

How To: Plant Families for Pollinators

The number and variety of plants that call this planet their home is almost incomprehensible. From the tiniest floating duckweed, to a towering redwood, to a majestic saguaro cactus, to a lush carpet of mosses — nearly 400,000 species of plants have been identified.

How does one make sense of such enormity? Usually, it starts by breaking things into groups. However, there are infinite ways to categorize plants. For example, is the plant annual or perennial? Is it woody or does it die back each year? Is it edible? Toxic?



What's In a Name?

We humans appreciate order and like to create systems to help us make sense of things, and botanists are no exception. In the 1700s, a universal system for classifying plants was developed. Swedish botanist Carolus Linnaeus (1707-1778) devised a standardized system in which all plants were given a two-word name: a genus name and a species name. He based his system on the hypothesis that all plants evolved from a single, simple organism, and therefore all are related in some way. Linnaeus grouped plants based primarily on their reproductive structures, such as the characteristics of the flowers, pollen, and seeds. Botanical names became the standard for communication — especially important because common names can vary between regions and be used for multiple plants.

Plant Families for Pollinators

Although we tend to focus on the genus and species of individual plants in our garden, grouping does not end there. Botanists sort plants by putting them into ever-smaller groupings with similar characteristics in this sequence: division/phylum, class, order, family, genus, species. Plant family classifications can offer important insights and be an interesting subject for students to study.

Looking at the plant families in a pollinator garden is an intriguing place to start your exploration because the plant characteristics that contribute to family groupings may provide you with important information about the pollinators attracted to the plant too. Some families of plants are of particular importance to pollinators. The flowers in one family may be especially attractive to bees, for example, while another attracts butterflies. So, you can add teaching about scientific classification and exploring special plant-animal relationships to the long list of lessons you can teach through your pollinator garden.

A pollinator garden featuring a variety of plants from each of the following four families will ensure an abundant supply of nectar and pollen for a wide range of pollinators and allow you to introduce the basics of scientific classification in your classroom. (Special note: As you read the descriptions below, notice that just like plants have a scientific name and common names, a plant family may also have

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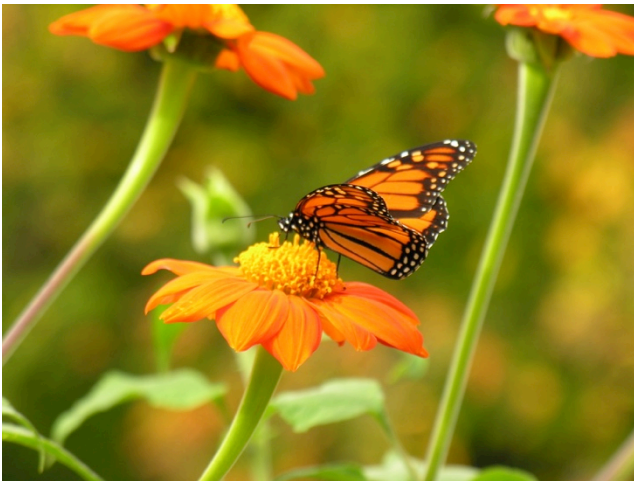
common names in addition to its official Latin scientific name. In some cases, you may discover multiple Latin names as scientist are constantly reviewing and revising Latin names and arguing which names fit best too.) Here are some ideas for laying the foundation for your botany-focused pollinator garden:

Aster Family

This family goes by the names Asteraceae (as-ter-AY-see-ee) and Compositae (com-POS-it-ee), as well as aster family, daisy family, composite family, and sunflower family. The family includes more than 30,000 species. Many plants in this group have flowers with the familiar daisy shape — a central disc surrounded by petals. (In botanical terms, the petals are ray flowers and the center is made up of disc flowers.)

The flowers draw a wide range of pollinators. They're especially attractive to insects, such as butterflies, that need a place to land as they sip nectar (as opposed to insects that feed while hovering). Some flowers produce seeds later in the season that invite birds to dine. And some, like asters, flower late in the season, providing an important food source for migrating monarch butterflies.

This family of plants includes aster, black-eyed Susan, calendula, coreopsis, daisy, dandelion, Joe Pye weed, marigold, purple coneflower (Echinacea), sunflower, yarrow, zinnia (and many others).



