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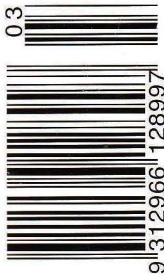
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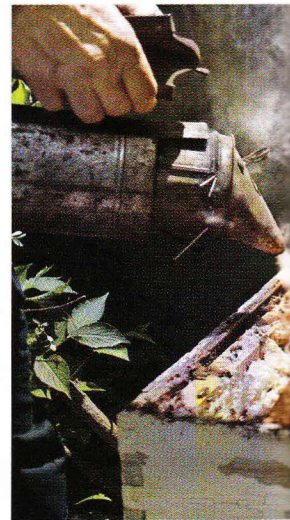


Tino Carnevale
How to grow
healthy crops
of cauliflower



EASY DOES IT

Clockwise from above *Apis mellifera* collects pollen and stores it in sacks on its hind legs; before inspecting a hive, the beekeeper blows smoke on it, causing the bees to gorge on honey and become tired and calm, and to mask the alarm pheromones; a wild beehive closely resembles the hives that are created for natural beekeeping.



PHOTOS ALAMY, ISTOCK



BEEES

in the 'burbs

Keen to keep bees in her small, suburban backyard, ALLY JACKSON enrolls in a weekend workshop to see if this gig is for her

Watching a honeybee break out of its wax cell to begin its working life is one of the most mesmerising experiences I've ever had. The bee pushes the lid to its lodgings aside, wriggles out, and wobbles around on its newfound legs. I watch it shake out its wings and join its workmates, the hum of the colony filling the air. Time stands still. I reflect on the work ahead for this little bee.

The community centre is tucked behind busy McEvoy Street, and is surrounded by a garden covered in a carpet of healthy strawberry plants. Roses, dianella, gynea lilies, aquaponic water features and herbs are all part of the mix in this peaceful, thriving, inner-city garden. Two humming beehives have been shipped in from Marrickville overnight for our course, and an obvious bee flight path is already established. ►

"The bee pushes the lid to its lodgings aside, wriggles out, and wobbles around on its legs"

There has been bad news lately about the decline in bee numbers but, on a positive note, urban beekeeping is enjoying a widespread surge in popularity. People in cities around Australia are donning the veil, stocking their smokers with kindling, and getting back to the age-old pastime of apiculture. Whether it's to assist *Apis mellifera* bee populations, ramp up pollination of their plants, or produce honey, city people are really starting to connect with the idea of keeping bees in the backyard.

I'm keen to get in on the action, so I have signed up for a natural beekeeping course, to be held at the Alexandria Park Community Centre in Sydney. Natural beekeeping mimics hives found in nature, and involves minimal intervention. Tim Malfroy presents the course for Milkwood. As the son of a migratory beekeeper who has "chased the honey flow" since the '70s, Tim has lived with bees all his life, and he now has his own business.

where to start

- Check with your council about local policies.
- Join a bee club or enrol in a beekeeping workshop to learn the ropes.
- If you decide to go ahead, register your hive with your local Department of Primary Industries (DPI). This is a legal requirement, just like registering your car. You also need to notify the DPI if you sell or dispose of your hive, just like transferring car registration.
- Tell the neighbours! They may have concerns about having a hive next door, so it's good to give them a chance to ask you questions.
- Get all the appropriate gear. To begin, you need a wide-brimmed hat enclosed with netting or a 'veil', a specialised inspection tool, a smoker and gloves.



There are about 14 people attending the weekend workshop with me. The majority of my classmates have travelled far and wide – some driving several hours or flying from interstate to be here. Our bee knowledge ranges from that of the President of the Sydney Bee Club, already keeping bees in hives all over Sydney, to me, with all the best intentions but very little understanding.

