

# Pollinators and the Cold

by Carol Barany

“Twas the night before Christmas, when all through the house,  
Not a creature was stirring, not even a mouse.  
The stockings were hung by the chimney with care,  
In hopes that St. Nicholas soon would be there.  
The children were nestled all snug in their beds,  
While visions of sugarplums danced in their heads.  
And mama in her kerchief and I in my cap,  
Had just settled down for a long winter’s nap.”

**S**omewhere in the yews growing outside my kitchen window, an overwintering male Anna’s hummingbird has locked his tiny feet onto a branch. By lowering his body temperature by 50 degrees and slowing his heart rate to just a few beats each minute, he survives a bitter cold Christmas Eve by entering torpor, a hummingbird’s version of hibernation. As the sun and temperatures rise, his wings begin vibrating and his blood warms. Slowly returning to normal, he will fly to the heated nectar feeder I have hanging nearby and feed until going into torpor once again when dark approaches.

He’s not the only pollinator taking a long winter’s nap in my garden on the night before Christmas.

Female native solitary bees, like sweat bees, leafcutting bees, and mason bees; laid eggs in underground nests or in sealed and insulated cavities aboveground. These eggs hatched and are surviving the winter as dormant adults emerging in the spring, or as developing pupae kept safe and warm inside nests. When temperatures rise in the spring, females will emerge, find their own nesting sites, and lay the next generation of eggs

Bumble bees deal with winter differently. For this bee species, only new queens survive the winter, with the rest of the colony dying off. Last fall, males mated with future queens from different colonies. These future queens are spending the winter underground or in holes in soft wood that are safe and dry. Queen bumble bees, as large as they are, must consume as much nectar and pollen as possible to build up crucial fat reserves before entering dormancy. Come spring, queens will emerge and search for a nesting site to start a new colony of their own.

There is not much napping in honey bee hives. Worker bees are huddled around their queen, vibrating their wings and bodies to generate heat inside the hive. An outer ring of bees remains motionless, acting as an insulation layer. The bees take turns sharing the

warmth in the middle of the huddle. They use their stored honey as a main source of food to stay energized and keep the queen and the hive warm.

Monarch butterflies are known for migrating over 3000 miles from Canada and the Northern United States to the warm fir forests in Mexico where they wait out the northern winters. Most butterfly species however, are non-migratory, and are hunkered down in your garden right now.

Some deposited their eggs close to their specific host plants in late summer. The eggs will hatch in spring, coinciding with the time when host plants puts on new growth for them to eat.

Other butterflies survive as caterpillars, using natural materials for protection.

Swallowtails weather the cold within a chrysalis in sheltered places like overhangs or in brush. In this phase called diapause, their development ceases and their bodies produce anti-freeze-like chemicals that allow the pupae to survive extreme cold. As winter ends and their nectar plants begin blooming, the pupae resume metamorphosis and emerge from their chrysalises as fully grown adult butterflies.

Mourning Cloak butterflies spend the winter as adults. After feeding to build up fat reserves, they overwinter in the nooks and crannies of trees, cracks in rocks, or leaf litter, and reemerge in the spring.

Praying mantids lay eggs that can survive freezing temperatures.

Some moths stay wrapped up in non-feeding pupal stages all winter long.

Other pollinators, such as ladybugs, stay mostly dormant while hiding in tree holes and under logs and rocks.

Many Yakima gardeners are concerned about all the leaves still clinging to deciduous trees, even into late December. We are a tidy bunch and want to get things cleaned up.

Why not look at those leaves as a blessing in disguise? Pollinators love a “messy” yard and garden full of leaf litter, brush, and twigs where they can snuggle in for their own version of a long winter’s nap.

More about all those leaves next month. Until then, have a joyous day. Merry Christmas to all my readers.