

# Growing the Pollinator's

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# Background

- B.S. – Auburn University, 2014
  - Crop, Soil, and Environmental Sciences – Production Track
- M.S – Auburn University, 2018
  - Horticulture
  - Studied irrigation management in bedding plant production
- Ph.D. – Mississippi State University, 2022
  - Plant and Soil Sciences – Horticulture
  - Plant propagation and plant physiology of ornamental shrubs



# Creating a Pollinator Garden

- Pollinator garden's provide valuable sources of food, nectar, water, protection, and larval host plants.
- Many plants can provide for multiples of these needs, such as a food source for adult and larva insects, or providing nectar for insects and seeds (or fruit) for birds

# Pollinator Garden

- A well-planned pollinator garden should include:
  - Food
    - Flowering plants provide nectar sources throughout the season.
  - Water
    - Decorative water features provide water sources for insects, birds, and other small wildlife
  - Shelter/Nesting Sites
    - Some bee species use hollow plant stems (cavity nesting bees) and bare ground (Ground-nesting)
  - Multiple Benefits
    - Many other animals may take advantage of the desirable habitat available

# Arkansas Plant Hardiness Zones

- USDA hardiness zones are divided into 12 distinct zones related to the average lowest minimum temperature for a given location
- There are 4 distinct growing zones that make up Arkansas:
  - **Zone 6b (-5 to 0 °F)**



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  - Zone 7a (0 to 5 °F)
  - **Zone 7b (5 to 10 °F)**



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- There are 4 distinct growing zones that make up Arkansas:
  - Zone 6b (-5 to 0 °F)
  - Zone 7a (0 to 5 °F)
  - Zone 7b (5 to 10 °F)
  - **Zone 8a (10 to 15 °F)**





# Plants for Pollinators

# Anise Hyssop (*Agastache foeniculum*)

- Herbaceous Perennial
  - Native to N. America
  - Full Sun to part shade
  - 2-4' tall and 1-3' wide
  - USDA Hardiness Zone: 4-8
  - Bloom Time: Summer into Fall
  - Attracts: Butterflies, Bees, and Hummingbirds
  - Great, low maintenance plant for average soils
  - Spreads rapidly by self-seeding



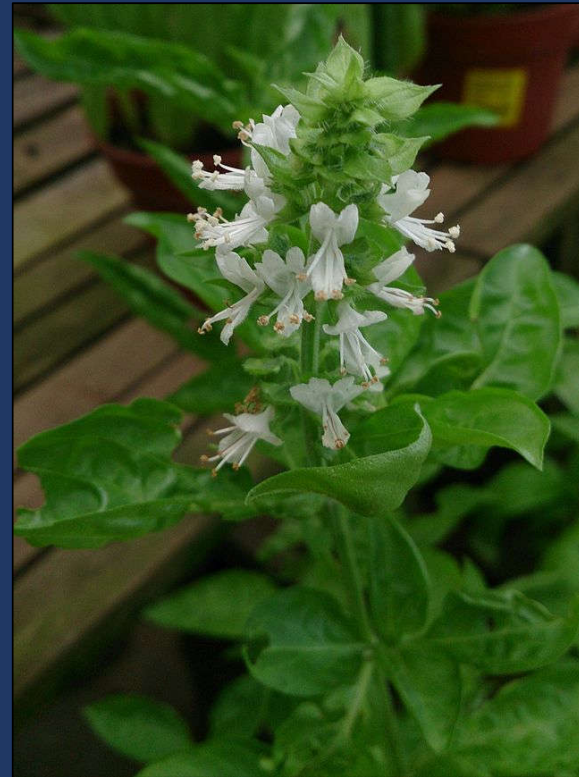
# Astilbe (*Astilbe spp.*)

- Herbaceous perennial
  - Native to N. America and Asia
  - Part Shade to full shade
  - 1-2' tall and 1 ½-2 ½' wide
  - USDA Hardiness Zone: 3-8
  - Blooms: Late Spring into Early Summer
  - Attracts: Butterflies, bees, and other pollinators
  - Prefers rich, moist soil; foliage may die back if it gets too dry.



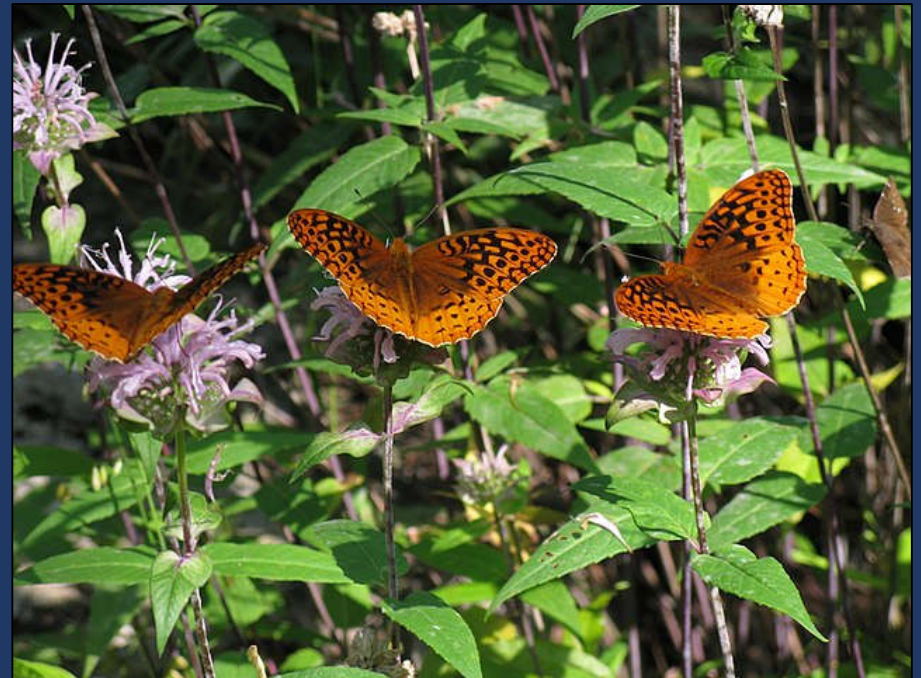
# Basil (*Ocimum basilicum*)

