

BEELINES

NEWSLETTER OF THE BEEKEEPERS CLUB INC

MARCH 2019



The Beekeepers Club's new meeting venue



Upcoming Events (see [website](#) for full details and registration)

Club Monthly Meeting

21st March 2019, 7:00 PM

**NewHope,
3 Springfield Rd,
Blackburn North VIC 3130**

(Cnr of Middleborough & Springfield Rd, enter from Springfield Rd)

Shane Doran

Bee Relocation Specialist from
Bee Removals Victoria

*Cut outs and
Specialist
Removal
Services*



Club Apiary Hive Inspection

Saturday 23rd March 2019, 11:00 AM

A routine hive inspection will be held at the club apiary for any new or interested members. Bee suits and gloves will be available to borrow.

Please register (free) on the web site to help manage numbers.

Note: You need to be logged in to see the event.

Intermediate Workshop: Improving your Beekeeping

Due to popular demand, we are running a repeat of the Intermediate workshop.

Both the March 16th and April 6th have sold out but you can put yourself on the waiting list as we may get last minute cancellations.

See the website: <https://beekeepers.org.au>

President's Report

The big daunting move is upon us. We have cleared out from Doncaster Secondary and we believe we have everything in order for our first meeting at our new venue.

There will no doubt be some teething problems as we find our "groove" with the new venue and any help and understanding from members will surely be appreciated.

The committee has looked many times at seeking help from members for various tasks and we have tried different methods of asking at times. We are now establishing a list of tasks needed to run a successful meeting and will be able to more accurately understand what help is needed and prioritise that help.

We are excited to announce a new club communication platform that will interest some members. We have tested and are now ready to roll out the use of "TeamApp" to members.

TeamApp is an app, installed on smartphones, iPads or tablets. Once installed, and linked to our club, you will see some interesting features.

The newsletters are all archived and available to download or read. There is a gallery feature for members to upload photos of anything bee related, an events section for easy reference of club events and dates with automatic notification feature that will give users a pop up message on their device when an event is getting close as a reminder.

The other main feature is a chat feature. We have created a few chat "rooms" of different topics for members that may wish to communicate directly with other members. This could be useful for finding other members near to you or to get some help with a certain task at hand or identifying something you see in the hive or in the area. We also plan on using the chat feature to communicate with club helpers for both meetings and apiary open days. The different chat rooms can be individually joined, depending on your interest.

See detailed instructions on how to setup the app below.

The committee is planning a family day BBQ for the end of March and we are looking at the possibility of a field day excursion.

The Clubs Conference in June is certainly looking to be an amazing event with many speakers already confirmed, including international speakers.

Early bird tickets are still available until March

15th so do take advantage of the discount.

We learnt a very important lesson at the apiary open in February about staying hydrated when beekeeping and knowing your limits.

Beekeeping in a suit is hot, sweaty, hard work. It's important to remember to stop and rest when needed as well as drink plenty of water, especially in the warmer weather.

Take care out there, see you at the new venue in March.

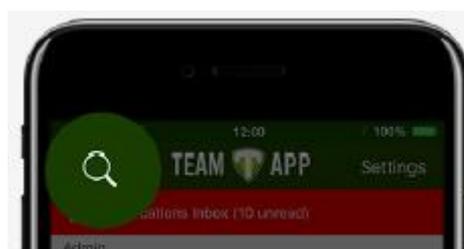
Mat Lumalasi
President

How to Set Up Team App for Club Communications

1. On phone or tablet, go to app store and search for **team app**. The app you are looking for should look like this:



2. Once installed, open app and click on option to "Log In or Sign Up".



Complete the sign up process using your own email address.

3. Once you have signed up, you need to join the Beekeepers Club: Tap search from the main screen.
4. Search for "Beekeepers Club Inc."
5. Tap become a member.
6. We'll do the rest from our end to complete the process.

For detailed instructions, click [here](#).

Changes to the Livestock Disease Control Regulations 2017



Department of Jobs, Precincts and Regions

The consultation period regarding the proposed amendments to the Livestock Disease Control Regulations 2017 to adopt the Australian Bee Biosecurity Code of Practice has been extended to **Sunday 17 March 2019**.

