

DO

Use 3-10mm Drill Bits

Many native bees are much smaller than invasive European honeybees. Masked bees (*Hylaeus*) prefer 3-5mm holes, while ~7mm get used by leaf-cutter bees (*Megachile*). Using drill bits bigger than 10mm is useless for native bees and may only attract spiders, cockroaches or even lizards. Drill blind holes at least 100mm-150mm deep, and angle upwards so water doesn't collect at the bottom of the shaft.

Use Reeds, Bamboo, Pithy Stems

Locally sourced pithy stems, reeds and bamboo (aren't treated with chemicals) are great for cavity nesting bees. Cut close to the nodes so one end is closed off and ensure the diameter of the hollows is <10mm, tiny holes are liked by reed bees (*Exoneura*)

Use Native Hardwood

Bee hotels work best when simulating the natural environment such as holes from wood boring grubs in Australia's gumtrees, banksias and wattles. Hardwood lasts longer, and produces smoother shafts when drilled, which native bees prefer.

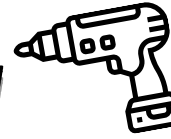
Shelter the Hotel

Give your bee hotel a roof. Place bee hotels at about eye level (1-2m high) and in an open area where there are flowering plants offering loads of nectar/pollen. Position the hotel to receive morning sun to stimulate foraging. Avoid shady areas.

Surround your Hotel with Flowers

A good hotel has restaurants close by. Plant native wildflowers from the families – Myrtaceae, Fabaceae, Asteraceae, Proteaceae. Some exotics like Salvia and Lavender are also good. Refer to the When Bee foundation – "Powerful Pollinator guides" which are specific to where you live, such as South-East Melbourne. Also limit pesticide/herbicide use on open flowers or spray at night if you have to.

MAKE A BEE HOTEL



Did You Know???

There are over 1650 species of Native Bees, and Native bee hotels are actually more like **nurseries**, where female bees lay their eggs. The eggs hatch and babies (larvae) grow, consuming stored pollen, and will emerge as adult bees to repeat the process until warmer weather comes to an end. Follow the Do and Don'ts of building native bee hotels and get started, it's as simple as that.

**Clancy Lester (left)
Native Bee Researcher**



**Baby bees/larvae in a
bee hotel cavity (left)
Cavity nesting bee
hotels (top and bottom)**



**Lisa Warman -
Air bee'n'bee**

DON'T

Don't Buy Imported Bee Hotels

Commercially-made bee hotels are often inferior to homemade hotels because they are usually imported. They get fumigated at border biosecurity, are often built with the wrong cavity dimensions (too wide and/or too shallow), and use treated woods. Opt for Australian made hotels by knowledgeable distributors or have a go at making your own.

Don't Use Treated Wood

Treated woods have toxic chemicals like copper, chromium and arsenic solution forced into the wood to protect it from insects and microbes. Store bought bamboo also is often treated, so be careful when buying wooden stems too. Also avoid chemicals such as varnish or some paints.

Don't Use Plastic or Metal

Using plastic tubes for the hollows isn't ideal because they collect too much condensation. Metal casing also isn't optimal because the hotel can get too hot in the sun. Better alternatives include bamboo, pithy stems and paper straws.

Don't Face the Hotel South

Native bees need sunlight to warm up in the morning. In Australia, the southern side of objects is always shaded. So, avoid placing hotels on the south side buildings, or habitats and make sure to direct the bee hotel towards the north-east, NOT south.

Don't Set and Forget

Native bee hotels need to be cleaned at the end of winter before the warmer weather. With a pipe cleaner remove debris, dead cells, and spider webs. Old nests are signified by a small exit hole on the once capped hole. Using paper straws inside the holes can make refurbishing your hotels easier. It's possible to replace the straws as each become 'capped' and place these nests in an emergence box, this requires great care. After a few years your native bee hotel might need to be replaced.

