

Building a Nestbox for Microbats

This wildlife friendly information is sourced from members of Tweed Valley Wildlife Carers, members of other groups, independent advice, and research. We hope you find the information below useful, and it helps to answer your questions on this subject. If you have any further questions, please feel free to contact us by clicking this link: <http://www.tvwc.org.au/contact.php>

About Microbats

Microbats make up one fifth of all Australian mammals, comprising over 60 species, in 6 families. Mostly roosting in colonies to maintain temperature and humidity, these endearing but little-understood animals roost in caves, mine shafts, tree hollows, cracks in rocks and fence posts, in the walls and roofs of old buildings, and sometimes even turn up in mailboxes. Microbats can be broadly divided into 'cave-dwelling' and 'tree-dwelling'.

Over 50 percent of Australia's microbats are 'tree-dwelling', which means they, like many mammals, are very dependent on tree hollows. Breeding normally takes place in autumn to winter, depending on the climate, with mothers usually giving birth to one and sometimes two babies, born around November to December, after a 12 week pregnancy.

After birth, the young pup will attach itself to a nipple in the wing pit, staying there until old enough to be left in crèche at the roost, with the other pups. Here they remain warm and safe while the mothers are away feeding. On her return, the mother will call to her young which answers back. Young microbats begin to fly from around 5 to 6 weeks of age.

Notes Some Microbats are so small that a full grown adult can weigh as little as 3 grams. Feeding mostly on insects such as moths, beetles, and mosquitoes, a single Microbat can consume up to 40% of its own body weight per night - up to an incredible 500 insects per hour. As you can see, there is a distinct advantage to having a healthy population of these little critters around your house or farm.



Inland Forest Bat (Photo: Terry Reardon, SA Museum)

Lack of tree hollows

Natural tree hollows form when fungus and termites eat out the dead centre of old trees. Most Eucalypt species do not form these hollows until they are at least 100 years old. Although there are vast tracts of native plantation timber, particularly on the East Coast, they are typically harvested at around 60 to 80 years of age. So, of course, hollows do not form.

Since European settlement, literally millions of trees and hollows have been lost to urbanisation, industry, roads, and agriculture. As if that isn't bad enough, our struggling native animals have to compete with introduced Honey Bees and Common Mynas, which aggressively colonise hollows.

These factors have led to some pretty desperate little critters trying to live in somewhat 'B grade' accommodation. Some examples include Sugar Gliders trying to live in the fronds of banana trees, Feathertail Gliders turning up in the electricity boxes on top of power poles, microbats trying to sleep in mailboxes, and our seldom seen little Antechinus trying to raise their babies in sock drawers, and even kitchen stoves.

Far from ideal. Many of these animals, of course, turn up in care.

Benefits Of nestboxes

Although we cannot possibly hope to replace the countless natural hollows lost in the bush, our towns, cities, and farms were once forest. As a result, there is an awful lot of displaced wildlife competing for an ever decreasing amount of this prized real estate. This is where we can all really make a difference; in our suburban gardens and rural properties.

A single, well-placed nestbox which survives, say, 10 years, can see a pair of Rosellas raise 10 generations of chicks. A slightly different box could provide a secure home to 6 adult Sugar Gliders. A different shape again could provide a home to that 'trouble-some' possum in your roof, while yet another shape provides accommodation for up to 50 microbats. And, when you consider that a single microbat can consume one half its own weight in insects a night, that's an awful lot less crawlies in your veggie patch. And, they provide this service completely free.

Nestboxes also provide priceless education for your children. Watching wildlife on TV is wonderful, but there is something very special about watching native animals coming and going, feeding, and raising their young so close to your home. If you've ever seen a Mountain Brushtail Possum looking out of her box at dusk, pink nose resting on front paws, you'll know what I mean.

I grew up in the UK. One year my Grandfather decided to put up a nestbox in a pine tree in our garden. Next spring a pair of Blue Tits moved in, and every year without fail, we used to watch from the comfort and warmth of the dining room, as that pair of birds raised 4 to 5 babies. From just 3 metres away, we'd watch the parents feeding the fledglings every few minutes and, seemingly just days later, watch the youngsters take their first tentative flights. What's more, the box only took 10 minutes to put up.

Nestboxes are fun, easy, cheap to make and, once up, will provide a secure home for many years to come.

However, be aware that putting up nestboxes which attract birds and mammals to your garden is a recipe for disaster if you own a cat.

Construction

Below is a plan for the construction of a roosting box suitable for most Australian Microbats. Materials used, and notes are below the plan. Please note that all sizes marked are for **external dimensions**.

