# Meet the Neighbors: Bees in PNW Gardens

By: Paige Embry

**Bee ID Sources and Classes**

Book, The Bees in Your Backyard (see below)
Bumble Bees of the Western United States,
https://www.fs.fed.us/wildflowers/pollinators/documents/BumbleBeeGuideWestern2012.pdf
A Citizen Science Guide to Wild Bees and Floral Visitors in Western WA, WSU EM110E,
http://cru.cahe.wsu.edu/CEPublications/EM110E/EM110E.pdf
A Field Guide to Common Puget Sound Native Bees: Southern Region, Elias Bloom,
https://askdruniverse.wsu.edu/documents/2015/09/bee-guide.pdf/
Class (mulit-day) California's Native Bees: Biology, Ecology and Identification
http://ucjeps.berkeley.edu/workshops/2015/index.html#Jun3
(CSI Bees may or may not be happening in Seattle this year. Google it later in the year to check.)

**Other Websites**

Bee Basics: An Introduction to or Native Bees.
http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5306468.pdf; The Great Sunflower Project. https://www.greatsunflower.org: The Urban Bee Lab http://www.helpabee.org/;
Discover Life, interactive key to bees, potential for photo id of bees, http://www.discoverlife.org
Bug Guide, bee photos posted here may also be identified for you. http://bugguide.net/node/view/59

**Books**

**Narrative nonfiction**

**MY NEW BOOK!** Our Native Bees: North America's Endangered Pollinators and the Fight to Save Them. Paige Embry. 2018; A Sting in the Tale: My Adventures with Bumblebees. Goulson, 2014; Keeping the Bees: Why All Bees are at Risk and What We Can Do to Save Them. Packer, 2014

**Guidebooks**

The Bees in Your Backyard: A Guide to North America's Bees. Wilson and Carril. 2015; California Bees and Blooms: A Guide for Gardeners and Naturalists. Frankie et. al. 2014; Field Guide to the Common Bees of CA: Including Bees of the Western U.S. LeBuhn and Pugh. 2013. The Bee-Friendly Garden: Design an Abundant Flower-filled Yard that Nurtures Bees and Supports Biodiversity. Frey and LeBuhn. 2016; Attracting Native Pollinators: The Xerces Guide, Protecting North America's Bees and Butterflies, The Xerces Society and Marla Spivak. 2011

**What to look for—bee vs wasp vs fly**

**Bee**—hairy, carrying pollen in a deliberate way, wasp waist, large, oval eyes on side of head, long antennae, 4 wings often folded over back at rest.
**Wasp**—not usually hairy, wasp waist—sometimes excessive, colorful exoskeleton, large, oval eyes on side of head, long antennae, legs may dangle when flying
**Fly**—May or may not be hairy, stout, two wings often holds at an angle at rest (think house fly), eyes large, round and toward top of head. Antennae short, legs often frail.

**Quick Guide to Some of Our Bees-- Seattle-area bees almost 100 species in 22 genera.**

***Andrena***—mining bees—spring to early summer, darkish, nest in the ground, sometimes in large groups (aggregations) and areas may be re-used for decades. Pollen carrying hairs high up on the hind leg. (May be confused with honey bees (check hind legs) Colletes, Lasioglossum or Halictus.)
***Osmi****a*—mason bees—nest in aboveground holes like beetle burrows, reeds, or paper tubes. Spring to summer. Bodies often with a metallic sheen and females carry pollen on the underside of the abdomen. Commonly bought species *O. lignaria* (BOB) needs mud to make the nest cells for their babes—sandy soils don't cut it.
***Lasioglossum* and *Halictus***—dark sweat bees of varying sizes, often nondescript. Very common especially as summer progresses, and easy to miss. Most nest in the ground. Some *Lasioglossum* may nest in large aggregations with 100 nests in a square yard. Some *Halictus* may nest in the same area for decades so if you get some nesting in your yard, try leave that area alone. There is often a little hill like an ant hill at the entrance to the nest. (These bees may be confused with each other, *Andrena* or *Colletes*.)
***Agapostemon***—green sweat bees—glorious. Nest in the ground but not usually in large groups.

