



NATIVE STINGLESS BEES SYDNEY
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Information Sheet: Native Stingless Bees Sydney

1.1 Native Stingless Bee Hive location (for Sydney)

Not all areas of Sydney are suitable for keeping Australian native stingless bees mainly due to winter temperatures being too cold in some areas of Sydney. The more eastern or coastal suburbs, central and coastal parts of the Sydney Basin are generally suitable. **Not suitable** is the western parts of Sydney and elevated parts of Sydney or exposed/windy areas generally.

1.2 Siting and installing your Native Stingless Bee Hive (this set up location is really important to get right)!

The first thing about installing your native stingless bee hive is that the hive is to remain in a **fixed position** (and not be moved once installed). The reason for this is that the bees geo-locate their home very accurately and if the hive is moved, the bees won't be able to find their new home. *(to move a hive once installed, see Ch 1.4 below).*

- The hive needs to be located to receive a minimum of 4 hours of morning sun hitting the hive all year around (especially important in winter). The more sun the better in Sydney; but please site your hive to get afternoon shade in summer – so the hive, wax etc. doesn't melt down.
Hint: it is easier to set up additional shade in summer than to create more sun onto a hive. It is ok to have the hive shaded with a 'seasonal' awning in summer that might then get removed maximum sun in winter. Examples of this are in the 'how to install' and 'troubleshooting' information sheets.

The winter morning sun is important to warm up the bee hive after the cooler nights in Sydney.

- I have found that when there are problems with a hive, most people haven't put their hive in a sunny enough location. (winter sun/warmth from the first light of the morning is critical in Sydney).
Note: there is a bunch of contradictory information on the internet as well as different sun/shade requirements for hives located north in Qld.
- Protection: Make sure your hive is not exposed to prevailing winds. Note: exposed building rooftops are usually not that great for this reason. If locating on a balcony, make sure it is no higher than 4 storeys, as more can be too far for the bees to fly down to get food (and bees can also easily fly off course in a breeze as they only leave the hive carrying enough energy/fuel for a pre-determined flight distance).
- The hive should be set up off the ground for good air flow, to reduce moisture/humidity and to avoid rain splash or sprinkler splash. (hive height at: waist or chest height is a good height for keeping an eye on the bees' activity and for also catching the morning sun).
- The hive should face east or north and get the first early morning sun.

Balconies or verandahs can also work (facing north or east and catching the morning sun, verandah's can also be protected from winds). Consider that the sun is lower in the sky in winter and travels more overhead in summer and use this to the hives advantage when siting your hive.

Also consider if trees that may be shading the hive are evergreen or deciduous - and utilise the possible winter morning sun let in by a deciduous tree.



Typical installations include mounting the hive to a wall or fence (with brackets 250mm x 200mm) or fixing it on top of a stand or post (guide: 100mm x 100mm). (see the 'how to install' information pack).

The bees' brood (eggs) temperature can't get below 15°C for too long - so the winter morning sun is needed to warm up the hive after overnight cooling. You can add a bubblewrap jumper around your hive in winter if you are worried. Just make sure the bees can still come and go via the entry, and make sure moisture doesn't get under the plastic. (Bubblewrap jumper tip: bubble side down for air gap and insulation)

Rain can exacerbate the cooling of the hive, so keeping the hive dry (by putting plastic over the roof and sides when raining can help – bubble wrap is perfect for this too).

1.3 Can I use garden sprays?

Please don't spray insecticides or toxins anywhere near (within at least 20m of the hive). Sprays like mosquito spray or cockroach spray are insecticides (bees are insects) and insect sprays will kill bees. Equally, garden sprays for bugs can be just as effective at killing bees (and beneficial bugs), even homemade or natural products.

Sprays can be airborne many meters from where they were sprayed. The toxins in the air can rapidly get into hives and kill them. See the provided information sheet named '*How to install – getting set up*' for information on an electric bug zapper tennis racket that I use for predators.

1.4 Can I move the hive?

Less than 20cm and greater than 1.5km is ok. It is **really** important that once the hive is installed, it is **not** moved (not even 30 cm) as the native stingless bees have a very accurate inbuilt 'GPS system' that they use to navigate and locate their hive. If the hive is moved, the bees will return to the original position.

There are however methods that you can adopt if it is absolutely necessary to move your hive small distances. This can involve closing the hive once the sun goes down and the bees are all inside and moving the hive further than 1.5 km's away for 4 weeks (a generation of bees) then back to the new position.

Alternatively, you can move the hive incrementally 15-20cm a day. This is best done in spring than winter.

1.5 What Maintenance do I need to perform with my Native Bees?

Tetragonula carbonaria are stingless, native and they require little maintenance, but not no maintenance.

Some things you can do to help your hive be happy and healthy is to make sure there aren't any **cobwebs** at the entrance or on the hive.

Being aware of **temperature extremes** and assisting on cooling their environment down on a very hot day will help. e.g. hosing down hard surfaces and vegetation around the hive or shifting a pot plant to shade the hive, or protecting the hive with a beach umbrella when really hot or really rainy.

