

Applewood Seed Company

Profiles of Native Bees

Pollinator Profile: Sweat Bee

The sweat bee is part of the family Halictidae. It is native to North America. This medium sized bee is a beautiful metallic green with a yellow and black striped abdomen. Some females are entirely green, or greenish blue.

Female bees also have pollen-collecting hairs, called scopa, on their hind legs, making them effective pollinators. These bees have short tongues and also tend to visit a wide variety of flower species on a single foraging trip to fulfill their diet of nectar and pollen.

Sweat bees make their nests in the ground. Being solitary bees, each female will make its own single nest in which to lay its eggs. Sometimes several nests will be located close together, but are still separate. The eggs are each laid in single cells with food provisions for the resulting larvae.



Pollinator Profile: Leafcutter Bee

Leafcutter bees are solitary bees, native to woodland areas. There are more than 140 species found in North America. These grayish colored bees use their mouthpieces to cut pieces out of leaves to line their nests. Sometime they are very particular about which plant leaves they use. The nests are made in wood cavities already present or in hollow plant stems.

Leafcutters are very efficient pollinators. They prefer legume blossoms, but are by no means limited to one plant's nectar.

Honeybees, one of the best pollinators, are ineffective alfalfa pollinators because they can steal nectar without tripping the flower. The leafcutter bee not only does the pollination job well, but is much gentler and less likely to wander away while pollinating than honeybees. Besides their contribution to pollination, leafcutter bees have created a new kind of beekeeper: one who sells bee larvae to other growers in need of pollination services.

Pollinator Profile: Mason Bee

A solitary bee, native to North America, the mason bee is a bit smaller than a honeybee and is recognized as an effective pollinator. There is growing interest in domesticating them for pollination in commercial orchards. Although primarily western, they are seen throughout northern USA and southern Canada.

Blue orchard bees have attracted a lot of attention, and have the potential of replacing honeybees as the most important fruit tree pollinator. Orchard mason bees are hard working, adapted to a cool climate and can fly in chilly, even drizzly weather. Thus, they are often busy pollinating when honeybees remain inside the hive. Non-aggressive, and not likely to sting, these bees are ideal to control for pollination uses.

Mason bees build their nests in already existing holes, so it is fairly easy for beekeepers to build artificial homes to accommodate them. These bees are called "mason" because they partition off and close up their nests with mud. The eggs are laid inside the hole and usually male eggs are placed closer to the entrance. Male eggs hatch faster than the females and will thus be more accessible to possible predators.



Blue Orchard Bee



Pollinator Profile: Carpenter Bee

Approximately three quarters of North American bees are solitary, and the carpenter bee is one of them. Carpenter bees are large and resemble bumblebees, but their abdomen is smooth and shiny black, unlike the hairy abdomen of the bumblebee. The little carpenter bee can be mistaken for many of the smaller sweat bees. Carpenter bees appear in the spring and early summer, and are noteworthy pollinators.

The bees make their nests by tunneling perfectly circular holes into wood, leaving a telltale pile of sawdust behind. Their preferred wood is usually bare, weathered, unpainted surfaces, or softwoods like redwood, cedar, cypress and pine.

The female bees dig tunnels in wood, and after mating, lay their eggs in a series of small cells. Sometimes the females will reuse old holes, or excavate to enlarge them. Pollen collected from flowers is placed in the cells for the larvae to feed on in their development. As adults, the bees forage flowers in search of nectar to survive.

Pollinator Profile: Plasterer Bee

As solitary bees, plasterer bees do not live in a colony, but each female builds its own nest in which to live and lay her eggs. Native to North America, plasterer bees have black bodies, covered with light-coloured hair. Part of the Colletidae family, they line their nests with a secretion, a cellophane-like material that makes the nest waterproof. The nest may be dug in the ground or in crevices of stones and bricks. Pollen is put in the nest with the female's eggs and serves as a food source when the eggs hatch into larvae.

Plasterer bees are usually seen foraging in the summer for a short time. They have shorter tongues and live on a diet of nectar. As many solitary bees do, the plasterer bees also pollinate flowers as they seek nutrition.



Pollinator Profile: Bumblebee

Bumblebees have a fat furry look, and are large-bodied bees. Native to North America, bumblebees are a social bee that lives in colonies. There are about 250 species of bumblebees, which live primarily in temperate regions, and about two dozen species reside in Canada.

These large bees nest underground, in places like abandoned mice nests, and are affected by rain and poor soil drainage. A typical underground nest will be 15-23 cm in diameter with a tunnel 30 cm, sloping, and 2.5 cm wide.

Bumblebees require sustenance throughout the spring, summer and fall. The North American bumblebee species have a wide range of forage preferences and visit a wide variety of flowers for nectar. There are varying tongue-lengths among the bees and this makes them seek flower types with different shapes and corolla tube lengths. Longer-tongued bumblebees are important pollinators of many legumes such as field beans and red clover.

Bumblebees are effective pollinators, but are not used to pollinate large cultivated areas because they are usually too small in number. Managed bumblebees are better pollinators of greenhouse produce, such as tomatoes.



Pollinator Profile: Mining Bee

Mining bees, or digger bees, nest in burrows in the ground. Unlike the honey bee, mining bees are "solitary" bees. They do not form long-lived colonies, nor do they live inside a single, well-defended nest controlled by one queen bee. Instead, each mining bee female usually digs her own individual burrow to rear her own young. Large numbers of these bees may nest near one another if soil conditions are suitable.

Mining bees are not aggressive and seldom, if ever, sting. They range in size from about the size of honey bees to much smaller. The larger bees are furry and usually darker in color than honey bees. Some are brightly striped, while others are a shiny metallic green. Mining bee burrows may be located wherever there is exposed soil and good drainage. They are frequently found nesting in banks, such as along road cuts or any type of excavation, but may also be in level ground as well. The female mining bee stocks each cell with pollen and nectar she collects from flowers and then deposits an egg on the food mass.



Pollinator Profile: Wool Carder Bee

Originally not native to North America, the wool carder bee was introduced from Europe. This solitary bee has creamy-yellow spots on its abdomen and also yellow markings on its legs and face. The male bees are larger than the females and have a light colored tuft of hair at the front of their face. The bees also have three spikes at the end of their abdomen and males will use them aggressively. They are known to be able to kill honeybees with their violent attacks.

The bee gets its name from the female's unusual nesting habits. Similar to carding wool, the female will scrape or comb off plant hairs, from plants like the woolly lamb ear. She will put the "wool" into a ball and fly back to her nest, carrying the ball under her body.

Wool carder bees nest in pre-existing cavities, in places like the ground, wood or walls. The female lines her nest with the collected plant hairs and proceeds to lay her eggs in individual cells with enough pollen to feed hatched larvae. The new adults will emerge in the summer months.

Male wool carder bees are very aggressive and territorial. They will patrol an area, looking for females and chasing other nectar-seeking insects away. If males spot a female they will quickly descend upon her and aggressively try to mate.

In terms of pollination, wool carder bees have long tongues and the females have pollen-collecting hairs in the underside of their abdomen. They can collect pollen and therefore transfer it from flower to flower as the bees forage for nectar.