GROUND NESTERS

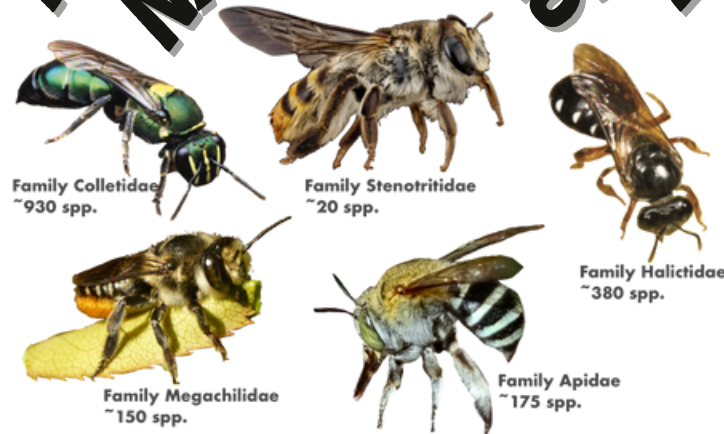
Did you know that around 70% of Australia's native bees nest in the ground. Solitary bees, like blue-banded bees (*Amegilla*) love nesting in crumbly, sedimentary soils. Thus, you should consider making alternative bee hotels to suit the ground nesters too, and make multiple as some grounding nesting species live in aggregations of solitary nests

Build a Dwelling for Ground Nesters

- ✓ Leave patches of un-mulched, bare ground in your garden.
- ✓ Have sheltered, excellent draining soils, and don't flood all of your garden when watering.
- ✓ Recipe of part clay, part sand. Needs to be able to clump together but also crumble, so bees can dig into it.
- ✓ Make a few shallow indentations about the depth of your fingernail to encourage nest building from bees.
- ✓ Apply similar placement to wooden bee hotels, eg., in open areas facing N-E, near flowers, and sheltered but not shaded if possible.



HELP PRESERVE OUR NATIVE BEES



Native Bees Face a Range of Threats

- Climate Change** Climate change is affecting the flowering of key food resources, reducing overlap in plant/pollinator. Heat waves and natural disasters also effect bees
- Land Clearing** Agriculture and urban development has cleared a lot of native bees nesting habitat and foraging resources across Australia.
- Exotic Species** European honeybees are not native and may compete with natives and encourage pest plants.
- Pesticide** Insecticides in agriculture are responsible for a lot of the global declines in insects. Avoid using it in your garden!
- Urban Building** Cities are concrete jungles, the little available greenspaces are mostly grass monocultures with non-native trees

Help Out by Building a "Bee Hotel"

Improve urban biodiversity, boost native bee habitat, and support populations of our pollinators. Read brochure for more!



RESOURCES

Know Your Guests (Native Bees)

- 🐝 'Bee Aware of your Native Bees(Australia)' -Facebook
- 🐝 'The Buzz on Wild Bees' – Facebook
- 🐝 'Guide to Native Bees of Australia' - Book T. Houston
- 🐝 'Bees of Australia' - Book J. Dorey
- 🐝 'Introduction to Australian Native Bees'-Book A. Dollin

Build Pollinator Gardens

- 🐝 Best plants based on your postcode – 'When Bee Powerful Pollinators' planting guide whenbee.org.au/our-work/projects/powerful-pollinators/
- 🐝 'Creating a Haven for Native Bees' – Book by Kit Prendergast
- 🐝 Nature Blocks – build back nature with free Conservation Volunteers Aus (app) - <https://mynatureblock.org.au/>

Extra Bee Hotel Information

- 🐝 Aussie Bee – aussiebee.com.au/bee-hotel-aussie-bee-guide.html
- 🐝 Wiki How – wikihow.life/Make-a-Bee-Hotel
- 🐝 ABC Gardening – abc.net.au/gardening/how-to/bee-hotel/9440586

Acknowledgements

I would like to thank Dr Rachele Wilson, Dr Kit Prendergast, Members of Bee Aware of your Native Bees (Australia) and Anne Dollin/the Aussie Bee Website.

Got Questions for a Bee Expert?

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- 🌐 [George \(Clancy\) Lester](https://www.linkedin.com/in/George(Clancy)Lester)
- 📧 Clancylester01@gmail.com

