

Sting in the tail

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Crops such as almonds, apples, cucumbers, and of course, honey could be wiped out by the Asian honey bee. *Photo: Angela Wylie*

Bee-keepers are fighting a lonely battle to defend the country from an invading swarm.

Milawa bee-keeper Rod Whitehead is packing his bags and heading north. He's joining a front-line militia of volunteer fighters trying to keep Australia free of a black-and-yellow peril that could destroy our way of life.

He and fellow bee-keepers from around Australia are paying their own way to live in hostels in Cairns so they can track swarms of the insidious Asian bee, an unwanted immigrant that came ashore on board a yacht in Cairns in 2007. When the federal government pulled the pin on an eradication program earlier this year, the honey industry swung into action, calling on its members to go north and protect the nation.

"When I heard that bad news I couldn't sleep at night," Whitehead says. "I had to do something, otherwise how could I face my grandchildren in years to come when all the honey bees had been wiped out?"

If nothing is done, the Asian bee could spread across mainland Australia within 10 to 20 years, says the CSIRO's Dr Denis Anderson. "Unaided, it travels 100 kilometres a year," Anderson says. "It's already been discovered in Innisfail. It's a bee that is known to hitch rides. That's how it got here. It's been found swarming in the tool boxes of trucks."

The main problem with Asian honey bees is that they don't store a lot of honey and so when the nectar runs out in nearby flowers, they fly up to 10 kilometres to find a new source. In contrast, we rely on honey produced by the European bee. They have the ability to store plenty of honey and therefore can stay in the hive and be moved - to orchards and crops on which they can feed and pollinate. When Asian bees meet populations of European honey bees, they compete with them for nectar and come out on top.

The Asian bee was introduced to West Papua from Indonesia by Indonesian nationals. From there it spread to Papua New Guinea and then the Solomon Islands, where it has wiped out 90 per cent of the European bees.

The Asian bee is also host to the dreaded varroa mite, which lays its eggs in the wax cells. These hatch and feast on the bees' lifeblood, weakening them and decimating hive populations. In Papua New Guinea, it took just 20 years from the invasion of the Asian bee for the varroa mite to get into European bee hives.

It's a thought that fills Beechworth Honey's Jodie Goldsworthy with dread. Her business can employ up to 35 people and produces 1.5 million jars a year. But foreign bees are not the sole threat to the honey industry. "There's drought, flood, the recent pesticide control on locusts, lack of access to native forests," she says. "What people have to understand is that bee-keeping is much more than just honey. It's also about pollination."

A 2010 federal government report says about "65 per cent of agricultural production in Australia depends on pollination by European honey bees". Crops such as almonds, apples, cucumbers and blueberries are almost entirely dependent on European honey bees for pollination. They also pollinate canola, onions, carrots, even the clover and lucerne our sheep and cattle eat.



Vanessa Kwiatkowski and Mat Lumalasi. *Photo: Craig Sillitoe*



Steven and Jodie Goldsworthy. *Photo: Piccoli Photography*

"Without European honey bees," Goldsworthy says, "we'd lose our almond industry overnight. You can't put Asian bees into hives like European bees and truck them around the state to pollinate crops."

The industry is considered so essential that a 2008 report by the Federal Parliament standing committee on primary industry and resources recommended \$50 million be invested in the industry to promote pollination services and increase border security. So far, less than 10 per cent of that figure has been spent.

A frustrated Goldsworthy joined bee-keepers in Canberra earlier this year as they staged a protest to highlight the industry's plight.

To make their point, they prepared a breakfast of apples, pears and peaches, served with yoghurt, almonds and honey. "These are all foods that could be wiped out if nothing is done to support the industry and control the spread of the Asian honey bee," Goldsworthy says.

Creeping in from the west of Melbourne is another silent spoiler. *Galenia pubescens* is a South African weed also known as coastal galenia. It's hardy, difficult to destroy, yet produces nectar in great quantities. But galenia nectar makes honey that tastes 50 times more bitter than grapefruit, rendering it almost worthless. Galenia has spread in and around Melbourne, with particularly problematic infestations in Braybrook and Riddles Creek.

Urban bee-keeper Lyndon Fenlon was concerned for human health because the leaves of the plant can have a toxic effect on livestock. He sent affected honey samples to Germany. "The tests proved that the honey is not toxic but it is very unpleasant," he says. "Even in quantities around 10 per cent, it is not very palatable."



Amateur bee-keeper Lyndon Fenlon.

Fenlon is part of a growing global movement of urban bee-keepers who are responsible, particularly in Europe and the US, for maintaining bee numbers. In France, for example, honey production has declined from 32,000 tonnes a year to 20,000 tonnes, with the average hive producing 30 kilograms a year. In Paris, however, hives in the inner arrondissements are producing, on average, double that and bees are living longer and are healthier than their country counterparts.

Pesticides, the varroa mite, diminishing biodiversity and new food plants are being blamed for the dearth of France's country bees.

Proponents of the movement point to the banning of pesticides by the Conseil de Paris a decade ago. There are now 400 hives in Paris, including one on top of the Westin Paris hotel and another at the renowned restaurant Tour d'Argent.

Back in Melbourne, a beehive atop the Alto hotel in Bourke Street is what is known as a sentinel hive. If the Asian honey bee hitches a ride here, or if bees infected with varroa mite arrive from New Zealand in a shipping container, this and nine other hives around Melbourne will hopefully sound the alarm bells.

The Alto hive belongs to Vanessa Kwiatkowski and Mat Lumalasi, co-founders of the Melbourne City Rooftop Honey Company. They have other hives, some in domestic gardens but mostly on the roofs of cafes and restaurants in the inner suburbs. These include Fatto a Mano in Fitzroy, Dead Man Espresso in South Melbourne and the city centre's Trunk, the owners of which have built a small garden where the bees can feed.

"Bees do well in the city," Kwiatkowski says. "Cities are heat sinks and so bees are more active, especially during winter." Standing on the roof of the Alto, there doesn't seem to be much green around, let alone flowers. "Bees fly up to five kilometres, so the ones here will be feeding in the Flagstaff and Fitzroy gardens, and gardens in South Melbourne," she says.

To show the quality and diversity of the honey produced from the city hives, she and Lumalasi set up a small tasting for Epicure - little jars filled from hives perched on rooftops around town.

From Donvale there's a gentle, floral honey, made predominantly from nectar collected in domestic gardens. From Heidelberg there's a sharp, dark, exotic honey with a touch of aniseed and tasting distinctively of fennel seeds. The honey from Alphington, near the paper mill, is light, bright and slightly buttery, suggesting the bees have been feeding on the river red gums. Honey from the hive in Prahran is dark and heady, the result of hundreds of different flowers growing in people's front gardens.

Huddled under a small marquee at the Abbotsford Farmers' Market, Whitehead sips a coffee, braving the early-morning chill. People come and buy his chestnut honey, collected in the nut groves of the state's north-east.

They also buy the last of his Mudgegonga Stringybark, collected from the towering trees near Beechworth that were mostly destroyed in the Black Saturday fires. He also sells his message that "without bees, we're stuffed". Soon he'll be in Cairns again, battling the Asian bees.

Like most bee-keepers, he's not a young bloke. The average age of Australian bee-keepers is 54. They have an annual income of less than \$16,000 from honey. There are fewer of them every year.

These are the volunteers protecting us against the Asian honey bee. "The nation's food security," Goldsworthy says, "is in their hands."

Source: Epicure