Tales from a Sisters Naturalist

by Jim Anderson

Pity the poor bumble bee

The present population of our Western bumblebees is in big trouble.

I've been a beekeeper most of my adult life, and I love having domestic bees in my immediate vicinity. Of course, I also love the honey they produce, but, perhaps more than that, I love their lifestyle. But I've give given up the love of bee-keeping to give bumblebees the help they need.

The only bumblebee that survives the winter is one queen; there are no workers to help keep her warm, she's all alone, hiding under an old log, or buried in the soil of a hillside or bank hibernating to keep from freezing, waiting for the warm rays of spring when she'll emerge and hopefully, lay a few eggs to start a new colony.

She mated with the male drone in late summer of the previous year, and she hasn't eaten anything since the previous summer. This is why it's vitally important that she finds early flowers in order to feed.

Newly emerged queens eat both nectar and pollen, and it's pollen that helps her ovaries develop — but she cannot fly unless her flight muscles are at about 86 degrees Fahrenheit, so she has to brave the cold weather to fly and feed, or else she'll sink into torpor and never wake up. She continues feeding and sheltering at night near the food plants, sleeping in old rodent burrows, or under logs for a few weeks until her body signals her that it is time to find a nest site.

This is the reason she must have pollinating flowers blooming close by, like the lowly and unloved dandelion. People who use herbicides to kill dandelions in their lawns are just one reason our bumblebees are in big trouble. Not only is the bumblebee's food removed, but the residual chemicals are contaminating their (and our) world. It is unfortunate that tidy gardeners often destroy what the bumblebee queen would regard as highly desirable food and residence.

Once her ovaries and eggs start to form, the queen begins nest-searching in earnest. Deserted small rodent burrows are favorite nest sites, along with clumps of dead grasses, empty woodpecker holes, cracks in old, rotten logs and even outside furniture will be become nests sites.

I once had a lovely young lady call me with alarming news, "I have a nest of bumblebees in my love seat on the porch!" she proclaimed.

I removed the bees and their nest and built them a new home out of a concrete block, stuffed with grasses, and placed it not too far away under a small piece of plywood in a hedge.

Once a queen has found a suitable site, she builds a wax honey pot and fills it with regurgitated nectar that becomes honey. Next, she builds up a store of pollen, some of which she eats, and the balance she makes into "bee bread." She uses saliva mixed with pollen, and it's believed the saliva provides protection against spoiling by fungi and bacteria. Can you imagine what happens when/if she collects pollen from a dandelion bloom that's been sprayed with chemicals?

If you're fortunate enough in spring to observe a bumblebee with her pollen baskets full, you know she's found a nest site and is preparing to lay eggs. The store of pollen, nectar and bee-bread also enables the queen to survive for a day or two of bad weather without foraging, which in our part of the country is vital.

What takes place next is something I have not — and probably will never — witness, but, according to bee researchers, the pollen stimulates the ovaries to produce eggs, which the queen lays in batches of four to 16 on the ball of pollen. Then she then covers them with wax.

PHOTO BY JIM ANDERSON

Our poor old vanishing Western bumblebee, a victim of everything from climate change to chemicals to greed.

The eggs are pearly white and sausage-shaped, about 2.5 to 4 mm long, and placed within reach of the honey pot, thus enabling the queen to brood the eggs (as birds do) and drink honey at the same time.

While bumblebees are very "hairy," the underside of the abdomen has a brood patch, so the heat from the queen's body can pass directly to the clump of wax-covered eggs. During this stage the queen rarely leaves the eggs for long and she keeps them at about 80 degrees F. If the temperature falls below 80 degrees, the larvae's growth will be stunted and all is lost.

After about four days the eggs hatch, a statement that doesn't tell you the queen may visit as many as 6,000 flowers per day in order to get enough nectar to maintain the heat needed to brood her eggs. During every foraging trip, the brood will cool down, so the trips must be short. That makes it vital the nest is located close to rewarding flowers.

When the eggs hatch, that single, hard-working queen must make thousands of trips per day to feed her growing larvae pollen, during which

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