Mason Bees

Denise McCravey

TUFTS OF WHITE FACE HAIR quiver, and a blue-black body gleams in the sunlight. Two layers of gossamer wings beat gently. Two antennae circle. Hairy legs rest on flower petals. It is early spring, and the male Blue Orchard Mason Bee is foraging for food; but he is also watching the nest, waiting for females to emerge.

After emerging from their cocoons and mating, female Mason bees begin collecting pollen and nectar. Efficient pollinators, the females take nectar with their tongues while vigorously shaking the flower's anthers with their three sets of legs. This allows them to collect pollen and nectar simultaneously. Females must shake over 75 blossoms for a full load of pollen and nectar to make a pollen wad—25 loads. These little ladies pollinate as many as two thousand blossoms a day during their short six-to-eight-week lives.

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Their nests are amazing. These bees prefer to nest in warm, dry places away from the wind. The female bee nests in existing holes, slightly larger than her body, in wood or stems of vegetation. The busy bee mixes a mud plaster with her tiny mouth and forelegs, which she uses to plug the bottom of a quarter to three-eighths inch hole. When the female collects enough food, she goes into the nest head-first and regurgitates the nectar, backs out, makes a u-turn, and backs in to deposit the pollen. Her last load is nectar only, into which she places an egg and seals the section with a mud plug. She lays one or two eggs per day and decides which ones are fertilized. When the n est is full, she builds a thicker mud plug.

Metamorphosis...Larvae hatch in a week and begin to eat their provisions. After ten days, they've eaten the pollen-nectar mass. The larvae then spin cocoons, pupate within their cells, and remain in the cocoons throughout the winter.

When spring weather warms up sufficiently, the males begin chewing their way out of the cocoons, emerging through the mud plugs. A few days later the females, which are almost always in the inner cells of the tunnel, emerge. Male and female bees soon mate, starting the process of pollination and propagation all over again. Unlike the social honeybees and bumblebees that live in huge colonies, with fertile queens and unmated workers, mason bees are solitary. There is no caste system or mutual cooperation. Each female is fertile and builds her own nest near other female mason bees. These bees don't make honey. The gentle creatures sting only when trapped in the hand or under clothing. Their sting carries no venom; it feels like a mosquito bite.

To attract mason bees to your garden or orchard, install bee houses in early spring. To build your own you need only a 4-inch x 4-inch section of wood (see below) and a drill. Several styles are available for purchase. The nest needs to be 300 feet or less from flowers/food source. Position the nest for morning sun to warm the bees in early spring. Keep the nest protected from direct rain, snow or wind. Mason bees, still in their cocoons, can be purchased in very early spring.

Blue orchard bees must have mud to seal their brood chambers. If no mud is available, dig a small hole, line it with plastic, and either wet the area frequently or supply drip irrigation.

Parasites and other insect enemies will feed on the cocoons if they have access. To prevent infestation, carefully move the nest to a refrigerator, but wait until October to ensure the adults are fully developed.

In spring, mount the bee houses facing east to catch the morning sun. Bee houses can be incubated at room temperature inside for 24 hours to hasten emergence and should be in place a few days before fruit trees begin to bloom.

How many mason bees are enough? For a small home orchard, 50 bees will pollinate trees and a vegetable garden. For a large orchard, provide 500–1,000 filled holes for each acre — 750 to 1,000 females.

Giving these hard working mason bees a home in your backyard or orchard brings one of nature's pollinators to your plants.Be creative! Bee houses can be made in any shape, and you can use untreated 4" x 6" lumber. Drill 5/16 inch holes on ¾ inch centers and at lest 5 inches deep. Attach a roof. Outside surfaces can weather naturally or be painted. Do not use wood preservatives. Hang securely out of the wind in a southeast direction at least three feet above the ground.