

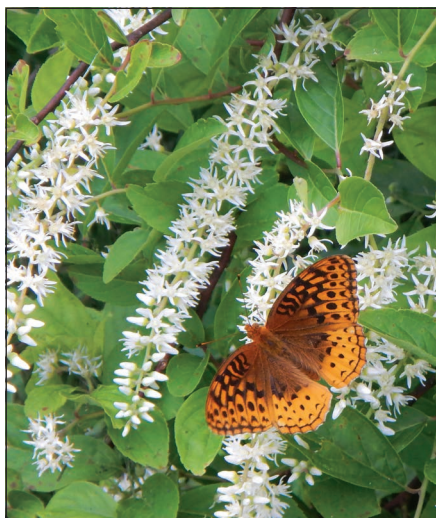


Column and photograph by
Carol A. Heiser

Have you eaten a peach, plum, pear or apple lately? How about raspberries, blackberries or blueberries? So many of the foods we consume from plants and expect to see in a routine walk through the grocery store are the result of a phenomenon in nature called pollination. Flowering plants reproduce when pollen is transferred from the male part of a flower to the female part, either by wind or by insects. A variety of flower traits like color, shape, and fragrance entice insects that have adapted to respond to those characteristics, and in return, flowers reward insects with the nourishment of pollen protein or sugary nectar.

Bees are by far the most efficient flower visitors and are the main pollinators in the majority of ecosystems. They pollinate over 70 percent of all agricultural crops, contributing billions of dollars' worth of ecosystem services to farm income. According to the USDA, over \$15 billion in farm income in the U.S. per year is the result of pollination by the European honeybee, a non-native species which is managed as livestock, and another \$10 billion can be attributed to native pollinators like bumblebees, orchard bees, and other insects.

Of the 1,000 species of native bees that occur in the eastern U.S., 485 species



A fritillary butterfly feeds on and pollinates the flowers of a native Virginia sweetspire.

are native to Virginia, with seven bumblebee species now in decline and listed as Species of Greatest Conservation Need in the 2015 Virginia Wildlife Action Plan (<http://bewildvirginia.org>).

Many species of flies, beetles, and to a lesser extent butterflies, moths, wasps, and ants provide pollination services to various plant families, too. Red or orange tubular shaped flowers appeal to hummingbirds, and in tropical areas of the world, bats pollinate over 300 species of fruit trees, such as bananas and mangos.

Native plants are vital to supporting pollinators in our gardens, neighborhoods, towns and cities. You can boost the insect diversity and productivity of

any yard by replacing patches of lawn with native flowering perennials. The best pollinator gardens receive at least six to eight hours of sunlight a day, are planted with masses of different plant species that bloom from April till October, and that contain several types of flower shapes.

Here's a dozen of the top native powerhouses, listed by genus: *Asclepias* (the milkweeds); *Conoclinium* (mist-flower); *Eupatorium* (thoroughworts and bonesets); *Eutrochium* (Joe-pye-weeds); *Helianthus* (sunflowers); *Monarda* (bee-balms and bergamots); *Phlox* (garden, woodland, and creeping phloxes); *Pycnanthemum* (mountain mints); *Rudbeckia* (coneflowers); *Solidago* (goldenrods); *Symphoricarpos* (asters); and *Vernonia* (ironweeds).

If you're not into flower gardening, no worries: shrubs and trees are also highly valuable to pollinators. Add viburnums like arrow-wood (*V. dentatum*) and black haw (*V. prunifolium*) for a shrub accent or hedge, and in wet areas use buttonbush (*Cephalanthus occidentalis*) or elderberry (*Sambucus canadensis*). Tree species such as black cherry (*Prunus serotina*), black locust (*Robinia pseudoacacia*), eastern redbud (*Cercis canadensis*) and downy serviceberry (*Amelanchier arborea*) are all superb for providing flowers as well as fruits, just like the shrubs.

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RESOURCES

- ◆ Pollinator Plant Lists at Xerces Society for Invertebrate Conservation (www.xerces.org)
- ◆ Ecoregion Planting Guides at Pollinator Partnership (www.pollinator.org/guides)
- ◆ Pollinator Friendly Plants for the Northeast U.S. (https://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/nypmctn11164.pdf)
- ◆ Is the plant native to your county? Look it up in the Digital Atlas of the Virginia Flora (<http://vaplantatlas.org>)