



Birds and bees are frequently used as metaphors to explain courtship and sex. But in the garden, they really do “it” for the flowers. Butterflies were added to the idiomatic mix because they are pretty and, like their other winged friends, they are some of our essential pollinators. Bats, too, are VIPs (very important pollinators), especially in tropical and desert climates.

Pollination is, simply, the transfer of pollen – the microspores of seed plants – from a flower’s male reproductive organ to its female reproductive organ in order to produce seeds and fruit.

In flowering plants, the male part is called the stamen and is made up of the anther (where the pollen resides) and the filament (which supports the anther). The female flower part is called the pistil and is comprised of the stigma (the sticky surface at the tip of the style which receives the pollen), the style (the narrow, elongated part of the pistil that separates the stigma from the ovary; it’s a specific distance based on the plant’s species) and the ovary (the enlarged base of the pistil containing the ovules that develop into seeds once fertilization occurs). Whew.

A few plants self-pollinate, but about 75 per cent of all flowering plants depend entirely on insects, birds, animals, wind or water to facilitate reproduction. Pollination by insects is called entomophily.

Bees are our busiest and most important pollinators. Albert Einstein once said that without bees “man would have only four years of life left.” Bees are crucial to the pollination of many of our edible plants. Here’s a short, random list of plants which would probably cease to exist without bees: almonds, apples, apricots, avocados, berries, buckwheat, cantaloupes, cashews, cherries, cucumbers, kiwi, peaches, pears, plums, pumpkins, squashes, turnips and vanilla. Not to mention innumerable wildflowers and cultivated blooms.

Bees are fuzzy and, in addition to specialized pollen baskets on their legs or abdomens, they have an electrostatic charge that helps the pollen adhere to their bodies as they gather the nectar (carbohydrate) and pollen (protein) that are essential to their survival.



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Bees are also buzzy. The vibration of their wing muscles, which is responsible for making their characteristic sound, literally shakes the pollen grains out of the anthers of some plants; this is called sonication. Bees are diurnal, which in zoology means they are active during the daytime and therefore prefer plants that bloom during the day. They like brightly colored blue, violet, yellow and white flowers (they can’t see red) with lots of nectar. Some plants that are very attractive to bees are: asters, black-eyed Susans, lavender, basil, plumbago, mints, honeysuckle, daisies and sage.

Hummingbirds are attracted to red or orange tubular-shaped flowers with abundant nectar and not much scent and use their long, forked tongue to lap up the nectar deep inside the flowers of such plants as honeysuckle, fuchsia, red salvia, columbine and fireweed. While hovering over the flower, the hummingbird inadvertently collects pollen on its feathers and bill, which it takes with it to the next flower on its dinner route. Hummingbirds, in addition to being a delight to observe, are considered almost as efficient pollinators as honey bees.



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Butterflies are also day-trippers and are found on every continent in the world except Antarctica. There are about 700 different species of butterflies in U.S., but because they have bodies that are set up high on their long, thin legs, butterflies do not pick up as much pollen as bees. Too, they lack leg pouches or other specialized structures for collecting pollen and, therefore, are less efficient than bees at moving pollen among flowers, but they still contribute to plant reproduction.

Butterflies prefer sweet-smelling flowers that produce lots of nectar and grow clusters to provide them with landing platforms. The blooms often feature a funnel shape or narrow tube with nectar at the base. Of course, the flowers must be open during the day and brightly colored: red, orange, yellow, pink, blue and purple. Some butterfly friendly flowers include: lantana, fall asters, yarrow, so-called butterfly bush and butterfly weed, echinacea and daisies.

At night, the moths (butterflies less flamboyant cousins) and bats take over the pollen schlepping duty. Unlike butterflies, moths have a highly developed sense of smell and seek out flowers with strong, sweet scents. Moths prefer large, tubular flowers with lots of nectar and limited pollen such as evening primrose, morning glory, tobacco, yucca and gardenia.

Bats generally like large, stinky (often with a musty or fermenting odor) flowers that open at night and are colored dull white, cream, green or purple. More than 300 species of fruits rely on bats for pollination, including mangoes, bananas, guavas and, important to the tequila trade, the agave plant. Next time you have a margarita, thank a bat.

It’s a fundamental of life: a world without pollinators is a world without plants.