URBAN POLLINATOR CONSERVATION

Constructing Backyard Bee Hotels

North America is home to approximately 4,000 species of native bees, of which 30% are wood nesters that build their nests inside of hollow tunnels. These tunnels may be pithy stems, beetle holes or burrows excavated by the bees themselves (carpenter bees). Unlike honey bees, which work together to construct their hives of comb made from beeswax, the females of solitary native bees build and provision their nests by themselves. Typically, these solitary bees use materials gathered from the environment, such as pieces of leaves or flower petals, mud, pebbles and tree resins. Because many of our native bees are able to forage only within a couple hundred meters of their nests, providing nesting structures in the vicinity of your pollinator garden will encourage nesting and pollination year after year!

Bee hotels are an easy way to provide artificial nesting sites to observe the behaviors of our gentle native bees. Unlike honey bees, native bees are less defensive of their nests and thus allow you to closely observe their foraging trips, bringing pollen back for their young. **Wooden nest blocks** can be constructed from preservative-free pieces of 4x4 or 4x6 lumber, or with pieces of firewood or fallen logs. These simulate the beetle holes bees encounter in the wild. Holes should be drilled into the block 3-6 inches deep, 3/4 inches apart and between 3/32 inch (2.5 mm) and 3/8 inch (10 mm) in diameter. Alternatively, **stem bundles** of bamboo reeds of various sizes that are cut at the nodes, such that one end is closed, also can be provided for nesting. Hang or mount nests securely in protected locations that face east with afternoon shade. Charring or painting the front has been shown to attract bees more, but otherwise the structures can be painted any color or left natural.

Depth is important when drilling holes, as female bees can control the sex of their offspring, and will lay male eggs closer to the entrance. Deeper holes encourage them to produce more female offspring, which will in turn pollinate your garden.

Females of the leaf cutter bees (Megachilidae) can be seen cutting perfect circles of leaves, which they use to line their nests. Unlike honey bees, they carry pollen under their abdomens.

Even if you never observe the females, you will know when mason bees have been using your hotels, as they plug the full tunnels with mud to protect their young. Once mature, the new adults chew their way out.

When setting aside pollinator habitat, keep in mind that 70% of native bees are ground nesting; leaving mulch-free areas of soil in your garden will give these important pollinators a place to live in your yard as well.

Extravagant **5-star bee hotels** also can be used as a focal structure in your garden. Growing turf or other plants as a green roof will help to keep the interior cool. These can incorporate broken and upcycled garden supplies for nesting.

Further information is available at Xerces Society (www.xerces.org/pollinator-conservation) and the LSU AgCenter (www.LSUAgCenter.com).

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Pub. 3542 (Online Only) 6/16
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