Our Solitary Native Bees:
Great Pollinators for your Garden

It is generally agreed that we must encourage a wide variety of pollinators to be successful in our gardening efforts, whether we are majoring on fruit, vegetables, ornamentals or a combination of these plants. One-third of the food we eat is pollinated by bees.

Historically, this work has fallen to the challenged honey bee, which was imported from Europe. But there are many species of North American native bees which are more efficient pollinators than honey bees. We need more than honey bees to keep our food supply healthy. Native bees are amazing pollinators: **one** solitary female mason bee's pollination is equivalent to that of **one hundred** honey bees' pollination. Two of the common native bee pollinators are spring blue orchard mason bees and summer leaf-cutter bees.

The Many Benefits of Gentle-Natured Native Bees

Both of these types of bees:

- Rarely sting. The venom is comparable to a mosquito bite and does not cause anaphylactic shock.
- Do not live in colonies or hives, hence the designation of "solitary"
- Do not produce honey
- Are hardworking pollinators to help you grow more food and flowers
- Can be raised in an urban back yard without any special protective gear
- Smaller than honey bees
- Forage for pollen within 300 feet of their nests

Male bees emerge first from their cocoons, mate with females, and then die

Female bees gather pollen and nectar, place in nesting chamber to create a *pollen loaf,* lay an egg on top of the loaf, the eggs hatch, become larvae and feed on the loaf. She seals each nesting chamber with nearby clayey mud (mason bee) or with pieces of leaves (leafcutter bee). The larvae spin protective waterproof silk-like cocoons in which they hibernate for the winter as pupae.

Blue Orchard Mason Bees

North America has over 130 species of hole-nesting mason bees which are spring hatching. You might mistake the blue orchard mason bee for a fly due to its' similar size and color. It has large eyes, thick furry legs, and a hairy body. They gather both pollen and nectar on the same visit to a plant. Pollen is dry-gathered not just on their legs but also on their bodies because their bodies are hairy all over. The pollen falls off easily wherever the bee goes, resulting in roughly 99.7% pollination of vegetables, fruits and flowering plants. When

daytime temperatures rise above 53 degrees F., the mason bee emerges from its' cocoon, takes flight, and pollinates for more hours per day than the honey bee.

Summer Alfalfa Leafcutter Bees

This is a warm-weather bee about two-thirds the size of a honey bee. It is a great pollinator for summer vegetables and flowers. It is black with pale yellow stripes on its' abdomen and flies best when temperatures are 70 degrees or higher. It is named because of the way it collects nesting material. The female cuts a smooth semicircle from a non-fibrous leaf, which is usually not harmful to the plant. The cuttings are cemented together with leaf juices and bee saliva to form cocoons for the eggs. The new eggs turn into larvae, overwinter in the cocoon and then develop into bees in early summer of the next season.

To assist with all pollinators' longevity, avoid the use of lawn chemicals or pesticides in your garden. Much more information about solitary native bees can be found online and at university-based research sites. Does your property need hard-working pollinators? Consider being a solitary native beekeeper to increase the population of native bees and assist the world's food supply, one garden at a time.

References

OSU Extension – E-1034 – Master Gardener Manual

OSU Extension – EPP-7317 – Honey Bee, Bumble Bees, Carpenter Bees, and Sweat Bees

OSU Extension – EPP-7155 - Nectar and Pollen Plants of Oklahoma

Kansas State Extension – Alfalfa Leafcutter Bees

Virginia Tech Extension - Native and Solitary Bees in Virginia

University of Nebraska Lincoln Extension – Solitary Bees

University of Massachusetts Extension – Protecting Bees and Pollinators from Pesticides in Home Gardens and Landscapes

North Carolina State University - How to raise and manage orchard mason bees for the home garden