To learn more about what is being proposed or to provide feedback on the changes visit the Engage Victoria website at <https://engage.vic.gov.au/australian-bee-biosecurity-code-practice>.

If you have any queries regarding the changes please contact Cynthia Kefaloukos, Apiary and Plant Pest and Disease Officer by email at honeybee.biosecurity@ecodev.vic.gov.au.

To update your beekeeper details please contact the Beekeeper Registrar by phone: 1800 356 761, fax: 03 5430 4505 or by mail:

Beekeeper Registrar,
PO Box 2500, Bendigo Delivery
Centre, Victoria, 3554.



2019 Victorian Beekeeping Clubs Conference

Victorian Recreational Beekeepers Association in collaboration with The Beekeepers Club Inc. are hosting the 2nd Victorian Beekeeping Clubs Conference.

The aim of the Conference is to connect with hobbyist, recreational, sideline and commercial beekeepers from across Victoria. Conference delegates will hear from informative and inspiring presenters including researchers, educators, entrepreneurs, biosecurity specialists, innovators and authors.

Hyatt Place Melbourne,
1 English St, Essendon Fields, VIC 3041

WHEN

Friday 14 June 2019 at 7pm (Dinner)
Saturday 15 June 2019 at 8.30am-5pm
(Conference)



Early bird tickets close **15th March**. Get your tickets early.

As an Early Bird ticket holder, you are entered into the early bird raffle prize too.

<https://bit.ly/2VQuXId>

For all information on the Conference, <https://vicbeeclubs.com.au/>



Costa Georgiadis, eco-visionary, landscape architect and ABC Gardening Australia's host will again be the MC and speaker for the 2019 conference.

Costa's charm, charisma and passion make him an appealing event host. Costa is engaging and highly entertaining and is sure to give the Conference a green edge.

Annual Honey Competition – April 2019

Get your best honey ready!

Categories:

- Light Honey
- Medium Honey
- Dark Honey
- Creamed Honey
- Honeycomb
- Wax Candles/ Sculptures
- Mead/liqueurs
- Honey cakes, biscuits, slices
- Bee/Beekeeping related photos



Keep in mind:

Jars for the competition are available from the member sign in desk at the March meeting. Jars which have not been provided by the club will not be accepted.

Capped honey frames should be in a suitable stand or container.

Photos (digital submission) to be emailed to secretary@beekeepers.org.au by April 8th, 2019 or alternatively bring your printed photo entry to the April meeting ensuring sizing is (15 x10 cm).

Entries for honey cakes, biscuits, slices to be brought to the April meeting.

Terms and conditions of entry:

Non-professional entries only for honey cakes, biscuits and slices.

By submitting photos, entrants agree that these may be used in the club newsletter or other material. published by the club.

Photos may also be taken of other exhibits and used in club material.

Entries will be stored by the club in a safe and secured area and returned at the end of the April meeting.

Welcome Club Newbees

We extend a warm welcome to the following members who have recently joined the club:

Peter Corcoran	-
Keith Dyer	Box Hill South
Michelle Grant	Upwey
Megan Fulford	Heidelberg
Ingrid Dempster	Boronia
Jean-Claude Dunand	Mitcham
Frank Chang	Camberwell
Andrew Cresswell	Rosanna
Lynne Dyer	Box Hill South
Daniel Scholte	Balwyn

Volunteering

Our members are the lifeblood of our club. Volunteering is a wonderful opportunity to learn new skills, share some quality time with like minded friends, make new friends and contribute and help build the club's future.

We are always grateful for help and support from our members.

- Monthly meetings assistance: supper, set up or packing up.
- Assisting with Hive Opening Days, BBQ's and courses at our Apiary.

If you are able to help in anyway, please speak to your committee members at the monthly meetings. ☐



A reminder to all, if possible please bring your reusable cup to the meeting. Let's cut down on disposable cup waste!

Honey Testing

The following article is based on an article that appeared in *Beelines*, February 2018.