***Melissodes***—stoutish bees, tending to the hairy. Females have very hairy lower hind legs—it looks like they are wearing leg warmers. Ground nesters that may nest in aggregations. Summer into fall bees. One of the group referred to as "long horned" bees because the males have very long antennae. (May be confused with *Bombus* (look to the hind legs),
***Bombus***—bumble bees, big, fat and hairy. The queens come out in spring and the you'll see bumble bees around until the cold weather hits. Often with colorful hair bands and patches. Females carry pollen in wetted down wads on shiny patches on their hind legs. Around here, there aren't many bees that look like a bumble bee once you start paying attention.
***Megachile***—leafcutting bees, summer. The females carry pollen, dry, on the underside of their abdomen. Lengths vary but tend to look stout with noticeably striped abdomens. The heads are often big and strong and the mandibles (part of their mouthparts) large. Most nest in pre-existing aboveground holes and use leaf or petal parts in their nest making.
**Cleptoparasites** of various genera—These bees DON'T collect pollen, they sneak into other bee's nests and lay their eggs. Their babies kill the other bee's babies and eat the pollen their mother had provided for them. About 15% of bee species are cleptoparasites. Female cleptoparasites have no pollen-carrying hairs because they don't need them. Often look waspy.

**Quick and dirty bee id around Seattle without talking about wing venation one little bit.**
**Dark bee**, hair on the underside of the abdomen—spring likely Osmia, summer likely *Megachile*. *Osmia* tends to have very rounded body parts—think three BBs lined up, and a gunmetal gleam. *Megachile* are stout but the most notable thing about their appearance to me is strong white stripes on their abdomen.
**Big, hairy bee** with wide flat spots on their hind legs, spring to fall—bumble bee (*Bombus*)
**Honey bee-sized**, bare abdomen, a flat spot on the hind leg for carrying pollen, hairy eyes = honey bee
**Dark, nondescript** bee, varying size, pollen in hair on hind legs—*Andrena, Lasioglossum, Halictus, Colletes*. Magnification needed for id but if it's early in the year and pretty hairy, think *Andrena*. Later in the year and hairy, maybe *Colletes*. Less hairy lean toward *Halictus* or *Lasioglossum*.
**Bee with looong antennae** (male) or leg warmer-like hairs on hind legs (female)—*Melissodes*.
**Tiny bees**, *Hylaeus, Ceratina, Lasioglossum, Halictus*. Without a microscope they are all just tiny bees.

**Gardening for Bees**

1) No insecticides (if you must spray, spray before or after bloom or at night when bees are in bed).
2) Plants—To find what works well in your area, take a walk and look for plants with lots of pollinators that aren't just honey bees. If you can't id it snap a picture and take it to a nursery. Variety over the season is key. Unlike some other insects, many bees don't need native plants. Over 50 bee species have been found on *Lavandula x intermedia* 'Provence' in CA. Think about trees--there are way more flowers available than with the herbaceous plants that get most of the attention. *Acer macrophyllum* (big leaf maple) is favored by *Osmia lignaria* (BOBs). Plants I've noticed as particularly good in Seattle are *Ceanothus*, *Coreopsis* (various cultivars), *Salvia* 'Indigo Spires', and my neighbor's purple *Hebe* (an old one, cv. unknown). A local bee guy likes rosemary. I don't know any science-based lists for this area. Some science-based lists for other areas worth perusing can be found at UC Berkeley's Urban Bee Lab, Penn State pollinator trial (http://ento.psu.edu/pollinators/resources-and-outreach/bees-bugs-blooms-2013-a-pollinator-trial) and University of Kentucky study on woody pollinator plants (http://growwise.org/wp-content/uploads/2017/02/HRI-Pollinator-BeePlantLists-February2017.pdf)
3) **Provide nest sites!** Leave some ground un-mulched—often sunny, dry patches (sorry abut that). Don't compost pithy stems. They are common nest sites. If you need to cut them down, stash them somewhere so the bees can survive until it is time to emerge.

**Making our own List—the Pollinator Plant Challenge**—If you know a good pollinator plant please go to my old blog, www.ayearinseattlegardens.com, and tell me about it. I've set up a special page for this. Tell me the name of the plant (cultivars can matter to bees so if you know it, tell me) along with your city and state. (A plant that bees love in Walla Walla may or may not be great in Seattle.)

***Our Native Bees: North America's Native Pollinators and the Fight to Save Them*** by Paige Embry (Timber Press, 2018)