If **heavy rain** is predicted, covering the hive with plastic on the top and sides (leaving their entrance open) will help reduce moisture inside the hive.

If very **cool nights** are predicted in winter, covering the hive at night only with some extra warmth can also help (this could be with some bubble wrap or an old blanket). Note: if using an old blanket – remove off the hive in the morning to allow the morning sun's rays to warm up the hive again. If using bubblewrap, then bubble side down will help with air movement and insulation. Make sure no moisture gets under the bubblewrap or blanket.

Keep an eye on the activity of your bees. they should be flying in and out at temperatures above 18 degrees Celsius. Look out for **bembix wasps** and **syrrhid flies**. (see Ch.1.12 below for more information on predators).

It is also recommended / a good idea to protect the timber of your hive annually or biannually. Wipe down dirt with water wet towel or paper towel) Give the hive a sanding back with sandpaper, then use a timber protectant such as either: exterior house paint, varnish or oil. Just be careful around the entry (maybe leave a margin around the bees' entry – especially if that is covered with resin that the bees have put there).

Unusual Activity: *Noticing what the bees are doing will tell you a lot about the health of the hive. Bees should be around the entrance and flying in and out of the hive during the day and when it is **18 degrees** and over. They'll be tucked up in bed at night or when it is cold or rainy.*

1.6 Extremes: What should I do on really hot days and really cold days/nights?

Hives can melt down in hot temperatures or die in the cold weather in Sydney (especially if the hive also gets a bit wet).

Summer: If the temperature is extremely hot, you may wish to place a moist, light coloured towel or sheet over the hive (not over the entry) or move a pot plant so the foliage will shade the hive. In hot temperatures, watering down nearby hot surfaces may also help (like watering down nearby walls or pavers and foliage around the hive). You can also close the hive up the night before (close the entry with paper towel or clean cloth (to still allow the bees to breathe) and move the hive indoors for the day if extreme heat is predicted. Just leave in a dark cool room such as a bathroom or laundry for the day, then back to the exact same position the next day.

Winter: Cold: On those few cold/wet winter nights that Sydney sometimes has (when the temperatures are in single figures) or when it is wet, it may help to place extra insulation/protection over the hive just at night (like a space blanket, packing foam, or bubble wrap or a plastic garbage bag – but don't leave or let the timber get wet as that can make the hive mouldy or cold).

Only if exceptionally necessary: on extreme cold nights you could also close the entrance of the hive up at night (with paper towel or clean cloth (to still allow the bees to breathe) and move the hive indoors (but **not** in front of the fire or radiator – and then move the hive back outside in the morning into the exact same position to get the sun's warmth and open up the entry).

If you think your hive is too wet/or too shaded in winter and wish to move its location, follow the moving instructions in this information sheet at Ch 1.4.

1.7 How far do the bees fly?

Your native stingless bees will fly normally around 150m but can fly and forage up to 500m from the hive to gather nectar, pollen and tree resin. Your bees will fly less if there is pollen, nectar and resin closer by (as it is more efficient). Have a look in your neighbourhood at what food source might be available for your bees at different times of the year. Before getting a native stingless bee hive, plant lots of 'food' (flowering plants) for them. There are some plant suggestions on my website listing useful, Sydney specific, pollinator flowers to try in your garden / on your nature strip. See also Ch. 1.12 (next page) for suggestions.

1.8 Do the native stingless bees need water?

You don't need to specifically provide water for your native bees. They'll tend to get water from water droplets on leaves and nectar in the flowers and often moisture in soil. If you keep a live/lush flowering garden, there should be enough water around for them to gather.

1.9 Dividing the hive (splitting) in the Sydney climate.

Dividing (or splitting) a hive is less reliable in Sydney than further north. Your hive will be newly divided when it comes to you. It will also have been building up for two years (unlike hives from Qld that can be divided every year). This is due to Sydney's climate. You don't need to divide your hive ever. If you do however decide to divide your hive I recommend that the hive has had at least 2 full seasons with you (i.e. don't attempt it in the first 12-18 months of owning your hive). It is actually not necessary to divide a hive in Sydney at all, and in Sydney it is not always possible, given that Sydney is at the more southern extent of the natural distribution area for *Tetragonula carbonaria*. Certainly, if you are located in a more marginal zone, or if the hive is in a less than ideal location, then dividing may not ever be possible or recommended. Just leave them be as you would in nature, follow the maintenance guidelines (Ch. 1.5) and let your bees happily go about pollinating your flowers.



1.10 What plants and flowers do they like?

Tetragonula (native stingless bees) need pollen (their protein) and nectar (their carbohydrate) and tree resin (their antiseptic and building material).

We have seen *Tetragonula* on both exotic and native plants being macadamias, strawberries, tomatoes, passion fruit, blueberries, mango, watermelon and most of the flowering Australian native plants like *Grevillea*, *Eucalyptus*, *Angophora*, *lilly pilly*, *Ivory Curl tree*, *bottlebrush*, *brush box*, *tea tree* and *paperbarks*.