Monarch butterfly on tithonia

Mint Family

This family goes by the names Lamiaceae (lay-mee-AY-see-ee) and Labiatae (lay-bee-AYE-tee), as well as mint family, deadnettle family, and sage family. This family contains about 7500 species of plants, many of which have aromatic foliage. The flower's petals are typically fused into an upper lip and a lower lip. The flowers of some species have closed lips, requiring the pollinating insect to wriggle inside. Once there, the flower's pollen is deposited onto the insect's back. In addition to distinctive flowers, most plants in this family can be recognized by having square stems too.

Many species in this family have extended bloom periods, and some will rebloom if deadheaded after the first flush of blooms. Choosing plants that have a long bloom season, as well as those

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that bloom at different times of the year, ensures that nectar and pollen will be available any time a pollinator visits. Note that some species in this family, such as peppermint, are vigorous spreaders and are best grown in pots.

Mint-family plants include agastache, basil, bee balm, catmint, catnip, Lavender, mints (all types), oregano, rosemary, Russian sage, salvia, thyme (and many more). Some have small flowers arranged along stems in whorls or clusters. If you're growing herbs like basil for culinary use, the usual method is to pinch off blooms. To attract pollinators, consider allowing a few plants to bloom.



Honeybee on salvia

Dill Family

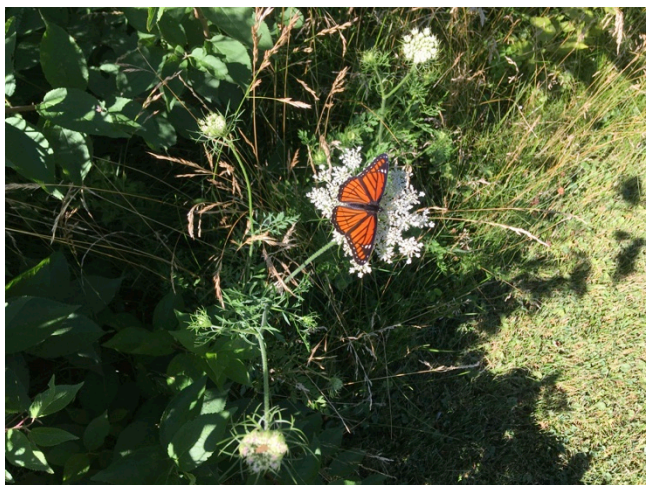
This family is known as the Apiaceae (ay-pee-AY-see-ee) and Umbelliferae (um-bell-LIF-er-ee) families, as well as the carrot family, celery family, dill family, and umbel family. It contains more than 4500 species of plants, many of which have aromatic foliage. The term umbel refers to the shape of the flower heads, which are made up of many tiny flowers held on flower stalks arranged like the ribs of an umbrella. Queen Anne's lace and dill are perhaps the most familiar examples. However, not all flowers in this family have this form; for example, sea holly.

Plants in this family are a treasure to pollinators due to the abundance of nectar and pollen in the flowers. The tiny flowers also make it easy for small insects, such as solitary bees, to move among blooms.

Dill-family plants include angelica, anise, bishop's flower (*Ammi majus*), carrot, chervil, dill, lovage, fennel, parsley, parsnip, Queen Anne's lace, sea holly, and others.

Some of these plants are host plants for black swallowtail butterfly larvae. Many of the plants attract a wide variety of other beneficial insects.

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Viceroy butterfly on Queen Anne's Lace

Legume Family

This family goes by the names Fabaceae (fa-BAY-see-ee) and Leguminosae, (leg-oom-en-OH-see), as well as bean family, legume family, and pea family. There are about 19,000 species in this family, including many important food crops. Legumes have specialized root nodules that, in association with rhizobia bacteria, can “fix” nitrogen from the atmosphere, transforming it into a form plants can use.

The flowers of many legumes have a distinctive shape. There's a large, two-lobed banner petal at the back, two wing petals angling outward from it, and a central keel made up of two fused petals. On some plants, such as clovers, dozens of tiny flowers make up the flower head. The nutritious pollen is favored by a diversity of pollinators, including bees, wasps, butterflies, moths, beetles and flies.

Legume-family plants include alfalfa, baptisia, bean, clover, lupine, pea, peanut, sweet pea, wisteria, among others. Many plants in the family are important pollen sources for various types of bumblebees.



Lupine

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