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AUSTRALIAN BEE JOURNAL

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President's Report	5
Bendigo Branch Report	8
Letters To The Editor	8
Bee Bits	8/23/24
Fat Bodies And Vitellogenin	9
HiveMeet	10
Temperature And Hive Health	12
Advancing Hone Bee Health In Victoria	14
UK Corporates Boost Bee Keeping	15
Varroa Specialist Advanced Workshop	16
AgirFutures Project	17
Resistance Revisited	18
Honey Bee Brain Chemistry	19
Honey Bee Navigation	21
Seasons Report	22
Helping Beekeepers Fight Mites	24
NEEA AGM	26
Nuffield Scholarships / VAA Resources Subcommittee	27
Contacts	28/29
Classifieds / Members / Index of Advertisers	30
VAA Conference	31

Cover photo: Douglas Blair

Olivia Ducommun-Dit-Verron inspecting bee colonies
at La Trobe University's research apiary. See page 14.

**Deadline for copy for the April 2026 journal is
10pm on Wednesday 1st of April 2026.**

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The Victorian Apiarists' Association Inc. (VAA)



The VAA was founded in 1892 and is the peak body for beekeeping in Victoria.

The Association advocates to federal, state, and local governments to protect and improve Victoria's honey resources and to ensure beekeepers' interests are safeguarded and promoted. We work to secure effective legislation and encourage scientific investigation and research in all aspects of beekeeping.

Our achievements include:

- Introducing the Victorian Apiary Code of Practice allowing bees to be kept in urban areas
- Contributing to the new Apiculture on Public Lands Policy through our involvement with the Buzz Committee
- Working with Plant Health Australia which contributed to the development of the Australian Biosecurity Code of Practice.

The VAA advocates for the beekeeping industry on behalf of all beekeepers in Victoria.

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The VAA Board meets a minimum of six times a year. Members of the 2025 - 2026 Board

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Commercial beekeeping

Lindsay Callaway

Recreational beekeeping

Tony Wilsmore

All beekeepers and interested groups are welcome to join the VAA.

Membership benefits include:

- The VAA's monthly magazine *Australian Bee Journal* (ABJ) including one free classified ad per year
- Access to the members' only section of the VAA website www.vicbeekeepers.com.au
- Discounts for beekeeping services and products, including insurance
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- Voting rights at VAA regional group meetings and the annual VAA state conference
- Opportunity to participate in and contribute to VAA sub-committees
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- Opportunity to contribute to advocacy to government and development of policy on beekeeping

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President's Report

As we leave late summer and journey into early autumn, it is encouraging to report that **the 2025–26 Victorian honey season is shaping up as a significantly stronger one than last year.** It is also promising that large areas of Victoria, and our friends in South Australia who have had three years of prolonged severe drought, are facing the prospect of significant rainfall to mark the end of summer.

Many migratory beekeepers have been able to return to central Victoria to take advantage of late summer ironbark flows, providing the opportunity not only to secure additional honey but also to extract their red gum and black box honey crop and integrate treatment programs efficiently.

The focus now shifts toward disciplined pre-winter preparation, migrating towards higher-yielding pollen sources, strengthening colony nutrition and colony strength, and completing any final queen rearing before the requeening window closes.

Of course, we already have one eye on what lies beyond winter. For many Victorian beekeepers, that is almond pollination. Early indications suggest improvement in returns for pollination services, which is welcome news after a challenging period where input costs and treatment programs have significantly reshaped business margins.

We are beekeepers. We work with the seasons, not against them.

VAA Resources Subcommittee, now in place

- Andrew McCallum – Chair & Northeast Representative
- Keely McDonald – Secretary
- Neil Barraclough – Gippsland Representative
- Paul Davies – Port Phillip Representative
- Andrew Devlin – Northwest Representative
- Daryll Hobbs – West Representative
- Matt Lorenz – Central Representative

I recently met with Andrew and Keely to confirm priorities and establish their meeting schedule for the year ahead. One of their initial priorities will be to engage with our affiliate associations to confirm their resources representatives, as well as to help shape our opening symposium at this year's conference, appropriately titled the "Resources Summit."

The primary focus of the Resources Subcommittee remains clear: **to preserve and strengthen the Apiculture on Public Lands Policy.** This policy has served both Victorian beekeepers and the broader community extremely well and remains fundamental to the sustainability of our industry.

Since early 2025, the VAA has increased engagement with government decision-makers to advocate for:

- Maximising coexistence and minimising conflict between apiculture and other public land uses
- Ensuring an efficient, fair, transparent, and properly resourced administration system for bee sites

- Supporting strategies that improve the health of Victorian bushland and eucalypt forests
- Establishing a shared strategic roadmap between government and industry with genuine joint stewardship

During our recent VAA strategic planning discussions, it is no surprise that access to resources and public land sites emerged as the number one strategic priority for the Association. This work is not optional. **It is foundational.**

Members are encouraged to contact the Resources Subcommittee via their dedicated email: resources@vicbeekeepers.com.au

VAA Annual Conference & AGM

It is hard to believe we are now just three months away from the 2026 VAA Annual Conference and AGM at the Novotel Melbourne Airport.

This year's program reflects the reality of modern apiculture. *Our challenges are local, but the knowledge shaping solutions is global.* As announced in my February report, we are particularly pleased to welcome three internationally recognised experts to Melbourne:

- **Dr Peter Neumann** – Professor at the University of Bern, Director of the Institute of Bee Health, and Chair of COLOSS, the international association working across more than 120 countries to improve bee health. His work on honeybee pathogens and global biosecurity systems continues to shape international best practice.
- **Dr Stephen Martin** – Chair in Social Entomology at the University of Salford and globally recognised for his pioneering research into varroa mites and their association with viruses, particularly Deformed Wing Virus. His work has significantly advanced global understanding of resistance to Varroa.
- **Dr Cooper Schouten** – Senior Research Fellow and Director of the Southern Cross University Bee Research and Extension Lab and internationally recognised for his leadership in honeybee biosecurity and invasive mite preparedness. His work spans varroa and Tropiclaelaps integrated pest management, nutrition, queen breeding and sustainable agribusiness systems.

Bringing this level of expertise together in one place provides Victorian beekeepers with direct access to global insight, centrally located in our home state and a short walk from "T4" at Tullamarine Airport for those flying in. For three days in June, Melbourne will host conversations that are shaping beekeeping not only here, but around the world.

Registrations are now open via the VAA website. Last year's conference sold out, and we encourage members to secure their place early, as we anticipate a sell-out this year.

(Continued on page 6)

President's Report, cont'd

(Continued from page 5)

VAA Education Programs

By the time this issue is published, we will have delivered our VAA Advanced Varroa Workshop for Commercial Beekeepers in Swanpool, funded through the AgVic Livestock Biosecurity Education Grant. Registrations have been strong, reflecting the industry's clear appetite for practical, industry-led learning.

In May, we will deliver the VAA Advanced Varroa Specialist Workshop for club biosecurity officers at the Victorian Croquet Centre in Cairnlea. This program builds on our collaboration with the October 2025 T2M training and ensures that every regional club has access to up-to-date knowledge on varroa management.

Commercial Beekeeping Projects

Two important initiatives will roll out in the coming months:

Farm & Apiary Business Resilience

The Farm & Apiary Business Resilience Program, developed in partnership with AgVic, is being re-launched to improve accessibility and reach more commercial beekeepers. The program focuses on strengthening economic, environmental, and social resilience, three pillars that underpin sustainable commercial operations.

We are finalising workshop delivery partnerships

with regional groups to ensure statewide access.

Peer-to-Peer Support Program

Agriculture carries unique pressures, and commercial beekeeping presents its own distinct challenges, including biosecurity, environmental volatility, and financial stress.

With AgVic support, the VAA is establishing a Peer-to-Peer Support Program that will train commercial beekeepers to provide front-line support to others experiencing stress. This initiative is about practical compassion, equipping trusted peers to listen, recognise warning signs, and connect people with appropriate professional resources when needed.

Resilience is not just about bees. It is about the people who care for them.

The strength of this Association lies in its members.

Strong seasons are built in preparation. Strong industries are built in cooperation. I look forward to seeing you in June.

One Home, One Voice, One Guardian.

Kind regards,
Lindsay Callaway
President
Victorian Apiarists' Association Inc.

*Photo: Jamie Trimby
Bee on Murraya paniculata*



Bendigo Branch Report

Northern and Central Victoria has finally welcomed some solid rainfall, bringing abnormal humidity for this time of year in the build-up, before the welcome change from the warm stretch. Of note, some eucalypts are already showing new growth, positive signs for future budding.

