

Tips for Sharing the Gift of Nature

Encouraging Native Pollinators

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If your fruit trees don't seem to be as productive as in the past, it may be due to the steep declines in honeybee populations and thus a lack of effective pollination.

But there is a native bee that will outwork even a honeybee, and that is the orchard mason bee. When it comes to pollination of apple, cherry, pear, peach and plum, this bee is in a class by itself. And they will also pollinate blueberries, cranberries, raspberries and strawberries.

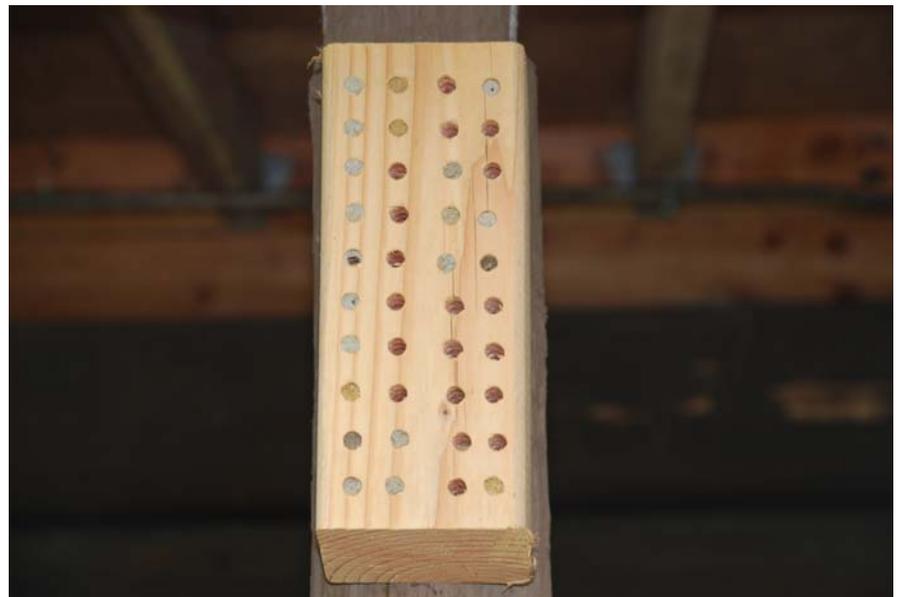
The honeybee, a non-native import originally brought over from Europe, will stay inside its hive during wet, chilly weather. Not so the orchard mason bee: endemic to the Pacific Northwest, it will continue to work during such periods of weather.

The orchard mason bee is somewhat smaller than a honeybee, and has a black coloration coupled with a metallic bluish sheen. They are robust in form and are fast in flight. They are totally non-aggressive and will not defend even their own nest, a trait which makes them very welcome in the backyard. About the only way you could get one to actually sting you would be to deliberately catch it in your hand and then try to squeeze it to death!

Orchard mason bees nest inside tunnels within wood, but they cannot excavate the tunnels themselves. Instead, they must seek out and use vacant tunnels previously created by another organism.

Early each spring, the cycle begins with the males exiting the tunnels first and awaiting the females, which emerge later. They then mate, and the males die not long thereafter. The female begins exploring for tunnels in which to start nesting. Upon finding a suitable nest, she does an in-flight dance that creates a mental map of the location. She will first build a mud plug at the back of the burrow, then forages for a sufficient pollen and nectar store. She will begin each day's foraging exactly where she stopped the previous day. She lays an egg with the finished cache of collected food, then builds another mud plug to seal it over, and repeats the process until she has filled the burrow. She will then choose a new burrow, and begin all the process all over.

By late spring, the females are beginning to die. Each female will have visited approximately 60,000 blossoms during her lifetime.



Meanwhile, next year's brood is developing inside the tunnels. They will become adults toward the end of summer, but will overwinter inside the burrows and will emerge the following spring to begin the cycle anew.

Photos: Top left – Dan installed the mason bee nesting block in February. Right – By the end of May, many of the holes had been filled. He wrote: *"The holes on the left are totally filled, don't know why they were so popular. But maybe because sun hits that side and warms it more. The different colors must be because they got the mud from different sources."*

You can get orchard mason bees to start working for you simply by providing them a place to live:

1. Start with a scrap piece of fir or pine lumber, any shape is OK. Never use treated wood or cedar.
2. Drill 5/16" holes straight back horizontally into the wood. A 3" – 9" depth will work, and 6" is perfect. The shorter distances tend to produce mostly male bees while the deeper burrows will yield a higher proportion of females. Leave 1/2" of wood in place at the back – do not drill completely through the wood from one side to the other. Try to drill so as to create as smooth of a wall inside the burrow as possible. Space the hole centers 3/4" apart.
3. Drill at least three or four dozen burrows. Even though each female will only use a few during her short lifetime, they like one another's company and prefer to nest in close proximity to one another.
4. Using a propane torch, you may want to consider lightly burning and thus blackening the side of the wood where the openings to the burrows are located. This may serve to further enhance the attraction of the nesting block to female orchard bees.
5. Place the nesting block at least 3 feet above the ground, and within 100 yards of the blossoms you wish them to pollinate. The closer to their food source they are, the better they like it. Affix the nesting block firmly to a stable object – they do not like their nests to sway or to swing in the wind. They also do not like the nesting block to be completely out in the open. Tucking it under the eave of a building, low enough to catch the morning sun but still protected from direct exposure to the elements, is ideal. They might also use a nesting block attached to a fencepost.
6. If woodpeckers attack the nesting block, simply use chicken wire to fashion a protective sphere around the block. The bees will go back and forth through the wire, but the birds are excluded.
7. If you wish to examine the larval stages of the bee and use them as a teaching tool, substitute some glass or plastic tubes of the proper diameter. Construct a nesting block so that it comes apart to expose these tubes. Be extra gentle so that you do not jar and thus dislodge the larvae from their food source.

To learn more, there is a large array of material devoted to orchard mason bees available on the internet - and a great deal of it originates from sources located within the Pacific Northwest.