- Annual Herb
  - Native to Tropical Asia
  - Full Sun
  - 1 ½ -2' tall and 8-14" wide
  - USDA Hardiness Zone: 2-11
  - Blooms: Summer
  - Attracts: Butterflies, bees, and other pollinators



# Bee Balm (*Monarda fistulosa*)

- Herbaceous Perennial
  - Native to N. America
  - Full Sun to Part Shade
  - 2-4' tall and 1-4' wide
  - USDA Hardiness Zone: 3-9
  - Bloom Time: Mid to Late Summer
  - Attracts: Butterflies, bees, and hummingbirds
  - Several cultivars are available on the market



Great Spangled Fritillary (*Speyeria Cybele*) on Bee Balm

# Blazing Star (*Liatris spicata*)

- Herbaceous perennial
  - Native to N. America
  - Full Sun
  - 2-4' tall and 6-12" wide
  - USDA Hardiness Zone: 3-8
  - Bloom time: Mid/Late Summer into Fall
  - Attracts: Bees, butterflies, birds, hummingbirds
  - Larval host plant for the Flower moth
  - Prefers full sun and moist soils, tolerates occasional drought



# Blue False Indigo (*Baptisia australis*)

- Herbaceous Perennial
  - Native to N. America
  - Full Sun to Part Shade
  - 3-4' tall and wide
  - USDA Hardiness Zone: 3-9
  - Bloom Time: Late Spring to Early Summer
  - Attracts: Butterflies, bees, and other pollinators
  - Larval plant host for many butterfly species
  - Once established, resistant to deer, rabbits, drought, and poor soil conditions



# Blue Vervain (*Verbena hastata*)

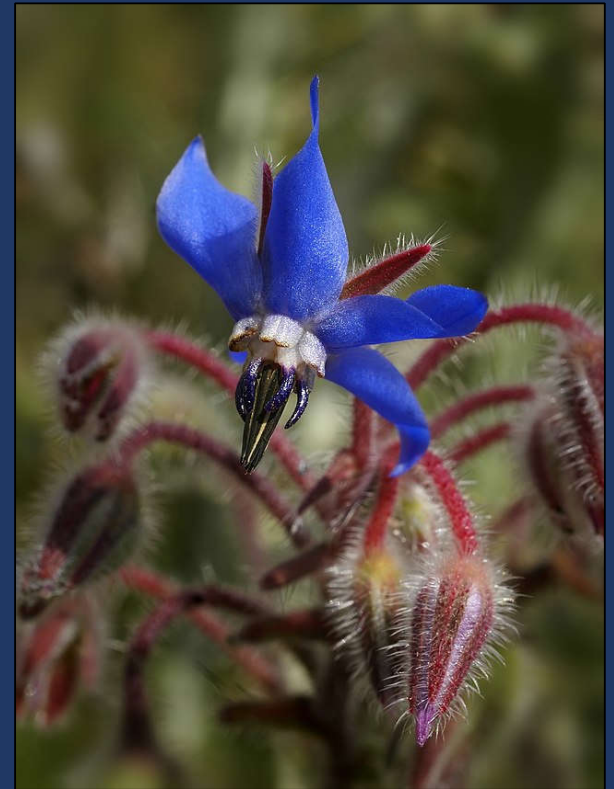
- Herbaceous Perennial
  - Native to N. America
  - Full Sun
  - 4-5' tall and 1-2' wide
  - USDA Hardiness Zone: 3-8
  - Bloom Time: Summer thru early Fall
  - Attracts: Birds, butterflies, and other pollinators
  - Larval Host Plant: Verbena Moth and Common Buckeye Butterfly
  - Spreads by underground rhizomes and by seed





# Borage (*Borago officinalis*)

- Annual Herb
  - Native to the Mediterranean
  - Full Sun
  - 2-3' tall and 2' wide
  - USDA Hardiness Zone: 2-11
  - Bloom time: Late Spring to Early Summer
  - Attracts: bees and other pollinators
  - Larval host plant for the Painted Lady Butterfly



# Buttonbush (*Cephalanthus occidentalis*)

- Deciduous Shrub
  - Native to N. America
  - Full Sun to Part Shade
  - 5-12' tall and 5-8' wide
  - USDA Hardiness Zone: 5-9
  - Bloom time: Mid-summer
  - Attracts: Bees, butterflies, and hummingbirds
  - Larval host plant: Titan Sphinx Moth, Hydrangea Sphinx Moth, and Royal Walnut Moth



# Coral Honeysuckle (*Lonicera sempervirens*)

- Vine
  - Native to N. America
  - Full Sun
  - 10-25' tall and 3-6' wide
  - USDA Hardiness Zone: 4-9
  - Bloom Time: Late spring to Early Summer
  - Attracts: Hummingbirds, birds, butterflies, bees
  - Larval Host Plant: Spring Azure and Snowberry Clearwing Moth
  - Excellent to grow along large trellis or fence row.
  - Tolerant of a variety of soils