The Bendigo February meeting saw an amazing spread of beekeeper input, covering what makes water sources attractive to bees, and preferences or water needs of bees.

Obviously there was a lot of discussion on Varroa, and beekeeper experiences on mite numbers, treatments and treatment timelines.

A shout out to Angelique and Bill who have been very generous in answering questions, helping others out with their knowledge, experience, applying treatments, and treatment feedback, a fantastic effort, well done.

News filtering through from Queensland beekeepers where highly populated hives/beekeeping areas are battling extraordinary reinfestation rates. One challenge facing beekeepers are very high mite loads, meaning large quantities of bees with non-healing wounds from Varroa, which are excruciating for bees when treated with acid mite treatments.

A further concern that more than one synthetic treatment is showing poor results in reducing mite loads, indicating mite resistance, testing is in the early stages to verify this observation.

A premise raised at the CVAA Commercial day to monitor and keep your mite numbers low throughout the reinfestation phase is key to keeping your bees alive.

An Egyptian study "Stinging nettle (*Urtica dioica*) as a potential control agent for Varroa mite (*Varroa destructor*) in honeybee colonies (*Apis mellifera*)" published: 02 May 2025, for those keeping tabs on the various fields of Varroa research can be found here <https://link.springer.com/article/10.1186/s12870-025-06108-6>.

Upcoming Branch day activities:

On March 29, members will be at the Bendigo Sustainability Festival at the White Hills Garden for the Future, providing information on the club/beekeeping, Stafford's Observation hive, and honey sales. Pop along and see the hive of activity.

On April 26 the branch will be holding the annual winter hive pack-down activity, free for members, \$10 for non-members, a lovely social day, hope to see you at one or both days.

Monthly meetings are held on the first Wednesday of the month, please advise Peta by the Monday before if you will be having a meal so we can notify the Lakeside Hotel.

All the best for an autumn flow,
Jamie Trimby



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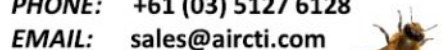


Lindsay Callaway
Warral Maldon Honey

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Letters To The Editor

Jamie Trimby asks (in the February ABJ) whether a mite count of “3 or less mites per 300 bees” (a 1% infestation) would be acceptable in a nuc for sale, and if not, whether oxalic acid would be an acceptable treatment.

As Jamie suggests, consensus is hard to find, but here in the United States I see recommended treatment thresholds ranging from 1-2% mite levels (3-6 per 300 bees). That said, if you’re selling a nuc, especially to a beginner, it’s best to bring that level as close to zero as possible. And that would not be accomplished via oxalic acid when there is capped brood, as OA is a flash treatment and does not penetrate the cappings. I would recommend treating the parent colony (prior to splitting off the nuc) with an extended treatment such as thymol, thus taking out a whole generation of varroa as they emerge from brood cells.

Sincerely,

Eugene Makovec

Editor,

American Bee Journal (that other ABJ)

Hamilton, Illinois, USA

www.americanbeejournal.com

Having just read the article 'Sugar Shake' (January ABJ) I appreciate being fully informed in the context of the parameters of the research done.

Has the same research been applied to the CO₂ vm testing method?

I do appreciate the need for accurate information regarding Mite numbers etc. And, I do not want to kill bees unnecessarily, so if this information is available I would be most grateful to read about it.

My question is . .

Is it only the shaking which kills the bees, or does the sugar coating exacerbate the mortality rate?

Thank you all very much for your ongoing and dedicated efforts, and I look forward to ongoing reports and information.

Sincerely,

Jananta Dwipa

Reply courtesy of Andrew Wootton

The advantage of using CO₂ to anaesthetise the bee sample for mite counting is that it will be non-lethal.

However, a study comparing CO₂ with sugar shaking showed it to be less reliable, with release of only about half the mites found with the sugar shake.¹ Earlier, Randy Oliver investigated the CO₂ method and wrote an extensive and approachable article² (his website is recommended as essential reading for all matters varroa). Randy’s comparison was with the gold standard of alcohol washing, finding only about half the mites were detected and concluding the method greatly underestimated the mite count.

We now know that the sugar shake results in significant mortality^{3,4} and is less reliable than alcohol (or soapy water) washing. I suspect it is a combination of shaking and the sugar blocking the bees respiratory spiracles that causes death, remembering that shaking is required to dislodge the mites from the bees to allow detection.

Another non-lethal method of mite monitoring is to measure mite drop using a sticky mat and this is reportedly popular in the UK. Interpretation of the results is much trickier, varying substantially with size of the colony and time of year. Because of this, the National Varroa Mite Management Program has not recommended its use. Instead, we must reluctantly use the alcohol wash, consoling ourselves with the thought that this insignificant sacrifice will save the colony.

¹ Bava, R., Castagna, F., Carresi, C., Cardamone, A., Federico, G., Roncada, P., Palma, E., Musella, V. and Britti, D., 2022. Comparison of Two Diagnostic Techniques for the *Apis mellifera* Varroaosis: Strengths, Weaknesses and Impact on the Honeybee Health. *Veterinary sciences*, 9(7), p.354.

² <https://scientificbeekeeping.com/a-test-of-using-co2-for-bee-friendly-mite-monitoring/>

³ Allerton, M., 2026. Sugar Shake Let’s Stop Sugar Coating It: The Powdered Sugar Shake Is Not Harmless. *Australian Bee Journal*, 107 (1), 8-9.

⁴ Bruckner, S., Williams, G.R., Tsuruda, J. and Underwood, R.M., 2025. Let’s not sugar coat it: the powdered sugar shake is not harmless for honey bee workers. *Journal of Apicultural Research*, pp.1-6.

DAVID BECKHAM JOINS UK BEEKEEPING RANKS

By John Kennedy

Manchester United football hero, and currently European and international media superstar, Sir David Beckham and his wife Lady Victoria, are the latest celebrities to declare themselves as active beekeepers

Recent inductees include Ed Sheeran and Cate Blanchett.

They currently have 27 Langstroth hives on their Cotswolds estate, with one at their London home.

They are discussed in a feature article in the UK’s leading countryside living, city and regional property and lifestyle weekly magazine, which is extensively illustrated, showing that they also have a substantial lineup of beekeeping equipment.

The Beckman’s say they use most of their own honey with a lot gifted to family and friends, and any remaining bottled and sold locally under their own Golden Beez label.

The published article begins with a quote from Sir David which reads “from the pleasures of harvesting your own one of a kind honey to the meditative calm that methodical hive management brings, beekeeping has much to offer”..

Fat Bodies And Vitellogenin

By Kris Fricke

The cute animated video you've probably all seen during the national Varroa training sessions, other than having the bees' hindwings in front of their forewings, perpetuated another misconception by way of an almost imperceptible pause in the wrong place. In saying "Varroa feeds on the bees fat body tissue" the voice actor clearly believed he was saying the bees had body tissue that was fat. The "fat body" is in fact a specific organ in a honey bees' body.

Because I can't improve on this description, and haven't looked at it with a microscope personally, let me give you an exact quote from someone who has:

*Scattered all through the body cavity of the honey bee but especially in the abdomen are irregular masses of a soft, usually white tissue composed of large, loosely united cells. These cell masses are known collectively as the fat body because the cells contain, enmeshed in their cytoplasm, small droplets of oily fat.*¹

As you can gather from the above description, while the "fat body" may perform a specific function like an



Image Credit: National Varroa Mite Management Programme

organ, it is not quite one cohesive unit the way a liver is. When first discovered it was thought to be primarily storage for fats and other compounds, hence the name, but more recently it has been proven to be important to detoxification,² and as well the production of vitellogenin which has a major effect on honey bee health and longevity. As I explain the functions of the fat body keep in mind this organ is substantially damaged by varroa during the reproductive phase and all these functions severely hampered.

The fat body is the main producer of immune response proteins and detoxification enzymes.³ These are the bees' defense not only against harmful bacteria and diseases, but toxic chemicals such as pesticides which they are likely to come into contact with. Detoxification enzymes bind with unwanted foreign compounds to prevent them from performing unwanted reactions, and allow transporter enzymes to remove them⁴ (to anthropomorphize a bit, one might say to take control of them, or even "grab em and throw em out").

(Continued on page 10)

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Fat Bodies And Vitellogenin, cont'd

(Continued from page 9)

These chemical reactions sometimes result in by-product molecules, often with excess oxygen atoms (such as hydrogen peroxide) which are in excess of the bee's ability to process and hence cause "oxidative stress." That is, these excess reactive molecules would go on to damage molecules of the structure and components of the bees' body. How do bees process the reactive molecules? With more enzymes as well as other substances (such as glutathione and ... vitellogenin), most of which are produced by, you guessed it, the fat body. In short, the fat body produces the substances that fight toxins, and the substances that clean up the unwanted waste products from the toxins being neutralized.