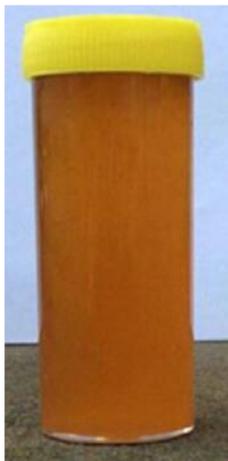
American Foulbrood (AFB) is the most widespread and commercially significant bee disease that is currently pre-sent in Australia. A major factor in successful management of this disease is early detection. However, AFB can be difficult or even impossible to detect visually in the very early stages of inspection.

Laboratory honey culture tests are used to detect AFB spores in honey. Gribbles Honey Test kits are currently available at club meetings. All members with hives are encouraged to submit a sample. The cost of the test (around \$42) is fully reimbursable upon showing your receipt of payment to the Treasurer. (Email a copy of the receipt to treasurer@beekeepers.org.au).

Collecting the sample

It is important that where possible the sample contains extracted honey from all the hives in one yard (apiary).

- Fill the sample container with 120 ml of honey as shown below – the test cannot be done if not enough honey is supplied.
- The honey must be clean – that is, free of wax, dirt and parts of bee bodies.
- Seal the lid of the container with tape to prevent leakage of honey.
- Write your name, beekeeper registration brand and yard (apiary) identification on the label of the container and also on the request form provided.

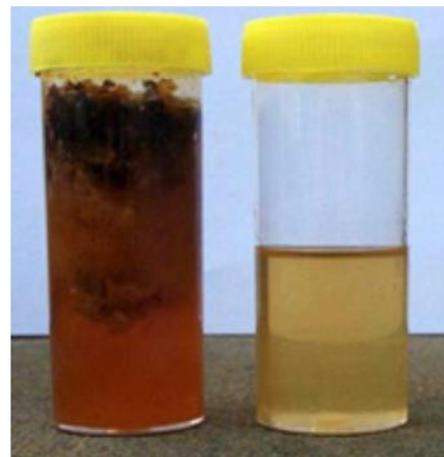


This container holds the right amount of clean honey for the AFB culture test.

- Place the container in the provided zip-lock bag and the request form for that sample in the pouch of the same bag and mail it off.

Examples of poor samples which cannot be tested.

Left: The honey must not contain dirt or wax. Right: The container must be completely filled with honey.



Negative results from an AFB test

A negative result provides a good indication that there are no AFB spores present in the hives the honey came from. However, it cannot rule disease out completely and regular brood inspections for signs of AFB should always be a part of your beekeeping practice.

Positive results

Positive results are usually expressed as +1, +2 or +3 with the scores representing the likelihood of visual symptoms of AFB appearing in the hives the honey was collected from.

Note that if the sample you had tested was pooled from several hives and tests positive, you will not know which specific hive or hives from that group is infected. You will then need to go and inspect all the hives that contributed honey to the sample for symptoms of AFB.

Some members may be aware that the AFB test done recently on the club hives returned a positive 1+ reading, indicating AFB spores were present in the sample. In order fully to understand the implications of this result we have held discussions with the senior apiary officer at DEDJTR and looked further into the test.

The culture test interpretation is based on a study of commercial honey samples which found "the higher the concentration of spores

in the sample, the more likely it is that AFB is present in the hives or there is a recent history of the disease. In an examination of 505 bulk honey samples in New South Wales, six (100%) of '+++', 11 (78.6%) of '++' and 22 (56.4%) of '+' honey samples were from diseased hives or those with recent histories of the disease"¹. Unfortunately it is not possible to tell if the other 43.6% of '+' results were false positives or represented latent disease.

Recent molecular studies using high throughput sequencing indicate that small numbers of *Paenibacillus* larvae are detectable in bees from non-infected colonies². This "enzootic" state may occasionally overcome colony resilience and result in disease outbreak.

This means AFB bacteria and spores may be more widespread than previously thought and perhaps the honey test occasionally picks up sub-clinical infection that is safely eliminated by the colony. Our advice is to re-test in approximately 6 weeks to confirm or rule out infection. In the meantime, we are implementing a strict biosecurity policy that isolates the apiary. No protective, inspection or hive equipment should be transferred in or out of the apiary. Do not bring your own gear and use only club supplied equipment until further notice.

