

## All About Mason Bees

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Mason bees are spring bees active late March through the first part of June. They are very active pollinators and arrive on the scene 3 to 4 weeks before honey bees make an appearance. Each mason bee can do the pollinating work of 120 honey bees. This is because they do not have a queen or hive to support; they are a solitary species. This may also be the reason that these bees are not aggressive to humans, pets, or livestock. Each nest is the work of the solitary female without the assistance of worker bees. Each female never lives to see her offspring. While female mason bees are solitary they are social, and nesting females attract other females if there are places for them to make nests by each other. If there are enough holes to go around you may be able to have many females localized and pollinating in your area.

Mason bees belong to a group of bees that are cavity nesters. These types of bees have 3 things in common.

- 1. They nest primarily in preexisting cavities. In nature, mason bees will choose nesting sites such as hollow plant stems or beetle or woodpecker borings in dead wood. They will also nest in mason bee habitats built specifically for that purpose.
- 2. They collect substances such as mud, leaf parts, resin or tiny pebbles to line and seal cells.
- 3. The tract of specialized pollen transporting hairs, the scopa, is situated on the underside of the abdomen.

In early spring the male mason bees emerge first followed in 5-7 days by the female. While 'guys' are waiting for the 'girls' to show up they spend their time feeding on flower nectar and frantically hovering around the entrance to the nest. Male mason bees will be quite aggressive with each other jostling to be the bee closest to the nest entrance. For your sake it is safe to note that they do not carry a stinger. Female mason bees only mate once so that is why the males are so aggressive with each other. The female mason bee has the ability to fertilize 25-35 eggs. The male mason bees will die off after 3-4 weeks.

The female mason bee will search out empty cavities suitable for nesting sites and begin the work of preparing them for her eggs. Initially, she will be feeding on only nectar. After she completes her first nest, she will start another one and may make a total of 4 to 5 nests. After a period of 6-8 weeks she dies. After she has cleared out the cavity that will be her nest she will start to make mud from her saliva and soil and start to line her nest beginning in the back of the nest. As she lays her eggs her foraging patterns begin to change. She will start to gather pollen in addition to the nectar to provision the individual cells where the eggs are laid. The females are larger and will require more pollen. Female eggs are laid in the nest first with male eggs laid closer to the entrance of the nest.

The female mason bee is a very visual bee. Before she leaves the nest to forage for nectar, she must memorize her location using the visual clues surrounding the nest. Once she has a mental map of her immediate and distant surroundings, she is ready to forage. For this reason, when constructing mason bee habitats, nesting sites will be more attractive to the female if they are not perfectly symmetrical.

About a week after laying an egg it will hatch into a tiny larvae which will feed only on the egg fluids. After a second moult it will start feeding on the nectar-pollen stores. The larvae will moult 4 to 5 times before spinning cocoons in July. Sometime in September the mason bee will have matured into an adult inside the cocoon where they will remain until the following spring when they emerge and the cycle begins again.