Vitellogenin

So vitellogenin, often abbreviated as "Vg," has already been mentioned and you'll have gathered it is important here. It's universally described as a "yolk precursor" – what this actually means is that it's a protein (produced in the liver in non-insects), which carries important components into the ovaries where it's transformed into the major protein component of the egg yolk.

In bees, however, Vg has come to have interesting non-reproductive functions, making it very important even to non-reproductive worker bees (including even drones^{5,6}). (1) it suppresses Juvenile Hormone⁷ which otherwise leads to aging (much more on this in a moment); (2) it has various immune functions such as binding and inhibiting bacteria,⁸ (3) it provides antioxidant protection⁹ by scavenging free radicals,¹⁰ (4) it is the major zinc carrier in honey bee haemolymph¹¹ (the yellow liquid "blood" circulating within bees), and zinc

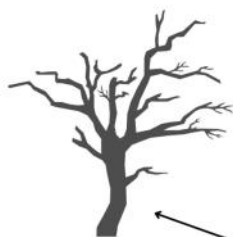
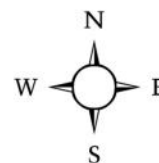
is an important component of several immune enzymes; (5) high levels of Vg are a key physiological difference in long-lived winter bees, (due probably both to suppressing JH and needing more immune response); (6) and finally Vg levels even effect bees' foraging preferences, with high levels of Vg making bees more inclined to forage for pollen over nectar.¹²

Juvenile Hormone

Famously, worker bees go through a series of jobs in their life, starting as nurse bees and ending as field bees. There are physiological differences between nurse bees and non-nurse bees (active hypopharyngeal glands on the nurse bees for example), and it's shown that bees who had aged out of being nurse bees can return to it (including the physiological adjustments) if the existing nurse bees are removed from the hive. So what controls this aging process? A hormone called the Juvenile Hormone (JH). Despite the name, it's the build up of JH that causes bees to physiologically and behaviorally age and take on the later-age tasks. Vitellogenin suppresses the production of JH, which in normal cases is fine and normal, young bees have a lot of Vg and little JH, and as they naturally age the relations switch at the carefully calibrated rate to bring about the aging pattern they've evolved to find best. But if an unusually low level of Vg is being produced due to damage to the fat body, there will be an unusually high level of JH produced, and as a result the bee will age too rapidly. This is by no means a good thing as it means there will be too few bees performing the earlier-age tasks, bees that become field bees too soon have a disproportionately high death rate,¹³ and they'll inevitably die sooner.

Altogether therefore you can see how the mites

(Continued on page 11)



HiveMeet

"Beelining: finding feral colonies"

Guest Speaker: Joe Riordan

Streaming Live  Thursday 2nd April, 8pm

youtube.com/VictorianApiraristsAssociation

VAA HiveMeet is sponsored by B-Qual



Fat Bodies And Vitellogenin, cont'd

(Continued from page 10)

are unfortunately severely damaging one of the most significant organs mediating the lifetime health of bees. A small number of bees thus affected might not significantly affect the hive but with varroa doubling approximately every 20 days in spring soon a significant amount of bees are suffering this damage, and as you can see almost none of this is damage that will kill a bee quickly, but will lead to it being unhealthy and unproductive later in life and that's why the colony might carry on for another few weeks before crashing.

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Temperature And Hive Health

What temperature tells us about the health of a bee colony

By Theotime Colin

As beekeeping sensors become increasingly available and affordable, the pollination industry is eyeing the promise of a reduction of beekeeping costs and colony losses (<https://www.tandfonline.com/doi/full/10.1080/00218839.2025.2552530>). Recent advances in our understanding of temperature regulation by bee colonies provide the first tangible opportunities for practical applications of hive temperature sensors.

A healthy bee colony with a queen and reasonable brood population keeps the temperature of the hive around 34.5°C - regardless of whether it is hotter or cooler outside the hive. 34.5°C is the optimal temperature for the development of the bee brood and healthy bee colonies excel at controlling the nest's climate. Anything colder than 32 °C and the brood becomes sensitive to fungal infections; anything above 38 °C and the brood dries and dies.

Determining whether a bee colony is healthy or not based on simple temperature measurements set against these thresholds seems easy at first glance. While this might be true in theory, measurements from temperature sensors in hives can be extremely variable in practice. Healthy hive temperature regulation is also quite complex. Bees in cooler climate do not regulate the hive temperature as tightly during winter. In cooler months, the focus of a colony is first to not freeze, and second to save enough food resources to build up in spring. It is in early spring that colony losses generally occur in cooler climates, a time when it is difficult to determine exactly what a healthy temperature in a colony would be. In spring, temperature in the nest depends a lot on microclimatic conditions, available resources, pre-winter health, and weather. It is thus difficult to determine from just a raw temperature measurement that a colony is "too cold" to be healthy. This creates a challenge for the interpretation of hive temperature sensor data, at the most critical time of the year.

Two solutions have been recently found. The method I have developed consists of comparing colonies within the same climatic area together, to pick out the weaker ones (<https://www.sciencedirect.com/science/article/pii/S1574954125004546>).

With a simple temperature sensor it is easy enough to determine which hives are coldest when compared to all other hives at a same

location. With this method, most colonies that are going to die can be identified weeks in advance, at any time of the year, and colonies with unusually low brood levels are also easily identified. The second method consists of measuring temperatures at different points within the hive (<https://www.sciencedirect.com/science/article/pii/S1470160X24014183>). A sensor at the center of the bee cluster should often be much warmer than one outside, so verifying that not all sensors return cold temperature readings helps confirm that a colony is healthy.

But no method is perfect. One pitfall of the first method is that if all colonies at a location were similarly unhealthy, it would be hard to detect this without manual checks. A pitfall of the second method is that there would be no warnings of sensor malfunction, and dealing with multiple sensors in each hive can add difficulties to everyday beekeeping operations. This second method is also only designed for winter or early spring when outdoor temperatures are very cold. It could work outside of that, but the method will need to be fine-tuned first.

These methods should be seen as tools to get early warning signals of bee colony failure. They work in real-time while a beekeeper can only inspect a hive periodically, giving the chance to remedy bee health issues early enough to minimise losses. But beekeepers are still very much needed and should plan to check and monitor the information they receive from sensors manually and regularly.

While early warning methods in hive sensing are new and have not yet been widely implemented and tested, they will soon be. Beekeepers can already purchase hive sensors from companies but may have to inspect their data manually for a while. After reviewing

(Continued on page 13)



Photo credit Theotime Colin. Bees on a frame around the sensors Macquarie Uni uses to compare and evaluate commercial hive sensors

Temperature And Hive Health, cont'd

(Continued from page 12)

the hive sensors available on the market, we advise that beekeepers should first trial sensors on a small scale to determine whether they match their needs and meet their expectations. We also advise that beekeepers should prefer sensors from Australian companies like HiveIQ, BeeStar, BeeRight, or well-established overseas companies with local Australian resellers so that they can access support when needed.

This project is funded by Hort Innovation, using the Hort Frontiers Pollination Fund research and development levy, contributions from the Australian Government and co-investment from Macquarie University. Hort Innovation is the grower-owned, not-for-profit research and development corporation for Australian horticulture.

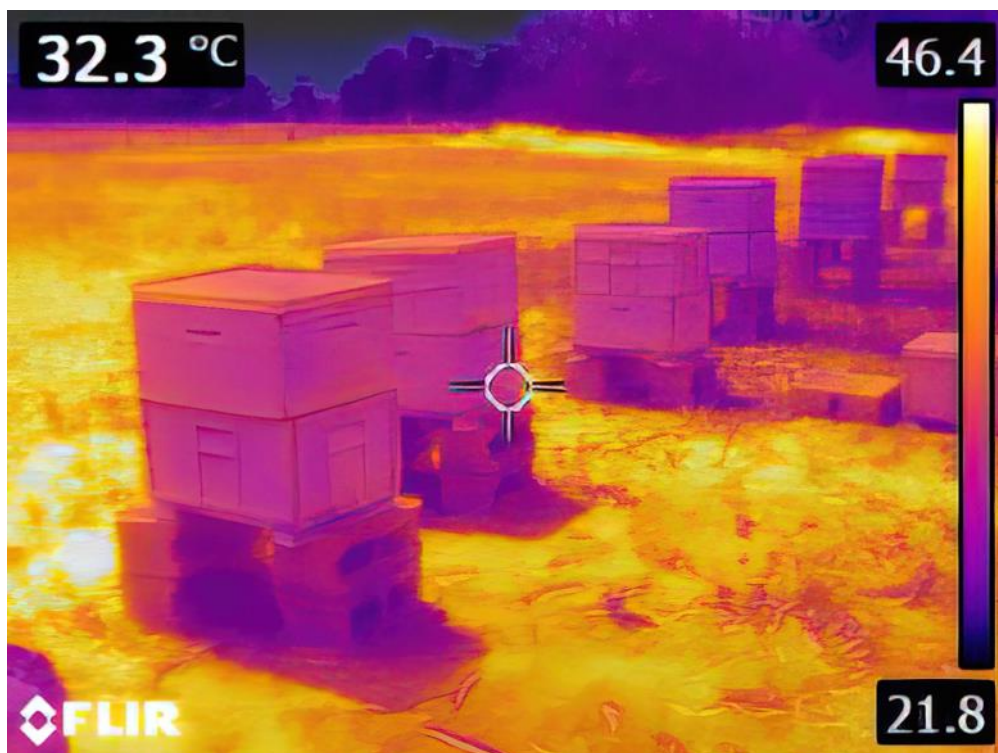


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Healthy colonies cool down their hives in the summer, often appearing cooler than the surrounding grass on thermal images.