# Cosmos (*Cosmos spp.*)

- Herbaceous Annual
  - Native to C. and S. America
  - Full Sun
  - 1-6' tall and 1-3' wide
  - USDA Hardiness Zone: 2-11
  - Bloom time: Late spring thru Fall
  - Attracts: Butterflies and bees



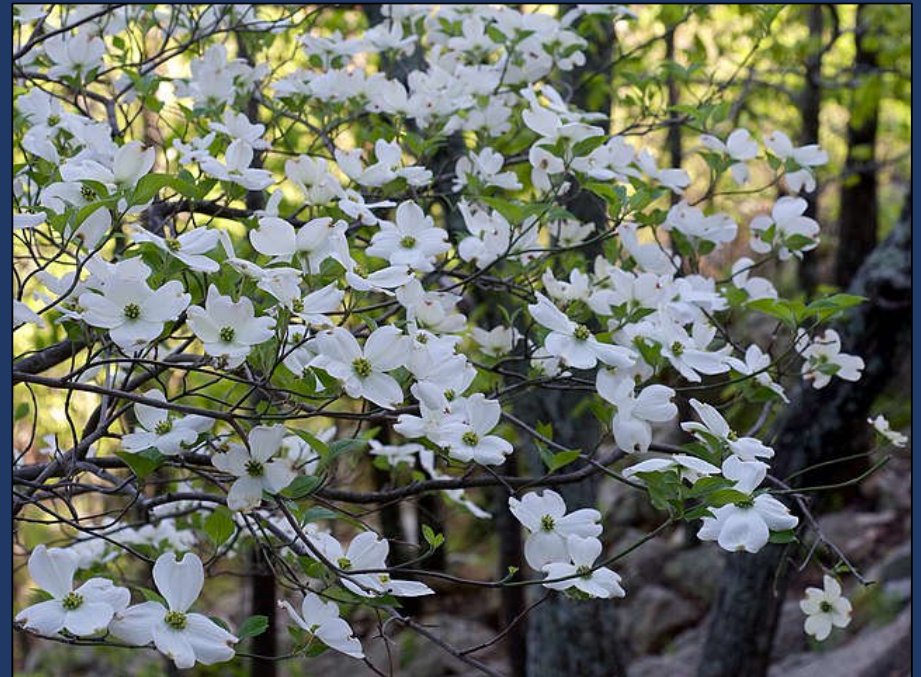
# Dill (*Anethum graveolens*)

- Annual Herb
  - Native to N. Africa and Arabian Peninsula
  - Full Sun
  - 2-3' tall and 1 ½-2' wide
  - USDA Hardiness Zone: 2-11
  - Bloom Time: Summer
  - Attracts: Butterflies, bees, and other pollinators
  - Larval host for the Black Swallowtail



# Dogwood (*Cornus florida*)

- Small tree
  - Native to N. America
  - Full Sun to Part Shade
  - 10-15' tall and 15-30' wide
  - USDA Hardiness Zone: 5-9
  - Bloom Time: Spring
  - Attracts: Butterflies, bees, and birds
  - Larval host for the Spring Azure Butterfly



# Fennel (*Foeniculum vulgare*)

- Herbaceous perennial
  - Native to the Mediterranean
  - Full Sun
  - 4-6' tall and 1-3' wide
  - USDA Hardiness Zone: 4-9
  - Bloom Time: Summer
  - Attracts: Butterflies, bees, and other pollinators
  - Larval host plant for the Black Swallowtail



# Foxglove (*Digitalis purpurea*)

- Herbaceous perennial
  - Native to Europe
  - Full Sun to part shade
  - 1-3' tall and wide
  - USDA Hardiness Zone: 4-8
  - Bloom Time: Late Spring to Early Summer
  - Attracts: Hummingbirds and bees





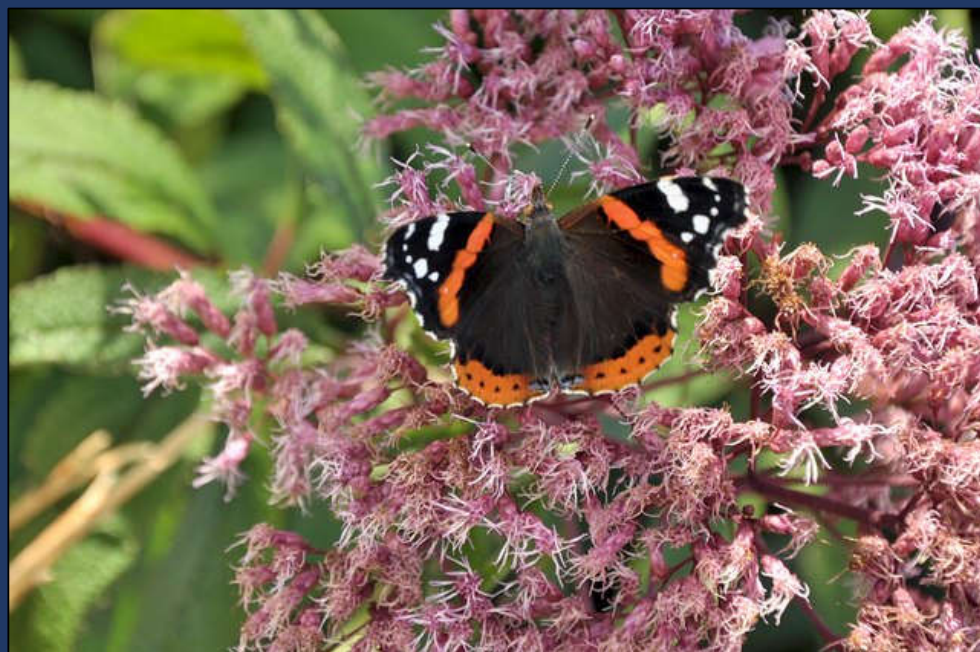
# Hibiscus (*Hibiscus grandiflorus*)

