

bushland

NEWSLETTER

SPRING 2018



on the go with Dan

With the winter cold behind us and the native flowers starting to come out it's a great time to head outdoors and enjoy the beautiful spring weather. In this issue we focus on all things bees – why they are important, types of native bees and their behaviour as well as how to attract them to your garden. Enjoy!

Dan

Randwick City Council Bushcare Officer

what's on

Randwick City Bushcare Volunteers Facebook Group

I'm pleased to announce that we now have our very own Facebook group. The group will be used to keep everyone updated on all things Bushcare. Follow the link to join and find out more:

<https://www.facebook.com/groups/769058133483161/>

National Bird Week

The celebration of National Bird Week has its origins back in the early 1900s when 28 October was designated by the Royal Australasian Ornithologists Union as the first 'Bird Day'. Today BirdLife Australia organises and promotes Bird Week with the goal of inspiring Australians to take action and get involved in bird conservation efforts.

When: 22-28 October

Aussie Backyard Bird Count



BirdLife Australia and the Birds in Backyards team have come together to bring you the Aussie Backyard Bird Count, one of Australia's biggest citizen science events!

Celebrate National Bird Week

by taking part in the count and you will join thousands of people from across the country who will head out into their backyards, local parks or favourite outdoor spaces to take part.

To get involved all you need is 20 minutes, your favourite

outdoor space and some keen eyesight. It doesn't matter if you're a novice or an expert! Simply record the birds you know and look up those you don't on the 'Aussie Bird Count' app or website (www.aussiebirdcount.org.au). You'll instantly see live statistics and information on how many people are taking part near you and the number of birds and species counted in your neighbourhood and the whole of Australia! Not only will you get to know your feathered neighbours, but you'll be contributing to a vital pool of information from across the nation that will help us see how Australian birds are faring.

So get your friends and family together during National Bird Week, head into the great outdoors and start counting!

Information sourced from: birdlife.org.au



Yellow Tailed Black Cockatoo
(*Calyptorhynchus funereus*)



Superb Fairy Wren
(*Malurus cyaneus*)



Randwick City Council
a sense of community

BEEES IN SYDNEY



Native Bees

There is a lot of buzz around native bees at the moment but many of us have little idea of what bee is what. Below we delve into some of the different native species that might be buzzing around your garden.

Stingless Bee (*Tetragonula carbonaria*)



This tiny stingless bee is the only native species, in Sydney, that lives in a social colony and makes honey. These bees are very dark coloured (almost

black), much smaller than European Honey Bees and do not sting. Aboriginals were known to have harvested their honey for food and as a medicinal resource, whilst nest resin was used as a glue for tool and weapon making. Stingless Bee honey is known as sugarbag honey.

Size Range: 3-5mm

Great Carpenter Bee (*Xylocopa lieftincki*)



The largest native bees in Australia. Females have a glossy black abdomen and bright yellow fur on the thorax.

Males are covered uniformly with yellowy brown or olive fur. Their name comes from their habit of nesting in soft wood, like dead banksia trees, in which they cut entrance holes with their strong jaws.

Peacock Carpenter Bee (*Xylocopa bombylans*)

Easy to identify due to their bright metallic colours that change with the direction of



reflected light. Sometimes they look purple then, moments later, a yellowy green. They are easy to notice, even before seeing

them, as they emit a deep droning noise when flying between flowers.

Size Range: 16-18mm

Reed Bees (*Exoneura*)



One of the most commonly encountered bees in the Sydney area. Their name comes from their habit of

nesting in dried-out stems of a number of plants including the introduced weed Lantana. The entrance of these nests is often guarded by a female bee, using her abdomen or face to block the entrance.

Size Range: 5-8mm

© Bob Luttrell

Blue Banded Bee (*Amegilla cingulata*)



This regular visitor to Sydney gardens stands out because of the blue bands across its black abdomen and because of its

darting, hovering flight pattern. It was thought that these bees only visited blue and purple flowers but this is not true. However, they do seem to particularly like lavender and are attracted to blue objects. It prefers soft sandstone to burrow in as

well as mud brick houses and mortar in older buildings.

Size Range: 12mm

Teddy Bear Bees (*Amegilla bombiformis*)



These chubby bees are covered with golden brown fur except for one or two dark stripes across their abdomen. Although they fly with a loud buzz and may fly around you in a curious manner, they are not aggressive. Teddy Bear Bees are solitary bees. Each female builds an individual nest in a small burrow in clay soil. As a result of their natural habitat being destroyed through land clearing they often nest under houses. As these bees age, the hair on the top of their thorax becomes worn, leaving a black bald spot.