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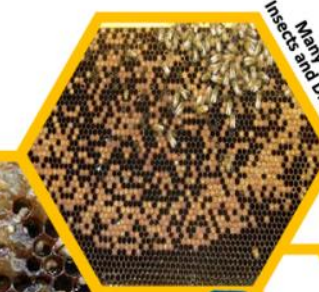
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Advancing Honey Bee Health In Victoria

Research, Resilience and a Preventative Future

Honey bee health in Victoria is entering a critical and promising phase. As beekeepers continue to face mounting pressures, from biosecurity threats and endemic disease to climate-driven stressors and seasonal losses, locally driven research is offering practical pathways toward more resilient and sustainable apiculture. Recent work underway at La Trobe University exemplifies how collaboration between researchers, government and industry can translate cutting-edge science into meaningful outcomes for beekeepers.

This momentum was underscored recently by a visit from Victoria's Minister for Agriculture, Ros Spence, to La Trobe's apiary and agricultural biosciences precinct. The visit followed a summer marked by widespread bushfire activity, during which an estimated 660 beehives were lost across the state. Against this backdrop, the importance of proactive bee health research, and its relevance to both commercial operations and backyard apiaries, has never been clearer.

Among the most significant challenges facing Australian beekeepers are bacterial brood diseases, particularly American Foulbrood (AFB) and European Foulbrood (EFB). Both are well understood by experienced apiarists, yet they remain difficult and costly to manage.

At the centre of new approaches to these long-standing problems is PhD researcher Olivia Ducommun-Dit-Verron, whose work focuses on shifting disease management away from reactive responses and toward

prevention. Importantly for the beekeeping community,

Olivia is also a board member of the Victorian Apiarists' Association, ensuring that industry realities remain closely aligned with research priorities.

Unlike mammals, honey bees lack an adaptive immune system capable of producing antibodies. However, insects possess a sophisticated innate immune response that can be "primed," including through transgenerational immune priming passed from queen to offspring. Alongside disease prevention research, parallel work is addressing preparedness for future threats such as Varroa mite, reinforcing the importance of integrated pest and disease management frameworks.

The VAA continues to support beekeeper education through upcoming events including the Advanced Varroa Workshop for Commercial Beekeepers (9 March, Swanpool), the Advanced Varroa Specialist Workshop (2 May, Cairnlea), and the VAA Annual Conference (4–6 June). Registrations for all events are open via the VAA website.

The challenges facing Victorian beekeepers are real, but so too is the innovation emerging to meet them. Through collaboration, research and education, the future of honey bee health in Victoria remains positive.

Left: Olivia inspecting bee colonies at La Trobe's research apiary

Below left: Honey bee colonies at La Trobe University's research apiary.

Photo credit: Douglas Blair.

Below right: Olivia & Prof. Travis Beddoe inspecting the colonies at La Trobe's research apiary.

Photo credit: Douglas Blair.



Olivia welcomes the Hon. Ros Spence, the Victorian Minister for Agriculture, for a visit at the La Trobe University apiary, to discuss her PhD research, alongside Professor Theo Farrell, University Vice-Chancellor.



UK Corporates Boost Beekeeping

By John Kennedy

According to reports, a number of large companies in the UK are seeking mental health benefits, and an increased sense of community by installing beehives.

Employers are working with professional beekeepers to install hives on rooftops, courtyards and car parks, positioning them, not as a novelty, but as a way to ease stress, build community and connect their workers with nature in an era of hybrid work and burnout.

They say there is something spiritual about enabling employees to take time away from work to see how nature has created the greatest example of how every business should run.

Beverley Bees, a UK company that offers complete hives to corporate customers, says it has already acquired 24 major local clients and another 10 international clients. It offers a 4 hour introduction to beekeeping and hive building course which when complet-

ed transfers them to the corporate site, and "our motivation is improving people's mental health which employers increasingly understand is closely linked to nature. "Its amazing to see the engagement on people's face as soon as we start talking about bees, they get completely lost in the world of bees and forget about all their troubles". They also install cameras inside hives so that bee activity can be observed from the workers' desks.

Another beehive supplier BeesMax Limited says the experience is calming, educational and oddly bonding, a rare opportunity for employees to step away from their screens and care collectively for something fragile and alive.

Supporters of office apiaries say the appeal goes beyond novelty, pointing to workplace wellbeing, team-building and the tangible evidence of environmental commitment. The company's can showcase this to their clients and staff alike.

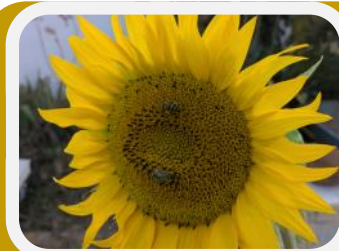


Photo: Jamie Trimby

The Australian Bee Journal welcomes contributions and photos from readers and members. Please send any letters, articles or photos to abjeditors@yahoo.com



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Photo Credit:
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AgriFutures Project

Antibody-Driven Defence: An Innovative Method for Safeguarding Honey Bees Against Varroa-Induced Viral Diseases

La Trobe University

Project code: PRO-020283. **Project stage:** Current

Project start date: Sunday, February 1, 2026

Project completion date: Wednesday, April 3, 2030

National Priority: HBE-Improve hive productivity with innovative pest and disease control, feeding, breeding, and automation solutions

Summary

The ectoparasitic mite *Varroa destructor* threatens the health of honey bees, especially *Apis mellifera*. It can cause colony collapse through feeding or pathogen transmission if not properly managed. Various treatments have emerged, including hard and soft acaricides and biocontrol methods. However, a sustainable solution that reduces the mite-transmitted viral load without promoting mite resistance or harming honey bees has yet to be found. Thus, exploring alternative tools that target viral replication and host entry remains an overlooked opportunity.

V. destructor transmits several key viruses such as Kashmir bee virus (KBV), sacbrood virus (SBV), acute bee paralysis virus (ABPV), Israeli acute paralysis virus (IAPV), and deformed wing virus (DWV), which significantly contribute to colony loss in western honey bees. While Australia currently remains DWV-free, it has high levels of IAPV and

SBV, and when combined with varroa parasitism, this could result in significant colony losses.

A recent study demonstrated that orally delivered anti-DWV IgY antibodies can act systemically to reduce DWV loads in naturally infected honey bees. These antibodies are generated in immunised hens, extracted from egg yolks, and delivered to bees via feeding, where they localise in the hemolymph and fat body of both adults and larvae. However, it remains uncertain whether IgY treatment alone is sufficient to improve overall colony health or if it must be integrated with existing varroa control strategies, such as acaricides, for optimal effectiveness. Furthermore, the long-term effects of anti-viral IgY on developing bees require careful evaluation to ensure safety. Key challenges to widespread adoption include production costs and the current focus on single-pathogen targeting.

This project aims to develop an environmentally friendly, safe, and economically sustainable solution for managing honey bee viruses transmitted by *V. destructor*. By applying advanced protein engineering, we will design multivalent antigens to produce polyvalent IgY antibodies capable of simultaneously targeting multiple viral pathogens. This innovative approach will support the development of cost-effective, scalable, and practical antibody therapies, ultimately strengthening the resilience and productivity of Australia's beekeeping and pollination industries.





