



## Beyond honey bees: 10 kinds of bees you might see in a garden

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If you hope to find 10 species of bees, you might think you need to visit an expansive nature preserve with a diversity of native flora. But this is not the case; you can find a surprising diversity of bee species in a small garden in any city, if there are a few carefully chosen native flower species for bees to visit. You can quickly check off the conspicuous honey bees (*Apis mellifera*) and bumble bees (several species of *Bombus*). You can tell that these are bees because they are black and yellow and fuzzy. But to go further, you may need to reconsider assumptions about what a “bee” looks like. Most bee species are tiny, less than half the size of a honey bee. They may be shiny green or fuzzy brown. They may make nests in the ground or in hollow twigs. What they have in common is a diet of pollen and nectar (unlike most wasps), but some skip the flowers and find these resources in the nests of ... other bees. All told, there are more than 4,000 bee species in the United States.

Look through the pictures below, which are examples of 10 genera of bees I have seen in gardens or parks. Would you have called all of these “bees?” You can identify each of the 10 examples by matching them to the descriptions:

1. **Genus *Ceratina***, small carpenter bees. The photo shows a shiny green *Ceratina* in flight, against the orange background of a butterfly weed. These small (5-7 mm) bees may be black, blue, or green. They carry pollen on weak hind-leg scopae (pollen-collecting hairs). They can be hyper-abundant on a wide variety of flowers.
2. ***Lasioglossum*, sweat bee**. The photo shows a black bee with white abdominal bands, on the underside of a blue flower. The most speciose bee genus, *Lasioglossum* comes in a lot of varieties. They may be solitary, social, or parasitic. Some of the more easily identified species resemble the photo here, but many are tiny (4-6 mm) and tinged with green, blue, or coppery coloration.
3. ***Agapostemon*** is another sweat bee, so brilliantly metallic that my students called it the “radioactive bee.” It is pictured here on the white/magenta flower of mountain mint. You might suppose that it is an exceptional find, but you will see this genus and other super-green sweat bees all over the US.
4. ***Megachile*, leafcutter bee**. The photo shows a brown bee with strong abdominal hair bands on a yellow flower. You’ll see a brush of hair (scopa) under the abdomen – that is where bees in the Megachilidae family carry pollen. Watch for the perfectly round divots from leaves or petals, made by leafcutters collecting nest material.
5. ***Osmia*, mason bee**. Photo shows a shiny dark green bee standing tiptoe on a blue flower. Most species are some striking variety of blue, green, or copper. Mason bees

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- are also in family Megachilidae; you can just make out the abdominal scopa in the photo. They nest inside cavities like hollow twigs, but also in bee hotels.
6. **Nomada, nomad bee.** Photo shows a black and yellow wasp-like bee on a purple flower. This is one of many species of cuckoo, insidious (and very cool) bees that don't need to forage for pollen; they lay their eggs in the nests of other bees. *Nomada* are most commonly found early in the season, like their mining bee hosts.
  7. **Andrena, mining bee.** Photo shows a brown bee on a white flower. Mining bees are most like sweat bees, such as *Lasioglossum* but have a unique feature visible in the photo: a patch of light hairs (fovea) between the eye and antennal base. As the name suggests, mining bees nest in the soil, sometimes in aggregations of many females with separate nests. Look for mining bees in the spring.
  8. **Melissodes, longhorned bee.** Photo shows a bee with long antennae on a yellow aster. Only the male bears the long antennae (which it uses in mating). Females are notable for luxuriant scopae ("pantaloons") on the hind leg. Long-horned bees are often seen on asters and sunflowers.
  9. **Anthidium, carder bee.** Photo shows a black and yellow bee on a white flower. Another Megachilid, with scopa beneath the abdomen. Called "carder" bees for the way they use their mandibles to scrape nesting material from leaves.
  10. **Xylocopa, carpenter bee.** Photo shows a mostly black bee on a white flower. These are usually larger than the otherwise similar bumble bee; a key difference is the bald abdomen of the carpenter bee.

Can you really see this many kinds of bees in an urban wildflower garden? Do your own research: The iNaturalist project tracks observations of bees (and every other living thing) by citizen scientists. It records 109 bee species for Phoenix Arizona. Washington DC, Minneapolis, and Omaha have 93, 219, and 92 species respectively. Look up your own community to see the bees your own neighbors are observing. Expect to be surprised!

**See if you can spot a few of these bees in:** [Mountain mint, one day in August](#), a video documenting the floral visitors to a single host plant in a school garden. For more practice identifying bees, hover over the bees on [this site](#) and explore [this document](#). [BeeMachine](#) is another image-matching tool; it also provides a page with images and descriptions of many individual species.



