



Yellow-faced Bumble Bee

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Field Notes



Yellow-faced bumble bee (*Bombus vosnesenskii*). Andrew Reding/Creative Commons.

The nonnative European honey bee (*Apis mellifera*) makes a lot of honey and gets a lot of attention. What gets less attention are the 4000 species of native bees in the United States, each of which plays a unique role in pollinating native plants. Some also pollinate commercial crops. Take the yellow-faced bumble bee, for example.

The yellow-faced bumble bee (*Bombus vosnesenskii*), also known as the Vosnesensky bumble bee, is a common inhabitant of the Pacific Northwest. It is a relatively large bee (1-2 cm long) with black wings and a mostly black body, except for yellow on its face, the top of its head, and in a band across its lower abdomen. Bumble bees (genus *Bombus*) and honey bees are in the family Apidae, which is part of the third-largest order of insects, Hymenoptera (wasps, ants and bees).

Habitat and Diet

The yellow-faced bumble bee frequents urban gardens and is an important wild pollinator of croplands, including blueberries, red-clover, and greenhouse tomatoes. In its wild habitat of grassy openings, chaparral and shrub, as well as mountain meadows, it forages for both

pollen and/or nectar on manzanita, lilac, rabbitbrush, thistle, and buckwheat flowers, among other plants. Pollen is gathered in pollen baskets (corbiculae) on the rear legs and carried back to the nest to provide protein for the young. Nectar, a rich carbohydrate source that is stored in a special pouch in the bee's abdomen, fuels the bee's flight and other activities and provides the raw product for making honey.

Honey is produced by honey bees and bumble bees alike using digestive enzymes and wing fanning to ripen and concentrate the nectar. Because bumble bee workers die off each fall, leaving only next year's founding queens, they don't create and store large amounts of honey that longer-lived honey bee colonies do in order to overwinter.

Bumble bees are especially effective pollinators of some commercially grown crops, such as tomatoes, peppers, and cranberries thanks to a special talent: buzz pollination. The bee shakes pollen loose from the flower by grasping the pollen producing structure in her jaws and vibrating her wing muscles. The bee gets food and the plant gets pollinated when pollen from the last flower the bee visited scrapes off and fertilizes the next flower's ovules (eggs) or the same flower's ovules (in self-fertilization).

Social Organization and Life History

The yellow-faced bumble bee, like most bumble bees, is a social species whose colony is organized by caste: a queen with multiple female workers and male drones. In the spring, the queen emerges from hibernation and finds a nesting site, typically within an abandoned rodent burrow underground, although a hollow tree, rock pile, or dense vegetation may also suffice. In the nest, she builds wax pots

filled with nectar that is later converted to honey, or pollen into which she lays and incubates her eggs. Her female offspring become the worker bees who assume the role of tending to the young, foraging for nectar and pollen, and maintaining and guarding the nest. Her male offspring (drones), produced late in the fall, mate with new queens she's produced. At the end of each year, all bees in the colony die except the newly mated queens, which leave the nest to find an individual spot to overwinter. In spring, they emerge to renew the cycle and establish a new colony.

Conservation

Yellow-faced bumble bee populations are currently considered stable and, in many cases, appear to be increasing proportionally to that of other bumble bee species. This stands in stark contrast to the severe decline observed in other bumble bee species, including two that were once common in the Pacific Northwest: Franklin's bumble bee (*Bombus franklini*) and the western bumble bee (*Bombus occidentalis*). Possible causes for these declines include disease, pesticide use, and habitat loss.

Where to See

The yellow-faced bumble bee ranges from the coastal Pacific Northwest east to the Sierra-Cascade crest, overlapping all parks in the Klamath Network.

More Information

<http://www.xerces.org/learn-about-bumble-bees/>

<https://www.arboretumfoundation.org/about-us/publications/bulletin/bulletin-archive/pacific-northwest-bees/>

<https://www.fs.fed.us/wildflowers/pollinators/documents/BumbleBeeGuideWestern2012.pdf>