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Resistance Revisited

First the bad news

I wrote of the dangers of miticide resistance developing in Australia in December's ABJ.¹ Alarmingly, resistance to Bayvarol has already been reported from NSW in the AHBIC News of 11th February² and now on the 27th February, a further occurrence in Queensland is announced.³

With the NSW mites, pyrethroid resistance is due to a mutation called L925I. I'm now informed (B Giggins, personal communication, March 3, 2026) that the L925M mutation is also present. These are single amino acid substitutions at position 925 of leucine to isoleucine and methionine respectively, in the voltage gated sodium channel (VGSC) and previously reported in the USA.⁴ In Europe a different mutation, L925V (leucine to valine) is seen.

Although AHBIC initially postulated several pathways for genetic resistance to have arisen, the first of these, that the mutation could already have been present in the original mite population, has already been discarded. This was always unlikely, since assuming only a single or very few foundress mites in the original incursion, all descendants would carry the same genotype. Revisiting the original genotyping rules out the presence of these mutations.

A second explanation is that the mutations may have spontaneously arisen *de novo* due to repeated exposure of mites to pyrethroid-based treatments. This again seems somewhat unlikely due to the short timeframe of exposure (approximately 12 months) in Queensland.

Finally, there could have been a separate introduction into Australia of varroa mites carrying the resistance mutations after the 2022 incursion. The two locations involved are linked by hive movements, possibly supporting this.

Whatever the explanation, we have resistance emerging at an ominous rate. Further genetic surveillance in both Northern NSW and QLD regions is underway, better to understand the distribution of the resistant population. If you want to do a miticide resistance test yourself, this is fairly straightforward and Southern Cross University has a fact sheet.⁵

Now the good news

This month a new study was published showing increased effectiveness of amitraz by inhibiting efflux transporters.⁶ These specialized transmembrane proteins protect cells from harmful compounds by pumping toxins and drugs out of cells, limiting their absorption and distribution. The study demonstrated that verapamil, a calcium channel blocker used in humans for the treatment of angina, synergistically increased amitraz toxicity compared to the equivalent dose of amitraz alone. However, there is a potential downside, as in honey bees the efflux transporters are also involved in mitigating pesticide toxicity. Whether we can develop efflux transporters that are specific for mites not bees, remains to be seen.

For now, rotation of treatments with differing modes of action is the only way we can avoid losing the miticides to resistance. Heed the message!

Andrew Wootton is Vice President of the VAA and a certified master beekeeper with the Eastern Apicultural Society of N America. He first started beekeeping in the 1960s.

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*Figure 1. Miticide resistance is complex!
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Honey Bee Brain Chemistry And Human Learning

What honey bee brain chemistry tells us about human learning. Scientists find that signaling between two neurotransmitters can predict whether and how quickly honey bees respond to new information.

A multi-institutional team of researchers led by Virginia Tech's Fralin Biomedical Research Institute at VTC has for the first time identified specific patterns of brain chemical activity that predict how quickly individual honey bees learn new associations, offering important insights into the biological basis of learning and decision-making.

The findings, which were published in *Sciences Advances*, found that the balance between the neurotransmitters octopamine and tyramine can predict whether a bee will learn quickly, slowly, or not at all as they associate an odor with a reward.

Because the same ancient brain chemicals that guide learning in bees also shape attention and learning in people, the findings may help scientists better understand why individual humans learn at different speeds — and how those processes may go awry in a variety of brain disorders.

Specific patterns of brain chemical activity appear before learning begins, and again when a learned behavior first emerges, signaling how quickly an individual bee will learn. The research can help explain how chemicals in the brain drive attention and reinforce learning, with implications for fundamental biology, medicine, and agriculture.

The study also highlights the power of combining neuroscience with machine learning to research complex brain chemistry in a living brain in real time. By measuring the release of multiple neurotransmitters simultaneously, researchers can begin to understand how complex interactions shape learning across species.

Probing the bee brain

Bees buzzed in the lab of computational neuroscientist Read Montague, a professor with the Fralin Biomedical Research Institute at VTC, who collaborated on the project with Brian Smith, a professor and behavioral neuroscientist at Arizona State University.

The work builds on Montague's earlier research on bee learning. In a paper published in *Nature* in 1995 that has been cited more than 400 times, Montague and colleagues devised a computer model that predicts how signals from a specific individual neuron helps bees forage in unknown environments by learning which sights and smells are worth pursuing.

That work was based on the earlier contributions of the late neuroscientist Martin Hammer, whose research advanced scientific understanding of the neural mechanisms of learning and memory in insects.

Bees live relatively short lives in complex social systems and offer researchers a model to study cognition in natural and lab settings.

The insects are surprisingly sophisticated.

"A bee cannot come into the world knowing what it

(Continued on page 20)

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Honey Bee Brain Chemistry And Human Learning, cont'd

(Continued from page 19)

has to know in order to find flowers and harvest nectar and pollen," Smith said. In addition, a forager bee has a lifespan measured in weeks, all spent within a three- to five-mile radius of its colony. "That's a huge area for an animal with a tiny brain."

The environment is also constantly changing, with flowers blooming and declining over hours and days and weeks.

"That bee has to be a learning machine," Smith said. "You have to be prepared to forget what you learned yesterday and learn something new today. And if they can't do that, they'll never be able to perform their task within the colony."

In Montague's computational model of learning, bees learn from a series of successive predictions that may lead to reward.

"Bees have sophisticated systems for pursuing this," Montague said. "They can use the systems to make cautious or risky choices."

The models matched the way the insects behaved in observed experiments. "I applied it to the bee brain and showed that you could, in theory, guide the bee from flower to flower in a way that completely matched the statistics of foraging of the bee," he said.

From humans to bees

During a visit with Smith and his colleagues at Arizona State University, Montague was sharing his latest research into new methods that he and his team at Virginia Tech had made to make real-time, sub-second measurements of monoamines, including dopamine and serotonin, in human patients undergoing deep-brain stimulation treatment for Parkinson's disease and essential tremor.

Smith was familiar with Montague's 1995 paper. His own research focuses on learning and memory in insects and mammals, including how animals learn about odors — research that can help inform neurological conditions.

When Smith learned about Montague's groundbreaking work in humans, he reached out with a question.

Could Montague put his electrodes in a bee brain?

Soon after, Smith and his bees were on a plane to the research institute in Roanoke.

Montague's earlier work had been theoretical.

"We didn't even have a method to measure monoamines and bee brains," Montague said. "Now we've taken this work in humans and we've transported it back down to teeny tiny electrodes that we can put in a bee brain while the bee is learning and conditioning."

Even though their brains are small, bees have a lot to teach us.

"We're trying to push the bee as a model for some surprisingly sophisticated kinds of learning and memory tasks," Smith said. "I've always been interested in being able to measure these neurochemicals as they're released in real time to understand what kind of signals they give rise to that cause a neural network to go into one state or another. To remember something, or literally to forget something."

Related brain chemicals are at play in addiction, major depression, and attention deficit disorder, among other conditions. These ancient chemicals and systems have evolved in bees over 130 million years.

"These are evolutionarily very, very old systems that we still have in our brains," Montague said. "You can condition the bee on stimuli in the world that are relevant in a person."

The chemical-learning connection

Honey bees are a well-established model for studying learning because they rapidly form associations between odors and food rewards. In the Roanoke lab, researchers studied the proboscis extension response, in which a bee extends its feeding tube when it learns that a particular odor predicts sugar.

Seth Batten, a senior research associate in Montague's lab, had experience measuring neurotransmitters in several organisms. "But never in a bee," he said. "Not only was it a fun and challenging engineering feat to create systems that could take the measurements in such a small brain, but it was remarkable to see how complex these creatures were and how quickly some of them learned."

While some bees learned after only a few odor-reward pairings, others require many repetitions or never learn in the same timeframe.

Researchers recorded sub-second estimates in four key neurotransmitters important to bees' sensory processing and learning: dopamine, serotonin, tyramine, and octopamine. The measurements were taken from the antennal lobe, an early processing center for smell, using a machine-learning technique that tracks multiple chemicals simultaneously.

They found that bees could be grouped into learners and non-learners based on whether they developed a conditioned response to odor. Among bees that learned, some formed the association after only three odor-and-sugar trials, while others required up to eight. That variation was strongly linked to the timing and strength of antagonistic signals between octopamine and tyramine.

Bees with an earlier, stronger signal during their first exposure to an odor tended to learn faster once rewards were introduced. This relationship held even though the odor had not yet been paired with sugar.

The same push-and-pull pattern between octopamine and tyramine appeared again when bees first showed a learned response, and it still reflected how quickly they learned. Dopamine and serotonin did not show this pattern.

As learning progressed, neurotransmitter patterns continued to diverge between learners and non-learners. In bees that learned, octopamine and tyramine responses changed markedly after the learned behavior appeared, while dopamine and serotonin levels gradually declined across training. Non-learners showed little change over time.

