

Bumblebees

by Lloyd Eighme, retired entomologist

Of all the insects in Skagit County, one of the most valuable to us is the bumblebee. We have several species that are native to this area and they are found from high mountain meadows to sea level. The bumblebees are our best pollinators. There were no honeybees in North America until they were brought here from Europe by early colonists. Bumblebees were always here and they are very important in my garden and orchard because I do not keep honeybees and do not intend to. For several years there were no beekeepers within several miles of my place and I never saw any honeybees. During those years my fruit trees and berries were pollinated entirely by bumble bees and other native pollinators and I had excellent crops. Our bumblebees work from dawn until dusk and even on rainy days. They do their work without any help from us, but there are a few things we can do to protect them and encourage them. It is easier to do that if we know their life cycle and where they live.

The first bumblebees of the season to be seen are the large overwintering queens that come out on a sunny day as early as February. They have been sleeping under a pile of leaves or dry grass through the coldest part of the winter. They are hungry when they awaken and they search for early spring flowers to sip a little nectar. When the weather warms up and lots of flowers are in bloom, they search for a suitable nesting site, often an abandoned mouse nest or a thick clump of grass. They apparently never use an old nest again from the previous year. That helps eliminate predatory mites and diseases. As soon as the nest is prepared, the queen searches for a good nectar source and gorges herself on the sweets from the flowers. She returns to her nest and takes a long nap. That could be a recipe for gaining weight, but the bee cannot increase her size due to the exoskeleton that covers her body. Instead, she uses the digested carbohydrate to produce wax from special glands in her abdomen. She uses her spiny legs and her mandibles to pull the scales of wax from between the abdominal segments and from those she forms the first honey pots. When the larvae are fully grown they pupate and she encloses the cocoons in a wax ball with a groove on the top in which she sits like a brooding hen to protect her offspring. The first brood of workers, all females from fertilized eggs, are smaller than the queen because she did not have enough honey stored up to feed them all they needed and the weather was still cool. The new workers gather nectar and increase the honey supply while the queen stays home to lay eggs and produce wax. As the colony increases in numbers, sometimes as many as 100 workers, the nest is enlarged and the honey supply is sufficient so by the end of the summer full sized bumblebees are being produced. The queen then lays some non-fertilized eggs which produce males. The males go to the flowers to sip nectar and there they mate with newly emerged females which will be the only winter survivors to start new colonies next spring.

What can we do to help the bumblebees increase their numbers and to work for us as pollinators? A few weedy corners with dry grass and debris will provide nesting sites for them. A continual source of nectar will provide food as they need it throughout the season. Winter blooming heathers are a favorite of bumblebees when there are few other plants blooming. Late summer bloom is also important. Be careful with pesticides where bees are working.

Wild swarms of honeybees are being destroyed by mites and diseases because no beekeeper is there to care for them. Our native bees are therefore becoming very important, especially to backyard gardeners who do not keep honeybees or live near someone who does. We have several other native pollinators besides bumblebees, but I think in our area, bumblebees are helping us the most. Besides that, they are fascinating friends to have helping you in your garden and orchard.



Female worker bumblebee. Bombus melanopygus. The species name means black tail. Shall we call it the black-tailed



Male bumblebee. Bombus vosnesenski. This is a common species in the Pacific Northwest.