

The Advertiser  
Weekend Magazine

**REVIEW**

HIGH MARKS FOR ADELAIDE'S MOST  
AMBITIOUS VEGAN RESTAURANT

**FEATURE**

FROM VACUUM WIPERS TO THE P76 -  
THE 10 WORST AUSSIE CAR FAILS

**TRAVEL**

A CHANCE TO COMMUNE WITH SEA  
AND SKY ON THE FLEURIEU



# SAWEEKEND

SEPTEMBER 14/15 2019

## MYSTERY OFF YORKES

A STORM, A TOOTHACHE  
AND 11 DEAD SAILORS

## STING IN THE TAIL

### HOPPER ANTS

MEET THE DEADLY INSECT SCARING PEOPLE  
FROM THEIR ADELAIDE HILLS HOMES



# SHOCK TREATMENT

The risk of anaphylactic shock from a tiny ant has driven people from their homes in the Adelaide Hills. But while SA researchers are developing a potentially lifesaving treatment, many at-risk people can't afford it

WORDS NANCE HAXTON PHOTOGRAPHS BRAD FLEET

**F**or many years, Adelaide Hills mother Jenny House could not contemplate going outside her Adelaide Hills home. The house and its peaceful bush surrounds that were once her sanctuary, filled her with fear. Even doing normal household chores had become an ordeal of trepidation – thanks to a tiny predator, the hopper ant.

"If I did go out, say if I picked the children up from school, it didn't matter what the weather was, I would have boots, jeans, long sleeved top, and I only walked on pavement or concrete," House says. "I went outside to hang the washing, because we had pavers, and that was it."

She recoils at the memory of the time a hopper ant – formally named *Myrmecia pilosula* – stung her in her backyard just over a decade ago. She initially thought little of it.

"The children were little, and I'd been stung a couple of times before, in our back garden. In the past I just got a local swelling and pain at the site," she says.

"It was a hot summer's day, I was putting up a paddling pool for the kids, and I felt a little sting at my wrist, and then a few moments later I said to my friend on the phone, 'I'm going to go, I just don't feel very well.'"

"I remember an overwhelming urge to lie on the floor. I had a sensation in my mouth, and I thought, 'Oh, I'm having an allergic reaction.'"

A quick thinking neighbour took care of her children while Jenny was rushed to hospital to treat the anaphylactic reaction to the hopper ant.

"I went to hospital in an ambulance, they treated the anaphylaxis, and kept me overnight," she says. "Then they said, 'Be careful because the next sting you might

die,' and, 'Any questions? You can go home now'. I was terrified."

Her son Jordan, now a teenager, remembers the lost years from then on.

"I don't think you went outside ever; you just stayed inside for all of those years," he recalls.

"And they realised that you were so allergic that even if you had been stung, even if you'd used the EpiPen it wouldn't do anything and you would probably have just died on the spot."

Also known as the jack jumper ant because it can jump long distances, the hopper ant is common throughout the Adelaide Hills and the South-East. It has been described by Sir David Attenborough as one of the world's most dangerous ants and extends across colder areas of southern Australia, and even to the Gold Coast hinterland in Queensland.

In these areas, allergies to the ants are almost as common as from bee venom as the most prevalent cause of insect related anaphylaxis.

Researchers say that reactions to its sting cause frequent hospital emergency admissions in Adelaide, with 2-3 per cent of people thought to be allergic to the venom. At least four people have died in Tasmania since 1980 – although none since new therapies have been developed.

But Adelaide researchers say the hopper ant problem is not receiving the funding needed to properly respond to the growing number of allergic reactions.

Because the ant is unique to Australia (unlike bees) providing treatment is expensive, costing thousands of dollars a



Jenny House with son Jordan at their Bridgewater property; inset, a close-up of the hopper ant  
Photograph: James Dorey





“

## The ambulance officers...saved my life, I was pretty close actually

year for each person who is susceptible. And who may be vulnerable is hard to predict, as House's son discovered.

It was only a few years after his mother's incident that Jordan was bitten by a hopper ant.

"It was my 16th birthday. At the time I was riding a lot of mountain bikes," Jordan says. "My friends and I, we went off to Fox Creek to go ride our mountain bikes for the day.

"Again, I've been stung multiple times – multiple times by hopper ants as a young kid. And again, I sort of just go, it hurts a little bit, and it would sort of get a little bit red, but nothing bad would happen."

But this time was different, and the sting, which had previously been benign, suddenly turned potentially deadly.

"I had a look down and there was one of the ants on my sock, biting me through my sock, and I said, 'Whoa, that's a bit weird.' So I flicked it off, 'Oh well, no worries, hurts a bit, no problem'," Jordan says.