- Herbaceous perennial
  - Native to the United States
  - Full Sun to Part Shade
  - 6-15' tall and 2-4' wide
  - USDA Hardiness Zone: 8 thru 11
  - Bloom time: Spring into Summer
  - Attracts: Butterflies, bees, hummingbirds and other pollinators
  - Larval host for the Gray Hairstreak Butterfly and the Painted Lady Butterfly



# Joe Pye Weed (*Eutrochium maculatum*)

- Herbaceous perennial
  - Native to N. America
  - Full sun to Part Shade
  - 4-7' tall and 3-4' wide
  - USDA Hardiness Zone: 4-9
  - Bloom Time: Summer thru Fall
  - Attracts: Butterflies, bees, and other pollinators
  - Larval host plant for Pearl Crescent Butterfly



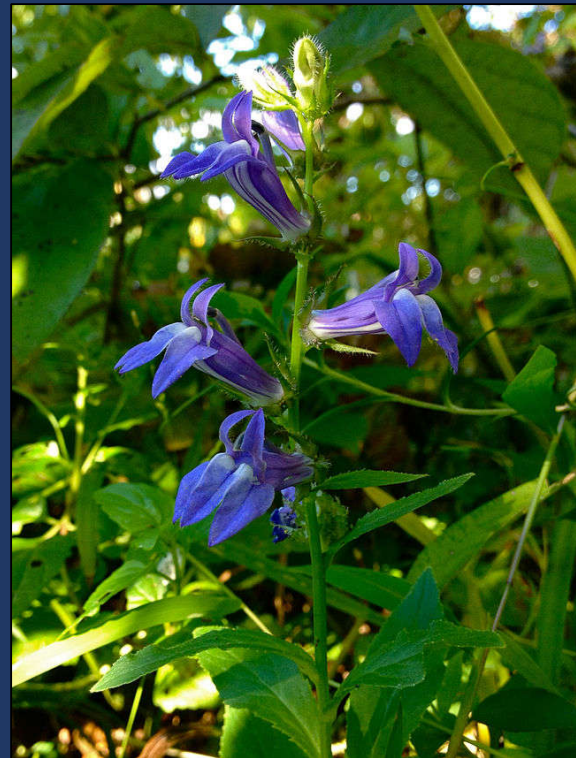
# Lavender (*Lavandula angustifolia*)

- Herbaceous perennial
  - Native to Europe
  - Full Sun
  - 1-3' tall and wide
  - USDA Hardiness Zone: 5-8
  - Bloom Time: Early Summer into Fall
  - Attracts: Butterflies, bees, and pollinators
  - Another option is *Lavandula stoechas* (Spanish Lavender) – more drought/heat tolerant than English lavender



# Great Blue Lobelia (*Lobelia siphilitica*)

- Herbaceous perennial
  - Native to N. America
  - Full Sun to part shade
  - 2 to 3' Tall
  - USDA Hardiness Zone: 4-9
  - Bloom Time: Mid-summer to Fall
  - Attracts: Butterflies, bees, and hummingbirds
  - Larval host plant for the Pink-Washed Looper Moth
  - Native wildflower; low maintenance



# Lupine (*Lupinus spp*)

- Herbaceous perennial
  - Native to N. America
  - Full to Part Sun
  - 1-4' tall and wide
  - USDA Hardiness Zone: 5-9
  - Bloom Time: Late Spring into Fall
  - Attracts: Butterflies, bees, and hummingbirds
  - Larval host plant for the Karner Blue Butterfly and the Frosted Elfin Butterfly
  - Prefer cooler climates with well-drained soils



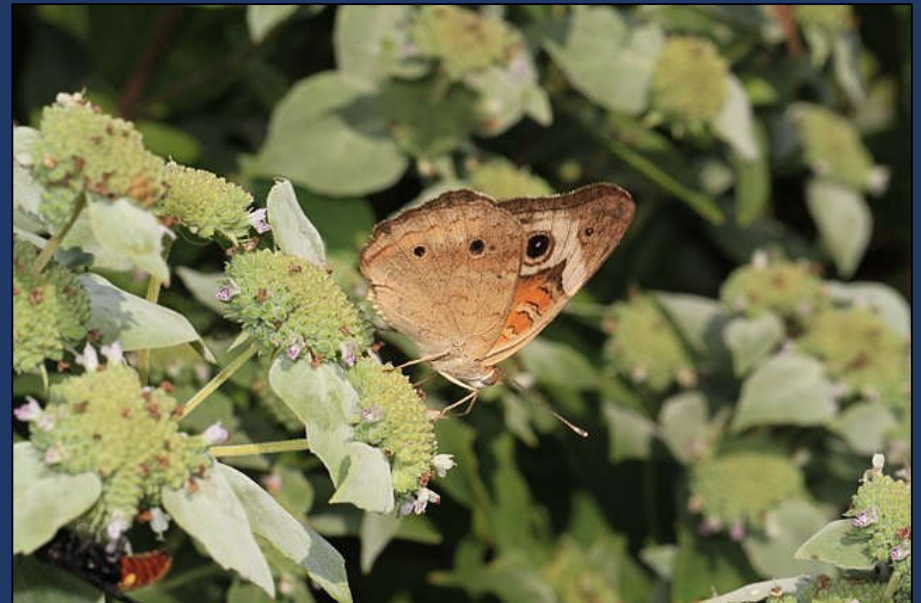
# Milkweed (*Asclepias tuberosa*)