Size Range: 12mm

© Australian Native Bee Research Centre

Leafcutter Bees (*Megachile species*)



Gardeners may notice circular holes in soft-leaved plants, such as roses. These are made by the female leafcutter bee,

which uses the leaf to line her nest. Male leafcutter bees have highly modified feet with a number of dark markings. Females usually have stout mandibles for cutting

leaves, large heads in proportion to the body, and stout parallel-sided abdomens. It is believed that during courtship the male passes his feet over the female's eyes in a rubbing motion. She uses the patterns to identify the males as the correct species and potential mate.

Size Range: 5-14mm

Resin Bees (*Megachile species*)



Resin Bees come in many colours and sizes. Some of these include large black bees with white tufts of fur and small black

bees with bright orange abdomens. They nest in pre-existing holes or gaps in timber or stonework. They collect resins and gums to build partitions between their brood cells and to seal their nest holes. Beekeepers sometimes notice resin bees hanging around stingless bee hives, trying to 'borrow' a little resin for their nests.

Size Range: 8-14mm

© Mark Berkery

Homalictus Bees (*Homalictus species*)



Although very small, the glittering Homalictus Bees come in a dazzling array of colours. 'Golden blue', 'coppery red' and 'green tinged with purple, red or gold' are just a few of the colours listed by scientists. These bees dig intricate branching nests in the ground. Many females may live together in each nest, taking turns to guard the narrow nest entrance.

Size Range: 8mm

© Australian Native Bee Research Centre

Masked Bees (*Hylaeus species*)



These slender black bees get their name from the distinctive yellow or

white markings on their face. Many species also have a distinctive yellow spot on the thorax. Masked bees have very little hair and carry pollen to their nests by swallowing it. They build solitary nests in pre-existing holes in wood, pithy stems or narrow rock cavities. They create their brood cells using an incredible cellophane-like secretion.

Size Range: 3-11mm

© Mark Berkery

Cuckoo Bees (*Thyreus species*)



The Neon Cuckoo Bee is probably the most distinctive with iridescent blue and black colouration which stands

out clearly in sunlight. The wings are light brown with a purple sheen.

Like the cuckoo birds that get another species to raise their young, these bees lay their eggs in other bees' nests. Usually a female Cuckoo Bee stalks the nest of a Blue Banded Bee, and tries to sneak into it during construction of the cell intended for the nest-owner's egg. If she can go undetected while the female Blue Banded Bee is busy preparing food and shelter for her own young, the female Cuckoo Bee will also lay an egg in the cell. When the cell is sealed by the nest-owner, the egg of the Cuckoo Bee hatches and the larva eats all the nectar/pollen provisions. It then spins a cocoon and pupates. When the Blue Banded Bee larva emerges, there is no food left and it dies.

Size Range: 10-14mm

© Arian Suresh

Exotic Bees

As well as the native bees we also have a couple of exotic bees.

European Honey Bee (*Apis mellifera*)



Australia's early European settlers introduced Honey Bees to ensure a good supply of honey. Today they are one of the most recognisable insects and are the most commonly domesticated bee species in the world. They are usually brown with a banded dull yellow and brown abdomen. The head, thorax and abdomen are densely covered in hairs. European Honey Bees may outcompete native fauna for floral resources, disrupt natural pollination processes and displace endemic wildlife from tree hollows. However, more research needs to be done in this area.

Size Range: 13-16mm

Bumble Bees (*Bombus terrestris*)



Accidentally introduced from Europe to Tasmania in 1992. Fortunately they have not

reached the Australian mainland yet. In Sydney, many people often mistake the native golden-brown furry Teddy Bear Bee (*Amegilla bombiformis*) for the European Bumble Bee.

Size Range: 8-25mm

Information for this article was sourced from the following websites:

www.aussiebee.com.au and
australianmuseum.net.au

BRING THE BUZZ TO YOUR GARDEN

Creating a haven for native bees in your own backyard is all the buzz right now. To attract native bees to your place follow the tips below and the bees will be buzzing around your garden in no time.

