennial

Characteristics: Square, narrow, dark-green stems support deep green leaves, 2 to 3 inches long and 1 inch wide, with toothed margins. White snapdragon-like flowers tinged with pink appear in terminal clusters from August to October. Flowers resemble the head of a turtle. Plants spread by rhizomes.

Cultural Requirements: This plant prefers moist to wet soil and partial shade.

Landscape Uses: Use White Turtlehead in bog gardens and along pond edges.

Size: 2 to 3 feet tall and 18 to 24 inches wide

Hardiness Zones: All of Georgia

Habitat: Stream banks, seepage areas, wet meadows and swamps

Native To: Maine, west to Minnesota, south to Arkansas, east to Florida

Propagation: Seed, cuttings or division

Seed: Harvest seeds and plant them in outdoor beds in the fall. An alternate method is to stratify the seeds at 40°F for one month, then plant.

Cuttings: Stem cuttings from firm new growth can be taken in spring.

Division: Divide rhizomes in spring.

Comments: White Turtlehead leaves are a food source for the larvae of the Baltimore Checkerspot butterfly. Its flowers attract butterflies and bumblebees. The plant is undesirable to deer.

Images: Page 62

Pink Turtlehead / *Chelone lyonii* Family: Plantain / *Plantaginaceae*

Life Cycle: Perennial

Characteristics: Pink Turtlehead is an upright, clump-forming plant that spreads by rhizomes. Leaves are opposite, dark green, oval to broadly lance-shaped and up to 6 inches long. In late August, pink to rose-purple tubular flowers are borne in terminal racemes. They resemble the heads of open-mouthed turtles.

Cultural Requirements: Grow Pink Turtlehead in full sun or partial shade and moist soil enriched with organic matter. The plant dies down after the first frost and can be cut back at that time. It self-seeds readily, so dispose of the clippings if you want to discourage spreading.

Landscape Uses: Use Pink Turtlehead in shaded bogs, woodland gardens or along pond edges.

Size: 2 to 3 feet tall and 1½ to 2 feet wide

Hardiness Zones: All of Georgia

Habitat: Fertile, moist, humus-enriched soil near creeks, streams or ponds

Native To: The Southern Appalachian Mountains in Tennessee, North and South Carolina, and Georgia

Propagation: Seed, cuttings or division

Seed: Stratify the seeds at 40°F for one month before planting them.

Cuttings: Stem cuttings from firm new growth can be taken in the spring.

Division: Root division can be done when the plant is dormant.

Comments: Pink Turtlehead has good deer resistance. It also holds up well as a cut flower. Like White Turtlehead, it is a host plant for the larvae of the Baltimore Checkerspot butterfly. Butterflies and bees like the sweet floral nectar. A similar species, Rose Turtlehead, *Chelone obliqua*, is common in Georgia.

Images: Page 62

Green-and-gold / *Chrysogonum virginianum* Family: Aster / Asteraceae

Life Cycle: Perennial

Characteristics: Green-and-Gold is a low-growing, semi-evergreen, herbaceous perennial groundcover. Leaves are oval, toothed, hairy and up to 3 inches long. They hug the ground. In May, bright yellow star-shaped flowers, approximately 1½ inch across, arise from the upper leaf axils. Each flower head has five yellow, rounded, notched ray petals surrounding a central disk of tiny yellow flowers. A profuse spring bloom is followed by sparse flowering through October. The plant spreads by stolons (above-ground stems that creep along the ground).

Cultural Requirements: Green-and-Gold prefers sun to partial shade and moist, well-drained soil high in organic matter.

Landscape Uses: Use this plant as a groundcover in moist woodland gardens or naturalized areas.

Size: 6 to 9 inches tall and 15 to 18 inches wide

Hardiness Zones: All of Georgia

Habitat: Moist woodlands

Native To: Louisiana to Florida, north to New York, west to Ohio

Propagation: Seed, cuttings or division

Seed: Collect seeds two to three weeks after the flower heads fade. Stratify them at 40°F for six weeks, then plant them in flats and keep them warm (70°F to 80°F).

Cuttings: Stem cuttings taken in spring and treated with a rooting hormone should root in about six weeks.

Division: Rooted stolons can be separated from the mother plant any time of year.

Comments: Given the right growing conditions, Green-and-Gold will naturalize and become low-maintenance. There are several cultivars in the trade.

Images: Page 62

Maryland Goldenaster / *Chrysopsis mariana* Family: Aster / Asteraceae

Life Cycle: Perennial

Characteristics: Leaves lack petioles and are joined directly to the stem. They are lance-shaped, 1 to 2 inches long and alternate along the stem. Leaf margins are smooth. Young stems are covered with fine hairs. In late summer, clusters of yellow flowers, 1 inch across, appear on terminal stems. The petals of ray flowers are narrow and strap-shaped. They surround tiny yellow flowers that make up the center disk. Below the flower heads are whorls of sticky bracts. The plant spreads by rhizomes and seeds.

Cultural Requirements: Maryland Goldenaster prefers full sun and moist, well-drained, sandy soils. Once established, it has good drought tolerance. It self-seeds readily, so remove old flowers if seeding and spreading is not desired.

Landscape Uses: Use Maryland Goldenaster in butterfly gardens and open meadows. It is also a good plant for roadside wildflower plantings.

Size: 2 to 3 feet tall and 2 to 3 feet wide

Hardiness Zones: 6, 7

Habitat: Old fields, dry forests and roadsides

Native To: Rhode Island, west to Ohio, south to Texas, east to Florida

Propagation: Seed or division

Seed: Seeds may be planted as soon as they are mature. No pre-treatment is required.

Division: Established plants can be divided in late winter.

Comments: This is a tough, hardy plant that is easy to grow.

Images: Page 62

Carolina Coralbead / *Cocculus carolinus*
Family: Moonseed / *Menispermaceae*

Life Cycle: Perennial/Deciduous Vine

Characteristics: Carolina Coralbead is a deciduous twining vine that climbs other vegetation or trails along the ground. Leaves have various shapes, ranging from oval to heart-shaped or triangular, and may be up to 4 inches long. In summer small greenish-white flowers are borne in drooping racemes that are 1 to 2 inches long. Clusters of bright red fruit appear on female plants in late summer and persist until fall. Seeds are crescent-shaped. The plant spreads aggressively by rhizomes.

Cultural Requirements: This plant is easy to grow in moist, well-drained soils and full sun to partial shade. It requires moisture during periods of limited rainfall. It dies back in winter, so prune it back before spring growth begins.

Landscape Uses: Carolina Coralbead is a fast-growing vine for arbors and fences. The fruit attract birds, so it is a good plant for wildlife habitats.

Size: 10 to 14 feet long and 3 to 6 feet wide

Hardiness Zones: All of Georgia

Habitat: Rocky or sandy open woodlands, thickets and along ponds

Native To: Virginia, west to Illinois, south to Texas, east to Florida

Propagation: Seed

Seed: Collect fruit in November and remove the seeds from the pulp, then plant them in outdoor flats or beds in December. Germination should occur the following spring.

Comments: Carolina Coralbead tends to be short-lived due to its shallow root system and lack of drought tolerance. It is a dioecious plant (having male or female flowers on separate plants) so both male and female plants will need to be grown if the attractive fruit are desired. Only the female plant produces fruit.

Images: Page 63

Blue Mistflower / *Conoclinium coelestinum*
Family: Aster / *Asteraceae*

Life Cycle: Perennial

Characteristics: Blue Mistflower spreads by creeping rhizomes and quickly covers the ground. Leaves are opposite, triangular in shape, bluntly toothed and up to 4 inches long. From mid-summer until frost, small fluffy, bluish-purple flower heads appear in terminal clusters, each having up to 70 flowers. The flower consists of all disk flowers. They have no ray flowers (see Figure 4).

Cultural Requirements: This plant needs full sun or partial shade and moist, well-drained soils. It may require staking to hold it upright. Cut the plant back after flowering to avoid re-seeding and to encourage a compact growth habit.

Landscape Uses: Blue Mistflower is best used in areas where it can multiply freely. It is somewhat aggressive and may overtake adjacent plants in a perennial border. It attracts butterflies and is useful in butterfly gardens.

Size: 1½ to 2 feet tall and 2 feet wide

Hardiness Zones: All of Georgia

Habitat: Occurs in flood plains, fields and wet meadows

Native To: Maine, west to Minnesota, south to Arkansas, east to Florida

Propagation: Seed, cuttings or division

Seed: Collect seeds in September or October. Store them dry at 40°F for January planting in outdoor flats or beds.

Cuttings: Stem cuttings can be taken in June, and root cuttings can be taken in March or April. **Division:** Plants can be divided any time of year.

Comments: Blue Mistflower is sometimes called Hardy Ageratum because its flowers resemble those of ageratum. The plant will spread aggressively from seeds or rhizomes and forms a solid mass in moist areas.

Images: Page 63

Coreopsis, Tickseed – Genus *Coreopsis*

Coreopsis have become such common garden plants that we fail to recognize that many of our favorite ones are native plants. In fact, there are about 100 native species of Coreopsis in North America, and 12 of them are native to the Southeast. They are reliable, widely adapted plants that produce showy, daisy-like flowers that attract hummingbirds, and seeds that nourish a wide variety of songbirds.

Coreopsis is self-sterile and must cross with other seed-grown plants of the same species or other species to produce fertile seeds.

Six Coreopsis species that are native to the Southeast and worthy of garden culture are described here.

Lobed Coreopsis, Tickseed, Eared Coreopsis / *Coreopsis auriculata* Family: Aster / *Asteraceae*

Life Cycle: Perennial

Characteristics: This plant has a dwarf, compact growth habit. Foliage is usually found only on the lower half of the stem. Leaves are elliptic to oval, dark green, pubescent and up to 3 inches long and 1½ inches wide. Leaf petioles can be up to 6 inches long. Many of the leaves have ear-like lobes at their base. Flower heads appear in spring and are daisy-like, with bright yellow ray flowers surrounding golden yellow disk flowers. The petals of the ray flowers are distinctly toothed at their tips. The plant colonizes by stolons (aboveground runners).

Cultural Requirements: Lobed Coreopsis prefers full sun or partial shade and well-drained soil. Dead-heading after initial flowering encourages repeat bloom.

Landscape Uses: Use Lobed Coreopsis in sunny borders, containers or rock gardens. It also is a good plant for wild-flower plantings along roadsides.

Size: 8 to 24 inches tall and spreading

Hardiness Zones: All of Georgia

Habitat: Open woodlands and fields

Native To: Louisiana to Florida, north to West Virginia, west to Kentucky

Propagation: Seed

Seed: Collect seeds about four weeks after flowering. Sow them right away and keep them warm (70°F to 80°F). Germination should occur in about seven days.

Comments: The flowers attract butterflies and the seeds attract birds. A dwarf cultivar, 'Nana,' grows 12 inches tall. Another cultivar, 'Zamfir,' is a sport of the 'Nana' cultivar and has unusual tubular flower petals. A third cultivar, 'Snowberry,' has white ray flowers with a burgundy base surrounding a central disk of tiny golden-yellow flowers.

Images: Page 63

Goldenmane Tickseed, Golden Wave Tickseed / *Coreopsis basalis* Family: Aster / Asteraceae

Life Cycle: Annual

Characteristics: Goldenmane Tickseed is an erect bushy annual. Small, linear leaves, 1 to 2 inches long and ¾ inch wide, are pinnately compound and are borne on the lower half of the stem. Leaf petioles are 1 to 7 inches long. Flowering occurs from summer through fall. The flower heads are daisy-like and fragrant. They consist of yellow ray petals that are notched on their ends surrounding a central disk of tiny maroon flowers. The disk flowers have a distinct yellow band around their perimeter.

Cultural Requirements: This is an easy annual to grow in open, sunny areas and well-drained soils. It can be direct seeded.

Landscape Uses: Use Goldenmane Tickseed along roadsides or in meadows, butterfly gardens, perennial borders or annual flower beds.

Size: 12 to 18 inches tall

Habitat: Open, sunny, sandy roadsides and meadows in the Gulf Coastal Plain

Native To: Illinois and North Carolina, south to Florida and west to Texas and Arkansas.

Propagation: Seed, cuttings or division

Seed: Collect seeds in summer and plant them right away. Keep them warm (70°F+). Germination should occur in about a week.

Cuttings: Stem cuttings can be taken of new, hardened growth.

Division: Rhizomes can be divided in spring.

Comments: Goldenmane Tickseed is a beautiful annual for flower gardens. It attracts the Giant Swallowtail Butterfly.

Images: Page 64

Large-flowered Coreopsis / *Coreopsis grandiflora* Family: Aster / Asteraceae

Life Cycle: Perennial

Characteristics: Dark green lance-shaped leaflets, up to 4 inches long and 1 inch wide, are borne on wiry stems. From mid-June to October, daisy-like yellow flower heads, 2 to 3 inches across, are borne on long terminal stalks. Ray flowers with notched tips surround a central disk of tiny golden yellow flowers.

Cultural Requirements: Large-flowered Coreopsis prefers full sun to partial shade and well-drained soil. Cut the plant back when frost damages its foliage.

Landscape Uses: This is a tough garden plant. It tolerates intense heat and dry sites and is a good plant for naturalizing along roadsides and in meadows.

Size: 6 to 12 inches tall and 6 to 12 inches wide

Hardiness Zones: All of Georgia

Habitat: Dry sandy soil, open rocky upland forests, granite flatrocks and roadsides

Native To: Central Georgia and western South Carolina, west to eastern Texas and Oklahoma

Propagation: Seed, cuttings or division

Seed: Collect seeds in fall and plant them right away. Keep them warm (70°F+). Germination should occur in about a week.

Cuttings: Stem tip cuttings can be taken from new, hardened growth.

Division: Rhizomes can be divided in spring.

Comments: Large-flowered Coreopsis is a favorite garden plant due to its toughness and long bloom period. It is also a good cut flower for floral arrangements. The vegetative parts of *Coreopsis basalis* and *C. grandiflora* look similar; however, while *C. grandiflora* is a perennial, *C. basalis* is an annual. Also, the disk flowers of *C. basalis* are maroon while those of *C. grandiflora* are yellow.

Images: Page 64

Woodland Coreopsis, Pot of Gold Coreopsis / *Coreopsis major* Family: Aster / *Asteraceae*

Life Cycle: Perennial

Characteristics: This is a single-stemmed plant arising from a rhizomatous root system. Leaves are sessile, occur in opposite pairs along the stem and consist of three leaflets each, giving the appearance of six whorled leaves instead of two opposite leaves. Leaf blades are pubescent. The paired leaves are spaced every 4 inches along the stem. Flower heads are daisy-like and 2 inches across. They appear in loose terminal clusters from late spring to late summer. Both ray and disk flowers are yellow. The plant has a long bloom period.

Cultural Requirements: Woodland Coreopsis is adaptable to a wide variety of soils and sunlight exposures. It needs good drainage and tolerates some shade; however, it blooms best in full sun. Prompt dead-heading after bloom encourages repeat flowering and prevents re-seeding. Cut back plants in mid-summer if they begin to flop over.

Landscape Uses: Woodland Coreopsis is a tough and long-lived plant. It is a great plant for perennial borders and wildflower meadows. After the first frost, stems and seed heads turn black. They provide an interesting accent to the winter landscape.

Size: 2 to 3 feet tall and 2 feet wide

Hardiness Zones: All of Georgia

Habitat: Dry open woodlands, prairie edges and roadsides

Native To: Connecticut, west to Illinois, south to Louisiana, east to Florida

Propagation: Seed

Seed: This plant tends to self-seed readily. Collect seeds in August, then store them dry at 40°F for planting in February. They require cold treatment to germinate.

Comments: Woodland Coreopsis is an attractive, widely adaptable plant that should be used more often in landscapes. Butterflies are attracted to this plant.

Images: Page 64

Star Tickseed, Downy Tickseed / *Coreopsis pubescens* Family: Aster / *Asteraceae*

Life Cycle: Perennial

Characteristics: Leaves are opposite, oval to lance shaped, pubescent, 3 inches long and 1¼ inch wide. Stems are branching and hairy. The foliage remains evergreen throughout the winter. Bright yellow flower heads, 1½ inch across, appear from June to September. Both the ray and disk flowers are yellow. The petals of the ray flowers have jagged edges.

Cultural Requirements: Star Tickseed is found throughout the Southeast in a variety of sites, from partial shade to full sun and from moist to dry soils. It is not an aggressive spreader like some other *Coreopsis* species.

Landscape Uses: Use Star Tickseed in sunny areas at the front of perennial beds or in meadows, ditches or other open areas in sun or partial shade. It re-seeds, but it is not invasive. This is a good plant for poor soils and wet/dry fluctuations in soil moisture.

Size: 1 to 3 feet tall with equal width

Hardiness Zones: All of Georgia

Habitat: Roadsides, rock outcrops and open rocky forests

Native To: Southern Illinois, Missouri and Kansas, east to southern Virginia, south to northwest Florida, west to Louisiana. It is found mainly in the Southern Appalachian mountains.

Propagation: Seed

Seed: The seeds germinate readily without pre-treatment. They persist on the plant after flowering and can be collected throughout the fall and winter.

Comments: Star Tickseed attracts butterflies. A cultivar called 'Sunshine Superman' is available in the nursery trade.

Images: Page 65

Plains Tickseed, Golden Tickseed / *Coreopsis tinctora* Family: Aster / *Asteraceae*

Life Cycle: Annual

Characteristics: Plains Tickseed has an upright growth habit with angled branches, wiry stems and a taproot. Leaves are opposite and pinnately compound. Ray flowers are yellow with a reddish-brown base. Disk flowers are reddish-brown. Flower heads appear from June through September.

Cultural Requirements: Plains Tickseed prefers moist, well-drained sandy soil and full sun. It is drought tolerant once established.

Landscape Uses: Plant Plains Tickseed in annual beds, perennial borders or in wildflower gardens. Sow seeds directly into well-drained soils on sunny sites. Deadheading will encourage repeat flowering.

Size: 1 to 3 feet tall

Habitat: Open, disturbed areas

Native To: Throughout the United States and Canada

Propagation: Seed, cuttings or division

Seed: Collect seeds in summer and plant them right away. Keep them warm (70°F+). Germination should occur in about a week.

Cuttings: Stem cuttings can be taken in spring as new growth hardens.

Division: Rhizomes can be divided in spring.

Comments: Plains Tickseed is common in wildflower mixes sold by western seed companies. Native Americans used the plant to make dyes. Butterflies are attracted to the flowers, and birds are attracted to the seeds.

Images: Page 65

Crinum Lily, Seven Sisters, String Lily, Swamp Lily / *Crinum americanum* Family: Amaryllis / *Amaryllidaceae*

Life Cycle: Perennial

Characteristics: Leaves grow directly from a bulb and resemble those of lilies. They are 2 to 4 feet long and 2 to 3 inches wide. In summer, a single flower stem, 1 inch in diameter, emerges from the center of the bulb. It bears two to six white fragrant flowers. Tepals are 3 to 4 inches long and 1/2 inch wide. They are joined at the base, forming a long tube, and they are curved at the top. Purple anthers and stamens emerge above the tepals.

Cultural Requirements: Crinum Lily adapts to a wide variety of soils, including sand, sandy loam and clay. It also adapts to both sunny and shady areas. It prefers moisture and tends to decline over time on dry sites.

Landscape Uses: Water gardens, pond edges and bogs

Size: 4 feet tall and 12 to 18 inches wide

Hardiness Zones: 7 and 8

Habitat: Freshwater marshes, cypress swamps, ditches and lake edges

Native To: North Carolina to Florida, west to Texas, north to Arkansas

Propagation: Division

Division: Separate bulblets from the mother bulb in fall.

Comments: Some authorities feel this plant has the most beautiful flowers of all the plants in the Amaryllis family.

Images: Page 65

Carolina Larkspur / *Delphinium carolinianum*

Family: Buttercup / *Ranunculaceae*

Life Cycle: Perennial

Characteristics: Carolina Larkspur has slender, upright, hairy, unbranched stems. Leaves are about 3 inches long and 3 inches wide, palmate with narrow lobes. Flower color ranges from white to blue or violet. The flowers are 1 inch wide and have appendages, called spurs, on some of the petals. Flowers appear from April to June. Basal leaves wither before flowering.

Cultural Requirements: Carolina Larkspur prefers sun to light shade and alkaline soil. It is drought tolerant once established.

Landscape Uses: Use Carolina Larkspur in perennial borders or wildflower meadows.

Size: 2 to 2½ feet tall

Hardiness Zones: All of Georgia

Habitat: Limestone glades, chalky soil prairies and moist, sandy woodlands associated with longleaf pines

Native To: Illinois to North Dakota, south to New Mexico, east to Florida and Kentucky

Propagation: Seed

Seed: Store seeds dry at 40°F for four months, then sow them in mid-October. Darkness enhances germination, so cover the seeding flat with newspaper, then check underneath once a week for germinated seedlings. Once germination occurs, remove the paper and expose the plants to normal lighting.

Comments: Plants in the genus *Delphinium* contain toxins and are poisonous to humans and animals when ingested. The Spanish named this plant Horseman's Spur from the spur-like appendages on the flower petals.

Images: Page 65

Eastern Shooting Star / *Dodecatheon meadia*

Family: Primrose / *Primulaceae*

Life Cycle: Perennial

Characteristics: Leaves, up to 6 inches long and 2½ inches across, are borne in a basal cluster. They are gray-green and hairless with a prominent central vein and smooth margins. A leafless flower stalk, 6 to 20 inches long, arises from the basal leaves in May or June and produces a terminal cluster of nodding flowers on arching pedicels (flower stems). Several flowers emerge from a central point at the top of the stalk, like shooting stars. Flower petals are white to pink and are reflexed backward on the stem. Seeds are borne in cone-shaped capsules at the base of the flowers.

Cultural Requirements: The farther south this plant is grown, the more moisture it requires. Moisture is especially important during the spring. The plant goes dormant by mid-summer. It likes alkaline soils and shade.

Landscape Uses: Eastern Shooting Star is an excellent choice for shady, moist rock gardens or perennial borders.

Size: 12 to 18 inches tall

Hardiness Zones: All of Georgia

Habitat: Wet meadows, bottomlands, rich, moist woodland slopes and calcareous or mafic rock outcrops, especially those having nutrient-rich seepages

Native To: Maryland, west to Wisconsin and Iowa, south to Texas, east to Georgia and Florida, and north to the Carolinas and Virginia

Propagation: Seed or cuttings

Seed: Collect seeds when capsules turn tan. Stratify them for two months at 40°F. Sow them in December in outdoor beds or flats.

Cuttings: Dig sections of the rhizomes in January or February. Each section must have at least one bud.

Comments: Rodents love this plant. Pea gravel, used as mulch, may help deter them.

Images: Page 66

Purple Coneflower / *Echinacea purpurea*

Family: Aster / Asteraceae

Life Cycle: Perennial

Characteristics: Leaves are dark green, lance-shaped, alternate, hairy and coarsely toothed along their margins. From late spring to early summer, flower heads, 2 to 3 inches across, are borne on stalks rising 2 to 4 feet. The ray flowers are pink and the disk flowers are dark purple. Bracts are orange. Flower heads persist for a long time and their seeds attract birds.

Cultural Requirements: This is an easy plant to grow almost anywhere, except in wetlands. It prefers full sun to light shade. Powdery mildew may be a problem when it is grown in moist, shady sites. Dividing clumps every three to four years will invigorate the plant.

Landscape Uses: Use Purple Coneflower in perennial beds, meadows or at woodland edges. It is a very adaptable plant.

Size: 2 to 4 feet tall and spreading

Hardiness Zones: All of Georgia

Habitat: Dry to slightly moist areas in full sun or light shade

Native To: Originally a Midwestern plant, it has traveled to the Southeast

Propagation: Seed, cuttings or division

Seed: Collect seeds in late summer or fall. Give them cold stratification (three weeks at 40°F) before planting. They need light to germinate so cover them lightly with the germination medium. Cool soils enhance germination.

Cuttings: Stem cuttings can be taken in spring. A rooting hormone enhances root formation.

Division: Established clumps also can be divided in fall or spring.

Comments: Two species of *Echinacea* are native to more neutral or calcium-rich soils in the Southeast, and both occur in Georgia. Smooth Coneflower, *Echinacea laevigata*, has drooping pale pink ray flowers and smooth foliage. It is found in glades, rocky areas and prairies in northeast Georgia. It is a protected plant in Georgia. Prairie Purple Coneflower, *Echinacea simulata*, is found in the western prairies of Georgia on limestone substrates.

Images: Page 66

Hairy Elephant's-foot, Devil's Grandmother / *Elephantopus tomentosus*

Family: Aster/Asteraceae

Life Cycle: Perennial

Characteristics: This plant has large basal leaves, up to 24 inches long and 3 to 7 inches across. They are hairy on their underside, shallowly lobed and have irregular teeth along their edges. There are few stem leaves, and they are much smaller than the basal leaves. Pink, purple or sometimes white flower heads, 1/2 inch across, are borne in August and September. The flowers are small and not very noticeable. The plant spreads by underground rhizomes.

Cultural Requirements: Hairy Elephant's-foot is adaptable to both dry and moist sites as well as shady or open areas. This plant can be aggressive, so plant it in an area where it can spread and naturalize.

Landscape Uses: Hairy Elephant's-foot is a good ground-cover for dry woodland slopes.

Size: A single plant can grow up to 2 feet across.

Hardiness Zones: All of Georgia

Habitat: Dry open woodlands and thickets

Native To: North Carolina and Kentucky, west to Oklahoma, south to Texas and Florida

Propagation: Seed

Seed: If the objective is to encourage the plant to spread, don't cut the seed stalks until two months after bloom so ripe seeds will spread naturally.

Comments: This plant is good for erosion control on dry slopes and in areas where its spread can be controlled.

Images: Page 67

Robin's Plantain / *Erigeron pulchellus*

Family: Aster / Asteraceae

Life Cycle: Perennial

Characteristics: Basal leaves are soft, hairy and toothed along their margins. They are up to 5 inches long, 3 inches wide and oval in shape. A few smaller lance-shaped leaves appear along the flowering stalk. The plant produces one hairy flowering stalk up to 2 feet tall that terminates in a cluster of several daisy-like flower heads in May or June. Each flower is $\frac{3}{4}$ to $1\frac{1}{4}$ inch in diameter. Ray flowers are white to light pink or violet, and disk flowers are yellow. The plant spreads by stolons (above-ground runners) and can become a groundcover.

Cultural Requirements: This is an adaptable plant and does fine in sun or partial shade as well as moist or dry soils.

Landscape Uses: Robin's Plantain is a tough ground cover for a wide variety of sites.

Size: 1 to 2 feet tall and spreading several feet

Hardiness Zones: All of Georgia

Habitat: Meadows, woodland edges and disturbed sites

Native To: Eastern North America, from Minnesota to Maine, south to Florida, west to Texas

Propagation: Seed or cuttings

Seed: Collect seeds two to three weeks after flowering. Store them dry at 40°F for planting the following March.

Cuttings: Stem cuttings root readily when taken in early spring.

Comments: Plants in the genus *Erigeron* (Daisy Fleabanes) and the genus *Symphotrichum* (American Aster) have many similar characteristics, including small flower heads with white, blue or violet ray flowers and alternate leaves. The season of bloom helps separate Daisy Fleabanes from American Asters. Daisy Fleabanes bloom in the spring, while American Asters bloom in the fall.

Images: Page 67

Rattlesnake-master, Button Snake-root / *Eryngium yuccifolium*

Family: Carrot / Apiaceae

Life Cycle: Perennial

Characteristics: Most leaves are in a basal rosette. They are large and sword-shaped (up to 3 feet long) with parallel veins and bristly edges. They resemble yucca plant leaves. Stem leaves are smaller than the basal leaves, blue-green and sword-shaped. Round greenish-white flower heads, 1 inch across, are borne in large open clusters from mid- to late summer. Below the flower heads are several whitish, pointed bracts. Flower heads develop a bluish cast as they age.

Cultural Requirements: Rattlesnake-master prefers partial shade and dry or moist, well-drained soils. It has a tap root and is difficult to transplant.

Landscape Uses: Use this plant in shaded naturalized areas or wildflower gardens. It is an aggressive seeder and will spread if it is not managed.

Size: 2 to 4 feet tall

Hardiness Zones: All of Georgia

Habitat: Open woodlands, prairies, meadows and barrens

Native To: Except for the northeastern states, it is native to most states east of the Mississippi and as far west as Minnesota, Oklahoma and Texas.

Propagation: Seed

Seed: Collect seeds from September to October. Store them dry at 40°F for 60 days, then plant them in flats held at 70°F. Germination should occur approximately one month after seeding.

Comments: This plant has a long history of medicinal use. American Indians used juices from the root to treat rattlesnake bites.

Images: Page 68

Coral Bean, Cherokee Bean, Red Cardinal / *Erythrina herbacea*

Family: Pea / *Fabaceae*

Life Cycle: Perennial

Characteristics: Coral Bean is a shrubby, spreading plant reaching 5 feet tall. Stems are prickly. Leaves are compound with three spade-shaped leaflets. They are 3 to 5 inches long and 3 to 4 inches wide. Clusters of showy red tubular flowers, 1 to 2 inches long, appear in terminal racemes in spring before leaves emerge. Bright red seeds are borne in black pods that are 2 to 7 inches long. Roots are tuberous.

Cultural Requirements: This plant prefers sun or partial shade and dry soils. Remove dead wood each spring when new growth emerges. Expect the plant to die back each winter in the Piedmont and Mountain areas of Georgia.

Landscape Uses: Use Coral Bean as a background plant in perennial borders or along woodland edges.

Size: 3 to 5 feet tall

Habitat: Maritime forests, sand hills and longleaf pine ecosystems of the Coastal Plain

Hardiness Zones: All of Georgia. It will be killed back to the ground in zones 6 and 7, but it will usually over-winter.

Native To: North and South Carolina and Tennessee, south to Georgia, west to Texas, north to Oklahoma and Arkansas

Propagation: Seed, cuttings or division

Seed: Seeds require scarification (scraping on sandpaper) followed by cold stratification (40°F for 60 days).

Cuttings: Take cuttings from summer growth.

Division: Divide roots in fall or early spring.

Comments: Coral Bean seeds are poisonous when ingested. Hummingbirds visit its flowers.

Images: Page 67

Dimpled Trout Lily / *Erythronium umbilicatum*

Family: Lily / *Liliaceae*

Life Cycle: Perennial

Characteristics: This plant is like a groundcover in early spring with 2-inch-long leaves that hug the ground. The leaves are green with heavy brown blotches. In early March, a leafless stalk rises 4 inches above the foliage and bears a single, bright yellow nodding flower with six reflexed tepals and six reddish-brown stamens. The backs of the tepals are rusty red. The plant dies down and goes dormant in late spring. It grows from a corm.

Cultural Requirements: Dimpled Trout Lily prefers semi-shady areas and slightly acid well-drained soil enriched with humus.

Landscape Uses: Use Dimpled Trout Lily in moist shaded woodland gardens. If left undisturbed, it will form a colony after several years.

Size: 2 to 4 inches and spreading

Hardiness Zones: All of Georgia

Habitat: Moist, deciduous woods, bottomlands and meadows

Native To: West Virginia and Maryland, south to Florida, west to Alabama, north to Kentucky

Propagation: Seed

Seed: Collect seeds when the capsule is yellow and before it ejects its seeds. Store them at 40°F for planting in September in outdoor beds or flats. They should germinate in January or February of the following year.

Comments: The common name Trout Lily stems from the fact that the mottled leaves resemble the speckled sides of brown trout. Cherokee Indians used the plant medicinally as a diuretic. They also crushed the leaves and bulbs and used the sap to dress wounds.

Images: Page 68

American Boneset / *Eupatorium perfoliatum*

Family: Aster / Asteraceae

Life Cycle: Perennial

Characteristics: Pairs of opposite, lance-shaped, wrinkled, light green leaves are joined directly to the stem (sessile). They look as though the stem has pierced through them. Stems are hairy. Flat-topped clusters of small white flower heads appear above the foliage from August to September.

Cultural Requirements: American Boneset grows best in moist soil and sunny to partially shaded areas. It does well in both clay and sandy soils. Pinch back the shoots periodically to encourage branching and a stockier plant. It has strong stems that don't need staking.

Landscape Uses: This plant attracts butterflies and a large variety of other insects. Since it gets tall, use it as a background plant in a perennial border.

Size: 3 to 5 feet tall

Hardiness Zones: All of Georgia

Habitat: Marshes, swamps, open moist meadows and ditches

Native To: Eastern and Midwestern North America, from Nova Scotia and Quebec to North Dakota, south to Texas, east to Florida

Propagation: Seed, cuttings or division

Seed: Collect seeds from August to November. Store them dry one month at 40°F, then sow them in December or January in outdoor beds or flats.

Cuttings: Take cuttings from terminal shoots in June.

Division: Plants can be divided in early spring.

Comments: Early doctors used American Boneset for medicinal purposes. The leaves were wrapped with bandages around splints to help heal broken bones, and a tea made from the leaves was used to treat colds, flu and a variety of other ailments.