The findings suggest that signaling between octopamine and tyramine plays a central role in setting learning sensitivity and regulating how long learning continues once an association is formed.

"In terms of biomedicine, understanding neural networks gives us some insight into how larger brains work," Smith said.

In addition to informing basic science and human and animal health, the research has implications for the food supply because of bees' role as pollinators. "So much of our agriculture is dependent on bees," Smith said.

Honey Bees Navigate More Precisely Than Thought

A team from the University of Freiburg led by neurobiologist and behavioural biologist Prof. Dr. Andrew Straw studied the flight behaviour of honey bees. Using a drone, the researchers tracked honey bees as they flew between their hive and a food source about 120 metres away in an agricultural environment. In order to observe the bees on their respective routes, the scientists used the 'Fast Lock-On (FLO) Tracking' method developed by Straw's working group. This involves attaching a small, highly reflective marker to the insect. On the drone, a computer uses image analysis of reflected light to reliably locate the bee within a few milliseconds and keep track of it. The results show that each honey bee navigates in its own unique way and maintains these individual routes with the utmost precision on both the outward and return flights. The animals use landmarks in the landscape as orientation aids.

"Our tracking system makes it possible for the first time to record high-resolution 3D flight paths of honey bees in natural landscapes," explains Straw. "Our recordings show that each bee has its own preferred route and flies it very precisely. You could almost say that each bee has its own personality."

Bees use their environment to navigate the world

The 255 flight paths analysed were obtained near the Kaiserstuhl, Germany, in an agricultural region containing hedges, a cornfield and a tree blocking the direct route between the beehive and the food source. "We found a high degree of precision in the flight paths. Individual bees repeated their individual flight paths nearly exactly

on several flights. They often fly just a few centimetres away from their previous paths," Straw emphasises.

The team identified the smallest deviation in the flights near prominent landscape features such as the tree. In contrast, the greatest variability was measured above the cornfield, an area with a very uniform visual structure. "Our results suggest that visual landmarks aid the bees' navigation and increase the precision of their flight paths," explains Straw. In contrast, the bees' uncertainty increases in visually monotonous environments.

More precision than in the waggle dance

The study also provides new insights into the interpretation of the waggle dance, which honey bees use to indicate the location of food sources to their fellow bees. "It was previously known that the directional information in the waggle dance is not entirely accurate," explains Straw. For food sources approximately 100 metres away, the directional information in the waggle dance can deviate by around 30 degrees. "Our research has shown that individual bees navigate much more accurately to destinations they are familiar with. Even where their flight paths vary most, they deviate from their individual route by only a few degrees. Our results allow us to conclude that the inaccuracy of the waggle dance is not due to the bees' limited navigational abilities. Rather, individual animals are spatially much more accurately oriented than their dance communication would suggest," says Straw.

Current Biology.

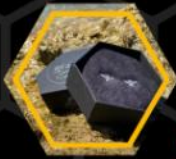
<https://doi.org/10.1016/j.cub.2026.01.045>

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Season Report

The red gum locally has yielded the best honey crop for probably 40 years. Laurie Braybrook and my father would say it only yields during a drought in the Geelong region. This has been confirmed this year.

The breeding has been slowed due to the frames being packed out with pollen and limited area for brood. Drones have disappeared and so far, very little new drone brood is in the hives. This will be a problem for making autumn queens.

The very hot days may be the reason or the bees filled the drone brood with honey. The very hot days over 40 degrees may have helped kill varroa in the bees hives. My friend has bees in the Hay area and reports no problems with varroa.

I shifted the bees back from the Grampians and was very happy with the yellow box and red gum yield. I should have had a look around before bringing the bees back as I noticed a scent bark tree starting to flower as I loaded the hives and when I inspected the hives at home discovered six frames of brood in the hives. I guess more trees may have been flowering further into the bush. Fortunately, no varroa has been found in any of the hives using brood uncapping.

The bees were shifted to a patchy budding of messmate and the bees have made good brood but little honey. Seven millimetres of rain appears to have improved the weight gain as the hive scales report seven kilograms increase over 21 days.

The fires at Skipton have destroyed many large sugar gum tree lines. The firewood industry has moved into the area cutting the trees and giving the farmers \$50 per cubic meter. The removal of timber cutting in native forests have resulted in the industry shifting into a very valuable honey resource. I have observed in the You Yangs a block of large trees that was cut for firewood 25 years ago have grown back many stems of coppice growth and now hardly produces any flowers. The large uncut trees beside the block still flower as normal. I lost one government bee site and three private bee sites with the Mount Mercer fire.

Blue gum plantations that were considered not suitable for the wood chip industry for export to Japan are now being cut down rapidly and the farmers receiving \$63 per wet tonne. Remaining trees are growing budding for next spring. It has been a long time since we enjoyed a blue gum flowering. I note trees grown near paddocks that are fertilized heavily do not flower, they just grow rampantly.

Brisbane Ranges messmate looked better, but results have been disappointing and the rain seems to have turned the flowers brown.

Sweet bursaria flowered and does not seem to have resulted in any honey production. The dry conditions were most likely the problem.

Sugar gum flowering is about three weeks later flowering this year. The budding is very patchy and varies depending on the district. Small buds have swelled up quickly possibly in response to the dry weather. Much to my surprise the scales indicate when the days are 40 degrees or more the hive has not been

gaining weight. I always thought the sugar gum yielded best during the hotter and drier days.

Hives and queens are being stolen. Seems hives that are visible to the public are at risk.

Western Australian red flowering gum has flowered throughout the Geelong area and bees can be seen eagerly working the flowers.

The box-ironbark areas have enjoyed a very good early ironbark honey flow, but the hives will now have very little brood as the queens cannot lay eggs during the honey flow. I have seen very heavy budding on winter flowering ironbark.

Early flowering yellow gum has started to flower. I find the budding to be very patchy from only growth and small buds forming to trees with well-developed buds.

Reports that all foods will have to have a Health Star rating label is of concern to me as honey is only a rating of "1". This may deter customers from purchasing honey. Manuka will have a higher rating number. The benefits of eating honey are many and often not recognized by the medical industry.

An interstate beekeeper has said that he believes that 60% of the hives from the New South Wales coastal strip that normally go to the almond pollination will not be available this coming spring.

A declared Total Fire Ban was a nice day in the morning. I needed to place cleared boards in hives, and return sticky frames. So, we used a sprayer of water to quieten the bees and it worked very well.

Beemax varroa heat map cannot be relied on for information of where varroa is now. Obviously, beekeepers with varroa are not reporting where they have shifted their hives.

John Edmonds
25/2/2026



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Bee Bits

Can "bees" help humans talk to aliens ?

Scientists are studying bees to understand alien communication possibilities. The research explores whether mathematics is a universal language. Bees show surprising abilities to understand simple numerical concepts. This discovery could reshape how humans search for extraterrestrial intelligence. Tiny insects may hold answers to cosmic communication mysteries.

Read the article [here](#)

Bee bandits: Utah State University ecologists study mutualistic plant-pollinator-microbe interactions

From fundamental biological units as tiny as genes to complex societies, ecological systems rely on cooperation. All manner of organisms can benefit from working together to survive in a dog-eat-dog world.

"Mutualism is a common example of interspecies cooperation," says Utah State University ecologist Valerie Martin. "Scientists have long studied mutualisms between plants and pollinators, but understanding their origin and maintenance remains a challenge. Curiously, exploitative behaviors — including cheating — are rampant among mutualists and we're trying to understand why."

Martin, a doctoral candidate in USU's Department of Biology and the USU Ecology Center, along with her faculty mentor Robert Schaeffer, are studying nectar-robbing behavior in bumble bees through support from the National Science Foundation. They reported find-

ings in an online, preprint article posted Feb. 6 in the journal *iScience*.

Nectar robbers are termed as such, she says, because they take nectar from flowers without providing the service of pollination in return... The bee saves its time and effort by sipping nectar from a more easily accessible hole in floral tissue.

Read the full article [here](#)

Fresno's almond industry faces a bee crisis

The nation's honey bee population lost 55.6% of its colonies during the 2024-2025 season, the worst year on record, and Fresno-area almond growers are bracing for the fallout. As bee shortages worsen, thieves are also stealing hives by the truckload across the Central Valley.