Try letting herbs go to flower (like *rosemary*, *oregano*, *sage* and *thyme*), grow *perennial basil* and *lavender*. Let *salvia*, *parsley*, *sage*, *kale*, *coriander*, *nasturtium*, *tarragon* and *basil* go to flower. *Palm flowers*, *banana flowers*,

water lilies, *passion fruit*, *Camellia sasanqua* (winter flowering source).

Australian native flowering trees and plants have developed their flower shape to attract native bees and pollinators. Native bees and the resins they produce are likely to provide as yet untapped medical and health benefits.

Planting a range of flowering plants and trees will help ensure you have a healthy balanced ecosystem and hive success. There is some more information on my website with Sydney suitable flowers and plants the native bees prefer. www.elkeh.com.au

1.11 Fighting Swarms and Mating Swarms

Sometimes native stingless bees can create or be part of a swarm. If the bees are holding onto each other and wrestling (and you see them dead on the ground below in pairs, then it is a **fighting swarm**.

If it is a **mating swarm**, you'll see a cloud of bees flying (males). They are looking out for a new virgin queen to come out of the hive.

Both phenomena are natural occurrences and whilst there can look like a lot of death to bees in the instance of the fighting swarm, the colony as a whole will almost always survive (possibly with a new queen from a nearby colony and stronger genetics).

1.12 Predators

The presence of **Bembix wasps** has become a bit of an issue in Sydney with an increase in people obtaining native bee hives. The increase of bembix wasp food (native bees) can tip the balance of the ecosystem. (I first noticed them in Sydney in 2016, and increasingly since, and now are common – as they are in Qld).

- The **bembix wasp** and **syrphid fly** are attracted to the native bees, are a predator of the native bees, and can cause the collapse (death) of a hive if their population gets too big. This occurs as the bembix wasp and syrphid fly can 'hold up' the bees inside their home and prevent your bees from going out to forage for food. The bees draw on their stores, but eventually the pantry runs low and the **syrphid flies** can enter/take over as the native bee population can no longer defend (due to low bee numbers) and the hive dies (and a smelly, maggoty, slimey mess is inside the hive as the fly larvae pupate and eat all the food stores).
- The bembix wasp will hover around the front of the hive and capture bees and feed them to their larvae. Apparently, the wasp needs 30-50 bees to feed one larvae. The forager bees are therefore not then able to feed their own colony as they have been 'picked off' by the bembix wasps.
- There seems to be a certain time in summer that this is more prevalent, and it varies a little from suburb to suburb. It is worth reducing these wasp and fly numbers and one way that I have been able to do this around my hives is with a battery powered (tennis racket shaped) fly swatter/zapper to reduce the wasp numbers and give the bees a better chance. We also need to recognise there is a complex biodiverse food chain relationship and wasps do have a role in our environment too, so the odd bembix wasp is ok in my mind, but consistent or more than say 4 bembix wasps are hovering or if the native bees are just waiting at

their hive entry, not able to venture out to get food, it is worth getting out the tennis racket zapper. I recommend having one at hand around the house (and remove any insecticide aerosols from your home so no sprays get airborne around your hive).

- The good news is, that if you can keep the numbers of the wasps at bay and break the breeding cycle of these predators (with the tennis racket zapper), then this will mean less activity the following year and happier, stronger, native bees.
- Keep the population bembix wasp and syrphid flies down by 'zapping' them. This is one of the few things we can actually do to help out our little native bees.
Here is the link to the [electric fly swatter that I use \(Ebay Link\)](#). I recently bought some from this seller as [they are based in NSW](#). I have included a picture of it below.
- The tennis racket gets a workout indoors at my place too - on house flies and fruit flies.
- And obviously insect spray around native bee hives is a NO go. (bees are insects).

- A butterfly catcher can also work (after catching the fly/wasp, twist the butterfly catcher material to trap the fly and squish the fly with your foot on the ground). It is tricky to catch them, but very worthwhile to the health of your hive to spend the time to do so.

Small hive beetle and **native hive beetle** can also be problematic to a weakened colony particularly when the hive has been opened up.

Ants can sometimes try and set up home in the hive or in the roof of your hive. If you notice ants going inside your hive, you could create an exclusion barrier for the ants using a ring of grease (e.g. Vaseline) to create a barrier around your hive. e.g. if the hive is on a post, then grease around the post, or if the hive is on a wall, then around the wall or brackets the hive is installed upon so the ants cant bridge across.

1.13 [More about Native Bees in Australia and Native Bee Research.](#)

*There are over 1700 different species of native bees in Australia (most of these are solitary bees, only 10 species are social like *Tetragonula carbonaria* - Native Stingless Bees).*

To find out more about native bees, visit Dr Anne Dollin's 'Aussie Bee and Australian Native Bee Research' website with a wealth of knowledge on the fascinating world of Australian Native Bees. www.aussiebee.com.au



I hope you get enjoyment out of your native stingless bee hive, enjoying watching the bees fly in and out and the increased yield of your vegetables and flowering plants.

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