1 *Hornitzky MAZ, Clark S. Culture of Bacillus larvae from bulk honey samples for the detection of American foulbrood. J Apicult Res 1991; 29: 199-205.*

2 *T Erban, O Ledvinka, M Kamler, M Nesvor-na, B Hortova, J Tyl, D Titera, M Markovic & J Hubert. Honeybee (Apis mellifera)-associated bacterial community affected by American foulbrood: detection of Paenibacillus larvae via microbiome analysis. Nature Scientific Reports 2017; 7: 5084.*

Back to Basics

Last month we talked about hive registration in Victoria. We hope you took the opportunity to check your hives are registered. It is important to ensure your details are current, and this is also important for the disposal of any of your hives.

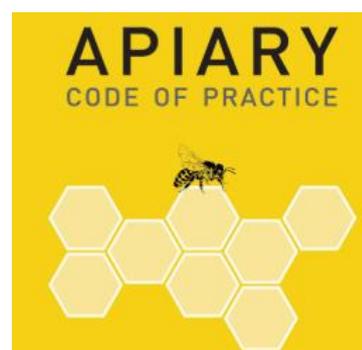
Hive Disposal

You are required to notify the Bee Registrar within 7 days of you have disposed of some or all of your hives by sending a Notice of disposal of hives (including nucleus colonies).

The form can be found at the Agriculture Victoria website:

<http://agriculture.vic.gov.au/agriculture/livestock/honey-bees/beekeeper-registration-and-hive-disposal>

For any questions about hive disposal, call 1800 356 761.



Hives and planning requirements (also known as keeping your neighbours happy)

It is important to know how many hives you are allowed on your property. This information can be found in Section 5 of the Apiary Code of Practice,

<https://vgls.sdp.sirsidynix.net.au/client/search/asset/1145118>

5.1.1 Hive Density

Hive density limits are set to minimise the risk of conflict between people and honey bees. Schedule 1 indicates the maximum hive number per tenement.

Schedule 1

Tenement size	No. of hives
500 m ² or less	1
501 m ² to 1000 m ²	2
1001 m ² to 2000 m ²	5
2001m ² to less than 4000 m ²	10
4000 m ² to less than 1ha	60
1 ha to 2 ha	100
Larger than 2 ha	No limit



The bowl-shaped flowers of evening primrose may be key to their acoustic capabilities.

Flowers can hear buzzing bees—and it makes their nectar sweeter

"I'd like people to understand that hearing is not only for ears."

BY MICHELLE Z. DONAHUE

Published in National Geographic,
January 15, 2019

EVEN ON THE quietest days, the world is full of sounds: birds chirping, wind rustling through trees, and insects humming about their business. The ears of both predator and prey are attuned to one another's presence.

Sound is so elemental to life and survival that it prompted Tel Aviv University researcher Lilach Hadany to ask: What if it wasn't just animals that could sense sound—what if plants could, too? The first experiments to test this hypothesis, published recently on the pre-print server bioRxiv, suggest that in at least one case, plants can hear, and it confers a real evolutionary advantage.

Hadany's team looked at evening primroses (*Oenothera drummondii*) and found that within minutes of sensing vibrations from pollinators' wings, the plants temporarily increased the concentration of sugar in their flowers' nectar. In effect, the flowers themselves served as ears, picking up the specific frequencies of bees' wings while tuning out irrelevant sounds like wind.

The sweetest sound

As an evolutionary theoretician, Hadany says her question was prompted by the realization that sounds are a ubiquitous natural resource—one that plants would be wasting if they didn't take advantage of it as animals do. If plants had a way of hearing and responding to sound, she figured, it could help them survive and pass on their genetic legacy.

Since pollination is key to plant reproduction, her team started by investigating flowers. Evening primrose, which grows wild on the beaches and in parks around Tel Aviv, emerged as a good candidate, since it has a long bloom time and produces measurable quantities of nectar.



A brown and yellow hoverfly rests on a dew-drop-covered evening primrose in the U.K.