Microbat Roostbox

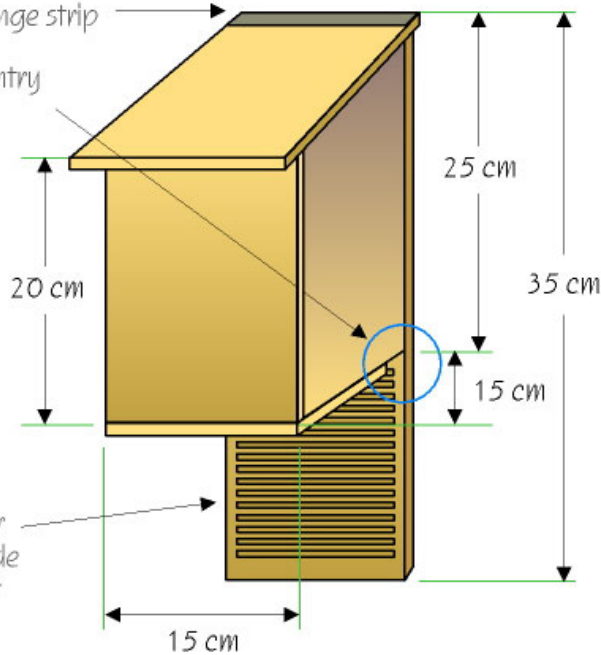
Rubber waterproof hinge strip

15mm - 20mm rear entry slit to allow access

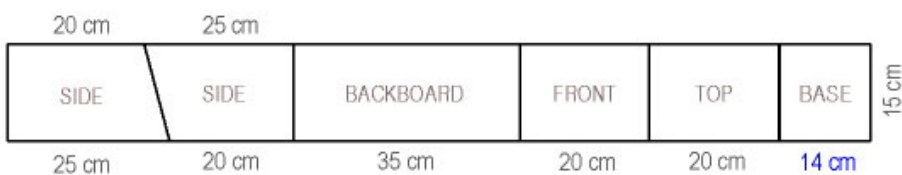
Line the inside with shade cloth stapled on to allow the bats to grip

NB: You may want to cut a third side piece to add as an internal divider. Bats like to huddle

Backboard with either bark, grooves, or shade cloth tacked on to act as a 'landing pad'



Roostbox pieces cut from a single plank



NB: Base is approximately 14 cm. Depending on the thickness of the wood used, you need to cut this piece to leave an entry slit of between 15 mm - 20 mm.

The best materials for construction are either 3cm thick plantation pine or structural or external pine plywood. Rough-sawn or even secondhand timber is ideal, although you must make sure it is free of nails and paint.

Your box is best screwed, rather than nailed together.

The roof should be hinged, to allow opening and closing. It can either be hinged conventionally, or make an outside hinge out of a piece of old rubber tyre, run along the length of the hinged end. This also helps to make it weatherproof.

It is recommended that you screw a couple of off-cuts on the inside of the roof so that it sits snugly. Either shadecloth or mesh stapled to all inner surfaces will allow the residents to grip securely.

Microbat roostboxes are best left with a rough finish to allow the microbats to crawl about the outside to investigate.

Installation

So you're now the proud owner of a new Microbat roostbox. Where to place it?

Choose your position carefully. Make sure that the box will have plenty of shade during the hottest part of the day, ie foliage cover, but not where it will be in full shade all day either. Clear and trim a few branches in the immediate vicinity of the box to allow an uninterrupted flight path, leaving branches above the box for shade.

Better still, make 3 boxes, and place them at the same height on 3 different sides of a tree. Bats will actually move from one to the other if one box becomes too hot or cold.

Hang the box from the chosen tree by a piece of wire threaded through a scrap piece of garden hose, so that it doesn't cut into the tree. Alternatively, nail the box to the tree using two strips of galvanised steel. The strips need only go halfway round the tree to allow for growth and to prevent ringbarking.

For microbats, you need to position the box 3 to 5 metres above the ground.

So your new nestbox is in place, and you're sitting back with a beer or a cup of tea waiting for the homeless critters to move into their new home. Don't be disappointed or surprised if no one takes up residence immediately. It can sometimes take weeks or even months for the microbats to show some interest.

The reasons for this include:

- The box is too new and unfamiliar. It looks and smells new and out of place. Give it time to 'weather in', to become part of the local landscape.
- Microbats are notoriously slow on the uptake; they may take 6 months to 3 years to discover there are new 'tree hollows' in the neighbourhood.

While you're waiting for the box to be occupied, please resist the temptation to keep looking inside. You don't know who's checking the box out when you're not looking, and constant disturbance will only discourage them. You'll know when the locals move in by watching, listening, and by looking for droppings underneath.



Lesser Long-eared Bat (Photo: Terry Reardon, SA Museum)

Maintenance

To finish off, just a few words on maintenance. Once a year, have a quick look to see if any repairs are required. Fill any gaps, give the nestbox a quick repaint, if necessary, and make sure that the box is still securely fastened to the tree. Also, watch that the fastening isn't been pulled apart by the growing tree.

Some introduced birds such as Sparrows, Starlings and Mynas have become a menace, driving native birds away, or even building their own nests on top of existing eggs or young. This should not be a problem with a batbox because of its very narrow opening at the base.

The introduced honeybee has also become a serious problem in some areas. They will readily colonise tree hollows, real or artificial. If you have a problem with bees, look up beekeepers in your Yellow Pages.

If you've taken the time to build and place a box like this... pat yourself on the back. You will have made a difference to your local environment. Congratulations!

A final word

Once your new box is occupied, please resist feeding the occupants. Feeding native wildlife is not a good idea. It fosters familiarity with humans and domestic animals. It encourages a dependency on an artificial food source, which will stop if you go on holiday, get sick or move away.

Also, local cats and dogs will cotton on to your feeding routine and this will put your native animals at risk. Animals are at their most vulnerable while feeding and are particularly at risk when they are encouraged down to your level to feed, rather than up in the canopy. You just don't know who is watching from the bushes.