•**Build a home and provide undisturbed areas for natural shelter:** Get handy and build a wonderful bee home – see DIY insect hotel (page seven). Undisturbed areas in your garden that contain natural items such as logs, hollow twigs and stems provide an ideal spot for native bees to nest and shelter in. Some bees such as the Blue Banded Bee will nest in holes in brick mortar.

•**Plant a range of native plants that are attractive to native bees for year-round flowering:** Native bees prosper with a varied diet of nectar and pollen from a diverse range of native plants. Plan your garden to have a mix of native flowering plants so that at least four different plant species are in flower at any one time throughout the year. See the next page for some reliable favourites.

•**Plant in larger clumps:** If you can grow the same species of flowering plant in larger clumps you will attract more bees to pollinate your flowers. If you have the space aim for clumps of one square metre or larger.

•**Plant a range of flower shapes and colours:** Bees have good colour vision to seek out flowers that will provide nectar and pollen. Purple, blue, violet, yellow and white flowers are especially attractive to bees. Provide a range of flower shapes (shallow to tubular) and flower sizes to cater for the 2000 native bee species that range from 2mm to 24mm in size.

•**Avoid pesticides:** Many pesticides are toxic or have a detrimental effect on native bees. Avoid pesticides if possible and take advantage of naturally occurring beneficial predatory insects in your garden. If you need to use pesticides, select a lower toxicity product, follow product directions and avoid spraying when you see bees are foraging.

•**Choose a suitable spot for planting:** Bees love a sunny location that is sheltered from strong winds.

•**Provide a water source:** Bees need access to water. A shallow water source is best, so bees don't drown, such as wet sand or a shallow saucer filled with wet pebbles.

Native bees forage for nectar and pollen from a broad range of native plants. Here's a selection of proven favourites ranging from ground covers to large trees. Aim for plant diversity and a long flowering period to bring in the bees.

Scaevola aemula (Fan Flower): Beautiful ground cover to 40cm high and 1m wide with purple fan-shaped flowers. Long flowering period over the warmer months. Very attractive to bees.

Brachycome multifida (Cut-leaf Daisy): Ground cover to 15cm high and 50cm wide with mauve daisy flowers in spring and summer. A shallow flower, great for short-tongued bees. A member of the Asteraceae family that are abundant in pollen.

Aphanopetalum resinum (Gum Vine): Robust climber with glossy bright green leaves and cream flowers in late spring to early summer. Female Leafcutter Bees cut out circles from the soft leaves and use these to make a cradle for their eggs in the nest.

Thryptomene saxicola (Thryptomene): A hardy shrub to 1m high with pale pink flowers in spring. Great for attracting bees and providing nectar and pollen.

Hardenbergia violacea (Native Sarsparilla): A climber with sprays of vibrant purple pea-like flowers in spring. A member of the Fabaceae family that attract Resin Bees and Leafcutter Bees.

Melaleuca incana (Grey Honey Myrtle): A hardy shrub to 2m tall with soft, weeping grey foliage and creamy flowers from late winter to spring. Visited by large numbers of bees.

Callistemon species (Bottlebrush): Hardy shrubs ranging from 1.5m to more than 5m tall with primarily red bottlebrush flowers over spring and summer. Attractive to bees and provide nectar and pollen.

Banksia spinulosa (Hair Pin Banksia): A shrub to 3m tall with large orange/red flowers from April to August. Provides sugar-rich nectar and highly attractive to bees.

Banksia integrifolia (Coastal Banksia): A hardy and fast growing tree to 10m tall with large pale yellow flowers from May to September. Provides abundant pollen and sugar-rich nectar, vital for winter stores.

Corymbia ficifolia (Flowering Gum): Wonderful gum tree up to 15m tall with showy displays of red flowers from February to May. Cultivars of this species are available in a range of heights and colours such as red, orange, pink and white. Prolific producer of nectar.

Tristaniopsis laurina (Water Gum): A tree 7-9m tall in cultivation with clusters of small, bright yellow flowers in summer. Good for honey production.

Backhousia citriodora (Lemon Scented Myrtle): A tree up to 10m tall in cultivation with strongly fragrant lemon-scented leaves. Clusters of starry white flowers from January to March. Highly attractive to bees.

Other wonderful native plants for bees: *Grevillea, Hibbertia, Myoporum, Acmena, Syzygium, Leptospermum, Prostanthera, Melaleuca, Acacia, Correa, Baeckea, Kunzea, Westringia, Eucalyptus.*

References

- Bee Friendly A planting guide for European honeybees and Australian native pollinators, Mark Leech.
- Native Stingless Bees Sydney – www.elkeh.com.au, Elke Haegel.