To test the primroses in the lab, Hadany's team exposed plants to five sound treatments: silence, recordings of a honeybee from four inches away, and computer-generated sounds in low, intermediate, and high frequencies. Plants given the silent treatment—placed under vibration-blocking glass jars—had no significant increase in nectar sugar concentration. The same went for plants exposed to high-frequency (158 to 160 kilohertz) and intermediate-frequency (34 to 35 kilohertz) sounds.

But for plants exposed to playbacks of bee sounds (0.2 to 0.5 kilohertz) and similarly low-frequency sounds (0.05 to 1 kilohertz), the final analysis revealed an unmistakable response. Within three minutes of exposure to these recordings, sugar concentration in the plants increased from between 12 and 17

percent to 20 percent.

A sweeter treat for pollinators, their theory goes, may draw in more insects, potentially increasing the chances of successful cross-pollination. Indeed, in field observations, researchers found that pollinators were more than nine times more common around plants another pollinator had visited within the previous six minutes.

"We were quite surprised when we found out that it actually worked," Hadany says. "But after repeating it in other situations, in different seasons, and with plants grown both indoors and outdoors, we feel very confident in the result."

Flowers for ears

As the team thought about how sound works, via the transmission and interpretation of vibrations, the role of the flowers became even more intriguing. Though blossoms vary widely in shape and size, a good many are concave or bowl-shaped. This makes them perfect for receiving and amplifying sound waves, much like a satellite dish.

To test the vibrational effects of each sound frequency test group, Hadany and her co-author Marine Veits, then a graduate student in Hadany's lab, put the evening primrose flowers under a machine called a laser vibrometer, which measures minute movements. The team then compared the flowers' vibrations with those from each of the sound treatments.

"This specific flower is bowl-shaped, so acoustically speaking, it makes sense that this kind of structure would vibrate and increase the vibration within itself," Veits says.

And indeed it did, at least for the pollinators' frequencies. Hadany says it was exciting to see the vibrations of the flower match up with the wavelengths of the bee recording.

"You immediately see that it works," she says.

To confirm that the flower was the responsible structure, the team also ran tests on flowers that had one or more petals removed. Those flowers failed to resonate with

either of the low-frequency sounds.

What else plants can hear

Hadany acknowledges that there are many, many questions remaining about this newfound ability of plants to respond to sound. Are some "ears" better for certain frequencies than others? And why does the evening primrose make its nectar so much sweeter when bees are known to be able to detect changes in sugar concentration as small as 1 to 3 percent?

Also, could this ability confer other advantages beyond nectar production and pollination? Hadany posits that perhaps plants alert one another to the sound of herbivores mowing down their neighbors. Or maybe they can generate sounds that attract the animals involved in dispersing that plant's seeds.

"We have to take into account that flowers have evolved with pollinators for a very long time," Hadany says. "They are living entities, and they, too, need to survive in the world. It's important for them to be able to sense their environment—especially if they cannot go anywhere."

This single study has cracked open an entirely new field of scientific research, which Hadany calls phytoacoustics.

Veits wants to know more about the underlying mechanisms behind the phenomenon the research team observed. For instance, what molecular or mechanical processes are driving the vibration and nectar response? She also hopes the work will affirm the idea that it doesn't always take a traditional sense organ to perceive the world.

"Some people may think, How can [plants] hear or smell?" Veits says. "I'd like people to understand that hearing is not only for ears."

Richard Karban, an expert in interactions between plants and their pests at the University of California Davis, has questions of his own, in particular, about the evolutionary advantages of plants' responses to sound.

"It may be possible that plants are able to chemically sense their neighbors, and to evaluate whether or not other plants around

them are fertilized," he says. "There's no evidence that things like that are going on, but [this study] has done the first step."

In the Hive

Wasps, robbing and flow are the three main things that instantly come to mind.

Over the last few weeks the bees have been dealing with some very confusing weather and us beekeepers are also a bit confused. Here we were thinking that the season was starting to wind down and the nights were starting to cool off, keeping us mindful of what stores were taking and leaving and then we hit another heatwave, crazy.

