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Favorite Perennials for Pollinators

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Summary

The State Botanical Garden of Georgia (SBGG) has a long-standing commitment to promoting the use of Georgia native plants in landscapes. Native plants are the foundation of nature's food web upon which all other wildlife depends. The SBGG grows over 175 species of grasses, forbs, trees, and shrubs for annual plant sales and native garden installations across Georgia. The honey bee's decline is threatening to impact the production of many food crops. This has been widely publicized; however, less well publicized are the decline of native bees, which is adversely affecting ecosystem stability. Gardeners have an increasing appreciation of nature and the importance of native plants in the food web. We list some SBGG recommended native perennial plants which are excellent pollen sources for domesticated and native bees, as well as other pollinators.

INTRODUCTION

The State Botanical Garden of Georgia (SBGG) recognizes the critical role native plants play in preserving nature as we know and love it. We have a long-standing commitment to promote the use of Georgia native plants in all of Georgia's landscapes (Fig. 1). Mounting scientific evidence confirms that native plants are the foundation of nature's food web upon which all other wildlife depends. At the (SBGG), native plants are propagated for restoration projects at the garden and across the state (Fig. 2). The SBGG grows over 175 species of grasses, forbs, trees, and shrubs for annual plant sales and native garden installations across Georgia (Fig. 3).

Connect to Protect

- **Support** wildlife
- **Encourage** schools, businesses and parks to include native plants in their landscapes.
- **Provide** teaching materials to foster an appreciation for the connections between plants, animals, and people.

Figure 1. The State Botanical Garden of Georgia has programs to support wildlife, provides teaching materials and encourage the use of native plants in the landscape.

Figure 2. At the State Botanical Garden of Georgia, native plants are propagated for restoration projects at the garden and across the state. Some of our partners in habitat recovery in forests, floodplains, and grasslands include the Fish and Wildlife Service, Georgia Dept. Natural Resources, and U.S. Forest Service.

Figure 3. The State Botanical Garden of Georgia grows over 175 species of grasses, forbs, trees, and shrubs for annual plant sales and native garden installations across the state.

Native plants are becoming ever more popular as their role in sustaining nature is revealed. The honey bee's decline is threatening to impact the production of many food crops. This has been widely publicized; however, less well publicized are the decline of native bees, which is adversely affecting ecosystem stability. The Monarch Butterflies' was listed as an endangered by the U.S. Fish and Wildlife in 2015. This resulted in national shortages of the native Monarch host plant, Milkweed, which was in great demand by consumers to plant in their gardens as Monarch butterfly food source. The Milkweed/Monarch Butterfly co-dependency illustrates the connection between plants and animals. This example is changing the mentality of many consumers as gardeners. As such, gardening with native plants is not a fad. Gardeners have an increasing appreciation of nature and the importance of native plants in the food web.

However, native plants are hard to find. Commercial growers are often uncertain what plants are technically native, as "native" may be interpreted differently by people. Another obstacle to native plant availability is the lack of information on how to produce them or what species to grow.

PROPAGATION METHODS

Each of the species listed in this paper may be propagated using the same germination, cutting and potting mixes, and fertilizer routines. The propagation, material needs and production conditions are explained below.

Growing media and fertilization

With the exception of wetland plants, native perennials need good drainage or root rot can develop. The Southern U.S. warm summer nights [> 21 °C (>70 °F)] and high humidity increase the risk of root rot. To achieve good drainage, we rely on composted pine bark. The ideal bark particle size is between 1.3 to 2.5 cm (0.5 and 1-in.). The mix will retain too much water if it is too fine, and bigger chunks do not adhere well to roots. The basic native plant perennial mix was adapted from Bill Cullina's mix at the New England Wildflower Society. Where Cullina uses peat moss, we use a modified standard potting mix that has a peat moss base with additional pine bark and perlite for extra drainage. We use a potting mix that has about 65% composted or aged pine bark, which is typical.

<u>Native Perennial Media</u>

- 3 parts composted or aged pine bark
- One-part potting soil
- 0.75 lb. dolomitic lime per cubic foot
- 1 cup of slow release fertilizer (10N :10P: 10K) per cubic foot

Fertilizer is critical as potting mix nutrients are exhausted after a month or so. We have tried various brands and ratios of fertilizer and not noticed much difference among brands. Hen-manure-based organic fertilizer with 5:3:3 (5N-1.3P-2.5K) ratio incorporated into the Native Perennial Mix also works well. After potting, fertilize up to once a week or as needed with a balanced 300 ppm liquid fertilizer.