Images: Page 68

Late Boneset / *Eupatorium serotinum*

Family: Aster / Asteraceae

Life Cycle: Perennial

Characteristics: Stout, pubescent stems have occasional side branches and leaves near their tops. Leaves are lance-shaped, up to 7 inches long and 2 inches wide, with petioles up to 1 inch long. The leaves are coarsely serrated along their margins and tend to curve downward. A large, terminal flat-topped inflorescence, several inches across, appears at the top of the stem in late summer and lasts about a month. Each flower head consists of approximately 12 white disk flowers. There are no ray florets. Each disk flower is about ¼ inch long, narrow and tubular, with five small triangular lobes at its top. A long white style protrudes conspicuously from each flower. Rhizomes spread to colonize an area.

Cultural Requirements: Late Boneset prefers full sun to partial shade and moderately moist soil high in organic matter. Plants grow shorter in drought-prone areas and tend to drop their leaves early.

Landscape Uses: Use Late Boneset in moist low-lying areas, along ponds or in ditches. It can be somewhat weedy when provided ideal cultural conditions.

Size: 3 to 6 feet tall and spreading

Hardiness Zones: All of Georgia

Habitat: Moist meadows, river flood plains, drainage ditches and other low-lying areas

Native To: Massachusetts, south to Florida, west to Texas, north to Minnesota

Propagation: Seed, cuttings or division

Seed: Collect seeds from August to November. Store them dry for one month at 40°F, then sow them in December or January in outdoor beds or flats.

Cuttings: Take cuttings from terminal shoots in June.

Division: Plants can be divided in early spring.

Comments: The flowers attract nectar-feeding butterflies, bees and moths. Late Boneset can be distinguished from American Boneset by its leaf attachment; Late Boneset leaves have petioles while American Boneset leaves lack petioles and are attached directly to the stems.

Images: Page 68

White Wood Aster, Heartleaf Aster / *Eurybia divaricata* (syn. *Aster divaricatus*)

Family: Aster / Asteraceae

Life Cycle: Perennial

Characteristics: Basal leaves are heart-shaped, 1½ to 2½ inches long and coarsely toothed. Leaves along the stem are smaller than the basal leaves and oval in shape. Small white flower heads, 1 inch across, appear in July and August in flat-topped terminal clusters. Flower heads consist of seven to 12 ray flowers and small yellow to red disk flowers. The plant spreads by rhizomes.

Cultural Requirements: This plant is very adaptable and easy to grow in sun or shade. Once established, it has good drought tolerance. Remove old blossoms to prevent self-seeding.

Landscape Uses: Plant White Wood Aster at the edges of woodlands, in perennial borders or in wildflower gardens.

Size: 1 to 2 feet high and spreading

Hardiness Zones: All of Georgia

Habitat: Mesic to dry hardwood forests

Native To: Eastern North America, from Maine to Georgia, west to Mississippi, north to Ohio and New York

Propagation: Seed, cuttings or division

Seed: Collect seeds in October. Store them dry at 40°F before planting them in outdoor beds or flats in early January. They require light to germinate, so cover them lightly with the germination medium.

Cuttings: Stem cuttings can be taken in May. Dip the cut end in a rooting hormone.

Division: Plants can be divided in spring or fall.

Comments: Hummingbirds are attracted to the plant.

Images: Page 69

Carolina Flat-topped Goldenrod, Slender Goldentop / *Euthamia caroliniana*

(syn. *Euthamia minor*)

Family: Aster / Asteraceae

Life Cycle: Perennial

Characteristics: Stems are straight and sparsely pubescent. Leaves are ½ to 1½ inches long, lance-shaped, sessile and have a prominent main vein. Leaf arrangement is somewhat erratic; some leaves are turned downward on the stem, others outward and still others upright along the stem. In August, flat-top clusters of bright yellow flower heads are borne at the tops of stems. They consist of both tubular and non-tubular ray flowers. Fruit are small, dry, hairy, oblong, seed-like achenes.

Cultural Requirements: Carolina Flat-topped Goldenrod prefers moist, well-drained soil and full sun.

Landscape Uses: This plant is useful in wildflower meadows, along pond edges and in bottomlands.

Size: 1 to 3 feet tall and 12 inches wide

Hardiness Zones: 7, 8

Habitat: Outer edges of marshes or among grasses in flatwoods and prairies, sandy or rocky areas in the Coastal Plain

Native To: Maine to Florida, west to Louisiana

Propagation: Seed, cuttings or division

Seed: Collect seeds in the fall when flower heads dry and become fluffy. They can be planted right away if temperatures of 70°F or higher can be provided during germination. Otherwise, they can be stored dry at 40°F for planting when outside temperatures are 70°F or higher.

Cuttings: Take stem cuttings of new spring growth when it begins to harden.

Division: Divide plants in late winter or early spring.

Comments: The plant is an important source of nectar in late autumn for small native bees and numerous butterflies.

Images: Page 69

Joe-Pye Weed, Trumpetweed / *Eutrochium fistulosum*
(syn. *Eupatorium fistulosum*)
Family: Aster / Asteraceae

Life Cycle: Perennial

Characteristics: Joe-Pye Weed is a large plant with whorls of leaves, four to seven per whorl, on sturdy stems that are 6 to 10 feet tall. Leaves are dark green and up to 12 inches long. They are coarsely serrated along their margins. Stems have purple or green spots and are hollow. Each stem is topped with a large pink flower head, 12 to 18 inches in diameter, in July and August. Flower heads consist of hundreds of tiny, vanilla-scented, pinkish-lavender flowers.

Cultural Requirements: Joe-Pye Weed is a large plant that needs plenty of room. It also needs abundant moisture and sunlight. Organic matter added to sandy soil before planting will help it hold moisture.

Landscape Uses: This is one of the most interesting plants to have at the back of a perennial border or butterfly/hummingbird garden. Plant it in groups of three or more for a dramatic effect.

Size: 6 to 10 feet tall

Hardiness Zones: All of Georgia

Habitat: Moist or wet ditches, along streams or lakes, roadsides and in open areas where there is soil moisture and sun

Native To: Maine to Iowa, south to Florida, west to Texas

Propagation: Seed, cuttings or division

Seed: Collect seeds from August to November. Store them dry at 40°F for planting in December or January in outdoor beds or flats. Germination should occur in one to two weeks when they are provided warm (70°F+) temperatures.

Cuttings: Take cuttings from terminal shoots in June.

Division: Plants can be divided in early spring.

Comments: Several cultivars of Joe-Pye Weed are available, but they may not be as long-lived as the native species. The plant attracts hummingbirds, butterflies and a variety of insect pollinators.

Images: Page 69

Soapwort Gentian / *Gentiana saponaria* (syn. *Dasystephana saponaria*)
Family: Gentian / Gentianaceae

Life Cycle: Perennial

Characteristics: Leaves are opposite, lance-shaped, 3½ inches long and 1½ inches wide. From September to October, tubular blue flowers, 1½ inches long, arise from the upper leaf axils. Each flower has five lobes that are fused together. As they mature, the flowers open wide enough to allow bees inside for pollination. Seed capsules have two sections containing numerous seeds. The plant has a long taproot.

Cultural Requirements: Soapwort Gentian needs constant moisture and good drainage. It prefers fertile, sandy-loam soil and partial shade.

Landscape Uses: Use this plant along shady streams, shady lake edges or under trees. The bright blue flowers provide a dramatic fall show.

Size: 1 to 2 feet high

Hardiness Zones: All of Georgia

Habitat: Bogs, marshes, wet woodlands, swamps, seepage areas and shallow streams

Native To: New York to Illinois, south to Texas and Florida

Propagation: Seed, cuttings or division

Seed: Collect seeds in November or December when the capsules split. Place them in a plastic bag containing sand and a few drops of water and store them in a dark location at 70°F for two weeks. Then, put the bag in the refrigerator for an additional two months before planting the seeds in flats maintained at 70°F.

Cuttings: Terminal cuttings can be taken in mid-spring. Dip the cut ends in a rooting hormone.

Division: Plants can be divided in fall or early spring.

Comments: Another Gentian species, Striped Gentian, *Gentiana villosa*, blooms in late fall and prefers a dry habitat. It has white, greenish-white or purple flowers and is found at forest edges or in grassy meadows. It, too, is worthy of landscape culture.

Images: Page 70

Wild Geranium, Cranesbill Geranium / *Geranium maculatum* Family: Geranium / *Geraniaceae*

Life Cycle: Perennial

Hardiness Zones: All of Georgia

Characteristics: Mottled, medium green leaves, up to 6 inches across, have finger-like lobes with toothed margins. Flowers emerge in spring on long stalks rising above the leaves. Flowers are pink to lilac, 1¼ inches across and saucer-shaped, with five upward-curving petals. In the fall, the leaves turn shades of red and persist throughout the winter. Seeds are borne in beaked capsules (hence the name Cranesbill).

Habitat: Rich, moist hardwood forests and shaded roadsides

Native To: North and South Dakota, east along the Atlantic and Gulf coasts

Propagation: Seed, cuttings or division

Seed: Collect capsules before they split. Place them in a dry paper bag to split and release their seeds. Store the seeds dry at 40°F for three months, then plant them in outdoor flats or beds in mid-summer.

Cuttings: Stem cuttings can be taken after flowering.

Division: Plants can be divided in spring or fall.

Cultural Requirements: Wild Geranium is easy to grow in average, well-drained soil and full sun to partial shade. Moisture is essential, especially in early spring. Deadheading will encourage repeat bloom.

Comments: Wild Geranium seeds attract mourning doves and bobwhite quail.

Landscape Uses: Wild Geranium is a beautiful addition to a woodland garden or perennial border.

Size: 12 to 24 inches tall and 18 inches wide

Images: Page 70

Sunflower / Genus *Helianthus*

The genus name *Helianthus* is derived from the Greek words *Helio*, which means sun, and *Anthus*, which means flower. Sunflower heads track the sun's movement by rotating toward the sun throughout the day, a phenomenon called heliotropism.

Sunflowers are an important agricultural crop. Oil extracted from the seeds is used for making cooking oil, medicine, paint and biofuel. The seeds themselves are used for animal feed and human snack food. A large sunflower head is made up of 1,000 to 2,000 individual flowers joined together at their base (disk flowers) surrounded by showy ray flowers that do not develop seeds. Adding sunflowers to the landscape is a great way to attract birds and other wildlife.

There are 51 sunflower species native to North America. Thirty-seven species are herbaceous perennials and 14 species are annuals. Eleven species are native to Georgia. Those most worthy of landscape culture are described here.

Narrowleaf Sunflower, Swamp Sunflower / *Helianthus angustifolius*

Family: Aster / Asteraceae

Life Cycle: Perennial

Characteristics: Narrowleaf Sunflower is a large plant with multi-branched stems. Leaves are rough textured, 3 to 6 inches long and 1/2 inch wide, lance-shaped, with an occasional purple tinge. Numerous showy yellow flower heads, 2 to 3 inches across, appear from September to October in terminal clusters. Ray flowers are bright golden yellow and disk flowers are reddish brown to purple. Fruit are small, dry, angled, seed-like achenes.

Cultural Requirements: Narrowleaf Sunflower is easy to cultivate. It thrives in sun or partial shade and moist soil. It does not like dry sites. It may need staking in wet years. It spreads by rhizomes and may require periodic thinning, especially on damp sites. Pruning in mid-summer encourages more compact growth and branching.

Landscape Uses: Use Narrowleaf Sunflower as a background plant in perennial borders or rock gardens, along ponds or in bog gardens.

Size: 4 to 9 feet tall

Hardiness Zones: All of Georgia

Habitat: Wet roadside ditches, wet meadows and swamps

Native To: Pennsylvania, west to Illinois, south to Texas, east to Georgia

Propagation: Seed, cuttings or division

Seed: Collect seeds in November and plant them directly in flats maintained at 70°F. Germination should occur in about two weeks.

Cuttings: Stem cuttings can be taken in June. Treat the cut end with a rooting hormone.

Division: Divide plants in the spring.

Comments: Narrowleaf Sunflower will adapt to dry habitats, but it grows shorter when moisture is limited. A lemon-yellow variety found in the trade is one of the latest blooming sunflowers, adding a splash of color to the late fall landscape. The flowers attract butterflies, finches eat the seeds, and deer like to graze on this plant.

Images: Page 70

Woodland Sunflower, Rough Sunflower / *Helianthus divaricatus*

Family: Aster / Asteraceae

Life Cycle: Perennial

Characteristics: Leaves are sessile, opposite and 3 to 8 inches long on branching stems. Their shape varies from lance-shaped to oval. The upper surfaces of the leaves are rough, while the lower surfaces are hairy. Flower heads are borne on stem tips from July to September. They are 2 inches across. Both ray and disk flowers are yellow. The plant spreads aggressively by rhizomes.

Cultural Requirements: Woodland Sunflower thrives in sun or partial shade. It adapts to both moist and dry soils. Divide plants every three to four years.

Landscape Uses: Woodland Sunflower is appropriate for meadows, grasslands and woodlands. It is aggressive, so it may not be appropriate for perennial borders or other managed areas.

Size: 2 to 6 feet tall

Hardiness Zones: All of Georgia

Habitat: Roadsides, woodlands and rocky bluffs

Native To: New England to Wisconsin, south to Oklahoma and Florida

Propagation: Division

Division: Rhizomes can be divided in fall or spring.

Comments: Flowers hold up well as cut flowers.

Images: Page 71

Confederate Daisy, Stone Mountain Yellow Daisy / *Helianthus porteri*
(syn. *Viguiera porteri*)
Family: Aster / Asteraceae

Life Cycle: Annual

Characteristics: Leaves are narrow, lance-shaped, opposite, 2 to 3 inches long, and about ¼ inch wide. Numerous yellow flower heads, 1 to 2 inches across, are borne on terminal branches from September to October. The plant has a short taproot that attaches to rock crevices and likes growing on granite outcrops.

Cultural Requirements: Although this plant is native to granite outcrops, it will grow in many other places. It prefers full sun and well-drained soil. It is not a good competitor and can easily be choked out by more aggressive species. Cut it back in winter to broadcast seeds that will produce new plants the next growing season.

Landscape Uses: Confederate Daisy makes a spectacular display on rocky, barren ground where nothing else will grow. It produces plenty of seeds and self-sows every year when cultural conditions are to its liking.

Size: 2 to 3 feet tall

Habitat: Granite outcrops in the Piedmont, rocky barrens and glades

Native To: The Piedmont regions of Georgia and Alabama

Propagation: Seed

Seed: Harvest seeds six to eight weeks after bloom. Store them dry at 40°F for planting in outdoor flats or beds the following January. Cool soils are required for germination. The seeds also require light to germinate, so cover them lightly with the germination medium.

Comments: A festival in honor of Confederate Daisy is held each year at Stone Mountain Park near Atlanta.

Images: Page 71

Hepatica, Liverleaf Hepatica / *Hepatica americana*
(syn. *Anemone americana*, *Hepatica nobilis* var. *obtus*)
Family: Buttercup / Ranunculaceae

Life Cycle: Perennial

Characteristics: Leaves are basal and heart-shaped with three lobes. Some plants may have speckled leaves, while others have leaves that are maroon on their undersides. In March or April numerous hairy flower stalks, 4 to 6 inches long, rise above the foliage, each bearing a single saucer-shaped bloom composed of five to seven petal-like sepals. Occasionally double flower forms are found having up to 20 sepals. Flower color ranges from blue to lavender, shades of pink or white. A mature clump can produce 20 to 30 flowering stalks. When the sepals fall, new leaves emerge. The leaves are bright shiny green as they unfurl, turn dark green as they mature, then become dark brown in the fall. Seeds bear nutrient-rich appendages that attract ants. The ants carry the seeds back to their nests where they germinate and establish new colonies.

Cultural Requirements: Hepatica prefers moist, organic soils and partial shade.

Landscape Uses: Plant Hepatica in small drifts in shaded, moist woodlands, stream banks or shaded rock gardens.

Size: 4 to 6 inches tall and wide

Hardiness Zones: All of Georgia

Habitat: Nutrient-rich hardwood forests

Native To: Minnesota to Maine, south to Florida, west to Mississippi

Propagation: Seed, cuttings or division

Seed: Sow seeds in outdoor beds or flats. Roots emerge in fall and leaves emerge in spring. Grow the seedlings in containers for one to two years before transplanting them into the landscape.

Cuttings: Root cuttings having at least three buds can be collected in winter and transplanted to flats.

Division: Plants can be divided in spring after flowering.

Comments: There is a great deal of confusion among botanists as to the correct classification of this plant. Some authorities say *H. americana* is the same as *H. nobilis* var. *obtus*, while others put the plant in the genus *Anemone*. The common name Hepatica comes from the Greek word *hepar*, which means liver.

Images: Page 71

Coral Bells, Alumroot / *Heuchera americana*
Family: Saxifrage / *Saxifragaceae*

Life Cycle: Perennial

Characteristics: The plant has a basal rosette of evergreen heart-shaped leaves. Each leaf is 3 to 5 inches wide and has five to seven lobes. New leaves emerge purplish-brown, then they turn green. Leaf venation is silver or rose-purple. A flowering stem emerges in early spring and rises 18 to 24 inches above the plant. It bears panicles of small, inconspicuous, bell-shaped flowers that range in color from pale yellow to purple. The orange-tipped stamens are the most noticeable part of the flower.

Cultural Requirements: Plant Coral Bells in well-drained soil that is high in organic matter. It prefers shade or partial shade (morning sun). Deadheading encourages repeat blooms.

Landscape Uses: Use Coral Bells in shaded areas of perennial borders, rock gardens or woodlands. Since its leaves are evergreen, it looks good year-round.

Size: 1 to 2½ feet tall and 1 to 1½ feet wide

Hardiness Zones: All of Georgia

Habitat: Drainage slopes of rich woods, dry woods and rocky areas

Native To: Connecticut to Oklahoma, south to Georgia

Propagation: Seed or division

Seed: Collect seeds three to four weeks after flowering. Plant them directly in flats, covering them lightly with the germination medium. Maintain the flats at 70°F to 80°F. Germination should occur in three to four weeks.

Division: Plants can be divided in spring or fall.

Comments: Many hybrids have been created from the 30 North American species of *Heuchera*. There are cultivars with chartreuse flowers and purple leaves.

Images: Page 71

Little Brown Jug, Heartleaf, Evergreen Wild Ginger /
***Hexastylis arifolia* (syn. *Asarum arifolia*)**
Family: Birthwort / *Aristolochiaceae*

Life Cycle: Perennial

Characteristics: Shiny, thick, heart-shaped evergreen leaves, 3 to 6 inches long, are borne at ground level. They are dark green with pale green splotches in spring and summer, then they turn bronze in winter. Reddish-brown flowers appear in April and May at ground level. They are inconspicuous and often hidden in the leaf litter. They have no petals and are actually composed of thick, fleshy, fused sepals shaped like little brown jugs. Rhizomes spread slowly.

Cultural Requirements: In a natural setting, only 2 or 3 leaves may be seen, but under cultivation, Heartleaf forms large clumps of basal foliage. It is shade-tolerant but prefers partial shade. It will adapt to both moist and dry soils. Slugs like to eat this plant.

Landscape Uses: Use Little Brown Jug in shaded woodland gardens. Since the leaves are evergreen, the plant looks nice year-round.

Size: 3 to 6 inches tall

Hardiness Zones: All of Georgia

Habitat: Mixed deciduous or pine forests

Native To: Kentucky to Virginia, south to Florida, west to Louisiana

Propagation: Seed or division

Seed: Seeds can be planted outdoor immediately after harvest, or they can be stored in moist sphagnum at 40°F for later planting. They are slow to germinate, so do not expect seedlings until the following spring.

Division: Plants can be divided in spring or late fall. Make certain each division has at least one fleshy root.

Comments: Native Indians used root extracts and tea made from the leaves to treat heart and lung conditions and stomach pain.

Images: Page 72

Largeflower Heartleaf / *Hexastylis shuttleworthii* (syn. *Asarum shuttleworthii*)

Family: Birthwort / *Aristolochiaceae*

Life Cycle: Perennial

Characteristics: This plant has basal evergreen heart-shaped glossy leaves up to 4 inches long and 3 inches wide. The leaves have smooth margins and light-colored mottled areas along their veins. From mid- to late spring, light purplish-brown vase-shaped flowers, 2 inches long, appear below the foliage. They are inconspicuous and often hidden in the leaf litter. Fruit are fleshy globose capsules.

Cultural Requirements: Largeflower Heartleaf prefers moist, well-drained soil and partial shade to full shade.

Landscape Uses: This plant is best used as a groundcover in shady, moist woodlands. It retains its leaves in winter, so it looks nice year-round.

Size: 6 inches to 1 foot tall and spreading 4+ feet.

Hardiness Zones: All of Georgia

Habitat: Mesic acidic hardwood forests

Native To: The Southern Appalachian Mountains

Propagation: Seed or division

Seed: Seeds can be planted outdoors immediately after harvest, or they can be stored in moist sphagnum at 40°F for later planting. Seeds are slow to germinate, so do not expect seedlings until the following spring.

Division: Plants can be divided in spring or late fall. Make certain each division has at least one fleshy root.

Comments: The root of this plant is used as a spice for candy and tea. A variety called Callaway Ginger, *H. shuttleworthii* var. *harperii*, is available in the nursery trade. It is shorter than this species (just 3 inches tall), mat-forming and has mottled leaves. There are several other species that have horticultural value. *Hexastylis virginica* (Virginia Heartleaf), for instance, has beautiful silver-mottled leaves.

Images: Page 72

Scarlet Rose Mallow / *Hibiscus coccineus*

Family: Mallow / *Malvaceae*

Life Cycle: Perennial

Characteristics: Leaves are palmate, up to 10 inches long, with three to seven deeply cut lobes and toothed margins. Bright scarlet flowers arise from the upper leaf margins throughout the growing season. The flowers are large, 6 to 8 inches across, with five petals and protruding stamens (male flower parts) and pistil (female flower part). Fruit are hard capsules containing hairy seeds.

Cultural Requirements: Scarlet Rose Mallow prefers full sun and wet to moist soils. It is deciduous and dies back in winter. Cut back the plant to the ground prior to spring growth.

Landscape Uses: Use Scarlet Rose Mallow as an accent plant in a perennial border or along the edge of a pond. A group of three to five plants provides an eye-catching display.

Size: 4 to 6 feet high

Hardiness Zones: All of Georgia

Habitat: Marshes, wet ditches and swamps

Native To: Southeastern coastal states

Propagation: Seed or cuttings

Seed: Collect seeds when capsules split. Soak the seeds in water for 24 hours before planting them. Keep the seeding flats warm (70°F+) to enhance germination.

Cuttings: Terminal stem cuttings can be taken in June.

Comments: This is a stunning plant worthy of landscape culture. Scarlet Rose Mallow was a Georgia Gold Medal winner in 2007. It attracts hummingbirds, butterflies and bees.

Images: Page 72

Halberd-leaf Rose Mallow / *Hibiscus laevis* (syn. *Hibiscus militaris*)

Family: Mallow / *Malvaceae*

Life Cycle: Perennial

Characteristics: Stems are round and hairless. Leaves are alternate with three to five pointed lobes and serrated edges. Flowers appear from mid-summer to early fall on the upper stems. They are up to 6 inches across with white to light-pink petals and a maroon throat. Each flower has five petals and five green sepals. Numerous stamens surrounding the pistil form a tubular central column. The fruit is an ovoid capsule containing many seeds.

Cultural Requirements: Halberd-leaf Rose Mallow prefers full sun to partial shade and moist soil.

Landscape Uses: This plant is best used in sunny perennial borders having irrigation or along pond edges.

Size: 4 to 6 feet tall and 3 to 4 feet wide

Hardiness Zones: All of Georgia

Habitat: Wet soils along streams, sloughs, freshwater marshes, ponds and ditches

Native To: New York to Florida, west to Texas, north to Minnesota

Propagation: Seed or cuttings

Seed: Collect seeds when capsules split. Soak the seeds in water for 24 hours, then sow them in flats maintained at 70°F or higher to enhance germination.

Cuttings: Terminal stem cuttings can be taken in June.

Comments: Waterfowl and bobwhite quail eat the seeds. The leaves of this plant resemble the blade of a halberd, a combination spear and battle-ax used in the 15th and 16th centuries.

Images: Page 72

Crimson-eyed Rose Mallow, Marsh Mallow / *Hibiscus moscheutos*

Family: Mallow / *Malvaceae*

Life Cycle: Perennial

Characteristics: Leaves are alternate and have toothed margins. They are 6 to 8 inches long, 2 to 3 inches wide and pubescent underneath. Flowers are large, up to 6 inches across, with five pinkish-white petals and a crimson throat. A tubular column of stamens surrounding the pistil rises above the petals. This plant flowers over a long period, from late summer to fall. Fruit are beaked capsules.

Cultural Requirements: Crimson-eyed Rose Mallow prefers full sun and fertile, moist soil. Supplemental fertilizer, mulch and occasional irrigation may be necessary. Cut back the plant in late winter to remove old foliage and make way for new growth. Japanese Beetles like the leaves and flowers.

Landscape Uses: Crimson-eyed Rose Mallow makes a dramatic statement when planted adjacent to ponds or lakes, or in low spots where water drains.

Size: 4 to 6 feet tall

Hardiness Zones: All of Georgia

Habitat: Wet ditches, swamps and marshes

Native To: Massachusetts to Wisconsin, south to Texas and Florida

Propagation: Seed or cuttings

Seed: Collect seeds when capsules split. Soak the seeds in water for 24 hours, then sow them in flats maintained at 70°F or higher to enhance germination.

Cuttings: Terminal stem cuttings can be taken in June.

Comments: Crimson-eyed Rose Mallow was used extensively in breeding ornamental hibiscus. Numerous cultivars with large flowers were the result.

Images: Page 73

Spider Lily, Carolina Spiderlily / *Hymenocallis occidentalis*

Family: Lily / *Liliaceae*

Life Cycle: Perennial

Characteristics: A basal clump of strap-shaped leaves, up to 17 inches long, rises from a bulb. In summer, a flowering stalk, up to 22 inches tall, emerges from the center of the foliage and bears three to six white fragrant blossoms. Each flower is up to 7 inches across and has six segments and a center tubular cup. Flowers are followed by oval seed capsules.

Cultural Requirements: Spider Lily is best grown in moist to wet soils in full sun or partial shade. Allow the foliage to remain after flowering to feed the bulb and developing bulblets.

Landscape Uses: Use Spider Lily in perennial borders, open woodland gardens and along streams and ponds.

Size: 1½ to 2½ feet tall and 1 to 1½ feet wide

Hardiness Zones: All of Georgia

Habitat: Swamps, moist fields, bottomlands and rich, moist forests

Native To: North Carolina to Georgia, west to Texas, north to Missouri, Illinois and Indiana

Propagation: Seed or division

Seed: Collect seeds from September to October and sow them directly in outdoor flats. Germination should occur in three to four months. It takes three to four years to produce a flowering plant from seed.

Division: Separate bulblets from the mother bulb in the fall.

Comments: Attractive, fragrant blooms make Spider Lily worthy of landscape culture.

Images: Page 73

Orange Jewelweed, Spotted Touch-me-not / *Impatiens capensis*

Family: Touch-me-not / *Balsaminaceae*

Life Cycle: Annual

Characteristics: Leaves are up to 4 inches long, coarsely toothed and have long petioles. Stems are hollow, weak and succulent. In summer, flowers emerge from the upper leaf axils and dangle downward on stalks up to 4 inches long. They are orange to orange-yellow, 1 inch long and shaped like a cornucopia. The base of the flower has a tiny nectar spur that curls downward. Flowers are followed by seed pods. When mature, the slightest touch causes the pod to split and release its seeds.

Cultural Requirements: Orange Jewelweed prefers moist soil and shade or partial shade.

Landscape Uses: Use Orange Jewelweed in shaded, moist sites for vibrant color from early summer until frost.

Size: 2 to 5 feet tall and spreading

Habitat: Moist areas, such as stream banks, marshes, seepages or woodland edges

Native To: Most of eastern North America

Propagation: Seed

Seed: Collect seeds in August or September. Stratify them dry at 40°F for two to three months before planting.

Comments: Orange Jewelweed can be aggressive in moist woodland sites. It is a nectar plant for hummingbirds. Native Americans used its watery plant juices to relieve the itch of poison ivy and insect bites.

Images: Page 73

Yellow Jewelweed, Pale Touch-me-not / *Impatiens pallida* Family: Touch-me-not / *Balsaminaceae*

Life Cycle: Annual

Characteristics: Leaves are up to 4 inches long and coarsely toothed on long petioles. Stems are hollow, weak and succulent. From summer through fall, solitary yellow flowers with five fused petals are borne at the upper leaf axils and dangle downward on pedicels up to 2 inches long. The base of the flower has a tiny nectar spur that curls downward. Flowers are followed by seed-bearing capsules approximately 2 inches long. When mature, the slightest touch causes the capsules to split and release their seeds.

Cultural Requirements: Yellow Jewelweed prefers morning sun, afternoon shade and wet to moist soil conditions.

Landscape Uses: Use Yellow Jewelweed in moist woodlands and along pond edges

Size: 3 to 6 feet tall

Habitat: Edges of ponds and streams, swamps, openings in moist deciduous woodlands and soggy thickets

Native To: Maine, south to Georgia, west to Oklahoma, north to the Dakotas

Propagation: Seed

Seed: Collect seeds from August to September. Store them dry at 40°F for two to three months before planting them in outdoor beds or flats.

Comments: The nectar of the flowers attracts hummingbirds and bumblebees. A wide variety of moth larvae feed on the foliage, and a number of game birds eat the seeds.

Images: Page 74

Iris

All Iris flowers are characterized by three falls (actually sepals) and three upright petals called standards (see Figure 4). The falls are showier than the standards. They may or may not have a band of hairs in their middle, called a beard, or an area of raised tissue, called the crest. The variation of these markings distinguishes the species. All native Irises have a distinctive leaf arrangement. The leaf bases overlap then spread out into a fan shape. Irises are not bothered by deer and are a good choice for landscapes that are grazed by deer.

Dwarf Crested Iris / *Iris cristata* Family: Iris / *Iridaceae*

Life Cycle: Perennial

Characteristics: Dwarf Crested Iris is a low-growing, spreading plant with narrow, sword-shaped, medium-green leaves up to 6 inches long and 2 inches wide. Leaves arise from a branching rhizome that spreads to form colonies. In spring, pale blue flowers with gold crests appear on short stalks. Sepals are distinctly marked with a central band of white, yellow or purple. Seeds are produced in capsules.

Cultural Requirements: Plant Dwarf Crested Iris in sun to partial shade and moist soil enriched with organic matter. Divide plants when they become crowded.

Landscape Uses: Plant Dwarf Crested Iris along the edges of moist shaded woodland where its diminutive size can be readily seen. Under favorable growing conditions, the plant spreads and becomes a ground cover.

Size: 6 to 12 inches high and spreading

Hardiness Zones: All of Georgia

Habitat: Moist, fertile wooded slopes and flood plains

Native To: Maryland to Missouri and Oklahoma, south to Mississippi and Georgia

Propagation: Seed or division

Seed: Collect capsules when they are mature and remove their seeds. Sow the seeds in outdoor beds or flats. No pre-treatment of the seeds is required. It may take two years for them to germinate, so patience is a virtue.

Division: Divide the plants in late winter or early spring.

Comments: The flowers attract hummingbirds and bees. This plant is easy to grow when provided its required growing conditions.

Images: Page 74

Copper Iris / *Iris fulva* Family: Iris / *Iridaceae*

Life Cycle: Perennial

Characteristics: Leaves are sword-like and 12 to 15 inches long. Flower stalks rise 2 to 3 feet high and bear copper, sometimes yellow, flowers. The flowers are 2 to 3 inches wide and consist of three hanging sepals (falls) that turn downward and three erect petals (standards). The falls are faintly yellow at their base. Seeds are borne in capsules.

Cultural Requirements: Copper Iris prefers sun to partial shade and wet to moist sites. It will grow in standing water.

Landscape Uses: Use Copper Iris along the edges of ponds, streams or lakes. It is a good plant for water gardens or bogs. It does not tolerate drought.

Size: 2 to 3 feet tall

Hardiness Zones: All of Georgia

Habitat: Wet, swampy areas

Native To: Ohio, Kentucky, Tennessee, south to Florida, west to Texas, north to Illinois

Propagation: Seed or division

Seed: Collect capsules in late summer before they split and release their seeds. Remove the seeds from their capsules and store them dry at 40°F for planting in November or December. Before planting, soak the seeds in water for 24 hours to soften the seed coat. Cover the seeds lightly with the germination medium because light enhances germination. It takes at least two years to produce a flowering plant from seed.

Division: Plants can be divided in late winter.

Comments: Bees and hummingbirds are attracted to the flowers. This is a member of the Louisiana (crestless) iris group.

Images: Page 74

Dwarf Violet Iris / *Iris verna* Family: Iris / *Iridaceae*

Life Cycle: Perennial

Characteristics: Sword-shaped leaves emerge from scaly rhizomes. In spring, flower stalks rise above the foliage and bear lavender to deep-blue flowers with yellow markings on their falls. Seeds are borne in capsules.