"Rode down the trail, got to the bottom, and everyone was sort of like, 'Oh you look a little bit exhausted', pretty red and stuff. Did another lap on our bikes, got back, and at this point I was struggling to breathe, and I had huge welts coming up my neck, and all over my chest and stomach."

Because of their isolation, Jenny drove Jordan to the nearest hospital at Gumeracha rather than wait for an ambulance.

The Houses' stories of coming close to death from a hopper ant sting after years of little or no reaction are far from isolated.

In fact, while most Adelaide Hills residents know of and are familiar with the innocuous-looking creatures, people beyond the gum tree line on the plains seem to know little about the danger.

Pharmacist John Alexandrou's allergic reaction to the toxin packed in the tiny hopper ant body, was swift and almost deadly. "We moved into Hahndorf, and we had a slightly bigger property. I was stung a couple of times there, and I knew what to expect, a bit of an itch," he says.

"The last time I was stung, we were looking for antihistamines because I knew I was going to get itchy, and then I collapsed. That was it.

"I just collapsed. I've never been allergic to anything else, it's just their venom is quite reactive and quite nasty.

"The ambulance officers came along and assessed me, hooked up with adrenaline, and saved me. They saved my life, I was pretty close actually."

He eventually moved his family from their dream cottage, because of the hopper ant threat to his life. "At the time, there was no treatment available, there was no

desensitisation available like there is for bees," he explains. "The best advice was to move. We couldn't stay in the Hills.

"I tried to put up with it for a couple of years, but it got silly because we had a little property up there, and every time you went outside you had to be fully covered, even in the heat, and take two EpiPens and a mobile phone, and everyone was checking up on me. It just drove me mad."

Coming up with an effective and affordable treatment has been a life's work for Emeritus Professor Bob Heddle, who recently retired from the Royal Adelaide Hospital. He's passing on his expertise to Royal Adelaide Hospital immunology and allergy consultant, Adriana Le, who is now continuing the search.

"There is effective treatment available. We call it venom immunotherapy," Le says. "It's a form of desensitisation treatment. Heddle actually has spent decades of his career now developing the treatment.

"Venom immunotherapy basically involves giving the patients a purified extract form of the venom and starting off with a very small amount and building up gradually until they tolerate it," Le says.

"We build them up until they can tolerate a 50 microgram dose of venom, which is well above what would be in a single ant sting.

"In the clinical trials that Emeritus Professor Heddle conducted, he showed that if you didn't have the therapy and you were allergic, that you had a 70 per cent or so risk of having anaphylaxis if you were stung again. But if you did have the venom therapy, that risk would be reduced down to less than 5 per cent."

Le and her colleague Pravin Hissaria are now supervising what has been dubbed the "JumpVax trial" in conjunction with Royal Hobart Hospital and SA Pathology, to give people with the hopper ant allergy their lives back.

"The hopper ant venom is collected by venom sac dissection of ants harvested from wild nests, purified and made up to commercial-grade standards and provided at a price to only cover cost of manufacture, by the Tasmanian Jack Jumper Allergy Program," she says.

"The cost for one year of hopper ant immunotherapy per patient is \$2000-\$3000. In comparison, bee venom immunotherapy costs a maximum of \$80 per year, as it is a commercial drug product, which is PBS subsidised."

Tasmania and Victoria have dedicated state funding to cover the cost of hopper ant immunotherapy. However, in South Australia, patients who wish to undertake the therapy so they can live without fear of another sting, have to pay out of their own pocket unless they are lucky enough to be selected for the Royal Adelaide Hospital JumpVax trial.

With a minimum recommended period of five years' treatment for the therapy to be effective, it's a large cost for those unlucky enough to be susceptible.

Le estimates they have diagnosed at least a couple of hundred of patients with hopper ant allergy over the last 10 years, >



## COVERSTORY

but only a small proportion are on the therapy because of multiple factors, including the cost of immunotherapy, the need for hospital resources and scarcity of the venom. The rest have to live with an EpiPen on them at all times, and avoid the sting by whatever means possible as their only strategies.

The trial is still underway (and is still recruiting) with a target finish date at the end of 2020.

**A**delaide Hills homeowner Anthea Le Cornu has been stung numerous times by hopper ants, but didn't realise the danger that presented, as the more stings you have over a lifetime, the more likely you are to develop an allergy to this venomous ant species.

"I had an orientation day with the previous (home) owners and they pointed to an ant hill and said, 'You want to stay away from them. The bite's pretty nasty.' I didn't really think any more of it for about seven years," she says.

"I was out in the garden, weeding and planting trees and things. I was in up to my elbows and suddenly I felt this painful sting on my right hand. It was down the side of my hand and then another sting on my little finger.

"I just brushed it off like I normally do. Don't worry too much about things like that. Then I started to feel a bit funny.