Read the full story [here](#)

Students run 'bee hotels' across Canada

Instead of relying only on traditional identification under a microscope, the researchers used DNA metabarcoding - a method that reads DNA from mixed samples and can detect many species at once... A key outcome of the study was the creation of tripartite networks: maps linking (1) the nesting bee or wasp, (2) its food (pollen or insect prey) and (3) parasites. This kind of network is extremely difficult to build through observation alone

Read the full story [here](#)

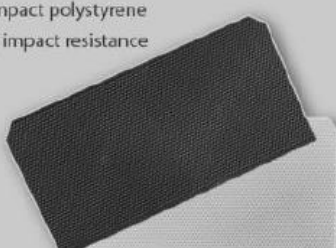
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Helping Beekeepers Fight Mites

Research lays foundation to target varroa mites without harming bees

UNIVERSITY OF CALIFORNIA - DAVIS

Researchers from the USDA's Agricultural Research Service (ARS) and the University of California, Davis, are helping beekeepers protect their colonies from destructive varroa mites. In a new study, the researchers investigate the effectiveness of combining a widely used mite-killing pesticide with an agent that inhibits the mites' ability to tolerate the pesticide.

Honey bees play a crucial role in U.S. agriculture, with the value of crops that require pollination estimated at more than \$20 billion annually in the United States. Varroa mites, also known as *Varroa destructor*, are a force to be reckoned with in the honey bee world. The parasitic mite causes bodily harm and spreads deadly viruses that have led to major colony losses across the country.

The pesticide amitraz is a preferred method to control varroa mite populations. It is highly toxic to varroa mites but safe for honey bees when used as instructed. However, a previous ARS study found that varroa mites are becoming increasingly resistant to amitraz due to a genetic mutation, so beekeepers now seek more effective methods for controlling mite populations.

In their new study, published Feb. 16 in the *Journal of Apicultural Research*, the authors found that combining an inhibiting compound with amitraz increases the pesticide's toxicity and was effective against even amitraz-resistant mites.

"This compound inhibits a naturally occurring process that prevents certain chemicals, like pesticides, from accumulating inside cells," said co-leading author Julia Fine, a research entomologist at the U.S. Department of Agriculture's Pollinator Health Research Laboratory in Davis, Calif. "If a chemical toxicant can't reach a high enough concentration in a cell, it won't have a toxic effect in the organism. Previously, we did-

n't know if this process was part of how varroa tolerate amitraz exposure."

These findings open a promising new line of research that may lead to the development of novel synergists that can be used to control varroa mites in combination with amitraz or other miticides.

"Our study shows that we can increase amitraz's killing power by 50% when used in combination with another compound — a synergist — that weakens the mite but doesn't cause harm to bees," said co-leading author Sascha Nicklisch, an assistant professor in the UC Davis Environmental Toxicology department. "This research aims to provide beekeepers with practical tools and strategies that they can implement to effectively control varroa mites, especially since these mites become increasingly resistant to our limited arsenal of bee-safe pesticides like amitraz."

Increasing the efficacy of amitraz treatments, especially the initial application, may help beekeepers save time and money.

"Better amitraz formulations can decrease the need for additional treatments, lower the selection pressure on the mite population, and decrease the economic burden on beekeepers as they protect their colonies," said Fine.

Fine noted that the inhibitor used in the research is not specific to varroa. It can also diminish the ability of honeybees to tolerate pesticide exposures.

"Now that we know this process is important to amitraz tolerance in varroa, the next step is to develop synergists that specifically inhibit this process in varroa without affecting honeybees," said Fine.

The research was conducted in collaboration with the ARS Bee Research Laboratory in Beltsville, Md., and ARS Honey Bee Breeding, Genetics, and Physiology Research Laboratory in Baton Rouge, La. This research was supported by a Honey Bee Health Grant through the North American Pollinator Protection Campaign and the Pollinator Partnership to Nicklisch.

Honey bee "dance floors" can be accurately located with a new method, mapping where in the hive forager bees perform waggle dances to signal the location of pollen and nectar for their nestmates

Article URL: <https://plos.io/4cajUnB>

Article title: Quantifying the honey bee dance floor: A data-driven method for defining and comparing waggle dance regions

World Bee Day is an annual event on 20 May raising awareness of the importance of bees for food security, biodiversity and ecosystem health.

World Bee Day provides an opportunity for governments, organisations, civil society and concerned citizens everywhere to promote actions that will protect and enhance pollinators and their habitats, improve their abundance and diversity, and support the sustainable development of beekeeping.

Learn more about World Bee Day at

worldbeeday.org.au

From the *Whean Bee Foundation* [website](#)

The VAA Board is inviting nominations for Life Membership for consideration in the lead-up to our 2026 AGM on 5 June, to be held at the Novotel Melbourne Airport at 4:15 pm. Details about the AGM will be announced in the coming weeks. VAA Life Nomination Form download PDF [here](#)



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**North Eastern Apiarists' Association
Annual General Meeting.
Friday, May 1st**

To be held at the Delatite Hotel, Mansfield from 9am to 4pm

Program still to be confirmed but anticipate the following;

- Making sound strategic business decisions when weighing up costs, labour and business objectives when planning varroa treatments
- Playing the long game - ideas and strategies for all beekeepers to be part of the solution, not part of the problem when it comes to moving toward varroa resistance.

*Jamie Trimby: Packing Pollen.
Dwarf Apple (*Angophora hispida*)*



*Photo:
Tino Corsetti*

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Nuffield Scholarships

AgriFutures Australia is committed to supporting the people who are driving, and will drive, the future prosperity of Australian rural industries and communities.

We do this by investing in leadership, capacity and skills development programs for our stakeholders.

Established in 1951, Nuffield Australia is a leading agricultural scholarship organisation, building capacity for producers, their businesses, industry and rural communities.

AgriFutures is offering stakeholders the opportunity to participate to apply for a sponsored position in the Nuffield Scholarship program.

The successful applicant will receive \$35,000 to travel overseas and study innovative farming practices.

Applications for 2027 are now open and close on Friday 8 May 2026.

Designed for: Emerging leaders in agriculture and food systems.

Course commencement date: Commences early each year.

Duration: Approximately 18 months.

Location: Delivered globally.

A Nuffield Australia Scholarship provides a unique opportunity to stand back from your day-to-day occupation, and to study a subject of interest to you.

The objective is to increase practical farming knowledge and management skills and techniques generally. These scholarships give Australian citizens the opportunity to study farming practices in New Zealand, Europe, Asia and the Americas and those countries best suited to the scholar. They will also promote a closer understanding between farmers in the countries visited.

Upon returning to Australia, it is expected that scholars will be able to actively spread the knowledge and understanding they have gained among their fellow farmers and others. In addition to the scholarship itself, Scholars are welcomed into a global network – over 500 Nuffield Scholars in Australia and almost 2,000 world-wide.

To be eligible for a Nuffield Scholarship, you must

be:

- Typically between 28-45 years of age (Please note that exceptional candidates outside this age range will be considered).
- A citizen or permanent resident of Australia
- Engaged in farming, horticulture, fishing or associated industries
- Intending to remain involved in food and fibre industries in Australia.

Essential Requirements

One or two industry participant/s (from a levied industry or an emerging industry) will be sponsored by AgriFutures Australia to complete the program (valued at ~\$35,000 per position). The position is not transferable. Participants are required to complete the course assessment and provide evidence of completion to AgriFutures.

To be considered for a 2027 scholarship, you apply in 2026. Research and travel start in 2027. You'll need to be able to commit 18 months to the program, which will require some periods of international travel.

Application Information

The course fees are fully sponsored by AgriFutures Australia. Eligible AgriFutures stakeholders (outlined above) are encouraged to apply with applications to be assessed and selected by AgriFutures Capacity Building staff. Applicants are required to respond to a number of selection criteria and provide evidence of their engagement in their specified category.

Nuffield Australia recommends that applicants understand and accept the Eligibility/Value/Tenure, FAQs, Selection Guidelines, Calendar and Available Scholarships (all available on their [website](#)) before submitting an application.

Applications for 2027 are now open, and close on Friday 8 May 2026.

Applications are submitted via the Nuffield Australia [website](#).