Cultural Requirements: This plant prefers moist soil enriched with organic matter. It also likes two to four hours of morning sun. It is not a vigorous spreader like *I. cristata*.

Landscape Uses: Use Dwarf Violet Iris in the front of a perennial border where it can be seen.

Size: 6 to 10 inches tall

Hardiness Zones: All of Georgia

Habitat: Moist, sandy-loam soil in pine barrens of the Coastal Plain and rocky or sandy upland forests

Native To: Maryland, Virginia and Kentucky, south to Mississippi and Georgia

Propagation: Seed or division

Seed: Collect capsules about eight weeks after bloom and remove their seeds. No pre-treatment of the seeds is required. Sow them in outdoor beds or flats. They may take two years to germinate.

Division: Divide plants in late winter or early spring.

Comments: Flower color and size are similar to those of Dwarf Crested Iris; however, the two plants are easy to tell apart. The flowers of *I. verna* are beardless and crestless while those of *I. cristata* have crests on their falls. Also, the flowers of *I. verna* appear before the foliage, while those of *I. cristata* appear after the foliage. Furthermore, flowers of *I. verna* are more fragrant than those of *I. cristata*. This is an easy plant to grow in shaded woodland gardens.

Images: Page 75

Virginia Iris, Southern Blueflag / *Iris virginica*

Family: Iris / *Iridaceae*

Life Cycle: Perennial

Characteristics: Narrow sword-like leaves, 1 to 2 feet tall and 2 to 3 inches wide, grow from rhizomes. New leaves have a burgundy tinge at their bases that persists until early summer. Flowers are borne on stalks that rise 1 to 3 feet from the base of the plant in spring. Each stalk bears one to three flowers. Falls are violet-blue and crests are yellow or white. The rhizome spreads to form colonies. Seeds are borne in capsules.

Cultural Requirements: Virginia Iris is a wetland species that likes consistent moisture. It adapts to sun or partial shade. It spreads slowly and is not aggressive.

Landscape Uses: Use Virginia Iris along the edges of streams or ponds, in drainage ditches or in water gardens. It also does well in low-lying areas that are subject to flooding.

Size: 2 to 3 feet high

Hardiness Zones: All of Georgia

Habitat: Marshes, wet ditches and swamps in open areas

Native To: Florida, west to Texas, north to Virginia

Propagation: Seed or division

Seed: Collect capsules in late summer before they split and release their seeds. Remove the seeds and store them dry at 40°F for planting in November or December. Before planting, soak the seeds in water for 24 hours to soften their seed coats. Light enhances germination so cover them lightly with the germination medium. It takes at least two years to produce a flowering plant from seed.

Division: Plants can be divided from fall to late winter.

Comments: This is an easy plant to grow on moist sites. It is very similar in form to its northern cousin, *Iris versicolor*.

Images: Page 75

Slender Lespedeza / *Lespedeza virginica*

Family: Legume / *Fabaceae*

Life Cycle: Perennial

Characteristics: Slender Lespedeza is a slender, erect plant with trifoliate leaves. Leaflets are oblong to linear and have distinctive parallel veins. Stems are hairy. Small pink flowers are borne in dense clusters in the upper leaf axils in September. Each flower is ¼ inch long and consists of a broad upper petal with rose-pink splotches and two smaller side petals adjacent to a lower lip. The plant has a strong taproot.

Cultural Requirements: Plant Slender Lespedeza in full sun or light shade and moist, well-drained soils. It will adapt to dry sites. It self-seeds readily, so prune it back after flowering if seeding and spreading is not desired.

Landscape Uses: Plant Slender Lespedeza at woodland edges and in open meadows.

Size: 1 to 3 feet tall

Hardiness Zones: All of Georgia

Habitat: Rocky and dry open woods, gravel stream banks, thickets, prairies and bluffs

Native To: All states east of the Mississippi River (except New England), west to Wisconsin, south to Texas

Propagation: Seed

Seed: Store seeds for 10 days at 40°F before planting them in warm soil.

Comments: Like other legumes, Lespedezas have nitrogen-fixing bacteria in root nodules that trap atmospheric nitrogen and convert it to a form of nitrogen that is available to plants. They also provide food for birds and other wildlife. *L. virginica* is similar to *L. cuneata*, a Chinese species that has become invasive. Native *Lespedezas* have leaves that are broadest at the center and have pink to purple blooms, while Chinese *Lespedeza* has leaves that are broadest at the tip and white blooms flecked with purple. Two additional native species, Trailing Lespedeza, *L. procumbans*, and Creeping Lespedeza, *L. repens*, have pink blooms.

Images: Page 75

Blazing Star / Genus *Liatris*

All *Liatris* species described in this publication have the characteristics listed below.

- They occur naturally in many diverse habitats, but in order to bloom and grow well, they need at least a half day of full sun.
- They have strong stems with closely spaced leaves and internodes that gradually decrease in length up the stem.
- They are long-lived plants.
- They can be grown easily from seed.
- Tiny pink or white flowers are grouped in heads, which are surrounded at their base by several whorls of bracts. The color and texture of these bracts are useful in distinguishing species.
- Flowers open progressively over several weeks from the top of the stem downward.
- They grow from a bulbous woody rootstock.

Tall Blazing Star, Rough Blazing Star / *Liatris aspera* Family: Aster / *Asteraceae*

Life Cycle: Perennial

Hardiness Zones: All of Georgia

Characteristics: Tall Blazing Star is an upright, clump-forming plant. Basal leaves are narrow, lance-shaped, up to 12 inches long and rough textured. Leaves along the stem are shorter than the basal leaves and are bright green. Stems are zigzag in shape and covered with grayish hairs. Button-like, pink-lavender flower heads, up to 1½ inch across, appear from August to September on the upper portion of branches. The bracts at the base of the flower heads are rounded, rough to the touch and have ragged pink or white margins.

Cultural Requirements: This plant thrives in either moist or dry soil and needs at least a half-day of full sun. Its tall stems can flop and may require staking.

Landscape Uses: Tall Blazing Star makes a spectacular showing when planted along sandy roadsides or in meadows.

Size: 3 to 5 feet tall

Habitat: Sandy prairies, barrens and open meadows

Native To: Michigan to North Dakota, south to Oklahoma and Texas, east to Alabama and Georgia

Propagation: Seed or division

Seed: Collect seeds when the flower heads turn fluffy and brown. Store them dry for two months at 40°F, then sow them in outdoor beds or flats in December or January. Germination should occur in about two months.

Division: Plants can be divided in fall or late winter.

Comments: Because the flowers tend to open at the same time, they are used by the florist trade in floral arrangements. The flowers attract butterflies and hummingbirds. This species is endangered in Canada and is somewhat rare in Georgia.

Images: Pages 75-76

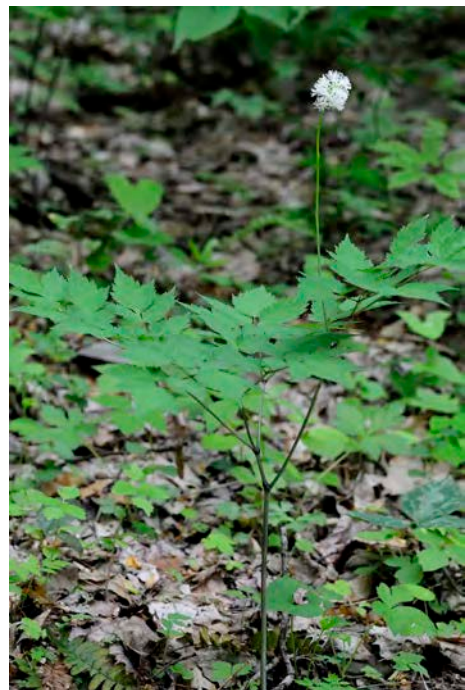
**Doll's Eyes, White Baneberry /
*Actaea pachypoda***



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**Black Cohosh, Black Bugbane / *Actaea racemosa*
(syn. *Cimicifuga racemosa*)**



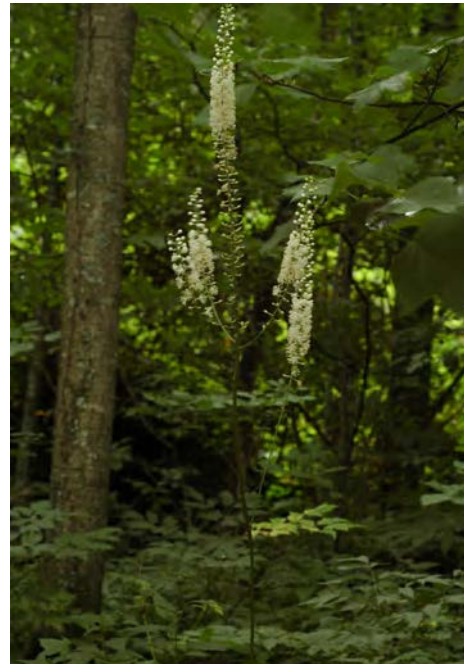
Michael Strickland



Michael Strickland



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**Common White Snakeroot /
Ageratina altissima (syn. *Eupatorium rugosum*)**



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Fly Poison /
Amianthium muscitoxicum

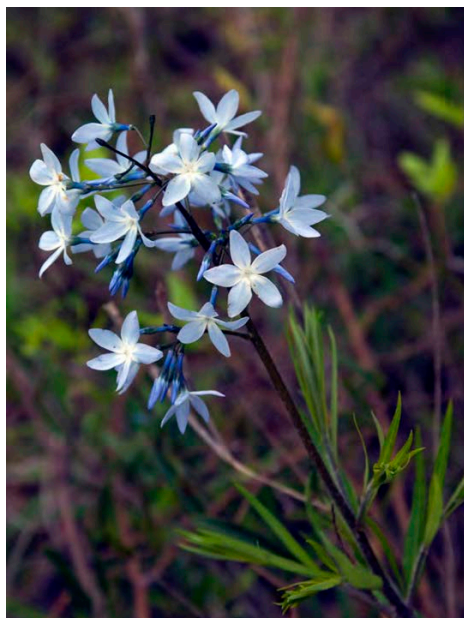


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Fringed Blue Star /
Amsonia ciliata



Gil Nelson



Gil Nelson



Ed McDowell

Wideleaf Blue Star,
Eastern Blue Star /
Amsonia tabernaemontana



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Gary Wade

**Wood Anemone /
*Anemone quinquefolia***



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**Tall Thimbleweed /
*Anemone virginiana***



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**Rue-anemone /
Anemonella thalictroides
(syn. *Thalictrum thalictroides*)**



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**Hairy Angelica /
*Angelica venenosa***



Shannon Pable



Ed McDowell



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**Plantain Pussytoes /
*Antennaria plantaginifolia***



Michael Strickland



Ed McDowell



Michael Strickland



Michael Strickland

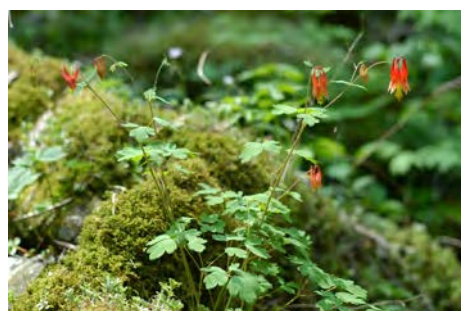
**Eastern Columbine /
*Aquilegia canadensis***



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**Green Dragon /
*Arisaema dracontium***



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**Jack-in-the-pulpit /
*Arisaema triphyllum***



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**Canadian Wild Ginger /
*Asarum canadense***



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**Clasping Milkweed,
Blunt-leaved Milkweed,
Wavy-leaf Milkweed /
*Asclepias amplexicaulis***



Gil Nelson



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R.K. Robertson, Illinois Natural History Survey

**Swamp Milkweed /
*Asclepias incarnata***



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**Common Milkweed /
*Asclepias syriaca***



Gil Nelson



Gil Nelson

**Butterfly Weed,
Butterfly Milkweed /
*Asclepias tuberosa***



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**White Milkweed /
*Asclepias variegata***



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**White Wild Indigo /
*Baptisia alba***



Margie Hunter



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**Blue Wild Indigo /
*Baptisia australis***



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Gary Wade

**Longbract Wild Indigo,
Cream Wild Indigo /
*Baptisia bracteata***



Missouri Botanical Garden,
Kemper Center for Home Gardening



Missouri Botanical Garden,
Kemper Center for Home Gardening

**Gopherweed /
*Baptisia lanceolata***



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**Shoofly Wild Indigo /
*Baptisia tinctoria***



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**Bearded Beggarticks,
Bur Marigold /
*Bidens aristosa***



Margie Hunter



Shannon Pable

**Nodding Beggarticks /
*Bidens cernua***



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**Toothwort, Crinkleroot /
Cardamine diphylla
(syn. *Dentaria diphylla*)**



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Vanillaleaf, Deer tongue /
Carphephorus odoratissimus



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Jeffrey Pippen



Jeffrey Pippen



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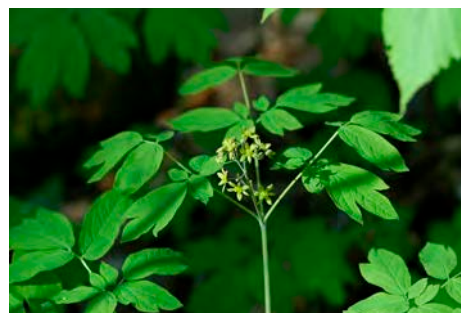
Blue Cohosh /
Caulophyllum thalictroides



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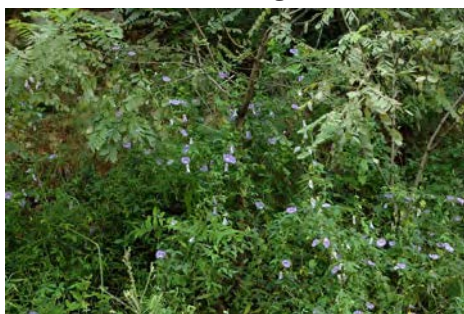


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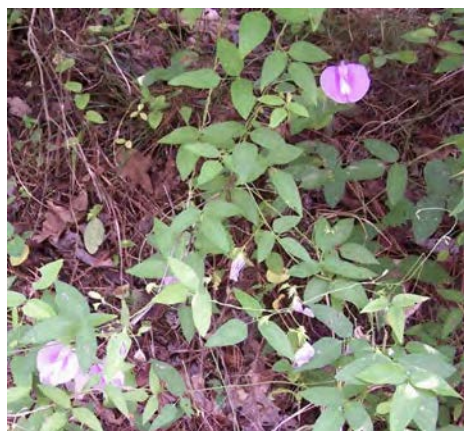
**Spurred Butterfly Pea /
*Centrosema virginianum***



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Michael Strickland



Michael Strickland



Michael Strickland

**Partridge Pea /
*Chamaecrista fasciculata***



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**Fairy Wand, Devil's Bit /
*Chamaelirium luteum***



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Female Flower, Michael Strickland



Male Flower, Michael Strickland

**Woolly Sunbonnets,
Pineland Daisy /
*Chaptalia tomentosa***



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**Pink Turtlehead /
*Chelone lyonii***



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**White Turtlehead /
*Chelone glabra***



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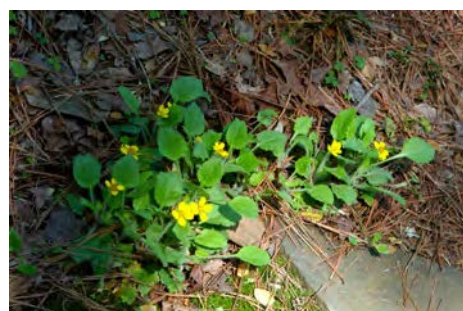


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**Green-and-gold /
*Chrysogonum virginianum***



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**Maryland Goldenaster /
*Chrysopsis mariana***



Michael Strickland



Michael Strickland



Gil Nelson

Carolina Coralbead /
Cocculus carolinus



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Michael Strickland



Michael Strickland

Blue Mistflower /
Conoclinium coelestinum



Gil Nelson



Michael Strickland



Michael Strickland



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Lobed Coreopsis, Tickseed,
Eared Coreopsis /
Coreopsis auriculata



Michael Strickland



Michael Strickland



Michael Strickland

**Goldenmane Tickseed,
Golden Wave Tickseed /
*Coreopsis basalis***



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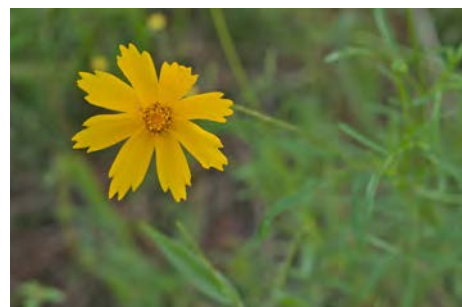


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**Large-flowered Coreopsis /
*Coreopsis grandiflora***



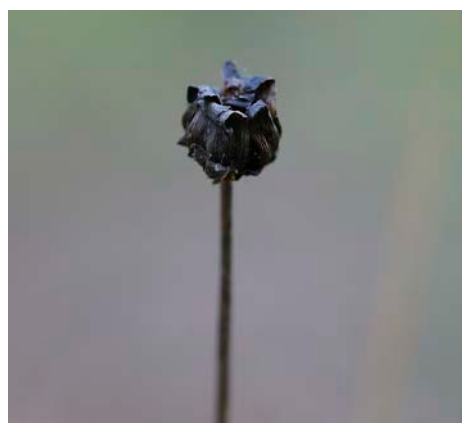
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**Woodland Coreopsis,
Pot of Gold Coreopsis /
*Coreopsis major***



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**Star Tickseed, Downy Tickseed /
*Coreopsis pubescens***



Jeffrey Pippen



Jeffrey Pippen



Jeffrey Pippen

**Plains Tickseed, Golden Tickseed /
*Coreopsis tinctora***



Ed McDowell



Ed McDowell



Rob's Plants

**Carolina Larkspur /
*Delphinium carolinianum***

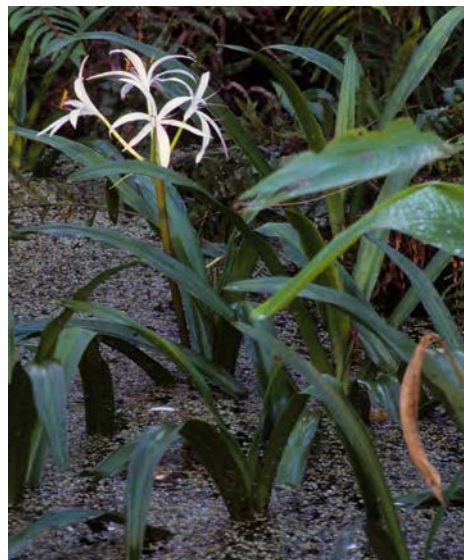


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**Crinum Lily, Seven Sisters,
String Lily, Swamp Lily /
*Crinum americanum***



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**Eastern Shooting Star /
*Dodecatheon meadia***



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Michael Strickland

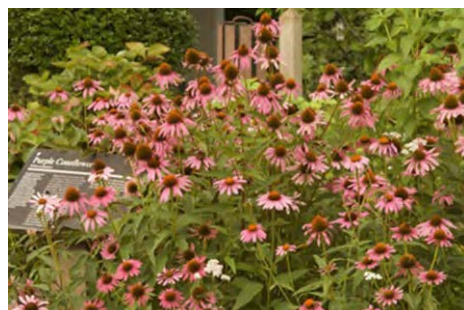


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**Purple Coneflower /
*Echinacea purpurea***



Hugh and Carol Nourse



Hugh and Carol Nourse



Gary Wade

**Hairy Elephant's-foot,
Devil's Grandmother /
*Elephantopus tomentosus***



Ed McDowell



Hugh and Carol Nourse



Michael Strickland



Michael Strickland

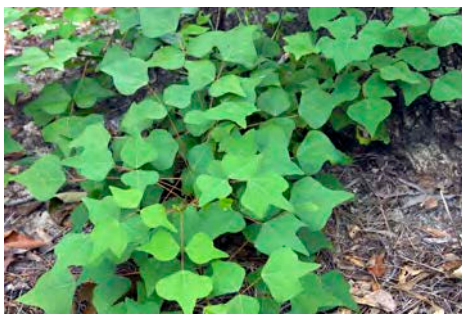


Ed McDowell

**Coral Bean, Cherokee Bean, Red Cardinal /
*Erythrina herbacea***



Hugh and Carol Nourse



Gil Nelson

**Robin's Plantain /
*Erigeron pulchellus***



Margie Hunter



Hugh and Carol Nourse

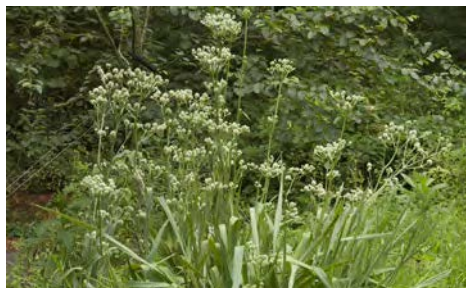


Ed McDowell



Ed McDowell

**Rattlesnake-master,
Button Snake-root /
*Eryngium yuccifolium***



Hugh and Carol Nourse



Hugh and Carol Nourse

**Late Boneset /
*Eupatorium serotinum***



Ed McDowell



Ed McDowell

**Dimpled Trout Lily /
*Erythronium umbilicatum***



Ed McDowell



Ed McDowell



Ed McDowell



Ed McDowell



Ed McDowell

**American Boneset /
*Eupatorium perfoliatum***



Margie Hunter



Shannon Pable

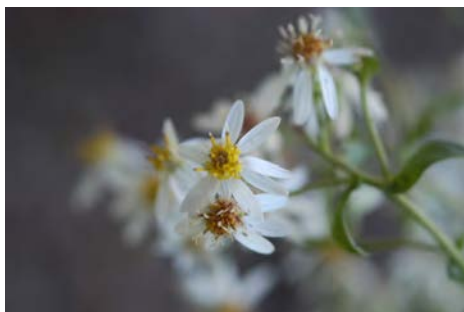


Ed McDowell

**White Wood Aster,
Heartleaf Aster /
Eurybia divaricata
(syn. *Aster divaricatus*)**



Ed McDowell



Ed McDowell



Ed McDowell

**Carolina Flat-topped Goldenrod,
Slender Goldentop /
Euthamia caroliniana
(syn. *Euthamia minor*)**



Jeffrey Pippen



Jeffrey Pippen



Jeffrey Pippen



Gary Wade

**Joe-Pye Weed, Trumpetweed /
Eutrochium fistulosum
(syn. *Eupatorium fistulosum*)**



Hugh and Carol Nourse



Michael Strickland



Michael Strickland



Gary Wade

**Soapwort Gentian /
Gentiana saponaria
(syn. *Dasystephana saponaria*)**



Ed McDowell



Ed McDowell



Michael Strickland

**Wild Geranium,
Cranesbill Geranium /
*Geranium maculatum***



Ed McDowell



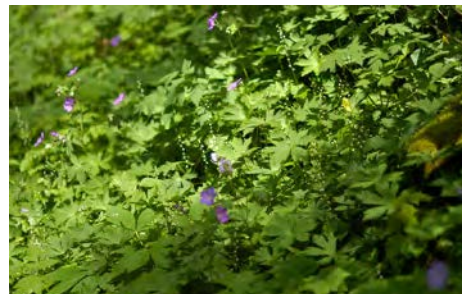
Hugh and Carol Nourse



Michael Strickland



Michael Strickland



Ed McDowell



Ed McDowell

**Narrowleaf Sunflower,
Swamp Sunflower /
*Helianthus angustifolius***



Ed McDowell



Ed McDowell



Ed McDowell

**Woodland Sunflower,
Rough Sunflower /
*Helianthus divaricatus***



Ed McDowell



Ed McDowell

**Confederate Daisy,
Stone Mountain Yellow Daisy /
Helianthus porteri
(syn. *Viguiera porteri*)**



Ed McDowell



Ed McDowell

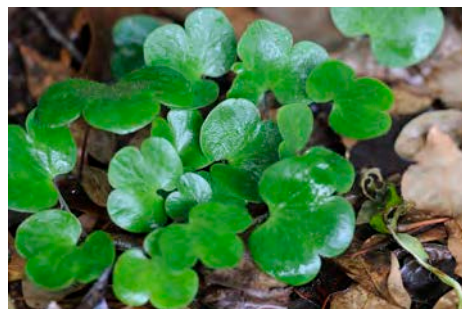


Ed McDowell

**Hepatica, Liverleaf Hepatica /
Hepatica americana
(syn. *Anemone americana*,
Hepatica nobilis var. *obtusata*)**



Margie Hunter



Ed McDowell



Michael Strickland

**Coral Bells, Alumroot /
*Heuchera americana***



Ed McDowell



Ed McDowell

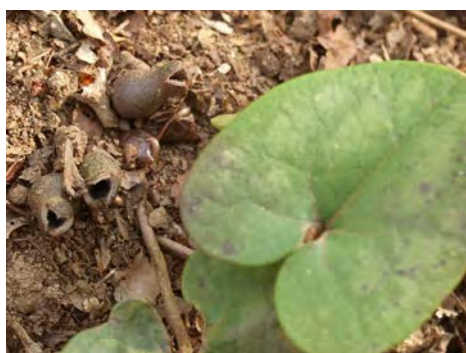


Ed McDowell

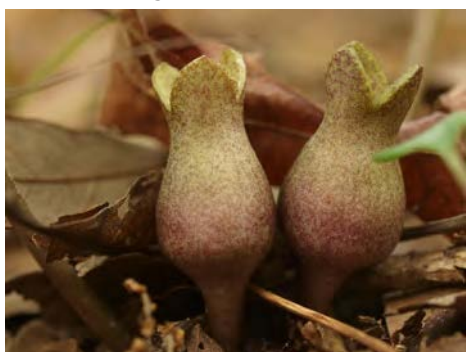
**Little Brown Jug, Heartleaf,
Evergreen Wild Ginger /
Hexastylis arifolia
(syn. *Asarum arifolia*)**



Ed McDowell

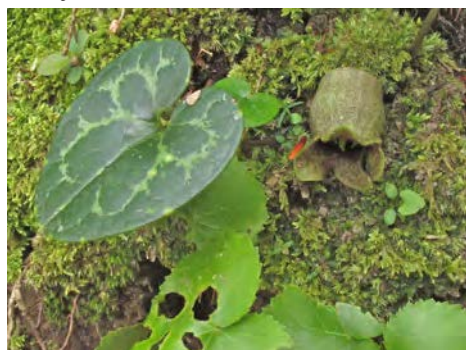


Hugh and Carol Nourse



Hugh and Carol Nourse

**Largeflower Heartleaf /
Hexastylis shuttleworthii
(syn. *Asarum shuttleworthii*)**



Hugh and Carol Nourse

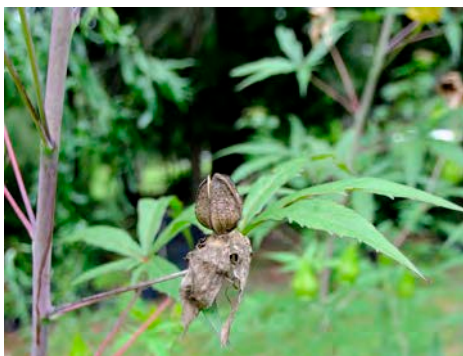
**Scarlet Rose Mallow /
*Hibiscus coccineus***



Ed McDowell



Ed McDowell



Ed McDowell



Ed McDowell

**Halberd-leaf Rose Mallow /
Hibiscus laevis
(syn. *Hibiscus militaris*)**



Margie Hunter



Hugh and Carol Nourse

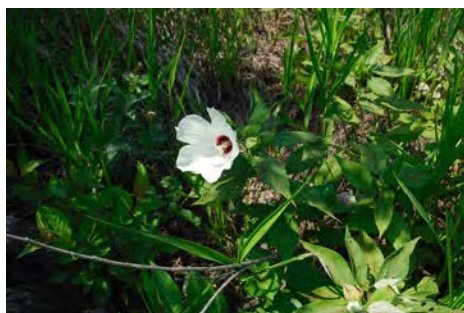


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**Crimson-eyed Rose Mallow,
Marsh Mallow /
*Hibiscus moscheutos***



Ed McDowell



Ed McDowell



Ed McDowell

**Spider Lily, Carolina Spiderlily /
*Hymenocallis occidentalis***



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Shannon Pable



Shannon Pable

**Orange Jewelweed,
Spotted Touch-me-not /
*Impatiens capensis***



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**Yellow Jewelweed,
Pale Touch-me-not /
*Impatiens pallida***



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**Dwarf Crested Iris /
*Iris cristata***



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Ed McDowell



Michael Strickland

**Copper Iris /
*Iris fulva***



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Shannon Pable

Dwarf Violet Iris /
Iris verna



Hugh and Carol Nourse



Michael Strickland



Michael Strickland

Virginia Iris, Southern Blueflag /
Iris virginica



Margie Hunter



Gil Nelson



Ed McDowell



Margie Hunter

Slender Lespedeza /
Lespedeza virginica



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Google Images

Tall Blazing Star,
Rough Blazing Star /
Liatris aspera



Ed McDowell
continued on next page

**Tall Blazing Star,
Rough Blazing Star /
*Liatris aspera***
continued



Ed McDowell



Ed McDowell



Ed McDowell

**Pink-scale Blazing Star /
*Liatris elegans***



Margie Hunter



Ed McDowell



Ed McDowell

**Shaggy Blazing Star,
Grass-leaf Blazing Star /
Liatris pilosa
(syn. *Liatris graminifolium*)**



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Hugh and Carol Nourse

**Dense Blazing Star,
Marsh Blazing Star /
*Liatris spicata***



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Ed McDowell



Ed McDowell



Ed McDowell



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**Scaly Blazing Star /
*Liatris squarrosa***



Hugh and Carol Nourse



Hugh and Carol Nourse

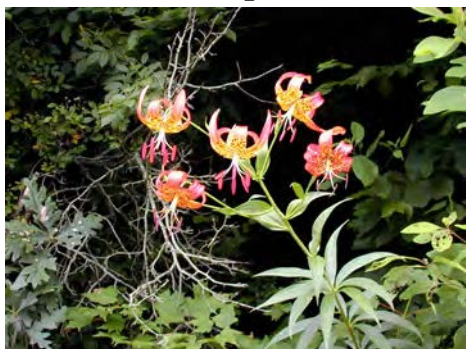


Michael Strickland



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Turk's Cap Lily /
Lilium superbum



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Ed McDowell

Carolina Lily /
Lilium michauxii



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Michael Strickland

Cardinal Flower /
Lobelia cardinalis



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Hugh and Carol Nourse



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**Downy Blue Lobelia /
*Lobelia puberula***



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**Great Blue Lobelia /
*Lobelia siphilitica***



Hugh and Carol Nourse



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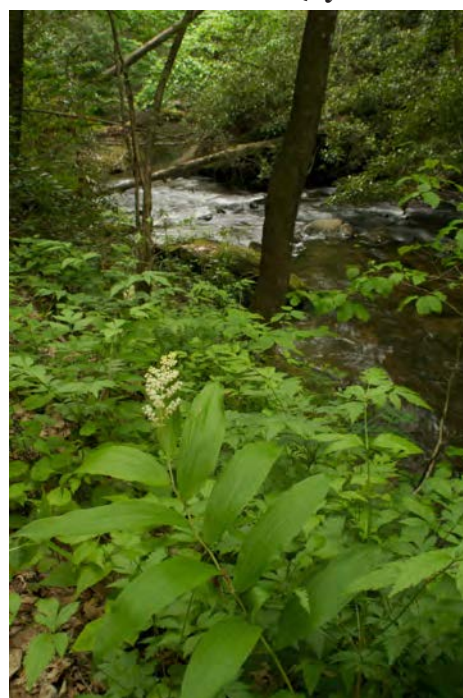


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**Solomon's Plume,
Feathery False Lily-of-the-Valley /
Maianthemum racemosum
(Syn: *Smilacina racemosa*)**



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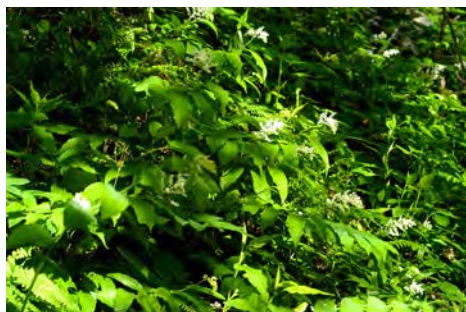


Hugh and Carol Nourse



Hugh and Carol Nourse
continued on next page

**Solomon's Plume,
Feathery False Lily-of-the-Valley
/ *Maianthemum racemosum*
(Syn: *Smilacina racemosa*)**
continued



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**Spoonshape Barbara's Buttons,
Piedmont Barbara's Buttons /
Marshallia obovata var. *obovata***



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**Eastern Sensitive Briar /
*Mimosa microphylla***