duty of care

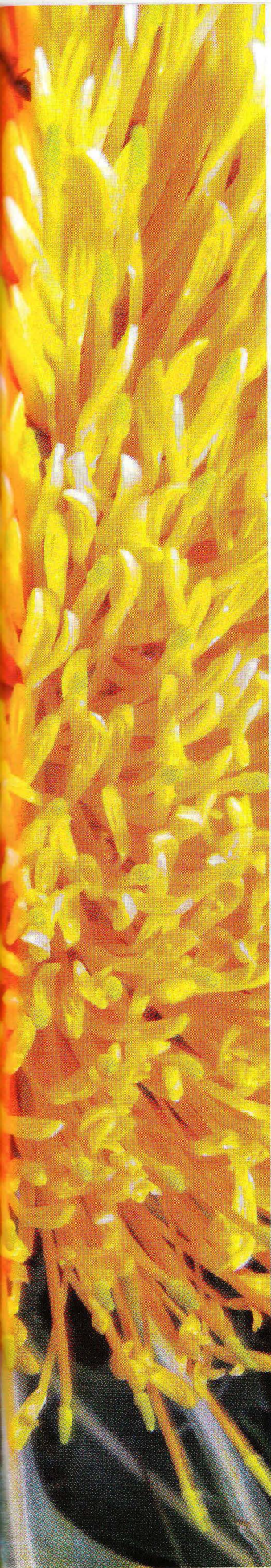
These incredible insects, that date back to dinosaurs and the evolution of the first flowering plants, work their entire four-week life cycle for the survival of their colony. The final and most public role in a bee's life is the collection of nectar and pollen. A single bee makes just half a teaspoon of honey during its entire existence – giving an idea of the multitude of other tasks a bee performs, and the tens of thousands of bees that make up a hive.

The hives favoured in this natural beekeeping course are called Warré hives, named after the French apiarist Abbé Émile Warré. Since his book *Beekeeping for All* was translated into English in 2007, the popularity of natural beekeeping has soared on every continent. This practice requires the beekeeper to be attuned not only to the exterior environment, but also to the health of the colony and its hive. A beekeeper needs to have the time

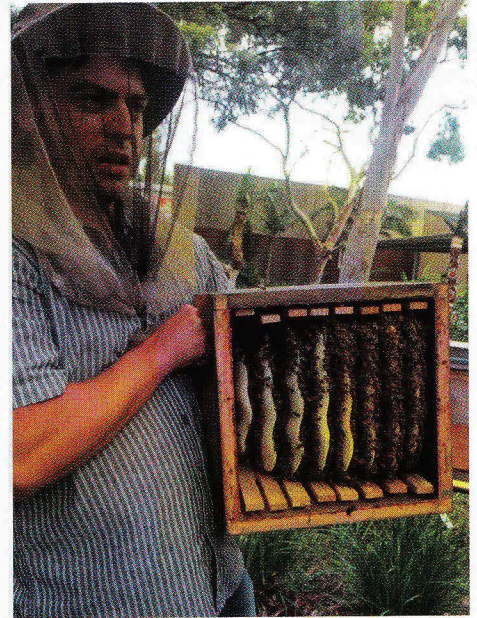


READY FOR ACTION
A bee loads up on protein-rich pollen from a banksia. **Left** Ally all suited up in a veil and protective white top.

PHOTOS: ALAMY, ALLY JACKSON



HIVE OF ACTIVITY
Left Comparative sizes of *Apis mellifera* bees (from left): queen, drone (male), worker (female). Below left The queen bee (slightly larger with less markings) is busy maintaining her colony. Below Tim Malfroy at the course, showing us the formation of the comb in a Warré hive.



"Honeybees need to be checked about three times in a season (roughly September to April)"

to observe the bee's surroundings, including plants that are flowering, the weather conditions of the season, and the bee activity at the hive entrance.

Maintaining this heightened awareness of the bee's surroundings means we also become more aware of any pesticide use by our neighbours. Pesticides invariably impinge on the success of a backyard beehive so, as stewards of the bees, beekeepers have a responsibility to raise the community's awareness of positive ways to build up, rather than threaten, bee populations.

Honeybees are not pets, nor are they a 'set and forget' pollination method for the garden. They need to be checked about three times in a season (which is roughly September to April), and your duty of care means you can't go away for long periods of time without delegating the beekeeping tasks to someone you can trust.

native bees

So, bearing all this in mind, I was contemplating where in my garden I would situate my beehive. Then Tim mentioned bee stings. No beekeeper keeps bees without the occasional sting, so a good first step may be to get tested for allergic reaction to bee venom. Of course, if you're still worried about that occasional sting, or if you or your family do test positive to an allergy, then you might want to shift your thinking towards the Australian native stingless bee.

Keeping native stingless bee hives in domestic gardens is another form of beekeeping that is fast becoming popular along the east coast of Australia. Many local councils can provide you with native beekeepers' contact details in your area, or can assist with hive acquisition. Courses are also run by Milkwood (milkwood.net) on this subject. ►

Flow hives

The unveiling of the Flow Hive in 2015 really sent a buzz through the beekeeping community. This revolutionary design, developed by Stuart and Cedar Anderson in northern New South Wales, simplifies the collecting of honey. It's like 'honey on tap'.