"So I got taken to hospital and the funny thing was I walked straight into Emergency and walked up to the counter and said, 'I've been stung by ...' and the nurse behind the counter said, 'A hopper ant?' And I said, 'Yes! How did you know?'

"So she rushed me in and they put me on oxygen and pumped me full of adrenaline and the antihistamine, and then observed me for four hours.

"The doctor said that I had a classic anaphylactic response and sent me home with a prescription for an EpiPen."

Le Cornu was put onto the JumpVax trial and has progressed relatively quickly.

"I spent 12 months visiting the hospital. It was weekly to start and then fortnightly," she says.

"So I went and had all sorts of tests done and had a hopper ant venom injected. Then after 12 months they actually do what they call a trial. In the hospital they put live ants on you and then encourage them to sting you and see what happens."

For someone who had become so ill after a hopper ant allergy, this was indeed a confronting exercise. But one that was an enormous relief for Le Cornu.

"I thought I needed to do the desensitising because I wanted to stay living there," she says.

"When I realised, when I did the live trial and two ants stung me and I just got a bit of a local redness and felt a bit itchy that kind of ... well, it was wonderful.

"I realised I could keep living there and that made me very happy and I'm back in the garden full swing."

But despite the efficacy of the treatment, the costs are prohibitive for many, and Le says this is where better State Government funding should step in, especially given the potentially deadly consequences for the many people with a hopper ant allergy.

She says unless more is done, more people could be forced to leave regions such as the Adelaide Hills – where hopper ants are endemic – for fear of a potentially deadly allergic reaction.

"Access is something that is still an issue," Le says. "For the hopper ant immunotherapy, because it's such a localised problem to Australia, there's no drug com-



### HOPPER ANTS FACTBOX

- The scientific name for the hopper ant is *Myrmecia pilosula*
- It's also known as the jack jumper ant in SA, and as a jumping jack ant in other parts of Australia
- It is found in cooler climates, in semi-rural and rural areas of south eastern Australia – hotspots in SA, Tasmania, Victoria and southern NSW, and as far north as hinterland areas of Qld
- Hopper ants are more active in the warmer months
- Hopper ants are native to Australia and not found in other areas of the world – a uniquely Australian problem
- In SA the hopper ant is the second most common cause of insect allergy and anaphylaxis, behind the honey bee, and far exceeding wasp cases
- They can be identified by their size (1-1.5cm) – smaller than an inch/bull ant (to which they are related); and yellow-orange legs, mandible and antennae
- The ants don't bite – rather they hold on with their mandibles, curl over and sting with their tail end, injecting their venom
- Only females sting; males are short-lived and their main role is reproductive
- Their sting is painful and like an electric-shock. However, the danger lies in the potential to develop allergy to components of the venom. There is no risk of anaphylaxis with the first sting, it needs time to develop allergic antibodies to venom components. Therefore at least one sting, and usually multiple stings are needed to become "sensitised"
- Hopper ants are aggressive. They will sting beneath and through clothing, and one-third of stings are multiple



Clockwise from top: Patient Raelene Ng being stung by a hopper ant as immunology and allergy consultants Adriana Le, Emeritus Professor Bob Heddle and Pravin Hissaria observe; Reaction on patient Erika Walter's arms after two controlled stings at RAH; Adrenaline injections on standby

pany's putting money into research. They're not making a profit out of this, but it's \$2 or so per microgram, and you have a 50 microgram dose, plus you have to have the pharmaceutical fee for making it up. You're looking at \$230 a dose.

"Even though deaths from venom anaphylaxis are rare, it does occur.

"You can imagine living in your own home and being scared of going outside. But the ants can come inside as well and so this treatment really gives patients very important peace of mind and they don't have to carry their EpiPen.

"I think patients find that high value when they are able to undertake it."

Jenny cannot believe how much her life has changed in the time she's been on the trial, but she's disappointed her calls for greater government assistance for sufferers are being ignored.

"I've actually sent emails off to my local members, and not had a single reply. Not even a thank you. Just nothing," she says.

"But there are many people that have had no choice, who have not been able to

have the treatment because they cannot afford it.

"For example, I know there's some people on old age pension, who are avid gardeners who cannot go out in their garden because it's just far too risky, and they cannot afford the treatment.

"Some people have chosen to move, but lots of people have been lucky to be desensitised and have reported, anecdotally, they've been fine after a sting.

"I haven't tested it myself, yet. I know the last time I had a blood test a couple of years ago, it showed I still had the allergy. But at that point, they weren't able to quantify how significant it still was. But I tolerate my maintenance dose. So it must be enough to keep me safe."

She says the treatment has been life-changing for her and her son, even though she had to pay for her immunotherapy as she was not part of the trial.

"You know what? It's given me my life back – yep, it transformed my life," she says. "I'm not silly, I'm still careful. But I know that I'm protected."