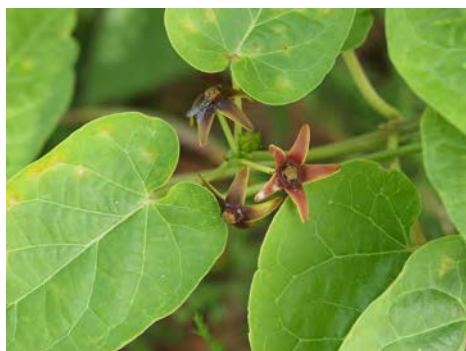


Ed McDowell



Ed McDowell

**Anglefruit Milkvine,
Climbing Milkvine /
*Matelea gonocarpus***



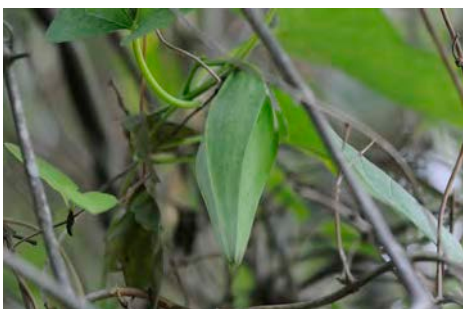
Hugh and Carol Nourse



Shannon Pable



Ed McDowell

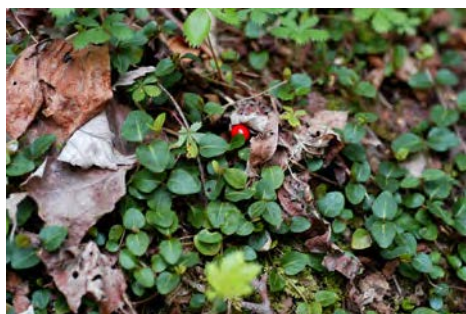


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**Partridge-berry /
*Mitchella repens***



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Hugh and Carol Nourse



Hugh and Carol Nourse

**Beebalm, Oswego Tea /
*Monarda didyma***



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**Appalachian Bergamot /
*Monarda fistulosa***



Gil Nelson



Ed McDowell

**Spotted Horse-mint /
*Monarda punctata***



Margie Hunter



Hugh and Carol Nourse



Hugh and Carol Nourse

Sweet-cicely, Anise-root /
Osmorhiza claytonii

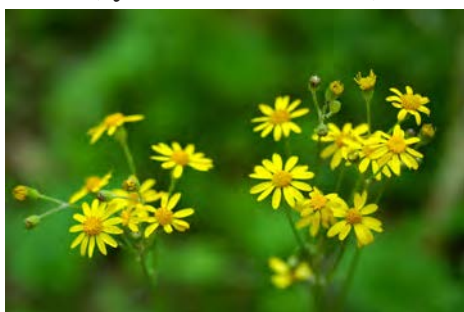


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**Golden Ragwort,
Golden Groundsel /**
Packera aurea
(syn. *Senecio aureus*)



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Southern Beardtongue /
Penstemon australis



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Hugh and Carol Nourse



Hugh and Carol Nourse



Jeffrey Pippen

**Beardtongue,
Appalachian Beardtongue /**
Penstemon canescens



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Smooth Beardtongue /
Penstemon digitalis



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Small's Beardtongue /
Penstemon smallii



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Vanderbilt University Bioimages

Hairy Phlox /
Phlox amoena



Hugh and Carol Nourse



Vanderbilt University Bioimages



Vanderbilt University Bioimages

**Carolina Phlox,
Thickleaf Phlox /
*Phlox carolina***



Hugh and Carol Nourse



Hugh and Carol Nourse



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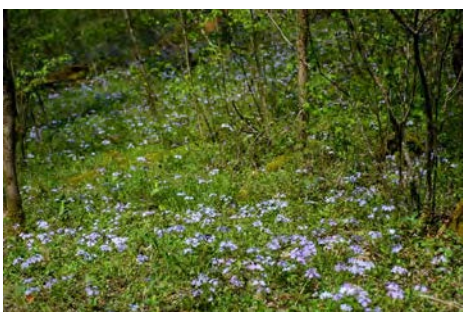
**Woodland Phlox /
*Phlox divaricata***



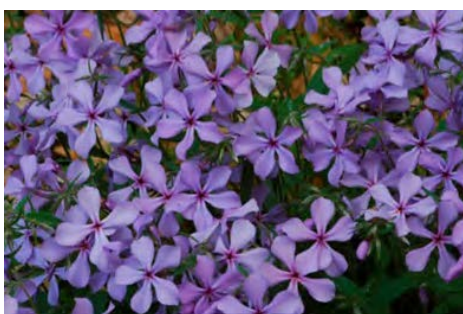
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Ed McDowell



Hugh and Carol Nourse

**Smooth Phlox /
*Phlox glaberrima***



Michael Strickland

**Wild Sweet William,
Meadow Phlox /
*Phlox maculata***



Margie Hunter



Google Images

**Garden Phlox, Summer Phlox /
*Phlox paniculata***



Gary Wade



Gary Wade



Shannon Pable



Shannon Pable



Shannon Pable

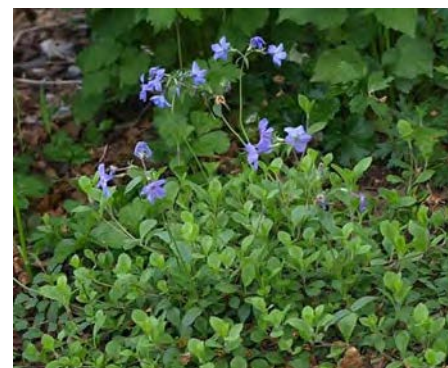
**Creeping Phlox /
*Phlox stolonifera***



Margie Hunter



Ed McDowell



Google Images

**Moss Phlox, Moss Pink /
*Phlox subulata***



Gary Wade



Gary Wade



Shannon Pable



Gary Wade

**Obedient Plant /
*Physostegia virginiana***



Shannon Pable



Shannon Pable



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**Grass-leaved Goldenaster,
Narrowleaf Silkgrass /
*Pityopsis graminifolia***



Hugh and Carol Nourse



Michael Strickland



Michael Strickland

**Mayapple, American Mandrake /
*Podophyllum peltatum***



Hugh and Carol Nourse



Hugh and Carol Nourse



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**Dwarf Cinquefoil /
*Potentilla canadensis***



Shannon Pable

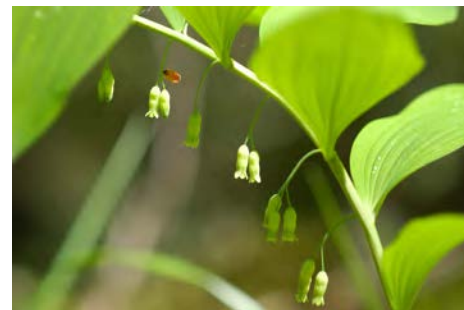


Google Images



Google Images

**Solomon's-seal, Small Solomon's
Seal, Smooth Solomon's Seal /
*Polygonatum biflorum***



Ed McDowell



Ed McDowell

**Southern Mountain Mint,
White Horse Mint /
*Pycnanthemum pycnanthemoides***



Ed McDowell



Ed McDowell



Shannon Pable

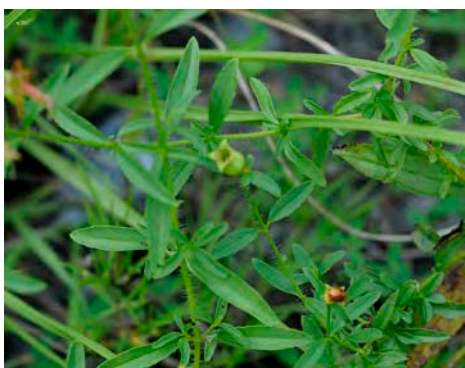
**Maryland Meadow Beauty /
*Rhexia mariana***



Hugh and Carol Nourse

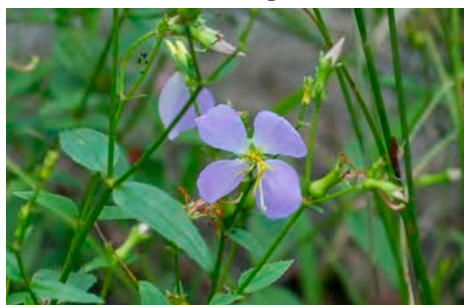


Ed McDowell



Ed McDowell

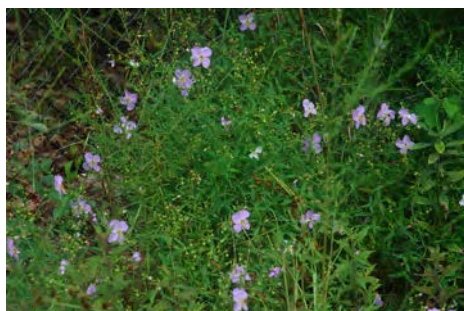
**Meadow Beauty,
Handsome Harry /
*Rhexia virginica***



Ed McDowell



Ed McDowell

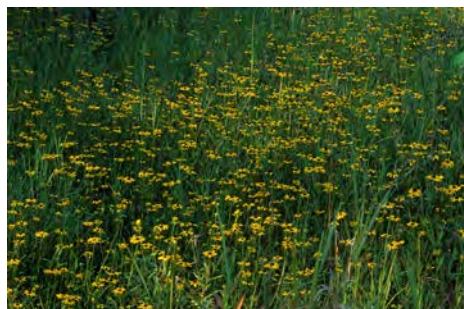


Ed McDowell

**Orange Coneflower,
Brown-eyed Susan /
*Rudbeckia fulgida***



Hugh and Carol Nourse



Hugh and Carol Nourse

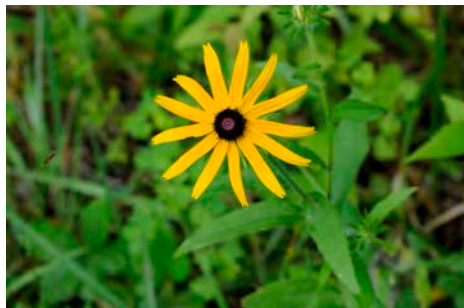


Ed McDowell

**Black-eyed Susan /
*Rudbeckia hirta***



Gary Wade



Ed McDowell



Ed McDowell

Cutleaf Coneflower /
Rudbeckia laciniata



Ed McDowell



Ed McDowell



Hugh and Carol Nourse

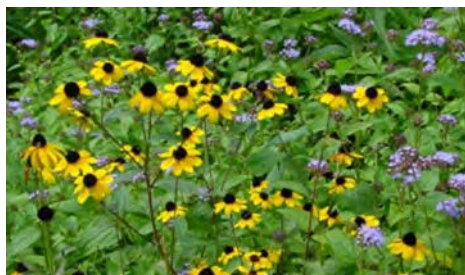


Michael Strickland



Ed McDowell

Brown-eyed Susan,
Three-lobed Coneflower /
Rudbeckia triloba



Gary Wade



Gary Wade



Gil Nelson



Ed McDowell

Azure-blue Sage, Pitcher Sage /
Salvia azurea



Ed McDowell



Ed McDowell

**Lyre-leaf Sage /
*Salvia lyrata***



Ed McDowell



Hugh and Carol Nourse

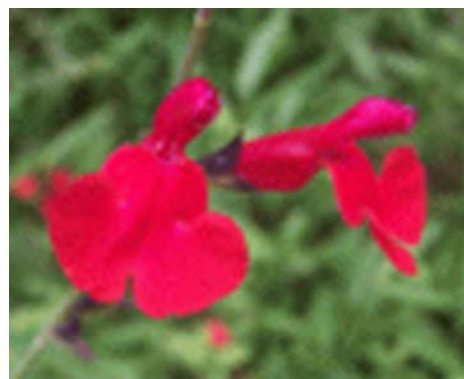
**Scarlet Sage, Tropical Sage,
Blood Sage, Texas Sage /
*Salvia coccinea***



Gary Wade



Gary Wade



Michael Strickland



Michael Strickland

**Bloodroot, Red Puccoon,
Indian Paint, Pauson,
Tetterwort /
*Sanguinaria canadensis***



Hugh and Carol Nourse



Ed McDowell



Ed McDowell



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Hairy Skullcap /
Scutellaria elliptica



Hugh and Carol Nourse



Hugh and Carol Nourse



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Hyssop Skullcap,
Rough Skullcap, Helmet Flower / *Scutellaria integrifolia* L.



Ed McDowell



Ed McDowell



Eugene Wofford



Eugene Wofford

Wild Pink, Sticky Catchfly,
Carolina Campion /
Silene caroliniana



Margie Hunter



**Starry Campion, Widow's Frill /
*Silene stellata***



Hugh and Carol Nourse



Ed McDowell

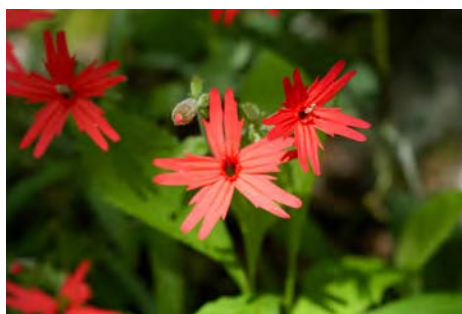
**Fire Pink, Scarlet Catchfly /
*Silene virginica***



Hugh and Carol Nourse



Ed McDowell



Ed McDowell

**Starry Rosinweed /
*Silphium asteriscus***



Hugh and Carol Nourse



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Kidneyleaf Rosinweed /
Silphium compositum



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Cup Plant /
Silphium perfoliatum



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Blue-eyed-grass,
Narrowleaf Blue-eyed-grass /
Sisyrinchium angustifolium



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Michael Strickland

Wrinkle-leaf Goldenrod,
Rough-stemmed Goldenrod /
Solidago rugosa



Dennis Horn

**Blue-stemmed Goldenrod, Axillary Goldenrod, Wreath Goldenrod /
*Solidago caesia***



Ed McDowell



Ed McDowell



Hugh and Carol Nourse

**Licorice Goldenrod, Anise-scented Goldenrod, Sweet Goldenrod /
*Solidago odora***



Dennis Horn

**Showy Goldenrod /
*Solidago speciosa***



Margie Hunter



Margie Hunter



Gary Wade



Gary Wade



Gary Wade



Missouri Botanical Garden

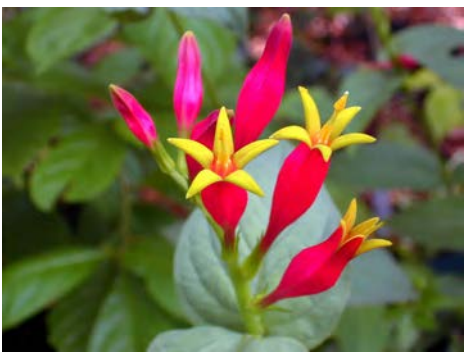
**Indian-pink, Woodland Pinkroot
/ *Spigelia marilandica***



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Ed McDowell



Ed McDowell



Dennis Horn

**Star Chickweed /
*Stellaria pubera***



Ed McDowell



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**Eastern Silvery Aster /
*Symphyotrichum concolor***



Dennis Horn



Gary Wade

**Calico Aster /
Symphyotrichum lateriflorum
(syn. *Aster lateriflorus*)**



Eugene Wofford



USDA Natural Resources Conservation Service

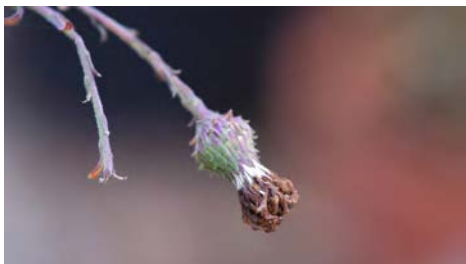


Ed McDowell

**New England Aster /
Symphyotrichum novae-angliae
(Syn. *Aster novae-angliae*)**



Ed McDowell



Ed McDowell

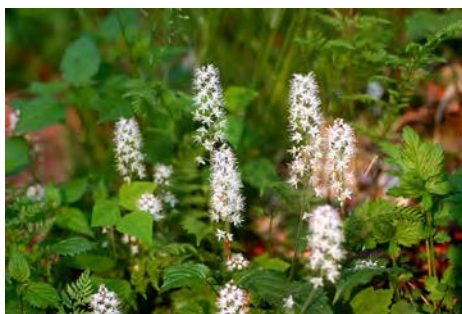


Ed McDowell

**Foamflower,
Heartleaf Foamflower,
Allegheny Foamflower /
*Tiarella cordifolia***



Ed McDowell



Ed McDowell

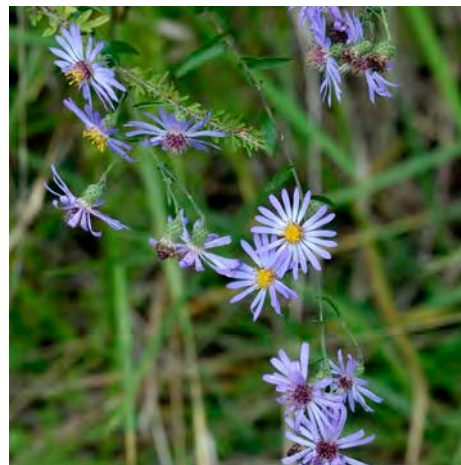


Ed McDowell

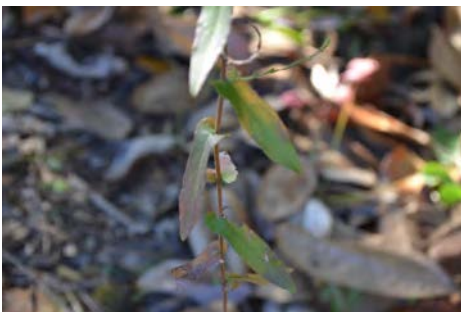


Ed McDowell

**Late Purple Aster /
Symphyotrichum patens
(syn. *Aster patens*)**



Ed McDowell



Gary Wade



Gary Wade

**Bluecurls /
*Trichostema dichotomum***



Hugh and Carol Nourse



Hugh and Carol Nourse



Ed McDowell

**Catesby's Trillium,
Bashful Wakerobin,
Rose Trillium /
*Trillium catesbaei***



Ed McDowell



Ed McDowell



Ed McDowell

**Sweet Betsy, Toad Trillium,
Whippoorwill Flower /
*Trillium cuneatum***



Ed McDowell



Ed McDowell



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**Lance-leaved Trillium,
Narrow-leaved Trillium /
*Trillium lancifolium***



Gil Nelson



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**Yellow Wakerobin,
Yellow Trillium /
*Trillium luteum***



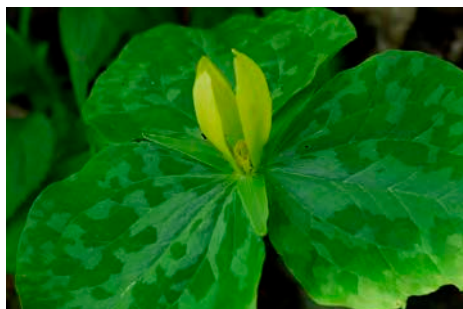
Ed McDowell



Ed McDowell



Ed McDowell



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**Spotted Wakerobin,
Spotted Trillium /
*Trillium maculatum***



Ed McDowell



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**Southern Nodding Trillium,
Illscented Wakerobin /
*Trillium rugelii***



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Hugh and Carol Nourse



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**Underwood's Trillium /
*Trillium underwoodii***

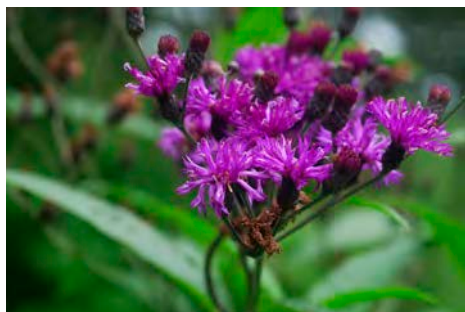


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Ed McDowell

**Ironweed, New York Ironweed /
*Vernonia noveboracensis***



Ed McDowell



Ed McDowell

**Narrowleaf Ironweed,
Tall Ironweed /
*Vernonia angustifolia***



Gil Nelson



Ed McDowell

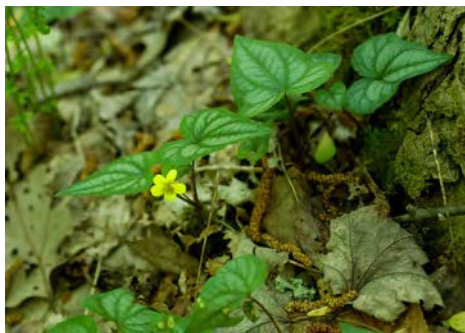


Ed McDowell

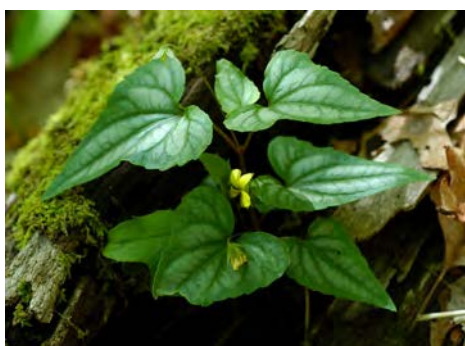
**Halberdleaf Yellow Violet /
*Viola hastata***



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Ed McDowell



Ed McDowell

**Bird's Foot Violet /
*Viola pedata***



Hugh and Carol Nourse



Gil Nelson

**Alpine Violet, Woods Violet /
Viola labradorica
(Syn. *Viola conspersa*)**



Rob's Plants

**Longspur Violet /
*Viola rostrata***



Margie Hunter



Hugh and Carol Nourse

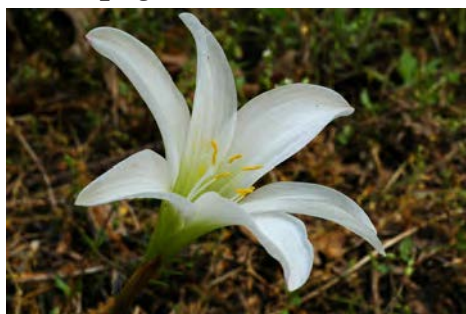


Ed McDowell



Ed McDowell

**Atamasco Lily, Rain Lily /
*Zephyranthes atamasca***



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Hugh and Carol Nourse



Ed McDowell

**Golden Alexander, Golden Zizia /
*Zizia aurea***



Margie Hunter



Ed McDowell



USDA Natural Resources Conservation Service



North Carolina Native Plant Society

Pink-scale Blazing Star / *Liatris elegans*

Family: Aster / Asteraceae

Life Cycle: Perennial

Characteristics: Leaves are 3 inches long, lance-shaped and narrow. They resemble pine needles. They are arranged in whorls around the stems. From August to October pale pink-lavender flower heads are borne in dense spikes, 6 to 20 inches long, at the top of stems. The bracts that surround the flower heads are the same color as the flowers, making the flowers appear larger.

Cultural Requirements: Plant Pink-scale Blazing Star in sun and sandy soil. It prefers moist soil, but it will adapt to dry soils. It does not grow well in Piedmont clay, but it adapts well to dry sandy soils of the Coastal Plain.

Landscape Uses: Use Pink-scale Blazing Star in sunny meadows, perennial borders, cottage gardens, natural areas, butterfly gardens or roadside plantings in the Coastal Plain.

Size: 2 to 4 feet high

Hardiness Zones: 7 to 8

Habitat: Sand hills and well-drained pinelands

Native To: South Carolina to Florida, west to Oklahoma and Texas along the Coastal Plain

Propagation: Seed or division

Seed: Collect seeds when the flower heads turn fluffy and brown. Store them dry for two months at 40°F, then sow them outside in December or January. Germination should occur in about two months.

Division: Plants can be divided in fall or late winter.

Comments: Butterflies are attracted to the flowers.

Images: Page 76

Shaggy Blazing Star, Grass-leaf Blazing Star / *Liatris pilosa* (syn. *Liatris graminifolia*)

Family: Aster / Asteraceae

Life Cycle: Perennial

Characteristics: Leaves are alternate, linear, narrow and up to 6 inches long. They get smaller as they ascend the stem. Pink flower heads are borne in slender, arching spikes from September to late October. Flower heads are attached directly to the stem (sessile). Long, curved styles give the flower heads a shaggy appearance. Rust-colored pappi (bristles) arise from the base of the flowers. Fruit are small, dry, seed-like achenes surrounded by fine white bristles.

Cultural Requirements: Plant Shaggy Blazing Star in sun to light shade and moist, well-drained soil. To keep the plant compact, avoid over-fertilizing it.

Landscape Uses: This is a good plant for meadows and open areas as well as hummingbird and butterfly gardens. It is a perfect companion for medium-size grasses, like Little Bluestem and Broomsedge.

Size: 2 to 3 feet tall

Hardiness Zones: All of Georgia

Habitat: Sand hills, pine barrens, road banks, meadows and fields

Native To: New Jersey, south along the Atlantic coast to Florida, west along the Gulf coast to Mississippi

Propagation: Seed or division

Seed: Collect seeds when the flower heads turn fluffy and brown. Store them dry for two months at 40°F before sowing them outside in December or January. Germination should occur in about two months.

Division: Plants can be divided in fall or late winter.

Comments: The species name *pilosa* means hairy, referring to the bristles inside the flower tube.

Images: Page 76

Dense Blazing Star, Marsh Blazing Star / *Liatris spicata*

Family: Aster / Asteraceae

Life Cycle: Perennial

Characteristics: Basal leaves are narrow, grass-like and up to 8 inches long. Stem leaves are shorter than basal leaves and gradually decrease in size as they ascend the stem. Flower spikes, 6 to 12 inches long, appear in June on the tips of stems. They consist of numerous round, deep purple flower heads about $\frac{3}{4}$ inch across. Each flower head is comprised of four to 10 narrow tubular flowers with long, prominent branching styles.

Cultural Requirements: Dense Blazing Star is easy to grow in sun or partial shade and moist to wet soil. It needs more moisture than other *Liatris*. Too much fertilizer can result in floppy stalks. It tolerates heat and humidity well.

Landscape Uses: Use Dense Blazing Star in native plant gardens, perennial borders or cottage gardens.

Size: 2 to 5 feet tall, clump-forming

Hardiness Zones: All of Georgia

Habitat: Wet meadows, mountain outcrops and marsh margins

Native To: New York to Wisconsin, south to Louisiana and Florida

Propagation: Seed or division

Seed: Collect seeds when the flower heads turn fluffy and brown. Store them dry for two months at 40°F before sowing them outside in December or January. Germination should occur in about two months.

Division: Plants can be divided in fall or late winter. Corms are available in the nursery trade.

Comments: Dense Blazing Star is a favorite flower of the florist trade because it holds up well in floral arrangements.

Images: Page 77

Scaly Blazing Star / *Liatris squarrosa*

Family: Aster / Asteraceae

Life Cycle: Perennial

Characteristics: Leaves are narrow, lance-shaped, 4 to 6 inches long at the base of the stem and becoming smaller as they ascend the stem. Flat-topped flower heads consisting of 15 to 45 small pink tubular flowers appear from mid-June through August. The style of each flower has two long, curved branches that protrude above the flowers. The bracts surrounding the flower heads (collectively called the involucre) are loose and spreading.

Cultural Requirements: Plant Scaly Blazing Star in full sun. It adapts to dry, rocky areas and barren soils.

Landscape Uses: This is a tough plant and is best for grassland meadows and perennial borders.

Size: 2 to 4 feet tall

Hardiness Zones: All of Georgia

Habitat: Rocky sites, dry open prairies and woodland

edges

Native To: Texas to Florida, north to New Jersey, west to Michigan

Propagation: Seed or division

Seed: Collect seeds when the flower heads turn fluffy and brown. Store them dry for two months at 40°F, then sow them outside in December or January. Germination should occur in about two months.

Division: Plants can be divided in fall or late winter.

Comments: Scaly Blazing Star is one of the earliest *Liatris* to bloom.

Images: Page 77

Carolina Lily / *Lilium michauxii*

Family: Lily / *Liliaceae*

Life Cycle: Perennial

Characteristics: Thick fleshy oval leaves, 2 to 3 inches long and 2 inches wide, are whorled up the stem. In summer, one to three nodding orange-red flowers appear on branched terminals. Petals are bent backward, revealing dangling white stamens with long purple-brown anthers.

Cultural Requirements: Carolina Lily likes fertile, moist, well-drained soil amended with liberal amounts of humus. It needs at least two hours of sun each day to bloom well.

Landscape Uses: Use Carolina Lily as a specimen plant in a perennial border or a sunny woodland.

Size: 2 to 4 feet tall

Hardiness Zones: All of Georgia

Habitat: Dry, open forests

Native To: Texas north to Arkansas, east to West Virginia, south to all of the southeastern states

Propagation: Seed or division

Seed: Collect seeds when capsules turn brown and split. Place them in a plastic bag containing moist sphagnum peat moss, then provide them three months of warm stratification (70°F) followed by three months of cold stratification (40°F), followed by another three months of warm stratification (70°F) before planting.

Division: The easiest propagation technique is to dig the bulbs when they go dormant, then remove and plant the bulb scales to obtain new plantlets.

Comments: Most native lilies are found near wetlands. Deer and voles like to eat lilies, so fences or cages may be needed to protect the plants. Sharp gravel used as mulch around the plants may help deter voles.

Images: Page 78

Turk's Cap Lily / *Lilium superbum*

Family: Lily / *Liliaceae*

Life Cycle: Perennial

Characteristics: Stems up to 6 feet tall bear whorls of lance-shaped leaves up to 6 inches long. In mid-summer, nodding (downward facing) orange flowers, up to 4 inches across with protruding stamens, appear in racemes at the end of flower stalks. The flowers have three orange petals and three orange sepals that are sharply reflexed backward toward the flowering stem. The flowers have greenish throats.

Cultural Requirements: This plant is easy to grow in moist, well-drained soils and partial shade. Mulching is recommended to keep the roots cool.

Landscape Uses: Use Turk's Cap Lily in irrigated perennial borders, wildflower gardens or along pond edges. It is most effective when planted in groups of several plants.

Size: 4 to 6 feet tall and spreading

Hardiness Zones: All of Georgia

Habitat: Wet meadows and moist woodlands

Native To: New Hampshire, south to Florida, west to Arkansas, north to Illinois

Propagation: Seed or division

Seed: Collect seeds when capsules turn brown and split. Seeds have a double dormancy and require a sequence of pre-treatment before planting. Place them in a plastic bag containing moist sphagnum moss and store them in a warm area (at least 70°F) for three months. Then store them at 40°F for another three months, followed by three more months of warm storage (70°F) before planting.

Division: The easiest propagation technique is to dig the bulbs when they go dormant, then remove and plant the bulb scales to obtain new plantlets.

Comments: This is the tallest of the native lilies.

Images: Page 78

Lobelia

There are about a dozen species of *Lobelia* native to North America, but only five are native to the Southeast, and only three are common in the nursery trade.

All lobelias have alternate leaves and bear flowers in long spikes. The flowers have upper and lower lips (see Figure 4). Three petals make up the lower lip, and two other petals make up the upper lip.

It is important to keep Lobelias free of mulch in winter because they must have light to overwinter.

All parts of the *Lobelia* plant are poisonous when ingested.

Cardinal Flower / *Lobelia cardinalis* Family: Bellflower / *Campanulaceae*

Life Cycle: Perennial

Characteristics: Leaves are alternate and lance-shaped with toothed margins. They are 6 inches long and 2 inches wide. Lower leaves have short petioles while upper leaves lack petioles. Deep red flowers, about 1 inch long, and are borne in racemes at the top of the stems in late summer. Flowers are tubular and have two flaring lips. The stamens are united to form an erect tube that is topped with a small tuft of white hairs. Flowering begins in August and lasts about three weeks. Flowers are followed by capsules containing brown seeds.

Cultural Requirements: Cardinal Flower prefers morning sun and afternoon shade and moist, humus-enriched soils. It does not like wet sites.

Landscape Uses: This is a great plant for perennial borders as well as hummingbird and butterfly gardens.

Size: 2 to 4 feet tall and 12 inches wide

Hardiness Zones: All of Georgia

Habitat: Moist areas, stream banks, ditches and lake-shores

Native To: Most of the U.S, except the far northwestern states

Propagation: Seed, cuttings or division

Seed: Collect seeds from September to November when capsules turn tan and papery. Sow them directly in flats maintained at 70°F or higher. They require light to germinate, so cover them lightly with the germination medium. Germination should occur in about two weeks.

Cuttings: Stem cuttings can be taken throughout the year.

Division: New plantlets, called offsets, form at the base of the mother plant. These can be removed and transplanted in fall or spring.

Comments: Cardinal Flower is a favorite of hummingbirds and butterflies. There is a white cultivar called 'Alba' in the trade, as well as one called 'Roser,' which has rose-pink flowers.