- Herbaceous perennial
  - Native to N. America
  - Full Sun
  - 1-2' tall and wide
  - USDA Hardiness Zone: 3-9
  - Bloom Time: Summer
  - Attracts: Butterflies, bees, and other pollinators
  - Larval host plant for the Monarch Butterfly
  - Pollinator garden staple



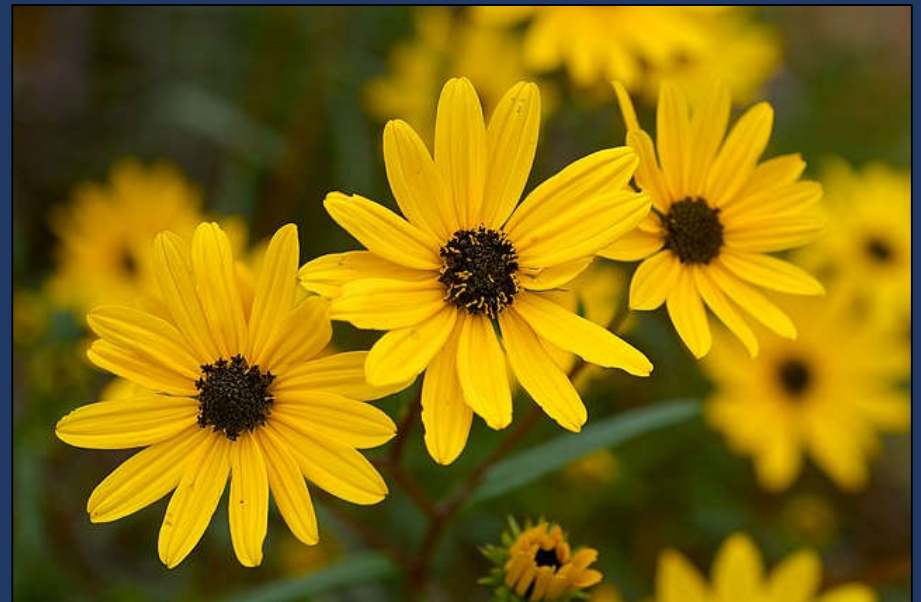
# Mountain Mint (*Pycnanthemum spp*)

- Herbaceous perennial
  - Native to N. America
  - Full Sun to Part Shade
  - 1-3' tall and wide
  - USDA Hardiness Zone: 3-9
  - Bloom Time: Summer into Fall
  - Attracts: Butterflies, bees, and other pollinators



# Swamp Sunflower (*Helianthus angustifolius*)

- Herbaceous perennial
  - Native to N. America
  - Full Sun to Part Shade
  - 5-8' tall and 2-4' wide
  - USDA Hardiness Zone: 5-10
  - Bloom Time: Fall
  - Attracts: Butterflies, bees, birds, other pollinators
  - Larval host plant for the Silvery Checkerspot Butterfly





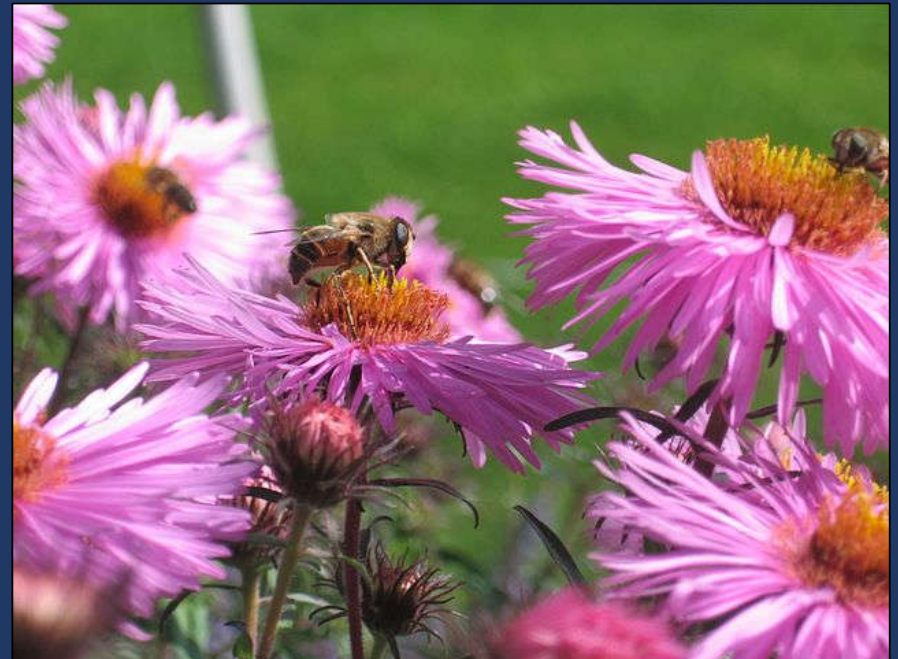
# Nasturtium (*Tropaeolum majus*)