Banksia integrifolia (Coastal Banksia) is a hardy tree that provides valuable pollen and nectar for bees in the colder months.



DIY hydration station for bees.



A native Blue Banded Bee out foraging. © Vengolis



Scaevola aemula (Fan Flower) – A sea of purple flowers loved by bees.

bushcare

| GROUP | LOCATION | DAY | TIME | SEPT | OCT | NOV |
|----------------------------------|---|----------------------|------------------|------------------|---------------|---------------|
| Bundock Park | Car park on Donnellan Circuit, Clovelly | Friday | 9.00am – 11.00am | 14 | 12 | 9 |
| Fred Hollows Reserve | Bligh Place entrance, Randwick | Wednesday | 9.00am – 1.00pm | 12 | 10 | 14 |
| Gordons Bay | Access via UNSW Cliffbrook Campus Grounds, 45 Beach St, Coogee | Sunday | 9.00am – 1.00pm | 9 | 14 | 11 |
| Grant Reserve | Vehicular entry to Coogee Surf Life Saving Club | Wednesday | 8.00am – 10.00am | 19 | 17 | 21 |
| Ladies Pool | McIvers Rock Baths, Grant Reserve, Coogee | Sunday & Wednesday | 9.00am – 11.00am | 2 & 20 | 7 & 18 | 4 & 22 |
| Lake Malabar | End of Manwaring Avenue, Maroubra | Wednesday | 12.00pm – 3.00pm | 19 | 17 | 21 |
| Long Bay Foreshore | Corner of Howe Street and Bay Parade, Malabar | Saturday | 9.00am – 1.00pm | 1 | 6 | 3 |
| Maroubra Dunes | South Maroubra SLSC car park | Thursday | 9.00am – 1.00pm | 6 | 4 | 1 |
| Prince Henry | Alternate between opposite 2 Millard Dr & the corner of Jennifer & Harvey St, Little Bay | Saturday | 9.00am – 1.00pm | 8 | 13 | 10 |
| Randwick Environment Park | Corner of Dooligah Avenue and Burragulung Street, Randwick | Wednesday & Saturday | 9.00am – 12 noon | 5 & 15 | 3 & 20 | 7 & 17 |
| Wylies Baths | At the picnic tables above Wylies Baths, Neptune Street, Coogee | Tuesday | 9.30am – 11.30pm | 11 & 25 | 9 & 23 | 13 & 27 |
| * Little Bay Landcare | Between 119 and 121 Bilga Crescent, Malabar. Contact Kerry Gordon on (02) 9311 7647 for more information. | Saturday | 8.00am – 12 noon | 1 | 6 | 3 |
| * Magic Point (Malabar Headland) | Contact Claire Bettington on (02) 9344 8589 for the meeting place. | Thursday | 9.00am – 1.00pm | 13, 20, 27 | 11, 18, 25 | 8, 15, 22, 29 |
| * Malabar Headland West | Contact Don Kerr on (02) 9311 2665 for the meeting place. | Sunday | 9.00am – 1.00pm | 2, 9, 16, 23, 30 | 7, 14, 21, 28 | 4, 11, 18, 25 |

* Denotes non-council run groups. Please contact organisers directly.

parkcare

| GROUP | LOCATION | DAY | TIME | SEPT | OCT | NOV |
|--------------|--|-----------|------------------|------|-----|-----|
| Alison Rd | Corner of Alison Road and Beach Street, Coogee | Wednesday | 8.00am – 10.00am | 26 | 24 | 28 |
| Clyde Street | Clyde Street Reserve, Randwick | Saturday | 1.00pm – 3.00pm | 15 | 20 | 17 |
| Old Tramline | Dudley Street entrance, Randwick | Thursday | 8.00am – 10.00am | 13 | 11 | 8 |

DIY INSECT HOTEL

A relatively simple and fun activity that you can undertake at home to attract native bees and beneficial insects to your garden is to create an insect hotel. These come in all shapes and sizes with your imagination and creativity the only limiting factors. The great thing about making an insect hotel is that you can be resourceful and recycle objects you have at home to create something unique without spending anything on materials!

Where to start?

1. Choose a location

The best site is somewhere sheltered and warm, usually in dappled shade. Bees prefer a sunnier spot, but they won't want to be in hot, direct sun. They should also be sheltered from driving rain. Somewhere close to a mixture of flowering plants is a good way to attract them. You could even position it within your veggie patch for attracting beneficial insects.