Images: Page 78

Downy Blue Lobelia / *Lobelia puberula* Family: Bellflower / *Campanulaceae*

Life Cycle: Perennial

Characteristics: Stem leaves are alternate, lance-shaped and have toothed margins. Basal leaves are rounded and 2 to 4 inches across. The stem is usually covered with short hairs, hence the name “Downy Blue Lobelia.” Flowers are slightly less than ½ inch long and may be lavender-purple, pink, blue or white. They are unusual in shape, with a two-lobed upper lip and a three-lobed lower lip. At the center of the flower is an erect column of stamens having white hairs at their tips. Flowers are borne along one side of a terminal spike that is 8 to 12 inches long. Flowering occurs from mid-summer into fall. Flowers are followed by capsules containing brown seeds.

Cultural Requirements: Downy Blue Lobelia prefers morning sun and afternoon shade and moist, well-drained soils.

Landscape Uses: Use this plant in perennial borders as well as hummingbird and butterfly gardens.

Size: 1 to 4 feet high

Hardiness Zones: All of Georgia

Habitat: Moist forests and open areas

Native To: New Jersey west to Missouri, south to Texas, east to Florida

Propagation: Seed, cuttings or division

Seed: Collect seeds from September to November when capsules turn tan and papery. Sow them directly in flats maintained at 70°F or higher. They require light to germinate, so cover them lightly with the germination medium. Germination should occur in about two weeks.

Cuttings: Terminal stem cuttings can be taken throughout the year.

Division: New plantlets, called offsets, form at the base of the mother plant. These can be removed and transplanted in fall or spring.

Comments: Flowers attract hummingbirds and butterflies.

Images: Page 79

Great Blue Lobelia / *Lobelia siphilitica* Family: Bellflower / *Campanulaceae*

Life Cycle: Perennial

Characteristics: Leaves are alternate, lance-shaped and 3 to 5 inches long with toothed margins. Stems are square. Flowers are blue, about 1 inch in length, two-lipped and tubular. They are borne in terminal racemes in August and September. Leafy bracts are interspersed among the flowers. Fruits are spherical capsules containing yellowish-brown seeds.

Cultural Requirements: Great Blue Lobelia is easy to grow in moist, acidic, humus-enriched soils on sites having morning sun and afternoon shade. Plants need uniform moisture for best performance.

Landscape Uses: Use Great Blue Lobelia in bog gardens, wet areas or hummingbird and butterfly gardens.

Size: Up to 3 feet tall and 1 foot wide

Hardiness Zones: 6 to 7

Habitat: Swamps, stream banks, roadside ditches and other wet areas

Native To: Maine, west to North Dakota, Wyoming and Colorado, south to Texas, east to Georgia

Propagation: Seed, cuttings or division

Seed: Collect seeds from September to November when capsules turn tan and papery. Sow them directly in flats maintained at 70°F or higher. They require light to germinate, so cover them lightly with the germination medium. Germination should occur in about two weeks.

Cuttings: Terminal stem cuttings can be taken throughout the year.

Division: New plantlets, called offsets, form at the base of the mother plant. These can be removed and transplanted in fall or spring.

Comments: Flowers attract hummingbirds and butterflies.

Images: Page 79

Solomon's Plume, Feathery False Lily-of-the-Valley /
***Maianthemum racemosum* (Syn: *Smilacina racemosa*)**
Family: Lily / *Liliaceae*

Life Cycle: Perennial

Characteristics: Leaves are alternate, sessile, 3 to 6 inches long, elliptic in shape and have prominent parallel veins. Stems are arching and slightly zigzag. Spring flowers are tiny, white and have a yellowish cast. They are borne in profusion in clusters at the stem tips. Flowers are followed by green fruit, 1/4 inch across, that turn ruby red in late summer. The plant slowly colonizes an area with spreading rhizomes.

Cultural Requirements: Solomon's Plume requires moist soil with ample humus and partial shade.

Landscape Uses: Plant Solomon's Plume in moist woodland gardens or shaded areas adjacent to streams or ponds.

Size: 2 to 3 feet tall and spreading

Hardiness Zones: All of Georgia

Habitat: Rich, moist, deciduous or mixed hardwood forests

Native To: This is one of the most widely adapted forest plants in North America. It is found in all U.S. states except Hawaii.

Propagation: Seed or division

Seed: Collect seeds when the fruit turn red. After removing them from the pulp, sow the seeds directly in outdoor flats or beds. Patience is a virtue since it may take two years for seeds to germinate.

Division: Divide plants in late winter or early spring before new leaves unfurl.

Comments: Birds and small mammals like the fruit, and deer like the foliage. Early settlers used a poultice made from the roots to treat sunburn.

Images: Pages 79-80

Spoonshape Barbara's Buttons, Piedmont Barbara's Buttons /
Marshallia obovata* var. *obovata
Family: Aster / *Asteraceae*

Life Cycle: Perennial

Characteristics: This is a clump-forming perennial with basal spoon-shaped evergreen leaves. In May or June, branching stalks up to 2 feet tall rise above the leaves and bear spherical flower heads 1 inch across. Each flower head consists of numerous white tubular flowers, each with five twisted petals. Each flower head is surrounded by numerous green bracts.

Cultural Requirements: Plant Spoonshape Barbara's Buttons in moist, well-drained soils and full sun to partial shade. It can tolerate drought once it is established.

Landscape Uses: Use this plant in perennial borders, wildflower meadows or woodland edges

Size: 2 feet tall and 1 to 2 feet wide

Hardiness Zones: All of Georgia

Habitat: Moist, well-drained roadsides and fields, bogs and dry forests dominated by pines

Native To: Virginia, North and South Carolina, Florida, Georgia, Alabama and Tennessee

Propagation: Seed, division

Seed: Collect flower heads when they are dry and remove the seeds. They require no pre-treatment before planting. Germination should occur in two to four weeks.

Division: Divide plants from late winter to early spring.

Comments: This plant attracts a number of pollinators, including butterflies and bees. It is an endangered plant in Florida and Tennessee. The origin of the common name, Barbara's Buttons, is unknown, but it is sometimes attributed to Saint Barbara, whose light-colored hair resembled the flower heads. In 2009, the plant was designated Wildflower of the Year in North Carolina.

Images: Page 80

Anglefruit Milkvine, Climbing Milkvine / *Matelea gonocarpus* Family: Dogbane / *Apocynaceae*

Life Cycle: Perennial

Characteristics: This is a twining vine that reaches 10 feet in height. Leaves are opposite, heart-shaped, about 4 inches long and 2 inches wide. Stems are covered with fine hairs and contain a milky sap. Flowers are star-shaped, purple to green, about 1 inch across, with five narrow petals. Flowers are clustered on long stalks. Summer flowers are followed by angular seed pods up to 5 inches long. They are shaped like a cucumber.

Cultural Requirements: Plant Anglefruit Milkvine in full sun to partial shade in moist, fertile woodlands. It needs a support on which to grow. The plant dies down to the ground each winter and returns with vigor in spring.

Landscape Uses: Use Anglefruit Milkvine on a trellis or arbor in moist, shaded gardens

Size: 6 to 10 feet in length and 3 to 6 feet wide

Hardiness Zones: All of Georgia

Habitat: Moist, rich woods and thickets

Native To: Maryland and Virginia, west to Nebraska, south to Texas, east to Florida

Propagation: Seed

Seed: Collect pods when they turn tan and begin to split. Remove the silky tails from the seeds, then store the seeds dry at 40°F for four to six months. Sow the seeds the following spring in outdoor beds. Cover them very lightly because they need light to germinate.

Comments: Large leaves, attractive flowers and interesting seed pods make the plant worthy of garden culture. Another species, Spinypod, *Matelea caroliniensis*, is common in the Piedmont region of Georgia. It has maroon flowers and spiny pods.

Images: Page 80

Eastern Sensitive Briar / *Mimosa microphylla* Family: Pea / *Fabaceae*

Life Cycle: Perennial

Characteristics: This plant is a sprawling vine with arching stems and alternate, compound leaves. Each leaf consists of six to 16 leaflets, which are further subdivided into many small sub-leaflets, giving the plant a fern-like appearance. The leaflets close along their mid-ribs when touched. Older stems bear hooked thorns. From May to July, fragrant pink flowers are borne in ball-shaped heads at the leaf axils near the stem tips. They resemble pink powderpuffs. Seeds are nut-like, 1/8 inch long and 1/16 inch wide. They are borne in long, slender prickly pods.

Cultural Requirements: Sensitive Briar likes sun and dry sandy or rocky soil.

Landscape Uses: Eastern Sensitive Briar is a nice groundcover for banks. It needs help climbing a support. Its fragrant flowers and the novelty of its leaflets folding when touched make it a garden-worthy plant.

Size: 1 to 5 feet long and sprawling

Hardiness Zones: All of Georgia

Habitat: Prairies, ravines and open, dry woodlands

Native To: Illinois, Kentucky and North Carolina, south to Florida, west to Texas

Propagation: Seed or division

Seed: Scarify the seeds by rubbing them with sandpaper before planting.

Division: The rhizome can be divided in fall or spring.

Comments: The flowers are attractive to bees, and birds like the seeds. The plant is a legume and a nitrogen fixer. Another native but rare species, Fourvalve Mimosa, *M. quadrivalvis*, is found in the Coastal Plain. The native mimosas are not invasive like the exotic mimosa tree, *Albizia julibrissin*.

Images: Page 80

Partridge-berry / *Mitchella repens*
Family: Madder / *Rubiaceae*

Life Cycle: Perennial

Characteristics: Partridge-berry is an evergreen creeping groundcover. Leaves are opposite, dark green, elliptic in shape, 1/4 to 3/4 inch long, with white hairs on both upper and lower surfaces. Flowers are white, fragrant, tubular and 1/2 inch long. They occur in pairs on a single stem in May and June. The ovaries of the two flowers are united and produce a single red berry that is 1/4 inch in diameter. The plant spreads by stolons that creep along the ground and root at their nodes.

Cultural Requirements: Partridge-berry prefers partial shade and humus-enriched acidic soil.

Landscape Uses: This is a good groundcover for shady, undisturbed areas.

Size: 1 to 2 inches high and spreading

Hardiness Zones: All of Georgia

Habitat: Mixed evergreen or deciduous woods with acidic soil

Native To: Eastern U.S., from Maine to Minnesota, south to Texas, east to Florida

Propagation: Seed, cuttings or division

Seed: Harvest berries in November, remove the seeds from the pulp, and sow them directly in outdoor beds or flats.

They may take up to two years to germinate.

Cuttings: Stem cuttings can be taken any time of year.

Division: Plants can be divided in fall or winter.

Comments: Fruit are consumed by ruffed grouse, bob-white quail and turkeys.

Images: Page 81

Beebalm / Genus *Monarda*

Most gardeners are familiar with Beebalm, a commonly cultivated herb used in perennial borders, butterfly and hummingbird gardens, and fragrance and culinary gardens. Plants bear dense heads of two-lipped flowers. Improved cultivars of some species have expanded the variety and intensity of flower colors available as well as the plant's tolerance of drought and powdery mildew, a foliar disease.

There are about 16 species of *Monarda* native to North America. Three of the most common, garden-worthy species are described below.

Beebalm, Oswego Tea / *Monarda didyma*

Family: Mint/ *Lamiaceae*

Life Cycle: Perennial

Characteristics: Leaves are opposite, lance-shaped, toothed and 3 to 6 inches long. Stems are square. The flower head consists of a cluster of two-lipped tubular flowers. Flower color ranges from maroon to pale pink, violet-blue or flaming scarlet. Two stamens and the style protrude from each flower. Flowering occurs in late summer and lasts one to two months. Fruit are small brown oval nutlets. Spreading rhizomes help the plant colonize an area.

Cultural Requirements: Beebalm prefers morning sun, afternoon shade and moist, fertile soil. It is an easy plant to grow, but it can look rough in summer due to its susceptibility to powdery mildew, a disease that turns the foliage white, then brown. Provide good air circulation between plants to discourage powdery mildew problems.

Landscape Uses: Use Beebalm in perennial borders, wildflower gardens, herb gardens, butterfly and hummingbird gardens or woodland gardens.

Size: 3 to 5 feet high and 1 foot wide

Hardiness Zones: 6 to 7

Habitat: Moist mountain woods and bottomlands, stream banks and seeps

Native To: Maine to Georgia, west to Missouri, north to Minnesota

Propagation: Seed, cuttings or division

Seed: Place mature seed heads in a paper bag to dry and release their seeds. Sow the seeds directly in flats held at 70°F. Light enhances germination, so cover the seeds lightly with the germination medium.

Cuttings: Stem tip cuttings can be taken in spring.

Division: Plants can be divided in fall or spring.

Comments: Leaves are aromatic and were used as a tea substitute by Native Americans and early settlers. Beebalm tea is sold by herbalists and is still enjoyed today. The crushed foliage is used to soothe bee stings. A few cultivars, such as 'Jacob Cline,' have good resistance to powdery mildew. The plant is a hummingbird and butterfly magnet. It also has good resistance to deer browsing.

Images: Page 81

Appalachian Bergamot / *Monarda fistulosa*

Family: Mint / *Lamiaceae*

Life Cycle: Perennial

Characteristics: Leaves are opposite, oblong, toothed along their margins and 2 to 4 inches long. Stems are square. In summer, clusters of lavender two-lipped tubular flowers are borne in dense heads, 1 to 2 inches across, on the tips of stems. Each flower head is subtended by a whorl of pale-pink leafy bracts. Fruit are small shiny brown nutlets.

Cultural Requirements: This plant prefers moist, well-drained soil and full sun to partial shade. Good air circulation between plants will discourage powdery mildew disease. The plant tends to self-seed, so dead-heading (removing spent blossoms) will discourage re-seeding. Thin plants every two to three years or whenever they become crowded.

Landscape Uses: Use Appalachian Bergamot in moist woodland gardens, meadows, herb gardens or butterfly and hummingbird gardens.

Size: 2 to 4 feet tall, 1 foot wide and spreading

Hardiness Zones: All of Georgia

Habitat: Dry clearings, roadsides and woodland edges

Native To: All of North America except California and Florida

Propagation: Seed, cuttings or division

Seed: Place mature seed heads in a paper bag to dry and release their seeds. Sow the seeds directly in flats held at 70°F. Light enhances germination, so cover the seeds lightly with the germination medium.

Cuttings: Stem tip cuttings can be taken in spring.

Division: Plants can be divided in fall or spring.

Comments: Appalachian Bergamot leaves are aromatic and are used as a tea substitute. Oil extracted from the leaves has been used to treat respiratory ailments. The plant is great for wildlife gardens since it attracts birds, butterflies and hummingbirds. This species has good resistance to powdery mildew disease.

Images: Page 81

Spotted Horse-mint / *Monarda punctata*

Family: Mint / *Lamiaceae*

Life Cycle: Perennial

Characteristics: Square stems bear opposite lance-shaped leaves. They are 1 to 3 inches long and have toothed margins. From July to September, yellow two-lipped flowers with purple spots are borne in dense terminal spikes. Each flower is subtended by greenish-purple bracts. Fruits are small black nutlets.

Cultural Requirements: Spotted Horse-mint prefers full sun to partial shade and moist, well-drained soils. It will adapt to dry sites and poor soils. It tends to self-seed, so deadheading after flowering will prevent it from spreading. Provide good air circulation between plants to minimize powdery mildew disease.

Landscape Uses: Uses Spotted Horse-mint in wildflower meadows, rock gardens, herb gardens or hummingbird gardens.

Size: 1 to 3 feet tall, 1 foot wide and spreading

Hardiness Zones: All of Georgia

Habitat: Dry sandy soils, flood plains, sand hills, rocky woodlands and maritime forests

Native To: Massachusetts to Minnesota, south to Nebraska and New Mexico, east to Florida. It is also found in California.

Propagation: Seed, cuttings or division

Seed: Place seed heads in a paper bag to dry and release their seeds. Then sow the seeds in flats held at 70°F. Light enhances germination, so cover the seeds lightly with the germination medium.

Cuttings: Terminal stem cuttings can be taken in spring.

Division: Plants can be divided in fall or spring.

Comments: Leaves are aromatic and used for making tea. The tea is said to ease backaches and reduce fever and inflammation. The pungent foliage has been used as a deer repellent in the garden. This species has good resistance to powdery mildew. Another species, Lemon Beebalm, *Monarda citriodora*, has pale green leaves and whorls of purple flowers with light green centers and a striking lemon scent.

Images: Page 81

Sweet-cicely, Anise-root / *Osmorhiza claytonii*

Family: Carrot / *Apiaceae*

Life Cycle: Perennial

Characteristics: Fern-like leaves alternate up the stem and consist of three deeply toothed leaflets up to 12 inches in length. There is usually only one flowering stem per plant. Both the stem and leaves are hairy. From April to June, flat-topped clusters of white flowers with five petals are borne on short stalks at the upper leaf axils. Fruit are flattened nutlets.

Cultural Requirements: This plant requires moist, shaded areas and soil enriched with organic matter.

Landscape Uses: Plant Sweet-cicely in moist, shaded woodlands.

Size: Up to 3 feet high and 2 feet wide

Hardiness Zones: 6 to 7

Habitat: Rich, moist hardwood forests

Native To: Maine to North Dakota, south to Arkansas, east to Georgia

Propagation: Seed

Seed: Collect seeds when they turn brown. Store them dry at room temperature for four weeks, then move them to 40°F for three months before planting them in outdoor beds or flats.

Comments: The genus *Osmorhiza* means odorous root in Greek, in reference to the licorice scent given off by the root when it is crushed.

Images: Page 82

Golden Ragwort, Golden Groundsel / *Packera aurea* (syn. *Senecio aureus*)

Family: Aster / Asteraceae

Life Cycle: Perennial

Characteristics: Basal leaves are heart-shaped and toothed along their margins with a purple tint on their underside. Stem leaves are oblong and lobed. In spring, flowering stems rise 1 to 3 feet and bear yellow daisy-like flowers, 1 inch across, in flat-topped clusters near their tips. Seeds are surrounded by fluffy white hairs (like dandelions) that help them float in the air. Rhizomes spread and colonize an area over time.

Cultural Requirements: This plant is easily grown in moist soils and full sun or partial shade. It tolerates seasonal flooding. Self-seeding and spread may be a problem. To prevent seed dispersal, remove flowering stems after flowering and before seeds mature.

Landscape Uses: Use Golden Ragwort in irrigated perennial borders, woodlands or wildflower gardens.

Size: 1 to 3 feet tall and 1 foot wide

Hardiness Zones: All of Georgia

Habitat: Meadows, boggy areas, stream seepages and low woodlands

Native To: Maine to Florida, west to Texas, north to Minnesota

Propagation: Seed or division

Seed: Store seeds 45 days at 40°F to enhance germination.

Division: Divide plants in spring.

Comments: Leaves may cause skin irritation when touched. A related biennial species, Butterwort, *Packera anonyma*, is a common roadside plant. It has yellow blooms in May and early June.

Images: Page 82

Beardtongue / Genus *Penstemon*

There are more than 250 species of *Penstemons* native to North America. Most of them grow in the cool, moist mountainous regions of the western United States. About 10 species are common in the eastern U.S. Most of them are found on high rocky outcrops that have well-drained soil.

Penstemon is a Greek word that means five stamens (four are fertile and one is sterile). The name beardtongue refers to the tuft of beard-like hairs found on the sterile stamen (the tongue).

Four of the most common *Penstemon* species recommended for landscape culture are described below.

Southern Beardtongue / *Penstemon australis*

Family: Figwort / Scrophulariaceae

Life Cycle: Perennial

Characteristics: Leaves are opposite, lance-shaped and 2 inches long. Stems are square. Both leaves and stems are hairy. Rosy-pink tubular two-lipped flowers are borne in panicles at the top of the stems from May to June. Seeds are produced in capsules.

Cultural Requirements: Southern Beardtongue prefers dry sandy soil and partial shade.

Landscape Uses: This plant is a good candidate for low water-use gardens, roadside plantings and wildflower meadows.

Size: 2 feet tall and 6 inches wide

Hardiness Zones: All of Georgia

Habitat: Sandy roadsides, sand hills and flatwoods

Native To: The Southeast, primarily a Coastal Plain and Piedmont plant, from Virginia and Kentucky, south to Mississippi, east to Florida

Propagation: Seed, cuttings or division

Seed: Collect seeds in July and August and store them at 40°F for two months before sowing. Light enhances germination so cover the seeds lightly with the germination medium.

Cuttings: Stem cuttings dipped in a rooting hormone root in about six weeks.

Division: Divide plants at their crown in fall or early spring. Prune the top of each division to its basal leaves.

Comments: This is a garden-worthy plant that requires minimal care.

Images: Page 82

Beardtongue, Appalachian Beardtongue / *Penstemon canescens* Family: Figwort / *Scrophulariaceae*

Life Cycle: Perennial

Characteristics: Erect downy stems bear oval leaves 2 to 4 inches long. Upper leaves are sessile, while lower leaves have petioles. From late May to early June, violet to pale lavender two-lipped tubular flowers, approximately 1/2 inch long, appear in pairs along the upper part of the stem. Seeds are borne in capsules. The plant colonizes an area by spreading rhizomes and seed dispersal.

Cultural Requirements: Beardtongue is easy to grow on well-drained sandy soils and in full sun to partial shade. Avoid planting it in wet, poorly-drained soils. Cut plants back to their basal foliage after flowering to improve their appearance.

Landscape Uses: Use Beardtongue in perennial borders, rock gardens, butterfly gardens or dry, open woodlands.

Size: 1 to 2 feet tall and clumping

Hardiness Zones: All of Georgia

Habitat: Roadsides, dry woodlands and rocky slopes

Native To: Pennsylvania, south to Georgia, west to Alabama, north to Illinois. It is also found in Vermont.

Propagation: Seed, cuttings or division

Seed: Collect capsules when they turn brown. Place them in a paper bag, then crush the bag with a rolling pin to release the seeds from the capsules. Store seeds dry at 40°F for two months before planting them in outdoor flats. Light enhances germination so cover the seeds lightly with the germination medium.

Cuttings: Stem cuttings dipped in a rooting hormone root in about six weeks.

Division: Divide plants at their crown in fall or early spring. Prune the top of each division to its basal leaves.

Comments: The flowers attract bees and butterflies.

Images: Page 82

Smooth Beardtongue / *Penstemon digitalis* Family: Figwort / *Scrophulariaceae*

Life Cycle: Perennial

Characteristics: This is a semi-evergreen, erect, clump-forming plant. Basal leaves are oval in shape with long petioles, while stem leaves are lance-shaped and sessile (attached directly to the stem). Stem leaves are arranged in pairs on the stem. Leaf size is variable, ranging from 3 to 6 inches long and 1/2 to 2 inches wide. White, two-lipped, tubular flowers, about 1 inch long, appear in clusters at the tops of stems from May to July. Flowers have red streaks near their bases. Seeds are borne in capsules. Each capsule is about 1/2 inch in length.

Cultural Requirements: Smooth Beardtongue prefers full sun and moist, well-drained soil. It is easy to grow and low-maintenance when provided the right growing conditions. Remove the old flowers to maintain a neat appearance.

Landscape Uses: This plant can be used to complement perennial borders, wildflower meadows and roadside plantings.

Size: Up to 3 feet tall and 6 inches wide

Hardiness Zones: All of Georgia

Habitat: Moist open woods, meadows and disturbed areas

Native To: Maine, west to South Dakota, south to Texas, east to Georgia

Propagation: Seed, cuttings or division

Seed: Collect capsules when they turn brown. Place them in a paper bag, then crush the bag with a rolling pin to release the seeds from the capsules. Store the seeds dry at 40°F for two months before planting them in outdoor flats. Light enhances germination so cover the seeds lightly with the germination medium. They should germinate in one to three months.

Cuttings: Stem cuttings dipped in a rooting hormone root in about six weeks.

Division: Plants can be divided in the fall.

Comments: Hummingbirds and bumblebees are attracted to the flowers. Another species, Eastern Beardtongue, *P. laevigatus*, has white flowers and is a good plant for wet meadows and bottomlands.

Images: Page 83

Small's Beardtongue / *Penstemon smallii* Family: Figwort / *Scrophulariaceae*

Life Cycle: Perennial

Characteristics: Erect stems bear shiny opposite sessile leaves with dark veins and heart-shaped bases. A basal rosette of leaves turns reddish-bronze in winter. From late April to June, numerous tubular dark-pink to rosy-lavender flowers with a white throat appear at the leaf axils along the stem. The plant blooms for about four weeks, which is longer than most other native Beardtongues. Seeds are borne in capsules.

Cultural Requirements: Small's Beardtongue prefers moist, acidic, well-drained sandy soil and sun to partial shade. It will not tolerate wet sites. It is considered a short-lived perennial, so allow it to re-seed for years of enjoyment.

Landscape Uses: Use Small's Beardtongue in perennial borders, hummingbird and butterfly gardens or wildflower meadows. It holds up well as a cut flower in floral arrangements.

Size: 1½ to 2½ feet tall

Hardiness Zones: All of Georgia

Habitat: Margins of woodlands, rock outcrops, cliffs and banks. It is often found on calcareous soils.

Native To: North and South Carolina, Georgia, Alabama and Tennessee

Propagation: Seed, cuttings or division

Seed: Collect capsules when they turn brown. Place them in a paper bag, then crush the bag with a rolling pin to release the seeds from the capsules. Store the seeds dry at 40°F for two months before planting them in outdoor flats. Light enhances germination so cover the seeds lightly with the germination medium.

Cuttings: Stem cuttings dipped in a rooting hormone root in about six weeks.

Division: Divide plants at their crown in fall or early spring. Prune the top of each division to its basal leaves.

Comments: Hummingbirds and butterflies love this plant.

Images: Page 83

Phlox

Native phlox species vary greatly in their growth habits, sizes, flower colors and flower forms. They are common passalong plants that have been cultivated continuously for generations. Moss Phlox, *Phlox subulatta*, for instance, was in the nursery trade by the late 1700s. It was soon followed in the early 1800s by Wild Sweet William, *Phlox maculata*, Woodland Phlox, *Phlox divaricata*, and Garden Phlox, *Phlox paniculata*. Today there are many improved cultivars of the native species offering even more variety for the native plant enthusiast. However, the flowers of seedlings produced from cultivars sometimes revert to hot pink, the characteristic color of the native species.

Phlox flowers are generally characterized as having five flat petals joined at their bases to form a narrow tube. Leaves are oval or lance-shaped with smooth edges and are arranged in pairs on stems.

To produce fertile seeds, phlox must be crossed with another seed-grown plant of the same species. They are self-sterile, so two plants of the same species grown from cuttings or division from the same plant cannot cross and produce fertile seeds.

There are 12 native phlox species found in the Southeast. Eight of these that are particularly garden-worthy are described here.

Hairy Phlox / *Phlox amoena*
Family: Phlox / *Polemoniaceae*

Life Cycle: Perennial

Characteristics: Leaves are opposite, lance-shaped and 2 inches long. They point upward along the stems. Both leaves and stems are hairy. Flowers are magenta or bright pink, 1/2 to 1 inch across, tubular and have five lobes. They are borne in terminal cymes in spring. Seeds are borne in papery capsules, 1/4 inch in length.

Cultural Requirements: Hairy Phlox prefers full sun and well-drained soil. Once established, it is drought-tolerant and low-maintenance.

Landscape Uses: Hairy Phlox is a tough, drought-tolerant plant. Use it in wildflower meadows, cottage gardens and water-smart gardens.

Size: 1 foot high and 6 inches wide

Hardiness Zones: All of Georgia

Habitat: Dry woods, fields and roadsides

Native To: The Southeast, from Kentucky to Mississippi, east to Florida, north to North Carolina

Propagation: Seed or cuttings

Seed: Collect capsules when they turn brown. Place them in a paper bag, then crush the bag with a rolling pin to release the seeds from the capsules. Sow seeds in outdoor beds or flats and cover them lightly with the germination medium. They should germinate in three to six months.

Cuttings: Take root cuttings in late winter just as new buds are sprouting.

Comments: A cultivar named 'Cabot Blue' has lavender-blue flowers.

Images: Page 83

Carolina Phlox, Thicket Phlox / *Phlox carolina*
Family: Phlox / *Polemoniaceae*

Life Cycle: Perennial

Characteristics: Leaves are opposite, sessile, oval, leathery and about 4 inches in length. The upper leaf surface is shiny, while the lower leaf surface is golden green. The leaves are widely spaced along smooth stems that have red streaks. Flowers are pink to purplish-pink, about 1 inch across, and tubular with five lobes. They are borne in terminal clusters at the top of stems in June. Flowers continue to appear sporadically until frost. Seeds are borne in papery capsules that are 1/4-inch-long.

Cultural Requirements: Carolina Phlox likes full sun to partial shade and moist, well-drained soil.

Landscape Uses: This is a good plant for woodland gardens, perennial borders and butterfly or hummingbird gardens.

Size: 1 to 3 feet tall and 6 inches wide

Hardiness Zones: All of Georgia

Habitat: Deciduous woods, woodland borders, grasslands and roadsides

Native To: Indiana, south to Texas, east to Florida, north to Virginia

Propagation: Seed, cuttings or division

Seed: Collect capsules when they turn brown. Place them in a paper bag, then crush the bag with a rolling pin to release the seeds from the capsules. Store the seeds dry at 40°F for two months before planting them in outdoor flats. Light enhances germination so cover the seeds lightly with the germination medium.

Cuttings: Take summer stem cuttings before plants bloom. Dip the cut ends in a rooting hormone to enhance rooting.

Division: Divide plants in fall or spring.

Comments: The plant attracts hummingbirds and butterflies. Powdery mildew disease can be a problem. A cultivar named 'Miss Lingard' bears white flowers in early summer.

Images: Page 84

Woodland Phlox / *Phlox divaricata* Family: Phlox / *Polemoniaceae*

Life Cycle: Perennial

Characteristics: Leaves are opposite, sessile, hairy, lance-shaped and up to 2 inches long. They are widely spaced along a hairy, sticky stem. Stems tend to creep along the ground. From April to June, erect flowering stems emerge from basal runners and bear flat clusters of fragrant tubular flowers. Flower color ranges from lavender to blue, maroon or white. Each flower has five notched petals. Seeds are produced in three-sided capsules, 1/4 inch in length.

Cultural Requirements: Woodland Phlox grows in sun, partial shade and loamy, moist, well-drained soil. Be prepared to irrigate the plant during dry periods. Powdery mildew disease can be a problem. Remove spent blossoms after flowering if re-seeding is not desired.

Landscape Uses: As the name implies, Woodland Phlox is a good choice for moist woodland gardens. It also is a good plant for perennial borders and cottage gardens.

Size: 2 feet tall and 6 inches wide

Hardiness Zones: All of Georgia

Habitat: Moist, nutrient-rich hardwood forests and open woods

Native To: Vermont, west to South Dakota, south to New Mexico, east to Texas

Propagation: Seed, cuttings or division

Seed: Collect capsules when they turn brown. Place them in a paper bag, then crush the bag with a rolling pin to release the seeds from the capsules. Store the seeds dry at 40°F for two months before planting them in outdoor flats. Light enhances germination so cover the seeds lightly with the germination medium. They should germinate in three to six months.

Cuttings: Take stem cuttings with three nodes in the fall. Dip the cut ends in a rooting hormone to enhance rooting.

Division: Divide plants in fall or late winter.

Comments: There are several cultivars available in the nursery trade, with flower colors ranging from purple to blue or white, and plant heights ranging from 6 to 22 inches.

Images: Page 84

Smooth Phlox / *Phlox glaberrima* Family: Phlox / *Polemoniaceae*

Life Cycle: Perennial

Characteristics: Leaves are opposite, sessile, lance-shaped, about 5 inches long and widely spaced along smooth stems. Flowers are fragrant, pink to maroon, tubular, 1 inch across, with 5 lobes. They arise from the upper leaf axils from May to July. Seeds are borne in capsules that are 1/4 inch in length.

Cultural Requirements: This plant is best grown in moist, loamy, well-drained soils and full sun to partial shade. Remove old flowers if self-seeding is not desired. This species tolerates more moisture than others, so it can be used in moist sites. Powdery mildew disease and spider mites can be problems. To minimize these problems, avoid overhead irrigation.

Landscape Uses: Use Smooth Phlox in perennial borders, cottage gardens, butterfly gardens, along pond edges or in wet meadows or bog gardens.

Size: 2 to 4 feet tall and 1 foot wide

Hardiness Zones: All of Georgia

Habitat: Wet depressions, wet meadows and low prairies

Native To: Michigan, Illinois, Missouri and Oklahoma, south to Louisiana, east to Florida, north to Maryland

Propagation: Seed, cuttings or division

Seed: Collect capsules when they turn brown. Place them in a paper bag, then crush the bag with a rolling pin to release the seeds from the capsules. Store the seeds dry at 40°F for two months before planting them in outdoor flats. Light enhances germination so cover the seeds lightly with the germination medium.

Cuttings: Take stem-tip cuttings with three nodes in May or June as new growth hardens. Dip the cut ends in a rooting hormone to enhance rooting.

Division: Root division can be done in fall or early spring.

Comments: This striking plant attracts hummingbirds and butterflies. Smooth Phlox is similar to Garden Phlox (*P. paniculata*), but it can be distinguished from Garden Phlox by its smooth stems, narrower leaves and more slender growth habit.