A standard potting mix with about 40% processed pine bark may be used for starting seedlings. After about 3 months, seedling will start needing additional fertilizer as the potting mix loses its starter charge of fertilizer. Growing mediums sold as "germination mix" tend to stay too wet for many native plants.

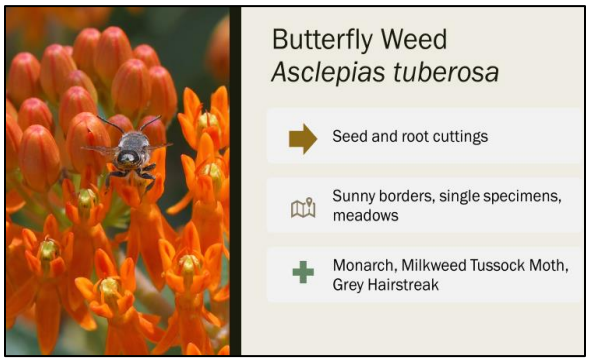
For cuttings, the following mix works great for the species listed in this manual. Because our greenhouse tends to stay too warm in the ideal months for rooting most cuttings (May-June), we have started keeping cuttings under fluorescent lights (with a timer for 18 hours of light per day) in a room set at 70 degrees Fahrenheit. Keep the cuttings in a sealed plastic bag or under clear plastic covers. Substrate was 3-parts perlite/1-part peat.

Environmental Conditions

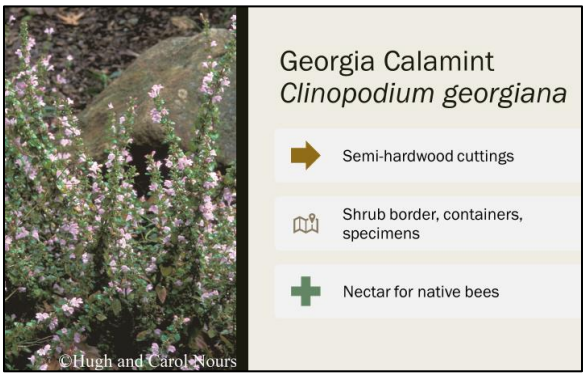
There is a fair amount of leeway in the timing of sowing seeds for the species included in this manual. Seedlings do best with soil temperatures around 21 °C (70 °F). You do not need a greenhouse to raise Georgia native plants, but horticultural heating pads are helpful for getting seeds going in early spring. We time seed stratification periods so that seeds come out of the refrigerator in spring or summer. All seeds can be stratified in damp wet sand in a refrigerator at 2-5 °C (35-41 °F). A 40% shade cloth or greenhouse whitewash is recommended - even for full sun plants. Shade keeps plants cooler and helps prevent desiccation in the heat of the summer. For shade plants, use a 50% or 60% shade cloth, or the shade of tall trees. Let your native plants go dormant in the winter, so they regrow in the spring.

FAVORITE GEORGIA NATIVES FOR POLLINATORS

***Asclepias tuberosa* – Butterflyweed.** This wildflower is a must-have plant for the biodiversity-conscience gardener (Fig. 4). This drought-tolerant and deer-resistant perennial works well in sunny borders, meadows and as single specimens. Few plants have such a vibrant orange color. This species is the larval host plant for the Grey Hairstreak, Monarch, and Queen Butterflies, Milkweed Tussock Moths, and several others. It a nectar source for bees, butterflies, and hummingbirds.

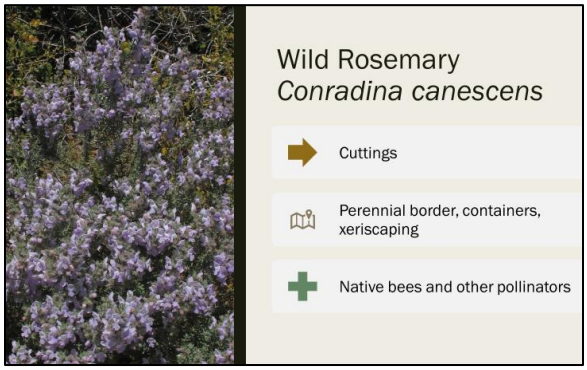


***Clinopodium georgiana* – Georgia Calamint.** Georgia Calamint is an underutilized small shrub with a desirable mounding growth habit that is easy to grow (Fig. 5). Plants bloom reliably and profusely in the fall, serving as a nectar source for native bees and other pollinators.



***Chrysopsis mariana* – Maryland Goldenaster.** A particularly useful plant for xeriscaping, containers, and sunny borders (Fig. 6). In summer, this diminutive aster shoots up a 0.6 m (2-ft.) flowering stem topped with cheerful flower heads. It has interesting leaves covered with gauze-like webby hairs. Native bees and other pollinators frequent the flower. It is the host plant for Camphorweed Cucullia moth.