2. Create a structure/frame

Choose something that is open fronted. You can reuse something existing like an old timber drawer, picture frame, wine crate or even pallets. Whatever you choose it doesn't really need to be any deeper than 15cm. If you don't have anything that you can repurpose you can put together a simple timber box. Old fence palings are great for this.

3. Interior design

Once you have your basic structure ready it's time to get creative. Variety is key to attracting different species as they have differing habitat requirements. Some insects prefer hollow stems to nest in whilst others like dry plant material such as twigs and leaves. With each material you use try to vary the diameter as bees range in size from 2-10mm. Some ideas include:

- Hollow bamboo canes
- Pine cones
- Twigs, leaves, gumnuts
- Drilled logs
- Straw and hay
- Toilet rolls

4. Assembly

Arrange your chosen materials within the structure, packing them tightly so it will stay put but with lots of available crevices for the insects. Have a think about the shapes before you start and put the bigger items in first. That way you can easily fill the smaller gaps later. Generally it's best to start from one corner and work methodically outwards from there. Once it's all in place you can place some chicken wire over the face to make it extra secure.



If fixed to a pole, use a solid backing to keep out wind and rain.

Placement is key Bees prefer an area that is warm but sheltered.

5. Hanging your hotel

Hotels should be hung about 1.5m from the ground. You can also fix them to walls and fences with nails or strapping, but try not to nail directly into trees – use straps instead. Alternatively you can attach them to a stake driven into the ground.

Once everything is in place it's time to enjoy your creation and keep an eye out for visitors. Bees and other nesting insects will block up holes when they have laid their eggs, so watch for tubes and gaps plugged with mud and leaves. Remember to be patient as it could take a while until you need to put up the no vacancy sign!



Make sure any timber isn't chemically treated.

Hollow stems provide great habitat.

A sloping roof and generous overhang keep out water.



BUZZ POLLINATION



Most flowers release their pollen passively, but some require rapid vibration to release their pollen. This is known as buzz pollination. About 8 percent of the world's flowering plants must have their pollen released in this manner. The list includes many Australian native plants such as *Solanum*, *Hibbertia* and *Dianella*

species. Common edible plants such as eggplants, tomatoes, potatoes, chillies, blueberries, cranberries and kiwifruit are *Solanum*. Occasionally wind will create enough disturbance to loosen some of the pollen but the job is done much more efficiently by flying insects. Bees capable of buzz pollinating clamp their legs onto the anther cone of the flower and contract their flight muscles so vigorously that the pollen is released. Interestingly the common European Honey Bee can't buzz pollinate but luckily for us Blue Banded Bees, Teddy Bear Bees and Carpenter Bees are just three Australian native Bees that can pick up the slack!

book review

The Bee Friendly Garden by Doug Purdie

A grower's handbook to attracting bees and other beneficial insects.

Bees are our most important pollinators and they are in decline the world over. They love to live in urban environments, where it's a short flight path from one type of plant to the next. But conventional gardens that favour lawns and pesticides over flowers and edible plants are scaring the good bugs away.

The Bee Friendly Garden is a guide for all gardeners great and small to encourage bees and other good bugs to your green space.

Includes: How bees forage and why your garden needs them – A comprehensive plant guide to bee friendly plants – Simple changes anybody can make – Ideas for gardens of all sizes – Natural pest control and companion planting advice.

Review from www.murdochbooks.com.au

A Guide to Native Bees of Australia

Bees are often thought of as yellow and black striped insects that live in hives and produce honey. However, Australia's abundant native bees are incredibly diverse in their appearance and habits. Some are yellow and black but others have blue stripes, are iridescent green or wasp-like. Some are social but most are solitary. Some do build nests with wax but others use silk or plant material, burrow in soil or use holes in wood and even gumnuts!

A Guide to Native Bees of Australia provides a detailed

introduction to the estimated 2000 species of Australian bees. Illustrated with stunning photographs, it describes the form and function of bees, their life-cycle stages, nest architecture, sociality and relationships with plants. It also contains systematic accounts of the five families and 58 genera of Australian bees. Photomicrographs of morphological characters and identification keys allow identification of bees to genus level. Natural history enthusiasts, professional and amateur entomologists and beekeepers will find this an essential guide.

Review from www.publish.csiro.au