Images: Page 84

Wild Sweet William, Meadow Phlox / *Phlox maculata*

Family: Phlox / *Polemoniaceae*

Life Cycle: Perennial

Characteristics: Leaves are dark green, opposite, sessile, oblong in shape and 2 to 5 inches long. Stems are round and smooth and have numerous purple spots or streaks. Flowers are sweetly aromatic, pink to maroon, occasionally white, 1 inch wide and tubular with five spreading lobes. They are borne in clusters at the top and sides of stems from June to July. Seeds are borne in three-sided capsules, ¼ inch long. The plant has a taproot and colonizes by rhizomes and dispersed seeds.

Cultural Requirements: Wild Sweet William prefers full sun to partial shade and moist, loamy soils. Remove spent flowers to prolong bloom and to prevent re-seeding.

Landscape Uses: Use this plant in rain gardens, bog gardens, perennial borders, moist meadows and hummingbird gardens.

Size: 1 to 3 feet high and 1 foot wide

Hardiness Zones: All of Georgia

Habitat: Moist forests, wet meadows and riverbanks

Native To: Maine to Minnesota, south to Mississippi, east to Georgia

Propagation: Seed, cuttings or root division

Seed: Collect capsules when they turn brown. Place them in a paper bag, then crush the bag with a rolling pin to release the seeds from the capsules. Store the seeds dry at 40°F for two months before planting them in outdoor flats. Light enhances germination so cover the seeds lightly with the germination medium.

Cuttings: Take stem-tip cuttings with three nodes in May or June as new growth hardens. Dip the cut ends in a rooting hormone to enhance rooting.

Division: Root division can be done in fall or early spring.

Comments: Hummingbirds love the flowers. This species has a good resistance to powdery mildew and is a good alternative to Garden Phlox (*P. paniculata*), which is mildew-susceptible.

Images: Page 84

Garden Phlox, Summer Phlox / *Phlox paniculata*

Family: Phlox / *Polemoniaceae*

Life Cycle: Perennial

Characteristics: Stems are smooth with streaks of red. Leaves are opposite, short-stalked, lance-shaped to oval and 4 to 6 inches long. They are hairy underneath and minutely toothed along their margins. Flowers are bright pink to lavender, 1 inch across, tubular, with five lobes. They are borne in clusters at the top of stems from July to September. Seeds form in capsules that are ¼ inch long.

Cultural Requirements: Garden Phlox requires moist loamy soil and sun to partial shade (at least six hours of sunlight per day). Provide good air circulation between plants and avoid overhead irrigation to prevent powdery mildew disease. Deadhead to maintain compact growth and to minimize re-seeding.

Landscape Uses: Garden Phlox is a favorite plant for perennial borders, cottage gardens, woodlands and hummingbird or butterfly gardens. It also looks nice along pond edges.

Size: Up to 4 feet tall and 1 foot wide

Hardiness Zones: 6, 7

Habitat: Stream banks, rich forests, woodlands and woodland borders

Native To: Maine to Minnesota, Nebraska, Kansas and Oklahoma, south to Louisiana, east to Georgia. Also found in Utah and Washington State.

Propagation: Seed, cuttings or division

Seed: Collect capsules when they turn tan. Place them in a paper bag to dry and release their seeds. Sow the seeds directly in outdoor beds. No pre-treatment is required. Light enhances germination so cover the seeds lightly with the germination medium.

Cuttings: Take cuttings having three to four nodes in fall or spring. Dip the cut ends in a rooting hormone to enhance rooting.

Division: Plants can be divided in fall or late winter.

Comments: Flowers attract hummingbirds and butterflies. There are dozens of cultivars, many having a high resistance to powdery mildew disease. 'Robert Poore,' for instance, is a selection from Mississippi. It has rosy red flowers and a high degree of mildew resistance. It received a Georgia Gold Medal Award in 2000.

Images: Page 85

Creeping Phlox / *Phlox stolonifera* Family: Phlox / *Polemoniaceae*

Life Cycle: Perennial

Characteristics: This is a mat-forming, creeping plant with semi-evergreen foliage. Leaves are oblong to oval, up to 3 inches long. From July to September, clusters of fragrant lavender flowers, ¾ inch long, are borne on the tops of flowering stalks. Each flower consists of a short tube and five rounded, spreading lobes. The plant spreads by stolons that creep along the ground.

Cultural Requirements: Creeping Phlox prefers partial shade and moist, well-drained soil.

Landscape Uses: Use Creeping Phlox as a groundcover in moist woodlands.

Size: ½ to 1 foot tall and spreading

Hardiness Zones: All of Georgia

Habitat: Rich hardwood forests, wooded areas and stream banks, especially on nutrient-rich substrates

Native To: Vermont to Ohio, south to Alabama, east to Georgia

Propagation: Seed, cuttings or division

Seed: Collect capsules when they turn brown. Place them in a paper bag, then crush the bag with a rolling pin to release the seeds from the capsules. Store the seeds dry at 40°F for two months before planting them in outdoor flats. Light enhances germination so cover the seeds lightly with the germination medium.

Cuttings: Take stem cuttings with three to four nodes from August to September. Dip the cut ends in a rooting hormone to enhance rooting.

Division: Plants can be divided in fall or winter.

Comments: Creeping Phlox does poorly in full sun and drought-prone sites. Under good cultural conditions, it can become weedy and creep into areas where it is not wanted.

Images: Page 85

Moss Phlox, Moss Pink / *Phlox subulata* Family: Phlox / *Polemoniaceae*

Life Cycle: Perennial

Characteristics: Moss Phlox is a spreading, mat-forming groundcover. Leaves are opposite or in whorled bundles. They are ½ inch long, awl-shaped and pointed. In late March or early April, a profusion of fragrant, tubular flowers, ¾ inch across, rise above the foliage. Flowers are violet purple, pink or occasionally white. Each flower consists of a short tube and five flat, petal-like lobes with distinct notches on their ends. Seeds are borne in capsules. Each capsule is about ¼ inch long.

Cultural Requirements: Moss Phlox adapts to hot, dry locations. It prefers morning sun and afternoon shade. Good drainage is essential. Cut back plants to half their size after flowering to promote dense growth. Spider mites can be a problem in hot, dry weather.

Landscape Uses: This is a great plant for rock gardens, dry beds or banks.

Size: 6 to 10 inches tall and spreading

Hardiness Zones: All of Georgia

Habitat: Dry, rocky slopes and clearings, primarily in the mountains

Native To: Maine to Minnesota, south to Louisiana, east to Georgia

Propagation: Cuttings

Cuttings: Take stem cuttings in August and September. A rooting hormone enhances rooting.

Comments: This is a highly cultivated species and a widely available plant. There are several cultivars with flower colors ranging from white to blue, scarlet or rose.

Images: Page 86

Obedient Plant / *Physostegia virginiana* Family: Mint / *Lamiaceae*

Life Cycle: Perennial

Characteristics: Square stems bear lance-shaped leaves, 4 to 6 inches long. In fall, pink to lavender tubular flowers are borne in spike-like clusters at the top of stems. Each flower has five triangular lobes: two forming an upper lip and three forming a lower lip (see Figure 4). Creeping stolons help the plant spread several feet in all directions.

Cultural Requirements: Obedient Plant prefers moist, loamy soils and sun or partial shade. It spreads aggressively by stolons but the shallow roots are easy to pull out.

Landscape Uses: Use this plant in perennial borders, wildflower gardens or butterfly and hummingbird gardens. This plant spreads aggressively, so it is best to plant it in a confined space, such as an area between the foundation of a building and a sidewalk.

Size: 3 to 6 feet and spreading

Hardiness Zones: All of Georgia

Habitat: River banks, wet thickets, rock outcrops and swamps. It is usually found over mafic or calcareous rocks

Native To: Maine to Florida, west to New Mexico, north to North Dakota

Propagation: Seed or division

Seed: Harvest seeds in fall and provide them cold stratification (three months at 40°F) before planting.

Division: Divide clumps in fall or spring.

Comments: Obedient Plant attracts hummingbirds and butterflies. The name “obedient plant” is derived from the way an individual flower can be swiveled back and forth on its axis, then stays in the position in which it is placed.

Images: Page 86

Grass-leaved Goldenaster, Narrowleaf Silkgrass / *Pityopsis graminifolia* Family: Aster / *Asteraceae*

Life Cycle: Perennial

Characteristics: There is a basal rosette of leaves. Each leaf is 6 to 12 inches long and 1 inch wide with linear veins. Stem leaves are silvery-green, alternate along the stem, grass-like and point upward. They are 2 to 3 inches long, 1 inch wide and sessile. Flowers are borne in loose clusters at the tops of stems in September/October. They are daisy-like, ½ inch across, with yellow disk and yellow ray flowers. Fruit are small, dry, reddish-brown to black seed-like achenes surrounded by fine, white bristles. The plant colonizes an area by rhizomes or self-seeding.

Cultural Requirements: Grass-leaved Goldenaster prefers full sun or partial shade and dry sites. It is a tough evergreen plant that does well in poor soils and dry conditions. Cut back plants in early spring before new leaves emerge.

Landscape Uses: Use Grass-leaved Goldenaster in perennial borders, wildflower meadows, natural areas or butterfly gardens. Its spreading habit makes it an excellent ground-cover.

Size: 3 feet high and 1 foot wide

Hardiness Zones: All of Georgia

Habitat: Sand hills, old fields, roadsides, dry pinelands and sandy deciduous forests

Native To: Ohio, West Virginia, Maryland, south to Florida, west to Texas, north to Oklahoma

Propagation: Seed, cuttings or division

Seed: Harvest seeds in October or November. They can be planted directly in a warm greenhouse, or they can be stored dry at 40°F and held for spring planting in outdoor beds or flats.

Cuttings: Stem cuttings of hardened new growth can be taken in spring.

Division: Plants can be divided in winter or spring.

Comments: The grass-like foliage covered with silky hairs is both unusual and attractive. The flowers attract a variety of butterflies.

Images: Page 86

Mayapple, American Mandrake / *Podophyllum peltatum* Family: Barberry / *Berberidaceae*

Life Cycle: Perennial

Characteristics: Mayapple produces one to two palmately lobed, umbrella-like leaves, 8 to 15 inches across, at the top of a single stem. In April, plants with two leaves give rise to a single nodding white flower, 2 to 3 inches across, from the node between the two leaves. Plants with a single leaf seldom flower. The flower is followed by a fleshy green fruit (the Mayapple) that turns golden when ripe. The plant colonizes by spreading rhizomes.

Cultural Requirements: Mayapple prefers moist soils high in organic matter and partial shade to full shade. The foliage turns golden yellow in summer before going dormant and dying down.

Landscape Uses: Mayapple is a good plant for naturalizing in shaded, moist woodlands. When provided its ideal growing conditions, it will thrive and colonize an area.

Size: 16 inches high and 24 inches wide

Hardiness Zones: All of Georgia

Habitat: Rich hardwood forests, bottomlands and moist meadows

Native To: Maine to Minnesota, south to Texas, east to Florida

Propagation: Seed or division

Seed: Seed propagation is difficult, requiring warm stratification followed by cold stratification. Harvest fruit in May or June, remove the seeds from the pulp, then plant them in outdoor flats or beds. No pre-treatment is required before planting. They should germinate the following March. It may take nine years or more to produce a flowering plant from seed.

Division: Root division is the easiest propagation method. Divide plants in the fall, leaving at least one bud on each piece of rhizome.

Comments: The leaves, immature fruit and roots are poisonous when ingested.

Images: Page 87

Solomon's-seal, Small Solomon's Seal, Smooth Solomon's Seal / *Polygonatum biflorum* Family: Lily / *Liliaceae*

Life Cycle: Perennial

Characteristics: Leaf stalks are zigzag and arching. Leaves are alternate, oval in shape, up to 4 inches long with parallel veins. In spring, small tubular greenish-white flowers are borne in pairs at the leaf axils on the upper portion of the stalks. Flowers hang down and are somewhat hidden by the foliage. Flowers are followed by dark blue to black berries, approximately 1/2 inch across. Rhizomes spread slowly and will colonize an area when growing conditions are favorable.

Cultural Requirements: Solomon's-seal requires shade and consistent moisture. When given these conditions, the plant will thrive.

Landscape Uses: Use Solomon's-seal as an understory plant in shaded, moist woodlands or in wildlife gardens.

Size: 1 to 3 feet tall and 1 to 1 1/2 feet wide

Hardiness Zones: All of Georgia

Habitat: Rich, moist hardwood forests, thickets and calcareous hammocks

Native To: Montana, New Mexico, east to New England, south to Florida

Propagation: Seed, cuttings or division

Seed: Collect seeds in the fall when fruit are dark blue and becoming soft. Remove the seeds from the pulp, then sow them in outdoor seedbeds or flats. Seed propagation is difficult because the seeds have double dormancy and require a period of cold stratification followed by warm stratification, then another period of cold stratification before they germinate. For this reason, germination may take up to two years.

Cuttings: Root cuttings may be taken in the fall.

Division: The plants can be divided in early spring as new growth begins.

Comments: Native Americans and European colonists used the starchy rhizomes of Solomon's-seal as food. The flowers attract butterflies, the berries attract birds and mammals eat the roots.

Images: Page 87

Dwarf Cinquefoil / *Potentilla canadensis*

Family: Rose / *Rosaceae*

Life Cycle: Perennial

Characteristics: Dwarf Cinquefoil has a low-spreading growth habit and can colonize a large area over time. A single plant may spread up to 20 inches in all directions by creeping stolons that root at their nodes. The stolons are covered with silver hairs. Leaves are palmately compound with five wedge-shaped leaflets approximately 1½ inches long. Each leaflet has pronounced teeth along its upper margin. From early spring to early summer, single yellow flowers with five heart-shaped petals, approximately ½ inch long, are borne on long stems from the axils of lower leaves.

Cultural Requirements: Dwarf Cinquefoil prefers sunny locations and well-drained soil. It will adapt to dry sites and poor soils.

Landscape Uses: This plant is a good groundcover for sunny, drought-prone sites and hummingbird gardens.

Size: 2 to 6 inches high and 3 feet wide

Hardiness Zones: All of Georgia

Habitat: Dry to mesic open woodlands, forests and fields

Native To: Eastern Canada, south to Georgia, west to Texas, north from Arkansas to Wisconsin

Propagation: Division

Division: Separate rooted stolons from the mother plant.

Comments: Dwarf Cinquefoil is a larval host and/or nectar source for the Grizzled-skipper butterfly. Native Americans used a tea made from this plant to cure diarrhea.

Images: Page 87

Southern Mountain Mint, White Horse Mint / *Pycnanthemum pycnanthemoides*

Family: Mint / *Lamiaceae*

Life Cycle: Perennial

Characteristics: Leaves are opposite, dark green, lance-shaped to oval, 1 to 4 inches long and aromatic when crushed. The upper leaf surface is covered with white, curly hairs that give the plant a silvery appearance. From June to September, small white to lavender flowers, ¼ to 3/8 inch wide with two lips are borne in dense clusters up to 1 inch across at the tops of stems. Below the flowers are distinctive bracts that are covered with silvery-white curly hairs.

Cultural Requirements: Southern Mountain Mint prefers light shade. It will grow in average garden soil and is drought tolerant once established. Cut plants back in late winter to encourage new spring growth.

Landscape Uses: This plant is best used as a background plant in perennial borders and open woodlands.

Size: 3 to 6 feet tall

Hardiness Zones: All of Georgia

Habitat: Forest thickets, fields, open woodlands and along roadsides

Native To: Illinois, Indiana and Ohio, south to Florida

Propagation: Seed, cuttings or division

Seed: Collect seeds in the fall. Store them dry at 40°F for two months before planting. They germinate in about two weeks when held at 70°F or higher.

Cuttings: Take cuttings when new growth is four to six weeks old.

Division: Divide plants in early spring.

Comments: Like many members of the mint family, Southern Mountain Mint has been used to treat colds, fevers and digestive disorders. The Cherokee Indians used a poultice made from the leaves to cure headaches and heart trouble. This plant can be somewhat aggressive in the garden, so it may need to be planted in a confined space.

Images: Page 87

Maryland Meadow Beauty / *Rhexia mariana* Family: Melastome / *Melastomataceae*

Life Cycle: Perennial

Characteristics: Hairy, slender, square stems bear hairy, lance-shaped leaves with distinct veins. Leaves are opposite, oval, 1 to 2 inches long, with numerous bristled teeth along their margins. In August, pale-pink flowers, 1-inch across with four petals, are borne in loosely arranged clusters at the tops of stems. The petals emerge from a hairy calyx that is urn-shaped in appearance. Flowers have yellow-orange stamens with curved anthers that contrast with the petals. Seeds are borne in urn-shaped capsules.

Cultural Requirements: Maryland Meadow Beauty prefers partial shade and moist, acidic soils. It spreads rapidly in moist areas.

Landscape Uses: Use this plant at the edges of water gardens or ponds, in bogs or along wet ditches.

Size: 2½ feet tall

Hardiness Zones: All of Georgia

Habitat: Savannahs, wet meadows, marshes and bogs

Native To: The Coastal Plain, from eastern Massachusetts to Virginia, across the southern states to Texas, north to southern Indiana, Missouri and Kansas

Propagation: Seed, cuttings or division

Seed: Harvest seed capsules in the fall when they turn brown. Place them in a paper bag to dry and to release their seeds. Store seeds dry at 40°F for six months before planting them in outdoor beds or flats. Cover the seeds lightly with the germination medium because they require light to germinate.

Cuttings: Stem or root cuttings can be taken in the spring.

Division: The plant can be divided most any time of year.

Comments: The flowers open in the morning and their petals often drop by mid-day.

Images: Page 88

Meadow Beauty, Handsome Harry / *Rhexia virginica* Family: Melastome / *Melastomataceae*

Life Cycle: Perennial

Characteristics: Stems are square and have narrow wings along their sides. Leaves are opposite, oval, 1 to 2 inches long, with small bristly teeth along their margins. From summer to fall, vibrant rose-pink flowers with four petals are borne loosely in clusters from leaf axils. The pistil (female flower part) is surrounded by eight yellow stamens (male parts) with curved anthers. Flowers open in the morning and are shed by mid-day. Fruit are urn-shaped capsules with four pointed lobes at their tops. They change color from green to copper as they mature. Plants spread by rhizomes and seeds.

Cultural Requirements: Meadow Beauty prefers partial shade and moist, acidic soils enriched with organic matter. It spreads aggressively under moist conditions.

Landscape Uses: Plant Meadow Beauty along the edges of water gardens, ponds or streams, in bogs or in shaded bottomlands.

Size: 2 to 3 feet tall

Hardiness Zones: All of Georgia

Habitat: Wetlands, wet meadows, stream banks and seepage slopes

Native To: Nova Scotia to northern Florida, west to Texas, north to Wisconsin

Propagation: Seed, cuttings or division

Seed: Harvest seed capsules in the fall when they turn brown. Place them in a paper bag to dry and to release their seeds. Store seeds dry at 40°F for six months before planting them in outdoor beds or flats. Cover the seeds lightly with the germination medium because they require light to germinate.

Cuttings: Stem or root cuttings can be taken in the spring.

Division: Plants can be divided most any time of year.

Comments: The leaves and roots of Meadow Beauty are edible. Leaves can be eaten raw in salads. Roots have a nutty flavor and can be eaten raw or cut up in salads. Flowers of this species are larger than those of Maryland Meadow Beauty.

Images: Page 88

Coneflower, Genus *Rudbeckia*

Coneflowers are among the most common herbaceous plants in Southern landscapes. They have a wide variety of growth habits, plant sizes and flower forms. Some are annuals and some are perennials. There are at least 15 species native to North America, but just a few are commonly cultivated. Described here are four that are excellent choices for Georgia landscapes.

Orange Coneflower, Brown-eyed Susan / *Rudbeckia fulgida* Family: Aster / *Asteraceae*

Life Cycle: Perennial

Characteristics: Leaves are alternate, oval to lance-shaped, 2 to 4 inches long and 1 to 2 inches wide. They have three main veins and toothed leaf margins. Basal and lower stem leaves have longer petioles than those further up the stem. The leaves are covered with bristly hairs that make them feel like sandpaper when touched. From July to October, daisy-like flower heads with yellow-orange ray flowers and brownish-purple disk flowers are borne at the top of branched stems. Flowers are 2 to 3 inches across.

Cultural Requirements: Orange Coneflower prefers full sun and well-drained soils. Cut plants back after flowering to encourage repeat blooms and more compact growth. The plant spreads by seeds and rhizomes; however, it is not aggressive.

Landscape Uses: Orange Coneflower looks particularly nice when used in mass plantings to create bold, colorful drifts in perennial borders and naturalized areas. Some states are using it for highway plantings because it provides high-impact color.

Size: 2 to 4 feet tall and 2 to 2½ feet wide

Hardiness Zones: All of Georgia

Habitat: Open woods, meadows and pastures

Native To: New Jersey to Florida, west to Texas, north to Indiana

Propagation: Seed, cuttings or division

Seed: Collect seed capsules in fall when they turn brown. Crush them to remove seeds. Seeds require no pre-treatment, so plant them right away, or store them dry at 40°F for planting in outdoor beds or flats the following spring. Light enhances germination, so cover them lightly with the germination medium. They also require warm temperatures (80°F+) to germinate.

Cuttings: Take root cuttings in December.

Division: Plants can be divided in fall or spring.

Comments: There are several cultivars available in the nursery trade. It is an excellent cut flower for floral arrangements.

Images: Page 88

Black-eyed Susan / *Rudbeckia hirta*

Family: Aster / *Asteraceae*

Life Cycle: Annual, Biennial or short-lived Perennial (depending on location)

Characteristics: Leaves are alternate, oval to lance-shaped, 2 to 7 inches long with bristle-like hairs on both surfaces that give them a sandpaper-like texture. Lower leaves are larger than upper leaves. Stems are hairy. From summer to early fall, daisy-like flower heads, 2 to 3 inches wide, are borne near the tips of stems. Flower heads consist of showy golden yellow ray flowers surrounding a raised central disk of dark brown flowers. Fruit are small dry four-angled seed-like achenes.

Cultural Requirements: Black-eyed Susan prefers full sun and moderate moisture. It may get leaf-spot disease in hot, humid weather so be prepared to spray with a fungicide, if necessary. The plant is drought-tolerant once established. Deadheading is necessary in high visibility areas to maintain a good appearance and to prevent self-seeding, if that is a concern. Cut plants back in early winter if they look unsightly.

Landscape Uses: Black-eyed Susan is a good plant for naturalized areas, wildflower meadows, cottage gardens, perennial borders or wildlife habitats.

Size: 1 to 3 feet tall with a spread of 1 to 2 feet

Hardiness Zones: All of Georgia

Habitat: Open fields, prairies, plains, savannahs, roadsides and woodland edges

Native To: Most of the Continental U.S., except Nevada and Arizona

Propagation: Seed

Seed: Collect seeds when flower heads turn brown in the fall. Store them dry at 40°F for sowing in February or March. Light and warm temperatures (80°F+) are required for germination.

Comments: There are several cultivars of Black-eyed Susan in the nursery trade. Some have larger flowers, more intense flower color or more compact growth than this species. The flower heads of Black-eyed Susan attract bees and butterflies. The plant is the larval host for the Gorgone Checkerspot butterfly and the Bordered Patch butterfly.

Images: Page 88

Cutleaf Coneflower / *Rudbeckia laciniata*

Family: Aster / *Asteraceae*

Life Cycle: Perennial

Characteristics: Gray-green leaves have three to seven lobes and toothed margins. Leaves toward the top of the plant are more dissected than those at the bottom. Stems branch at the top and have short, stiff, sandpaper-like hairs. In late summer, flower heads, 3 to 4 inches across, are borne at the tips of stems. Flower heads consist of drooping yellow ray flowers surrounding a raised central disk of tiny greenish-yellow flowers. The center disk flowers elongate and become cone-like and brown as they mature. The plant colonizes an area by spreading rhizomes.

Cultural Requirements: Cutleaf Coneflower does best in full sun and soil having consistent moisture. In shade or under dry conditions, the plant tends to get leggy and flop, so it may require staking to hold it upright. It also spreads by rhizomes and seed, and it can be aggressive.

Landscape Uses: Use Cutleaf Coneflower in perennial borders, meadows, cottage gardens or naturalized areas. It thrives in sunny wetlands.

Size: 3 to 6 feet tall and 3 feet wide

Hardiness Zones: All of Georgia

Habitat: Low, rich woods, wet fields, seepage areas, alluvial thickets and grassy roadsides

Native To: Most of the Continental U.S. except Oregon, Nevada and California

Propagation: Seed, cuttings or division

Seed: Collect flower heads in the fall when they turn brown, then rush them to remove their seeds. The seeds can either be planted right away or stored dry for planting in outdoor beds or flats the following spring. The seeds require light to germinate, so cover them lightly with the germination medium. They also require warm temperatures (80°F+) to germinate.

Cuttings: Take root cuttings in December.

Division: Plants can be divided in the fall or spring.

Comments: Several cultivars are available in the nursery trade.

Images: Page 89

Brown-eyed Susan, Three-lobed Coneflower / *Rudbeckia triloba*

Family: Aster / *Asteraceae*

Life Cycle: Perennial in South Georgia (self-seeding annual in North Georgia)

Characteristics: Stems are hairy and branched. Leaves at the base of stems have three lobes, while those ascending the stem have one or two lobes. Leaf surfaces have coarse hairs that make them feel rough to the touch. From June until frost, flower heads are borne near the stem tips. They consist of small yellow ray flowers, approximately 1½ inch long, surrounding a raised central disk of tiny brown flowers. The plant colonizes an area by self-seeding and by rhizomes.

Cultural Requirements: Brown-eyed Susan prefers full sun to partial shade and moist, well-drained soil. Deadhead after flowering to encourage repeat blooms. This plant self-seeds readily, so it is good for naturalizing in an area. Spent blossoms and seed heads provide food for birds. In high visibility areas, the plant may require staking to prevent it from flopping over and looking unsightly. It can be an aggressive spreader when provided its ideal growing environment.

Landscape Uses: Use Brown-eyed Susan in cottage gardens, mixed borders, informal gardens or meadows.

Size: 2 to 5 feet tall and 2 feet wide

Hardiness Zones: All of Georgia

Habitat: Low wet woods, thickets, roadsides and rock outcrops

Native To: Minnesota, east to Vermont and Massachusetts, south to Florida, west to Texas, north to Utah, Colorado and Nebraska

Propagation: Seed

Seed: Collect seeds when flower heads turn brown in fall. Store them dry at 40°F for sowing in February or March. Cover the seeds lightly with the germination medium because light is required for germination. Keep them warm (80°F+) during germination.

Comments: This plant is susceptible to powdery mildew disease. Slugs and snails also like to chew on young plants. Brown-eyed Susan is a 1997 Georgia Gold Medal Winner.

Images: Page 89

Azure-blue Sage, Pitcher Sage / *Salvia azurea*

Family: Mint / *Lamiaceae*

Life Cycle: Perennial

Characteristics: Gray-green hairy leaves are lance-shaped, approximately 3 inches long at the base of the stems, becoming smaller as they ascend the stem. In fall, two-lipped sky-blue flowers with white centers are produced in spike-like clusters at the tips of branches. The clusters are arranged in whorls around square stems. Flowering continues until frost.

Cultural Requirements: Azure-blue Sage prefers full sun and well-drained soil. Cut plants back in early spring prior to the new growing season. Deadheading and light pruning after initial flowering encourages repeat bloom. The plant is drought-tolerant once established, making it a good choice for dry areas.

Landscape Uses: Use Azure-blue Sage in perennial gardens, cottage gardens, wildflower meadows or butterfly and hummingbird gardens.

Size: 3 to 5 feet tall with a spread of 2 to 4 feet

Hardiness Zones: All of Georgia

Habitat: Prairies, plains, meadows, sand hills, savannahs, woodland edges and openings

Native To: North Carolina, south to Florida, west to Texas, north to Nebraska and Minnesota

Propagation: Seed, cuttings or division

Seed: Cut off flower stalks when they turn brown, then place them in a paper bag to dry and to release their seeds. Store seeds dry at 40°F for planting the following February. Warm temperatures (70°F+) and light are required for germination.

Cuttings: Stem cuttings can be taken in the spring before flower buds form.

Division: Divide plants in the fall or spring.

Comments: The flowers attract butterflies and hummingbirds. Azure-blue Sage is a low-maintenance plant once it is established.

Images: Page 89

Scarlet Sage, Tropical Sage, Blood Sage, Texas Sage / *Salvia coccinea*

Family: Mint / *Lamiaceae*

Life Cycle: Annual

Characteristics: Triangular leaves are opposite, 1 to 2 inches long on long petioles. Stems are square. Showy bright-red tubular flowers, about 1 inch long, are borne in loose whorls at the tops of branches from early summer until fall frost.

Cultural Requirements: Scarlet Sage is easy to grow in average well-drained soil and full sun to partial shade. It requires deadheading to keep it bushy and to encourage repeat flowering. It tends to re-seed readily. Deadheading also will discourage seed dispersal and spread.

Landscape Uses: Use Scarlet Sage in annual beds, borders, cottage gardens or hummingbird and butterfly gardens.

Size: 1 to 2 feet tall and 12 to 18 inches wide

Habitat: Open woodlands, hammocks and meadows in the Coastal Plain

Native To: Coastal areas from South Carolina to Florida, west to Texas

Propagation: Seed or cuttings

Seed: Cut off flower stalks when they turn brown, then place them in a paper bag to dry and release their seeds. Store seeds dry at 40°F for planting the following February. Warm temperatures (70°F+) and light are required for germination.

Cuttings: Stem cuttings can be taken in the spring before flower buds form.

Comments: This plant attracts hummingbirds and butterflies. It also is deer tolerant. It is the only native sage in the U.S. to have red flowers. A variety called "Lady in Red" was a Georgia Gold Medal Winner in 2002.

Images: Page 90

Lyre-leaf Sage / *Salvia lyrata*

Family: Mint / *Lamiaceae*

Life Cycle: Perennial

Characteristics: This plant has a low-growing clumping growth habit. It has a basal rosette of purplish-green leaves, 4 to 8 inches long. The leaves are widest above their middle and deeply lobed. Stems are square. Stem leaves are few, small and in pairs. The leaves are evergreen and aromatic when crushed. Flowers are borne in small whorls around the upper parts of stems in early spring. They are pale blue to white. The plant spreads by seeds.

Cultural Requirements: Plant Lyre-leaf Sage in full sun to partial shade. It is tolerant of a wide range of soil moisture levels, from dry to wet. It is also low-maintenance, easy to cultivate and self-seeding. Mow the planting after seed formation to scatter the seeds and to encourage its spread. If self-seeding is not desired, deadhead after flowering.

Landscape Uses: This is an easy plant to establish from seed in dry or seasonally wet sites in partial shade or full sun. Plant it in open meadows, along roadsides and in thin woodlands for a striking spring color show. It also is a favorite plant of hummingbirds and butterflies.

Size: The basal rosette of leaves is low-growing, 2 to 4 inches high. Flower spikes rise 1 to 2 feet above the leaves.

Hardiness Zones: All of Georgia

Habitat: Roadsides, meadows, forests and open woodlands

Native To: Eastern half of the U.S.

Propagation: Seed, cuttings or division

Seed: Cut off flower stalks when they turn brown, then place them in a paper bag to dry and release their seeds. Store seeds dry at 40°F for planting the following February. Warm temperatures (70°F+) and light are required for germination.

Cuttings: Stem cuttings can be taken in spring before flower buds form.

Division: Divide plants in fall or spring.

Comments: This plant spreads readily from seed and can be aggressive.

Images: Page 90

Bloodroot, Red Puccoon, Indian Paint, Pauson, Tetterwort /
Sanguinaria canadensis
Family: Poppy / *Papaveraceae*

Life Cycle: Perennial

Characteristics: Bloodroot is a clump-forming plant with basal leaves up to 8 inches across. Leaves have five to nine wavy, irregular lobes. Flowers are borne in spring on stalks rising 8 to 10 inches above the basal leaves. They are white, approximately 2 inches across, with eight to 12 petals surrounding yellow centers. Fruit are two-parted capsules pointed at both ends, with each part containing rows of seeds. A reddish orange root contains blood-red sap, hence the name Bloodroot.

Cultural Requirements: Bloodroot prefers moist, shady sites rich in organic matter.

Landscape Uses: This is a nice plant for use on banks and slopes along shaded woodland streams.

Size: 10 inches high and 8 inches wide

Hardiness Zones: All of Georgia

Habitat: Nutrient-rich woodlands and hardwood forests, usually on banks adjacent to streams

Native To: Most of North America east of the Rocky Mountains

Propagation: Division

Division: Divide rhizomes in late winter or early spring. Make certain each rhizome piece has some attached roots.

Comments: Native American Indians used the juice from the root of Bloodroot as a fabric dye. A powder made from the root's juices was used to treat skin ailments, including warts, ringworm and fungal growths. Researchers are currently investigating the root's value in treating certain forms of cancer.

