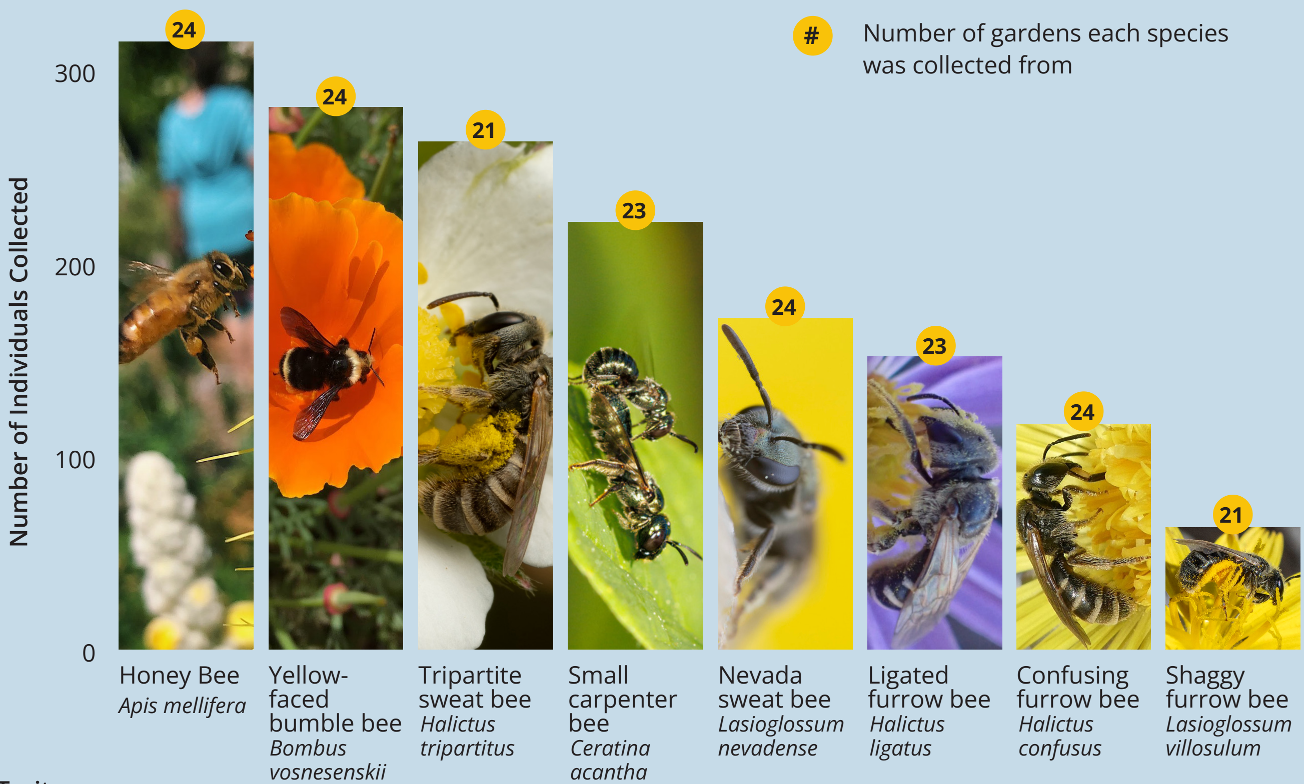
Common Bees from Portland Gardens

Our research

Over three years (2017-2019), we surveyed 24 gardens in urban and peri-urban regions across Portland. The gardens varied in size, the types of plants grown, and in the landscapes that surrounded them. All gardens were privately owned, except for one demonstration garden managed by Master Gardeners. We collected bees three times each year, using bowl traps and hand-collection methods. Here, we describe the ubiquitous species found in nearly every garden.

What we found



Bee Traits	Honey Bee	Yellow-faced bumble bee	Tripartite sweat bee	Small carpenter bee	Nevada sweat bee	Ligated furrow bee	Confusing furrow bee	Shaggy furrow bee
Size	Large	Large	Small	Small	Small	Small	Small	Small
Nest Site	Hive	Colony	Soil	Soil	Soil	Soil	Soil	Soil
Sociality	Eusocial	Eusocial	Eusocial	Subsocial	Eusocial	Eusocial	Eusocial	Communal
Diet	Generalist	Generalist	Generalist	Generalist	Generalist	Generalist	Generalist	Generalist
Native Status	Non-native	Native	Native	Native	Native	Native	Native	Non-Native
Season	All-season	All-season	All-season	All-season	All-season	All-season	All-season	All-season

Photo credits, from left to right: Nicole Bell, Jen Hayes, Jesse Rorabaugh, Jeff Bartlett, Thomas Barbin, Ellyne Geurts, Bruce Cook, and djbich.

In total, we found 67 species from 5 families and 19 genera. The most common bees came from 2 families (Apidae and Halictidae) and 5 genera. The first 7 species appear in the order of greatest abundance, but we collected 4 species that were more abundant than *L. villosulum*, though they were less common across study sites. Species richness ranged from 37 (urban site) to 7 (suburban site) in individual gardens.

Ubiquitous bees shared common traits: all were generalist foragers with a long flight season. All had some level of sociality, which means individuals within a species share a nest (communal), exhibit overlap of generations (subsocial), or have a reproductive division of labor (eusocial). Social bees may have a competitive edge, compared to solitary species. Most common species were native to the region, with two exceptions.

How does this relate to your garden?

By identifying the bees that are common in urban gardens, we also learn about what bees are rare. Bees from the families Andrenidae (mining bees), Megachilidae (leafcutter bees), and Colletidae (cellophane bees) were less common. Gardeners seeking to support pollinator communities can use targeted strategies to support a diversity of species in the garden. Ensuring that early and late season blooms are available for mining bees is one example. Cavity nesting species, like leafcutter and cellophane bees, may benefit from having nesting materials available, like old logs and dead or hollow plant stems. Specialist bees benefit when gardeners plant their pollen hosts. Plants in the Asteraceae, Malvaceae, and Onagraceae families are good choices to support specialist bees.

Additional Information

• G.A. Langellotto, Melathopoulos, A., Messer, I., Anderson, A., McClintock, N., Costner, L. 2018. Garden pollinators and the potential for ecosystem service flow to urban and peri-urban agriculture. Sustainability 10(6) 2047.

• Read our Portland Bee Guide and our Brief on specialist bee species by visiting the “For Gardeners” page from gardenecology.oregonstate.edu

• Companion iNaturalist guide to Portland Bee Guide: https://www.inaturalist.org/guides/16496

Master Gardener™ Advice

• Contact your local extension office for Master Gardener advice, or look for Master Gardeners at local farmers’ markets.

• For more 10-Minute University™ handouts, videos, and the class schedule, visit cmastergardeners.org.

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