- Herbaceous annual
  - Native to C. and S. America
  - Full Sun to Part Shade
  - 1-10' tall and 1-3' wide
  - USDA Hardiness Zone: 2-11
  - Bloom Time: Early Summer into Fall
  - Attracts: Butterflies, bees, and other pollinators
  - Larval host plant for the Great Southern White Butterfly



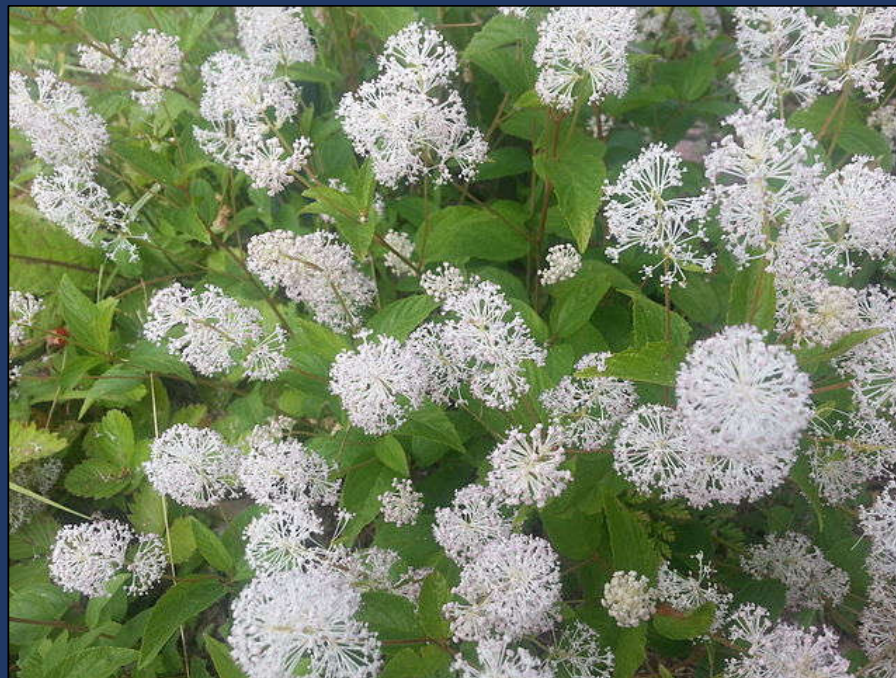
# New England Aster (*Aster novae-angliae*)

- Herbaceous perennial
  - Native to N. America
  - Full Sun
  - 3-6' tall and 1-3' wide
  - USDA Hardiness Zone: 4-8
  - Bloom Time: Late Summer into Fall
  - Attracts: Butterflies, bees, and other pollinators
  - Larval host plant for the Pearl Crescent Butterfly



# New Jersey Tea (*Ceanothus americanus*)

- Deciduous shrub
  - Native to N. America
  - Full Sun to Part Shade
  - 3-4' tall and 3-5' wide
  - USDA Hardiness Zone: 4-8
  - Bloom Time: Mid to Late Spring
  - Attracts: Butterflies, bees, hummingbirds, and other pollinators
  - Larval host plant for the Mottled Duskywing Butterfly, Spring Azure Butterfly, Summer Azure Butterfly
  - Once established, fairly drought tolerant



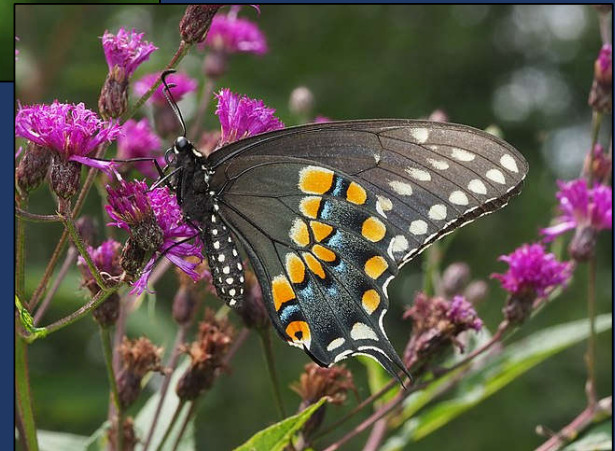
# Switch Grass (*Panicum virgatum*)

- Ornamental Grass
  - Native to N. America
  - Full Sun to Part Shade
  - 3-6' tall 2-3' wide
  - USDA Hardiness Zone: 5-9
  - Bloom Time: Mid Summer into Winter
  - Attracts: Birds and Butterflies
  - Larval host plant for the Common Wood Nymph Butterfly and various Skipper Butterflies



# Parsley (*Petroselinum crispum*)

- Herbaceous annual
  - Native to Greece
  - Full to Part Sun
  - 10-12" tall and wide
  - USDA Hardiness Zone: 2-11
  - Bloom Time: Late Spring into Fall
  - Attracts: Butterflies, bees, and other pollinators
  - Larval host plant for the Black Swallowtail Butterfly and the Anise Swallowtail Butterfly



# Passionflower (*Passiflora incarnata*)

- Vine
  - Native to United States
  - Full Sun to Part Shade
  - 6-8' tall and 3-6' wide
  - USDA Hardiness Zone: 6 thru 11
  - Bloom Time: Mid Summer into Fall
  - Attracts: Butterflies, bees, and other pollinators
  - Larval host plant for many different types of butterflies