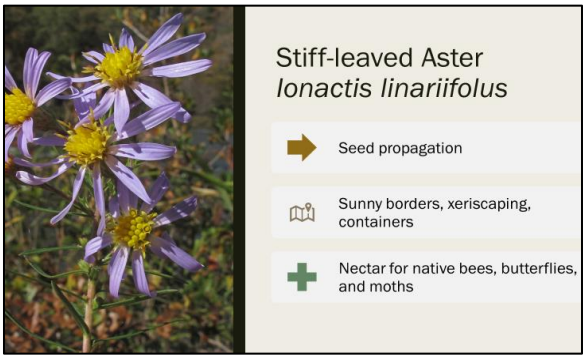
Conradina canescens – **False Rosemary, Wild Rosemary.** Wild Rosemary is a small evergreen woody shrub with needle-like gray-green leaves that smell like lavender when crushed (Fig. 7). This plant looks great as a specimen, shrub border, or in a container. It blooms abundantly in April, supporting native bees and other pollinators.



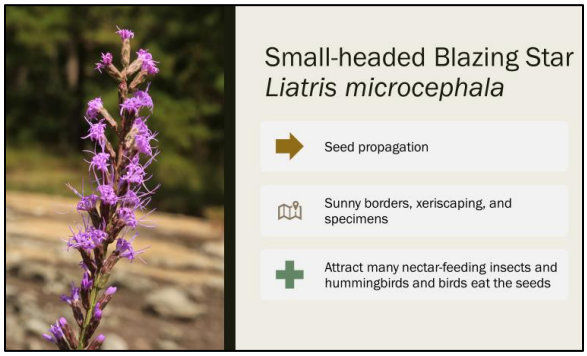
Eryngium yuccifolium – **Rattlesnake Master.** It is a distinctive member of the carrot family with rosettes of long, gray sword-shaped leaves and ball-shaped flower heads resemble that of thistles - with spiny bracts and tiny white flowers (Fig. 8). This unusual plant is easy to grow and has a striking appearance that lends itself to specimen plantings and containers. Rattlesnake Master is the larval host plant for the Black Swallowtail and its flowers attract many native bees.

Helianthus atrorubens – **Appalachian Sunflower, Purple-disk Sunflower.** This sunflower is found in grasslands and roadsides. It is tolerant of a variety of soil types and drought-resistant (Fig. 9). Stems can reach 1.5-1.8 m (5-6 ft) tall, making it a great candidate for the background of perennial beds or meadows in full sun. Daisy-shaped flowers have dark reddish-purple centers for which it is also called purple-disk sunflower. It is a good source of nectar for bees and butterflies. It is the larval host plant for the Silvery Checkerspot and 72 other native butterflies and moths! In the fall - birds will feed on its seeds.

Ionactis linariifolius – **Stiff-leaved aster.** This is another great option for sunny borders, containers, or rock gardens (Fig. 10). This aster may be few to many stemmed, forming a spray or mound, with each reddish stem covered in small, stiff, needle-shaped leaves which turn an attractive golden brown in the fall. Flower heads are small [1.5 cm (0.5 in. wide)], with lemon yellow centers and baby blue rays. Its flowers are a nectar source for bees, butterflies, and moths.



***Liatris microcephala* – Small Headed Blazing Star.** It is a great option for sunny borders or as single specimens. Blazing star grows erect, tall spikes [0.6-1.2 m (2-4 ft)] and is densely packed with tiny, bright purple flowers (Fig. 11). The vibrant flowers are tiny, yet borne by the thousands - providing abundant pollen and nectar for bees and butterflies from July-September. It tolerates a range of soils from well-drained to clay - but becomes too large in rich soil, thus requiring staking. Its flowers provide nectar to many butterflies and moths.



***Scutellaria incana* – Downy or Hoary Skullcap**. It inhabits shady, upland woods. Downy Skullcap does well under a variety of soil types, from full-sun to part-shade. In late summer, clusters of tubular [2.5 cm (1-in.)]-long, purplish-blue flowers put on a great show (Fig. 12). Like most mint relatives, Skullcap is deer resistant. It supports bees and other pollinators.

***Solidago petiolaris* – Downy Goldenrod.** This is one of the prettiest, smaller goldenrods (Fig. 13.). Its flowers are in dense, spike-like clusters at the top of stems, creating a yellow plume from August to October. It is great for a sunny border, meadow, or prairie. Its flowers are a great source of late-season nectar and pollen for butterflies, moths, and bees.