We also saw bees being VERY possessive about us taking honey from the hive, a reasonable indicator that there is no nectar coming in, leading us to believe that the season was done and with this in mind we were starting to consider what boxes were coming off and reducing hive sizes for Winter, making sure there was enough food left behind for the bees.

Then last week, during hive inspections, we saw overfull boxes that needed harvesting and cleaning up, expecting the bees to be most unhappy about us tampering with their stores. What we experienced was a typical Summer harvest. Frame after frame, 2 boxes per hive and not a single bee even noticing us stealing everything.

This was in the heart of the CBD where 2 weeks earlier we created absolute chaos where we had to take every single frame away and inside as the bees were crazily trying to rob from the frames and any spill or drip on the ground.

So with this change of behaviour, we need to look around and see what's going on. Is it another flow or are the bees as confused as us about the weather?

We are also seeing European wasps out in numbers, commonly looking for an easy feed on our bees. If things are getting out of hand you can reduce the entrance size to allow for easier guarding of the hive, otherwise you can

try to follow/track the wasps back to the nest and deal with that. Be aware that wasps will defend their nests very aggressively and you should always wear full safety equipment, as you would in the hive.

Now is the time to think about feeding if you are sure that there is no more nectar coming for the season and there is not enough to get the bees through Winter. A rough guide would be 4-5 frames of honey per box. We generally over-Winter in 2 boxes, sometimes 3 if conditions are right. This trick of 2 boxes works well for us. A full box of honey on top means that the bees move upwards over Winter as the warm air rises. In Spring when we return to the hive, we have abandoned bottom boxes that we can take away and clean out old dirty wax. Generally there are 2 outcomes, the honey you left in Autumn is there to now take or the bees ate it and are still alive. Both ideal situations rather than a dead colony that starved because I wanted more honey.

Happy beekeeping, keep an eye on how protective the bees are over their food and this will help determine what the season is doing.

Mat Lumalasi
President



In my Apiary...

John Treloar

After putting on just 10kg in January, my hives in Camberwell have lost about 4kg in the last month after some extremely hot and dry weather. There's an obvious nectar dearth around my apiaries, evident by bee behaviour when getting the slightest whiff of honey or sugar syrup.

If harvesting honey, don't take too much!

There is no guarantee of an autumn nectar flow and it's generally much smaller than the main spring/summer flow. Hives need around 5 full frames of honey to get them through winter.

Feeding syrup to bees should be the exception rather than the rule. It costs time and money, can attract ants and induce robbing. It can also stimulate the queen to ramp up egg laying, consuming more resources without a nectar flow to support it, requiring on-going feeding!

If you think you will have boost stores for winter, keep in mind:

- Honey has better nutrition than sugar syrup. Can you take a frame from another disease free hive for a hive that is light-on?
- *Never* feed store bought honey or honey from another beekeeper. Know its source as it can carry AFB spores and spread disease.
- Don't feed syrup while you have honey supers on—you don't want sugar syrup in honey you want to harvest.
- If you have more than one hive, consider feeding all of them so that bees are less likely to rob from your other hives. Another option is to feed small amounts (2 cups) in a zip lock bag.
- Start feeding before the weather cools down and the bees aren't able to process the syrup. It takes time for them to build up stock.
- Make sure the syrup is consumed within a few days and doesn't have time to ferment.
- Only use white sugar, never brown/raw as it causes dysentery.
- Don't keep heating the syrup; add boiling water to the sugar, stir to dissolve and cool to room temperature.
- Feeding 1:1 sugar:water should be OK at

this time of year. As the weather cools, use 2:1 sugar:water to make it easier for the bees to process it.

- Keep an eye on progress in the frames. You don't want to get them 'honey' bound!

When harvesting honey the frames need to be about 90% capped to ensure the honey has been ripened enough and won't ferment. You won't need a refractometer to tell you if it is not less than 18% water, you will know if it's too runny!

In a Flow hive™ it can be difficult to be certain how ready the frames are without opening the hive and taking a look. The viewing windows don't always give you the full story. The following frames were taken from a Flow super than was only about half full, but all cells with honey were capped and OK to harvest. This is how the bees filled the frames!



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