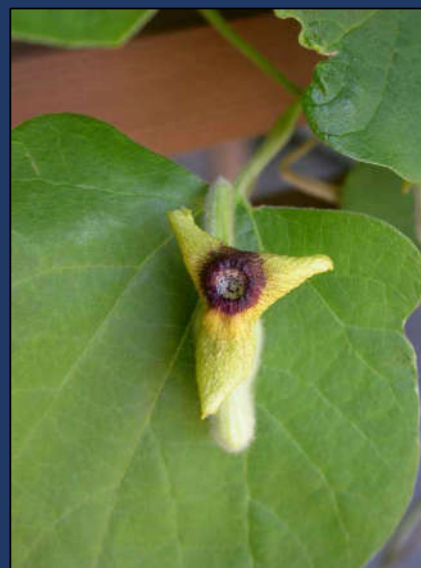
# Woodland Phlox (*Phlox paniculata*)

- Herbaceous perennial
  - Native to N. America
  - Full Sun to part shade
  - 2-4' tall and 2-3' wide
  - USDA Hardiness Zone: 4-8
  - Bloom Time: Summer
  - Attracts: Butterflies, bees, hummingbirds, and other pollinators



# Dutchman's Pipe (*Aristolochia macrophylla*)

- Woody Vine
  - Native to N. America
  - Full Sun to Part Shade
  - 15-30' tall and 15-20' wide
  - USDA Hardiness Zone: 5-8
  - Bloom Time: Late Spring/Early Summer
  - Attracts: Butterflies
  - Larval host plant for the Pipevine Swallowtail Butterfly

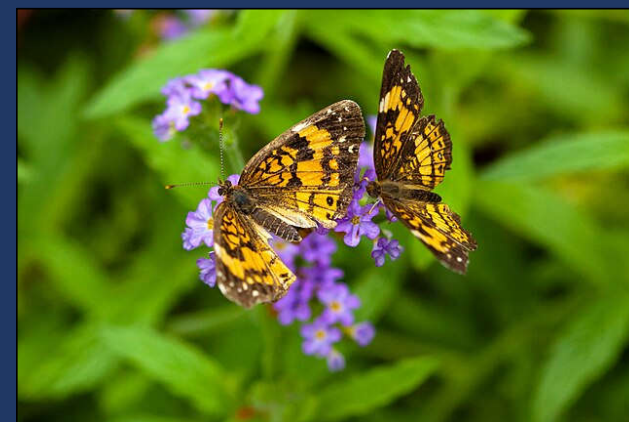
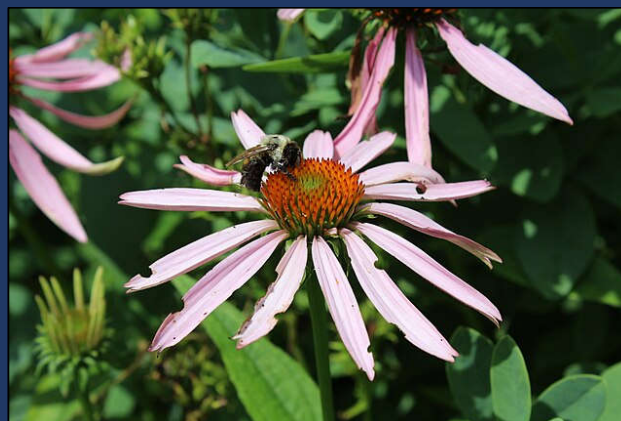


Above: Flower of pipevine;  
Right: Fall color



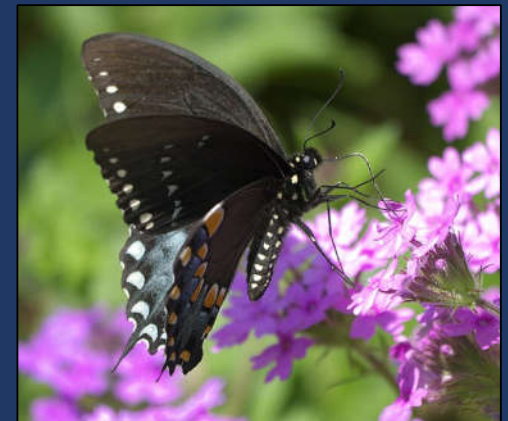
# Purple Coneflower (*Echinacea purpurea*)

- Herbaceous perennial
  - Native to N. America
  - Full Sun
  - 2-5' tall and 1-2' wide
  - USDA Hardiness Zone: 3-8
  - Bloom Time: Mid Spring thru Summer
  - Attracts: Butterflies, bees, birds, and other pollinators
  - Larval host plant for the Silvery Checkerspot Butterfly and the Wavy-lined Emerald Moth
  - Low maintenance; Garden staple



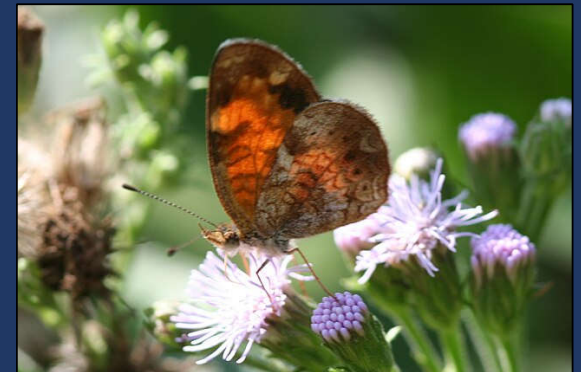
# Spicebush (*Lindera benzoin*)

