

Garden Guide to Native Bees of the Hudson Valley



Polyester bees are a diverse group of solitary ground nesting bees represented by over 100 North America species.

The females will often nest in large aggregations making shallow brood cells only 4 to 6 inches deep. These bees line their brood cells with completely waterproof cellophane-like substance allowing them to nest in very wet areas. This material has been studied as a natural plastic substitute that can decompose in as little as five years. The polyester bee provisions her eggs with a liquid form of nectar and pollen.



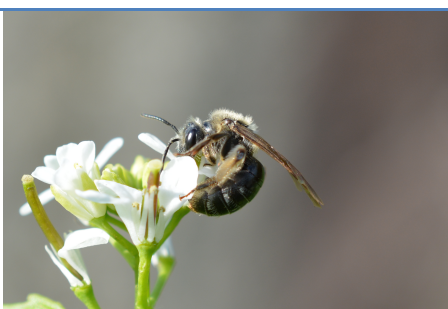
Yellow-faced bees are practically hairless and can easily be mistaken for a wasp. Unlike other bees, they do not carry pollen and nectar externally, but internally. They have a special stomach-like pouch in their digestive system called a crop. This mixture is regurgitated when they return to their brood chambers.

These solitary bees nest in existing tunnels in wood, or in stems and twigs. The females line their nests with cellophane-like material, as do polyester bees.



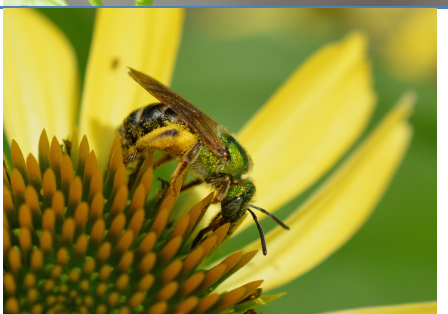
Mason bees are so named for the mud walls they make to partition off their brood cells. East of the Mississippi, there are only 27 species out of the 150 found in North America. Two of the most common species are the blue orchard bee (native) and the horn-face bee (introduced from Japan). These are active in the early spring, especially during apple blossom time.

This solitary bee lays her eggs and provisions them with “bee bread”, a mixture of pollen and nectar. Once her job is done, the larvae mature over the course of the summer and remains dormant until they emerge the following spring.



Mining bees are one of the most diverse groups of bees, represented by 400 species in the United States. They are often the first bees seen in the early spring, though some species emerge in late summer. True to their common name, they are ground nesting solitary bees. Often living in large aggregations, each female lays her own eggs and provisions them with “bee bread”.

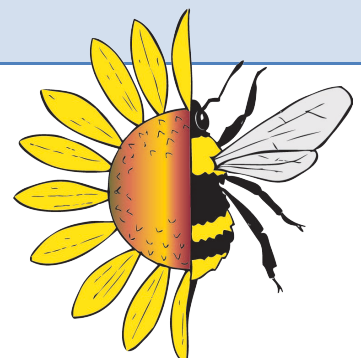
Spring mining bees are generalist pollinators found on some of the earliest blooming flowers and are important pollinators of apple trees.



Green sweat bees, unlike their other sweat bee counterparts, are not attracted to human sweat. The metallic green sweat bee is totally green while the green sweat bee has a black and white banded abdomen. This small bee is represented by 43 species found in the United States.

This solitary bee digs deep vertical burrows underground where eggs are laid. Females collect pollen on scopa hairs on their hind legs. Some species nest communally but provision their own cluster of brood cells.

“Native Beeology is an educational platform to foster an appreciation of our native bees and to inspire people to take action on their behalf.” www.nativebeeology.com





Leaf Cutter bees are a diverse group of solitary bees represented in North America by 140 species

Leaf cutter bees cut holes in leaves that they use in the construction of their brood chambers. Using strong mandibles the female cut pieces of leaves according to the shape and size needed to line her brood chambers or to create cell divisions.

These bees often curl their abdomen upward as they enter a flower, revealing the pollen collecting scopa hairs on the underside of the abdomen that are characteristic of members of the Megachilidae family.



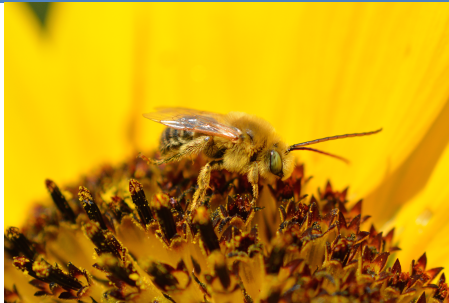
Large carpenter bees, our largest native bee, are troublesome to property owners when making their nest holes in the wood of barns, porches and other structures. Fortunately, nest holes are not structurally damaging.

This bee is often confused with bumble bees, their abdomens are practically hairless unlike the fuzzy bumblebee. This solitary bee is not aggressive even though males will dive bomb an unsuspecting passerby; bluffing a mock attack. Only female bees have stingers (an adaptation to the ovipositor) while the males are harmless.



Small carpenter bees (*Ceratina* spp.) with a relatively hairless, ant-like body should not to confused with the more notorious large carpenter bees (*Xilocopa* spp.). The smaller bee doesn't have the jaw strength to burrow into wood like its larger relative instead it opts for the pithy centers of dead stems of elderberry or brambles.

Small carpenter bees are long lived; up to one year. Unlike other solitary bees, the female bee actively manages her brood by sitting guard against predators in the entrance of the stem until the new generation emerges.



Long horned bees are named for the extra long antennae found on the males; females have short antennae in comparison. These bees are represented in North America by 120 species

The female carries pollen on the long hairs of her hind legs called scopa. She will carry this pollen back to her underground nest to make into "bee bread" that is used to provision growing larvae.

This solitary bee is a specialist commonly found on sunflowers. The males can often be seen in the day looking for females, and at night cluster together to sleep.



Squash bees are native specialists that at first glance appear similar to the honey bee, but only pollinates flowers in the squash family. This genus is represented by 13 species with only one, *Peponapis pruinosa*, found in the eastern United States.

As ground nesting bees, the females often nest beneath the very plants they pollinate. They are known for nesting in large aggregations and their nesting chambers may be two feet deep. The developing larvae will emerge the following summer coinciding with the squash blossoms.



Bumble bees, represent by nearly 50 species in North America are a social species, with one egg laying female; she raises a colony that is active for one season. During early spring, if you see a bumble bee while the apple is in bloom, it is most likely the overwintering queen preparing to establish a colony. She is larger than the workers that will populate a colony consisting of 50 to 200 worker bees.

Like many of our native bees, bumble bees have the ability to "buzz pollinate" by vibrating their wing muscles with such force that it shakes the pollen free from flowers such as blueberries and tomatoes.