



Insect hotel south of the Old Woodlot at the FWG



Toward the end of July, I noticed that two of the larger holes had been filled with twists of grass fibres. I wondered who had done such a thing, but before I could become too outraged, I noticed a large wasp fly in carrying a similar thin gray fibre and stuff it into the hole. Meet [Sodontia mexicana](#), the grass-carrying wasp.



I learned that drilling into the ends of boards or logs causes the wood to splinter and it's very difficult to make holes with smooth walls. However, one of the poorly constructed holes was apparently used by a mason bee in late August (upper right of the four middle holes).

Insect "hotels"

An insect hotel is a structure made up of a number of tunnel of various kinds that bees, wasps, and other insects may use as shelter or, especially, to house their eggs and larvae.

Interest in these structures is growing as we hear more and more stories about bee populations declining. Although attention has focused on non-native honeybees (*Apis mellifera*), our native bees have been shown to be just as important in pollinating our food crops and are certainly a part of any wildlife garden.

In the Ottawa area, bees that are looking for tunnels include leaf-cutter bees and mason bees (both in the Megachilidae family). Bee boxes do not attract colonial honeybees or ground-nesting native bees.

Construction tips

- No paint or other chemicals - it's best to use natural materials only (no paint or stain, no pressure-treated lumber, no plastics).
- Hotels should be relatively close to flowering herbs, wild flowers and native shrubs and trees to cover the food needs of the insects.
- Hygiene - tunnels must be replaced every year as parasites and disease are serious problems for bees; alternatively, tunnels can be lined with paper or straws that are replaced every year.
- Vary the size of the holes from 2 to 10 mm (some solitary bees are very tiny)
- Drilling into the end of lumber or logs raises a lot of splinters; instead drill across the grain to get smoother tunnels.
- Old, weathered logs are best as they are more like the snags (dead standing trees) that bees would naturally use.
- Ladybugs hibernate during winter in piles of dry twigs and leaves, which you can provide in your insect hotel.
- Solitary bees like sun. The ideal location for an insect hotel is in full sun, but protected from wind and rain.
- Many solitary bees are tiny and you may not have realised they are bees.
- Wire screening keeps the small material in place and protects against birds.
- Do not use pine or spruce for bees, as the drilled holes might fill with resin.
- Use bundles of hollow stems as natural tunnels. We're trying wild parsnip, day lilies, and cup plant stems to see what works. Set the bundles under an eave or in a box or other container to protect them from rain.

Inspiration



I tried lining some holes with paper straws made from bamboo. Some bees seemed to prefer these as the lined holes filled up quickly. This one is closed with tiny lumps of clay.



These little green sweat bees (Andrenid family) seem to be attracted to cup plant stems in the hotel and only in the fall. Here, you can see one bee (lower left corner) and evidence of excavating (the white grains of stem pulp).



Bald-faced hornets could be seen scraping the surface of the pallets the hotel is made from. They chew up the wood and use it to construct their large paper nests.



This extravagant bee hotel is a 20-m² wooden outdoor pavilion. The hexagonal opening can be filled with twigs, straw, reeds, bark, etc. to attract pollinators. The design allows visitors to sit and watch bee activity from the other side of the pavilion



Made of wood and metal, this structure was designed by Benjamin Spöth as modular fencing. It can be adapted to provide habitat for birds, bees, moths, and other pollinators. [More](#)

[Photos of insect hotels from Audubon Magazine](#)



[Materials, ideas, and easy construction method from the UK](#)

Potential residents

In addition to bees, many wasp species, such as cuckoo wasps and parasitic wasps, will use your hotel or bee box.

Dragonflies, beetles, lacewings, ladybirds, moths, spiders, frogs, newts, hedgehogs, et al...

www.wildbienenstand-neuhof.de

Bees: leafcutter bees, masked bees, mason bees, digger bees and hundreds more...

Mason bees - In April-May adults emerge and start looking for an appropriate place to lay eggs. Once they've found a tunnel, they gather pollen and nectar from fruit trees, and, in the process, ensure a crop of apples, cherries, plums, or berries for us humans. Mason bees also need a source of mud, which they use to seal each cell inside the tunnel after filling it with a pollen-nectar pudding and laying an egg.

The eggs hatch in about a week and the larvae begin to eat the food left for them. By late summer, they are ready to pupate. In September, the pupae open and adults emerge but stay inside their cocoons all winter only to come out the following spring.

We learned from experience that after the tunnels are filled in spring, we should cover the ends to prevent predators from stealing the larvae to stock their own nests.

In spring 2015, we had a workshop to learn to make a simple mason bee house ([see instructions](#)). These "boxes" are temporary, so the idea is to unroll the paper tunnels in the fall, gather the cocoons, clean them and store them in the refrigerator or other cold, but not freezing place. Bring them out in spring and put them into the back of a new nest box. Although this is certainly "interfering with Mother Nature," it also increases the survival rate of these much-needed bees.

Leafcutter bees have a life cycle similar to that of mason bees. However, they line and close their nest tunnels with discs cut from smooth thin leaves, e.g., maple or cherry leaves. [More info](#)

We've also found [Leucospis affinis](#), a tiny wasp parasitic on leafcutters.

Bumble bees frequently nest in the ground, but they will also nest in piles of stones, brushpiles, under decks, and even in bird nest boxes (which we've seen several times at the FWG). We've also seen them nesting in the foundation of my house and in sheds. In other words, while their sites are varied, what they are seeking is a warm, dry, sheltered cavity.

References and resources

[Tunnel nests for native bees: nest construction and management](#). This excellent Xerces Society fact sheet contains information on keeping your tunnel nests clean and free of disease.

Xerces Society. 2011. *Attracting native pollinators: protecting North America's bees and butterflies*. 2011. Storey Publishing.

[Inspiration Green insect hotels](#)

Flickr images to inspire the imagination: [Insect hotels and shelters](#)

[Building wild bee houses](#). University of Minnesota Bee Lab.

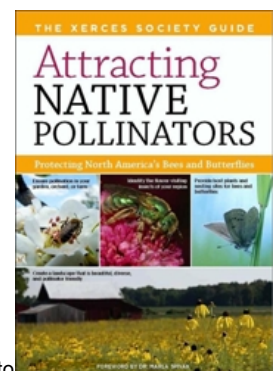
[Researchers hope Kansas bee hotel will educate, start conversation about native bees](#) - Kansas University Research Station.

[NAPPC Pollinator listserv](#): Provides a variety of topical and worthwhile information with much current information about bees and their conservation and efforts to protect them.

[North American Pollinator Protection Campaign](#): The premier site for all things to do with conservation of pollinators.

[Pollinator Partnership](#) (NAPPC): Provides information about all pollinators, with an emphasis on bees.

[Xerces Society](#): One of the best all-round websites dedicated to bees and all pollinators, with a wealth of good, trustworthy information. Check under: [fact sheets](#) for information on bee boxes.



http://www.foxleas.com/bee_house.htm

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