

## Mason Bees

Mason bees, *Osmia* spp., are a group of native bees that are excellent pollinators. They are called mason bees because they use clay/ mud to make partitions and seal the entrance to their nest. Mason bees are also sometimes known as orchard bees since many of them are very good at pollinating fruit trees (apples, plums, peaches, pears) and emerge in early spring to do so. The blue orchard bee, *Osmia lignaria*, is so celebrated for its pollinating efficiency that it is used in managed agriculture.

Mason bees carry pollen on their bellies, unlike honey bees which pack pollen into pollen baskets found on their legs. Another big difference between these bees and honey bees is that mason bees are solitary and nest in holes. Mason bees are a bit smaller than honey bees and are usually black with a metallic colored (blue, green, etc.) abdomen.

Mason bees “nest” in holes, but “nest” is a misnomer as nursery is a more suitable term. Mason bees collect pollen and nectar and mix it to form bee bread. Bee bread is placed into a suitable hole, an egg is laid on it, then the section is sealed off with clay/ mud. The mason bee continues the process until the hole/ tube is filled with egg chambers and the tube is sealed off with more clay/ mud.

Eggs within nursery tubes hatch within a week and emerged larvae eat the pollen/nectar mixture (bee bread) for 4-6 weeks as they continue to grow and molt into the next instar. After the larval stage, they molt into pupae and remain in that stage for another 4-6 weeks. Once adults emerge from the pupal case, they remain in the tube until the following spring. Female eggs are laid further in the tube structure while males are in the outer sections of the tubes.

While mason bees only live 6-8 weeks in the spring, females can fill up 4-6 tubes and lay up to 36 eggs. Usually a limiting factor of having mason bees in the landscape is providing suitable nesting/ nursery sites and a supply of clay/ mud. Fortunately, there are a variety of ways to provide nesting/ nursery areas and clay/ mud for these pollinators. Many people go with a wooden nesting block, but this can be difficult to clean each season after bees emerge (if you don't clean the wood block then it can lead to fungal and disease problems).

To make a nesting block, drill 9/32 or 5/16 holes in a dry, untreated piece of wood. Holes can be up to 10 inches in depth (to produce females it typically requires depths of 6 inches or more) but should not go all the way through the wood. Other ideas for nesting/ nursery areas would be using any container that you want and filling with cardboard tubes, paper straws, bamboo sections, or hollow reeds. Nurseries made out of such materials allow for easy change out each year to avoid possible disease build up. Nesting/ nursery areas should be placed in sheltered locations (from rain & wind) in an area that gets morning sun.

If you choose to attract these pollinators, make sure to have early blooming plants in your landscape, an area where bees can collect clay/ mud for their nest/ nursery, and use IPM strategies for pest management to reduce pesticide usage.

For more information or help with identification, contact Wizzie Brown, Texas A&M AgriLife Extension Service Program Specialist at 512.854.9600. Check out my blog at [www.urban-ipm.blogspot.com](http://www.urban-ipm.blogspot.com)

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