- Deciduous shrub
  - Native to N. America
  - Full Sun to Shade
  - 6-12' tall and wide
  - USDA Hardiness Zone: 4-9
  - Bloom Time: Early Spring and Fall
  - Attracts: Butterflies, birds, and other pollinators
  - Larval host plant for the Spicebush Swallowtail Butterfly and the Eastern Tiger Swallowtail Butterfly
  - Flowers before leaf-out; native understory plant



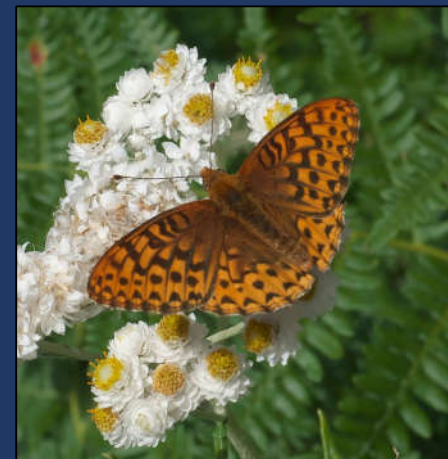
# Stokes' Aster (*Stokesia laevis*)

- Herbaceous perennial
  - Native to N. America
  - Full Sun
  - 1-2' Tall and wide
  - USDA Hardiness Zone: 5-9
  - Bloom Time: Late Spring thru Fall
  - Attracts: Butterflies, bees, and other pollinators
  - Larval host plant for the Pearl Crescent Butterfly and the Checkerspot Butterfly



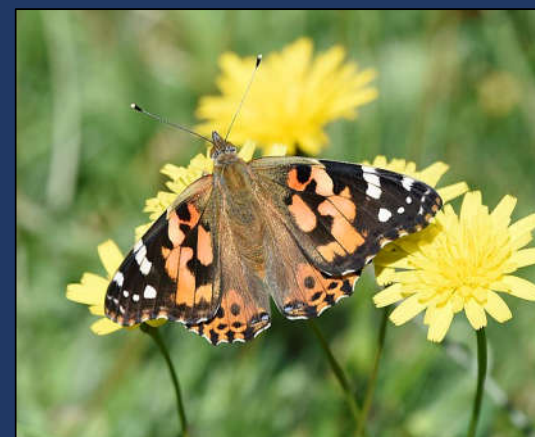
# Violets (*Viola spp*)

- Herbaceous perennial
  - Native to N. America
  - Full Sun to Part Shade
  - 2-6" tall and wide
  - USDA Hardiness Zone: 4-10
  - Bloom Time: Early to Mid-Spring
  - Attracts: Butterflies
  - Larval host plant for the Greater and Lesser Fritillary Butterfly



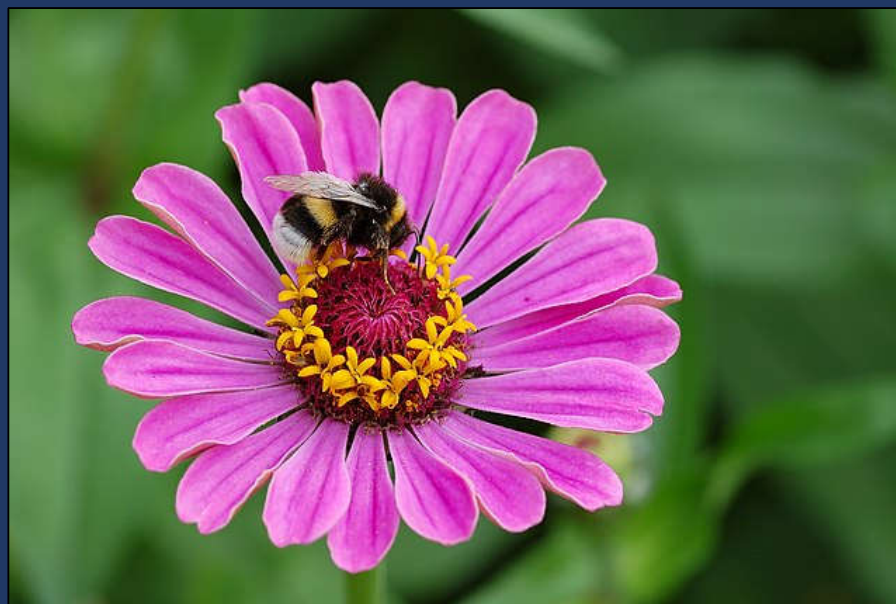
# Yarrow (*Achillea millefolium*)

- Herbaceous perennial
  - Native to Europe, Asia, and N. America
  - Full to Part Sun
  - 2-3' tall and 1-2' wide
  - USDA Hardiness Zone: 3-9
  - Bloom Time: Summer
  - Attracts: Butterflies, bees, and other pollinators
  - Larval host plant for the Painted Lady Butterfly
  - Multiple cultivars on the market today in various colors; grows well in poor soils



# Zinnia (*Zinnia spp*)

- Herbaceous annual
  - Native to N. and S. America
  - Full Sun
  - 2-3' tall and 1-2' wide
  - USDA Hardiness Zone: 2-11
  - Bloom Time: Summer into Fall
  - Attracts: Butterflies, bees, hummingbirds, and songbirds
  - Multiple cultivars on the market today in various colors; grows well in poor soils



# In Closing

- Whether you have a large yard or a patio garden, you can make room for pollinator-friendly plants
- If you have the space, plant a variety of flowering plants that will bloom all-year long to provide a constant supply of nectar

