

NATIVE BEE NESTING SHELTER & TUBES



Bellflower Resin Bee (*Megachile campanulae*) on Tall Bellflower (*Campanula americana*)
These are solitary native bees and cavity nesters that will benefit from your new nesting shelter.
Photo credit: [Heather Holm](#), Author of *BEES - An Identification and Native Plant Forage Guide*

Environmental stresses are pushing many of our native pollinators to the edge of ecological collapse. The affects of habitat loss, fragmentation, alien species, climate change and pesticide use are negatively impacting pollinators in substantial and rapidly increasing ways. You can help to slow these trends by joining the movement to *Bring Back The Pollinators*.

You can begin helping pollinators right away by conserving native habitat, gardening with native plant species, avoiding pesticide use, and by providing native bees with secure nesting sites. Whether setting up dedicated bee houses or simply leaving open soil and deadfall for bees, your assistance in fostering nesting habitat is key to curbing the decline of native pollinators.

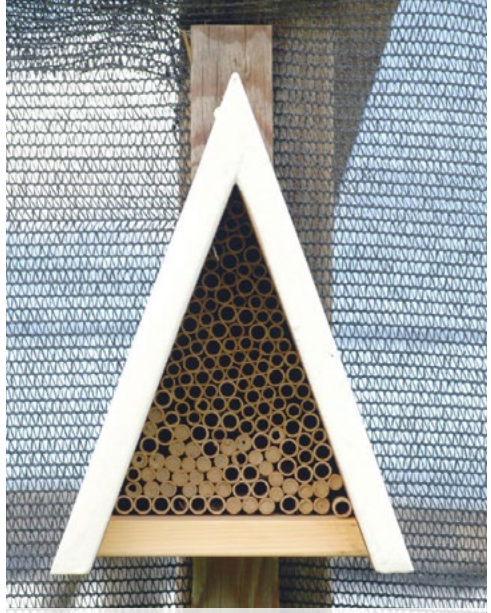
The Xerces Society of Invertebrate Conservation offers multiple fact sheets and publications on the conservation and management of native bees. Visit www.xerces.org for a full list of resources and publications.



PREPARING YOUR NATIVE BEE SHELTER

1. The location of your native bee shelter is important:

- Hang the shelter in an area that is protected from harsh weather. Orient with entrance holes facing east or south-east. It is essential that the nesting tubes are kept dry.
- The shelter can be placed at any height, though a height of three to six feet is generally convenient.
- Mount the shelter firmly to a building, fence or post to prevent moving in the wind.
- Once installed the shelter should not be moved during months when nesting occurs. Nesting times vary per species and begin occurring in spring throughout the summer months.



[Native Bee Shelter with Tubes - Large](#): \$64.00 (postage paid)

2. Completely fill the shelter with appropriately-sized tubes or reeds, taking care to ensure horizontal placement. Use the supplied paper tubes or make your own. You can source your own nesting tubes with appropriately-sized reeds or stems (such as *Cup Plant*). Reeds of about six inches in length with an inner diameter of 6-8mm are best. Natural nesting tubes should have hollow or soft centers. Cut the reed to length just before each joint (node), utilizing the built-in partition. Fill the shelter enough to firmly hold the tubes in place.



[Native Bee Shelter with Tubes - Small](#): \$18.00 (postage paid)

3. Keep the shelter clean and dry. Parasites and disease affect the brood (*larvae*), with fungus and mites being of



special concern. To prevent disease, tubes should be phased out periodically, usually every two years. If bird predation becomes problematic, chicken wire can be placed over the shelter during winter months (*remove when bees are active*).

4. Observe and enjoy! Take note of the nesting materials and “mud” being used in the tubes. These signs will tell what species are nesting in your native bee shelter. Most solitary bees are docile and can be viewed closely, though a healthy caution and respect should be exercised. Keeping a record of the species of bees nesting in your shelter will strengthen your knowledge of native pollinators and may provide useful data for citizen science groups.

NESTING BEE BIOLOGY

HABITAT: Most bees native to North America are solitary, exhibiting occasional tendencies to nest in close proximity to those of the same species. Of nearly 4,000 North American bee species, about 30 percent are tunnel nesting, while the other 70 percent nest in the ground. Tunnel-nesting bees, such as those utilizing your native bee shelter, benefit from dead standing trees and shrubs with hollow stems, while ground nesting bees primarily require open access to sandy or loamy soils.

Misguided attitudes toward land management have emphasized maintaining a perfectly manicured property. Practices such as the mowing of all unused land or “cleaning up” every dead tree have greatly harmed the well-being of

native pollinators. When possible, dead trees are best left alone (except in situations that may incur injury or property damage), mowing practices should be limited to required areas, and some open ground should be protected for nesting. Attention to habitat needs will greatly improve the number of pollinator species on your property, while also benefiting many species necessary for balanced biodiversity.

LIFE CYCLE: The life cycle for most tunnel-nesting bee species begins with the emergence of males, who wait several days for females to emerge and mate. Once mating has occurred, the female will begin preparing a nesting tunnel. For every egg she will construct a brood cell, partitioned by walls made of plant resins, mud or leaves. Within each brood cell the female provisions a mixture of pollen and nectar, on which she lays one egg. After finishing each individual cell the female will begin work on the next.

The developing bees pass through each stage of development in the brood cell, with emergence varying by species and climate. Some species will produce a single generation per year, which is called *univoltinism*, while others experience multiple generations per year, called *multivoltinism*. Some species endure extended periods in the brood cell, lying dormant for over a year. This life cycle is called *parsivoltine*.

Egg laying female bees have a unique ability to decide the sex of each egg. The female eggs are laid deep in the nesting tunnel, while male bees are laid closer to the entrance. Because female bees mate with several males, the male bees are

more expendable. In the event of predation the male larvae will fall victim first, leaving the developing female larvae safe and out of reach.



NATIVE BEE HOUSE NESTING TUBE REFILLS

200 Multi-Sized Tubes (6-8mm) - \$31.00 (postage paid)

20 Multi-Sized Tubes (6-8mm) - \$6.00 (postage paid)

NESTING TUBES: The female will nest for several weeks, filling as many nesting tunnels as she can, after which she will die. For this reason it is likely to have nesting tunnels which have not been completely filled but contain developing larvae. Special care should be given to nesting tubes containing brood. Old tubes should be phased out after two years. Tubes designated for replacement should be placed in a dark container or box with a single 3/8" hole drilled in the bottom. This container should be hung next to the freshly cleaned and re-stocked nesting shelter. Bees that have not yet emerged will crawl out of the exit hole to find a new nest hanging close by.

Note the differences between bees and wasps. Some wasps resemble the markings of bees and are often times more aggressive. Identification is important, though many native wasps play important roles within a well-balanced ecosystem and should not be automatically thought of as enemies.

Take time to watch and observe the activity around your nesting shelter. Most solitary bees are gentle and won't sting unless threatened or squeezed. Some species don't possess the ability to sting at all.

SUGGESTED READING:

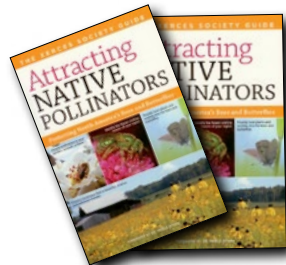
prairiemoon.com/native-bee-butterfly-id-guides



BEES

An Identification and Native Plant Forage Guide, By Heather Holm

\$30.00 (postage paid)



THE XERCES SOCIETY GUIDE TO ATTRACTING NATIVE POLLINATORS

Protecting North America's Bees and Butterflies, By The Xerces Society

\$30.00 (postage paid)