Images: Page 90

Hairy Skullcap / *Scutellaria elliptica*
Family: Mint / *Lamiaceae*

Life Cycle: Perennial

Characteristics: Stems are square, hairy and have white pith. Leaves are opposite, oval and have bluntly toothed margins. They are 2 to 3 inches long and 1½ to 2 inches wide, deep green on top and silvery green underneath. Purple flowers appear in May and June in racemes at the top of a flower stalk. The flowers resemble those of snapdragons, with three upper lobes and a two-lobed lower lip arising from a tube. The lower lip is often folded downward with a white splotch near its base. Petals are hairy.

Cultural Requirements: Hairy Skullcap prefers morning sun, afternoon shade and moist, well-drained soil. It is easy to grow.

Landscape Uses: Use this plant in perennial borders, wildflower meadows or cottage gardens.

Size: 2 to 3 feet tall and 1 foot wide

Hardiness Zones: All of Georgia

Habitat: Hardwood forests, dry rocky woods, bluffs and wooded slopes

Native To: New York to Florida, west to Texas, north to Michigan

Propagation: Seed, cuttings or division

Seed: Harvest capsules when they turn yellow. Place them in a paper bag to dry and release their seeds. Then put the seeds in a coffee filter inside a sieve under dripping water for 24 hours to remove a germination inhibitor, then plant.

Cuttings: Stem cuttings taken in May or June and treated with a rooting hormone will root in about two months.

Division: Plants can be divided in spring or fall.

Comments: The name "skullcap" describes the shape of the calyx at the base of the flowers, which resemble miniature medieval helmets called skullcaps. Plants in the genus *Scutellaria* have a rich history as medicinal herbs used by American Indians for a variety of ailments and by Europeans to treat epilepsy.

Images: Page 91

Hyssop Skullcap, Rough Skullcap, Helmet Flower / *Scutellaria integrifolia* L. Family: Mint / *Lamiaceae*

Life Cycle: Perennial

Characteristics: Plants are usually branched at their base with erect, square, hairy stems. Leaves are opposite, approximately 1¼ inch long at the base of the stem and up to 2 inches long at the top of the stem. Bottom leaves are oval with toothed margins, while upper leaves are narrow and lack teeth. Flowers are borne in early to mid-summer and are bluish-lavender, approximately 1 inch long, with two lips. They are borne in the axils of the upper leaves.

Cultural Requirements: Plant Hyssop Skullcap in moist, well-drained soils and full sun to partial shade. Afternoon shade is preferred in the Deep South.

Landscape Uses: Perennial borders

Size: 1 to 2 feet

Hardiness Zones: All of Georgia

Habitat: Open, moist woodlands, low meadows, wetlands, moist roadsides and hammocks

Native To: New England and New York, south to Florida, west to Alabama and Missouri, north to Kentucky and Ohio

Propagation: Seed or cuttings

Seed: Harvest capsules when they turn yellow. Place them in a paper bag to dry and release their seeds. Place seeds in a coffee filter inside a sieve under dripping water for 24 hours to remove a germination inhibitor, then plant. When maintained at a temperature of 70°F or higher, they will germinate in about 20 days.

Cuttings: Stem cuttings taken in May or June and treated with a rooting hormone will root in about two months.

Comments: Skullcaps are recognized by the tiny projection, or hump, on the top of the calyx (the small green cup surrounding the base of the flower), which resembles a miniature medieval helmet.

Images: Page 91

Wild Pink, Sticky Catchfly, Carolina Campion / *Silene caroliniana* Family: Pink / *Caryophyllaceae*

Life Cycle: Perennial

Characteristics: Basal evergreen leaves are spoon-shaped and approximately 4 inches long. Stem leaves are lance-shaped and approximately 3 inches long. Loose clusters of rose-pink flowers, 1 inch across with five wedge-shaped petals, are borne in mid-summer on sticky stems rising 10 inches above the plant. Flowers consist of five wedge-shaped petals. Seeds are borne in capsules.

Cultural Requirements: Wild Pink prefers moderately dry, sandy or gravelly soil and morning sun followed by afternoon shade. It likes acidic soil and good drainage.

Landscape Uses: This is a good plant for perennial borders and rock gardens.

Size: 1 foot high and 1 foot wide

Hardiness Zones: All of Georgia

Habitat: Acidic granite outcrops in the Piedmont

Native To: Eastern and Central North America

Propagation: Seed, cuttings or division

Seed: Collect seed capsules when they turn tan and begin to open at their tip (April to May). Place them in a paper bag to dry and release their seeds. The seeds require no pre-treatment and can be planted right away. A temperature of 70°F or higher enhances germination.

Cuttings: Take stem cuttings when new growth begins to harden.

Division: Divide plants in the fall.

Comments: An annual form of this plant, called Hot Pink, is available in the nursery trade.

Images: Page 91

Starry Campion, Widow's Frill / *Silene stellata*

Family: Pink / *Caryophyllaceae*

Life Cycle: Perennial

Characteristics: The lowermost and uppermost leaves are usually opposite on the stem, while the middle leaves are in whorls of four around the stem. Leaves are approximately 2 inches long, 1-inch wide and lance-shaped. The base of the leaves is swollen and reddish-purple. Stems are hairy. Flowers appear from mid- to late summer near the ends of the stalks and arise from green cup-shaped calyxes. They are borne individually or in groups of two to three. Each flower is about ¾ inch across and consists of five white petals with eight to 12 narrow lobes. Flowers remain open during the night and tend to close in the bright mid-day sun. They persist about a month. Fruit are capsules containing several seeds.

Cultural Requirements: Plant Starry Campion in partial shade and moist, well-drained soil. It will not tolerate wet sites.

Landscape Uses: Use this plant in perennial borders, rock gardens or woodlands.

Size: 1 to 2½ feet tall and 12 inches wide

Hardiness Zones: All of Georgia

Habitat: Deciduous hardwoods and river flats, especially nutrient-rich sites

Native To: Vermont, south to Georgia, west to Texas, north to Minnesota

Propagation: Seed, cuttings or division

Seed: Collect capsules when they turn tan and begin to open at the tip (late summer to early fall). Place them in a paper bag to dry and to release seeds. Store them dry at 40°F, then plant them in mid-December in outdoor beds.

Cuttings: Take stem cuttings in the spring when new growth begins to harden.

Division: Divide plants in late winter.

Comments: This is a beautiful plant that should be grown more often in gardens.

Images: Page 92

Fire Pink, Scarlet Catchfly / *Silene virginica*

Family: Pink / *Caryophyllaceae*

Life Cycle: Perennial

Characteristics: This is a clump-forming perennial with sprawling hairy stems that exude a sticky sap. Leaves are opposite, lance-shaped and up to 4 inches long. Scarlet-red flowers, up to 2 inches across with five notched petals, are borne from April to June in loose clusters at the end of slender stems. Stems are 12 to 18 inches long. Seeds are borne in capsules.

Cultural Requirements: Fire Pink prefers well-drained acidic soil and partial shade. It does not do well in full shade.

Landscape Uses: Use Fire Pink in rock gardens, wildflower gardens, native plant gardens, cottage gardens or woodland gardens.

Size: 1 to 1½ feet high and 1½ feet wide

Hardiness Zones: All of Georgia

Habitat: Rocky wooded slopes, roadsides, open woods and thickets

Native To: Eastern North America

Propagation: Seed, cuttings or division

Seed: Collect seed capsules when they turn tan and begin to open at the tip (April to May). Place them in a paper bag to dry and to release their seeds. Store the seeds dry at 40°F for planting in outdoor beds or flats in mid-December. Germination should occur the following spring.

Cuttings: Take stem cuttings when new growth begins to harden.

Division: Divide plants in the fall.

Comments: Fire Pink is pollinated by the Ruby-throated Hummingbird, which is attracted to the bright-red flowers. This plant has the reputation of being a short-lived perennial, usually persisting only two to three years. The common name “catchfly” comes from the short sticky hairs on the petiole and base of the flowers, which often trap insects.

Images: Page 92

Starry Rosinweed / *Silphium asteriscus*

Family: Aster / Asteraceae

Life Cycle: Perennial

Characteristics: Leaves are alternate, hairy and lance-shaped with toothed margins. They are approximately 6 inches long and 2 inches wide and borne on hairy stems. From May through September, daisy-like yellow flowers are borne in terminal clusters. Each flower consists of nine or 10 outer ray flowers, 1 to 1½ inches long and ½ inch wide, surrounding a center disk of tiny green flowers. All *Silphium* species have fertile ray flowers and sterile disk flowers.

Cultural Requirements: Starry Rosinweed prefers full sun and dry soil. Pruning to remove spent blossoms encourages repeat flowering. The plant tends to grow lanky when it is fertilized.

Landscape Uses: Use Starry Rosinweed in perennial borders, wildflower gardens or open meadows. Because of its large size, it is best used as a background plant.

Size: 4 to 6 feet high and 2 feet wide

Hardiness Zones: All of Georgia

Habitat: Dry rocky open woods, glades and roadsides

Native To: Maryland to Florida, west to Texas, north to Arkansas and Missouri

Propagation: Seed, cuttings or division

Seed: Collect seeds when flower heads begin to crumble in September or October. Fertile seeds are plump and look like a horned mask. Store seeds dry at 40°F, then plant them in December in outdoor beds or flats. Germination should occur in about three months.

Cuttings: Take cuttings from firm new growth.

Division: Plants can be divided in fall or early spring.

Comments: Broken stems of Starry Rosinweed exude a bitter resin ("rosin") that Native Americans used as a mouth-cleansing chewing gum. The plant is attractive to butterflies and bees. Starry Rosinweed seeds are a favorite food of goldfinches.

Images: Page 92

Kidneyleaf Rosinweed / *Silphium compositum*

Family: Aster / Asteraceae

Life Cycle: Perennial

Characteristics: Kidneyleaf Rosinweed bears a rosette of large deeply lobed basal leaves with distinct red veins. They stand stiffly erect in a vase-like shape. Each leaf has a rough texture, particularly on its underside. Leaf margins are coarsely toothed. In late summer, a flowering stalk emerges from the base of the plant, rising 6 to 10 feet in height above the basal foliage. The upper part of the stalk divides into a panicle of yellow daisy-like flowers. Each flower is approximately ½ inch across. It has a deep taproot and is difficult to transplant.

Cultural Requirements: Kidneyleaf Rosinweed requires full sun or light shade and well-drained soil. Once established, it has good drought tolerance.

Landscape Uses: Plant Kidneyleaf Rosinweed in groups of several plants in the background of perennial borders or in hummingbird and butterfly gardens.

Size: 6 to 10 feet tall

Hardiness Zones: All of Georgia

Habitat: Sand hills and dry, sandy, thin woodlands of the Coastal Plain as well as dry locations in the Piedmont and Blue Ridge

Native To: Virginia, south to Georgia

Propagation: Seed, cuttings or division

Seed: Collect seeds when flower heads begin to crumble in September and October. Fertile seeds are plump and look like a horned mask. Store seeds dry at 40°F, then plant them in December in outdoor beds or flats. Germination should occur in about three months.

Cuttings: Take cuttings from firm new growth.

Division: Plants can be divided in fall or early spring.

Comments: Rosinweed attracts hummingbirds, bees and butterflies. It is a tough plant, once established. Another species, Broadleaf Prairie Dock, *S. terebinthinaceum*, can be grown in calcium-rich soils. It has larger flowers and larger leaves than Kidneyleaf Rosinweed. Still another species, Cutleaf Prairie Dock, *S. pinnatifidum*, has single leaves that are always oriented north-south.

Images: Page 93

Cup Plant / *Silphium perfoliatum*

Family: Aster / Asteraceae

Life Cycle: Perennial

Characteristics: Erect, square stems grow 4 to 8 feet tall. Leaves are opposite, rough textured, coarsely toothed along their margins and triangular to oval. Lower leaves are up to 14 inches long, becoming smaller as they ascend the stem. Upper leaves are sessile (lack petioles) and leaf pairs are united at their base to form a cup. The cups collect rainwater that attracts birds. From June to September, yellow sunflower-like flower heads, about 3 inches across, are borne on stem terminals. Each flower consists of 20 to 30 fertile ray flowers and a central disk of dark yellow sterile flowers. Stems exude a gummy sap when cut.

Cultural Requirements: Cup Plant prefers full sun and moist, well-drained soil. It is somewhat slow to establish. It self-seeds under optimum conditions, so deadheading is recommended if seed dispersal is not desired.

Landscape Uses: This is a large plant that needs to be used as a background plant in perennial borders, wildflower gardens, naturalized areas, or butterfly and hummingbird gardens. It also can be used effectively along the edges of ponds and streams.

Size: 4 to 8 feet tall and 1 to 3 feet wide

Hardiness Zones: All of Georgia

Habitat: Moist woods, meadows and bottomlands

Native To: Maine to Georgia, west to Louisiana, north to the Dakotas

Propagation: Seed, cuttings or division

Seed: Harvest seeds in the fall and plant them right away, or stratify them for three months at 40°F for planting in late winter.

Cuttings: Cuttings can be taken from new spring growth once it begins to harden.

Division: Offshoots from parent plants can be removed and transplanted in the spring.

Comments: Birds are attracted to the plant because its leaves hold water like cups and provide a drinking reservoir. Hummingbirds and butterflies are attracted to the flowers.

Images: Page 93

Blue-eyed-grass, Narrowleaf Blue-eyed-grass / *Sisyrinchium angustifolium*

Family: Iris / Iridaceae

Life Cycle: Perennial

Characteristics: Narrow, sword-shaped, grass-like leaves form dense clumps at the base of the plant. Branched flowering stems, up to 18 inches long, emerge in March or April and produce showy, star-shaped blue flowers, approximately 1 inch across with yellow centers. Each stalk bears several flowers, but only one flower blooms at a time. Fruit is a brown capsule.

Cultural Requirements: Blue-eyed-grass prefers sun to partial shade and moist, well-drained soils. Plants will decline when they are allowed to dry out. Lanky growth will result from too much organic matter, and heavy mulch encourages crown rot. Divide plants every two years to maintain their vigor.

Landscape Uses: Use Blue-eyed-grass as a ground cover where it can naturalize. It looks nice when planted along paths. It will self-seed.

Size: 1 to 2 feet high and 1 foot wide

Hardiness Zones: All of Georgia

Habitat: Meadows, damp fields and low, open woods and forests

Native To: The eastern U.S.

Propagation: Seed or division

Seed: Collect seeds when capsules turn tan. Store them dry at 40°F for December planting. Sow seeds in outdoor beds or flats. They should germinate the following spring.

Division: Plants can be divided in the fall or spring.

Comments: This is a good plant for naturalizing in moist woodlands.

Images: Page 93

Goldenrod / Genus *Solidago*

Goldenrod provides one of the last big color shows of late summer and fall. Like Indian corn, pumpkins and corn shocks, goldenrod is one of the true harbingers of fall. It is the state flower of Nebraska.

Just about every insect with an interest in flowers finds its way to goldenrod, including many beneficial insects that are predators of harmful insects.

Goldenrods are self-sterile, so they must cross with different plants of the same species to produce viable seed.

Goldenrod is often wrongly accused of causing hay fever and allergic reactions. The real culprit is usually wind-borne pollen from ragweed that blooms during the same time.

There are 10 Goldenrod species native to the Southeast. Five of the most common ones worthy of garden culture are described below.

Blue-stemmed Goldenrod, Axillary Goldenrod, Wreath Goldenrod / *Solidago caesia* Family: Aster / Asteraceae

Life Cycle: Perennial

Characteristics: Long arching stems bear dark green lance-shaped leaves that are 2 to 5 inches long. The leaves are sharply pointed, serrated and tapered at both ends. Stems are greenish-purple and covered with a silvery-white waxy coating. From late summer to early fall, clusters of tiny daisy-like yellow flowers emerge from leaf axils along the stems.

Cultural Requirements: Blue-stemmed Goldenrod prefers morning sun and afternoon shade. It also likes moist, well-drained soil. Cut back plants in early spring to encourage new growth for the season.

Landscape Uses: Use Blue-stemmed Goldenrod in native plant gardens, perennial borders, woodland gardens, meadows or wildlife habitats.

Size: 1 to 3 feet tall with equal spread

Hardiness Zones: All of Georgia

Habitat: Deciduous hardwood forests, open woodlands and clearings

Native To: Wisconsin, south to Texas, east to Florida

Propagation: Seed, cuttings or division

Seed: Collect seeds in the fall when flower heads dry and become fluffy. Seeds either can be planted right away or held dry at 40°F for later planting. Temperatures of 70°F or higher will enhance germination.

Cuttings: Take stem cuttings of new spring growth when it begins to harden.

Division: Divide plants in late winter or early spring.

Comments: Flowers hold up well in cut flower arrangements. Butterflies are attracted to the flowers and birds like the seeds. The plants are undesirable to deer.

Images: Page 94

Gray Goldenrod / *Solidago nemoralis*

Family: Aster / *Asteraceae*

Life Cycle: Perennial

Characteristics: Gray Goldenrod forms a single flowering stem that is reddish in color and covered with lines of short white hairs. Leaves are alternate, up to 4 inches long and ¾ inch wide, becoming smaller as they ascend the stem. Leaf margins are smooth or slightly serrated. The narrow inflorescence consists of numerous showy yellow compound flowers, each about ¼ inch across. The inflorescence is shaped like a wand, becoming wider in the middle and tapering toward the top. Flowering occurs in the fall and lasts about a month. Fruit are small, dry seed-like achenes surrounded by fine white bristles. Seeds are dispersed by wind. The plant also spreads by underground rhizomes and tends to form colonies.

Cultural Requirements: Gray Goldenrod prefers full sun or morning sun with afternoon shade and dry soils. Cut the plant back in early spring to make way for new spring growth.

Landscape Uses: This is a good plant for wildflower meadows, sunny perennial gardens, dry sites as well as butterfly and hummingbird gardens. It is easy to grow.

Size: 1½ to 2 feet tall and 1 foot wide

Hardiness Zones: All of Georgia

Habitat: Dry, open woods and upland prairies, old fields, pastures and roadsides

Native To: Maine to northern Florida, west to New Mexico, north to Montana

Propagation: Seed, cuttings or division

Seed: Collect seeds in the fall when flower heads dry and become fluffy. Seeds either can be planted right away or held dry at 40°F for later planting. Temperatures of 70°F or higher will enhance germination.

Cuttings: Take stem cuttings of new spring growth when it begins to harden.

Division: Divide plants in late winter or early spring.

Comments: The flowers attract hummingbirds and butterflies, and Goldfinches relish the seeds.

Images: Page 94

Licorice Goldenrod, Anise-scented Goldenrod, Sweet Goldenrod /

Solidago odora

Family: Aster / *Asteraceae*

Life Cycle: Perennial

Characteristics: Narrow, lance-shaped leaves, 2 to 4 inches long and ½ inch wide, are arranged alternately up arching stems. They emit a licorice-like scent when crushed. From July to October, cylindrical clusters of yellow flower heads are borne along one side of the upper portion of the stems. Fruit are small, dry, seed-like achenes surround by fluffy white bristles. They are dispersed by wind.

Cultural Requirements: Licorice Goldenrod prefers sun and moist, sandy, acidic soil. It adapts to poor sites. Cut back plants in late winter to make way for new spring growth.

Landscape Uses: Use this plant in native plant gardens, perennial borders, cottage gardens or butterfly gardens. It is an excellent choice for fragrance gardens or wildlife habitats.

Size: 2 to 3 feet tall and 1 to 2 feet wide

Hardiness Zones: All of Georgia

Habitat: Savannahs, pinelands, sand hills and dry woods

Native To: New Hampshire, south to Florida, west to Texas, north to southeast Missouri

Propagation: Seed, cuttings or division

Seed: Collect seeds in the fall when flower heads dry and become fluffy. Seeds either can be planted right away or held dry at 40°F for later planting. Temperatures of 70°F or higher will enhance germination.

Cuttings: Take stem cuttings of new spring growth when it begins to harden.

Division: Divide plants in late winter or early spring.

Comments: Licorice Goldenrod is easy to grow, naturalize and keep in bounds. Leaves are used to flavor tea.

Images: Page 94

Wrinkle-leaf Goldenrod, Rough-stemmed Goldenrod / *Solidago rugosa*

Family: Aster / *Asteraceae*

Life Cycle: Perennial

Characteristics: Tall, rough, hairy stems arch outward from the base. Basal leaves are broad, raggedly toothed, rough textured and have winged petioles. Upper leaves are lance-shaped, toothed and less hairy. Leaves have a wrinkled appearance. In late summer, small light yellow flower heads are borne on the upper portion of the stems. The plant spreads by rhizomes.

Cultural Requirements: Wrinkled-leaf Goldenrod prefers full sun and moist, well-drained soils. Remove spent flower clusters to encourage repeat bloom. This is one of the easiest species of goldenrod to cultivate.

Landscape Uses: Use Wrinkled-leaf Goldenrod in perennial borders, meadows, wildlife gardens and flood plains where moisture is available.

Size: 2 to 6 feet tall (extremely variable)

Hardiness Zones: All of Georgia

Habitat: Low woods, meadows, old once-cultivated fields, pine barrens and bogs

Native To: Eastern North America from Maine to Florida, west to Texas, north to Michigan

Propagation: Seed, cuttings or division

Seed: Collect seeds in the fall when flower heads dry and become fluffy. Seeds either can be planted right away or held dry at 40°F for later planting. Temperatures of 70°F or higher will enhance germination.

Cuttings: Take stem cuttings of new spring growth when it begins to harden.

Division: Divide plants in late winter or early spring.

Comments: Wrinkle-leaf Goldenrod is not an aggressive spreader like some of the other Goldenrod species. There is a cultivar called 'Fireworks' that is shorter and more compact than this species. Flowers attract butterflies, and birds eat the seeds.

Images: Page 93

Showy Goldenrod / *Solidago speciosa*

Family: Aster / *Asteraceae*

Life Cycle: Perennial

Characteristics: A smooth reddish-green stem bears alternate leaves up to 6 inches long and 1½ inch wide. Leaves become slightly smaller as they ascend the stem. They are lance-shaped to oval and have smooth margins. On the upper half of the plant, small leaves with a wing-like appearance develop at the upper axils of the primary leaves. In late summer, small yellow flowers are borne in clusters along the top 12 inches of branched stems. The flowering stalks are held upright and do not flare outward and arch downward like those of many other goldenrods. Fruit are small, dry, seed-like achenes surrounded by fine white bristles. They are dispersed by wind.

Cultural Requirements: Showy Goldenrod prefers full sun to partial shade and well-drained soil. It can become aggressive in moist soils. Cut back plants in early spring to make way for new growth.

Landscape Uses: Use Showy Goldenrod in perennial borders, meadows, native plant gardens, naturalized areas or wildlife habitats.

Size: 2 to 4 feet high and 2 to 3 feet wide

Hardiness Zones: All of Georgia

Habitat: Open woodlands and prairies

Native To: Massachusetts to the north Georgia mountains, west to Texas, north to Wyoming

Propagation: Seed, cuttings or division

Seed: Collect seeds in the fall when flower heads dry and become fluffy. Seeds either can be planted right away or held dry at 40°F for later planting. Temperatures of 70°F or higher will enhance germination.

Cuttings: Take stem cuttings of new spring growth when it begins to harden.

Division: Divide plants in late winter or early spring.

Comments: This is one of the showiest of all the goldenrods. It attracts butterflies and several species of birds. Erect Goldenrod, *S. erecta*, also grows in Georgia and is similar to Showy Goldenrod. It bears its flowers on a single unbranched stem, while Showy Goldenrod bears its flowers on branched stems.

Images: Page 94

Indian-pink, Woodland Pinkroot / *Spigelia marilandica* Family: Logania / *Loganiaceae*

Life Cycle: Perennial

Characteristics: Glossy lance-shaped leaves are arranged in four to seven pairs along stems. Crimson-red tubular flowers appear at stem terminals in the spring. Each flower is approximately 1½ inch long and has five pointed lobes that flair slightly backwards to expose a bright yellow throat.

Cultural Requirements: Indian-pink prefers partial shade and moist, well-drained acidic soils.

Landscape Uses: Use Indian-pink in perennial borders, partially shaded woodlands, meadows or wildlife habitats.

Size: 12 to 18 inches tall and 6 to 8 inches wide

Hardiness Zones: All of Georgia

Habitat: Shaded hardwood forests, shaded woodlands and woodland edges

Native To: Kentucky, southern Illinois and southern Missouri, south to Texas, east to Florida

Propagation: Seed, cuttings or division

Seed: Harvest seed capsules in June or July when they are still green. Place them in a paper bag to dry and release their seeds. No pre-treatment of the seeds is required before planting. Sow them in outdoor beds or flats. Germination should occur the following spring.

Cuttings: Stem cuttings from new growth that has hardened can be taken in the spring.

Division: Plants can be divided in the fall.

Comments: The flowers attract hummingbirds. Deer do not like the plant.

Images: Page 95

Star Chickweed / *Stellaria pubera* Family: Pink / *Caryophyllaceae*

Life Cycle: Perennial

Characteristics: Broad, elliptical-shaped sessile leaves, up to 3 inches across, are arranged in opposite pairs along the stem. Stems have two distinct lines of fine hairs. White star-shaped flowers, approximately 1 inch across, arise from the leaf axils in the spring. Flowers have five deeply notched petals.

Cultural Requirements: Star Chickweed prefers shade and moist, well-drained soil.

Landscape Uses: Use Star Chickweed as a groundcover in a shaded, moist woodland or a wildlife habitat.

Size: 6 to 16 inches

Hardiness Zones: All of Georgia

Habitat: Rich mesic forests and rocky slopes

Native To: This plant is found from Illinois to New York, south to Florida, west to Louisiana. It is also found in Nebraska and Minnesota.

Propagation: Seed, cuttings or division

Seed: Collect seed capsules when they turn tan and begin to open at the tip. Place them in a paper bag to dry and release seeds. Store seeds dry at 40°F for planting in outdoor beds or flats in mid-December. Germination should occur the following spring.

Cuttings: Take stem cuttings when new growth begins to harden.

Division: Divide plants in the fall.

Comments: Leaves can be eaten in salads or cooked as a substitute for spinach. Birds relish the seeds.

Images: Page 95

Asters, Genus *Symphyotrichum*

Asters are considered an enchanted flower. In ancient times, it was thought that the perfume from their burning leaves could drive away evil serpents. Also known as Starworts, Michaelmas Daisies or Frost Flowers, the name aster is derived from the Greek word for “star.” Its star-like flowers can be found in a rainbow of colors, from white to red, pink, purple, lavender or blue.

Asteraceae is one of the largest families of vascular plants, totaling an estimated 1,150 genera and 25,000 species. They are distributed over most of the earth and in almost all habitats and climates. North American genera number about 230, of which 20 are believed to be imported from Europe.

Asters have composite flower heads consisting of many small flowers in a central disk surrounded by an outer ring of petal-like ray flowers. Each flower head is supported by a series of small green bracts (modified leaves) arranged in whorls around the base of the flower head. The fruit is an achene (a small, dry fruit with one seed that does not split open when ripe).

The plant spreads by stolons (aboveground runners). Plants are self-sterile and must cross with other plants of the same species to produce viable seeds. Three or more plants are required to produce fertile seeds.

At least eight species of native asters are common wildflowers in the Southeast. Four good candidates for landscape culture are described here.

Eastern Silvery Aster / *Symphyotrichum concolor* Family: Aster / *Asteraceae*

Life Cycle: Perennial

Hardiness Zones: All of Georgia

Characteristics: Basal evergreen leaves with downy white hairs on both surfaces are oval, approximately 2 inches long and ½ inch wide. The basal leaves are densely arranged in a rosette around the base of the stem. Stem leaves become progressively smaller as they ascend the stem. In September and October, daisy-like lilac flowers are borne in narrow racemes from the leaf axils. The flower stalks look like long purple wands waving in the breeze. Fruit are achenes covered with silky hairs.

Cultural Requirements: Eastern Silvery Aster prefers full sun to partial shade and well-drained soil. It will adapt to dry locations. Prune the plant after flowering to encourage compact growth.

Landscape Uses: This plant looks best when planted in groups of five or more plants in the background of sunny perennial borders. It also is a good plant for wildlife habitats.

Size: 2 to 3 feet high with a spread of 1 to 2 feet

Habitat: Savannahs, sand hills and grassy openings in pine-oak woodlands with dry, sandy soil

Native To: Louisiana to Florida, north to Massachusetts and Rhode Island

Propagation: Seed, cuttings or division

Seed: Collect seeds when flower heads are puffy. Plant them in flats of well-drained germination medium and maintain the temperature at 70°F or higher. Cover the seeds lightly with the germination medium because they require light to germinate. Germination should occur in one to two weeks.

Cuttings: Take stem cuttings when new growth begins to harden. Dip the cut end in a rooting hormone.

Division: Divide plants in early spring.

Comments: Birds, butterflies and deer are attracted to the plant. In Massachusetts and other areas of the New England coast, Eastern Silvery Aster is becoming endangered.

Images: Page 95

Calico Aster / *Symphyotrichum lateriflorum* (syn. *Aster lateriflorus*)

Family: Aster / Asteraceae

Life Cycle: Perennial

Characteristics: Alternate lance-shaped leaves are 5 inches long and 1/2 inch wide, becoming smaller as they ascend the stem. The margins of the large leaves have a few teeth, while those of the small leaves are smooth. There are a few noticeable hairs on the mid-veins of the leaves. In late summer, daisy-like flower heads, approximately 1/3 inch across with yellow disk flowers borne in branched clusters along one side of the stems. They have yellow disk flowers and white to pale-purple ray flowers. The disk flowers turn dark red-purple with age. Flowers are followed by small pubescent achenes.

Cultural Requirements: Calico Aster prefers partial shade and moist organic soil. During dry weather, lower leaves often wither and become susceptible to many kinds of foliar diseases. Pruning back plants after flowering will encourage compact growth.

Landscape Uses: Use this plant in moist woodlands with filtered sun.

Size: 1 to 5 feet (variable)

Hardiness Zones: 6, 7

Habitat: Moist meadows near woodlands and rivers, floodplain forests and flatwoods, seepages and swamps, semi-shaded sloughs near fields and moist depressions in waste areas

Native To: New England to Georgia, west to Arkansas, north to Minnesota

Propagation: Seed, cuttings or division

Seed: Collect flower heads when they are white and fluffy. Crush them to remove the seeds. No pre-treatment of the seeds is required before planting. Maintain a temperature at 70°F or higher during germination. Light is required for germination, so cover the seeds lightly with the germination medium. Seeds should germinate in one to two weeks.

Cuttings: Take stem cuttings when new growth begins to harden. Dip the cut end in a rooting hormone.

Division: Divide plants in early spring.

Comments: Calico Aster gets its name from the way the flowers fade gradually from white to pink, creating an array of different colors as they mature.

Images: Page 95

New England Aster / *Symphyotrichum novae-angliae* (Syn. *Aster novae-angliae*)

Family: Aster / Asteraceae

Life Cycle: Perennial

Characteristics: Stout, erect stems bear rough, hairy, sessile, lance-shaped leaves up to 5 inches long and 3/4 inch across. The stems branch near their top and produce terminal clusters of daisy-like flowers, 1 1/2 inches wide, from late summer to early fall. Color of the ray flowers is variable, ranging from pink to purple, lavender or white. Disk flowers are yellow. Self-seeding occurs readily in the fall if plants are left unpruned.

Cultural Requirements: New England Aster prefers moist, well-drained soil and full sun to partial shade. Provide good air circulation among plants to prevent powdery mildew disease. Pruning plants lightly before July will encourage more compact growth. Otherwise, staking may be required to prevent plants from flopping over. Cut plants back to ground level after flowering if self-seeding is not desired.

Landscape Uses: Use New England Aster in perennial borders, cottage gardens or butterfly gardens.

Size: 6 to 8 feet tall and 2 to 3 feet wide

Hardiness Zones: All of Georgia

Habitat: Moist, open woodlands, meadows, mesic prairies, disturbed sites and stream banks

Native To: Most of North America, with the exception of Florida, Texas, Arizona, New Mexico and Idaho

Propagation: Seed, cuttings, division

Seed: Collect flower heads when they are white and fluffy. Crush them to remove the seeds. No pre-treatment of the seeds is required before planting. Maintain a temperature of 70°F or higher during germination. Light is required for germination, so cover the seeds lightly with the germination medium. Seeds should germinate in one to two weeks.

Cuttings: Take stem cuttings when new growth begins to harden. Dip the cut end in a rooting hormone.

Division: Divide plants in early spring.

Comments: The plant is a nectar source for bees and butterflies. There are several cultivars of this plant in the nursery trade.

Images: Page 96

Late Purple Aster / *Symphyotrichum patens* (syn. *Aster patens*)

Family: Aster / Asteraceae

Life Cycle: Perennial

Characteristics: Leaves are alternate, lance-shaped and sessile. The stem appears to be passing through the leaves. Stems and leaves are slightly hairy. Flowers are approximately 1 inch wide and consist of deep purple ray flowers surrounding small yellow disk flowers. Flowering time varies from August to October, depending on location.