Resources Subcommittee | 2026 - 2028

Andrew McCallum	Chair & North East	rawhoneyvic@gmail.com	0448 577 780
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Agriculture Victoria: Apiary team
Website: [Honey bees | Livestock and animals | Agriculture Victoria](https://www.honeybees.vic.gov.au/livestock-and-animals)
Website:
www.agriculture.vic.gov.au/livestock-and-animals/honey-bees

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For enquiries and endemic disease notification please use:
Ph: 136 186
Email honeybee.biosecurity@agriculture.vic.gov.au

The Varroa project team can also be contacted at the above email.
For enquiries related to permits and movement restrictions:
Email honeybee.permits@agriculture.vic.gov.au

For beekeeper registration please log onto [BeeMAX](https://www.bees.agriculture.vic.gov.au)
www.bees.agriculture.vic.gov.au
or call the Bee Registration Helpline 1800 356 761

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If you can't reach an Officer and need to talk to someone urgently, please call the Customer Service Centre: Ph: 136 186

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Geelong, Otway District –
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Heywood, Far South West –
Troy Jenkin, Ph: 0459 807 401, E: troy.jenkin@deeca.vic.gov.au

Gippsland

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E: publicland.grampians@deeca.vic.gov.au

Horsham – Jess Dickerson, Ph: 0437 913 538,
E: publicland.grampians@deeca.vic.gov.au

Hume

E: landadmin.hume@deeca.vic.gov.au
Wodonga: Lloyd Beaty is contact

Loddon Mallee

Justin Hoy (primary contact) –
Ph:0459 336 836
Daniel Cadmore (secondary contact)
– Ph: 0418 715 831

Port Phillip (Note: enquiries dealt with by Gippsland Region)

Tracey West – Ph:0457 501 299 E: tracey.west@deeca.vic.gov.au,
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Customer Contact Centre (Ballarat based)

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E: customer.service@deeca.vic.gov.au

Statewide Transaction Centre (Seymour based)

Ph: (03) 7019 2577
E: transactioncentre@deeca.vic.gov.au

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Australian Honey Bee Industry Council (AHBIC):

CEO: Danny Le Feuvre
Mob: 0402 467 780
ahbic@honeybee.org.au
5 John St.
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www.honeybee.org.au

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president.cpaa.us@gmail.com
Ph 0488 434 498
Secretary: Janet Clyde
jclyde.cpaa@gmail.com
Ph 0417 494 867

Honey Bee Research & Development committee (HBRDC)

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Program Coordinator Research
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VFF State Beekeeping Branch:

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Contacts

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Secretary: Peta Dawe

bbvaasecretary@gmail.com

Chair: Jamie Trimby

bbvaachair@gmail.com

Treasurer: Michael St.Clair

bbvaatreasurer@outlook.com

General Information Meetings -
1st Wed. each month (except
Jan & Dec)

Dinner at 6.00pm (optional)

Meeting at 7.00 pm.

Lakeside Hotel, Bendigo.

*Please register with the
Secretary to attend Meetings*

Executive Committee Meeting:

3rd Wed month as required.

Venue: As notified.

Melbourne Section:

Chair: A/Prof James Doery

Deputy Chair: David Basket

Treasurer: Janet Conos

Secretary, Gill Greenstein

Ph: 0422 058 180

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Location: Church of Christ,

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Gippsland Apiarists'

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jeeralangapiary@bigpond.com

0413 136 878

Secretary: Neil Barraclough:

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0429 888 706

Treasurer: Sean Paul Smith:

kaledprime@gmail.com

0466 041 199

North Eastern Apiarists' Association Inc. (NEAA Inc.):

Secretary: Moss McCallum

secretary.neaa@gmail.com

"J" Beekeepers Club Inc.

Meets on the second Wednesday
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Centre, 20 Dornoch Drive,

Sunbury, VIC 3429

Phone: 0400 667 125 (Secretary)

Postal Address: PO Box 87., 84

Bulla Rd., Bulla, VIC 3428

Southside Beekeepers Club:

Secretary: Ted Cottle

Ph: 0428 429 547

ted@southsidebeekeepers.com.au

7.30pm on the 4th Wed each

month at Monterey Secondary

College,

21 Silvertop St, Frankston North

Geelong Beekeepers Club

President: Nathan Whitford

0403 807 224

Vice President: Stephen Fridey

info@geelongbeekeepersclub.org.au

Meetings third Friday of month at

Belmont Masonic Centre,

25 Regent Street, Belmont

Latrobe Valley

Beekeepers Assoc.

President: Sean-Paul Smith

LatrobeValleyBees@gmail.com

Meets 7-9pm first Tuesday each

month, Old Moe Netball Courts,

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P.O. Box 323 Newborough 3825

Mob: 0466 041 199

Woodend Bee-Friendly Society

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Ranges Sustainability Group

E: wbfsmrsg.org.au

Meets on the third Sunday of
every month (except December)

at Woodend Neighbourhood

House, 47 Forest Street,

Woodend, VIC 3442

South Gippsland Beekeepers

Inc. Secretary: Anna Jones

Mob: 0411 770 062

secretary@sgbeekeepers.org.au

Web: [http://www.southgippsland](http://www.southgippslandbeekeepers.org.au/)

[beekeepers.org.au/](http://www.southgippslandbeekeepers.org.au/)

Meetings: second Thursday of
the month at St Peters Anglican
Church Hall, Cnr McCartin St. &
Bruce St., Leongatha

Melbourne Beekeepers Club Inc:

Web: melbournebeekeepersclub.org.au

E: [secretary@melbourne](mailto:secretary@melbournebeekeepersclub.org.au)

[beekeepersclub.org.au](http://melbournebeekeepersclub.org.au)

Northwestern Bee Club Inc.

President: Roger Mitchell

Mob. 0407 427 431

northwesternbeeclub@gmail.com

Web: <https://www.nwbee.club/>

Mornington Peninsula

Beekeepers Association :

P.O. Box 186, Mornington, 3931

Ph: 0401 965 558

E: admin@mpba.org.au

Monthly MPBA Club Meeting -

4th Wednesday of every month

at 7pm Mornington Park Pavilion,

9 Flinders Drive, Mornington

Moonee Valley Beekeepers Club Inc. (MVBC Inc.)

Secretary: Paul Kucera

mvbeekeepersclub@gmail.com

Meets at 7:30pm on the second

Tuesday of each month (except

January) in the hall at

195 Holmes Rd,

Moonee Ponds, VIC 3039

WerriBeeks Inc.

President: Carmel Gerdson

Secretary: Helen Morland

Treasurer: Debbie Conway

E: werribeeks@gmail.com

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abjeditors@yahoo.com**

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HONEY BUYERS

Archibald's Honey Co.
Spring Rd.
Dingley,
VIC, 3172
Ph: 03 9551 1860
Contact: Stuart Archibald
Email: rosalie@archibaldhoney.com.au

Beechworth Honey Ltd.
38-40 Hammersley Rd.
Corowa,
NSW 2646
Ph: 02 6033 2322
Contact: Steve or
Jodie Goldsworthy

Beeman Honey & Beekeeping Supplies
2/14-16 Tova Dr.
Carrum Downs
Vic 3201
Ph: 0438 7465 01
Contact Moe Jarrad
majarrad@gmail.com
Beemanhoney.com.au

Capilano Honey Ltd
Capilano St.
Maryborough,
VIC 3465
Ph: 07 3712 8224
0419 431 652
Contact: Stephen Covey

Goode's Honey
Lot 1, 75 Bosworth Rd
Bairnsdale,
VIC 3875
Ph: 03 5152 2180
Contact: Terry Goode

Honey Buyers Group
Martin Drake,
Bendigo or
Melbourne
0409 808 332

Redpath's Beekeeping Supplies
193 Como Parade East,
Parkdale,
VIC 3195
Ph: 03 9587 5950
Alan Redpath
redpaths@redpaths.com.au
www.redpaths.com.au

FOR SALE

Business for sale
Jeeralang Apiary Supplies
Koala Drive, Jeeralang Junction
Ph: 03 5122 2641
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Eastern Victoria

NEW MEMBERS

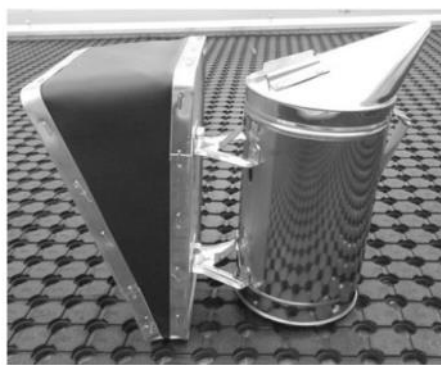
Kay Foster

**Deadline
for copy for the
April 2026 journal is
10pm on Wednesday
1st of April 2026.**

**Classified ads
\$2.20 per line**
VAA members are remind-
ed that they are entitled to
one **FREE**
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Index of Advertisers

AIR CTI	7
Aluen Cap	15
Aust. Queen Bee Exporters	17
Becs Beehive	23
Beeplas Australia	23
Buzz Bee	25
Dalrymple View	15
Denmar Apiaries	11
JBee Equipment	17
Kelvin Trading	Inside front
Lyson	21
Prestige Stainless	19
Stafford Engineering - EzyLoader	Back
Steritech	13
Whirrakee Honey	30
Whirrakee Woodware	9

Do you have photos of bee or honey related subjects?
The Australian Bee Journal would love your photos for use in the journal and/or on the VAA website. Please send to abjeditors@yahoo.com



Photo: Tino Corsetti



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