The traditional and popular Langstroth hive contains 8–10 frames fitted with 'foundation' or pre-made combs made from beeswax or plastic, which beekeepers need to remove when they're harvesting honey. The Flow Hive system consists of precast frames made of BPA-free, food-grade plastic, shaped like a honeycomb matrix, with the cells set on an angle. Bees fill the cells with honey and cap them off.

To harvest honey, you turn a lever that splits the cells open and the honey drains into jars, ready for eating. Turning the lever again returns the frame to its former position, and the bees get busy refilling the empty cells. Orders for the product have poured in from all over the world.

Beekeepers have been trialling the Flow Hive frames in their Langstroth hives, and some are critical. They worry about the absence of wax, which is crucial to bees' existence – it forms their home, helps them regulate the hive temperature at a constant 35°C, and they use it to communicate with the rest of the colony. Time will tell what impact the Flow Hive has on bee populations.

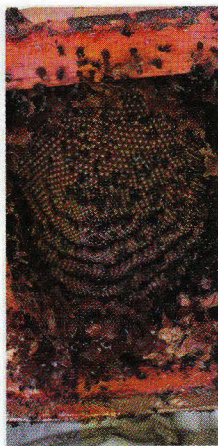
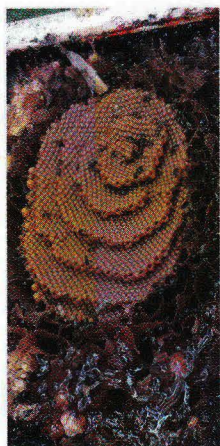


SO SWEET

Right Uncapping the wax lid with a hot knife.

Bottom (from left)

A native stingless bees' hive; when a hive reaches capacity, it can be split to create a new hive; native bees in Ally's hair.



There are about 2000 species of native Australian bees, most of which are solitary, and only 14 are stingless. Only *Tetragonula carbonaria* is suitable for keeping in backyard hives in New South Wales. In Queensland, the tropical species *Tetragonula hockingsi* is another contender.

Like *Apis mellifera*, Australian native bees have a preference for blue-hued flowering plants. They can be left alone to forage in an area of about half a kilometre radius from their hive, or they can be split each year, allowing you to share your hive with friends (as your contagious enthusiasm for keeping bees attracts more mates to the hobby). Their honey can be harvested but, due to the shape of the hive, it's more complicated than collecting honey from *Apis mellifera*, and the honey is runnier, with a more lemony flavour.

The upshot for keen beekeeping wannabes like me is that there are several options, and it's important to gather as much information as possible before you go out and get your first hive. As with gardening, you'll never stop learning once you get the bug, and it's a gorgeously sticky and tantalising subject. **GA**

For a list of bee-friendly plants, turn to page 71

RESOURCES

books

- *Bee Friendly: A Planting Guide for European Honeybees and Australian Native Pollinators* by Mark Leech
rirdc.infoservices.com.au
- *The Australian Native Bee Book* by Tim Heard
sugarbag.net
- *The Buzz About Bees: Biology of a Superorganism* by Jürgen Tautz
springer.com
- *Beekeeping for All* by Abbé Émile Warré
northernbeebooks.co.uk
- *Honeybee Democracy* by Thomas D. Seeley
press.princeton.edu

online documentaries

- *The Vanishing of the Bees*
vanishingbees.com
- *Queen of the Sun*
queenofthesun.com
- *Honeybee Blues*
screenaustralia.gov.au



BACKYARD BEES

This garden has both regular honeybees (big white hive) and native stingless bees (square white hive on table).

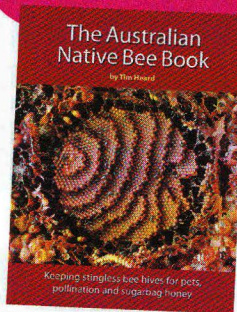
WIN A BEE BOOK

We are giving away 12 copies of *The Australian Native Bee Book*, valued at \$35 each. Written by Tim Heard and published by Sugarbag Bees, this book provides comprehensive information about keeping native stingless bees in hives for honey and pollination.

For your chance to win a copy, visit the WIN page on gardeningaustralia.com.au and tell us in 25 words or fewer why you love bees. Competition closes March 13.

Competition starts 15/2/16 at 00:01 AEDT and closes 13/3/16 at 23:59 AEDT. Winners will be judged on 15/3/16 at 14:00 AEDT. Twelve winners will each receive one book, valued at \$35. Total value of the prize pool is \$420.

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