Cultural Requirements: Late Purple Aster prefers full sun to partial shade and well-drained soil. It adapts to dry sites. Cut plants back after flowering to encourage more compact growth and to prevent self-seeding if that is a concern.

Landscape Uses: Dry woodlands or meadows. It is a tough plant suitable for dry, difficult sites, like roadsides and rights-of-ways.

Size: 1 to 3 feet tall

Hardiness Zones: All of Georgia

Habitat: Use Late Purple Aster in dry open woodlands, meadows and roadsides

Native To: Maine, south to Florida, west to Texas, north to Minnesota

Propagation: Seed, cuttings or division

Seed: Collect flower heads when they are white and fluffy. Crush them to remove the seeds. No pre-treatment of the seeds is required before planting. Maintain a temperature of 70°F or higher during germination. Light is required for germination so cover the seeds lightly with the germination medium. Seeds should germinate in one to two weeks.

Cuttings: Take stem cuttings when new growth begins to harden and dip the cut end in a rooting hormone.

Division: Divide plants in early spring.

Comments: Flowers attract butterflies. This is a tough plant and is easy to grow.

Images: Page 96

Foamflower, Heartleaf Foamflower, Allegheny Foamflower / *Tiarella cordifolia*

Family: Saxifrage / Saxifragaceae

Life Cycle: Perennial

Characteristics: Leaves are semi-glossy, heart-shaped, approximately 4 inches across with three to five lobes. They are all basal, forming a mound at the base of the plant. The leaves turn reddish-bronze in winter and are evergreen in mild winters. In spring, flower stalks, 6 to 12 inches in height, rise above the foliage and bear numerous star-shaped flowers. Flower color ranges from white to pale pink. Long slender stamens give the inflorescence a frothy appearance, hence the name foamflower.

Cultural Requirements: This plant must have shade and moist, well-drained acidic soil.

Landscape Uses: Use Foamflower as a groundcover in shady woodlands, shaded rock gardens, shady perennial borders or shady stream banks.

Size: 6 to 12 inches tall and 1 to 2 feet wide.

Hardiness Zones: All of Georgia

Habitat: Shaded, moist woodlands, stream banks, seepages and wet rocky areas

Native To: Maine, south to Georgia, west to Mississippi, north to Ohio, Michigan, Wisconsin and Minnesota

Propagation: Seed or division

Seed: Collect flower heads when they are white and fluffy. Crush them to remove the seeds. No pre-treatment of the seeds is required before planting. Light is required for germination, so cover the seeds lightly with the germination medium. Seeds should germinate in about a month.

Division: Divide plants in the fall.

Comments: Many cultivars of this plant are available in the trade.

Images: Page 96

Bluecurls / *Trichostema dichotomum*

Family: Mint / *Lamiaceae*

Life Cycle: Annual

Characteristics: Stems are erect, square and hairy. Leaves are opposite, oval, up to 2 inches long and 1 inch wide, hairy and finely toothed along their margins. Fragrant blue flowers, 1/2 to 3/4 inch long, appear in August or September. They have long curled stamens and styles that protrude above the petals. Flowers are two lipped: the upper lip has four fused lobes and the lower lip has one large drooping lobe with dark blue spots.

Cultural Requirements: This plant prefers partial shade to full shade and dry, sandy soil.

Landscape Uses: Use Bluecurls in shaded meadows, shaded wildflower gardens, shaded areas of rock gardens or in wildlife habitats.

Size: 2 to 3 feet tall and 1 foot wide

Habitat: Dry, sandy areas, pastures and thin soils around rock outcrops

Native To: Maine to Florida, west to Texas, north to Missouri and Michigan

Propagation: Seed

Seed: Collect seeds in the fall and store them dry at 40°F for planting after the last frost in early spring.

Comments: Bees and butterflies are attracted to the flowers, and birds like to eat the seeds.

Images: Page 97

Trillium

Trillium (from the Latin word for “three”) has all its parts in threes or multiple of three: three leaves (or bracts), three petals, three stigmas and six stamens. Most trillium species are characterized by a set of three whorled horizontal leaves at the top of stalks that are 8 to 12 inches long. A single flower is borne at the center of the three leaves. Seeds are generally spread by native ants. Ants are attracted to a tiny fleshy appendage on the seed that is high in fat. The ants take the seeds to their nest, feed the appendages to their young and discard the seeds in a trash pile within their nest where they germinate in the nutrient-rich compost.

Trillium species have very specific habitat requirements and are difficult to grow unless their native environment can be simulated. They require moist organic soil and shade or partial shade. They are generally difficult to propagate from seed, sometimes taking up to two years to germinate and three or more years to produce a flowering plant. They are also difficult to transplant. Fortunately, many species are available in the nursery trade.

Trillium species are often divided into two distinct categories based on the presentation of their flowers: *sessile flowered* trilliums have stalkless flowers borne on top of the leaves (e.g., *Trillium cuneatum*) or *pedicellate flowered* trilliums that bear their flowers on stalks (pedicels) that are either held above the foliage (e.g., *Trillium gradiflorum*) or below the foliage (e.g., *Trillium catesbaei*).

There are about 30 Trillium species native to North America. There are 21 native species in Georgia. Seven are described below.

Catesby's Trillium, Bashful Wakerobin, Rose Trillium / *Trillium catesbaei* Family: Lily / *Liliaceae*

Life Cycle: Perennial

Characteristics: Three elliptical-shaped leaves, 1½ to 3 inches long with wavy margins, are arranged in a whorl on the top of stems that rise 8 to 20 inches from the base of the plant. In spring, a solitary pink to dark-rose colored flower, 1½ inch across with three petals reflexed backward, emerges on a short stalk at the top of the stem. The anthers are yellow and irregularly twisted outward. At the base of the flower are three sepals. Seeds are borne in fleshy capsules.

Cultural Requirements: Catesby's Trillium prefers shaded, dry woodlands that have had little disturbance.

Landscape Uses: Use this plant in shaded woodlands and shaded perennial borders.

Size: 8 to 20 inches tall and 8 to 12 inches wide

Hardiness Zones: All of Georgia

Habitat: Dry acidic oak and oak/pine woodlands

Native To: North Carolina and Tennessee, south to Georgia, west to Alabama

Propagation: Seed or division

Seed: Collect seeds when the capsule becomes soft, about 10 to 12 weeks after flowering. Sow them directly in outdoor beds or flats. Seeds may take up to two years to germinate, so patience is a virtue.

Division: Divide plants in fall or winter by breaking apart segments of the rhizomes. Each segment should have at least one growing point and fibrous roots. Dust the cut ends with a fungicide before planting.

Comments: This is a common species in the Piedmont and Blue Ridge, but it is somewhat rare in the Coastal Plain.

Images: Page 97

Sweet Betsy, Toad Trillium, Whippoorwill Flower / *Trillium cuneatum* Family: Lily / *Liliaceae*

Life Cycle: Perennial

Characteristics: Three large oval leaves, 6 inches long and 4 inches wide, are arranged in a whorl at the top of stalks rising 3 to 12 inches above the ground. The leaves are sessile and mottled gray-green. In spring, a single maroon, bronze or sometimes chartreuse flower with three petals that are 1 to 3 inches long is borne upright above the leaves. Some say the flower has a banana scent, while others say the odor is offensive. There are three erect sepals below the flower. Seeds are borne in fleshy capsules.

Cultural Requirements: Plant Sweet Betsy in moist, well-drained soil and shady areas.

Landscape Uses: Use this plant in moist, shaded woodlands and shaded perennial borders.

Size: Usually 6 to 12 inches tall, but mature specimens may reach 24 inches

Hardiness Zones: All of Georgia

Habitat: Moist woodlands, hardwood forests and bottom-land sites high in organic matter

Native To: North Carolina, south to Georgia and east Mississippi

Propagation: Seed or division

Seed: Collect seeds when the capsule is soft, about 10 to 12 weeks after flowering. Sow them directly in outdoor beds or flats. They may take up to two years to germinate.

Division: Divide plants in fall or winter by breaking apart segments of the rhizomes. Each segment should have a growing point and fibrous roots. Dust the cut ends with a fungicide before planting.

Comments: This is one of the most common Trillium species in Georgia. There are two other species that are very similar to this plant: *T. luteum* has bright yellow or green petals and more mottled leaves than *T. cuneatum*; *T. stamineum* is endemic to Alabama, Mississippi and Tennessee and has a somewhat hairy stem and twisted purple petals. The flowering of *T. cuneatum* is said to signal the arrival of Whippoorwill songbirds in the spring, hence the common name Whippoorwill Flower.

Images: Page 97

Lance-leaved Trillium, Narrow-leaved Trillium / *Trillium lancifolium*

Family: Lily / *Liliaceae*

Life Cycle: Perennial

Characteristics: Sturdy unbranched stems up to 18 inches tall terminate in three sessile, lance-shaped, mottled, gray-green leaves with purple specks. The leaves are approximately 2 inches wide and 4 to 6 inches long. In March or April a single brownish-maroon flower with erect petals and curved sepals appears above the foliage. Rhizomes are long, thin and brittle. Seeds are borne in a capsule that follows the flower.

Cultural Requirements: Plant Lance-leaved Trillium in shaded areas having moist, well-drained soil enriched with organic matter. It can be planted in dry shaded areas if moisture can be provided during periods of limited rainfall.

Landscape Uses: This plant prefers shaded, moist woodlands and shaded stream banks.

Size: Up to 18 inches tall

Hardiness Zones: All of Georgia

Habitat: Calcareous forests, along creeks and in floodplains

Native To: South Carolina, Alabama, Mississippi, Tennessee, southwest Georgia and the panhandle of Florida

Propagation: Seed or division

Seed: Collect seeds when the capsule is soft, about 10 to 12 weeks after flowering. Sow them directly in outdoor beds or flats. They may take up to two years to germinate, so patience is a virtue.

Division: Divide plants in the fall or winter by breaking apart segments of the rhizomes. Each segment should have at least one growing point and fibrous roots. Dust the cut ends with a fungicide before planting.

Comments: This plant is an endangered species in Florida and Tennessee.

Images: Page 98

Yellow Wakerobin, Yellow Trillium / *Trillium luteum*

Family: Lily / *Liliaceae*

Life Cycle: Perennial

Characteristics: Unbranched stems are topped by three lance-shaped to oval dark green leaves that are up to 4 inches long. The leaves are sessile and mottled silvery green. A single yellow flower with three petals and three narrow greenish sepals appear above the leaves in April or May. Flowers have a faint lemon scent. Underground rhizomes spread slowly to form a clump.

Cultural Requirements: This plant prefers moist, well-drained soil high in organic matter and partial shade to full shade.

Landscape Uses: Plant Yellow Wakerobin in shaded woodland gardens, naturalized areas or wildflower gardens.

Size: 1 to 1½ feet tall with an equal width

Hardiness Zones: All of Georgia

Habitat: Moist, shaded nutrient-rich hardwood forests and floodplains

Native To: This plant is found from Maryland, south to Georgia, west to Alabama, north to Kentucky. It is primarily an Appalachian endemic.

Propagation: Seed or division

Seed: Collect seeds when the capsule is soft, about 10 to 12 weeks after flowering. Sow them directly in outdoor beds or flats. Seeds may take up to two years to germinate.

Division: Divide plants in the fall or winter by breaking apart segments of the rhizomes. Each segment should have at least one growing point and fibrous roots. Dust the cut ends with a fungicide before planting.

Comments: This is one of the easiest trilliums to grow.

Images: Page 98

Spotted Wakerobin, Spotted Trillium / *Trillium maculatum*

Family: Lily / *Liliaceae*

Life Cycle: Perennial

Characteristics: Three horizontal sessile leaves are attached directly to the top of stems that are 6 to 12 inches tall. Leaves are heart-shaped, 3 to 6 inches long and 2 to 3 inches wide and mottled. From February to early April a solitary erect flower is borne at the top of the stem above the leaves. The flower has three strap-like, upright red-maroon petals that are 1 to 2 inches long. They are subtended by three horizontal maroon sepals. The flower lacks the brown overtones that the flowers of several other species have. Seeds are borne in a single fleshy capsule that follows the flower.

Cultural Requirements: Spotted Wakerobin prefers moist soil high in organic matter and partial shade.

Landscape Uses: Use this plant in shaded moist woodlands or on shaded stream banks.

Size: 6 to 12 inches tall and 12 inches wide

Hardiness Zones: All of Georgia

Habitat: Moist, shaded calcareous forests and bottomlands high in organic matter

Native To: South Carolina, Florida, Georgia, Alabama

Propagation: Seed or division

Seed: Collect seeds when the capsule is soft, about 10 to 12 weeks after flowering. Sow them directly in outdoor beds or flats. Seeds may take up to two years to germinate.

Division: Divide plants in the fall or winter by breaking apart segments of the rhizomes. Each segment should have at least one growing point and fibrous roots. Dust the cut ends with a fungicide before planting.

Comments: The species name *maculatum* means “mottled leaves.”

Images: Page 98

Southern Nodding Trillium, Illscented Wakerobin / *Trillium rugelii*

Family: Lily / *Liliaceae*

Life Cycle: Perennial

Characteristics: Three green lance-shaped leaves, approximately 6 inches wide and 8 to 10 inches long, are arranged in whorls at the top of a stem that is 12 to 18 inches tall. Solitary cream-colored flowers with three petals, 1½ to 3 inches long, appear in April and May. They droop downward from the terminal leaves, hence the name nodding trillium. The stamens have white filaments and purple anthers. Sepals curve backward.

Cultural Requirements: Southern Nodding Trillium prefers moist soil high in organic matter and shade.

Landscape Uses: Plant Southern Nodding Trillium in shaded, moist woodlands or shaded stream banks.

Size: 12 to 18 inches high

Hardiness Zones: All of Georgia

Habitat: Nutrient-rich deciduous forests, hillsides, coves and alluvial soils along stream banks and rivers

Native To: Alabama, Georgia, North Carolina, South Carolina, Tennessee

Propagation: Seed or division

Seed: Collect seeds when the capsule is soft, about 10 to 12 weeks after flowering. Sow them directly in outdoor beds or flats. Seeds may take up to two years to germinate.

Division: Divide plants in the fall or winter by breaking apart segments of the rhizomes. Each segment should have at least one growing point and fibrous roots. Dust the cut ends with a fungicide before planting.

Comments: Southern Nodding Trillium is rarely encountered in the wild, but it is becoming more common in cultivation. Some say the plant is ill-scented, while others say it smells sweet and spicy.

Images: Page 99

Underwood's Trillium / *Trillium underwoodii*

Family: Lily / *Liliaceae*

Life Cycle: Perennial

Characteristics: Three horizontal sessile leaves are joined at the top of a flowering stem that is 8 to 12 inches tall. The leaves are mottled dark and light green. They are oval, 2 to 4 inches long and 1 to 2 inches wide. They tend to droop downward, almost touching the ground. In spring a solitary maroon and green flower with erect petals is borne at the top of the stem above the leaves. The flower has a spicy fragrance. Seeds are borne in a single fleshy capsule that follows the flower.

Cultural Requirements: This plant prefers partial shade and slightly alkaline soil that is moist and high in organic matter.

Landscape Uses: Use Underwood's Trillium in shaded woodlands where the soil remains moist in summer. Lime may be needed if the soil is too acidic.

Size: 6 to 12 inches and 12 inches wide

Hardiness Zones: All of Georgia

Habitat: Humus-rich calcareous soils in deciduous forests
Native To: North Carolina to north Florida, west to Mississippi

Propagation: Seed or division

Seed: Collect seeds when the capsule is soft, about 10 to 12 weeks after flowering. Sow them directly in outdoor beds or flats. Seeds may take up to two years to germinate.

Division: Divide plants in the fall or winter by breaking apart segments of the rhizomes. Each segment should have at least one growing point and fibrous roots. Dust the cut ends with a fungicide before planting.

Comments: This plant closely resembles Sweet Betsy, *T. cuneatum*; however, most authorities agree that they are separate species.

Images: Page 99

Narrowleaf Ironweed, Tall Ironweed / *Vernonia angustifolia*

Family: Aster / *Asteraceae*

Life Cycle: Perennial

Characteristics: Narrow lance-shaped leaves, 1½ to 4½ inches long and ⅛ to ¼ inch wide, are borne on the top of a solitary stem growing 2 to 4 feet tall. In mid-summer, maroon flowers appear in branched clusters at the top of the stem. Petals are bristled and arranged in two whorls. White stamens with brown anthers rise above the flowers.

Cultural Requirements: This plant prefers sun and well-drained soil. Once established, it has good drought tolerance.

Landscape Uses: Narrowleaf Ironweed is an excellent plant for dry sandy perennial borders where little else will grow. It is an excellent choice for rock gardens and butterfly gardens.

Size: 2 to 4 feet tall and 1 foot wide

Hardiness Zones: All of Georgia

Habitat: Sand hills and scrub-oak woodlands

Native To: Louisiana, Mississippi, Alabama, Georgia,

Florida, North and South Carolina

Propagation: Seed, cuttings or division

Seed: Harvest seeds when flower heads become white and fluffy in the fall. Store them dry at 40°F for one to three months before sowing them outside in beds or flats in December or January. Germination should occur the following spring.

Cuttings: Cuttings can be taken in the spring after new growth hardens.

Division: Plants can be divided in early spring as new growth emerges.

Comments: Narrowleaf Ironweed is attractive to butterflies. A cultivar called 'Plum Peachy' is available in the trade. It grows 4 feet tall and has dark purple flowers. Ironwood species need to be separated because they will hybridize readily and their offspring may not resemble the parents.

Images: Page 99

Ironweed, New York Ironweed / *Vernonia noveboracensis*

Family: Aster / *Asteraceae*

Life Cycle: Perennial

Characteristics: This clump-forming perennial has stiff branched stems bearing dark-green lance-shaped leaves up to 11 inches long. In August and September, small flower heads appear in large, loosely branched, flat-topped clusters at the top of the stems. Flower heads consist of maroon disk flowers.

Cultural Requirements: Ironweed prefers full sun and moist acidic soil, but it also will adapt to dry soil. It tolerates clay and neutral to acid conditions. It does not like to be over-watered. Remove flower heads before seeds develop to avoid unwanted self-seeding. Cutting back stems close to ground level in late spring will encourage more compact growth.

Landscape Uses: Use Ironweed as a background plant in perennial borders, cottage gardens, wildflower gardens, butterfly gardens or meadows. It will naturalize where planted.

Size: 4 to 7 feet tall with a spread of 3 to 4 feet

Hardiness Zones: All of Georgia

Habitat: Marshy areas, wet open bottomlands and moist pastures

Native To: Massachusetts to Ohio, south to Georgia and Mississippi

Propagation: Seed, cuttings or division

Seed: Harvest seeds when the flower head becomes fluffy in the fall. Store them dry at 40°F for one to three months before sowing them outside in flats or beds in December or January.

Cuttings: Cuttings can be taken in the spring after new growth hardens.

Division: Plants can be divided in early spring as new growth emerges.

Comments: The name Ironweed refers to plant's tough stems, rusty color of fading flowers and rusty colored seeds. Butterflies are attracted to the flowers.

Images: Page 99

Halberdleaf Yellow Violet / *Viola hastata*

Family: Violet / *Violaceae*

Life Cycle: Perennial

Characteristics: Stems up to 10 inches long bear alternate leaves approximately 4 inches long. The leaves are triangular in shape, widest at their bases and tapering toward their tips. They are dark green and often have blotches of silvery-gray between their veins. Single yellow flowers with five petals appear in early spring on a stalk arising from leaf axils on the upper portion of the stems. There is only one flower at each leaf axil. The centers of the flower petals have dark lines, and the backs of the petals have a purple tinge. The plant spreads by rhizomes. Seeds are borne in capsules.

Cultural Requirements: Halberdleaf Yellow Violet prefers woodland soil high in organic matter and partial shade.

Landscape Uses: Use this plant in deciduous woodlands with filtered shade.

Size: 4 to 10 inches tall and 6 inches wide

Hardiness Zones: All of Georgia

Habitat: Dry to mesic acidic forests and open woodlands

Native To: New York to Florida, west to Mississippi, north to Tennessee, Kentucky and Ohio

Propagation: Seed or cuttings

Seed: Collect seed capsules before they explode and cast their seeds. Place them in a paper bag to dry and release their seeds, then sow the seeds in outdoor beds or flats. No pre-treatment of the seeds is required before planting. They should germinate the following spring.

Cuttings: Root cuttings can be taken in February.

Comments: The name "Halberdleaf" comes from the resemblance of the leaves to the blade of a halberd (a combination spear and battle-ax used as a weapon in the 15th and 16th centuries.) This is an easy plant to grow, and the attractive foliage is worth the effort.

Images: Page 100

Alpine Violet, Woods Violet / *Viola labradorica* (Syn. *Viola conspersa*)

Family: Violet / *Violaceae*

Life Cycle: Perennial

Characteristics: Small, dark-green, heart-shaped leaves grow from the crown of the plant on short stalks. From April to June, two to four flowering stalks emerge bearing pale blue to purple flowers. Seeds are borne in capsules.

Cultural Requirements: Alpine Violet prefers moist, well-drained soil and sun to partial shade. It will adapt to dry sites.

Landscape Uses: Alpine Violet may be used as a ground-cover between stepping stones in butterfly gardens or rock gardens. It will naturalize.

Size: 4 to 6 inches tall

Hardiness Zones: All of Georgia

Habitat: Rich flood plains and seepage slopes

Native To: Maine, south to Florida, west to Alabama, north to Minnesota. It is also found in Colorado and Montana.

Propagation: Seed or cuttings

Seed: Collect capsules before they burst and cast their seeds. Place them in a paper bag to dry and release their seeds. Sow the seeds in outdoor beds or flats. No pre-treatment of the seeds is required before planting. They should germinate the following spring.

Cuttings: Root cuttings can be taken in February.

Comments: The flowers attract butterflies.

Images: Page 100

Bird's Foot Violet / *Viola pedata*

Family: Violet / *Violaceae*

Life Cycle: Perennial

Characteristics: Leaves are oval to round, $\frac{3}{4}$ to 2 inches long, and deeply cut into three to five narrowly lobed segments. Leaf petioles are 4 to 6 inches long. In spring, pale purple pansy-like flowers, 1 to 1½ inches across, are borne above the leaves. They have two upper petals and three lower petals. The upper petals are smaller than the lower petals. Seeds are borne in capsules.

Cultural Requirements: Bird's Foot Violet likes full sun or partial shade and dry, rocky or sandy soil. It does not like competition from other plants and must have good drainage.

Landscape Uses: Use this plant in rock gardens, as a ground cover on slopes, in open woodlands, along paths or in sunny areas of wildflower gardens.

Size: 4 to 12 inches high with an equal spread

Hardiness Zones: All of Georgia

Habitat: Rocky open woodlands, roadsides, sandy prairies and pinelands

Native To: Maine to Georgia, west to Texas, north to Nebraska and Minnesota

Propagation: Seed or cuttings

Seed: Collect capsules before they burst and cast their seeds. Place them in a paper bag to dry and release their seeds. Sow the seeds in outdoor beds or flats. No cold treatment of the seed is required prior to sowing. They should germinate the following spring.

Cuttings: Root cuttings can be taken in February.

Comments: Bees and butterflies pollinate the flowers.

Images: Page 100

Longspur Violet / *Viola rostrata* Family: Violet / *Violaceae*

Life Cycle: Perennial

Characteristics: Basal leaves are heart-shaped and 1 to 1½ inches wide. Stem leaves are slightly smaller than the basal leaves and oval in shape. Both the basal leaves and stem leaves have toothed margins. Flowers open in April and May and consist of five lilac-purple petals with dark veins and a dark purple base that forms a dark center eye. A long spur rises from the bottom petal and extends behind the flower. The distinctly long spur and dark spots on the petals help distinguish this plant from other purple violets. Fruit are capsules that contains brown seeds. The plant spreads by rhizomes.

Cultural Requirements: Plant Longspur Violet in full sun or partial shade and moist organic soil.

Landscape Uses: Use Longspur Violet in moist woodlands and along the edges of perennial borders.

Size: 4 to 8 inches tall and 6 inches wide, spreading

Hardiness Zones: All of Georgia

Habitat: Moist, organic shaded woodlands. It is often found growing in hemlock forests.

Native To: New Hampshire, south to Georgia, west to Alabama, north to Minnesota

Propagation: Seed or cuttings

Seed: Collect capsules before they burst and cast their seeds. Place them in a paper bag to dry and release their seeds. Sow the seeds in outdoor beds or flats. No pre-treatment of the seeds is required before planting. They should germinate the following spring.

Cuttings: Root cuttings can be taken in February.

Comments: The species name “*rostrata*” means beaked and describes the long flower spur.

Images: Page 100

Atamasco Lily, Rain Lily / *Zephyranthes atamasca* Family: Amaryllis / *Amaryllidaceae*

Life Cycle: Perennial

Characteristics: Narrow, linear, grass-like leaves emerge from the bulb in spring. A single showy, white, lily-like flower is borne on a leafless stalk in mid- to late spring. The flower turns pink with age. The fruit is a single green capsule that turns black with age.

Cultural Requirements: This plant prefers moist to wet soil high in organic matter. It also likes filtered shade or morning sun followed by afternoon shade.

Landscape Uses: Atamasco Lily is a great plant for moist perennial borders in partial shade.

Size: 8 to 15 inches tall

Hardiness Zones: 7, 8

Habitat: Bottomlands, granite and limestone outcrops, ditches, wet woods and moist meadows

Native To: Southeast Virginia to Florida and Mississippi

Propagation: Seed or division

Seed: Collect seeds when capsules turn yellow and split, then sow them directly in outdoor flats. Germination should occur in about two weeks when the temperature is maintained at 70°F. Plants grown from seeds take two to three years to bloom.

Division: Bulblets can be separated from the mother bulb in the fall or early spring.

Comments: This plant tends to flower after rain, hence the common name Rain Lily.

Images: Page 101

Golden Alexander, Golden Zizia / *Zizia aurea*
Family: Carrot / *Apiaceae*

Life Cycle: Perennial

Characteristics: Leaves are 1 to 2 inches long, divided and sometimes re-divided into lance-shaped or oval leaflets that are finely toothed along their margins. Stems are reddish. In the spring, small yellow flowers with five petals are borne in a large flat-topped flower head, looking much like Queen Anne's Lace. Seed heads turn purple as they dry, adding interest to the summer landscape.

Cultural Requirements: Golden Alexander prefers partial shade and moist, well-drained, sandy or sandy-clay soil.

Landscape Uses: Use this plant in perennial borders, wildflower meadows or butterfly gardens. It will naturalize in open woodlands.

Size: 1 to 3 feet tall

Hardiness Zones: All of Georgia

Habitat: Moist prairies, thickets, alluvial flood plains and stream banks

Native To: The eastern U.S., west to Texas, north to North Dakota and Montana

Propagation: Seed or division

Seed: Collect seeds when they turn brown in the fall. Store them dry for four months at 40°F before planting them in outdoor beds or flats. Germination should occur in the spring.

Division: Plants can be divided from late fall through winter.

Comments: Flowers hold up well in floral arrangements. The flowers attract butterflies, and the plant has good deer tolerance. Another species, *Thaspium trifoliatum*, is also called Golden Alexander and is sometimes confused with this plant.

Images: Page 101

Glossary

Achene: A small, dry fruit with one seed that does not split open when ripe.

Alluvial: Referring to a soil made up of sand, clay, silt, etc. that was gradually deposited by moving water.

Anther: The organ at the upper end of a flower stamen that secretes and discharges pollen.

Appressed: Lying flat or closely pressed against something.

Awl-shaped: Tapering upward from the base to a slender rigid point.

Axil: The angle between a stem and the upper side of a leaf.

Axillary: Pertaining to or growing from the axil.

Beard: A beard-like growth at the base of each of the three lower, recurved petals of many varieties of iris.

Biennial: A plant that requires two growing seasons to complete its life cycle. It grows vegetatively the first growing season, then flowers, fruits and dies at the end of the second growing season.

Bipinnate: Once divided.

Bulb scales: Rudimentary modified leaves, overlapping and thickened, that constitute the bulb.

Bulblet: Small bulb growing from the main bulb, which can be removed to propagate additional plants.

Bract: A modified leaf, usually smaller than the ordinary foliage leaves, that occurs just below a flower or inflorescence.

Calcareous: Containing calcium carbonate, calcium or limestone; chalky.

Calyx: The undermost series of flower parts composed of sepals, which are usually green and leaflike but may be colored.

Capsule: A fruit containing two or more seeds that dries and splits open.

Cauline: Having or growing on a stem.

Corm: A short, broad, fleshy underground stem with a vertical axis.

Corolla: The second lowest series of flower parts, composed of petals.

Corymb: A flat-topped flower cluster in which the individual stalks grow upward from various points of the main stem to approximately the same height. The stalks of the individual flowers are of varying lengths, longer on the outside of the corymb and shorter towards the center.

Crown: The point at or just below the ground where the stem and the root join.

Cyme: An often flat-topped flower cluster that blooms from the center toward the edges and whose main axis is always terminated by a flower.

Decumbent: Trailing on the ground and rising at the tip.

Disk flower: Any of the tiny tubular flowers forming the center of the flower head of certain plants of the *Asteraceae* family, such as the daisy.

Elliptic: Narrow at the ends and broad near the center.

Falls: Pendulous outer petals, such as those on an iris.

Flatwoods: Low-lying flat timberlands.

Globose: Spherical

Habit: Tendency of a plant to grow in a certain way.

Internode: The region of the stem between two successive nodes.

Involucre: A ring of small leaves or bracts at the base of a flower, flower cluster or fruit. Involucres are found in all plants of the *Asteraceae* family.

Lance-shaped: Elongated, broadest below the middle and gradually pointed toward the tip. Lanceolate: Tapering from a rounded base toward an apex. Lance-shaped.

Lip: A lip-shaped corolla, calyx or petal.

Lobe: A subdivision, as of a leaf, distinguishable by some structural boundary.

Mafic: Pertaining to rocks containing magnesium and iron and a comparatively low level of silica.

Node: A point on a stem where a leaf and its axillary bud are borne.

Nutlet: One of several small, nut-like parts of a compound fruit.

Obovate: A leaf that is egg-shaped, with the narrow end attached to the stalk.

Ovate: A leaf that is egg shaped, broad and rounded at the base and tapering toward the end.

Palmate: A leaf that is radially lobed, like the spokes of a wheel. Imagine a leaf shaped like the palm of the hand, with lobes radiating outward from one central point.

Panicles: Loose, irregularly compound inflorescence flowers borne on short stems or pedicels.

Pappus (pl. pappi): A bristly, feathery or fluffy whorl crowning the ovary or fruit of plants in the *Asteraceae* (syn. *Compositae*) family. The pappi are adapted for the dispersal of seed by wind or other means.

Pedicle (also spelled Pedicel): The stalk of a single flower.

Perfoliate: Having a stem that seems to pass through the blade of a leaf.

Petaloid: Resembling a flower petal in form, texture and color.

Petiole: A leaf stalk.

Pinnate: Feather-like in structure, with the parts (leaflets) arranged on both sides of a center line (midrib or midvein).

Pistil: The seed-bearing organ of a flower, including the stigma, style and ovary.

Pith: Soft spongy tissue in the center of some plant stems.

Plumose: Feathery or plume-like.

Pocosin: A depression in open areas of pine savannahs and seepage slopes near streams.

Pubescent: Covered with a soft down.

Raceme: An elongate cluster of flowers along the main stem in which the flowers at the base open first.

Ray flower: Any of the flat, strap-shaped marginal flowers around the head of certain composite flowers, such as the daisy.

Recurved: Curved downward or backward.

Rhizome: (noun) An underground stem that is usually horizontal in position and frequently woody or fleshy. (adjective: rhizomatous)

Scape: A leafless flower stalk growing from the crown of the root.

Scarification: To slit or soften the outer covering of seed to hasten germination.

Sepal: One of the lower cycle of flower parts (the calyx), often green and leaflike. May be colored like the petal in some species.

Serrate / serrated: Toothed along the leaf margins.

Sessile: Attached directly, without a stalk.

Spadix: A fleshy spike on which the flowers of certain plants are borne. It is usually surrounded by a leaflike spathe.

Spathe: A bract or leaf enclosing a flower cluster or spadix.

Stamen: The male reproductive part of a flower, usually consisting of a slender threadlike filament and the pollen-bearing anther.

Staminate: A flower lacking female parts, having only stamens (male parts).

Stigma: The tip of a pistil, usually expanded and sticky, that receives pollen.

Stolon: An elongated horizontal branch stem that creeps along the surface of the ground and roots at the tip and nodes to produce a new plant.

Stratify: To enhance seed germination by providing seeds a period of cool or warm temperatures. It is also sometimes referred to as after-ripening.

Style: That part of the pistil between the stigma (tip) and ovary (expanded hollow portion containing ovules).

Swale: A shallow depression or low area of land.

Tepal: A petal-like part of a flower, such as tulips, in which the calyx and corolla are not clearly differentiated.

Umbel: A flower cluster, usually rounded or flat-topped, with all stems springing from the same point.

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